CE Test Report

Equipment	:	**Sona IF513 802.11ax Wi-Fi 6E Module with Bluetooth 5.4**
Model No.	:	**Sona IF513**
Brand Name	:	**Ezurio**
Applicant	:	**Ezurio LLC**
Address	:	**W66N220 Commerce Court, Cedarburg, WI 53012 United States Of America**
Standard	:	**EN 300 328 V2.2.2 (2019-07)**
Received Date	:	**Jun. 06, 2024**
Tested Date	:	**Jun. 08 ~ Nov. 04, 2024**

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by: **Approved by:**

Alex Huang / Supervisor **Gary Chang / Manager**

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Release Record

Report No.	Version	Description	Issued Date
ER460601AC	Rev. 01	Initial issue	Dec. 06, 2024
ER460601AC	Rev. 02	Modified antenna gain	Dec. 17, 2024
ER460601AC	Rev. 03	1. Modified antenna gain 2. Modified Appendix 3. Update to the EIRP	Dec. 25, 2024

Summary of Test Results

Ref. Std. Clause	Test Items	Measured	Result
4.3.2.2	RF Output Power (EIRP)	19.73 dBm.	Pass
4.3.2.3	Power Spectral Density	Meet the requirement of limit.	Pass
4.3.2.4	Duty Cycle, Tx-sequence, Tx-gap	Only for non-adaptive equipment.	N/A
4.3.2.5	Medium Utilisation (MU) factor	Only for non-adaptive equipment.	N/A
4.3.2.6	Adaptivity	Meet the requirement of limit.	Pass
4.3.2.7	Occupied Channel Bandwidth	Meet the requirement of limit.	Pass
4.3.2.8	Transmitter unwanted emissions in the out of band domain	Meet the requirement of limit.	Pass
4.3.2.9	Transmitter unwanted emissions in the spurious domain	Meet the requirement of limit.	Pass
4.3.2.10	Receiver spurious emissions	Meet the requirement of limit.	Pass
4.3.2.11	Receiver Blocking	Meet the requirement of limit.	Pass
4.3.2.12	Geo-location Capability	The device has no this capability.	N/A

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Information

1.1.1 Product Details

The four configurations of the EUT are shown on the following:

Model Name	Part No.	Description
Sona IF513	453-00184	Module, Sona IF513, MHF4L
	453-00185	Module, Sona IF513, Trace Pin
	453-00193	Module, Sona IF513, Antenna Diversity, MHF4L
	453-00194	Module, Sona IF513, Antenna Diversity, Trace Pin
	453-00186	Module, Sona IF513, M.2, Key E, SDIO, UART
	453-00195	Module, Sona IF513, Antenna Diversity, M.2, Key E, SDIO, UART
	453-00213	Module, Sona IF513, M.2, Key E, SDIO, UART, Ext. OSC
	453-00214	Module, Sona IF513, Antenna Diversity, M.2, Key E, SDIO, UART, Ext. OSC

1.1.2 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N_{TX})	Data Rate / MCS
2400-2483.5	b	2412-2472	1-13 [13]	1	1-11 Mbps
2400-2483.5	g	2412-2472	1-13 [13]	1	6-54 Mbps
2400-2483.5	n (HT20)	2412-2472	1-13 [13]	1	MCS 0-7
2400-2483.5	ax (HE20)	2412-2472	1-13 [13]	1	MCS 0-11

Note 1: 802.11b uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
Note 2: 802.11g/n/ax uses a combination of OFDM/OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM and 1024QAM modulation.
Note 3: 802.11ax supports full RU and partial RU configuration.

1.1.3 Antenna Details

Ant. No.	Manufacturer	Model	Part Number	Type	Connector	Operating Frequencies / Gain (dBi)		
						2.4GHz	5GHz	6GHz
1	Joymax Inc.	TWX-100B RS3B	NA	Dipole	RP-SMA	2	4	4
2	Ezurio	FlexMIMO 6E	EFD2471A3 S-10MH4L	PIFA	MHF4L	2.2	3.8	3.3
3	Ezurio	Mini NanoBlade Flex 6 GHz	EMF2471A 3S-10MH4L	PCB Dipole	MHF4L	2.4	4.4	5.2
4	Ezurio	FlexPIFA 6E	EFB2471A3 S-10MH4L	PIFA	MHF4L	2.2	3.9	3.8

1.1.4 EUT Operational Condition

Power Supply Type	3.3Vdc from host		
SW Version	v28.10.301		
Operational Climatic	☒ Tnom (20°C)	☒ Tmax (85°C)	☒ Tmin (-40°C)
Beamforming	☐ Support	☒ Not support	
RU Configuration	☒ Full RU	☒ Partial RU	

1.1.5 Adaptive Equipment

Adaptive Equipment		
☐	non-Adaptive Equipment:	
	The maximum RF Output Power (e.i.r.p.): dBm	
	The maximum (corresponding) Duty Cycle: %	
☒	Adaptive Equipment without the possibility to switch to a non-adaptive mode:	
	☒	The equipment has implemented an LBT based DAA mechanism:
		☐ The equipment is Frame Based equipment
		☒ The equipment is Load Based equipment
		☐ The equipment can switch dynamically between Frame Based and Load Based equipment
	☐	The equipment has implemented an non-LBT based DAA mechanism
	☐	The equipment can operate in more than one adaptive mode
	☐	Adaptive Frequency Hopping using other forms of DAA (non-LBT based)/without Short Control Signaling Transmissions
☐	Adaptive Equipment which can also operate in a non-adaptive mode	

1.1.6 Channel List

Frequency band (MHz)	2400~2483.5
802.11 b / g / n HT20 / ax HE20	
Channel	**Frequency(MHz)**
1	2412
2	2417
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452
10	2457
11	2462
12	2467
13	2472

1.1.7 Test Tool and Duty Cycle

Part No. 453-00184

Test Tool	By command	
Modulation Mode	**Duty Cycle Of Test Signal (%)**	**Duty Factor (dB)**
11b	94.53%	0.24
11g	98.51%	0.07
ax HE20_OFDMA	97.58%	0.11

Test Tool	By command	
Modulation Mode	**Duty Cycle Of Test Signal (%)**	**Duty Factor (dB)**
ax HE20-OFDMA RU26	99.00%	0.04
ax HE20-OFDMA RU52	98.16%	0.08
ax HE20-OFDMA RU106	99.25%	0.03

Part No. 453-00193

Test Tool	By command	
Modulation Mode	**Duty Cycle Of Test Signal (%)**	**Duty Factor (dB)**
11b	94.53%	0.24
11g	98.51%	0.07
ax HE20_OFDMA	97.58%	0.11

Test Tool	By command	
Modulation Mode	**Duty Cycle Of Test Signal (%)**	**Duty Factor (dB)**
ax HE20-OFDMA RU26	99.00%	0.04
ax HE20-OFDMA RU52	98.16%	0.08
ax HE20-OFDMA RU106	99.25%	0.03

Part No. 453-00213

Test Tool	By command	
Modulation Mode	**Duty Cycle Of Test Signal (%)**	**Duty Factor (dB)**
11b	98.49%	0.07
11g	99.32%	0.03
ax HE20_OFDMA	98.97%	0.05

Test Tool	By command	
Modulation Mode	**Duty Cycle Of Test Signal (%)**	**Duty Factor (dB)**
ax HE20-OFDMA RU26	98.99%	0.04
ax HE20-OFDMA RU52	97.94%	0.09
ax HE20-OFDMA RU106	99.09%	0.04

Part No. 453-00214

Test Tool	By command	
Modulation Mode	**Duty Cycle Of Test Signal (%)**	**Duty Factor (dB)**
11b	98.49%	0.07
11g	99.20%	0.03
ax HE20_OFDMA	98.97%	0.05

Test Tool	By command	
Modulation Mode	**Duty Cycle Of Test Signal (%)**	**Duty Factor (dB)**
ax HE20-OFDMA RU26	98.97%	0.05
ax HE20-OFDMA RU52	97.94%	0.09
ax HE20-OFDMA RU106	99.24%	0.03

1.1.8 Power Index of Test Tool

Part No. 453-00184

Modulation Mode	Test Frequency (MHz)		
	2412	**2442**	**2472**
11b	57	57	60
11g	67	67	68
ax HE20_OFDMA	67	67	67

Modulation Mode	Test Frequency (MHz)		
	2412	**2442**	**2472**
ax HE20-OFDMA RU26	33	34	35
ax HE20-OFDMA RU52	45	46	46
ax HE20-OFDMA RU106	56	56	57

Part No. 453-00193

Modulation Mode	Test Frequency (MHz)		
	2412	**2442**	**2472**
11b	57	57	60
11g	67	67	68
ax HE20_OFDMA	67	67	67

Modulation Mode	Test Frequency (MHz)		
	2412	**2442**	**2472**
ax HE20-OFDMA RU26	36	36	37
ax HE20-OFDMA RU52	48	48	48
ax HE20-OFDMA RU106	60	60	61

Part No. 453-00213

Modulation Mode	Test Frequency (MHz)		
	2412	**2442**	**2472**
11b	62	61	61
11g	69	69	69
ax HE20_OFDMA	69	67	67

Modulation Mode	Test Frequency (MHz)		
	2412	**2442**	**2472**
ax HE20-OFDMA RU26	35	36	37
ax HE20-OFDMA RU52	47	48	48
ax HE20-OFDMA RU106	60	60	60

Part No. 453-00214

Modulation Mode	Test Frequency (MHz)		
	2412	**2442**	**2472**
11b	62	62	63
11g	71	71	71
ax HE20_OFDMA	71	71	71

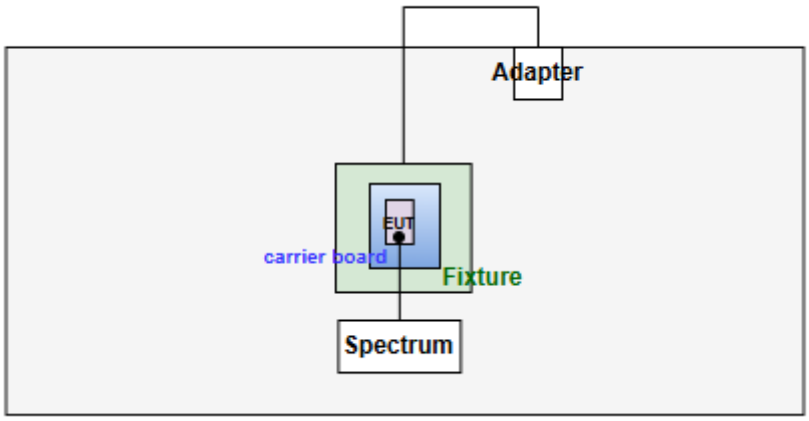
Modulation Mode	Test Frequency (MHz)		
	2412	**2442**	**2472**
ax HE20-OFDMA RU26	38	39	39
ax HE20-OFDMA RU52	50	51	50
ax HE20-OFDMA RU106	63	63	63

1.2 Local Support Equipment List

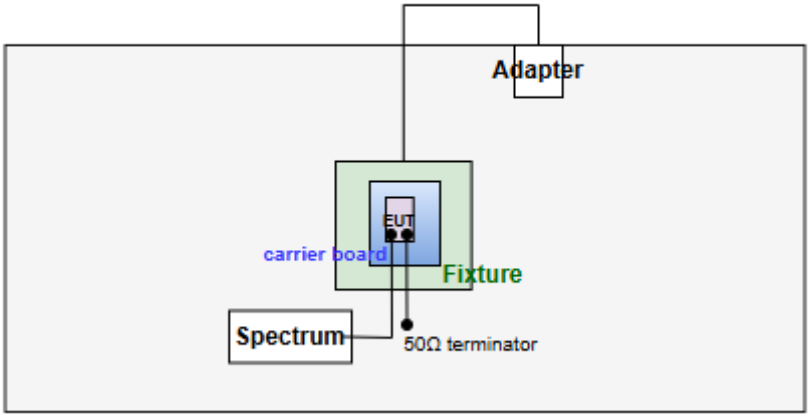
Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**S/N**	**Remarks**
1	Laptop	DELL	Latitude 5400	FKZLWZ2	---
2	Fixture	Ezurio	750-00001-2-0	---	Provided by applicant.
3	Fixture's adapter	Chenzhou Frecom Electronics Co.	F36L7-120300S PACP	---	Provided by applicant.
4	50Ω terminator	Woken	WTER-18S2	---	---

1.3 Test Setup Chart

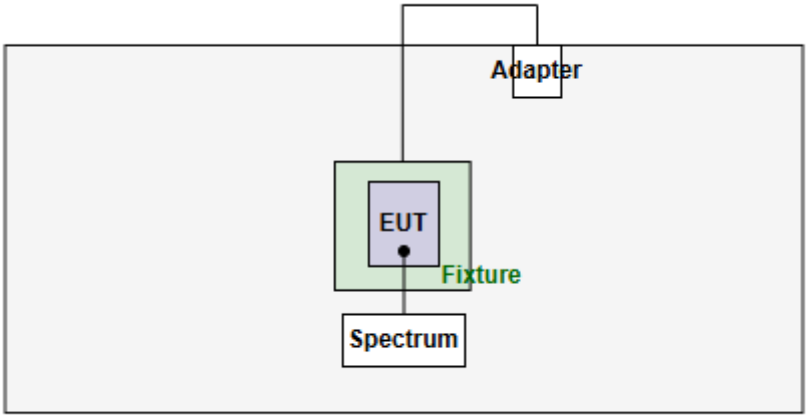
Test Setup Diagram (Conducted Test –Laird part number: 453-00184)



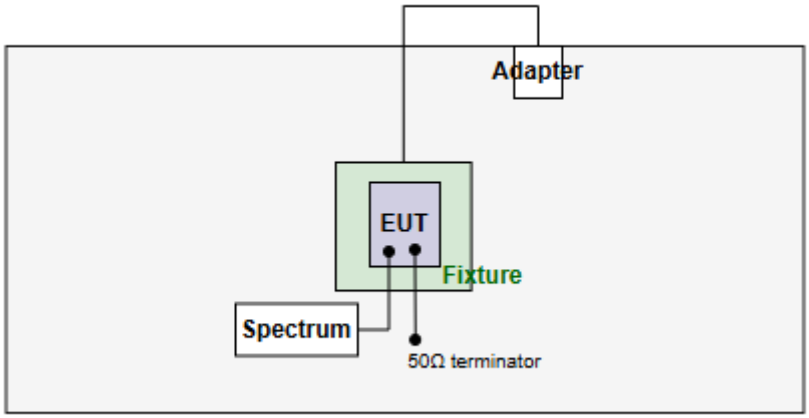
Test Setup Diagram (Conducted Test –Laird part number: 453-00193)



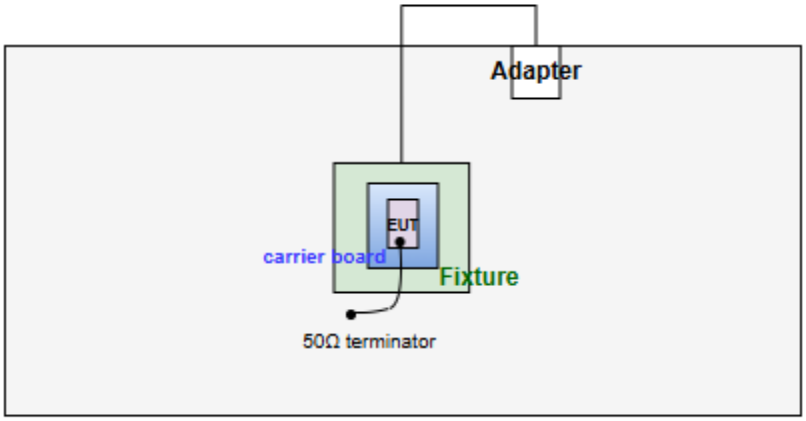
Test Setup Diagram (Conducted Test –Laird part number: 453-00213)



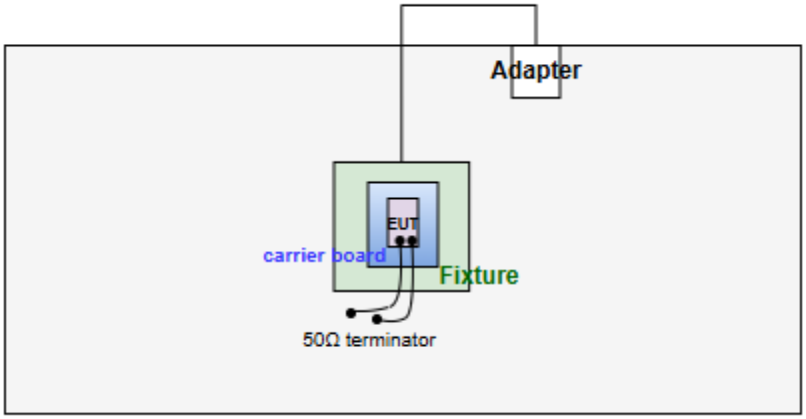
Test Setup Diagram (Conducted Test – Laird part number: 453-00214)



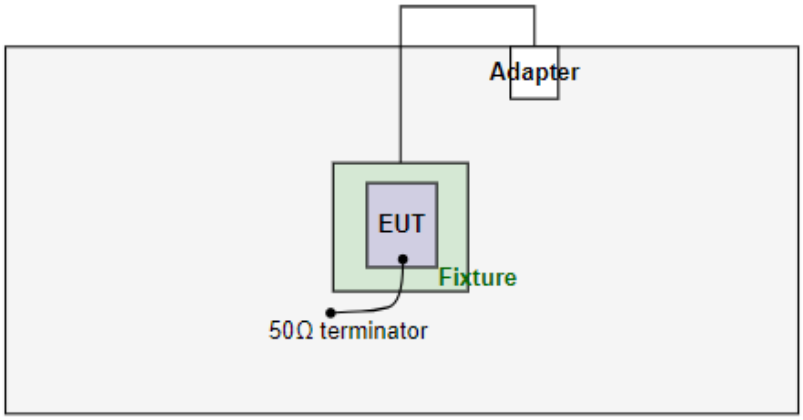
Test Setup Diagram (Radiated Test – Laird part number: 453-00184)



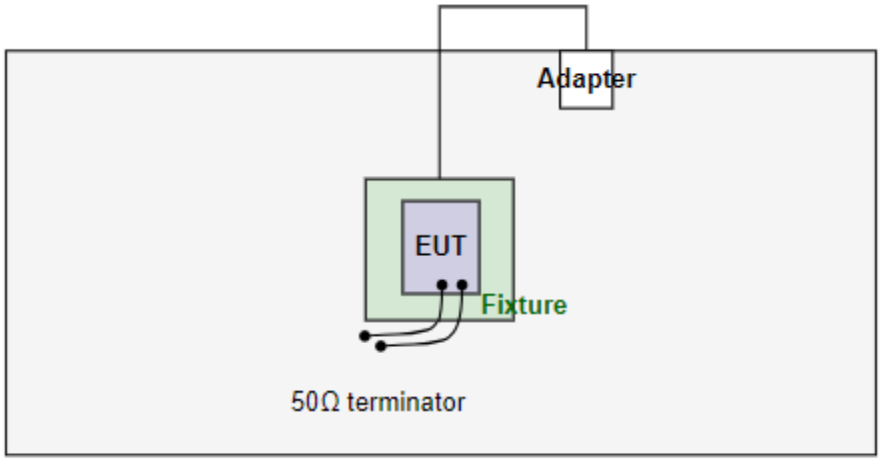
Test Setup Diagram (Radiated Test –Laird part number: 453-00193)



Test Setup Diagram (Radiated Test – Laird part number: 453-00213)



Test Setup Diagram (Radiated Test –Laird part number: 453-00214)



1.4 Test Equipment List and Calibration Data

Test Item	Radiated Emissions				
Test Site	Fully-anechoic chamber 2 / (05CH02-WS)				
Test Date	Oct. 15 ~ Nov. 04, 2024				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	Agilent	N9010A	MY52221474	Nov. 14, 2023	Nov. 13, 2024
Bilog Antenna 30-1000MHz	SCHWARZBECK	VULB9168	9168-563	Mar. 20, 2024	Mar. 19, 2025
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	9120D-1205	Feb. 16, 2024	Feb. 15, 2025
Preamplifier	Agilent	83017A	MY53270013	Feb. 19, 2024	Feb. 18, 2025
Preamplifier	EMC	EMC02325	980188	Jan. 02, 2024	Jan. 01, 2025
RF Cable-1M	EMC	EMC104-35M-35M-1000	S/N:210926	Oct. 09, 2024	Oct. 08, 2025
RF Cable-1M	EMC	EMC104-35M-35M-1000	S/N:210927	Oct. 09, 2024	Oct. 08, 2025
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22621/4	Oct. 09, 2024	Oct. 08, 2025
RF cable-4M	HUBER+SUHNER	SUCOFLEX104	MY32489/4	Oct. 09, 2024	Oct. 08, 2025
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-002	Oct. 09, 2024	Oct. 08, 2025
LF cable-3M	EMC	EMC8D-NM-NM-3000	131102	Oct. 09, 2024	Oct. 08, 2025
LF cable-10M	EMC	EMC8D-NM-NM-10000	131101	Oct. 09, 2024	Oct. 08, 2025
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Test Date	Jun. 08, 2024				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101486	Mar. 05, 2024	Mar. 04, 2025
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Jun. 21, 2023	Jun. 20, 2024
Power Sensor	Agilent	U2021XA	MY53480019	Mar. 09, 2024	Mar. 08, 2025
Power Sensor	Agilent	U2021XA	MY53510003	Mar. 09, 2024	Mar. 08, 2025
Power Sensor	Agilent	U2021XA	MY54070003	Mar. 26, 2024	Mar. 25, 2025
Power Sensor	Agilent	U2021XA	MY54060013	Mar. 26, 2024	Mar. 25, 2025
RF Cable-1M	EMC	EMC104-35M-35M-1000	S/N:210928	Oct. 13, 2023	Oct. 12, 2024
RF Cable-1M	EMC	EMC104-35M-35M-1000	S/N:210929	Oct. 13, 2023	Oct. 12, 2024
RF Cable-1M	EMC	EMC104-35M-35M-1000	S/N:210930	Oct. 13, 2023	Oct. 12, 2024
RF Cable-1M	EMC	EMC104-35M-35M-1000	S/N:210931	Oct. 13, 2023	Oct. 12, 2024
Measurement Software	Sporton	SENSE	5.10.7	NA	NA
Measurement Software	Agilent	EN RF test	1.1501125	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Test Date	Oct. 07, 2024				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101486	Mar. 05, 2024	Mar. 04, 2025
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Jul. 01, 2024	Jun. 30, 2025
Power Sensor	Agilent	U2021XA	MY53480019	Mar. 09, 2024	Mar. 08, 2025
Power Sensor	Agilent	U2021XA	MY53510003	Mar. 09, 2024	Mar. 08, 2025
Power Sensor	Agilent	U2021XA	MY54070003	Mar. 26, 2024	Mar. 25, 2025
Power Sensor	Agilent	U2021XA	MY54060013	Mar. 26, 2024	Mar. 25, 2025
RF Cable-1M	EMC	EMC104-35M-35M-1000	S/N:210928	Oct. 13, 2023	Oct. 12, 2024
RF Cable-1M	EMC	EMC104-35M-35M-1000	S/N:210929	Oct. 13, 2023	Oct. 12, 2024
RF Cable-1M	EMC	EMC104-35M-35M-1000	S/N:210930	Oct. 13, 2023	Oct. 12, 2024
RF Cable-1M	EMC	EMC104-35M-35M-1000	S/N:210931	Oct. 13, 2023	Oct. 12, 2024
Measurement Software	Sporton	SENSE	5.10.7	NA	NA
Measurement Software	Agilent	EN RF test	1.1501125	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Adaptivity				
Test Site	(TH01-WS)				
Test Date	Jun. 12, 2024				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum	R&S	FSV-7	101607	Feb. 05, 2024	Feb. 04, 2025
RF cable-8M	HUBER+SUHNER	SUCOFLEX_104	22601/4	Oct. 12, 2023	Oct. 11, 2024
RF cable-0.5M	HUBER+SUHNER	SUCOFLEX_104	296081/4	Oct. 12, 2023	Oct. 11, 2024
RF cable-0.2M	HUBER+SUHNER	SUCOFLEX_104	329023/4	Oct. 12, 2023	Oct. 11, 2024
RF cable-0.2M	HUBER+SUHNER	SUCOFLEX_104	329021/4	Oct. 12, 2023	Oct. 11, 2024
MXG-B RF Vector Signal Generator	Agilent	N5182B	MY53050081	May 22, 2024	May 21, 2025
Vector Signal Generator	R&S	SMB100A	175727	May 22, 2024	May 21, 2025
Preamplifier	Burgeon	BPA-530	100219	Nov. 22, 2023	Nov. 21, 2024
Oscilloscope	National Instruments	USB-5133	F651FF	Aug. 17, 2023	Aug. 16, 2024
Combiner(1X2)	Woken	2WAYDIV-1	0120A02056002D	Oct. 13, 2023	Oct. 12, 2024
Combiner(1X2)	Woken	DOM2AEW1A22	0120A02201801O	Oct. 13, 2023	Oct. 12, 2024
Combiner(1X4)	Woken	4WAYDIV	0120A042011010	Oct. 12, 2023	Oct. 11, 2024
Direction Coupler	Marvelous Microwave	MVE4514-20	20	Oct. 12, 2023	Oct. 11, 2024
Attenuator	Warison	WATT-6SR1211	01	Oct. 13, 2023	Oct. 12, 2024
Measurement Software	Sporton	Sporton_3	2.2.0.0	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Receiver Blocking				
Test Site	05CH01-WS				
Test Date	Oct. 16, 2024				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Wireless connectivity tester	R&S	CMW270	100856	Nov. 14, 2023	Nov. 13, 2024
Signal Generator	R&S	SMB100A	175727	May 22, 2024	May 21, 2025
RF cable-0.5M	HUBER+SUHNER	SUCOFLEX_104	500202/4	Oct. 11, 2024	Oct. 10, 2025
RF cable-0.5M	HUBER+SUHNER	SUCOFLEX_104	296088/4	Oct. 11, 2024	Oct. 10, 2025
RF cable-0.2M	HUBER+SUHNER	SUCOFLEX_104	329023/4	Oct. 11, 2024	Oct. 10, 2025
Combiner(1X2)	WOKEN	2WAYDIV	12101200003	Oct. 11, 2024	Oct. 10, 2025
Attenuator	woken	PE7013-10	10-1	Oct. 12, 2024	Oct. 11, 2025
Attenuator	woken	PE7013-10	10-2	Oct. 12, 2024	Oct. 11, 2025
Attenuator	woken	PE7013-20	20-1	Oct. 12, 2024	Oct. 11, 2025
Attenuator	woken	PE7013-20	20-2	Oct. 12, 2024	Oct. 11, 2025
20dB Attenuator	MVE	MVE2462-20	16050401	Oct. 12, 2024	Oct. 11, 2025
30dB Attenuator	MVE	MVE2462-30	16050401	Oct. 12, 2024	Oct. 11, 2025
Note: Calibration Interval of instruments listed above is one year.					

1.5 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

EN 300 328 V2.2.2 (2019-07)

1.6 Deviation from Test Standard and Measurement Procedure

None

1.7 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Measurement Uncertainty		
Parameters	**Uncertainty**	**Limit**
Occupied Channel Bandwidth	±0.0034 %	±5 %
RF output power (EIRP), conducted	±0.592 dB	±1.5 dB
Power Spectral Density, conducted	±0.583 dB	±3 dB
Unwanted Emissions, conducted	±2.715 dB	±3 dB
All emissions, radiated	±3.14 dB	±6 dB
Temperature	±0.4 ºC	±3 °C
Supply voltages	±0.15 %	±3 %
Time	±0.1 %	±5 %

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	TH01-WS, 05CH01-WS
Address of Test Site	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)
Test Site	05CH02-WS
Address of Test Site	No.14-1, Lane 19, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

2.2 The Worst Test Modes and Channel Details

full RU configuration							
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate**	**Test method**	**Mode**	**Test Configuration**	**Note**
RF Output Power (EIRP) Power Spectral Density	11b 11g ax HE20_OFDMA	2412 / 2472 2412 / 2472 2412 / 2472	1 Mbps 6 Mbps MCS 0	Conducted	TX	1, 2, 3, 4	---
Occupied Channel Bandwidth Transmitter unwanted emissions in the out of band domain	11b 11g ax HE20_OFDMA	2412 / 2472 2412 / 2472 2412 / 2472	1 Mbps 6 Mbps MCS 0	Conducted	TX	1	---
Transmitter Spurious Emissions > 1GHz	11b 11g ax HE20_OFDMA	2412 / 2472 2412 / 2472 2412 / 2472	1 Mbps 6 Mbps MCS 0	Conducted	TX	1	---
				Radiated			Note 2
Transmitter Spurious Emissions ≤ 1GHz	11g ax HE20_OFDMA	2412 / 2472 2412 / 2472	6 Mbps MCS 0 MCS 0 MCS 0	Conducted	TX	1	---
				Radiated			Note 2
Receiver Spurious Emissions	11g ax HE20_OFDMA	2412 / 2472 2412 / 2472	6 Mbps MCS 0 MCS 0 MCS 0	Conducted	RX	1	---
				Radiated			Note 2
Adaptivity	11b 11g ax HE20_OFDMA	2412 / 2472 2412 / 2472 2412 / 2472	1 Mbps 6 Mbps MCS 0 MCS 0	Conducted	TX	1	---
Receiver Blocking	11b	2412 / 2472	1 Mbps	---	RX	1	---

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Z-plane** result was found as the worst case and was shown in this report.
2. The 50Ω terminator is connected to antenna port of EUT for radiated emission measurement.
3. Test configurations are listed as below:

   Configuration 1: Laird part number: 453-00184

   Configuration 2: Laird part number: 453-00193

   Configuration 3: Laird part number: 453-00213

   Configuration 4: Laird part number: 453-00214

partial RU configuration							
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate**	**Test method**	**Mode**	**Test Configuration**	**Note**
RF Output Power Power Spectral Density	ax HE20-OFDMA RU26 RU52 RU106	2412 / 2442 / 2472 2412 / 2442 / 2472 2412 / 2442 / 2472	MCS 0 MCS 0 MCS 0	Conducted	TX	1, 2, 3, 4	-
Transmitter Emissions ≤ 1GHz	ax HE20-OFDMA RU106	2412 / 2472	MCS 0	Conducted	1TX	1	-
Transmitter Emissions >1GHz				Radiated			Note 2

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Z-plane** result was found as the worst case and was shown in this report.
2. The 50Ω terminator is connected to antenna port of EUT for radiated emission measurement.
3. Test configurations are listed as below:

   Configuration 1: Laird part number: 453-00184

   Configuration 2: Laird part number: 453-00193

   Configuration 3: Laird part number: 453-00213

   Configuration 4: Laird part number: 453-00214

3 Transmitter Test Results

3.1 RF Output Power (EIRP)

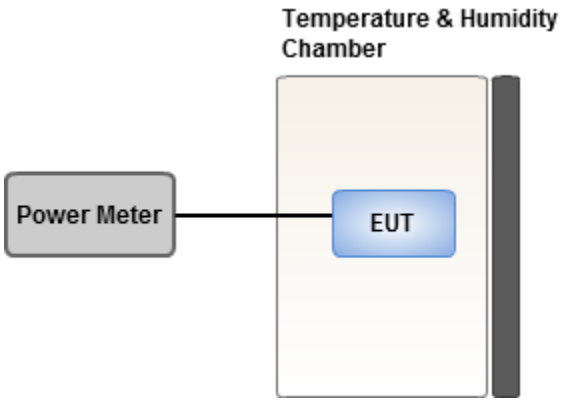
3.1.1 Limit of RF Output Power (EIRP)

The maximum RF output power (EIRP) shall be 20 dBm.

3.1.2 Test Procedures

Reference to clause 5.4.2.2 of ETSI EN 300 328 V2.2.2 (2019-07).

3.1.3 Test Setup



3.1.4 Test Results

Ambient Condition	25°C / 65%	**Tested By**	Hugo Zhen

Refer to Appendix A.

3.2 Power Spectral Density

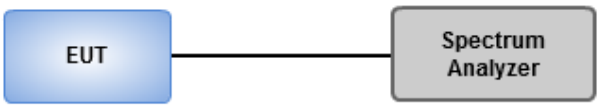
3.2.1 Limit of Power Spectral Density

The maximum Power Spectral Density is limited to 10 dBm per MHz.

3.2.2 Test Procedures

Reference to clause 5.4.3.2 of ETSI EN 300 328 V2.2.2 (2019-07).

3.2.3 Test Setup



3.2.4 Test Results

Ambient Condition	25°C / 65%	**Tested By**	Hugo Zhen

Refer to Appendix B.

3.3 Occupied Channel Bandwidth

3.3.1 Limit of Occupied Channel Bandwidth

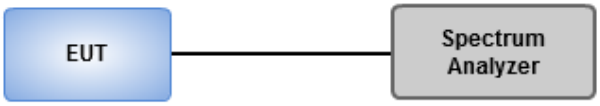
The Occupied Channel Bandwidth shall fall completely within 2.4~2.4835 GHz.

In addition, for non-adaptive equipment using wide band modulations other than FHSS and with e.i.r.p greater than 10 dBm, the occupied channel bandwidth shall be less than 20 MHz.

3.3.2 Test Procedures

Reference to clause 5.4.7.2 of ETSI EN 300 328 V2.2.2 (2019-07).

3.3.3 Test Setup



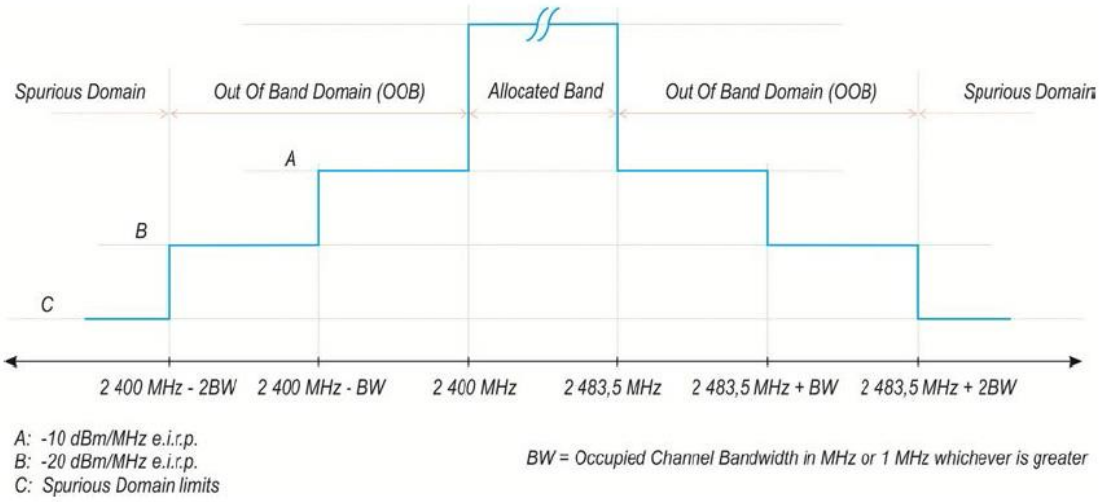
3.3.4 Test Results

Ambient Condition	25°C / 65%	**Tested By**	Hugo Zhen

Refer to Appendix C.

3.4 Transmitter Unwanted Emissions in the Out-Of-Band Domain

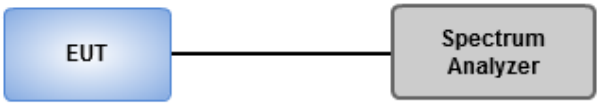
3.4.1 Limit of Transmitter Unwanted Emissions in the Out-Of-Band Domain



3.4.2 Test Procedures

Reference to clause 5.4.8.2 of ETSI EN 300 328 V2.2.2 (2019-07).

3.4.3 Test Setup



3.4.4 Test Results

Ambient Condition	25°C / 65%	**Tested By**	Hugo Zhen

Refer to Appendix D.

3.5 Transmitter Unwanted Emissions in the Spurious Domain

3.5.1 Limit of Transmitter Unwanted Emissions in the Spurious Domain

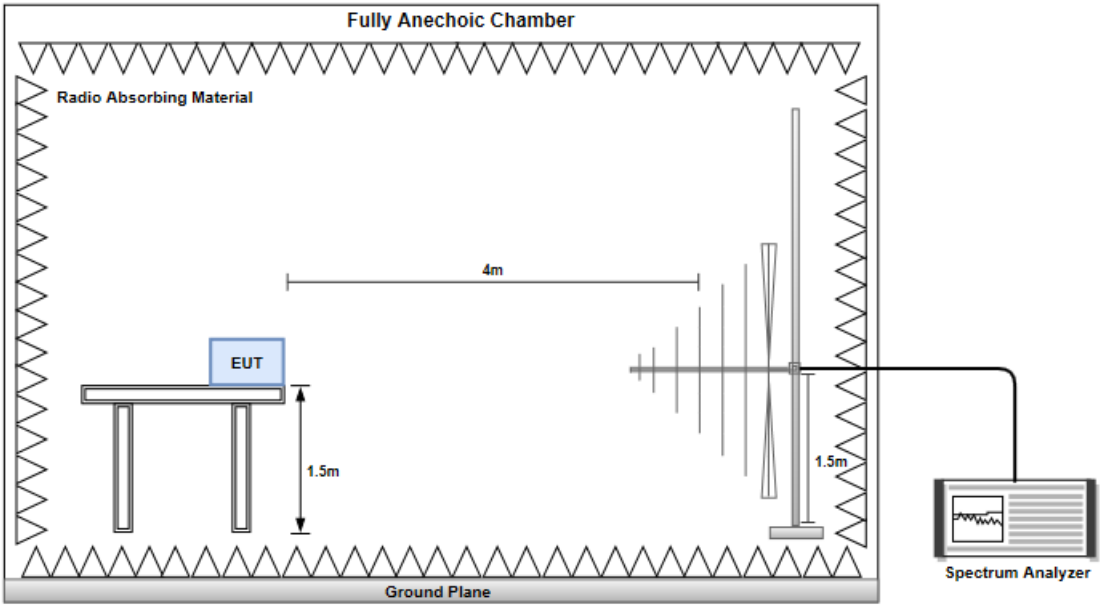
Frequency Range (MHz)	Maximum power (dBm)	Bandwidth (kHz)
30 to 47	-36	100
47 to 74	-54	100
74 to 87,5	-36	100
87,5 to 118	-54	100
118 to 174	-36	100
174 to 230	-54	100
230 to 470	-36	100
470 to 694	-54	100
694 to 1000	-36	100
1000 to 12750	-30	1000

3.5.2 Test Procedures

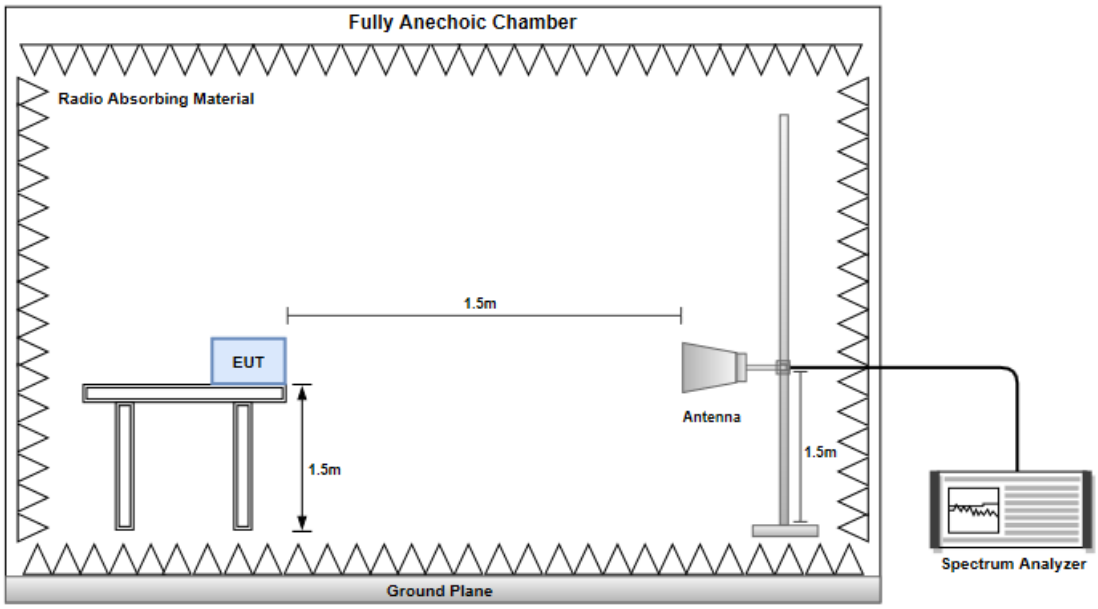
Reference to clause 5.4.9.2 of ETSI EN 300 328 V2.2.2 (2019-07).

3.5.3 Test Setup

Below 1GHz



Above 1 GHz



3.5.4 Test Results

Refer to Appendix E.

4 Receiver Test Results

4.1 Receiver Spurious Emissions

4.1.1 Limit of Receiver Spurious Emissions

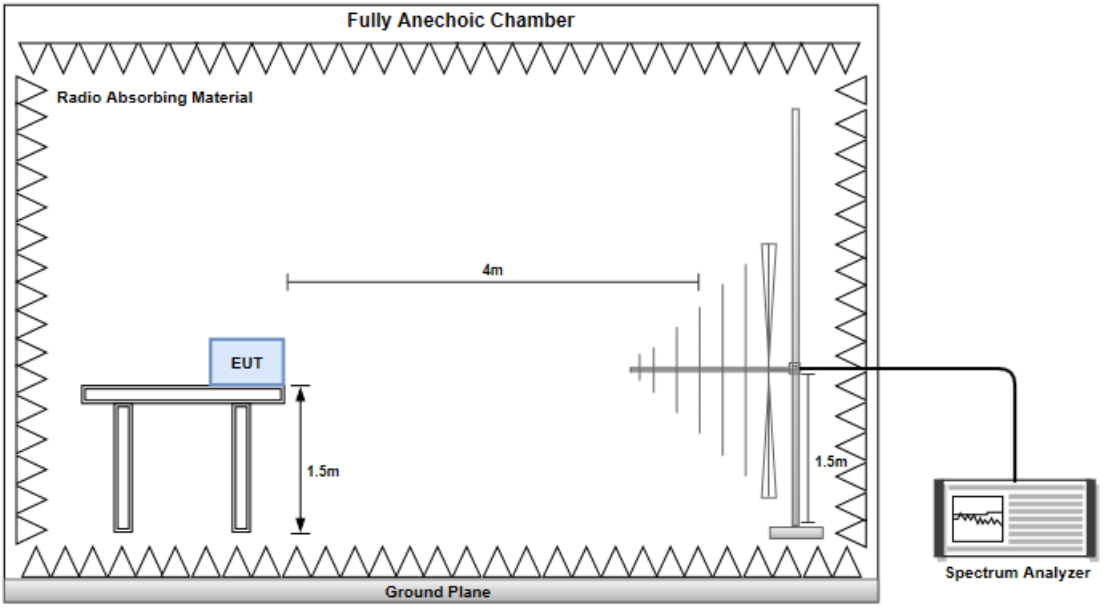
Frequency Range	Maximum power (dBm)	Measurement bandwidth (kHz)
30 MHz to 1 GHz	-57	100
Above 1 GHz to 12,75 GHz	-47	1000

4.1.2 Test Procedures

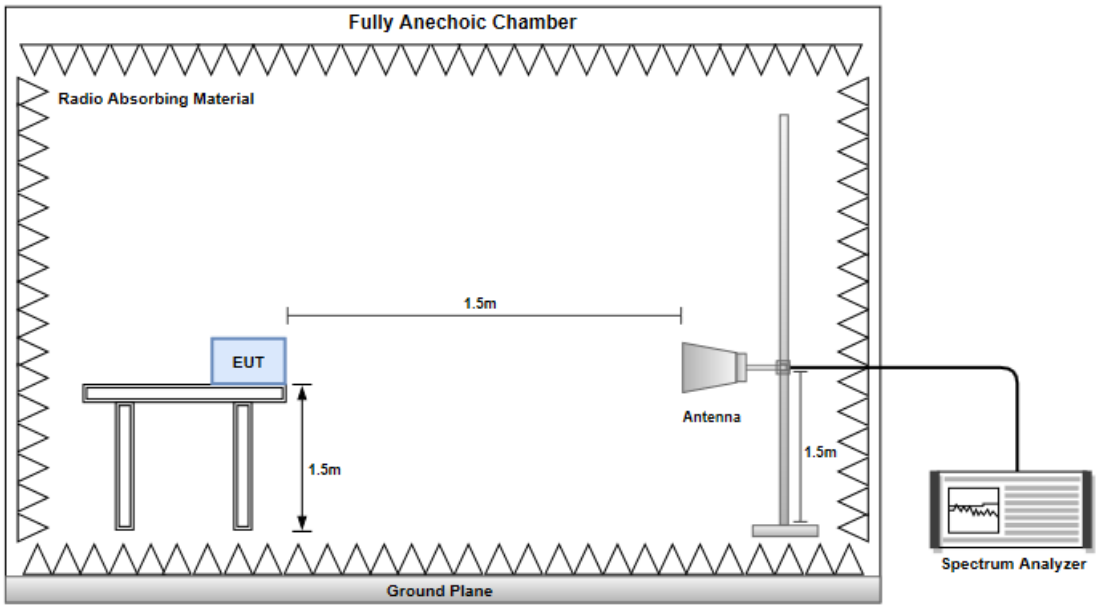
Reference to clause 5.4.10.2 of ETSI EN 300 328 V2.2.2 (2019-07).

4.1.3 Test Setup

Below 1GHz



Above 1 GHz



4.1.4 Test Results

Refer to Appendix F.

5 Adaptivity Test Results

5.1 Adaptivity and Unwanted Signal Parameters

5.1.1 Limit of Adaptivity and Unwanted Signal Parameters

Adaptivity and Unwanted Signal Limit	
☒	Only for adaptive systems and RF Output Power > 10 dBm
☐	Non-LBT based Detect and Avoid: ◆ minimum remain unavailable = 1sec; ◆ minimum Idle Period time = 100us; ◆ maximum Channel Occupancy Time (COT) = 40ms ◆ detection threshold level = -70 dBm/MHz + 10 x $\log_{10}$(100mW / Pout) (Pout in mW e.i.r.p);
☐	LBT based Detect and Avoid (Frame Based Equipment): ◆ minimum Clear Channel Assessment (CCA) time = 18 us; ◆ COT = 1 ms to 10 ms ◆ Idle Period = 5% of COT ◆ detection threshold level = -70 dBm/MHz + 10 x $\log_{10}$(100mW / Pout) (Pout in mW e.i.r.p);
☒	LBT based Detect and Avoid (Load Based Equipment with spectrum sharing mechanism IEEE Std.): ◆ LBT based spectrum sharing mechanism may implement IEEE 802.11™-2012 [i.3] clause 9, clause 10, clause 16,clause 17, clause 19 and clause 20, or in IEEE 802.15.4™-2011 [i.4], clause 4, clause 5 and clause 8 ◆ detection threshold level = -70 dBm/MHz + 10 x $\log_{10}$(100mW / Pout) (Pout in mW e.i.r.p);
☒	Short Control Signalling Transmissions: ◆ Short Control Signalling Transmissions shall have a maximum duty cycle of 10 % within an observation period of 50 ms.

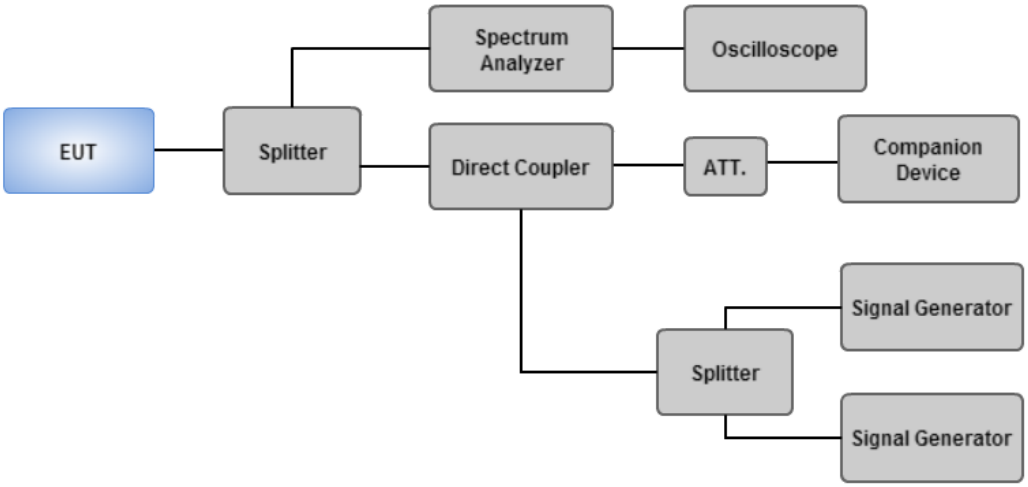
Unwanted Signal Parameters			
Equipment Type	**Wanted Signal Mean Power from Companion Device**	**Unwanted signal frequency (MHz)**	**Unwanted CW signal power (dBm)**
non-FHSS using LBT	sufficient to maintain the link (see note 3)	2395 or 2488,5 (see note 1)	-35 (see note 2)
non-FHSS using DAA	-30 dBm(see note 2)		

Note 1: The highest frequency shall be used for testing operating channels within the range 2 400 MHz to 2 442MHz, while the lowest frequency shall be used fortesting operating channels within the range 2 442 MHz to 2 483,5 MHz.
Note 2: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density in front of the UUT antenna
Note 3: A typical conducted value which can be used in most cases is -50 dBm/MHz

5.1.2 Test Procedures

Reference to clause 5.4.6.2 of ETSI EN 300 328 V2.2.2 (2019-07).

5.1.3 Test Setup



5.1.4 Test Results

Ambient Condition	25°C / 64%	**Tested By**	Jack Li

Refer to Appendix G.

6 Receiver Blocking Test Results

6.1 Receiver Blocking

6.1.1 Limit of Receiver Blocking

Receiver Blocking Parameters for Receiver Category 1 Equipment Limit			
Wanted Signal Mean Power from Companion Device (dBm) (see notes 1 and 4)	**Blocking Signal Frequency (MHz)**	**Blocking Signal Power (dBm) (see note 4)**	**Type of Blocking Signal**
(-133 dBm + 10 × log10(OCBW)) or -68 dBm whichever is less (see note 2)	2 380 2 504	-34	CW
(-139 dBm + 10 × log10(OCBW)) or -74 dBm whichever is less (see note 3)	2 300 2 330 2 360 2 524 2 584 2 674		

Note 1: OCBW is in Hz.
Note 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 26 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.
Note 3: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 20 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.
Note 4: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned.

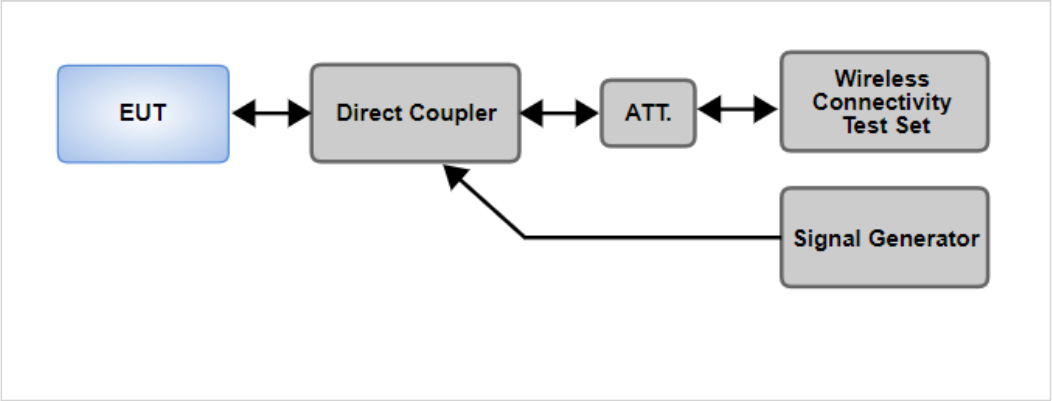
Receiver Blocking Parameters for Receiver Category 2 Equipment Limit			
Wanted Signal Mean Power from Companion Device (dBm) (see notes 1 and 3)	**Blocking Signal Frequency (MHz)**	**Blocking Signal Power (dBm) (see note 3)**	**Type of Blocking Signal**
(-139 dBm + 10 × log10(OCBW) + 10 dB) or (-74 dBm + 10 dB) whichever is less (see note 2)	2 380 2 504 2 300 2 584	-34	CW
Note 1: OCBW is in Hz. Note 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 26 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal. Note 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned.			

Receiver Blocking Parameters for Receiver Category 3 Equipment Limit			
Wanted Signal Mean Power from Companion Device (dBm) (see notes 1 and 3)	**Blocking Signal Frequency (MHz)**	**Blocking Signal Power (dBm) (see note 3)**	**Type of Blocking Signal**
(-139 dBm + 10 × log10(OCBW) + 20 dB) or (-74 dBm + 20 dB) whichever is less	2 380 2 504 2 300 2 584	-34	CW
Note 1: OCBW is in Hz. Note 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative the test may be performed using a wanted signal up to P_{min} + 30 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal Note 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned.			

6.1.2 Test Procedures

Reference to clause 5.4.11.2 of ETSI EN 300 328 V2.2.2 (2019-07).

6.1.3 Test Setup



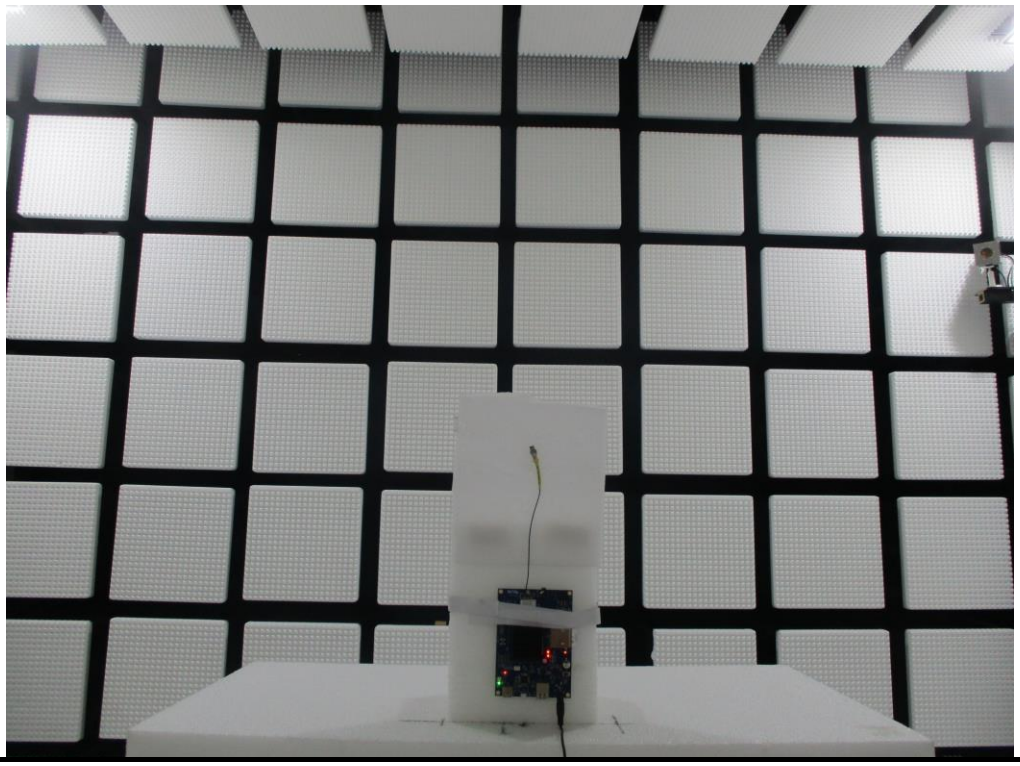
6.1.4 Test Results

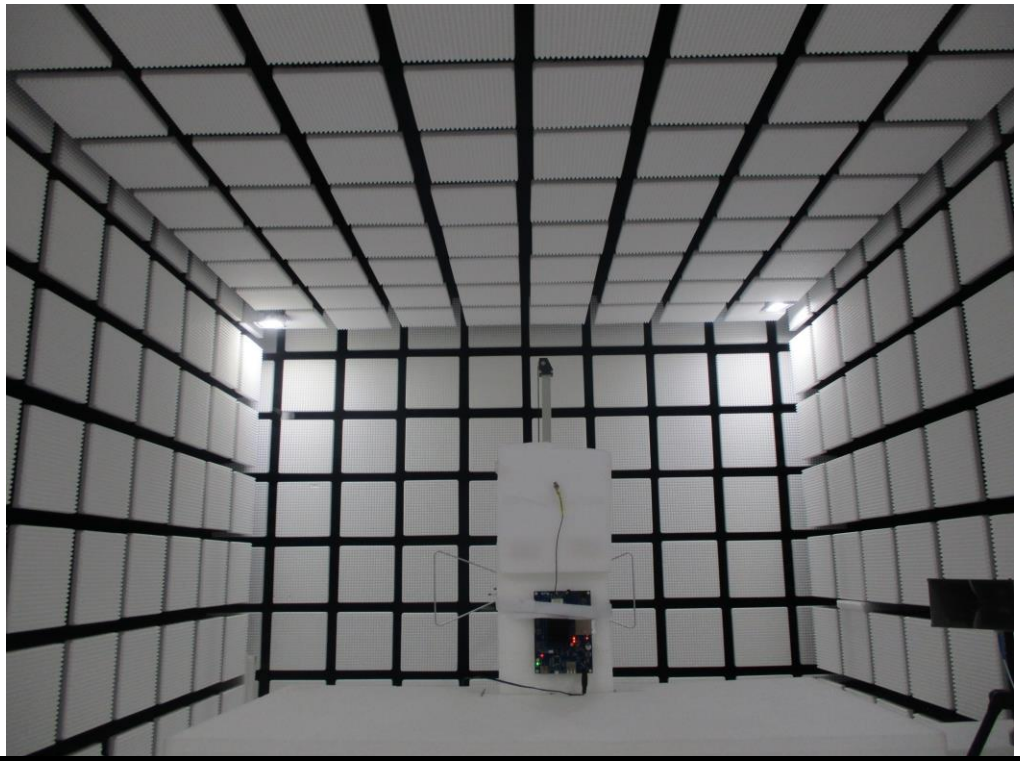
Ambient Condition	25°C / 65%	**Tested By**	Jack Li

Refer to Appendix H.

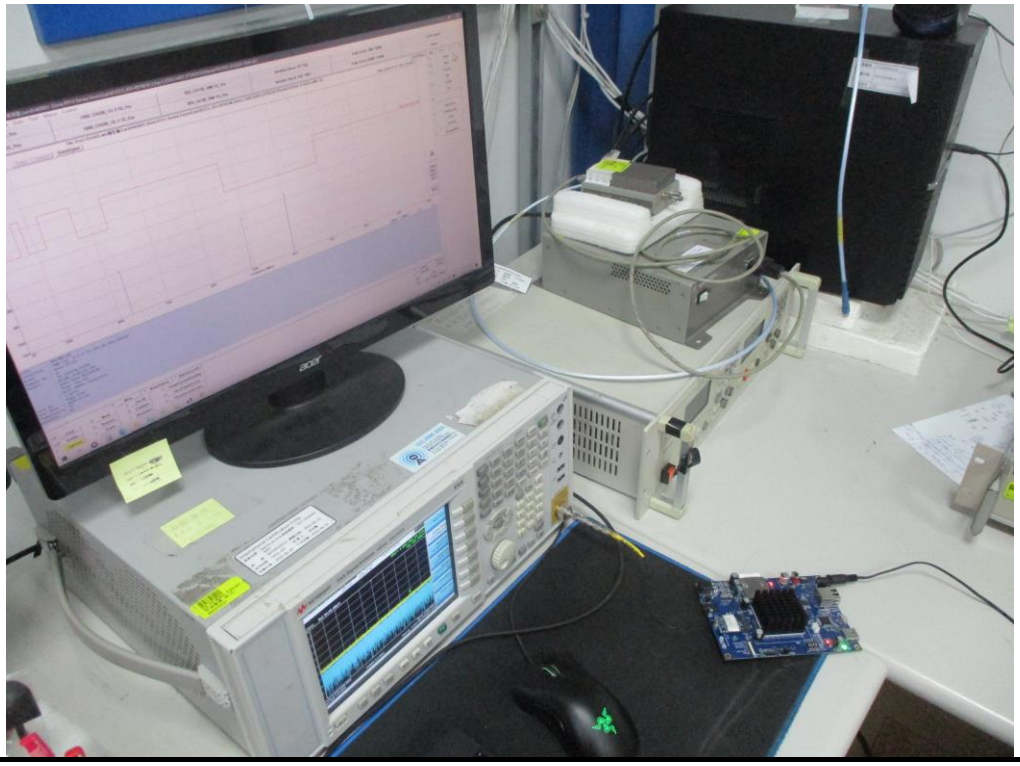
7 Photographs of the Test Configuration

Spurious Emission Test (RSE)

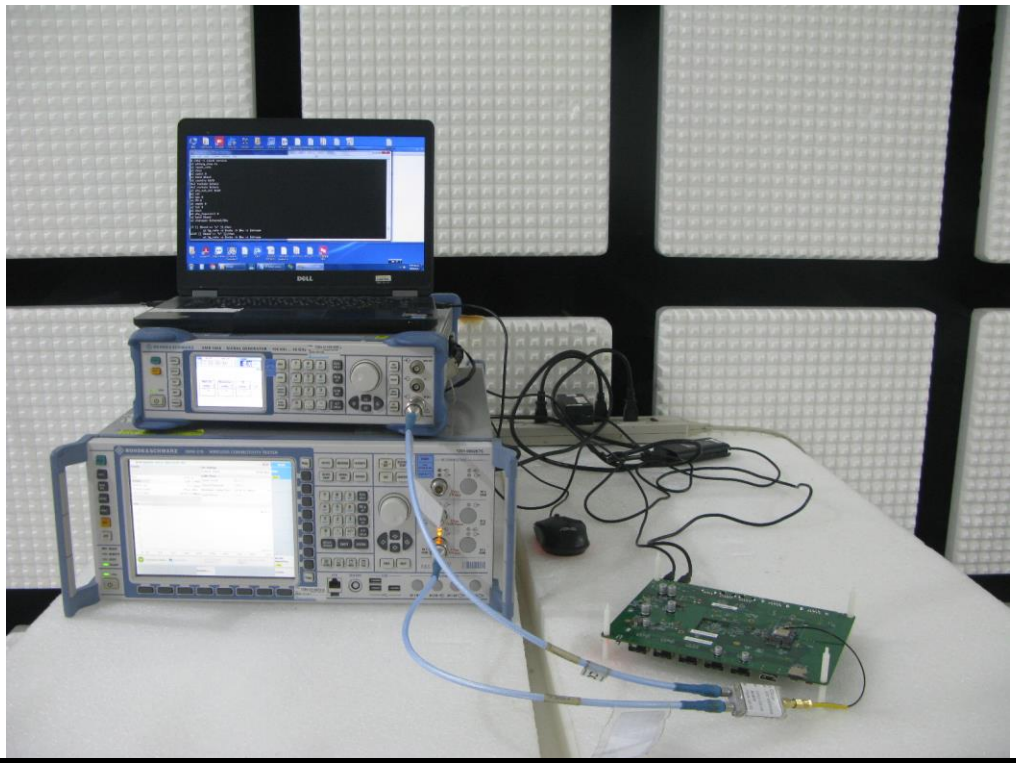




Spurious Emission Test (CSE)



Receiver Blocking Test



Adaptivity, Unwanted Signal and Short Control Signalling Transmissions Test

8 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website http://www.icertifi.com.tw.

Linkou

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan (R.O.C.)

Kwei Shan

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

No.2-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666
Fax: 886-3-318-0345
Email: ICC_Service@icertifi.com.tw

═END═

Configuration 1: Laird part number: 453-00184

full RU configuration

RF Output Power (dBm)						
Condition	Freq. (MHz)	EIRP Power (dBm)			Limit (dBm)	Results
		11b	11g	ax HE20-OFDMA		
$T_{nom}V_{nom}$	2412	17.37	18.98	19.05	20	Pass
$T_{min}V_{nom}$	2412	18.10	19.66	19.55	20	Pass
$T_{max}V_{nom}$	2412	18.17	19.73	19.69	20	Pass
$T_{nom}V_{nom}$	2442	17.32	18.90	19.01	20	Pass
$T_{min}V_{nom}$	2442	18.02	19.50	19.50	20	Pass
$T_{max}V_{nom}$	2442	17.95	19.71	19.56	20	Pass
$T_{nom}V_{nom}$	2472	17.40	19.02	19.05	20	Pass
$T_{min}V_{nom}$	2472	17.97	19.48	19.66	20	Pass
$T_{max}V_{nom}$	2472	17.82	19.63	19.73	20	Pass

Note: EIRP = Measured conducted power + Antenna gain.

partial RU configuration

RF Output Power (dBm)						
Condition	Freq. (MHz)	EIRP Power (dBm)			Limit (dBm)	Results
		ax HE20-OFDMA RU26	ax HE20-OFDMA RU52	ax HE20-OFDMA RU106		
$T_{nom}V_{nom}$	2412	12.67	15.45	18.49	20	Pass
$T_{min}V_{nom}$	2412	13.42	16.03	19.00	20	Pass
$T_{max}V_{nom}$	2412	13.47	16.17	19.06	20	Pass
$T_{nom}V_{nom}$	2442	12.56	15.55	18.37	20	Pass
$T_{min}V_{nom}$	2442	13.20	16.19	18.88	20	Pass
$T_{max}V_{nom}$	2442	13.12	16.31	18.94	20	Pass
$T_{nom}V_{nom}$	2472	12.75	15.48	18.50	20	Pass
$T_{min}V_{nom}$	2472	13.24	15.86	19.12	20	Pass
$T_{max}V_{nom}$	2472	13.11	16.05	19.18	20	Pass

Note: EIRP = Measured conducted power + Antenna gain.

full RU configuration

Modulation Mode	Freq. (MHz)	Power Density (dBm/1MHz)	Limit (dBm/1MHz)	Results
11b	2412	9.77	10	Pass
11b	2442	9.70	10	Pass
11b	2472	9.79	10	Pass
11g	2412	8.83	10	Pass
11g	2442	8.74	10	Pass
11g	2472	8.93	10	Pass
ax HE20-OFDMA	2412	8.49	10	Pass
ax HE20-OFDMA	2442	8.42	10	Pass
ax HE20-OFDMA	2472	8.38	10	Pass

partial RU configuration

Modulation Mode	Freq. (MHz)	Power Density (dBm/1MHz)	Limit (dBm/1MHz)	Results
ax HE20-OFDMA RU26	2412	9.64	10	Pass
ax HE20-OFDMA RU26	2442	9.48	10	Pass
ax HE20-OFDMA RU26	2472	9.66	10	Pass
ax HE20-OFDMA RU52	2412	9.53	10	Pass
ax HE20-OFDMA RU52	2442	9.55	10	Pass
ax HE20-OFDMA RU52	2472	9.49	10	Pass
ax HE20-OFDMA RU106	2412	9.75	10	Pass
ax HE20-OFDMA RU106	2442	9.55	10	Pass
ax HE20-OFDMA RU106	2472	9.68	10	Pass

Summary

Mode	OBW (Hz)	ITU-Code
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	11.198M	11M2G1D
802.11g_Nss1,(6Mbps)_1TX	17.004M	17M0D1D
ax20 OFDMA_20MHz_Nss1,(MCS0)_1TX	19.066M	19M1D1D

OBW = 99% occupied bandwidth

Result

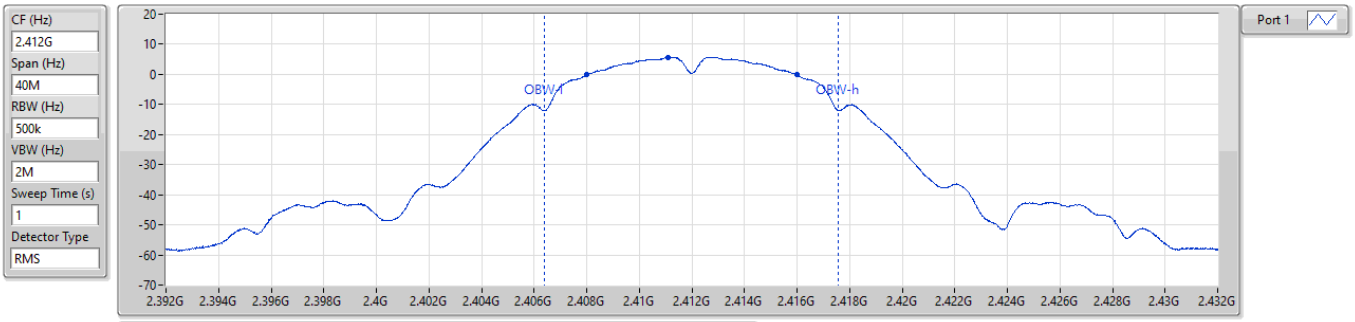
Mode	Result	Limit (Hz)	fl-OBW (Hz)	fh-OBW (Hz)	OBW (Hz)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz_Tnom	Pass	2.4-2.4835G	2.406389G	2.417551G	11.161M
2442MHz_Tnom	Pass	2.4-2.4835G	2.436354G	2.447552G	11.198M
2472MHz_Tnom	Pass	2.4-2.4835G	2.466495G	2.477433G	10.938M
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz_Tnom	Pass	2.4-2.4835G	2.403695G	2.420297G	16.602M
2442MHz_Tnom	Pass	2.4-2.4835G	2.433492G	2.450496G	17.004M
2472MHz_Tnom	Pass	2.4-2.4835G	2.463686G	2.480291G	16.606M
ax20 OFDMA_20MHz_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz_Tnom	Pass	2.4-2.4835G	2.402464G	2.421528G	19.064M
2442MHz_Tnom	Pass	2.4-2.4835G	2.432461G	2.451523G	19.062M
2472MHz_Tnom	Pass	2.4-2.4835G	2.462456G	2.481522G	19.066M

fl-OBW = fl lower edge 99% occupied bandwidth; fh-OBW = fh higher edge 99% occupied bandwidth; OBW = 99% occupied bandwidth;
N dB = 6dB down bandwidth

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX **EBW**

2412MHz

08/06/2024

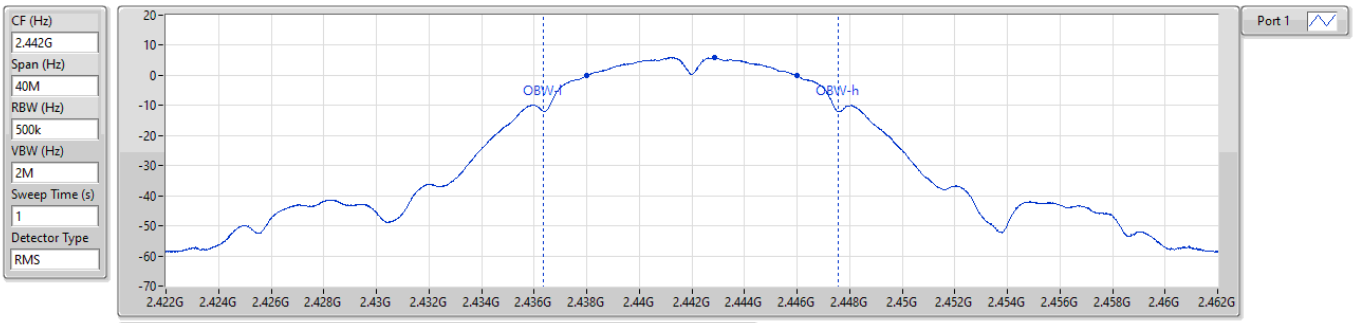


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
8M	2.408G	2.416G	11.161M	2.406389G	2.417551G	2.4-2.4835G	1

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX **EBW**

2442MHz

08/06/2024

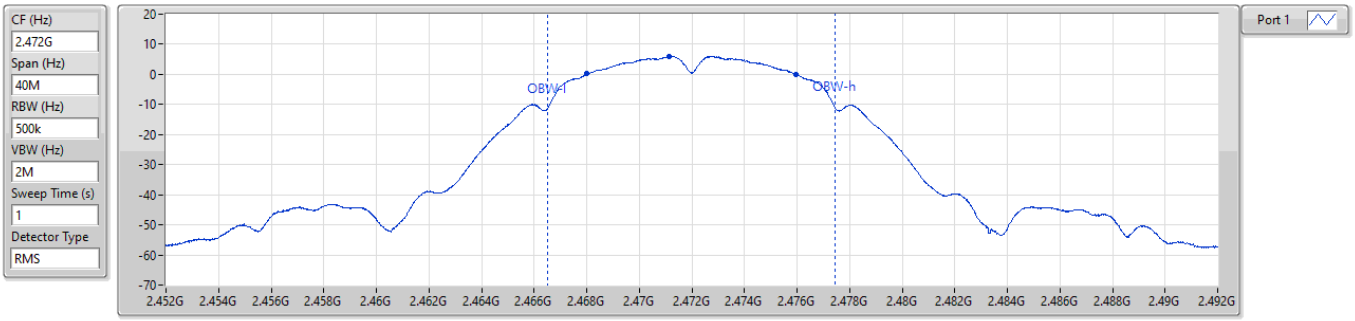


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
7.96M	2.43802G	2.44598G	11.198M	2.436354G	2.447552G	2.4-2.4835G	1

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX **EBW**

2472MHz

07/10/2024

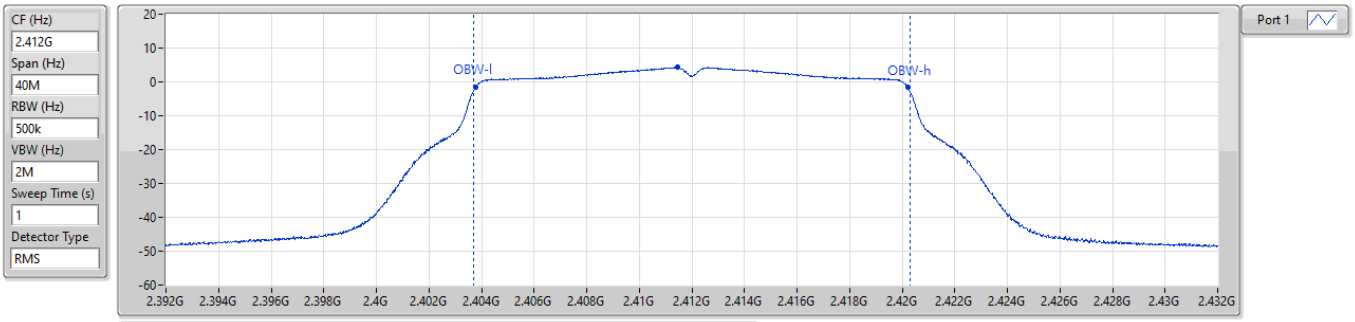


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
7.98M	2.46798G	2.47596G	10.938M	2.466495G	2.477433G	2.4-2.4835G	1

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX **EBW**

2412MHz

07/10/2024

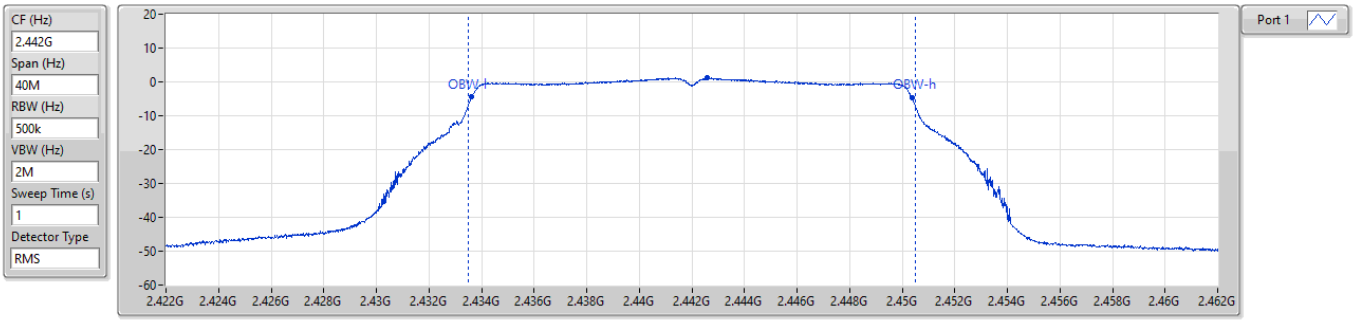


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.48M	2.40376G	2.42024G	16.602M	2.403695G	2.420297G	2.4-2.4835G	1

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX **EBW**

2442MHz

07/10/2024

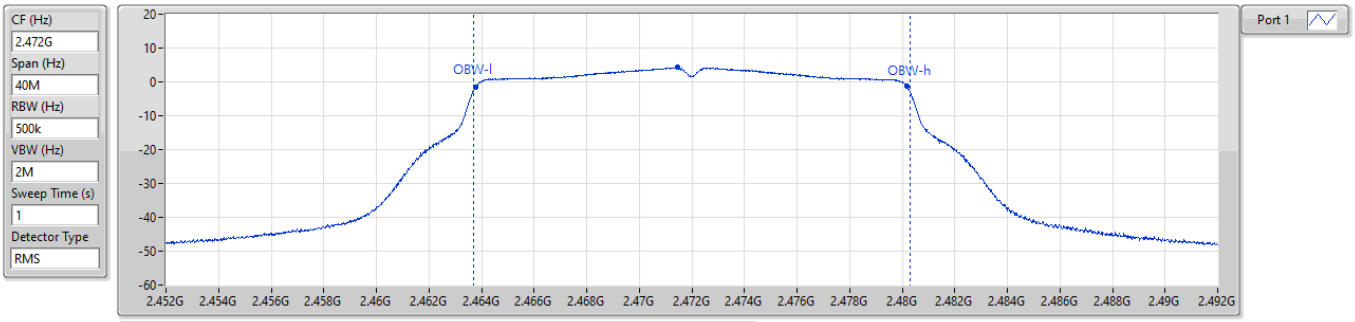


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.76M	2.43362G	2.45038G	17.004M	2.433492G	2.450496G	2.4-2.4835G	1

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX **EBW**

2472MHz

07/10/2024

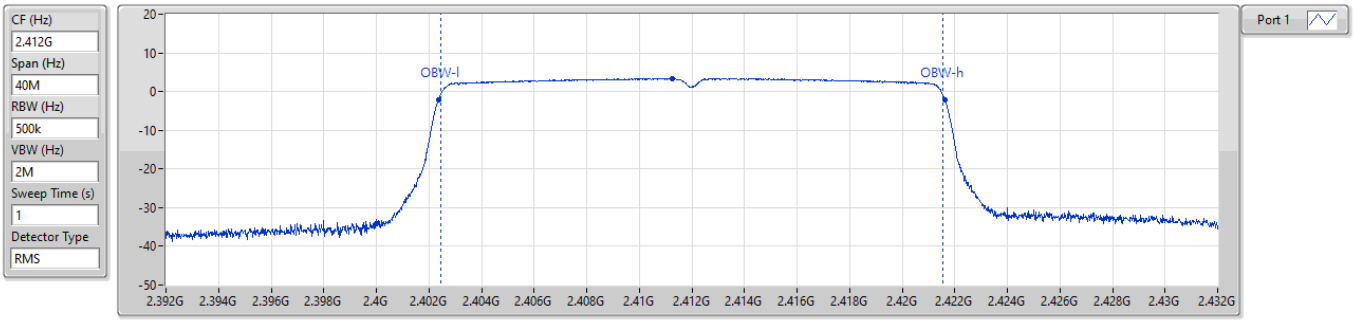


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.44M	2.46376G	2.4802G	16.606M	2.463686G	2.480291G	2.4-2.4835G	1

2.4-2.4835GHz_ax20 OFDMA_20MHz_Nss1,(MCS0)_1TX **EBW**

2412MHz

07/10/2024

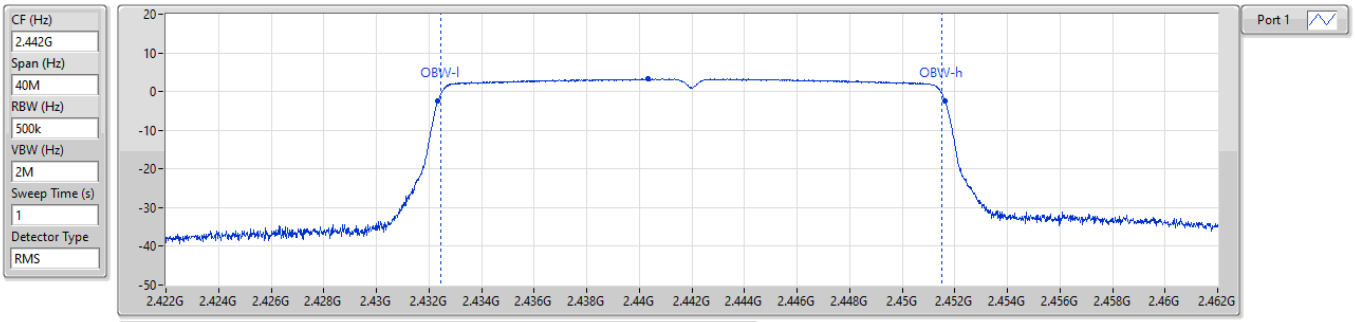


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.28M	2.40236G	2.42164G	19.064M	2.402464G	2.421528G	2.4-2.4835G	1

2.4-2.4835GHz_ax20 OFDMA_20MHz_Nss1,(MCS0)_1TX **EBW**

2442MHz

07/10/2024

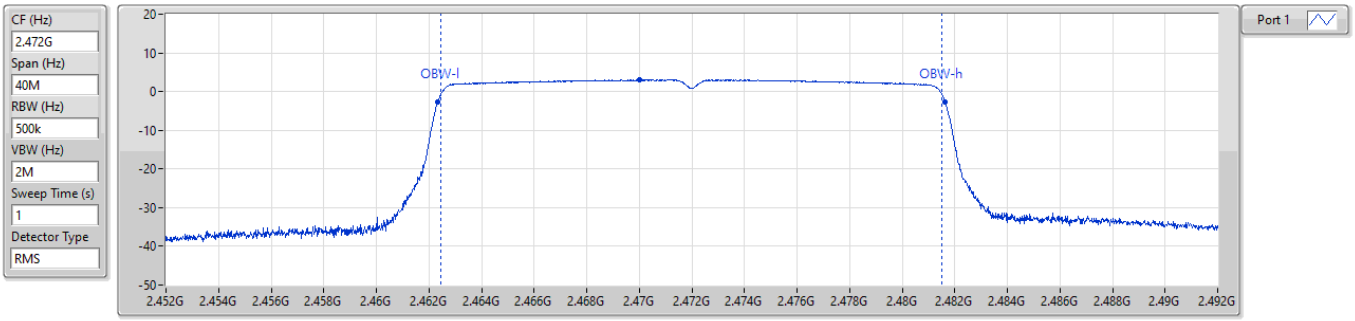


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.3M	2.43234G	2.45164G	19.062M	2.432461G	2.451523G	2.4-2.4835G	1

2.4-2.4835GHz_ax20 OFDMA_20MHz_Nss1,(MCS0)_1TX **EBW**

2472MHz

07/10/2024



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.3M	2.46234G	2.48164G	19.066M	2.462456G	2.481522G	2.4-2.4835G	1

Summary

Mode	EIRP-A (dBm)	Limit-A (dBm)	EIRP-B (dBm)	Limit-B (dBm)
2.4-2.4835GHz	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX	-34.79	-10	-44.44	-20
802.11g_Nss1,(6Mbps)_1TX	-18.26	-10	-34.99	-20
ax20 OFDMA_20MHz_Nss1,(MCS0)_1TX	-13.94	-10	-23.29	-20

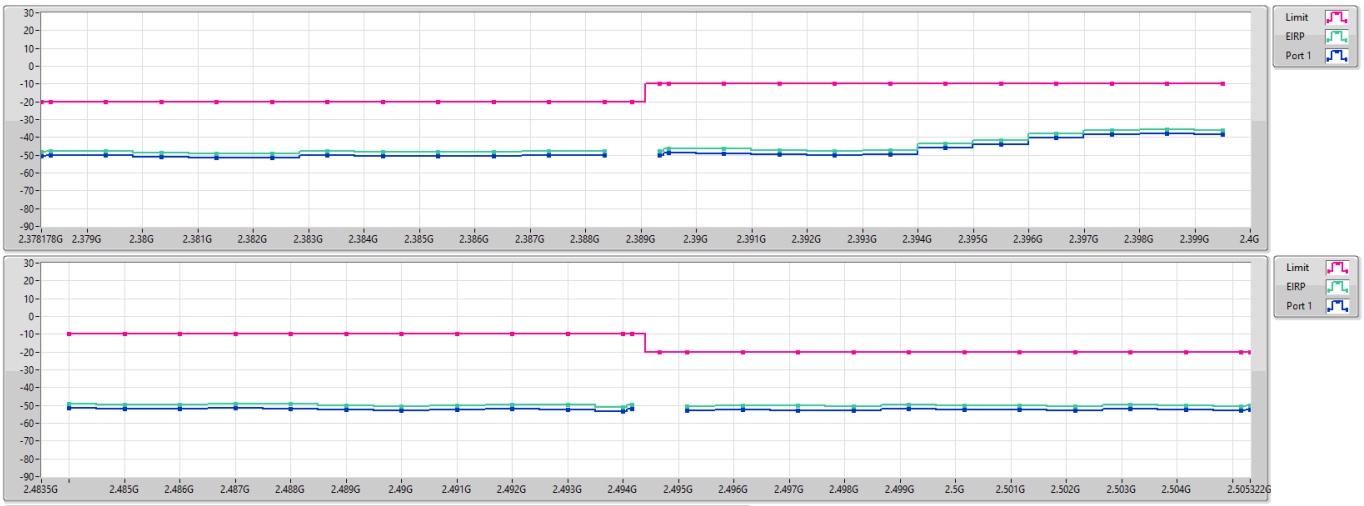
Result

Mode	Result	Freq (Hz)	EIRP (dBm)	Limit (dBm)	Freq (Hz)	EIRP (dBm)	Limit (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-	-
2412MHz_Tnom	Pass	2.383339G	-47.68	-20	2.3985G	-35.50	-10
2412MHz_Tnom	Pass	2.503161G	-49.63	-20	2.487G	-49.03	-10
2472MHz_Tnom	Pass	2.381562G	-45.91	-20	2.3925G	-46.04	-10
2472MHz_Tnom	Pass	2.497938G	-44.44	-20	2.486G	-34.79	-10
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
2412MHz_Tnom	Pass	2.382898G	-39.91	-20	2.3995G	-27.83	-10
2412MHz_Tnom	Pass	2.505602G	-44.91	-20	2.488G	-44.74	-10
2472MHz_Tnom	Pass	2.376894G	-37.18	-20	2.3935G	-37.22	-10
2472MHz_Tnom	Pass	2.500606G	-34.99	-20	2.484G	-18.26	-10
ax20 OFDMA_20MHz_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
2412MHz_Tnom	Pass	2.376436G	-23.29	-20	2.3975G	-14.70	-10
2412MHz_Tnom	Pass	2.507064G	-39.81	-20	2.502064G	-39.73	-10
2472MHz_Tnom	Pass	2.376434G	-40.34	-20	2.3875G	-40.07	-10
2472MHz_Tnom	Pass	2.503066G	-29.90	-20	2.485G	-13.94	-10

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX **MASK-DTS**

2412MHz_Tnom

08/06/2024

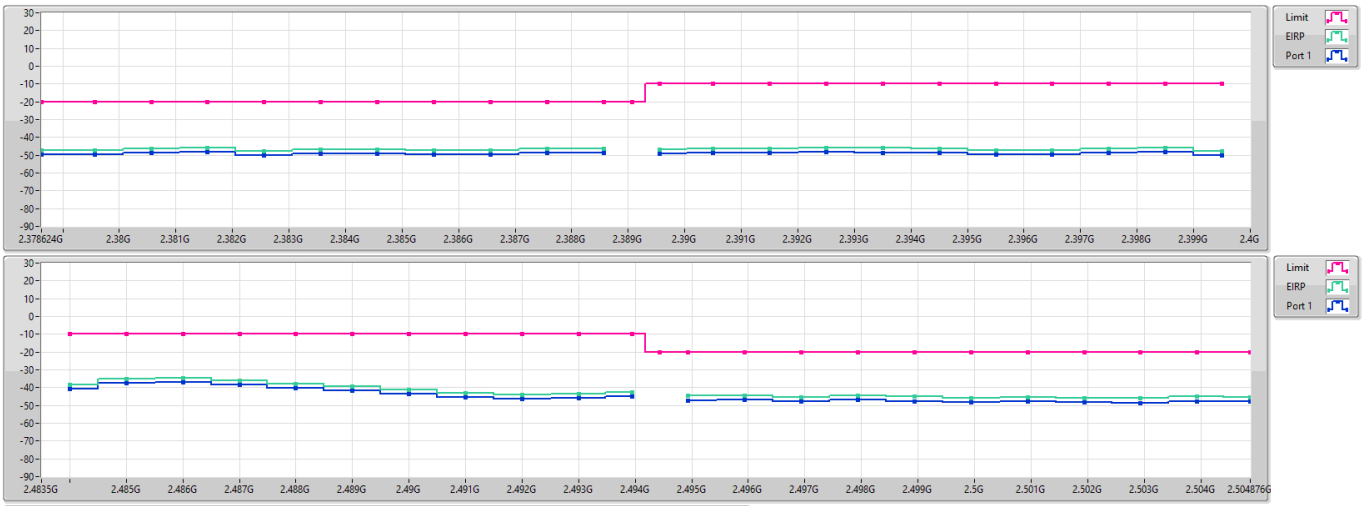


Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)
2.383339G	-47.68	-20	2.3985G	-35.50	-10	2.487G	-49.03	-10	2.503161G	-49.63	-20

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_1TX **MASK-DTS**

2472MHz_Tnom

07/10/2024

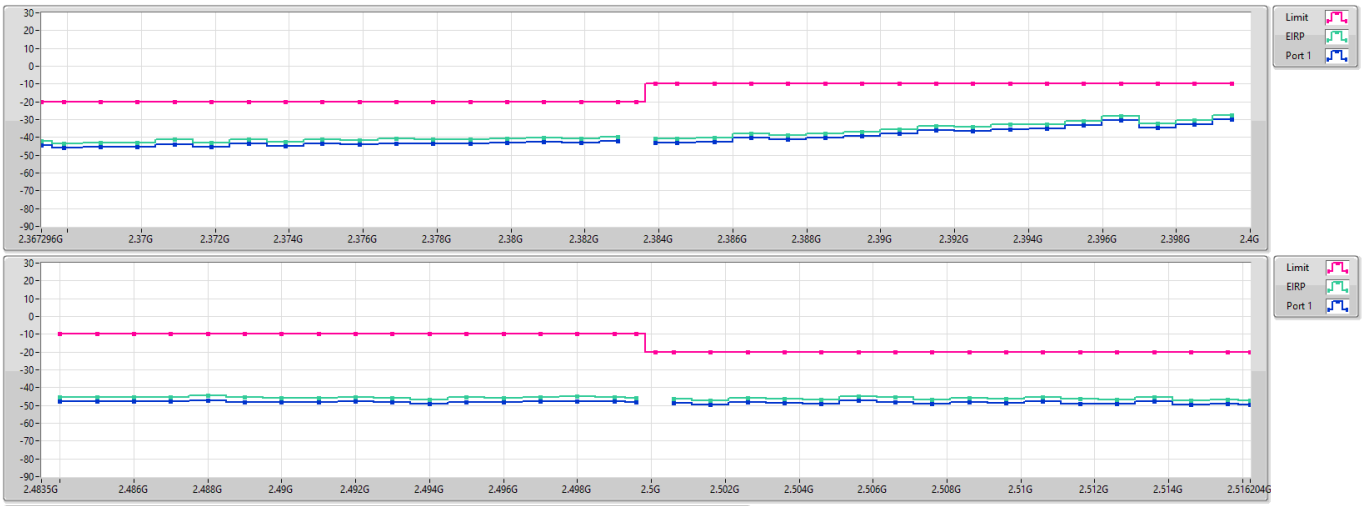


Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)
2.381562G	-45.91	-20	2.3925G	-46.04	-10	2.486G	-34.79	-10	2.497938G	-44.44	-20

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX **MASK-DTS**

2412MHz_Tnom

07/10/2024

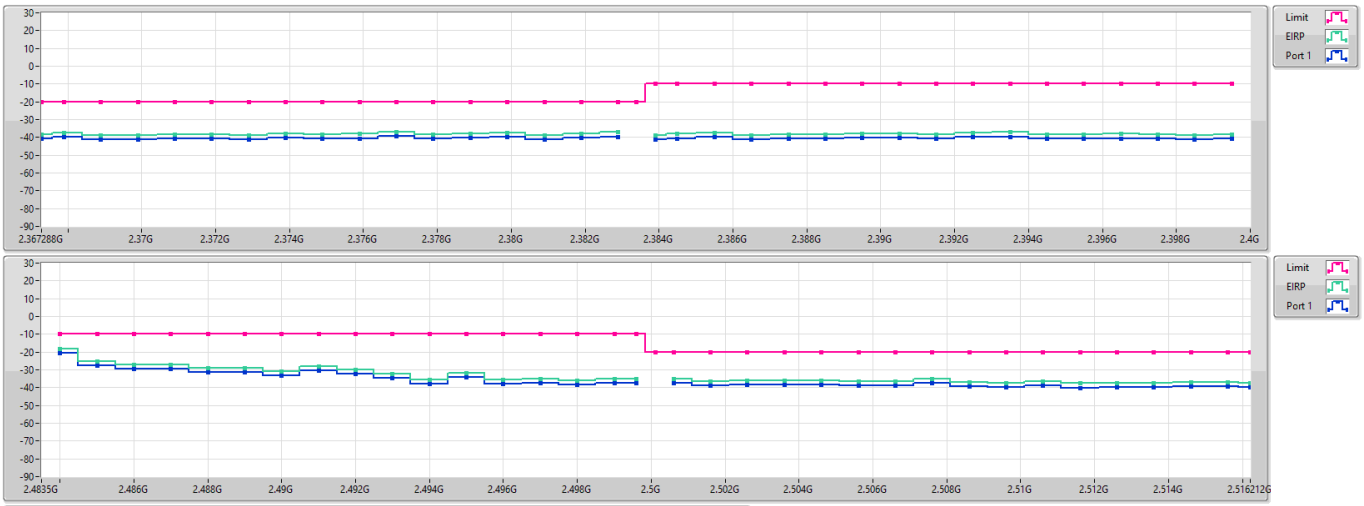


Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)
2.382898G	-39.91	-20	2.3995G	-27.83	-10	2.488G	-44.74	-10	2.505602G	-44.91	-20

2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_1TX **MASK-DTS**

2472MHz_Tnom

07/10/2024

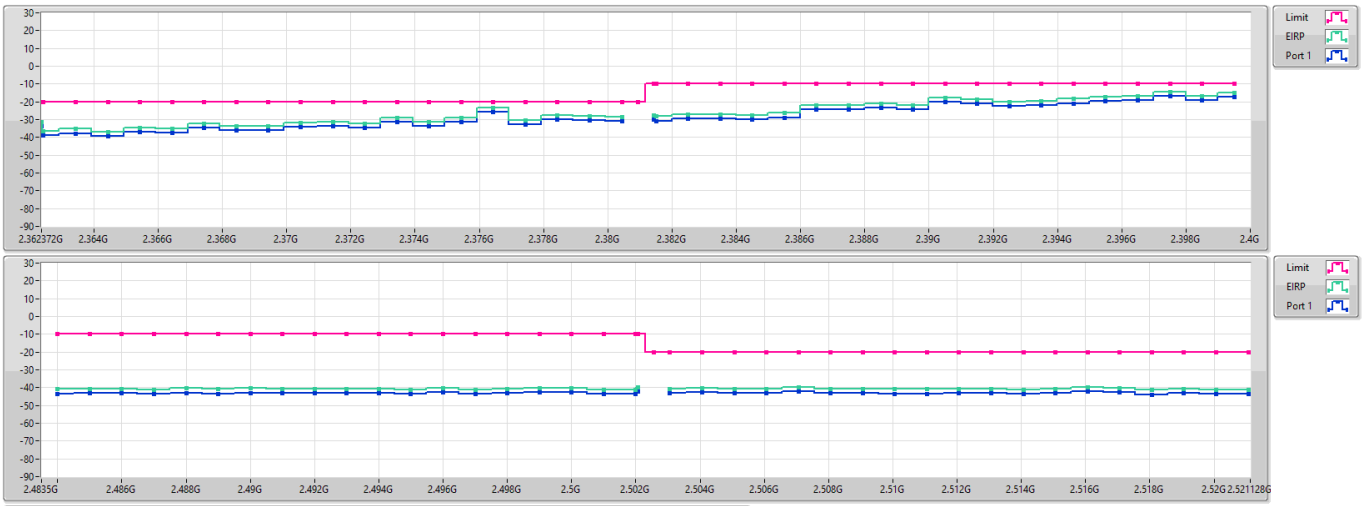


Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)
2.376894G	-37.18	-20	2.3935G	-37.22	-10	2.484G	-18.26	-10	2.500606G	-34.99	-20

2.4-2.4835GHz_ax20 OFDMA_20MHz_Nss1,(MCS0)_1TX **MASK-DTS**

2412MHz_Tnom

07/10/2024

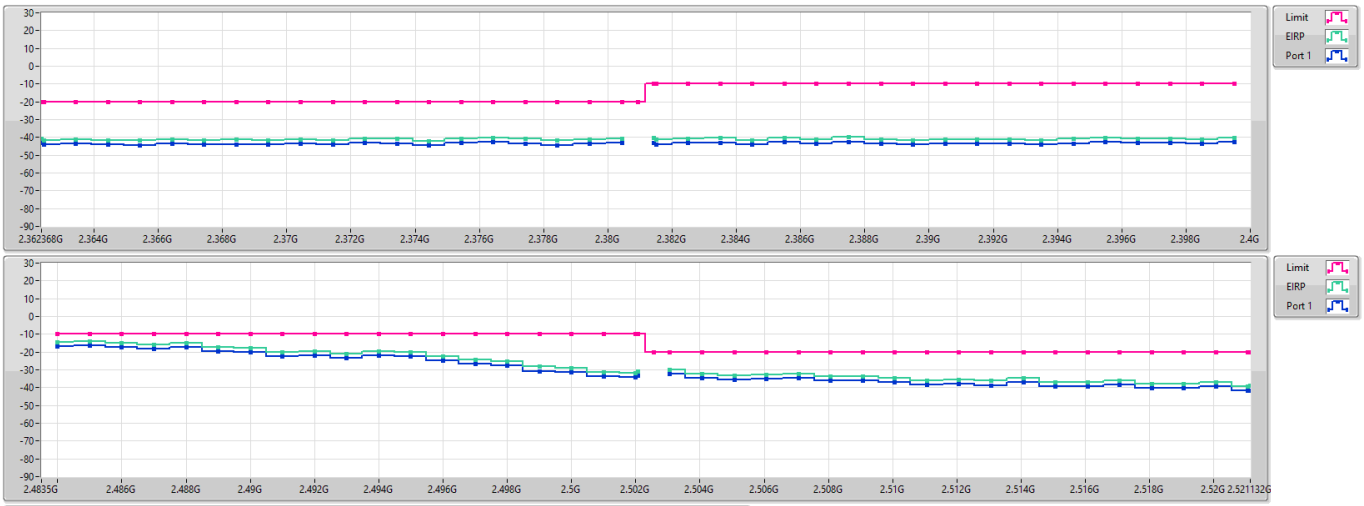


Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)
2.376436G	-23.29	-20	2.3975G	-14.70	-10	2.502064G	-39.73	-10	2.507064G	-39.81	-20

2.4-2.4835GHz_ax20 OFDMA_20MHz_Nss1,(MCS0)_1TX **MASK-DTS**

2472MHz_Tnom

07/10/2024



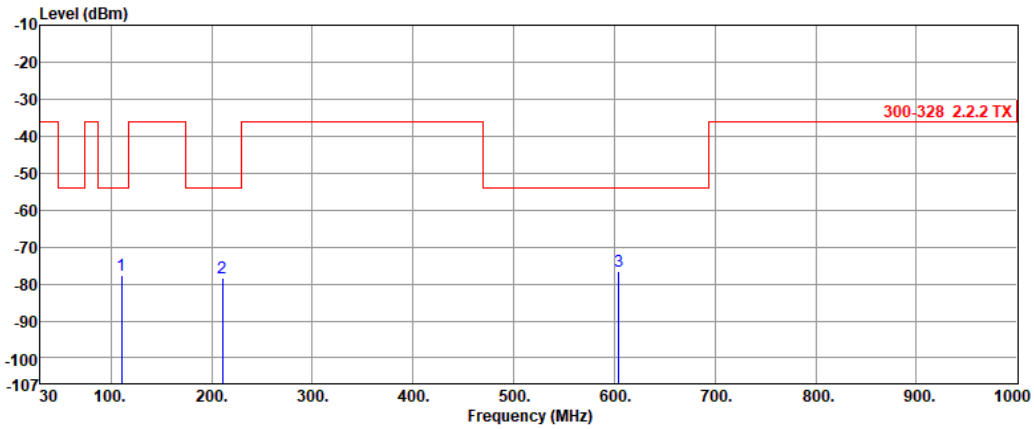
Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)	Freq(Hz)	EIRP(dBm)	Limit(dBm)
2.376434G	-40.34	-20	2.3875G	-40.07	-10	2.485G	-13.94	-10	2.503066G	-29.90	-20

full RU configuration

Emissions (Below 1GHz)

Modulation	11g
Test Freq. (MHz)	2412

Test By :Hugo Zhen Temperature:24 Humidity(%):65

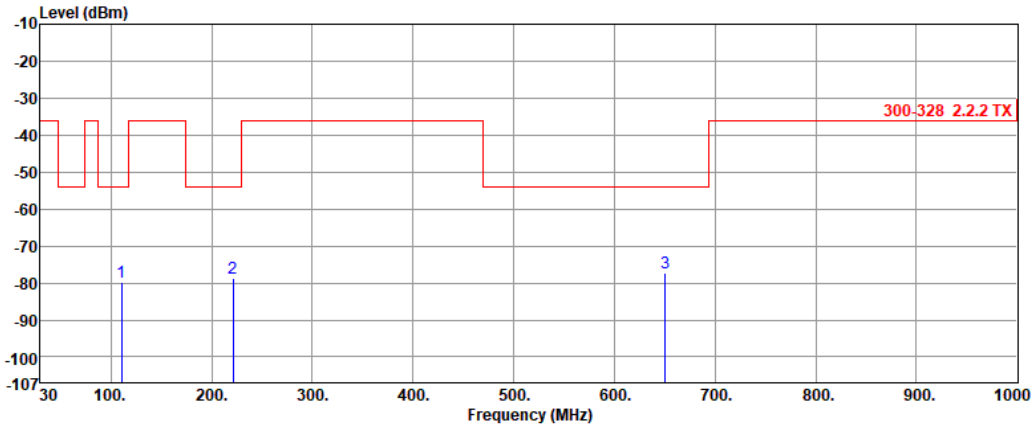


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	110.51	-77.57	-54.00	-23.57	0.00	-77.57
2	210.42	-78.27	-54.00	-24.27	0.00	-78.27
3	604.24	-76.51	-54.00	-22.51	0.00	-76.51

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g
Test Freq. (MHz)	2472

Test By :Hugo Zhen Temperature:24 Humidity(%):65

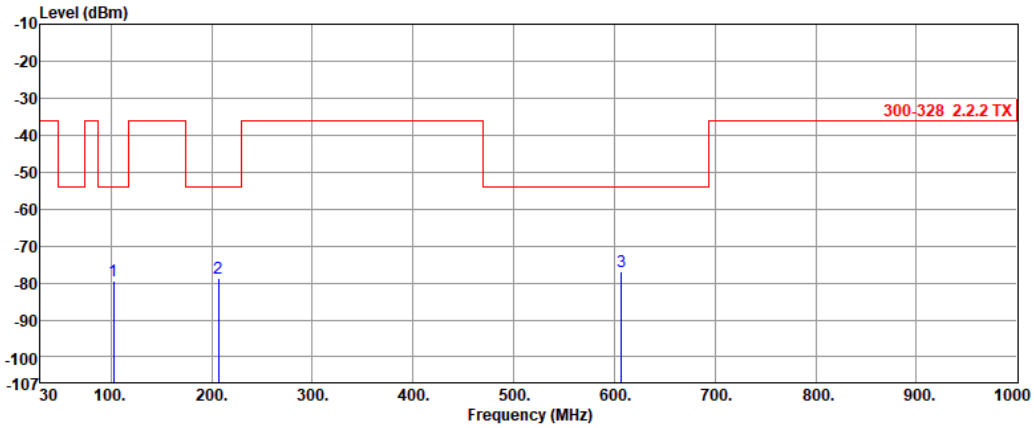


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	110.51	-79.79	-54.00	-25.79	0.00	-79.79
2	221.09	-78.71	-54.00	-24.71	0.00	-78.71
3	650.80	-77.47	-54.00	-23.47	0.00	-77.47

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA
Test Freq. (MHz)	2412

Test By :Hugo Zhen Temperature:24 Humidity(%):65

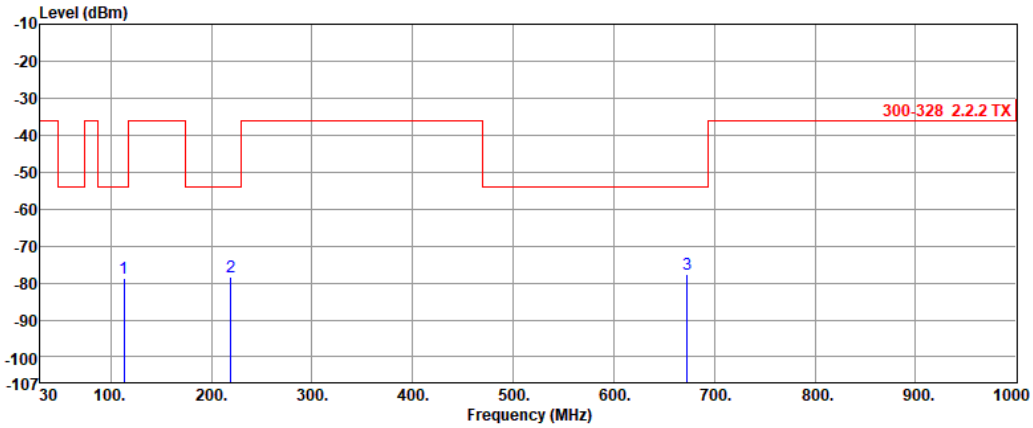


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	102.75	-79.29	-54.00	-25.29	0.00	-79.29
2	206.54	-78.58	-54.00	-24.58	0.00	-78.58
3	607.15	-76.95	-54.00	-22.95	0.00	-76.95

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA
Test Freq. (MHz)	2472

Test By :Hugo Zhen Temperature:24 Humidity(%):65



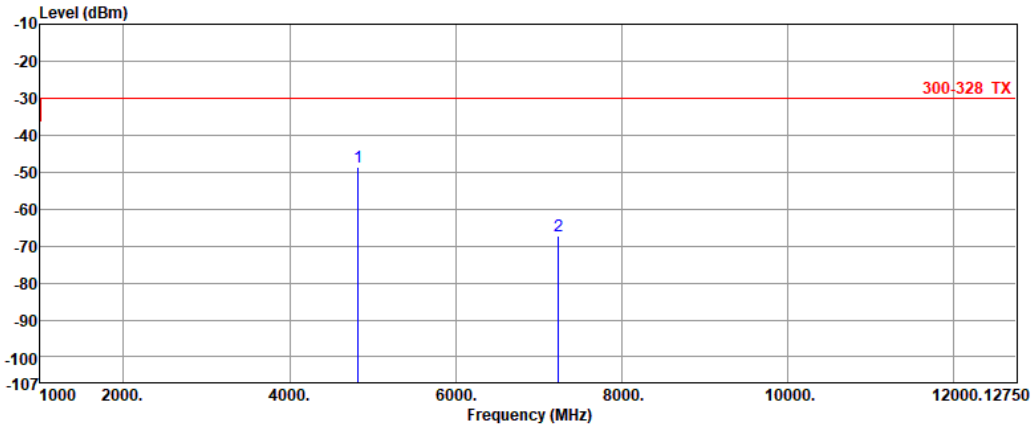
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	113.42	-78.73	-54.00	-24.73	0.00	-78.73
2	219.15	-78.42	-54.00	-24.42	0.00	-78.42
3	673.11	-77.59	-54.00	-23.59	0.00	-77.59

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Emissions (Above 1GHz) for 802.11b

Modulation	11b
Test Freq. (MHz)	2412

Test By :Hugo Zhen Temperature:24 Humidity(%):65

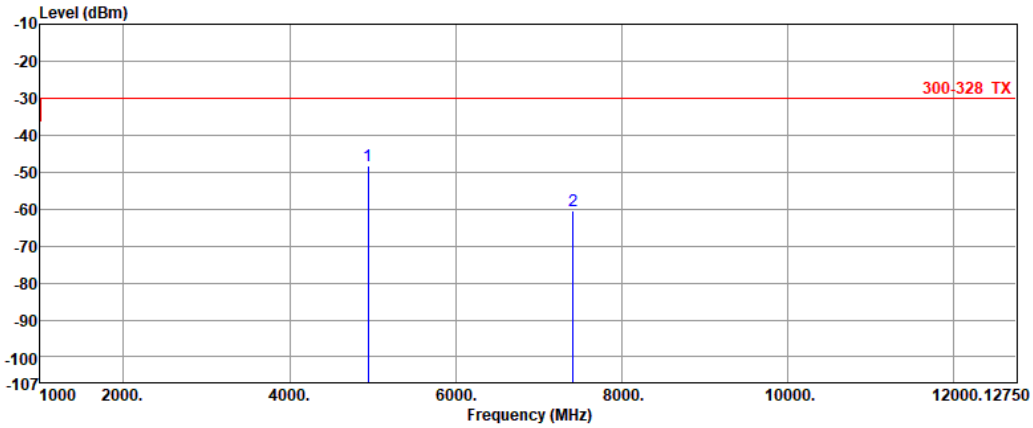


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4824.02	-48.58	-30.00	-18.58	0.00	-48.58
2	7236.45	-67.40	-30.00	-37.40	0.00	-67.40

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11b
Test Freq. (MHz)	2472

Test By :Hugo Zhen Temperature:24 Humidity(%):65



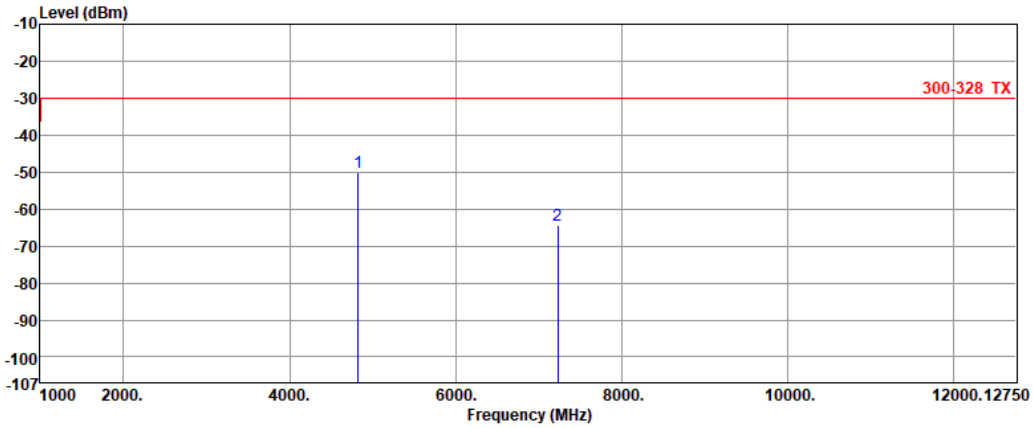
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4944.01	-48.15	-30.00	-18.15	0.00	-48.15
2	7417.01	-60.53	-30.00	-30.53	0.00	-60.53

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Emissions (Above 1GHz) for 802.11g

Modulation	11g
Test Freq. (MHz)	2412

Test By :Hugo Zhen Temperature:24 Humidity(%):65

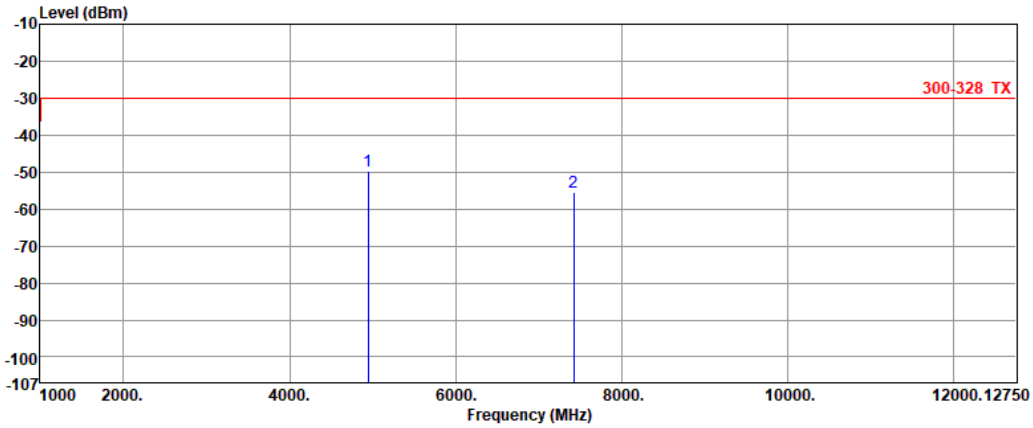


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4824.39	-49.94	-30.00	-19.94	0.00	-49.94
2	7232.31	-64.40	-30.00	-34.40	0.00	-64.40

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g
Test Freq. (MHz)	2472

Test By :Hugo Zhen Temperature:24 Humidity(%):65



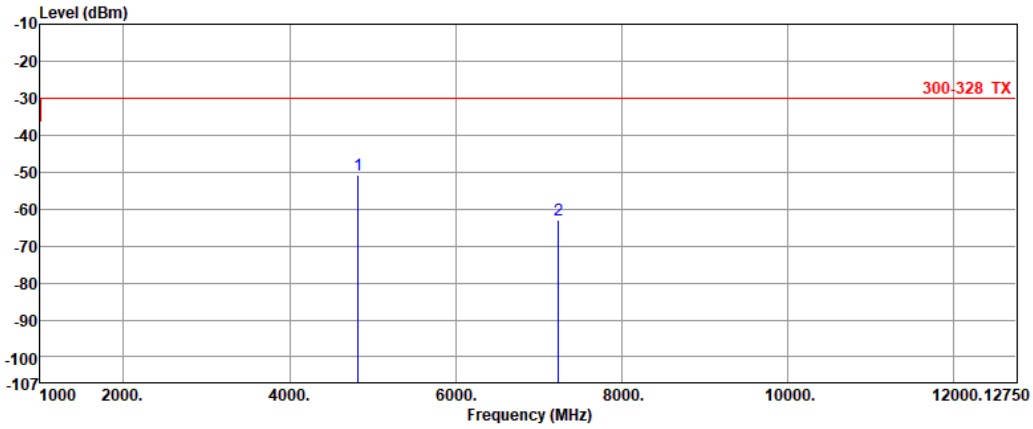
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4944.15	-49.56	-30.00	-19.56	0.00	-49.56
2	7419.11	-55.43	-30.00	-25.43	0.00	-55.43

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Emissions (Above 1GHz) for ax HE20-OFDMA

Modulation	ax HE20-OFDMA
Test Freq. (MHz)	2412

Test By :Hugo Zhen Temperature:24 Humidity(%):65

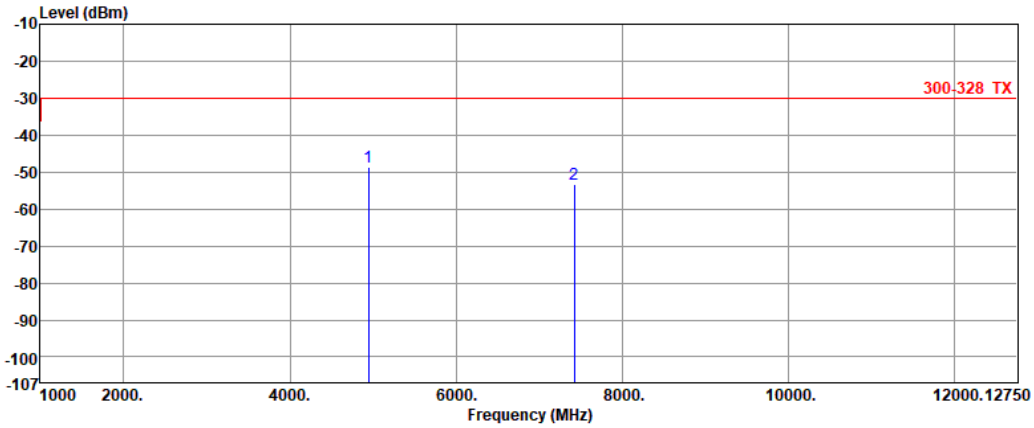


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4823.88	-50.68	-30.00	-20.68	0.00	-50.68
2	7236.54	-62.98	-30.00	-32.98	0.00	-62.98

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA
Test Freq. (MHz)	2472

Test By :Hugo Zhen Temperature:24 Humidity(%):65



	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4943.71	-48.70	-30.00	-18.70	0.00	-48.70
2	7425.63	-53.36	-30.00	-23.36	0.00	-53.36

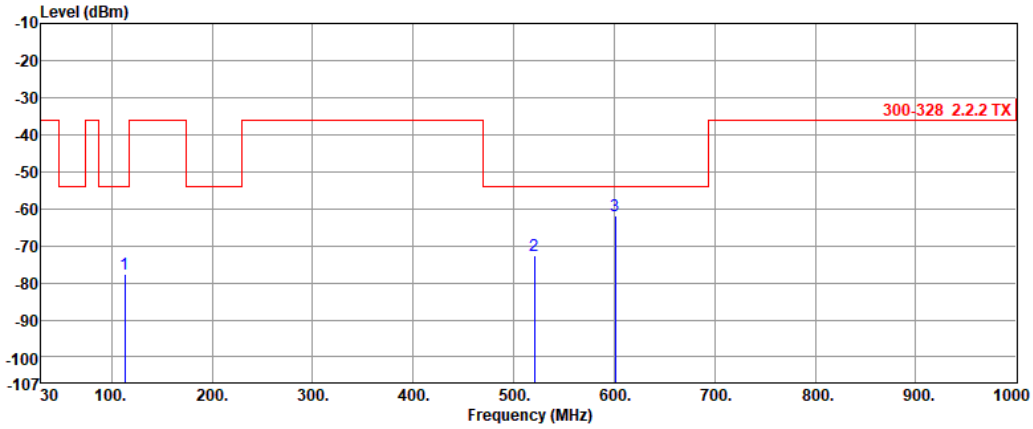
Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

full RU configuration

Emissions (Below 1GHz)

Modulation	11g	**Test Freq. (MHz)**	2412
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

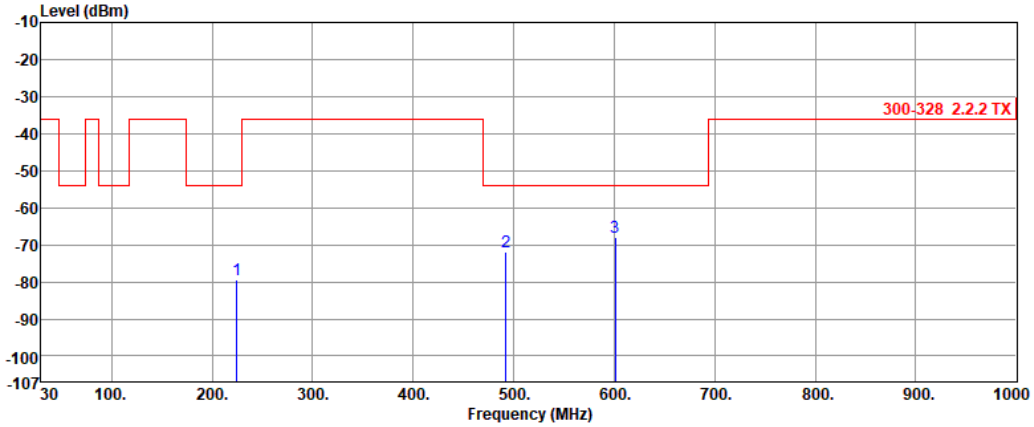


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	112.84	-77.66	-54.00	-23.66	-3.40	-74.26
2	520.80	-72.52	-54.00	-18.52	4.34	-76.86
3	600.77	-61.89	-54.00	-7.89	5.83	-67.72

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g	**Test Freq. (MHz)**	2412
Polarization	Vertical		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

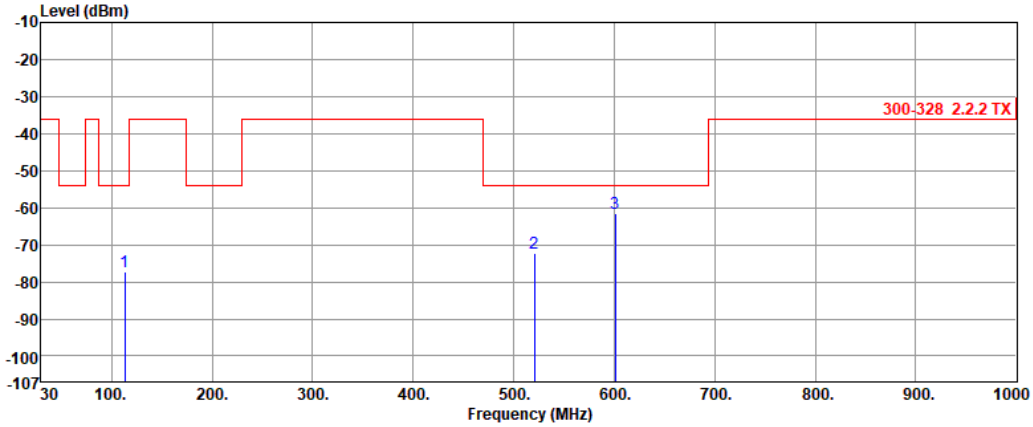


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	224.84	-79.44	-54.00	-25.44	-4.81	-74.63
2	492.41	-72.08	-54.00	-18.08	3.19	-75.27
3	600.82	-67.82	-54.00	-13.82	5.62	-73.44

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g	**Test Freq. (MHz)**	2472
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

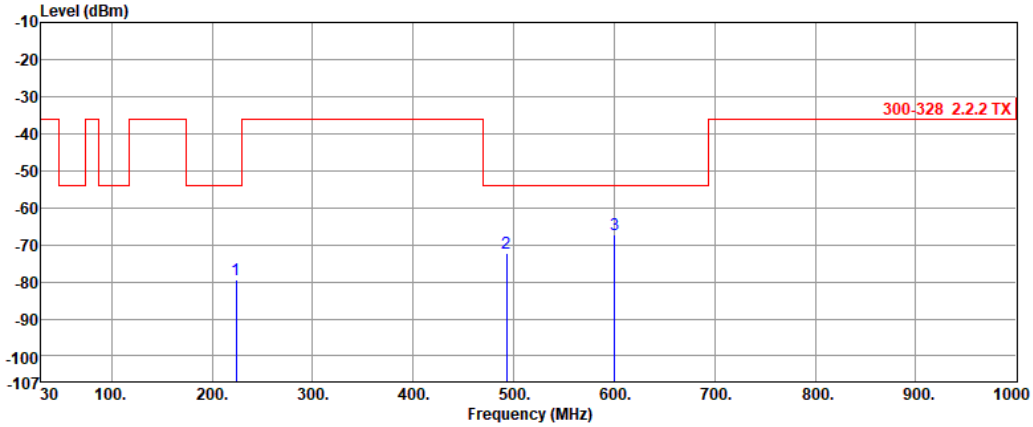


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	112.97	-77.12	-54.00	-23.12	-3.41	-73.71
2	520.74	-72.30	-54.00	-18.30	4.34	-76.64
3	600.90	-61.58	-54.00	-7.58	5.84	-67.42

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g	**Test Freq. (MHz)**	2472
Polarization	Vertical		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

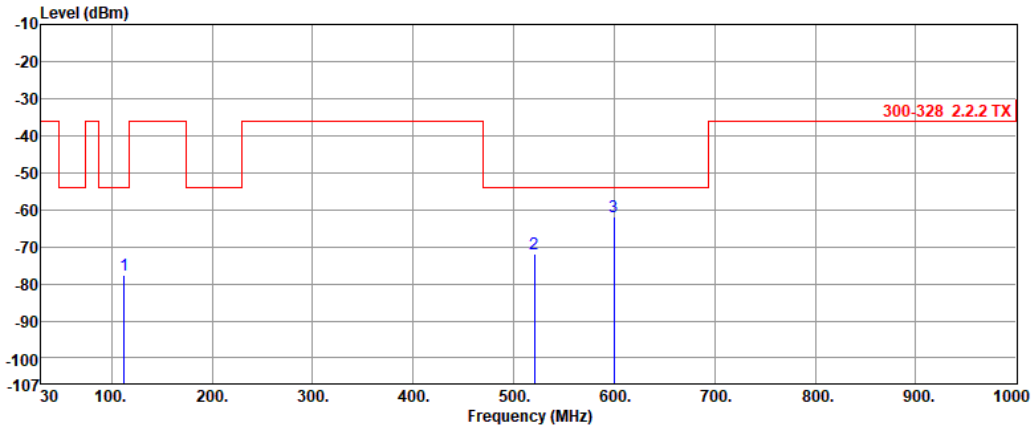


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	224.14	-79.43	-54.00	-25.43	-4.79	-74.64
2	492.93	-72.17	-54.00	-18.17	3.21	-75.38
3	600.07	-67.14	-54.00	-13.14	5.60	-72.74

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2412
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

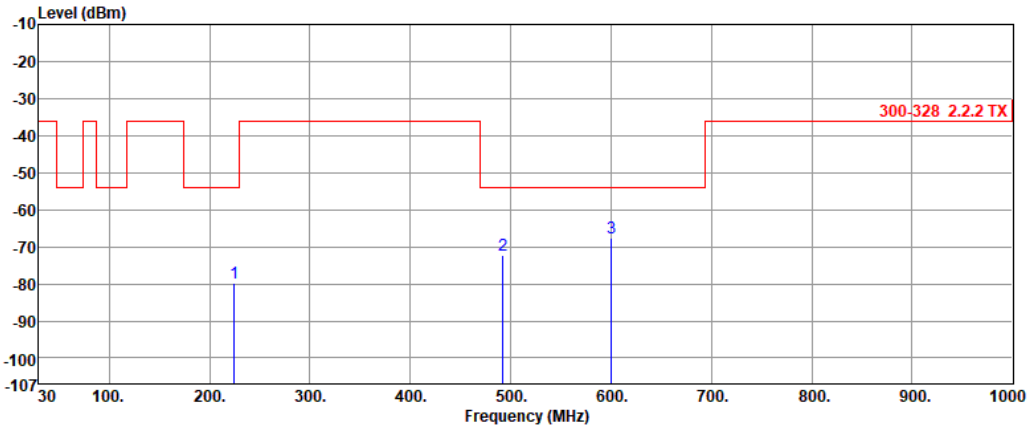


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	112.21	-77.74	-54.00	-23.74	-3.37	-74.37
2	520.65	-72.04	-54.00	-18.04	4.35	-76.39
3	600.06	-61.86	-54.00	-7.86	5.79	-67.65

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2412
Polarization	Vertical		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

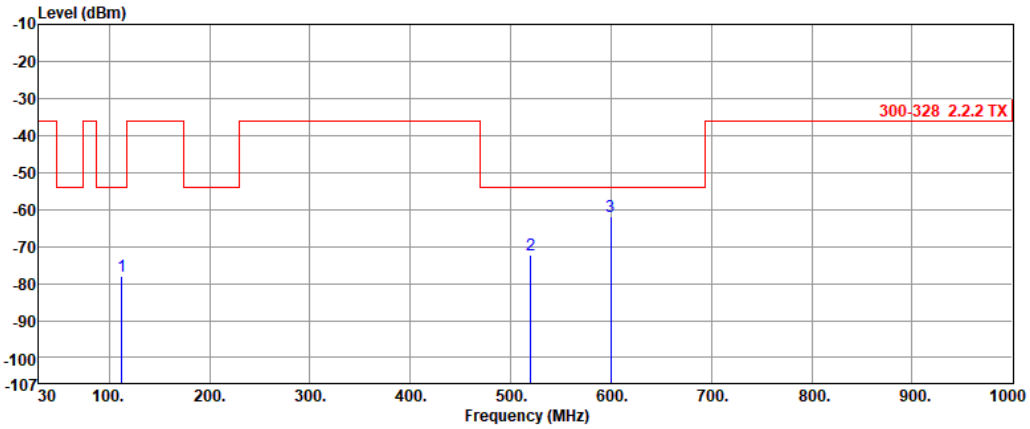


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	224.24	-79.95	-54.00	-25.95	-4.79	-75.16
2	492.07	-72.11	-54.00	-18.11	3.18	-75.29
3	600.28	-67.80	-54.00	-13.80	5.60	-73.40

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2472
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

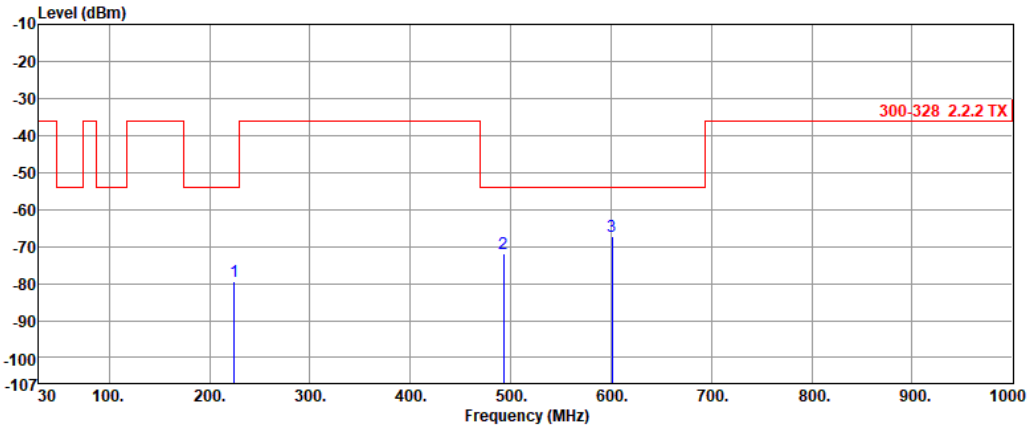


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	112.37	-77.84	-54.00	-23.84	-3.38	-74.46
2	520.03	-72.18	-54.00	-18.18	4.40	-76.58
3	600.04	-61.81	-54.00	-7.81	5.79	-67.60

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2472
Polarization	Vertical		

Test By :Hugo Zhen Temperature:25 Humidity(%):65



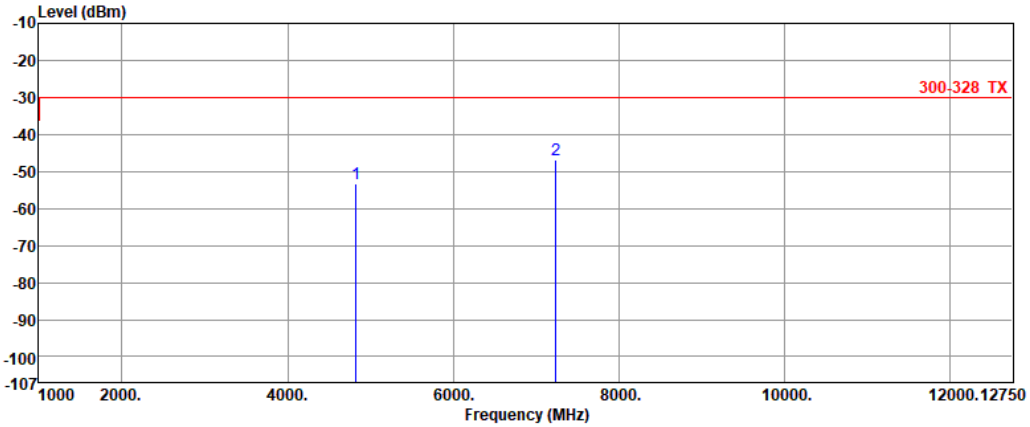
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	224.44	-79.28	-54.00	-25.28	-4.80	-74.48
2	492.88	-72.09	-54.00	-18.09	3.21	-75.30
3	600.98	-67.16	-54.00	-13.16	5.62	-72.78

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Emissions (Above 1GHz) for 802.11b

Modulation	11b	**Test Freq. (MHz)**	2412
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

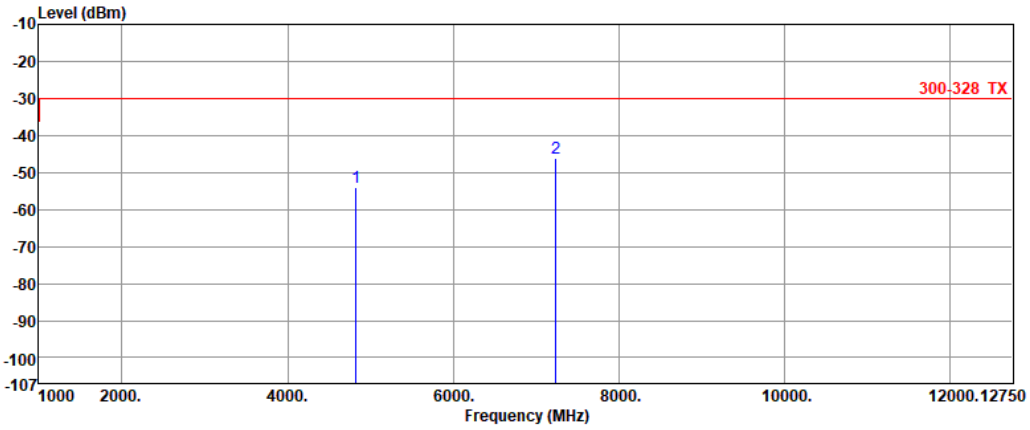


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4824.32	-53.40	-30.00	-23.40	13.48	-66.88
2	7236.09	-46.69	-30.00	-16.69	19.23	-65.92

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11b	**Test Freq. (MHz)**	2412
Polarization	Vertical		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

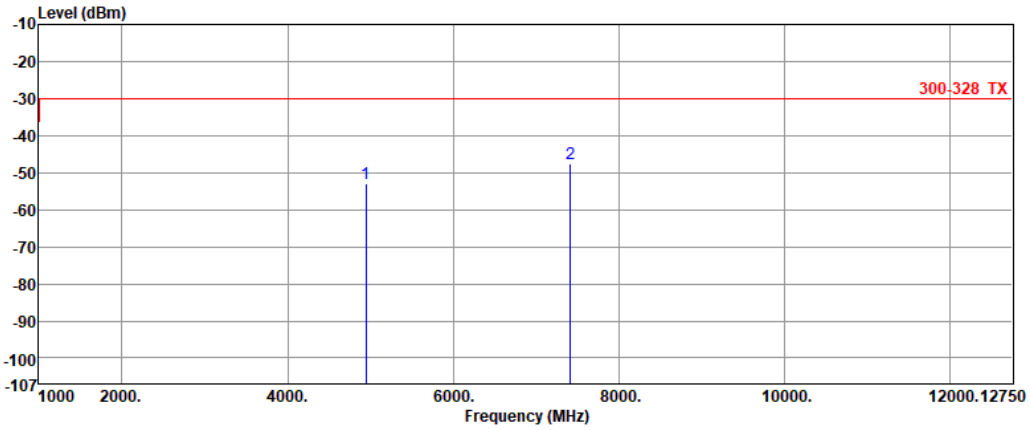


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4824.49	-53.93	-30.00	-23.93	13.39	-67.32
2	7236.25	-46.15	-30.00	-16.15	19.81	-65.96

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11b	**Test Freq. (MHz)**	2472
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

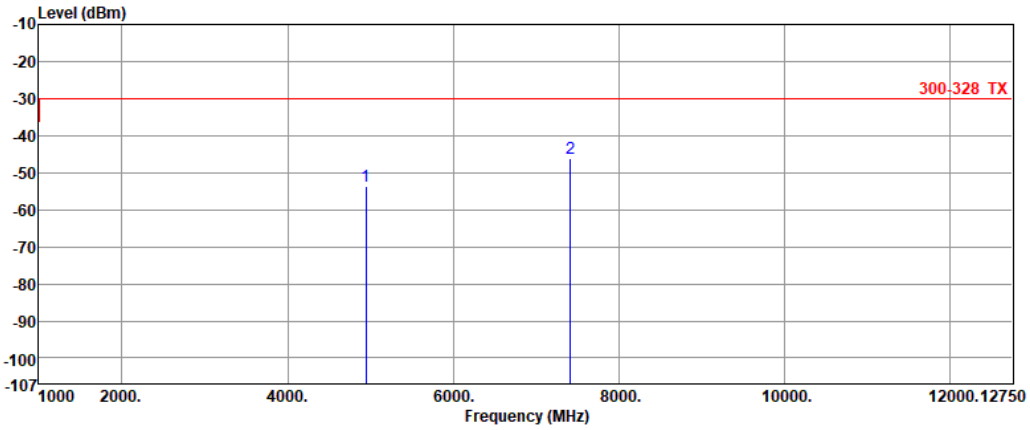


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4944.19	-53.11	-30.00	-23.11	13.95	-67.06
2	7416.08	-47.75	-30.00	-17.75	18.73	-66.48

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11b	**Test Freq. (MHz)**	2472
Polarization	Vertical		

Test By :Hugo Zhen Temperature:24 Humidity(%):65



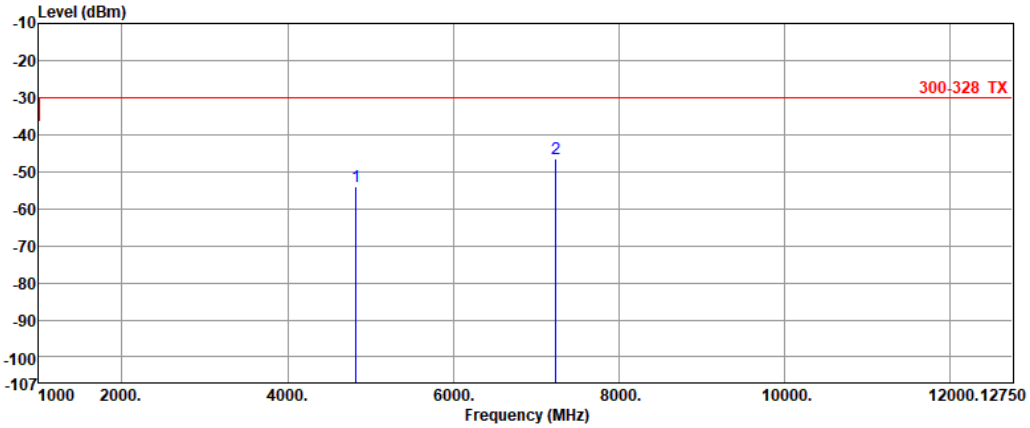
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4943.90	-53.73	-30.00	-23.73	13.96	-67.69
2	7415.86	-46.04	-30.00	-16.04	19.50	-65.54

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Emissions (Above 1GHz) for 802.11g

Modulation	11g	**Test Freq. (MHz)**	2412
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

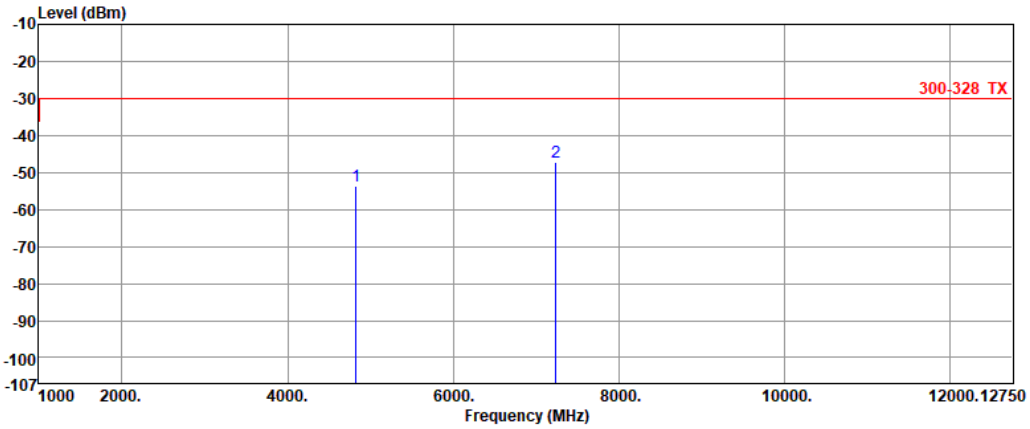


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4824.07	-53.95	-30.00	-23.95	13.46	-67.41
2	7235.98	-46.67	-30.00	-16.67	19.23	-65.90

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g	**Test Freq. (MHz)**	2412
Polarization	Vertical		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

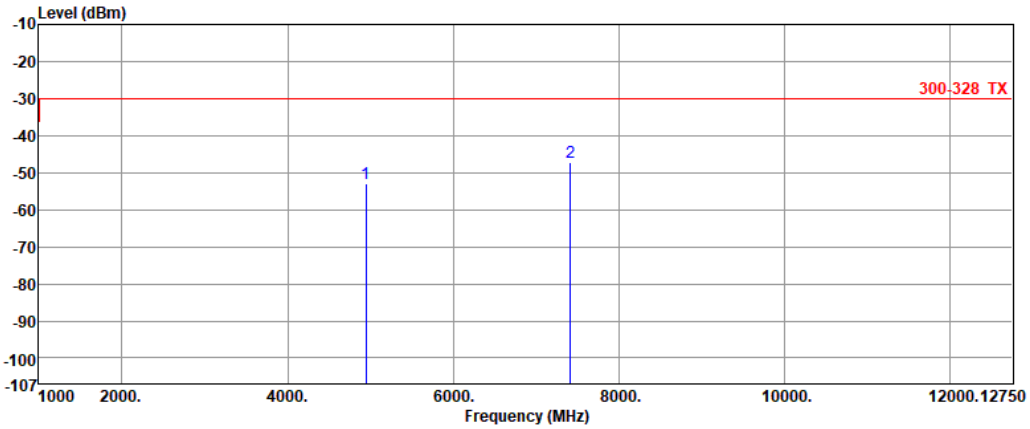


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4824.11	-53.77	-30.00	-23.77	13.39	-67.16
2	7235.72	-47.38	-30.00	-17.38	19.81	-67.19

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g	**Test Freq. (MHz)**	2472
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

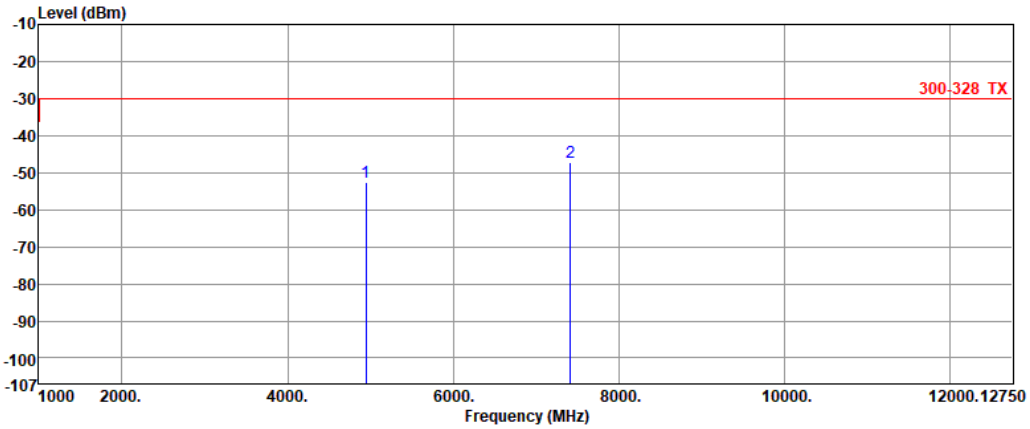


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4944.11	-53.06	-30.00	-23.06	13.95	-67.01
2	7416.02	-47.28	-30.00	-17.28	18.73	-66.01

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g	**Test Freq. (MHz)**	2472
Polarization	Vertical		

Test By :Hugo Zhen Temperature:24 Humidity(%):65



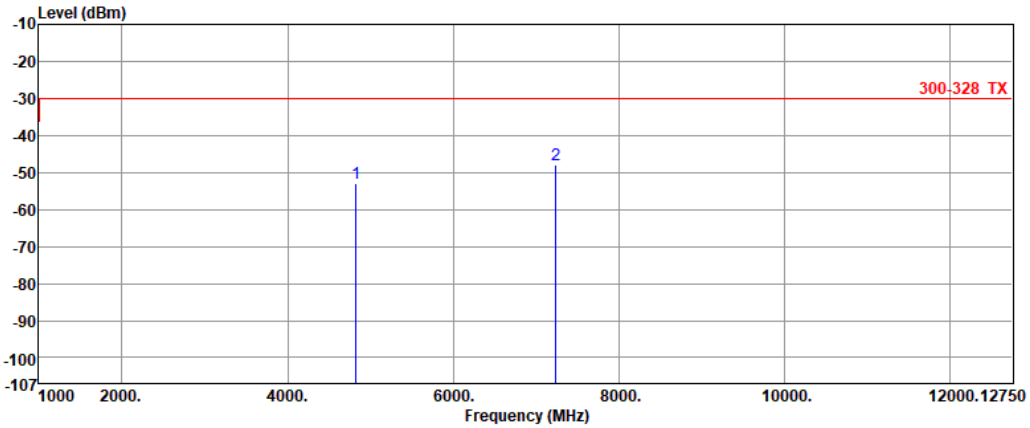
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4944.47	-52.60	-30.00	-22.60	13.96	-66.56
2	7415.79	-47.21	-30.00	-17.21	19.50	-66.71

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Emissions (Above 1GHz) for ax HE20-OFDMA

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2412
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

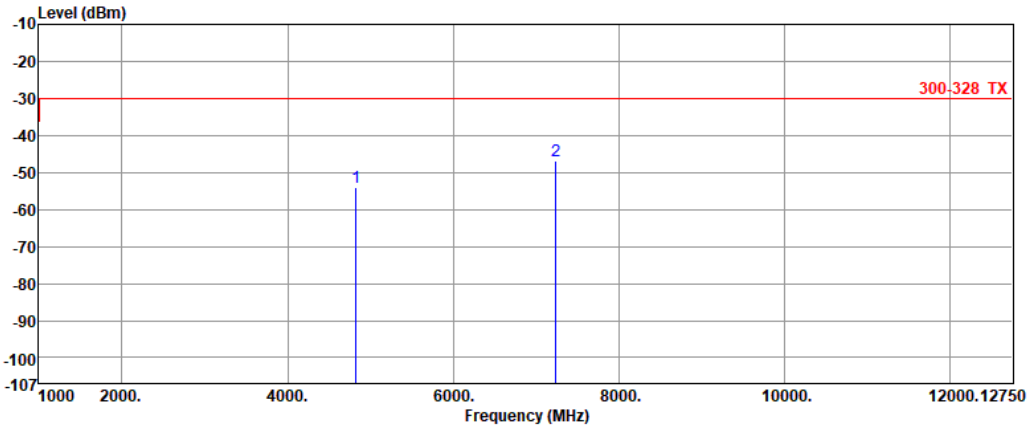


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4824.24	-52.91	-30.00	-22.91	13.48	-66.39
2	7236.32	-47.82	-30.00	-17.82	19.23	-67.05

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2412
Polarization	Vertical		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

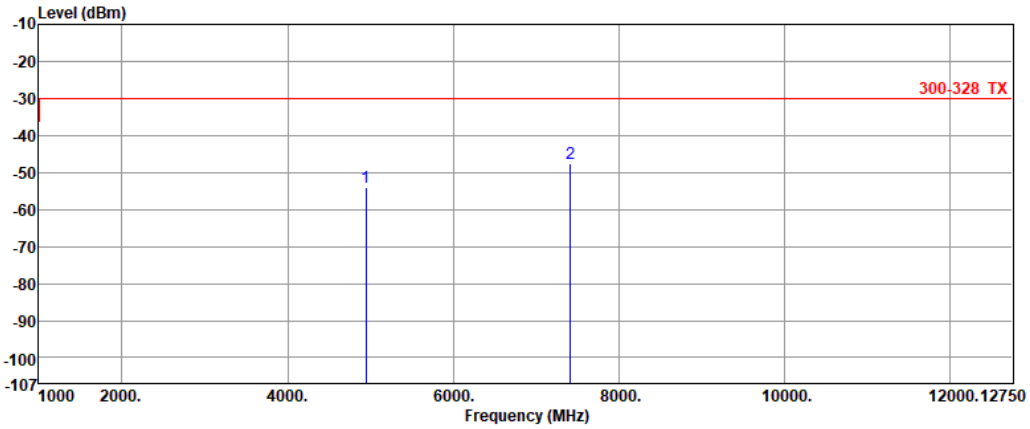


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4823.54	-53.86	-30.00	-23.86	13.38	-67.24
2	7236.40	-46.82	-30.00	-16.82	19.82	-66.64

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2472
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

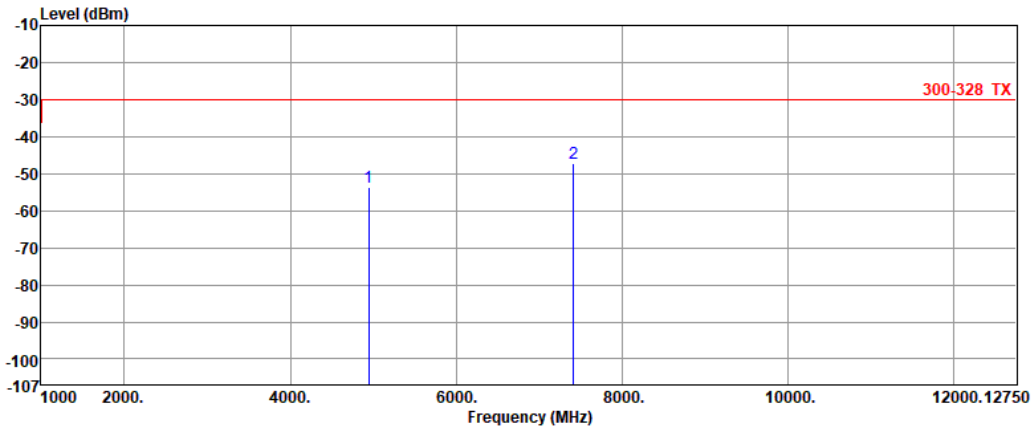


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4944.13	-54.05	-30.00	-24.05	13.95	-68.00
2	7416.17	-47.67	-30.00	-17.67	18.73	-66.40

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2472
Polarization	Vertical		

Test By :Hugo Zhen Temperature:24 Humidity(%):65



	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4943.75	-53.63	-30.00	-23.63	13.96	-67.59
2	7416.17	-47.27	-30.00	-17.27	19.50	-66.77

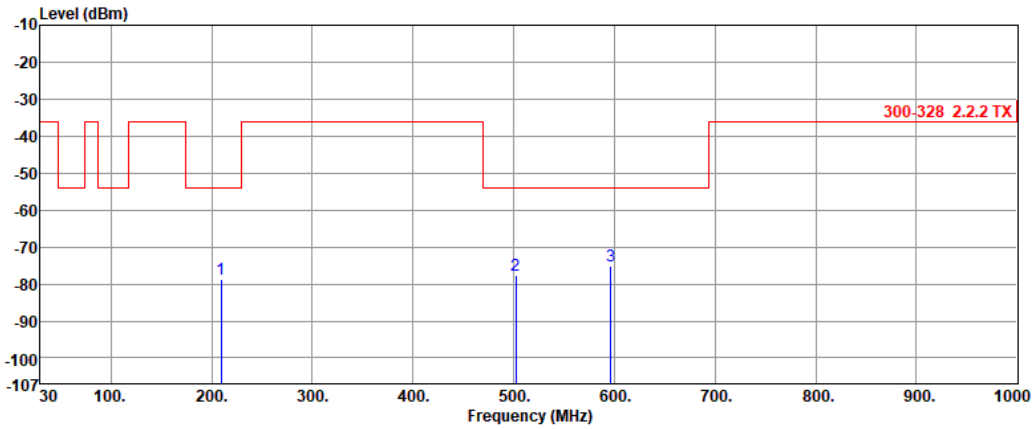
Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

partial RU configuration

Emissions (Below 1GHz)

Modulation	ax HE20-OFDMA RU106
Test Freq. (MHz)	2412

Test By :Hugo Zhen Temperature:24 Humidity(%):65

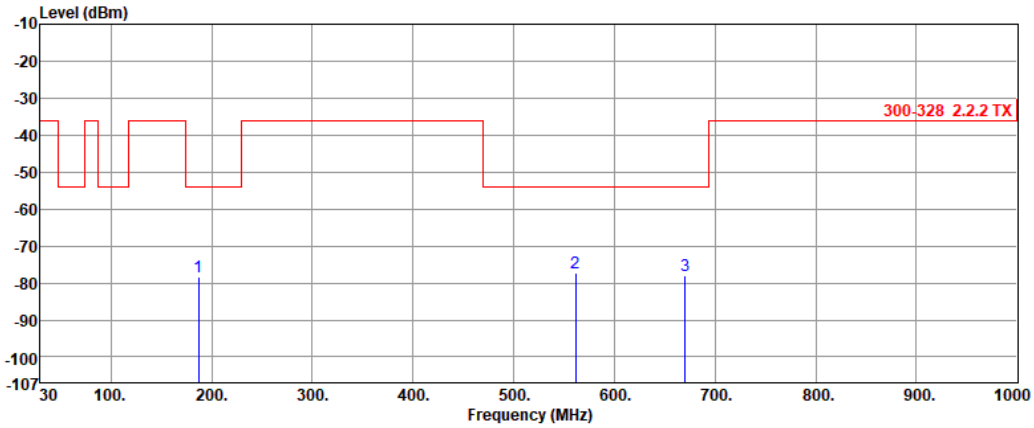


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	209.45	-78.55	-54.00	-24.55	0.00	-78.55
2	502.39	-77.65	-54.00	-23.65	0.00	-77.65
3	596.48	-74.98	-54.00	-20.98	0.00	-74.98

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA RU106
Test Freq. (MHz)	2472

Test By :Hugo Zhen Temperature:24 Humidity(%):65



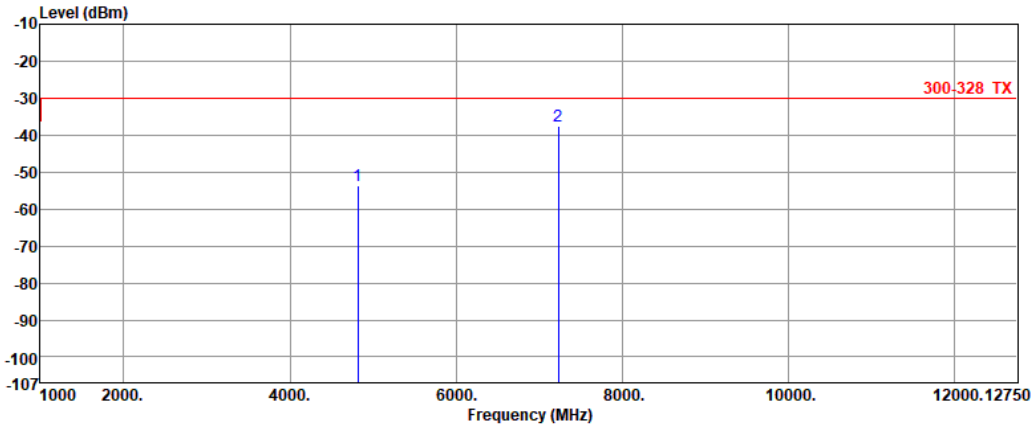
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	187.14	-78.36	-54.00	-24.36	0.00	-78.36
2	561.56	-77.40	-54.00	-23.40	0.00	-77.40
3	670.20	-77.93	-54.00	-23.93	0.00	-77.93

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Emissions (Above 1GHz)

Modulation	ax HE20-OFDMA RU106
Test Freq. (MHz)	2412

Test By :Hugo Zhen Temperature:24 Humidity(%):65

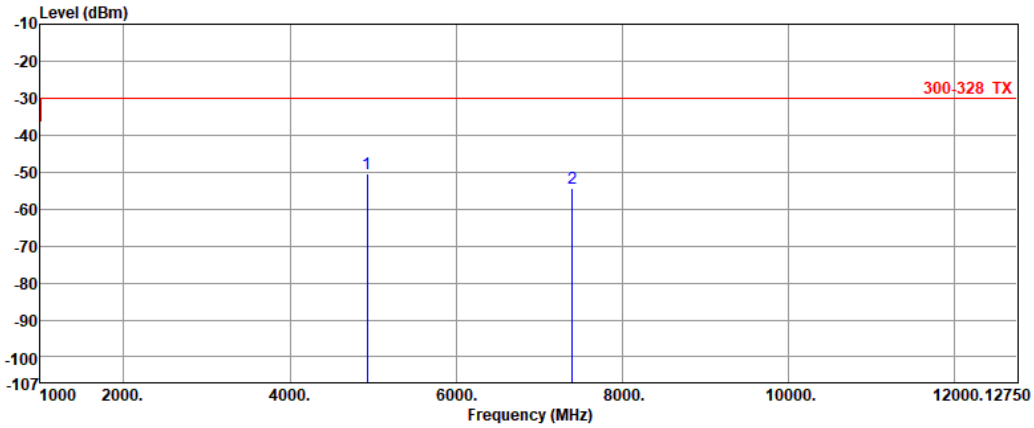


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4814.46	-53.74	-30.00	-23.74	0.00	-53.74
2	7228.40	-37.54	-30.00	-7.54	0.00	-37.54

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA RU106
Test Freq. (MHz)	2472

Test By :Hugo Zhen Temperature:24 Humidity(%):65



	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4933.02	-50.58	-30.00	-20.58	0.00	-50.58
2	7398.03	-54.46	-30.00	-24.46	0.00	-54.46

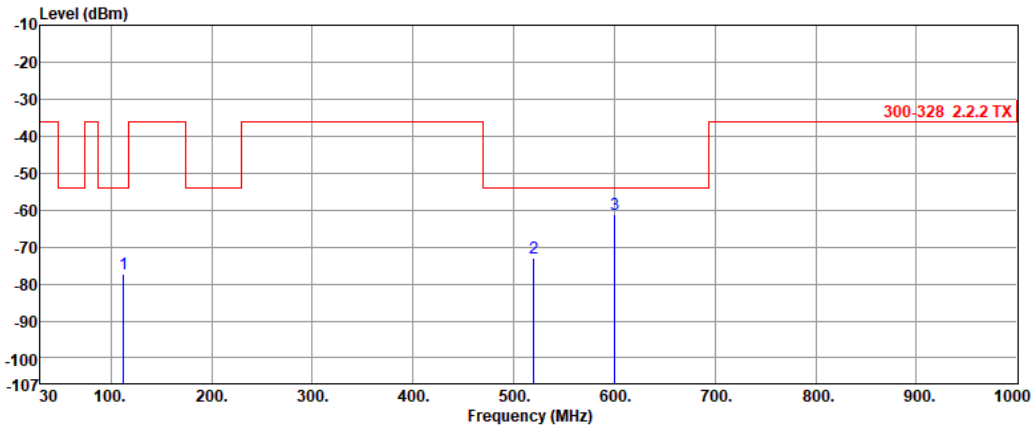
Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

partial RU configuration

Emissions (Below 1GHz)

Modulation	ax HE20-OFDMA RU106	**Test Freq. (MHz)**	2412
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

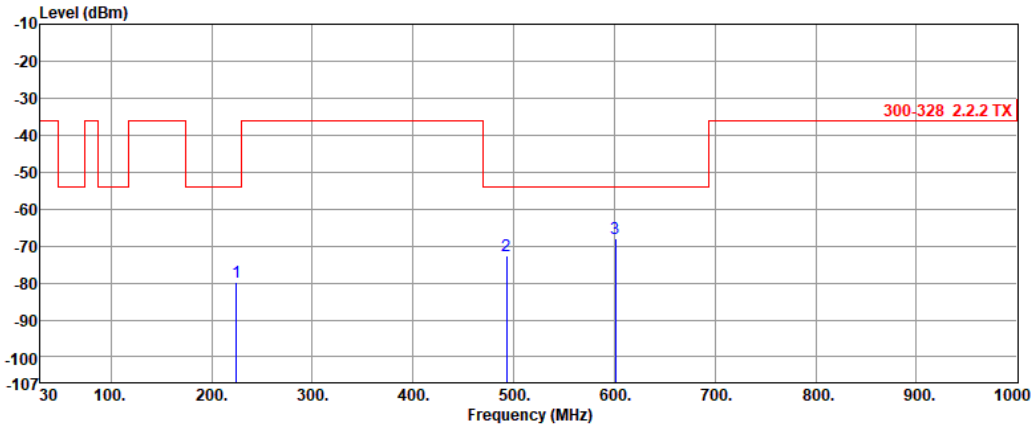


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	112.67	-77.40	-54.00	-23.40	-3.40	-74.00
2	520.02	-72.90	-54.00	-18.90	4.40	-77.30
3	600.39	-61.03	-54.00	-7.03	5.81	-66.84

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA RU106	**Test Freq. (MHz)**	2412
Polarization	Vertical		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

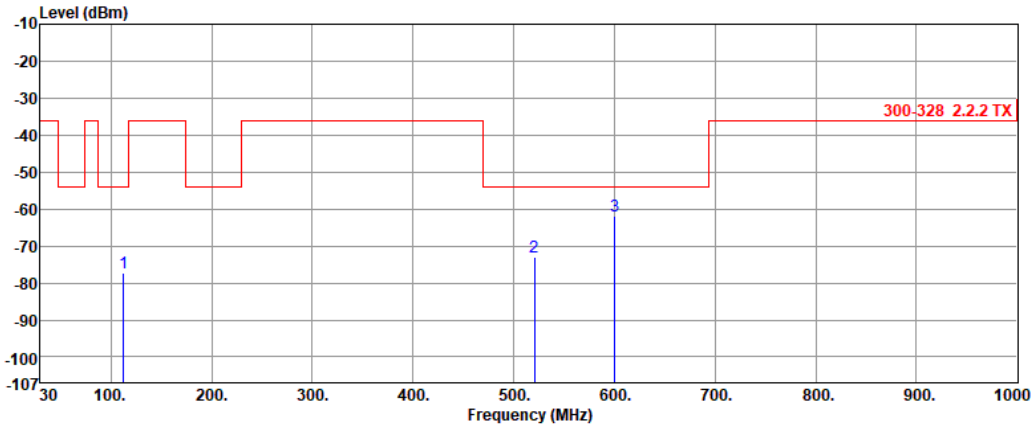


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	224.57	-79.73	-54.00	-25.73	-4.80	-74.93
2	492.68	-72.77	-54.00	-18.77	3.20	-75.97
3	600.87	-67.95	-54.00	-13.95	5.62	-73.57

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA RU106	**Test Freq. (MHz)**	2472
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

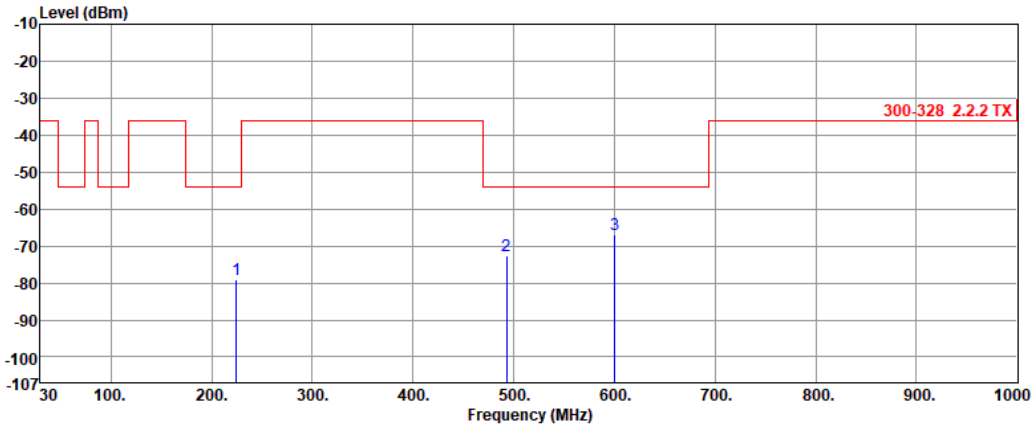


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	112.40	-77.15	-54.00	-23.15	-3.38	-73.77
2	520.73	-72.83	-54.00	-18.83	4.34	-77.17
3	600.38	-61.76	-54.00	-7.76	5.81	-67.57

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA RU106	**Test Freq. (MHz)**	2472
Polarization	Vertical		

Test By :Hugo Zhen Temperature:25 Humidity(%):65



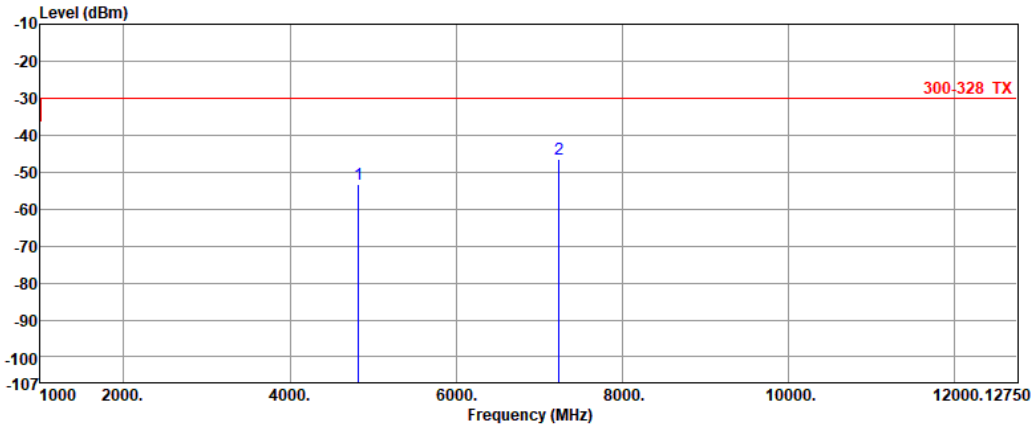
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	224.44	-79.17	-54.00	-25.17	-4.80	-74.37
2	492.72	-72.54	-54.00	-18.54	3.21	-75.75
3	600.47	-67.03	-54.00	-13.03	5.61	-72.64

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Emissions (Above 1GHz)

Modulation	ax HE20-OFDMA RU106	**Test Freq. (MHz)**	2412
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

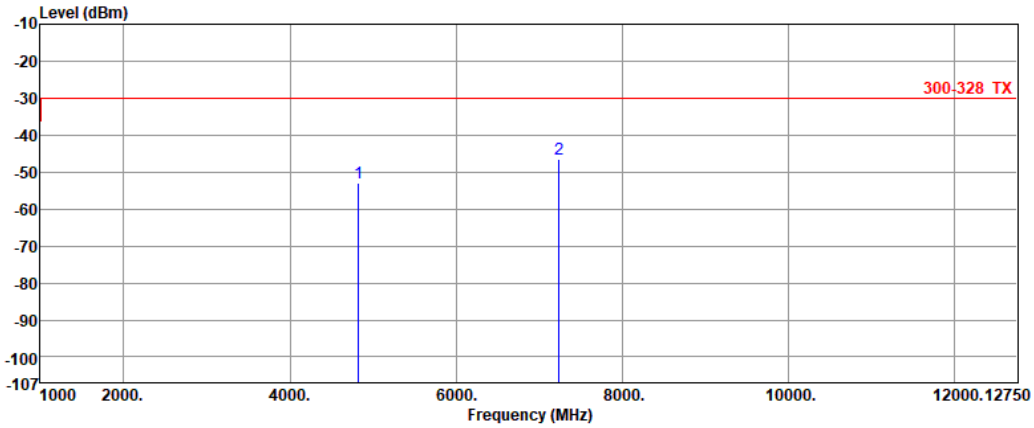


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4823.74	-53.34	-30.00	-23.34	13.46	-66.80
2	7235.86	-46.35	-30.00	-16.35	19.23	-65.58

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA RU106	**Test Freq. (MHz)**	2412
Polarization	Vertical		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

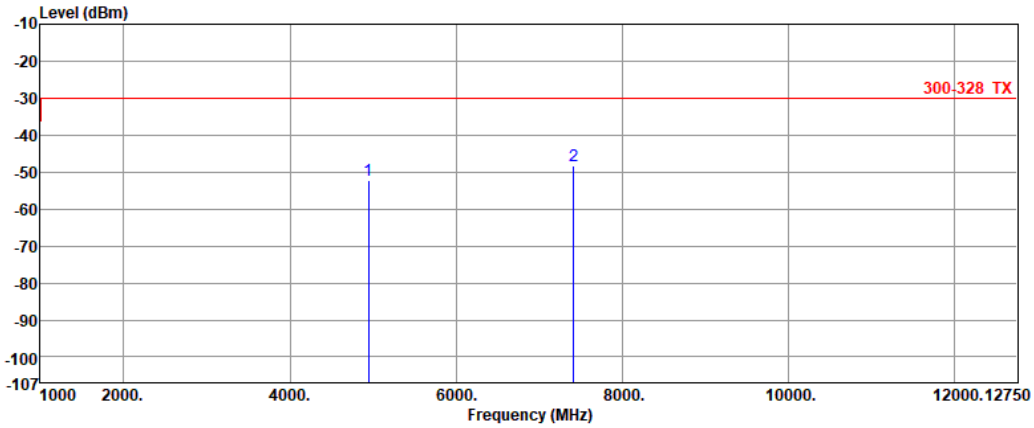


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4823.69	-52.95	-30.00	-22.95	13.38	-66.33
2	7236.29	-46.65	-30.00	-16.65	19.82	-66.47

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA RU106	**Test Freq. (MHz)**	2472
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

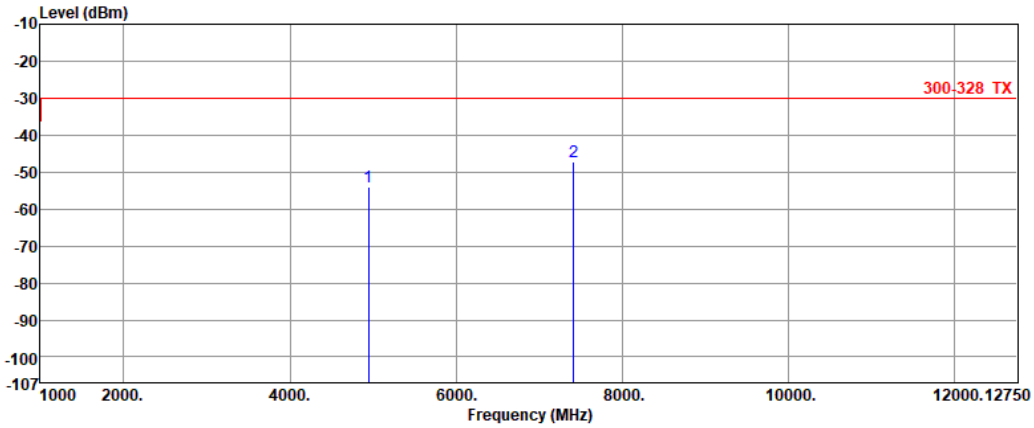


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4943.97	-52.37	-30.00	-22.37	13.95	-66.32
2	7416.07	-48.14	-30.00	-18.14	18.73	-66.87

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA RU106	**Test Freq. (MHz)**	2472
Polarization	Vertical		

Test By :Hugo Zhen Temperature:24 Humidity(%):65



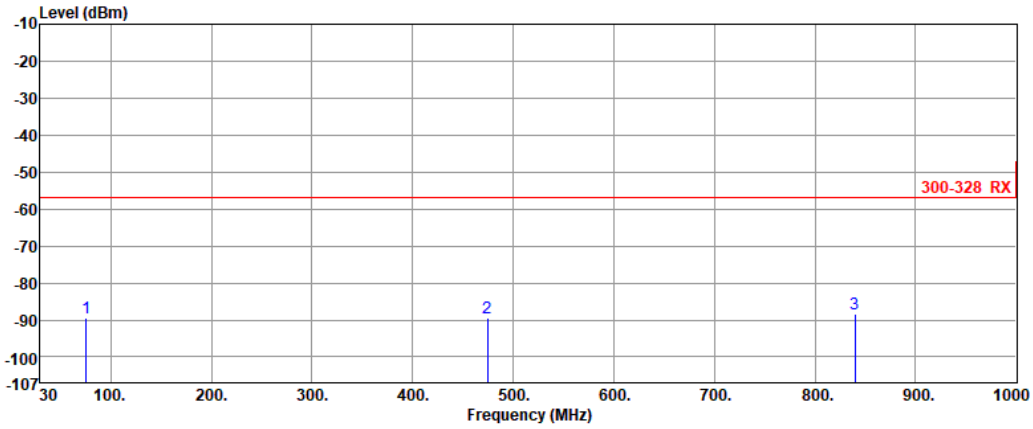
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4943.58	-54.13	-30.00	-24.13	13.96	-68.09
2	7416.49	-47.29	-30.00	-17.29	19.50	-66.79

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Emissions (Below 1GHz)

Modulation	11g
Test Freq. (MHz)	2412

Test By :Hugo Zhen Temperature:24 Humidity(%):65

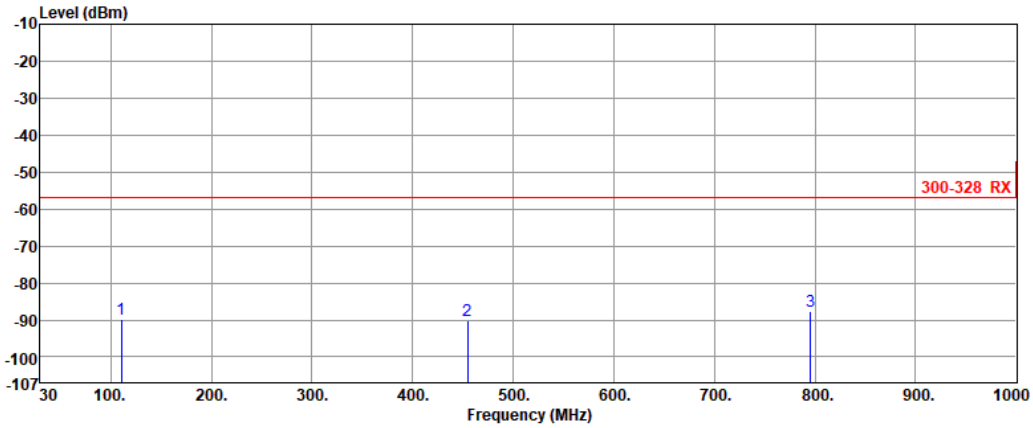


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	75.59	-89.54	-57.00	-32.54	0.00	-89.54
2	474.26	-89.58	-57.00	-32.58	0.00	-89.58
3	839.95	-88.27	-57.00	-31.27	0.00	-88.27

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g
Test Freq. (MHz)	2472

Test By :Hugo Zhen Temperature:24 Humidity(%):65

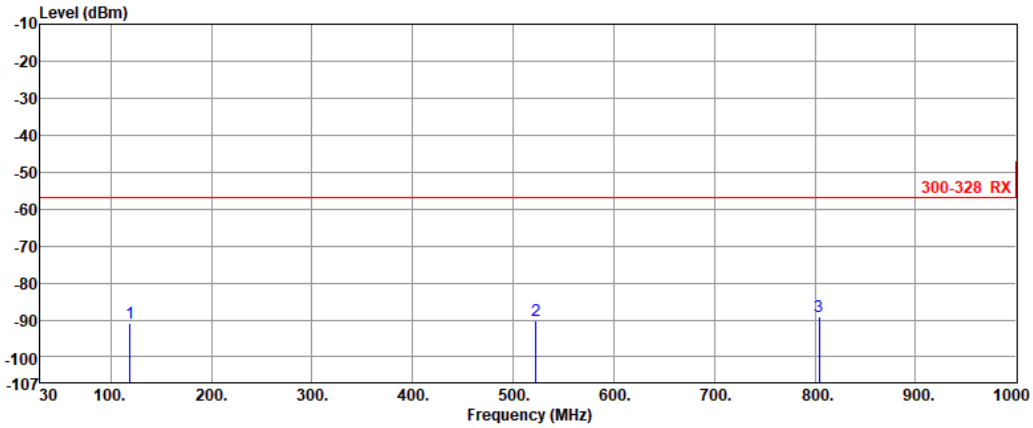


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	110.51	-89.83	-57.00	-32.83	0.00	-89.83
2	454.86	-90.10	-57.00	-33.10	0.00	-90.10
3	795.33	-87.67	-57.00	-30.67	0.00	-87.67

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA
Test Freq. (MHz)	2412

Test By :Hugo Zhen Temperature:24 Humidity(%):65

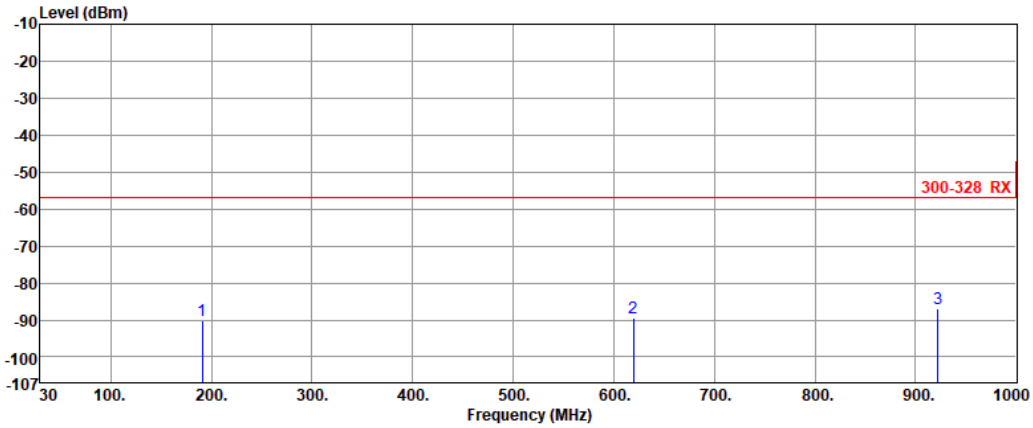


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	119.24	-90.81	-57.00	-33.81	0.00	-90.81
2	522.76	-90.34	-57.00	-33.34	0.00	-90.34
3	804.06	-88.93	-57.00	-31.93	0.00	-88.93

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA
Test Freq. (MHz)	2472

Test By :Hugo Zhen Temperature:24 Humidity(%):65



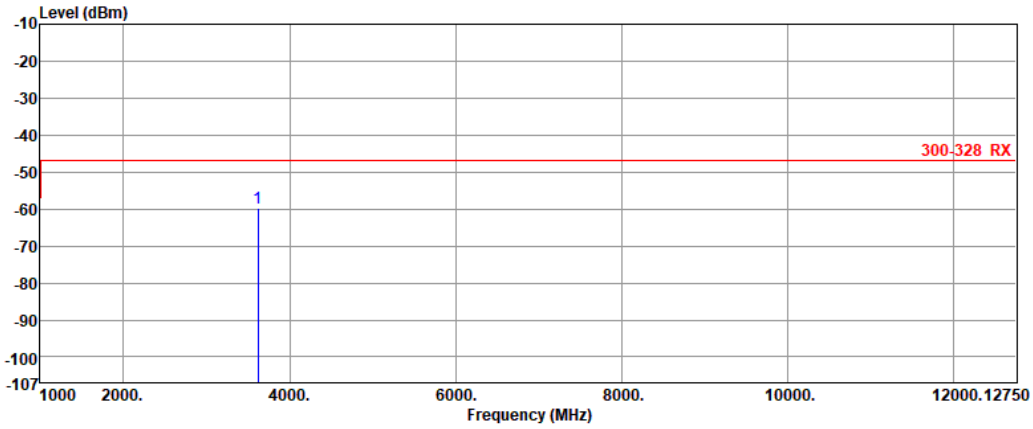
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	191.02	-90.29	-57.00	-33.29	0.00	-90.29
2	619.76	-89.48	-57.00	-32.48	0.00	-89.48
3	922.40	-87.08	-57.00	-30.08	0.00	-87.08

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Emissions (Above 1GHz)

Modulation	11g
Test Freq. (MHz)	2412

Test By :Hugo Zhen Temperature:24 Humidity(%):65

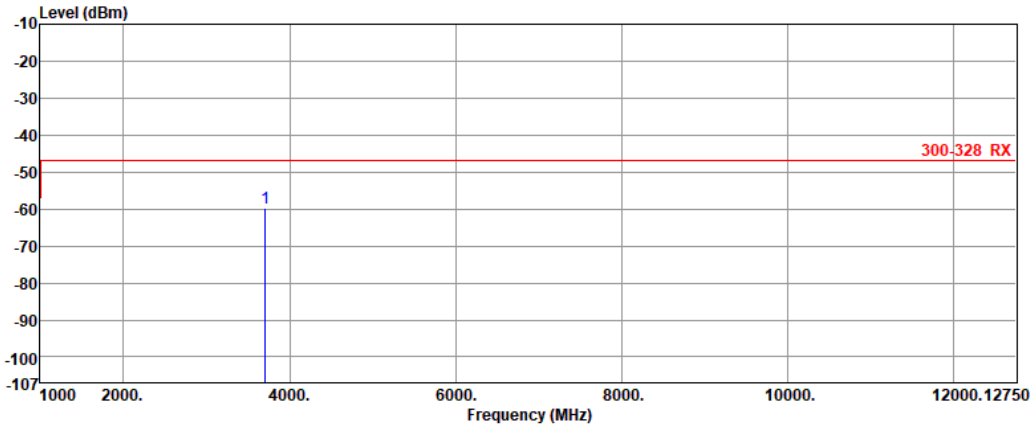


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3618.04	-59.67	-47.00	-12.67	0.00	-59.67

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g
Test Freq. (MHz)	2472

Test By :Hugo Zhen Temperature:24 Humidity(%):65

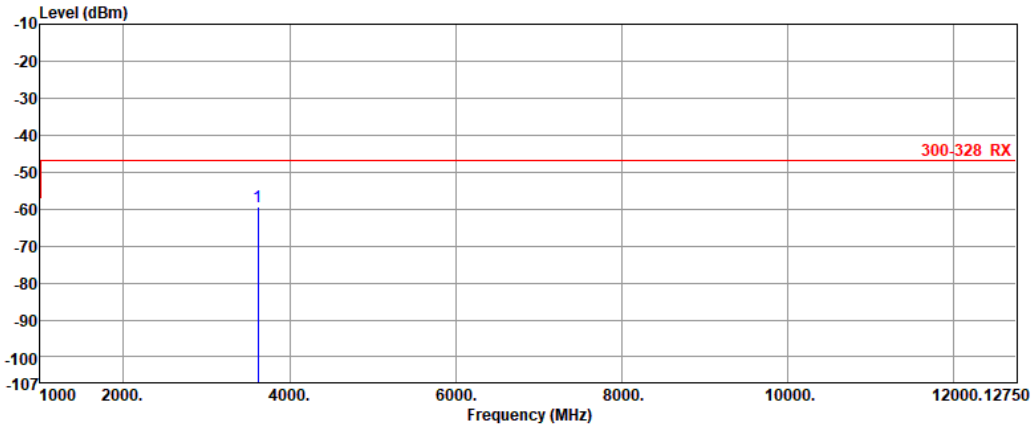


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3708.01	-59.76	-47.00	-12.76	0.00	-59.76

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA
Test Freq. (MHz)	2412

Test By :Hugo Zhen Temperature:24 Humidity(%):65

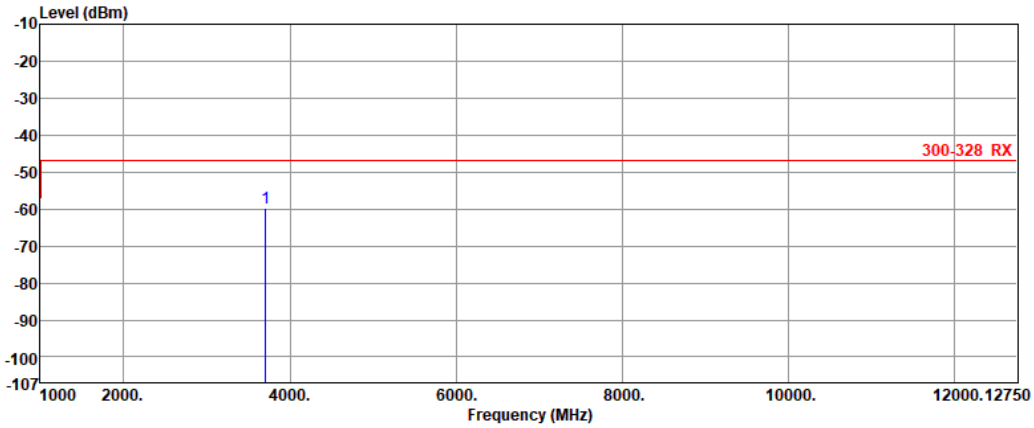


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3618.10	-59.34	-47.00	-12.34	0.00	-59.34

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA
Test Freq. (MHz)	2472

Test By :Hugo Zhen Temperature:24 Humidity(%):65



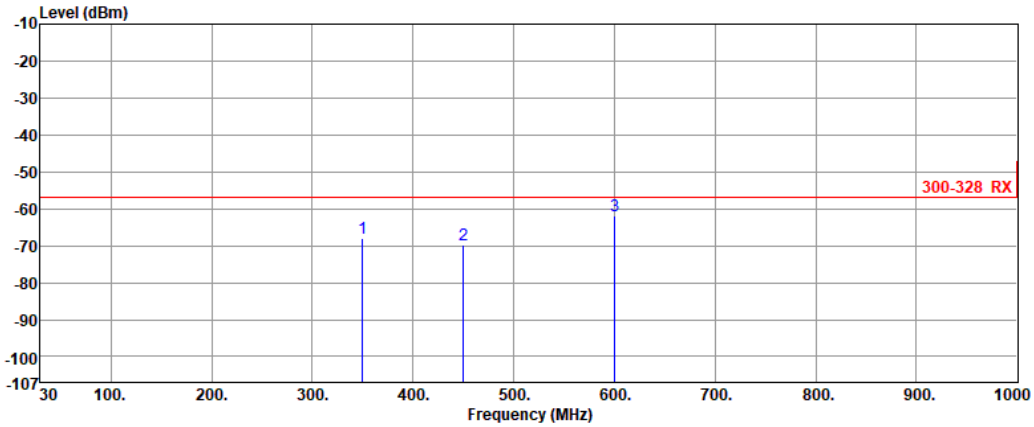
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	3708.02	-59.70	-47.00	-12.70	0.00	-59.70

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Emissions (Below 1GHz)

Modulation	11g	**Test Freq. (MHz)**	2412
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

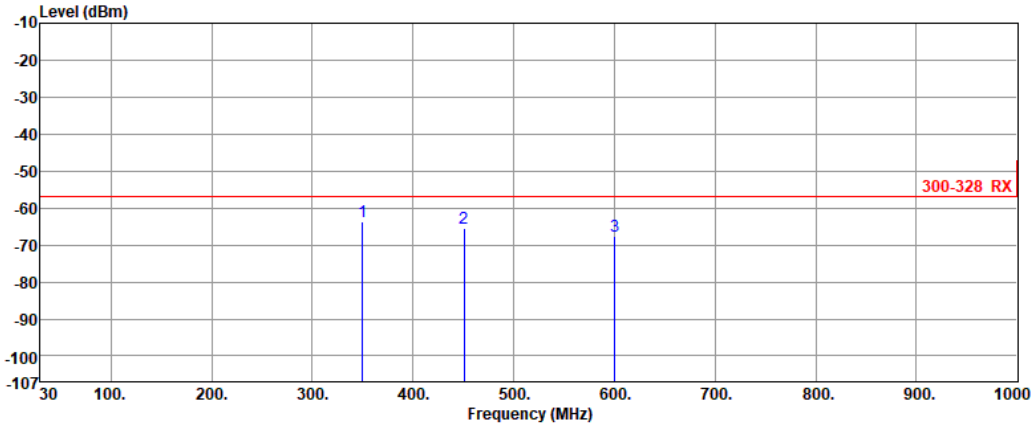


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	350.12	-67.99	-57.00	-10.99	-0.01	-67.98
2	450.24	-69.78	-57.00	-12.78	3.00	-72.78
3	600.29	-61.94	-57.00	-4.94	5.80	-67.74

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g	**Test Freq. (MHz)**	2412
Polarization	Vertical		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

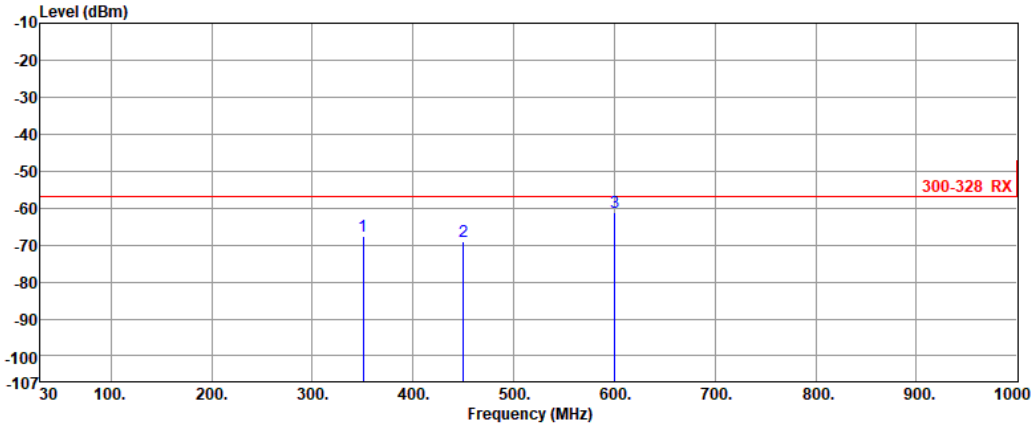


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	350.09	-63.74	-57.00	-6.74	0.06	-63.80
2	450.61	-65.55	-57.00	-8.55	2.41	-67.96
3	600.09	-67.68	-57.00	-10.68	5.60	-73.28

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g	**Test Freq. (MHz)**	2472
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

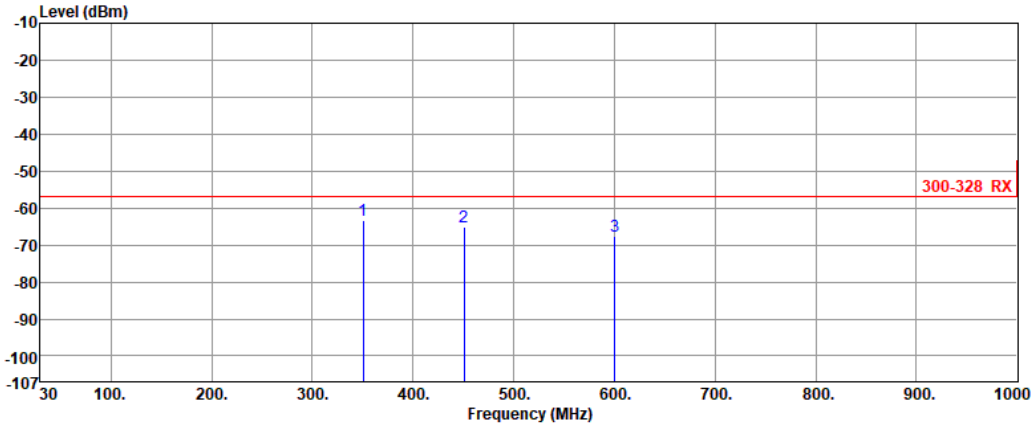


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	350.19	-67.79	-57.00	-10.79	-0.01	-67.78
2	450.10	-69.07	-57.00	-12.07	2.99	-72.06
3	600.48	-61.23	-57.00	-4.23	5.81	-67.04

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g	Test Freq. (MHz)	2472
Polarization	Vertical		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

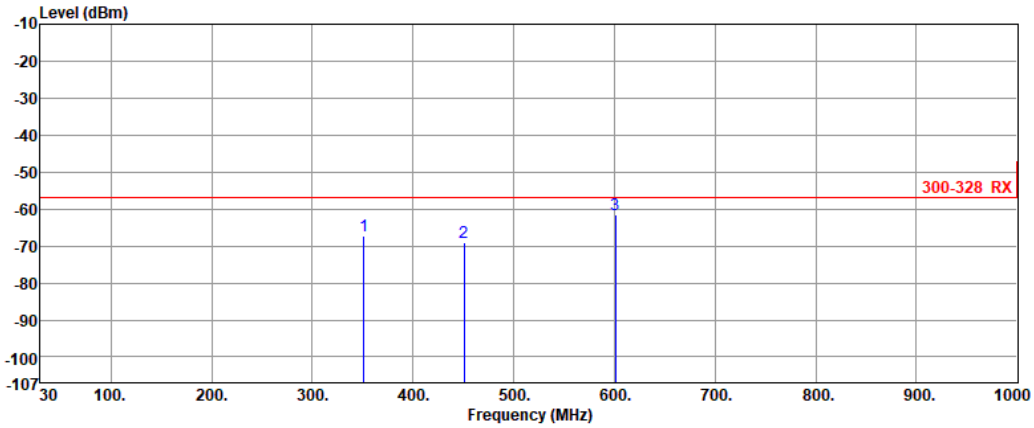


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	350.37	-63.41	-57.00	-6.41	0.07	-63.48
2	450.84	-65.22	-57.00	-8.22	2.42	-67.64
3	600.20	-67.48	-57.00	-10.48	5.60	-73.08

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	2412
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

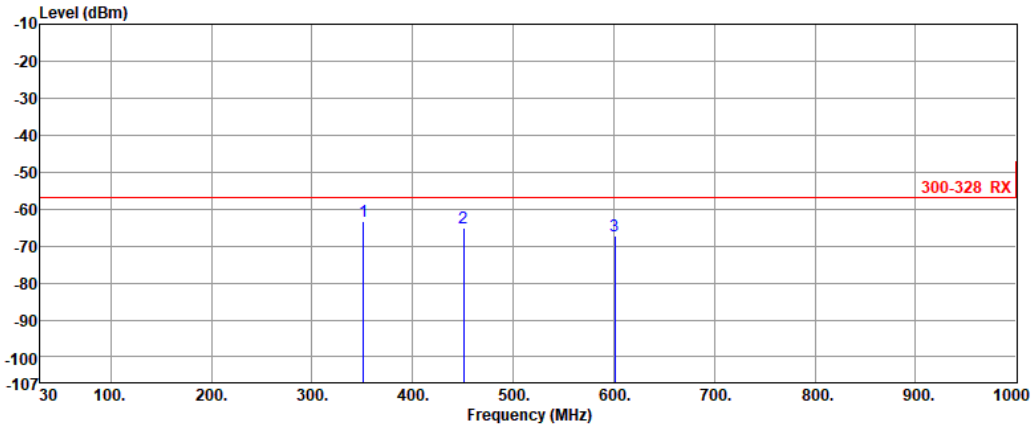


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	350.84	-67.10	-57.00	-10.10	0.00	-67.10
2	450.62	-69.08	-57.00	-12.08	3.01	-72.09
3	600.90	-61.53	-57.00	-4.53	5.84	-67.37

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2412
Polarization	Vertical		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

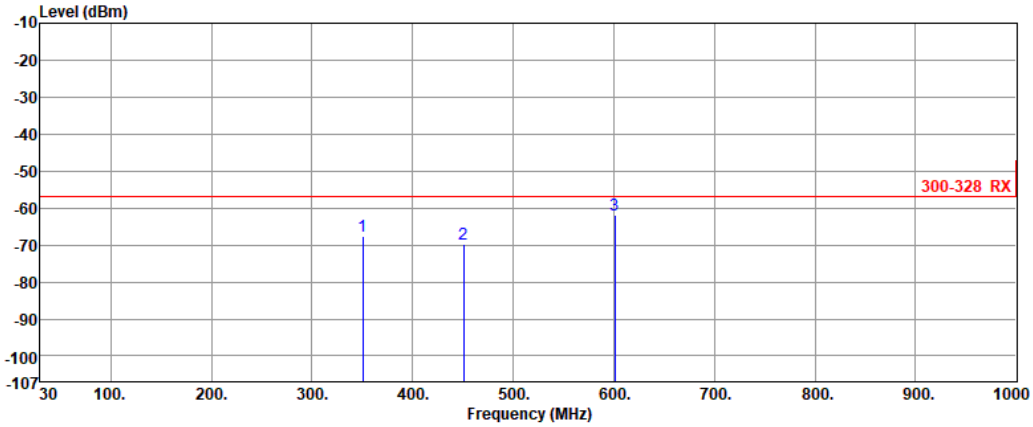


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	350.93	-63.26	-57.00	-6.26	0.10	-63.36
2	450.78	-65.11	-57.00	-8.11	2.41	-67.52
3	600.90	-67.40	-57.00	-10.40	5.62	-73.02

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2472
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:25 Humidity(%):65

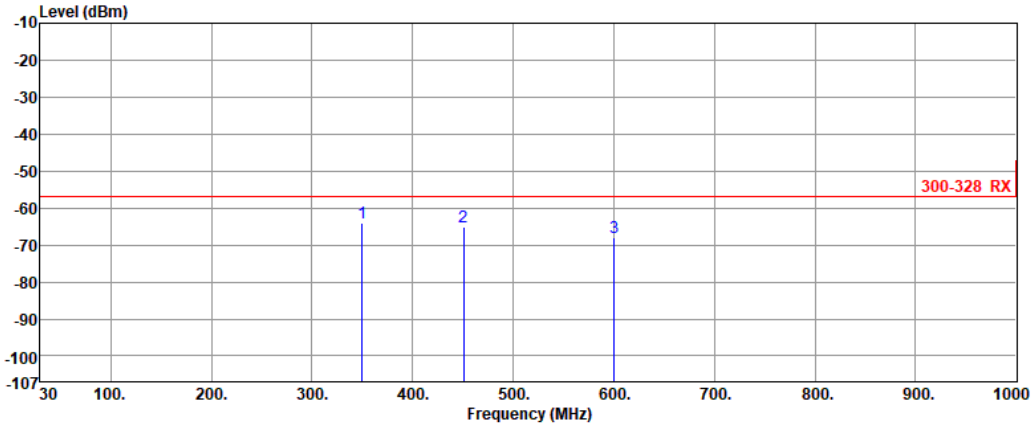


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	350.76	-67.71	-57.00	-10.71	0.00	-67.71
2	450.95	-69.71	-57.00	-12.71	3.03	-72.74
3	600.89	-61.78	-57.00	-4.78	5.83	-67.61

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	2472
Polarization	Vertical		

Test By :Hugo Zhen Temperature:25 Humidity(%):65



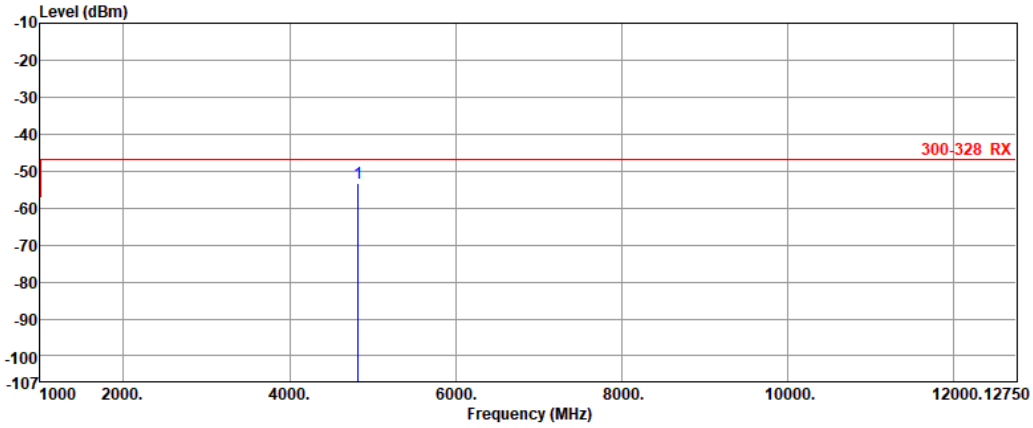
	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	350.13	-63.93	-57.00	-6.93	0.06	-63.99
2	450.91	-65.27	-57.00	-8.27	2.42	-67.69
3	600.28	-67.82	-57.00	-10.82	5.60	-73.42

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Emissions (Above 1GHz)

Modulation	11g	**Test Freq. (MHz)**	2412
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

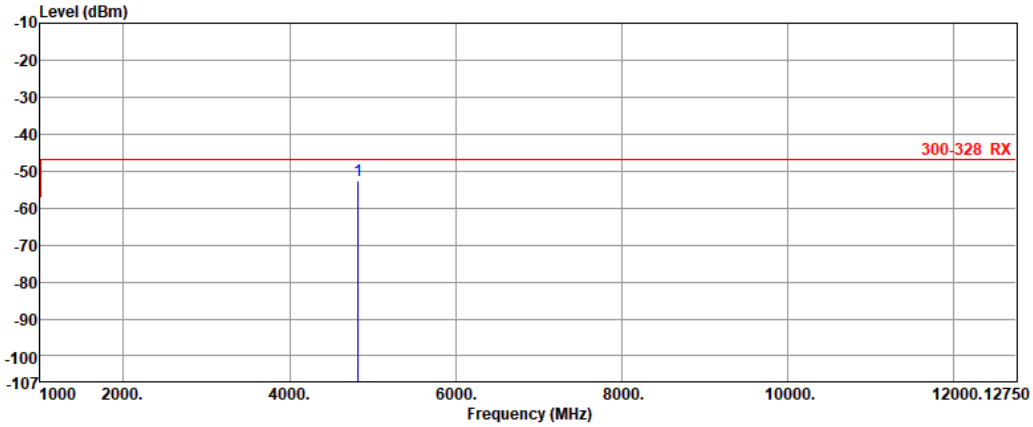


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4824.37	-53.21	-47.00	-6.21	13.48	-66.69

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g	**Test Freq. (MHz)**	2412
Polarization	Vertical		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

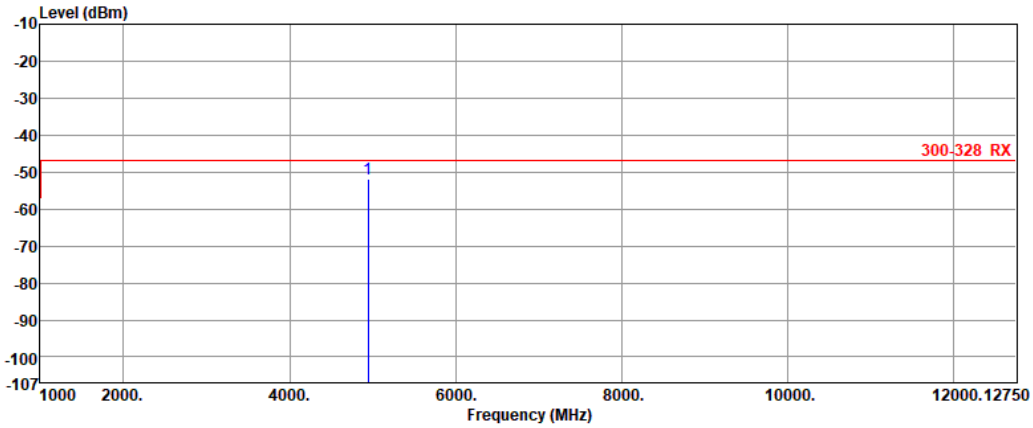


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4824.22	-52.56	-47.00	-5.56	13.39	-65.95

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g	**Test Freq. (MHz)**	2472
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

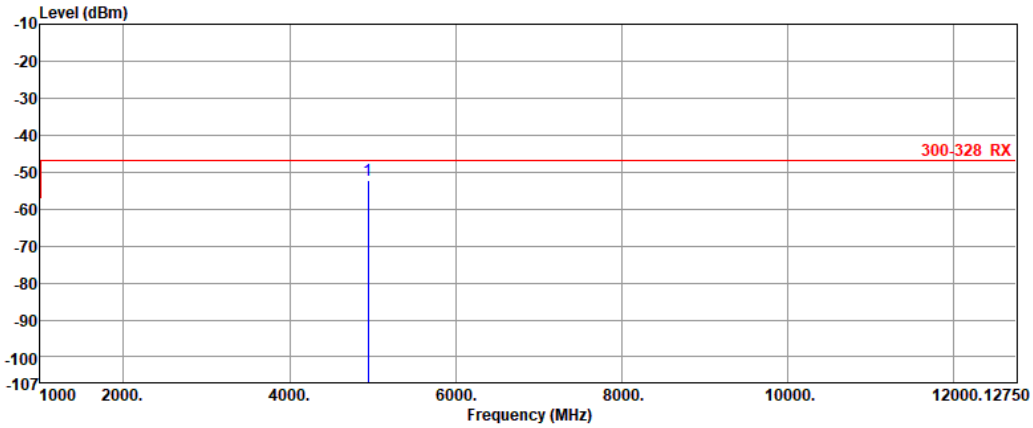


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4943.83	-51.95	-47.00	-4.95	13.95	-65.90

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	11g	**Test Freq. (MHz)**	2472
Polarization	Vertical		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

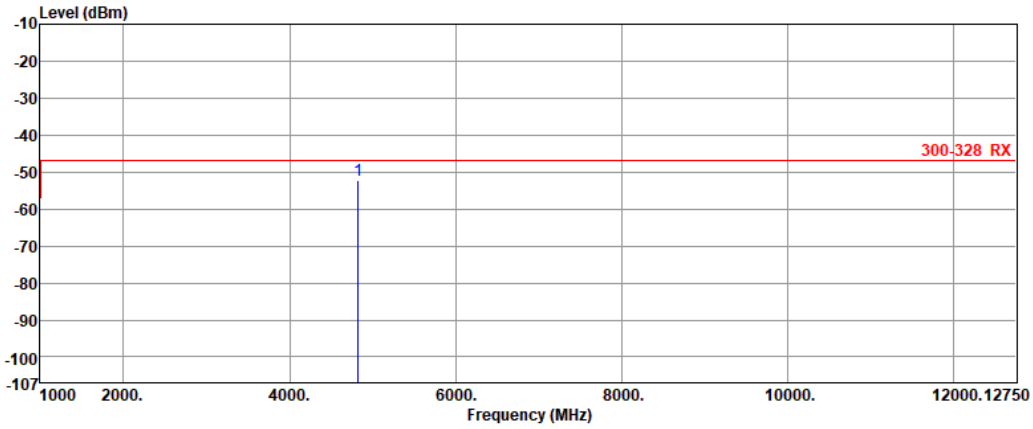


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4943.95	-52.19	-47.00	-5.19	13.96	-66.15

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2412
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

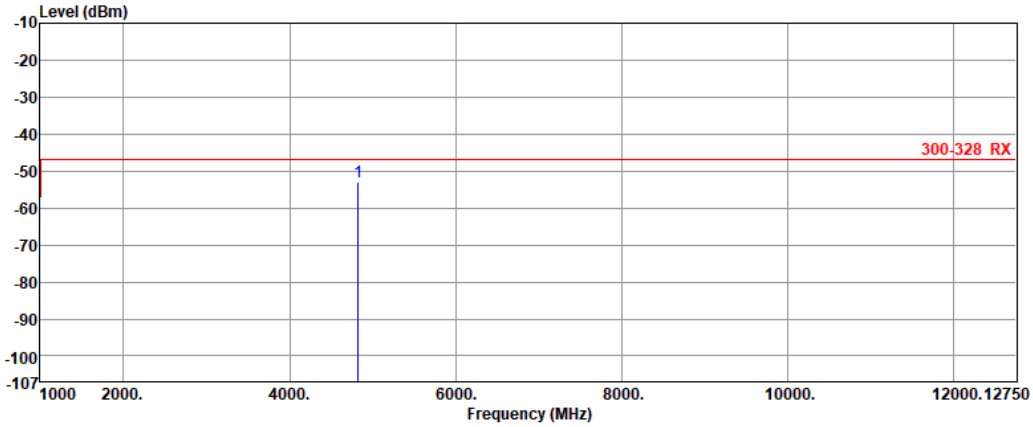


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4824.05	-52.41	-47.00	-5.41	13.46	-65.87

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	2412
Polarization	Vertical		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

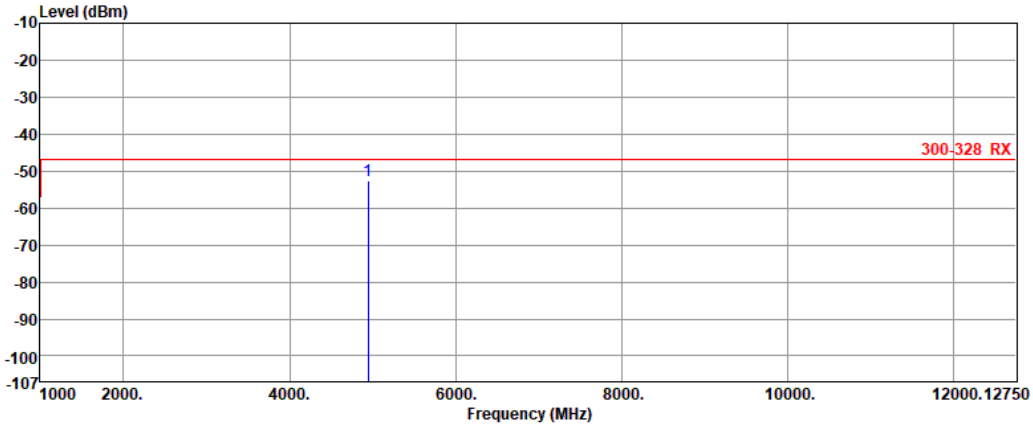


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4824.43	-52.87	-47.00	-5.87	13.39	-66.26

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2472
Polarization	Horizontal		

Test By :Hugo Zhen Temperature:24 Humidity(%):65

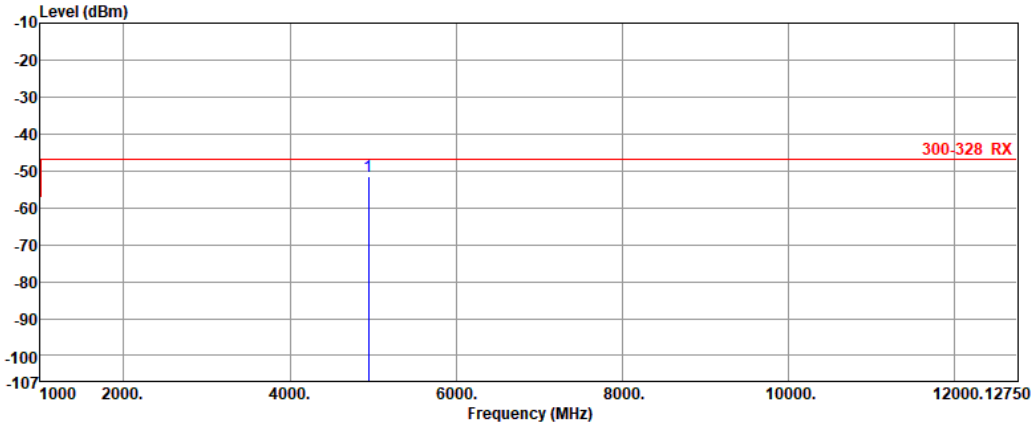


	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4943.70	-52.68	-47.00	-5.68	13.95	-66.63

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	ax HE20-OFDMA	**Test Freq. (MHz)**	2472
Polarization	Vertical		

Test By :Hugo Zhen Temperature:24 Humidity(%):65



	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4943.91	-51.62	-47.00	-4.62	13.96	-65.58

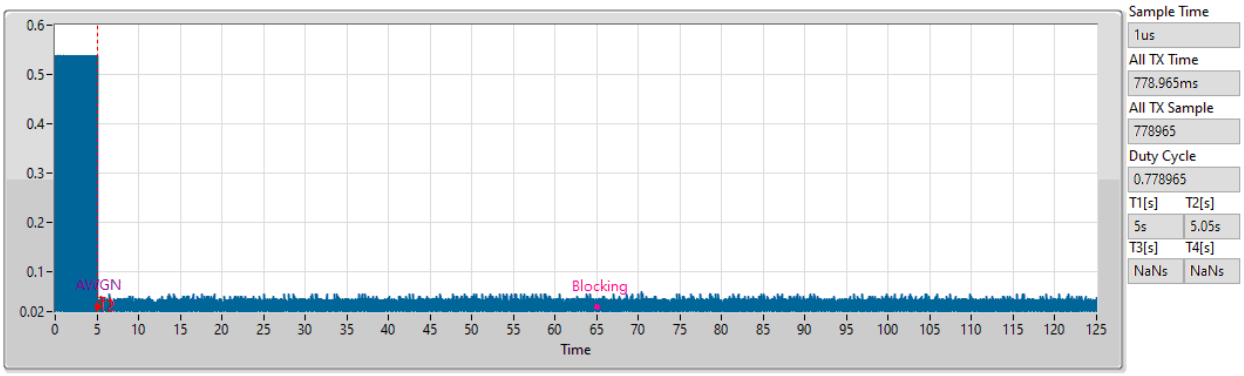
Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)
Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Test Result of Adaptivity & Unwanted Signal

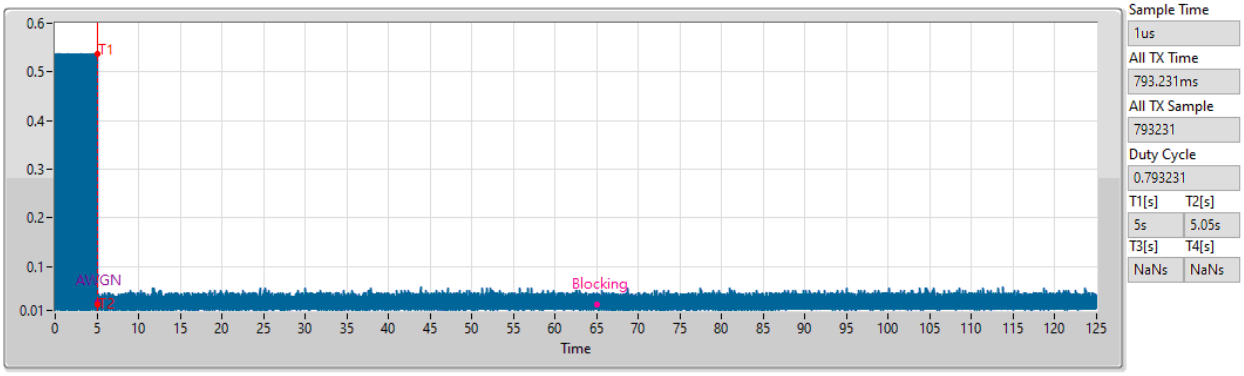
Adaptivity & Unwanted Signal Result.						
Adaptivity Detection Threshold Level (dBm)			-67.73			
Unwanted Signal Level (dBm)			-32.6			
Modulation Mode	Freq. (MHz)	Short Control Signalling Transmissions (ms)	Channel Occupancy Time (ms)	Idle Period Time (μs)	Adaptivity	Unwanted Signal Test Status
802.11b	2412	4.286	12.488	53	Pass	Pass
802.11b	2472	4.61	12.481	57		
802.11g	2412	2.108	0.705	95		
802.11g	2472	2.856	0.564	50		
802.11ax(HE20)	2412	4.834	5.337	59		
802.11ax(HE20)	2472	3.601	5.33	59		
Limit		< 5 ms	< 13 ms	>18μs		
Result		Complied				

Test Result of Adaptivity and Unwanted Signal Plots

Adaptivity & Unwanted Signal Result Plots
Unwanted signal: 2488.5 MHz
802.11b - 2412MHz
Time Analysis

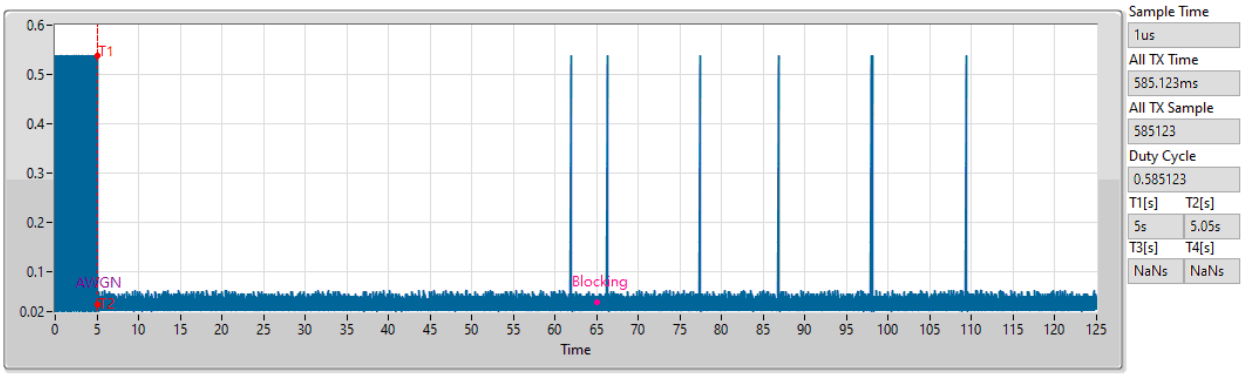


Unwanted signal: 2395 MHz
802.11b - 2472MHz
Time Analysis



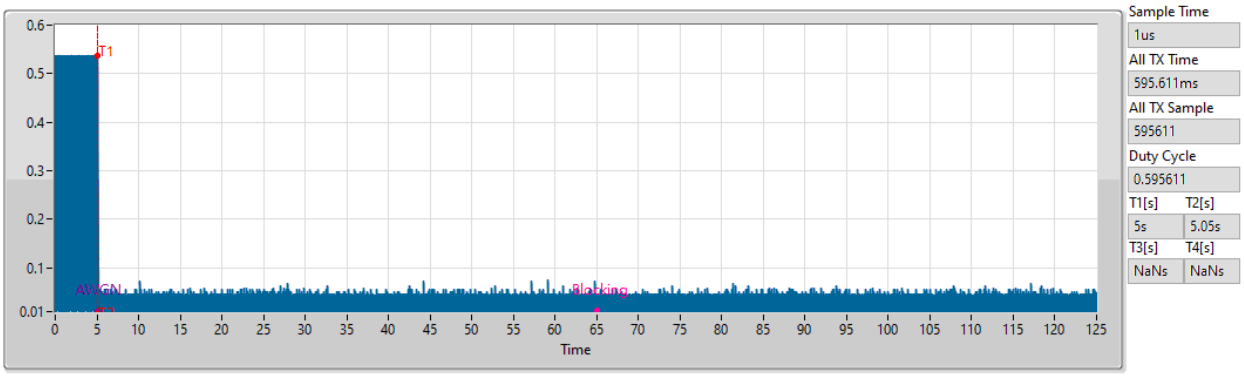
Adaptivity & Unwanted Signal Result Plots
Unwanted signal: 2488.5 MHz
802.11g - 2412MHz

Time Analysis



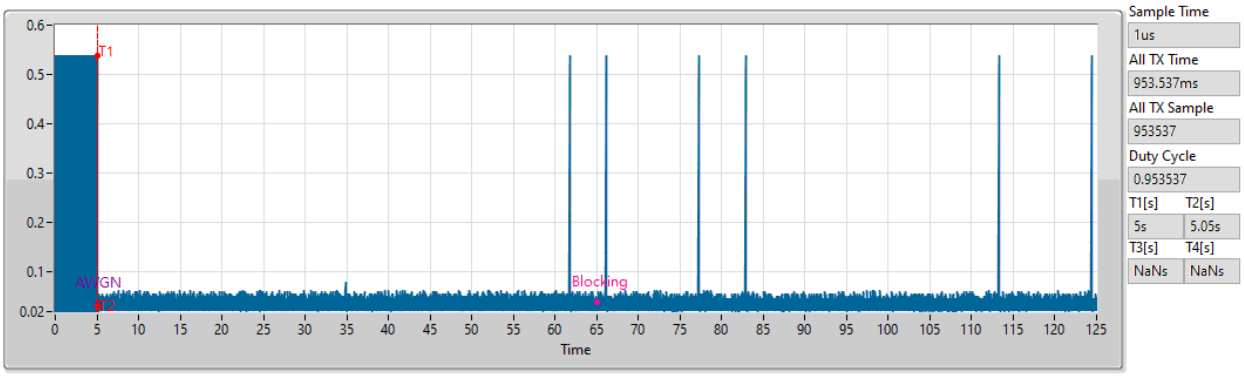
Unwanted signal: 2395 MHz
802.11g - 2472MHz

Time Analysis



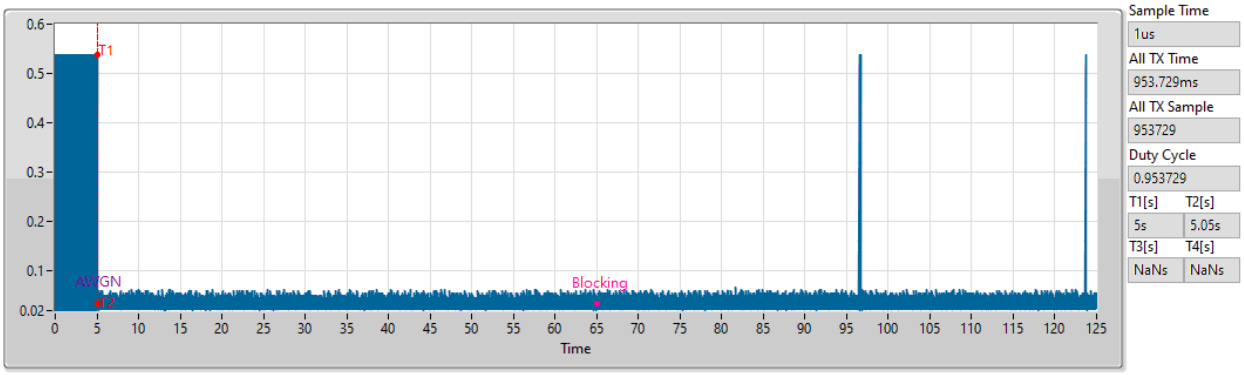
Adaptivity & Unwanted Signal Result Plots
Unwanted signal: 2488.5 MHz
802.11ax (HE20) - 2412MHz

Time Analysis

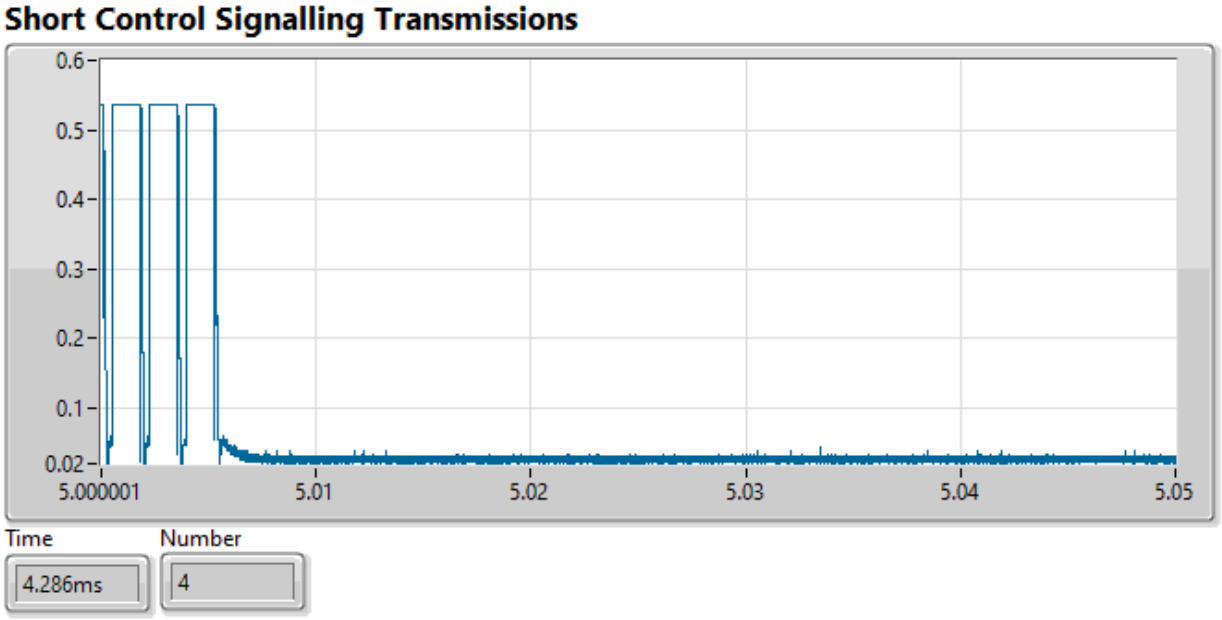
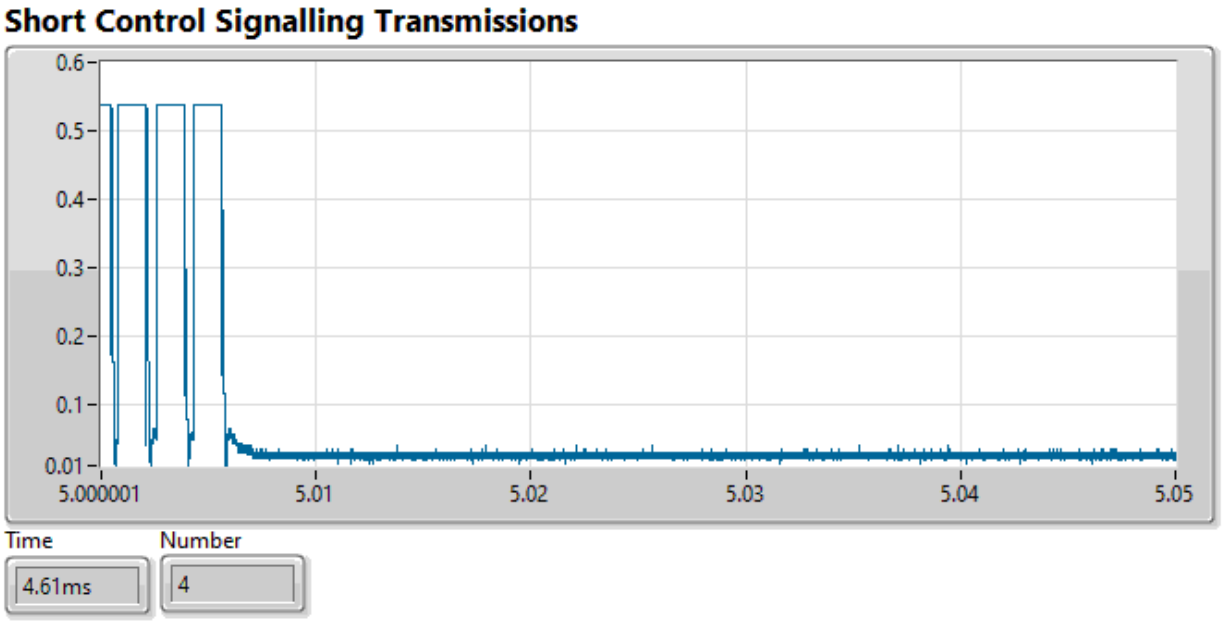


Unwanted signal: 2395 MHz
802.11ax (HE20) - 2472MHz

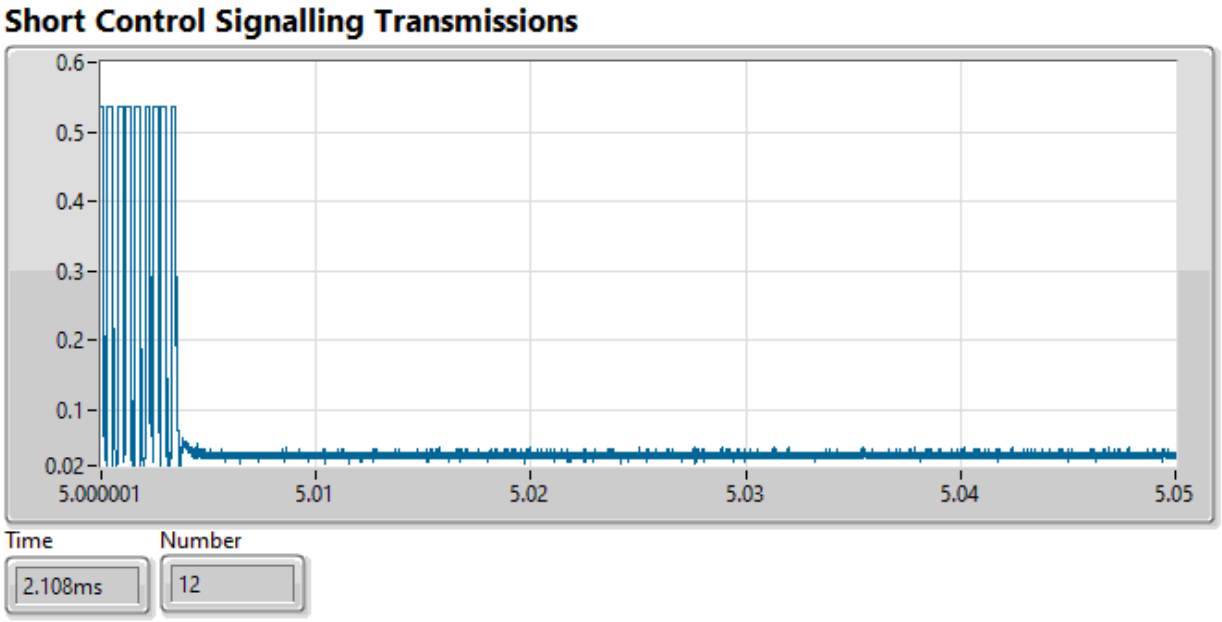
Time Analysis



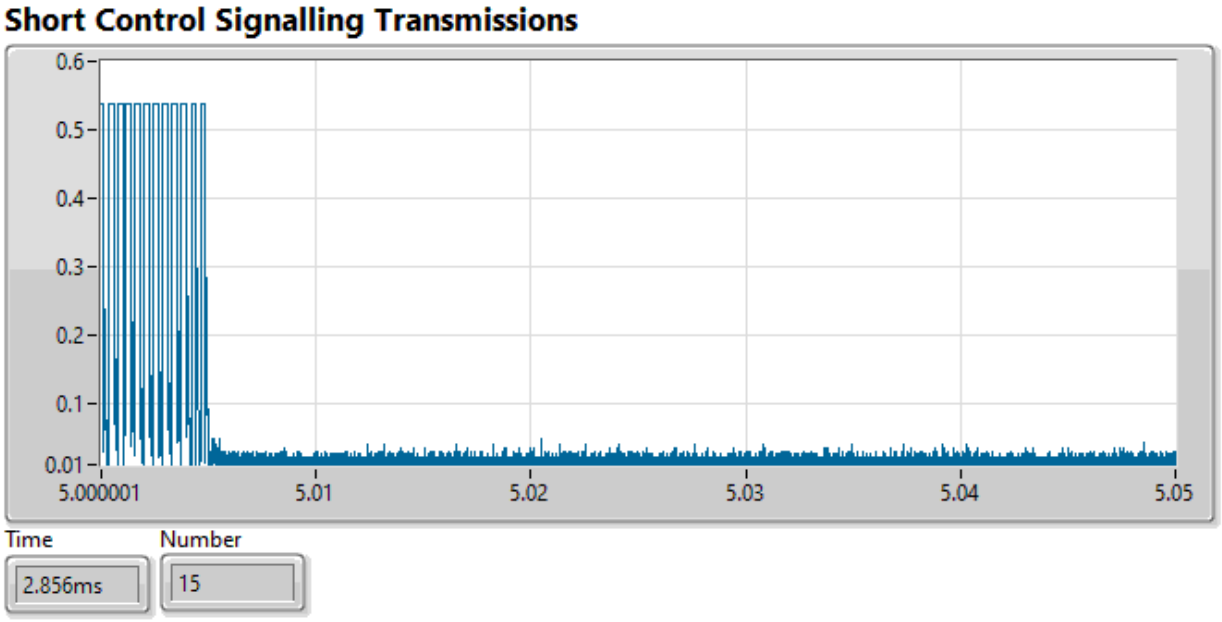
1.1.1 Test Result of Short Control Signalling Transmissions Plots

Short Control Signalling Transmissions Plots
802.11b - 2412MHz

802.11b - 2472MHz


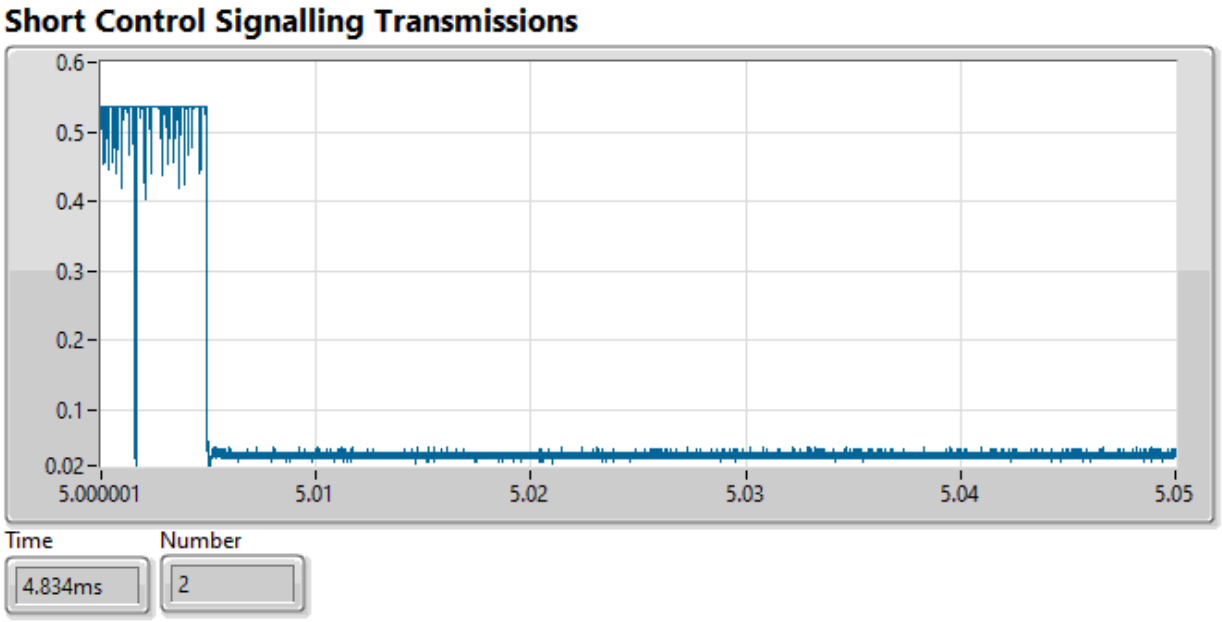
Short Control Signalling Transmissions Plots
802.11g - 2412MHz



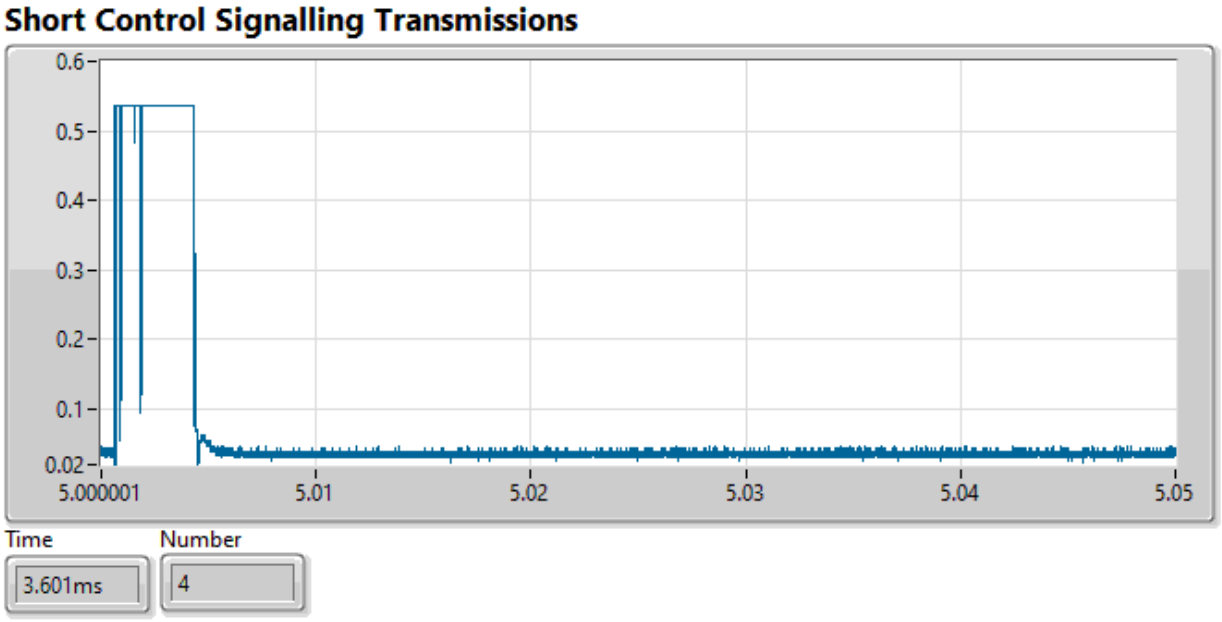
802.11g - 2472MHz

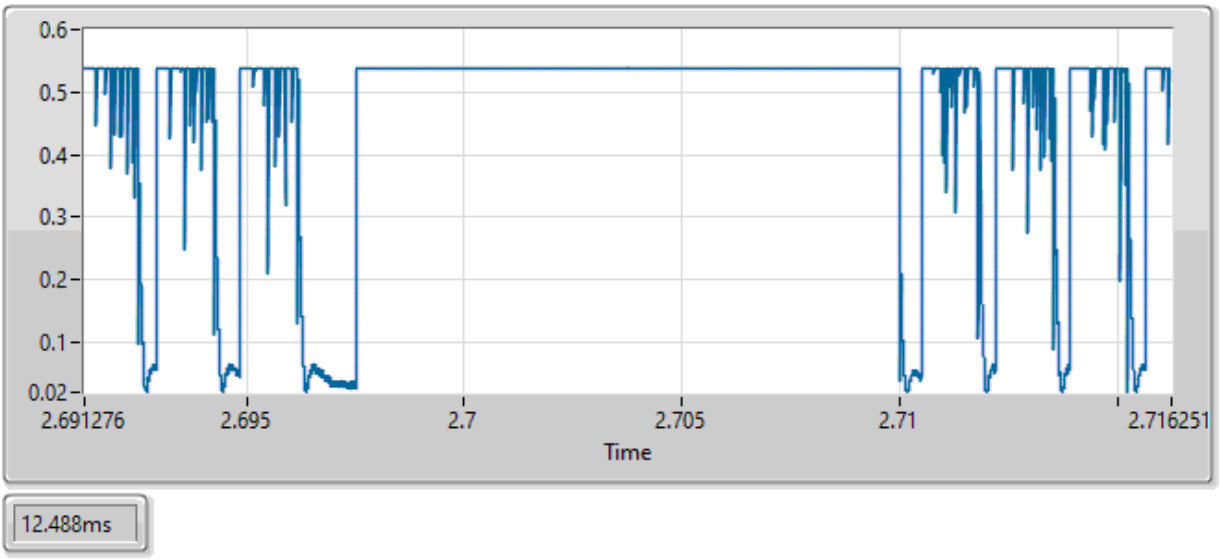
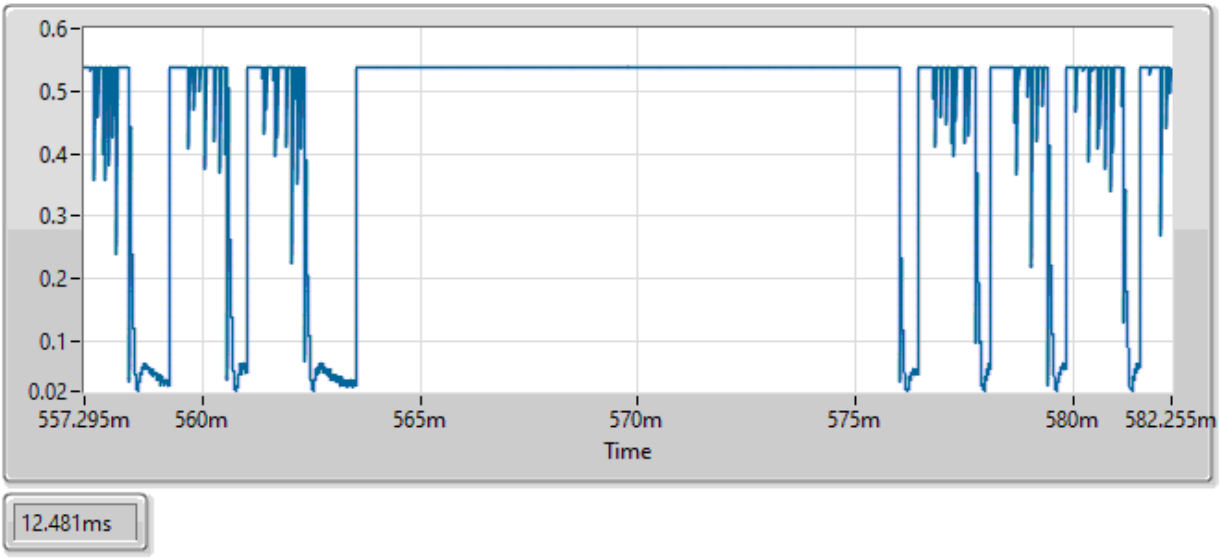


Short Control Signalling Transmissions Plots
802.11ax (HE20) - 2412MHz



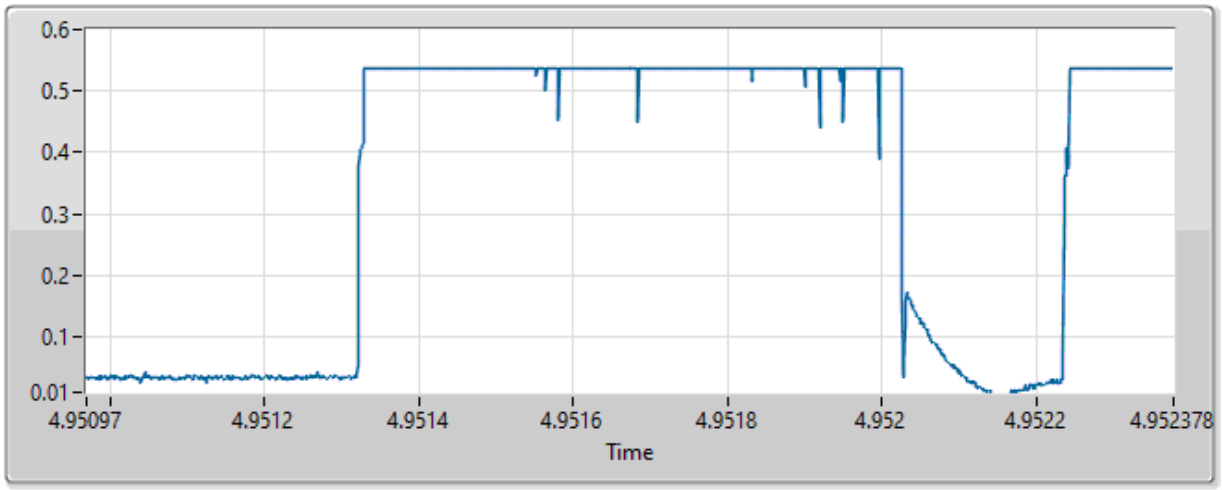
802.11ax (HE20) - 2472MHz



Channel Occupancy Time
802.11b - 2412MHz
Max On Time 
802.11b - 2472MHz
Max On Time 

Channel Occupancy Time
802.11g - 2412MHz

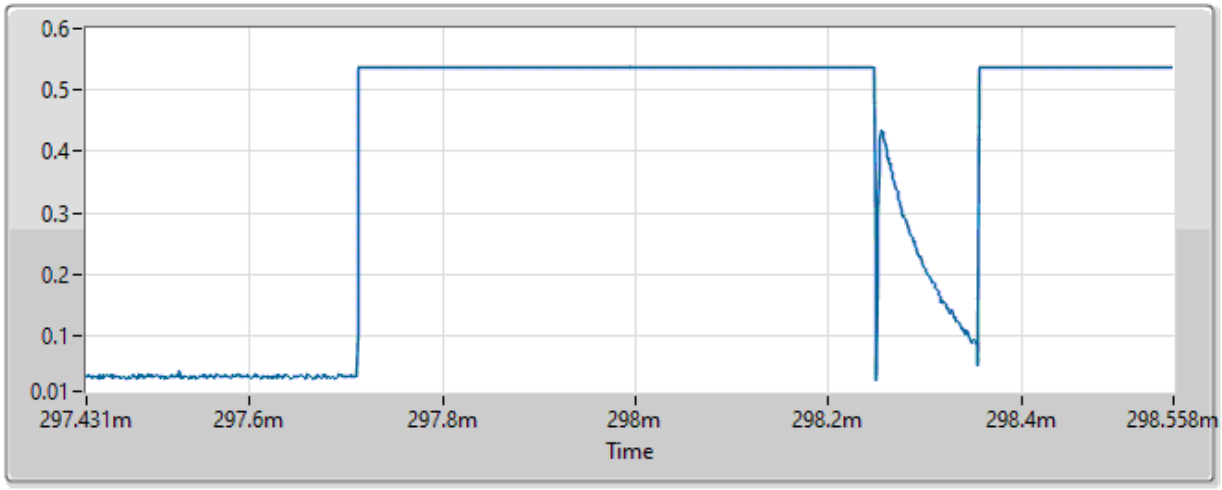
Max On Time



705us

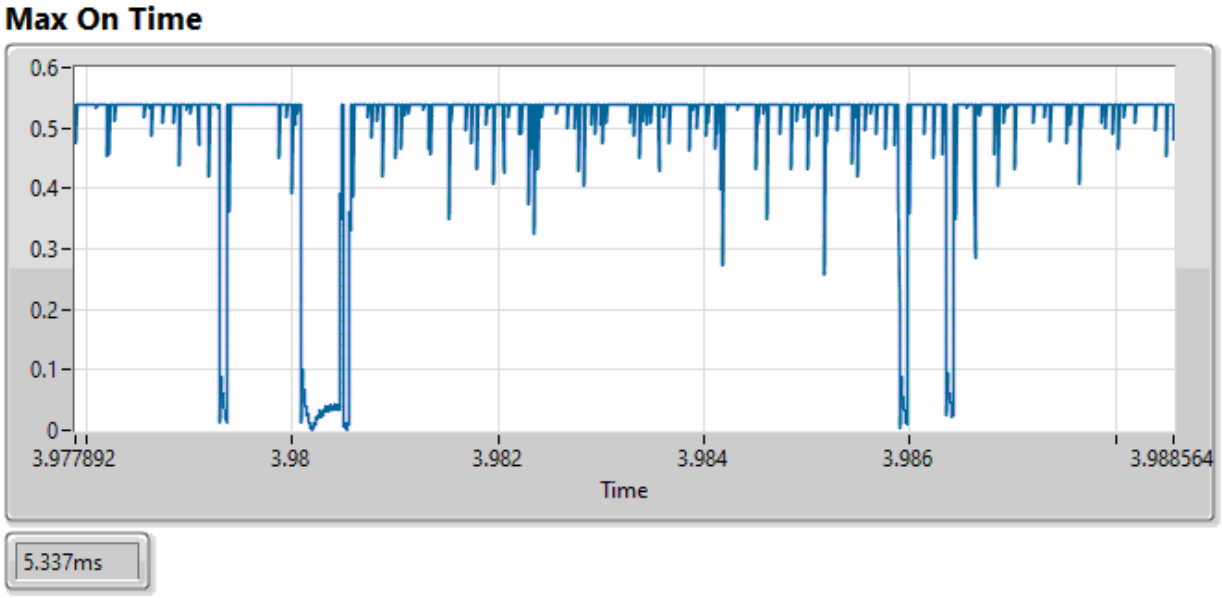
802.11g - 2472MHz

Max On Time

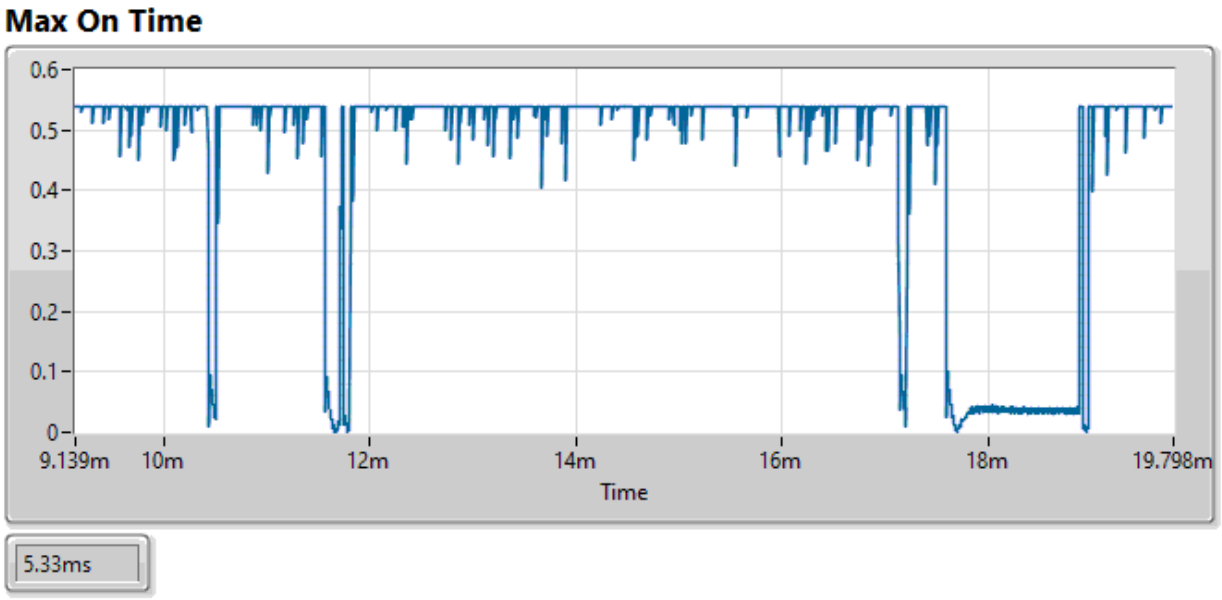


564us

Channel Occupancy Time
802.11ax (HE20) - 2412MHz

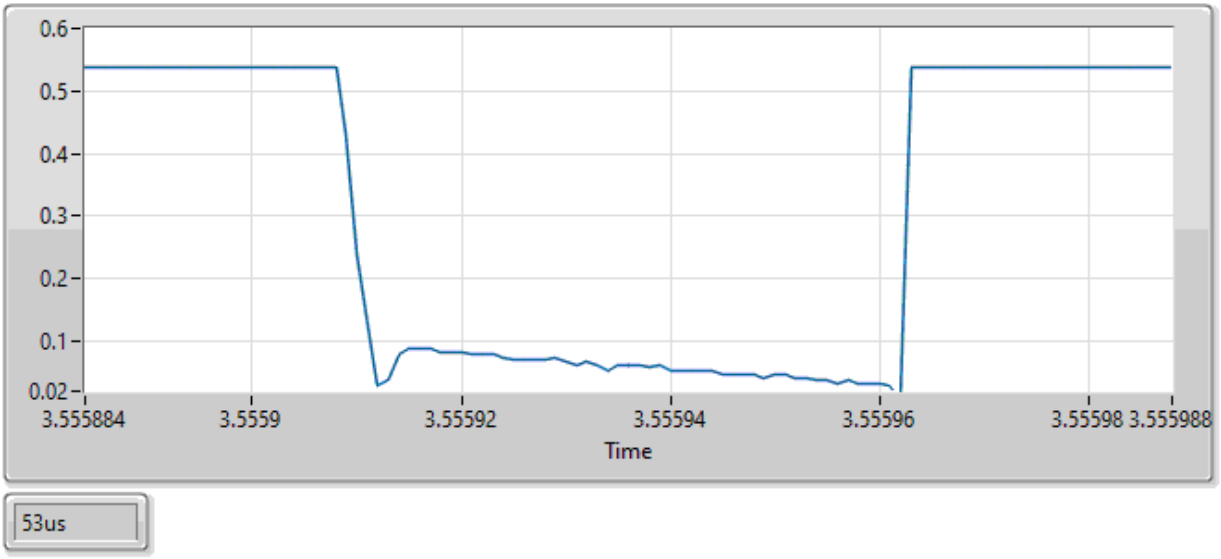


802.11ax (HE20) - 2472MHz



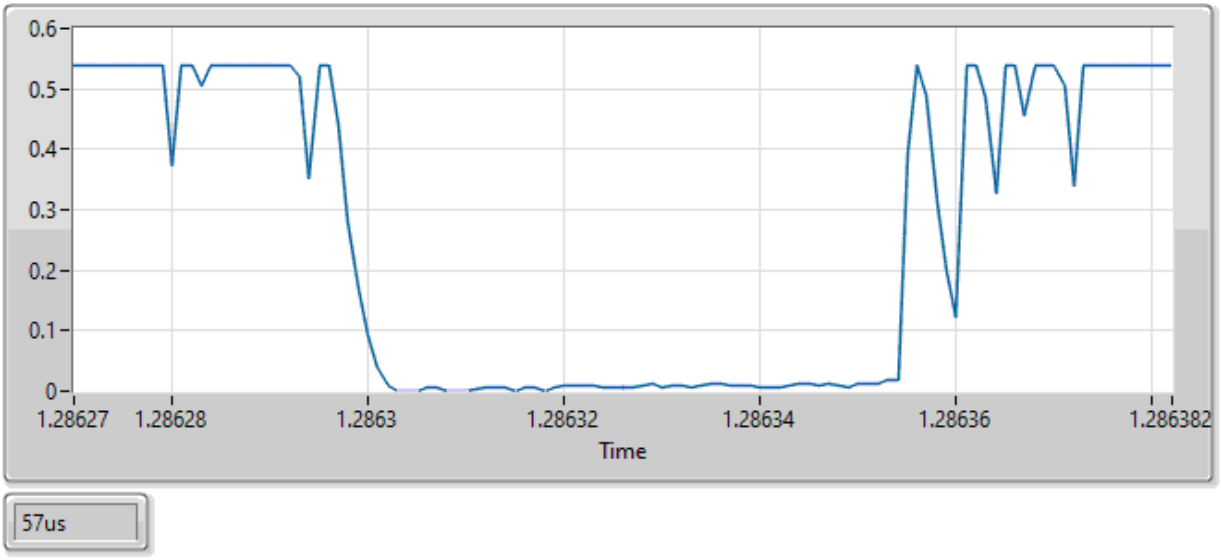
Idle Period Time
802.11b - 2412MHz

Min Off Time

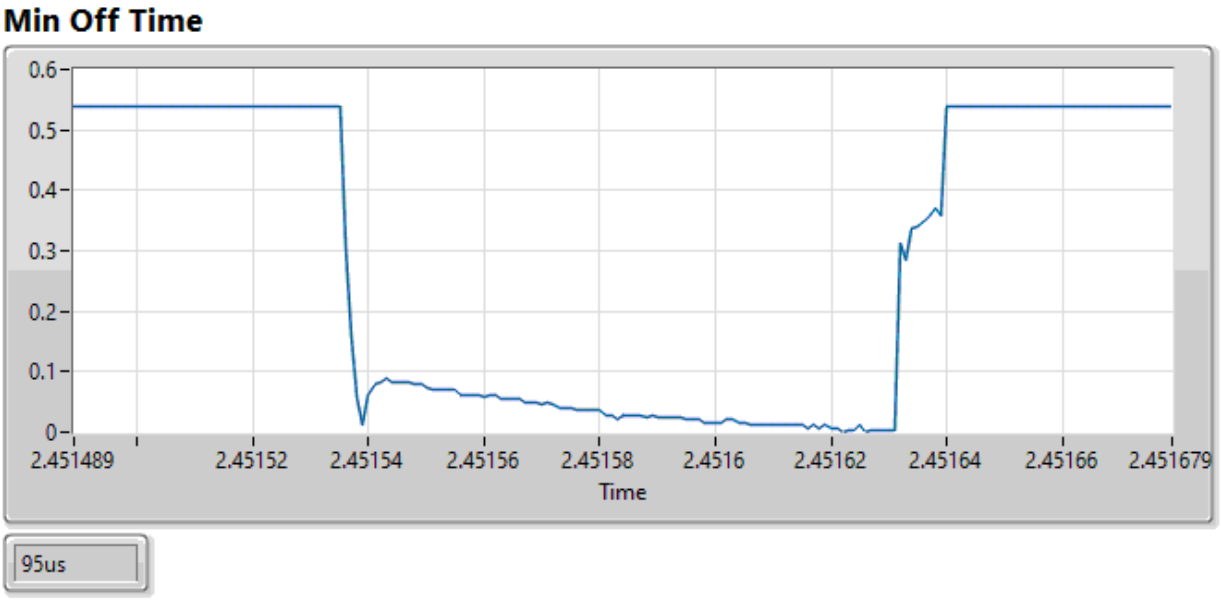


802.11b - 2472MHz

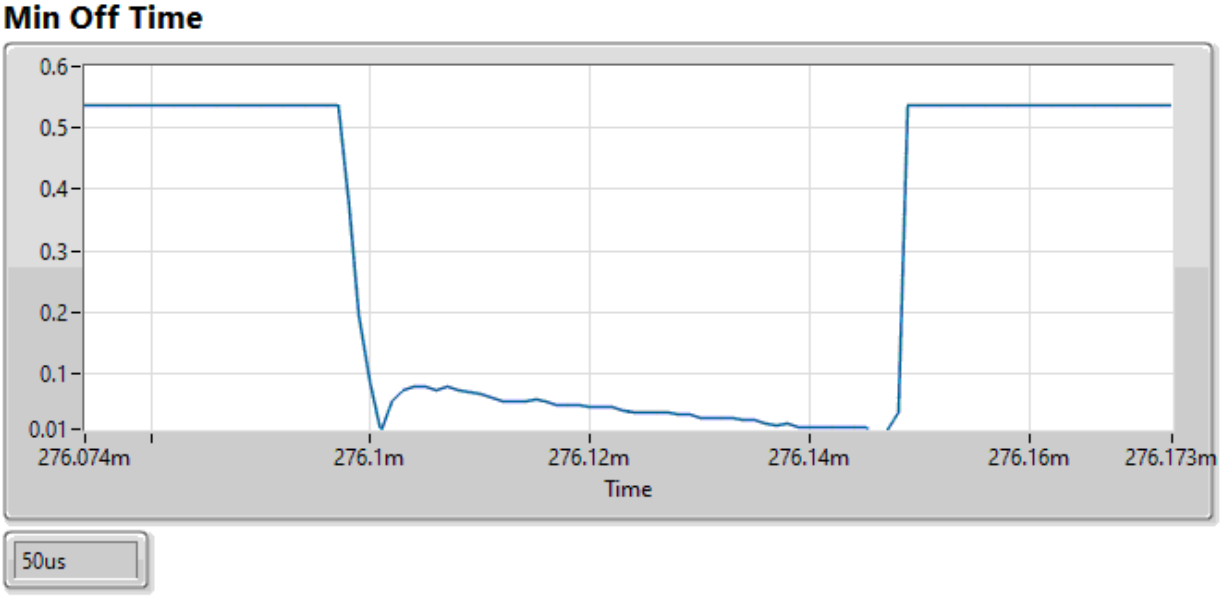
Min Off Time



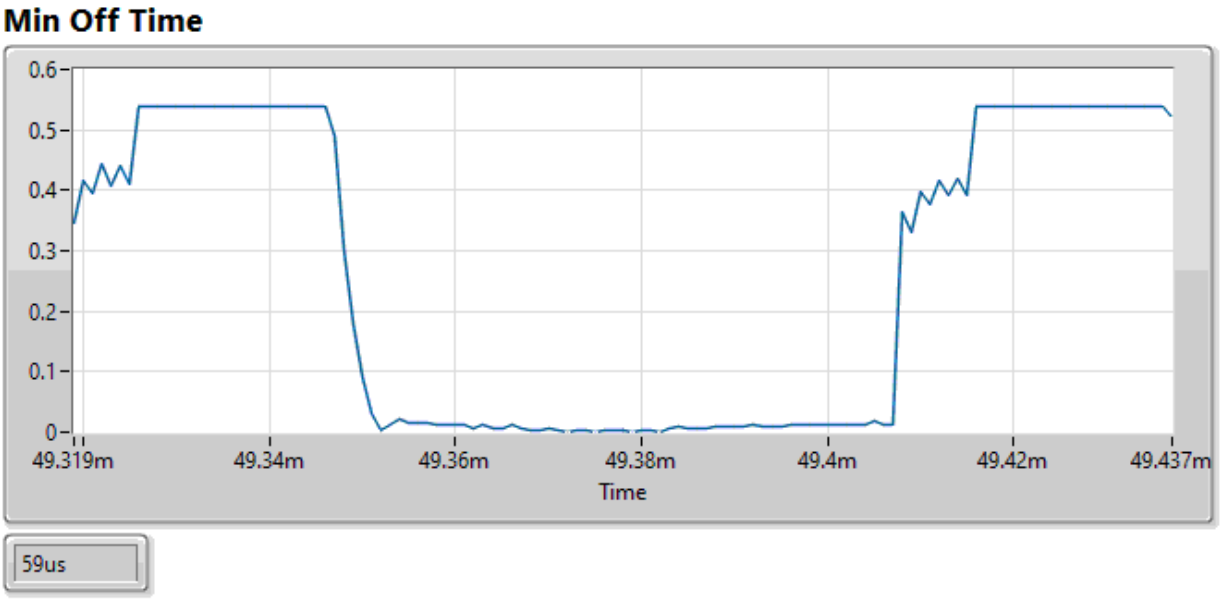
Idle Period Time
802.11g - 2412MHz



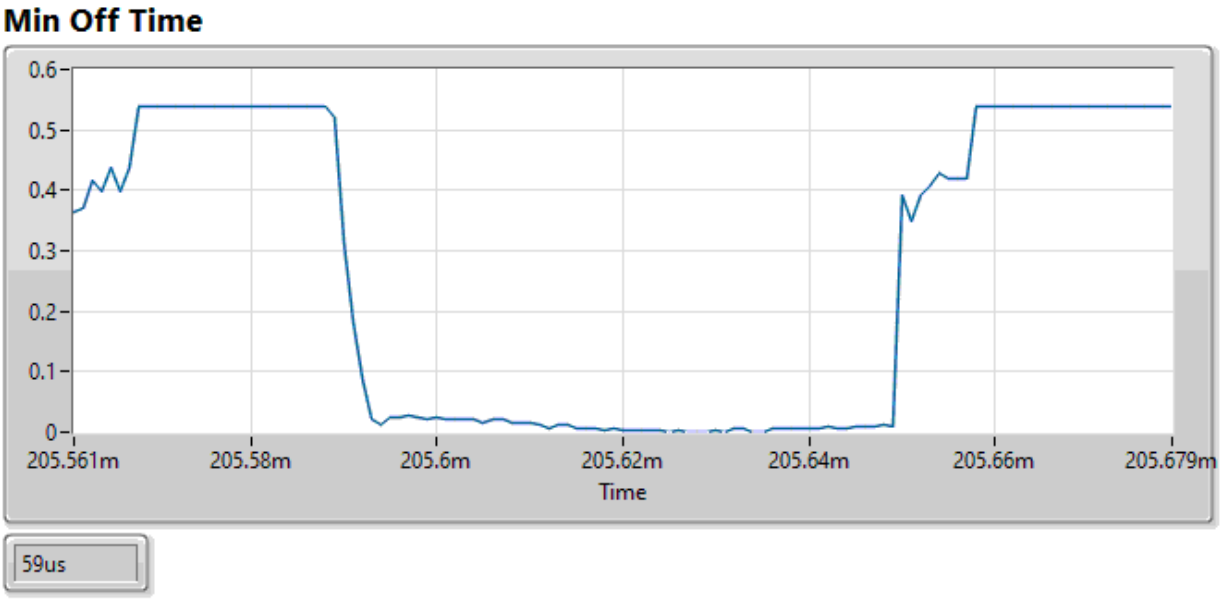
802.11g - 2472MHz



Idle Period Time
802.11ax (HE20) - 2412MHz

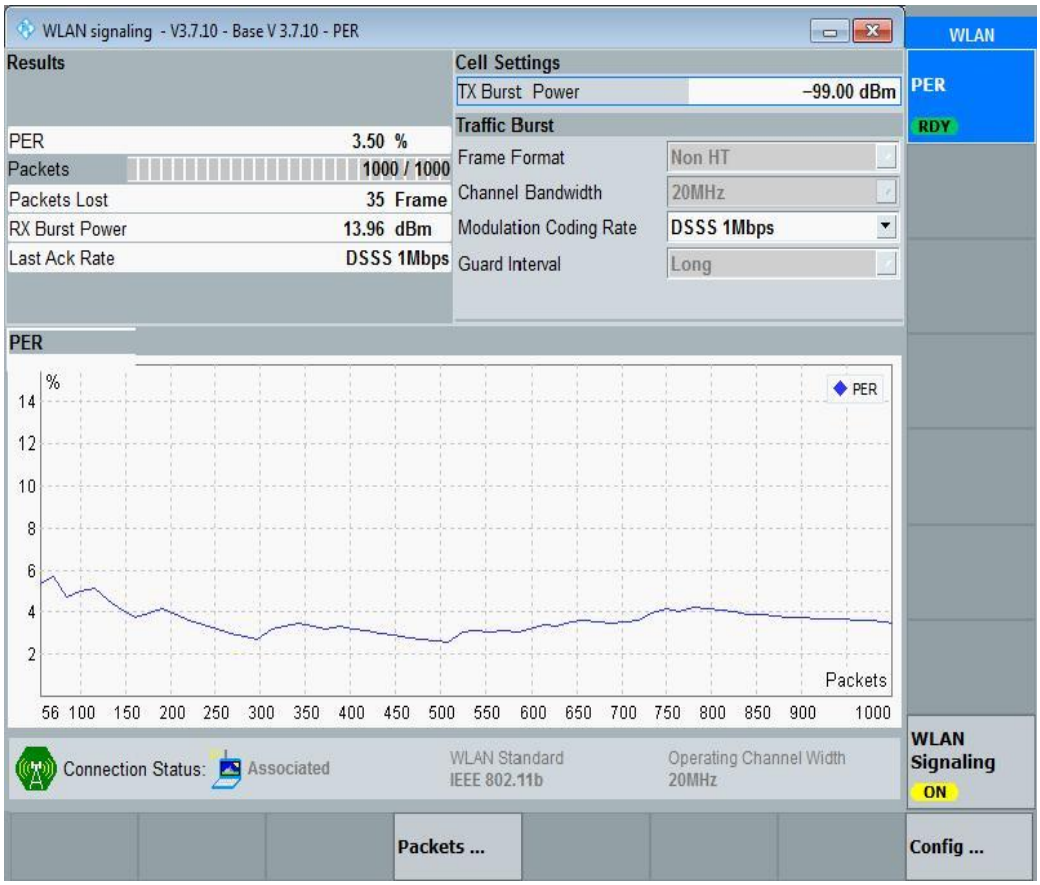


802.11ax (HE20) - 2472MHz



11b / 2412 MHz

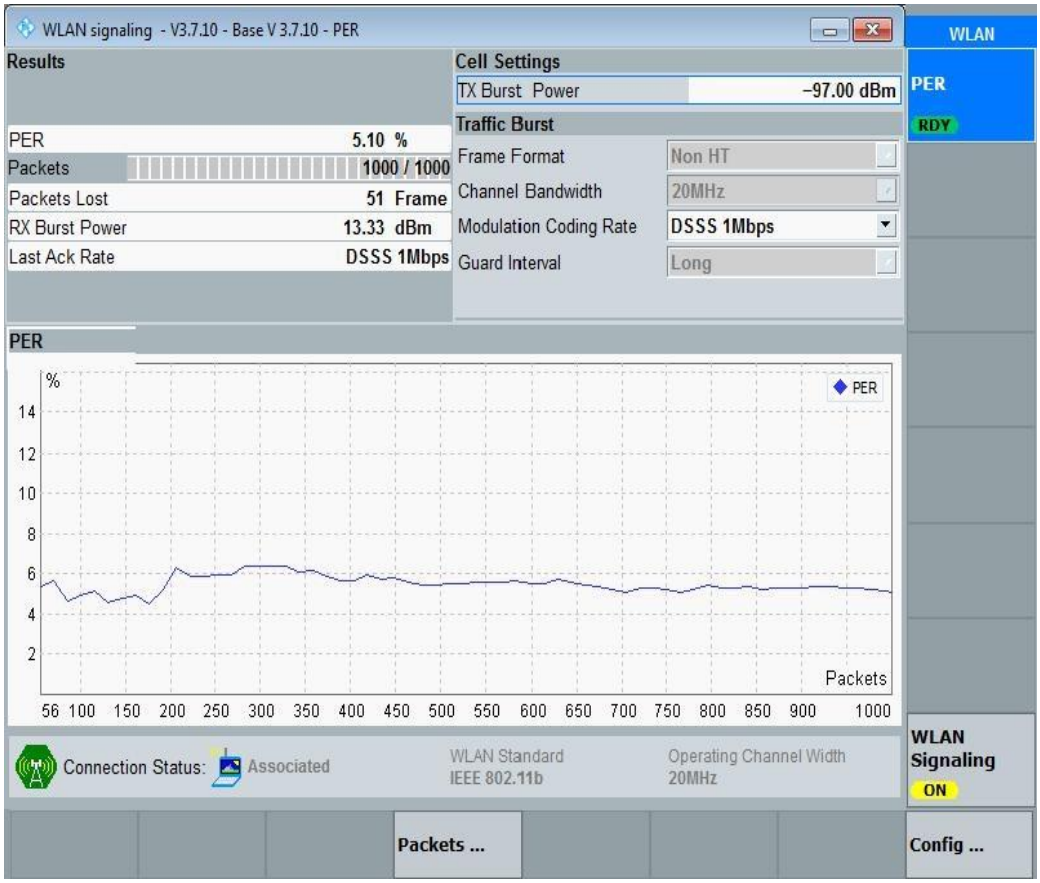
Without Interference Signal Sensitivity Level



Receiver Category	1		
Performance Criteria Limit	PER ≤ 10 %		
Wanted Signal Mean Power from Companion Device (dBm)	Blocking Signal Frequency (MHz)	Blocking Signal Power (dBm)	Test Result
-65.60	2380	-31.6	Pass
-71.60	2300	-31.6	Pass
-71.60	2330	-31.6	Pass
-71.60	2360	-31.6	Pass

11b / 2472 MHz

Without Interference Signal Sensitivity Level



Receiver Category	1		
Performance Criteria Limit	PER ≤ 10 %		
Wanted Signal Mean Power from Companion Device (dBm)	Blocking Signal Frequency (MHz)	Blocking Signal Power (dBm)	Test Result
-65.60	2504	-31.6	Pass
-71.60	2524	-31.6	Pass
-71.60	2584	-31.6	Pass
-71.60	2674	-31.6	Pass

Configuration 2: Laird part number: 453-00193

full RU configuration

RF Output Power (dBm)						
Condition	Freq. (MHz)	EIRP Power (dBm)			Limit (dBm)	Results
		11b	11g	ax HE20-OFDMA		
$T_{nom}V_{nom}$	2412	16.93	18.25	18.53	20	Pass
$T_{nom}V_{nom}$	2442	16.93	18.13	18.43	20	Pass
$T_{nom}V_{nom}$	2472	17.16	18.53	18.39	20	Pass

Note: EIRP = Measured conducted power + Antenna gain.

partial RU configuration

RF Output Power (dBm)						
Condition	Freq. (MHz)	EIRP Power (dBm)			Limit (dBm)	Results
		ax HE20-OFDMA RU26	ax HE20-OFDMA RU52	ax HE20-OFDMA RU106		
$T_{nom}V_{nom}$	2412	12.59	15.29	18.37	20	Pass
$T_{nom}V_{nom}$	2442	12.44	15.42	18.22	20	Pass
$T_{nom}V_{nom}$	2472	12.58	15.34	18.43	20	Pass

Note: EIRP = Measured conducted power + Antenna gain.

full RU configuration

Modulation Mode	Freq. (MHz)	Power Density (dBm/1MHz)	Limit (dBm/1MHz)	Results
11b	2412	9.39	10	Pass
11b	2442	9.23	10	Pass
11b	2472	9.71	10	Pass
11g	2412	8.05	10	Pass
11g	2442	7.97	10	Pass
11g	2472	8.29	10	Pass
ax HE20-OFDMA	2412	7.96	10	Pass
ax HE20-OFDMA	2442	7.76	10	Pass
ax HE20-OFDMA	2472	7.69	10	Pass

partial RU configuration

Modulation Mode	Freq. (MHz)	Power Density (dBm/1MHz)	Limit (dBm/1MHz)	Results
ax HE20-OFDMA RU26	2412	9.52	10	Pass
ax HE20-OFDMA RU26	2442	9.36	10	Pass
ax HE20-OFDMA RU26	2472	9.50	10	Pass
ax HE20-OFDMA RU52	2412	9.30	10	Pass
ax HE20-OFDMA RU52	2442	9.43	10	Pass
ax HE20-OFDMA RU52	2472	9.31	10	Pass
ax HE20-OFDMA RU106	2412	9.61	10	Pass
ax HE20-OFDMA RU106	2442	9.42	10	Pass
ax HE20-OFDMA RU106	2472	9.60	10	Pass

Configuration 3: Laird part number: 453-00213

full RU configuration

RF Output Power (dBm)						
Condition	Freq. (MHz)	EIRP Power (dBm)			Limit (dBm)	Results
		11b	11g	ax HE20-OFDMA		
$T_{nom}V_{nom}$	2412	17.29	18.85	19.00	20	Pass
$T_{nom}V_{nom}$	2442	17.18	18.75	18.90	20	Pass
$T_{nom}V_{nom}$	2472	17.35	18.70	18.94	20	Pass

Note: EIRP = Measured conducted power + Antenna gain.

partial RU configuration

RF Output Power (dBm)						
Condition	Freq. (MHz)	EIRP Power (dBm)			Limit (dBm)	Results
		ax HE20-OFDMA RU26	ax HE20-OFDMA RU52	ax HE20-OFDMA RU106		
$T_{nom}V_{nom}$	2412	12.44	15.38	18.36	20	Pass
$T_{nom}V_{nom}$	2442	12.43	15.43	18.27	20	Pass
$T_{nom}V_{nom}$	2472	12.68	15.37	18.41	20	Pass

Note: EIRP = Measured conducted power + Antenna gain.

full RU configuration

Modulation Mode	Freq. (MHz)	Power Density (dBm/1MHz)	Limit (dBm/1MHz)	Results
11b	2412	9.75	10	Pass
11b	2442	9.67	10	Pass
11b	2472	9.70	10	Pass
11g	2412	8.66	10	Pass
11g	2442	8.62	10	Pass
11g	2472	8.53	10	Pass
ax HE20-OFDMA	2412	8.39	10	Pass
ax HE20-OFDMA	2442	8.29	10	Pass
ax HE20-OFDMA	2472	8.21	10	Pass

partial RU configuration

Modulation Mode	Freq. (MHz)	Power Density (dBm/1MHz)	Limit (dBm/1MHz)	Results
ax HE20-OFDMA RU26	2412	9.43	10	Pass
ax HE20-OFDMA RU26	2442	9.33	10	Pass
ax HE20-OFDMA RU26	2472	9.60	10	Pass
ax HE20-OFDMA RU52	2412	9.40	10	Pass
ax HE20-OFDMA RU52	2442	9.50	10	Pass
ax HE20-OFDMA RU52	2472	9.37	10	Pass
ax HE20-OFDMA RU106	2412	9.56	10	Pass
ax HE20-OFDMA RU106	2442	9.48	10	Pass
ax HE20-OFDMA RU106	2472	9.58	10	Pass

Configuration 4: Laird part number: 453-00214

full RU configuration

RF Output Power (dBm)						
Condition	Freq. (MHz)	EIRP Power (dBm)			Limit (dBm)	Results
		11b	11g	ax HE20-OFDMA		
$T_{nom}V_{nom}$	2412	17.23	18.72	18.90	20	Pass
$T_{nom}V_{nom}$	2442	17.12	18.81	18.86	20	Pass
$T_{nom}V_{nom}$	2472	17.22	18.76	18.90	20	Pass

Note: EIRP = Measured conducted power + Antenna gain.

partial RU configuration

RF Output Power (dBm)						
Condition	Freq. (MHz)	EIRP Power (dBm)			Limit (dBm)	Results
		ax HE20-OFDMA RU26	ax HE20-OFDMA RU52	ax HE20-OFDMA RU106		
$T_{nom}V_{nom}$	2412	12.44	15.22	18.32	20	Pass
$T_{nom}V_{nom}$	2442	12.45	15.36	18.25	20	Pass
$T_{nom}V_{nom}$	2472	12.63	15.18	18.43	20	Pass

Note: EIRP = Measured conducted power + Antenna gain.

full RU configuration

Modulation Mode	Freq. (MHz)	Power Density (dBm/1MHz)	Limit (dBm/1MHz)	Results
11b	2412	9.63	10	Pass
11b	2442	9.56	10	Pass
11b	2472	9.55	10	Pass
11g	2412	8.65	10	Pass
11g	2442	8.64	10	Pass
11g	2472	8.54	10	Pass
ax HE20-OFDMA	2412	8.32	10	Pass
ax HE20-OFDMA	2442	8.28	10	Pass
ax HE20-OFDMA	2472	8.27	10	Pass

partial RU configuration

Modulation Mode	Freq. (MHz)	Power Density (dBm/1MHz)	Limit (dBm/1MHz)	Results
ax HE20-OFDMA RU26	2412	9.34	10	Pass
ax HE20-OFDMA RU26	2442	9.37	10	Pass
ax HE20-OFDMA RU26	2472	9.62	10	Pass
ax HE20-OFDMA RU52	2412	9.27	10	Pass
ax HE20-OFDMA RU52	2442	9.36	10	Pass
ax HE20-OFDMA RU52	2472	9.16	10	Pass
ax HE20-OFDMA RU106	2412	9.62	10	Pass
ax HE20-OFDMA RU106	2442	9.52	10	Pass
ax HE20-OFDMA RU106	2472	9.60	10	Pass