

CE Test Report

Equipment : Lyra 24P Series - Bluetooth 5.3 PCB module
(Please refer to section 1.1.1 for more details)

Model No. : Lyra 24P

Brand Name : Laird Connectivity

Applicant : Laird Connectivity LLC

Address : W66N220 Commerce Court, Cedarburg, WI
53012 United States Of America

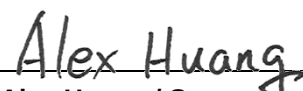
Standard : EN 300 328 V2.2.2 (2019-07)

Received Date : Dec. 30, 2022

Tested Date : Apr. 13 ~ May 19, 2023

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:


Alex Huang / Supervisor

Approved by:

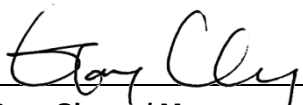

Gary Chang / Manager

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Appendix B. Power Spectral Density

Appendix C. Occupied Channel Bandwidth

Appendix D. Transmitter Unwanted Emissions In The Out-Of-Band Domain

Appendix E. Transmitter Spurious Emissions

Appendix F. Receiver Spurious Emissions

Appendix G. Receiver Blocking

Release Record

Report No.	Version	Description	Issued Date
ER2D3001	Rev. 01	Initial issue	Jul. 05, 2023

Summary of Test Results

Ref. Std. Clause	Test Items	Measured	Result
4.3.2.2	RF Output Power	9.98 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	The RF Output power is less than 10 dBm e.i.r.p. This item is not applicable.	N/A
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 following models are provided to this EUT.

Brand Name	Model Name	Product Name	Laird part number
Laird Connectivity	Lyra 24P	Lyra 24P Series - Bluetooth v5.3 PCB Module (20dBm) with integrated antenna	453-00145
Laird Connectivity	Lyra 24P	Lyra 24P Series - Bluetooth v5.3 PCB Module (20dBm) with RF Trace Pad	453-00148
Laird Connectivity	Lyra 24P	Lyra 24P Series - Bluetooth v5.3 PCB Module (10dBm) with integrated antenna	453-00142

1.1.2 Specification of the Equipment under Test (EUT)

RF General Information				
Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number	Data Rate
2400-2483.5	LE	2402-2480	0-39 [40]	Coding rate 125kbps
				Coding rate 500kbps
				Symbol rate 1Mbps
		2404-2478	37	Symbol rate 2Mbps
Note: Bluetooth LE (Low energy) uses GFSK modulation.				

1.1.3 Antenna Details

Ant. No.	Brand	Model	Type	Connector	2400-2500MHz	Cable loss (dB)
					Gain (dBi)	
1	Laird	NanoBlue	PCB Dipole	IPEX MHF4	2	N/A
2	Laird	FlexPIFA	PCB Dipole	IPEX MHF4	2	N/A
3	Mag.Layers	EDA-8709-2G4C1-B27-CY	Dipole	IPEX MHF4	2.32	0.7
4	Laird	mFlexPIFA	PIFA	IPEX MHF4	2	N/A
5	Laird	Lyra 24P PCB Trace Antenna	PCB Trace	---	1.82	N/A

1.1.4 EUT Operational Condition

Power Supply Type	3.3Vdc from host		
SW Version	Lyra 24P RF trace pin (20dBm) : 480-00292-R24.4.0.1671533880 Lyra 24P Integrated antenna (10dBm) : 480-00232-R24.4.0.1669128176 Lyra 24P Integrated antenna (20dBm) : 480-00263-R24.4.0.1669195240		
Operational Climatic	☒ Tnom (20°C)	☒ Tmax (105°C)	☒ Tmin (-40°C)
Operation Voltage	☒ Vnom (3.3 Vdc)	☒ Vmax (3.8 Vdc)	☒ Vmin (1.8Vdc)

1.1.5 Accessories

N/A

1.1.6 Channel List

BT-LE(Coding rate 125 kbps / Coding rate 500 kbps / Symbol rate 1 Mbps)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
37	2402	9	2422	18	2442	28	2462
0	2404	10	2424	19	2444	29	2464
1	2406	38	2426	20	2446	30	2466
2	2408	11	2428	21	2448	31	2468
3	2410	12	2430	22	2450	32	2470
4	2412	13	2432	23	2452	33	2472
5	2414	14	2434	24	2454	34	2474
6	2416	15	2436	25	2456	35	2476
7	2418	16	2438	26	2458	36	2478
8	2420	17	2440	27	2460	39	2480

BT-LE(Symbol rate 2Mbps)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2404	10	2424	20	2446	30	2466
1	2406	11	2428	21	2448	31	2468
2	2408	12	2430	22	2450	32	2470
3	2410	13	2432	23	2452	33	2472
4	2412	14	2434	24	2454	34	2474
5	2414	15	2436	25	2456	35	2476
6	2416	16	2438	26	2458	36	2478
7	2418	17	2440	27	2460	--	--
8	2420	18	2442	28	2462	--	--
9	2422	19	2444	29	2464	--	--

1.1.7 Test Tool and Duty Cycle

Configuration 1: Laird part number: 453-00142, 10dBm mode

Test Tool	Simplicity Studio	
Modulation Mode	Duty Cycle Of Test Signal (%)	Duty Factor (dB)
BT-LE (Coding rate 125kbps)	84.19%	0.75
BT-LE (Coding rate 500kbps)	55.38%	2.57
BT-LE (Symbol rate 1Mbps)	66.83%	1.75
BT-LE (Symbol rate 2Mbps)	36.30%	4.40

Configuration 2: Laird part number: 453-00145, 10dBm mode

Test Tool	Simplicity Studio	
Modulation Mode	Duty Cycle Of Test Signal (%)	Duty Factor (dB)
BT-LE (Coding rate 125kbps)	84.18%	0.75
BT-LE (Coding rate 500kbps)	54.15%	2.66
BT-LE (Symbol rate 1Mbps)	61.55%	2.11
BT-LE (Symbol rate 2Mbps)	33.00%	4.81

Configuration 3: Laird part number: 453-00148, 10dBm mode

Test Tool	Simplicity Studio	
Modulation Mode	Duty Cycle Of Test Signal (%)	Duty Factor (dB)
BT-LE (Coding rate 125kbps)	84.18%	0.75
BT-LE (Coding rate 500kbps)	54.15%	2.66
BT-LE (Symbol rate 1Mbps)	61.50%	2.11
BT-LE (Symbol rate 2Mbps)	33.00%	4.81

1.1.8 Power Index of Test Tool

Configuration 1: Laird part number: 453-00142, 10dBm mode

Modulation Mode	Test Frequency (MHz)		
	2402	2440	2480
BT-LE(Coding rate 125kbps)	7	7	7
BT-LE(Coding rate 500kbps)	7	7	7
BT-LE(Symbol rate 1Mbps)	7	7	7
Modulation Mode	2404	2440	2478
BT-LE(Symbol rate 2Mbps)	7	7	7

Configuration 2: Laird part number: 453-00145, 10dBm mode

Modulation Mode	Test Frequency (MHz)		
	2402	2440	2480
BT-LE(Coding rate 125kbps)	7	8	8
BT-LE(Coding rate 500kbps)	7	8	8
BT-LE(Symbol rate 1Mbps)	7	8	8
Modulation Mode	2404	2440	2478
BT-LE(Symbol rate 2Mbps)	7	7	8

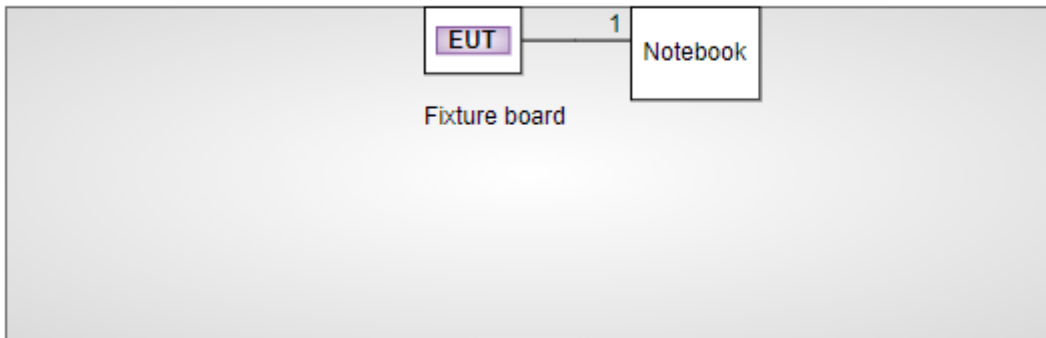
Configuration 3: Laird part number: 453-00148, 10dBm mode

Modulation Mode	Test Frequency (MHz)		
	2402	2440	2480
BT-LE(Coding rate 125kbps)	7	7	7
BT-LE(Coding rate 500kbps)	7	7	7
BT-LE(Symbol rate 1Mbps)	7	7	7
Modulation Mode	2404	2440	2478
BT-LE(Symbol rate 2Mbps)	7	7	7

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	S/N	Remarks
1	Notebook	DELL	Latitude 5400	CXYCM33	---
2	Fixture board	Laird	DVK-Lyra 24P	---	Provided by applicant.

1.3 Test Setup Chart

Test Setup Diagram	
	
No.	Signal cable / Length (m)
1	USB, 1m shielded.

1.4 Test Equipment List and Calibration Data

Test Item	Radiated Emissions				
Test Site	Fully-anechoic chamber 2 / (05CH02-WS)				
Test Date	Apr. 13 ~ Apr. 17, 2023				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	Agilent	N9010A	MY52221474	Nov. 07, 2022	Nov. 06, 2023
Bilog Antenna 30-1000MHz	SCHWARZBECK	VULB9168	9168-563	Mar. 10, 2023	Mar. 09, 2024
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	9120D-1205	Feb. 03, 2023	Feb. 02, 2024
Preamplifier	Agilent	83017A	MY53270013	Feb. 04, 2023	Feb. 03, 2024
Preamplifier	EMC	EMC02325	980146	Oct. 26, 2022	Oct. 25, 2023
RF cable-1M	EMC	EMC104-35M-35M-1000	S/N:210926	Oct. 12, 2022	Oct. 11, 2023
RF cable-1M	EMC	EMC104-35M-35M-1000	S/N:210927	Oct. 12, 2022	Oct. 11, 2023
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22621/4	Oct. 12, 2022	Oct. 11, 2023
RF cable-4M	HUBER+SUHNER	SUCOFLEX104	MY32489/4	Oct. 12, 2022	Oct. 11, 2023
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-002	Oct. 12, 2022	Oct. 11, 2023
LF cable-3M	EMC	EMC8D-NM-NM-3000	131102	Oct. 12, 2022	Oct. 11, 2023
LF cable-10M	EMC	EMC8D-NM-NM-10000	131101	Oct. 12, 2022	Oct. 11, 2023
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	Apr. 12 ~ May 19, 2023				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101486	Mar. 03, 2023	Mar. 02, 2024
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Jun. 22, 2022	Jun. 21, 2023
Power Sensor	Agilent	U2021XA	MY53480019	Mar. 07, 2023	Mar. 06, 2024
Power Sensor	Agilent	U2021XA	MY53510003	Mar. 07, 2023	Mar. 06, 2024
Power Sensor	Agilent	U2021XA	MY54070003	Mar. 27, 2023	Mar. 26, 2024
Power Sensor	Agilent	U2021XA	MY54060013	Mar. 27, 2023	Mar. 26, 2024
RF cable	EMC	EMC104-35M-35M-1000	210928	Oct. 14, 2022	Oct. 13, 2023
RF Cable	EMC	EMC104-35M-35M-1000	210929	Oct. 14, 2022	Oct. 13, 2023
RF Cable	EMC	EMC104-35M-35M-1000	210930	Oct. 14, 2022	Oct. 13, 2023
RF Cable	EMC	EMC104-35M-35M-1000	210931	Oct. 14, 2022	Oct. 13, 2023
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	Receiver Blocking				
Test Site	(05CH02-WS)				
Test Date	Feb. 03, 2023				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Wireless connectivity tester	ROHDE&SCHWARZ	CMW270	100856	Nov. 16, 2022	Nov. 15, 2023
Signal Generator	ROHDE&SCHWARZ	SMB100A	175727	Apr. 07, 2022	Apr. 06, 2023
RF Cable	HUBER+SUHNER	SUCOFLEX_104	500202/4	Oct. 13, 2022	Oct. 12, 2023
RF Cable	HUBER+SUHNER	SUCOFLEX_104	296088/4	Oct. 13, 2022	Oct. 12, 2023
RF Cable	HUBER+SUHNER	SUCOFLEX_104	329023/4	Oct. 13, 2022	Oct. 12, 2023
Combiner(1X2)	WOKEN	2WAYDIV	12101200003	Oct. 13, 2022	Oct. 12, 2023
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	$\pm 0.0034 \%$	$\pm 5 \%$
RF output power, conducted	$\pm 0.592 \text{ dB}$	$\pm 1.5 \text{ dB}$
Power Spectral Density, conducted	$\pm 0.583 \text{ dB}$	$\pm 3 \text{ dB}$
Unwanted Emissions, conducted	$\pm 2.715 \text{ dB}$	$\pm 3 \text{ dB}$
All emissions, radiated	$\pm 3.14 \text{ dB}$	$\pm 6 \text{ dB}$
Temperature	$\pm 0.4 \text{ }^{\circ}\text{C}$	$\pm 3 \text{ }^{\circ}\text{C}$
Supply voltages	$\pm 0.15 \%$	$\pm 3 \%$
Time	$\pm 0.1 \%$	$\pm 5 \%$

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	TH01-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

Test item	Modulation Mode	Test Frequency (MHz)	Test method	TX/ RX	Test Configuration
RF Output Power	BT-LE(Coding rate 125kbp) BT-LE(Coding rate 500kbps) BT-LE(Symbol rate 1Mbps)	2402 / 2440 / 2480 2402 / 2440 / 2480 2402 / 2440 / 2480	Conducted	TX	1, 2, 3
	BT-LE(Symbol rate 2Mbps)	2404 / 2440 / 2478			
Power Spectral Density Occupied Channel Bandwidth	BT-LE(Coding rate 125kbp) BT-LE(Coding rate 500kbps) BT-LE(Symbol rate 1Mbps)	2402 / 2440 / 2480 2402 / 2440 / 2480 2402 / 2440 / 2480	Conducted	TX	1
	BT-LE(Symbol rate 2Mbps)	2404 / 2440 / 2478			
Transmitter unwanted emissions in the out of band domain	BT-LE(Coding rate 125kbp) BT-LE(Coding rate 500kbps) BT-LE(Symbol rate 1Mbps)	2402 / 2480 2402 / 2480 2402 / 2480	Conducted	TX	1
	BT-LE(Symbol rate 2Mbps)	2404 / 2478		TX	1
Transmitter Spurious Emissions	BT-LE(Coding rate 125kbp) BT-LE(Coding rate 500kbps) BT-LE(Symbol rate 1Mbps)	2402 / 2440 / 2480 2402 / 2440 / 2480 2402 / 2440 / 2480	Radiated	TX	1
	BT-LE(Symbol rate 2Mbps)	2404 / 2440 / 2478		TX	1
Receiver Spurious Emissions	BT-LE(Coding rate 125kbp) BT-LE(Coding rate 500kbps) BT-LE(Symbol rate 1Mbps)	2402 / 2440 / 2480 2402 / 2440 / 2480 2402 / 2440 / 2480	Radiated	RX	1
	BT-LE(Symbol rate 2Mbps)	2404 / 2440 / 2478		RX	1
Receiver Blocking	BT-LE(Coding rate 125kbp)	2402 / 2480	Conducted	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 X-plane results were found as the worst case and were shown in this report. 2. The test configurations are listed as follows: 1) Configuration 1: Laird part number: 453-00142, 10dBm, Integrated Antenna 2) Configuration 2: Laird part number: 453-00145, 10dBm, Integrated Antenna 3) Configuration 3: Laird part number: 453-00148, 10dBm, RF Trace Pad (External antenna) 3. Chipset DCDC Bypass mode Mode A: DCDC OFF (LDO ON) Chipset DCDC Regulation mode Mode B: DCDC ON Mode B is the worst case					

3 Transmitter Test Results

3.1 RF Output Power

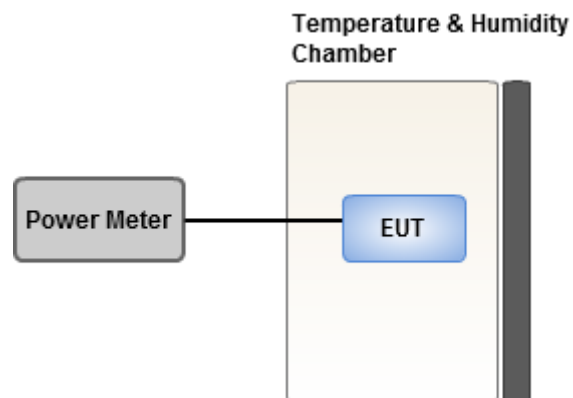
3.1.1 Limit of RF Output Power

The maximum RF output power 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	21°C / 62%	Tested By	Alan Tang
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Refer to Appendix A.

3.2 Power Spectral Density

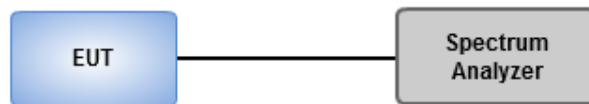
3.2.1 Limit of Power Spectral Density

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	21°C / 62%	Tested By	Alan Tang
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Refer to Appendix B.

3.3 Occupied Channel Bandwidth

3.3.1 Limit of Occupied Channel Bandwidth

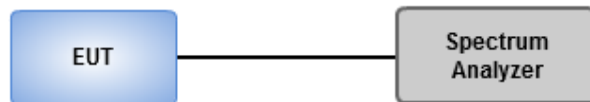
The Occupied Channel Bandwidth shall fall completely within 2.4~2.4835 GHz.

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



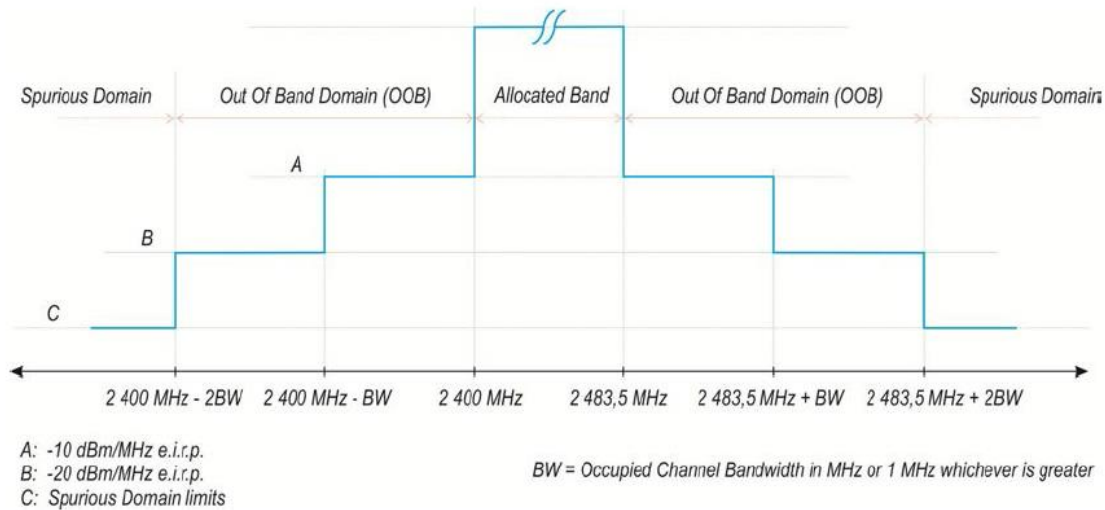
3.3.4 Test Results

Ambient Condition	21°C / 62%	Tested By	Alan Tang
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Refer to Appendix C.

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

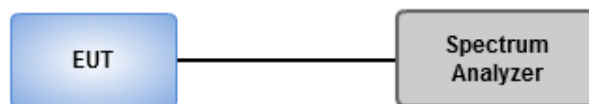
3.4.1 Limit of Transmitter Unwanted Emissions in the Out-Of-Band Domain



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	21°C / 62%	Tested By	Alan Tang
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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

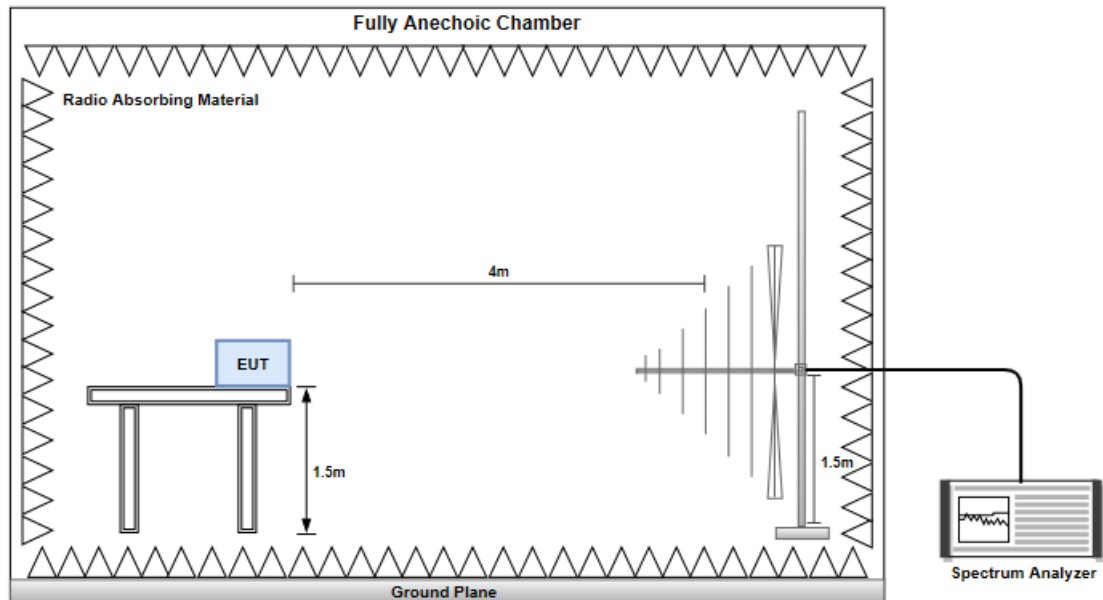
Frequency Range (MHz)	Maximum power (dBm)	Bandwidth (kHz)
30 to 47	-36	100
47 to 74	-54	100
74 to 87,5	-36	100
87,5 to 118	-54	100
118 to 174	-36	100
174 to 230	-54	100
230 to 470	-36	100
470 to 694	-54	100
694 to 1000	-36	100
1000 to 12750	-30	1000

3.5.2 Test Procedures

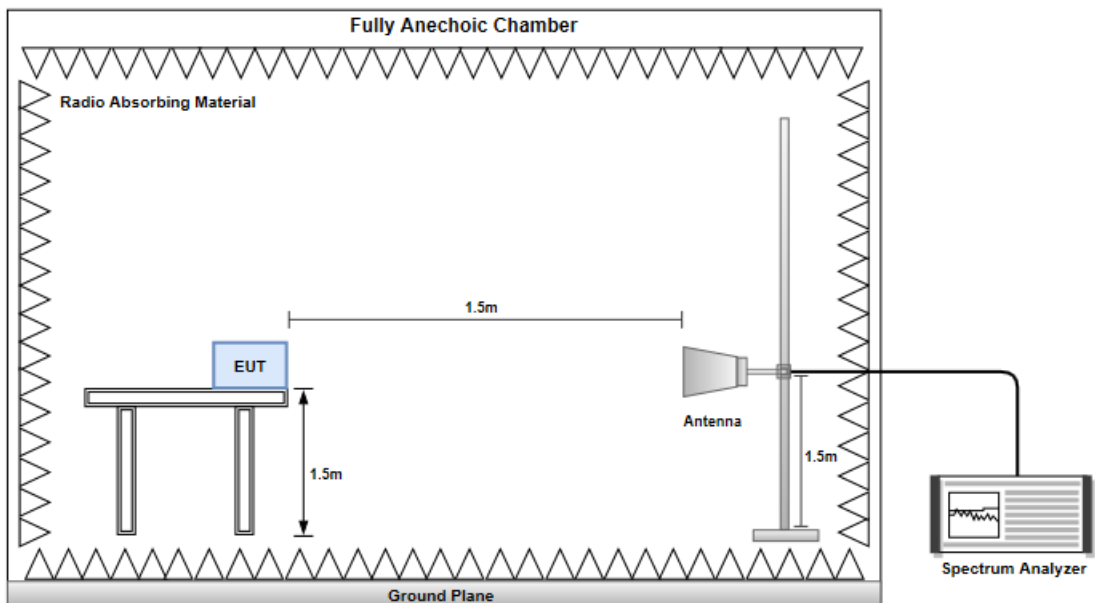
Reference to clause 5.4.9.2 of ETSI EN 300 328 V2.2.2 (2019-07).

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

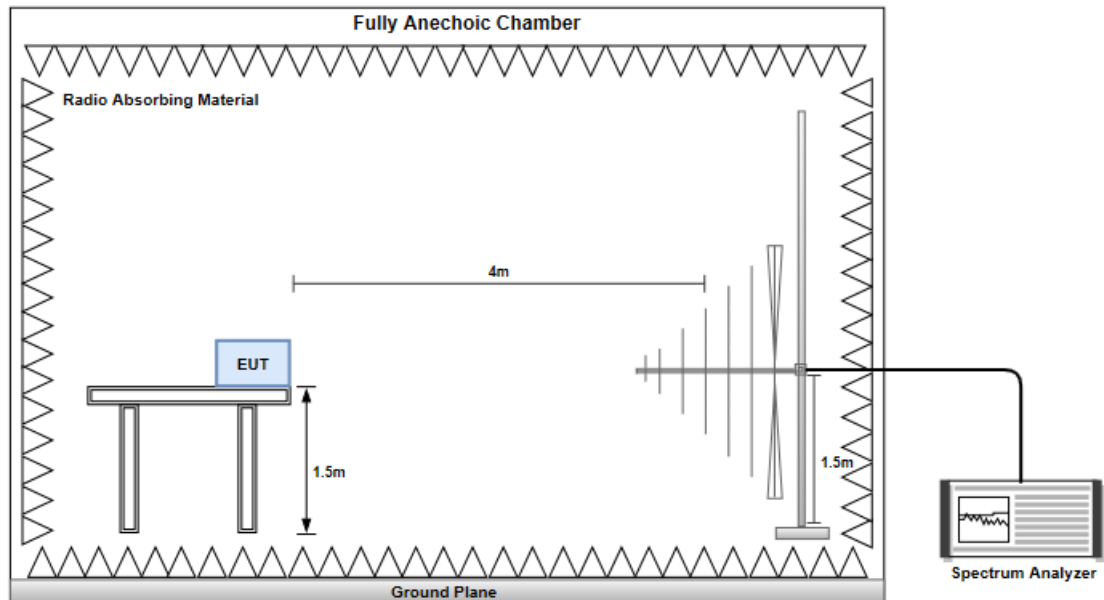
Frequency Range	Maximum power (dBm)	Measurement bandwidth (kHz)
30 MHz to 1 GHz	-57	100
Above 1 GHz to 12,75 GHz	-47	1000

4.1.2 Test Procedures

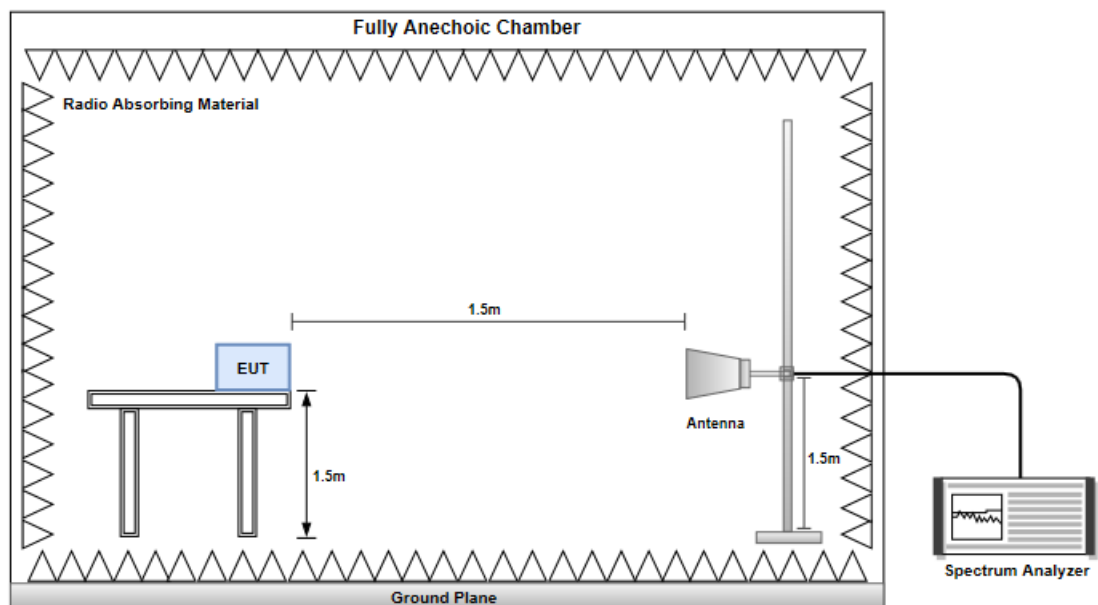
Reference to clause 5.4.10.2 of ETSI EN 300 328 V2.2.2 (2019-07).

4.1.3 Test Setup

Below 1GHz



Above 1 GHz



4.1.4 Test Results

Refer to Appendix F.

5 Receiver Blocking Test Results

5.1 Receiver Blocking

5.1.1 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.			

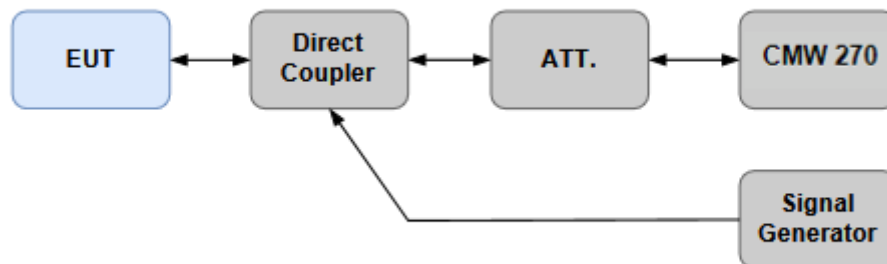
Receiver Blocking Parameters for Receiver Category 2 Equipment Limit			
Wanted Signal Mean Power from Companion Device (dBm) (see notes 1 and 3)	Blocking Signal Frequency (MHz)	Blocking Signal Power (dBm) (see note 3)	Type of Blocking Signal
$(-139 \text{ dBm} + 10 \times \log_{10}(\text{OCBW}) + 10 \text{ dB})$ or $(-74 \text{ dBm} + 10 \text{ dB})$ 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 $P_{\min} + 26 \text{ dB}$ 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
$(-139 \text{ dBm} + 10 \times \log_{10}(\text{OCBW}) + 20 \text{ dB})$ or $(-74 \text{ dBm} + 20 \text{ dB})$ 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 $P_{\min} + 30 \text{ dB}$ 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.			

5.1.2 Test Procedures

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

5.1.3 Test Setup



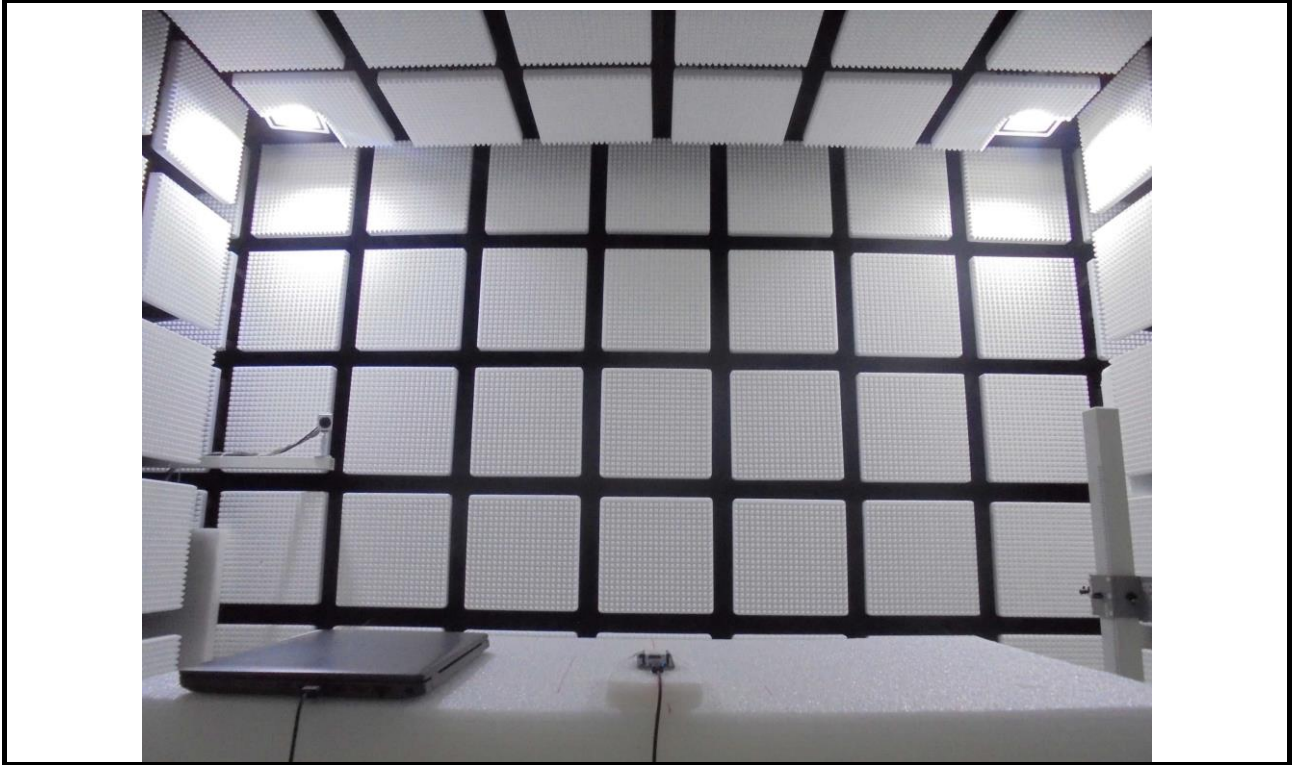
5.1.4 Test Results

Ambient Condition	25°C / 65%	Tested By	Hugo Zhen
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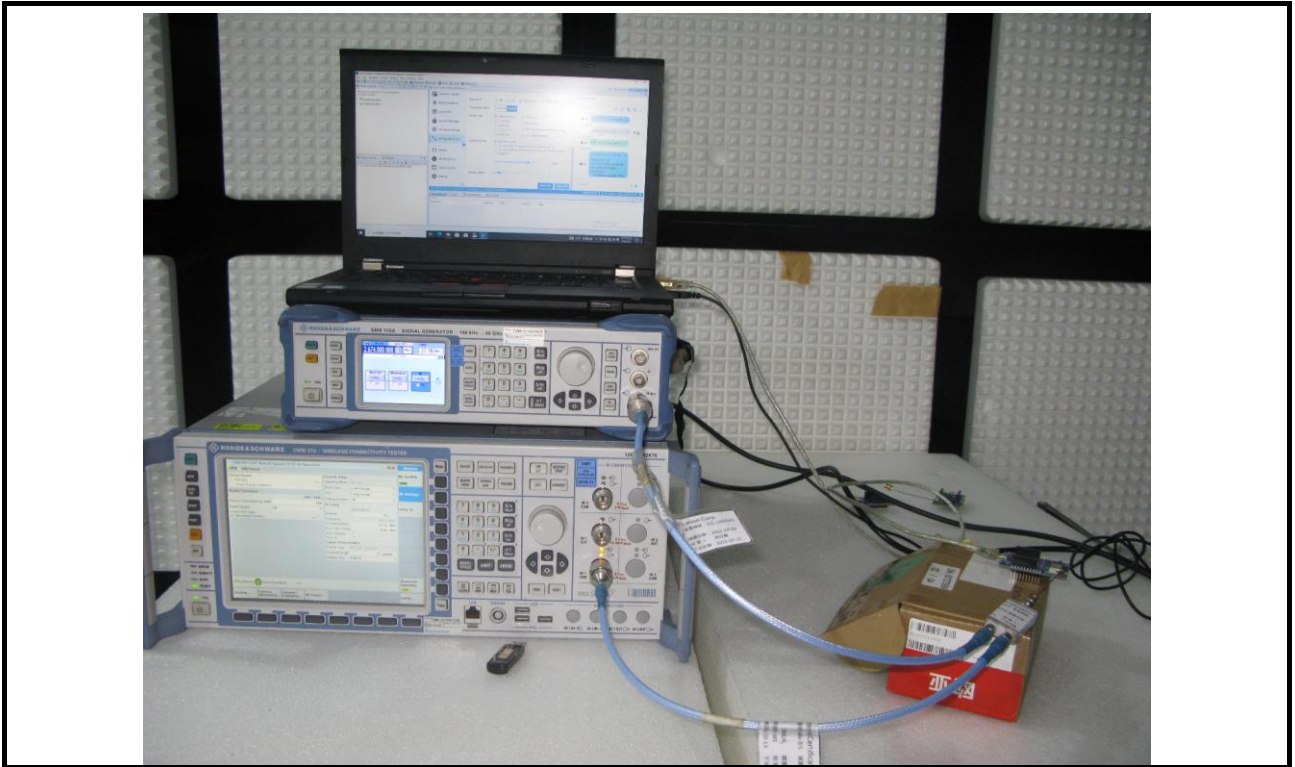
Refer to Appendix G.

6 Photographs of the Test Configuration

Spurious Emission Test



Receiver Blocking Test



7 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: 453-00142, 10dBm, Integrated Antenna

RF Output Power (dBm)					
Condition	Modulation Mode	Freq. (MHz)	EIRP Power (dBm)	Limit (dBm)	Results
T _{nom} V _{nom}	BT-LE(125kbps)	2402	9.57	20	Pass
T _{min} V _{nom}	BT-LE(125kbps)	2402	9.50	20	Pass
T _{max} V _{nom}	BT-LE(125kbps)	2402	9.64	20	Pass
T _{nom} V _{nom}	BT-LE(125kbps)	2440	9.51	20	Pass
T _{min} V _{nom}	BT-LE(125kbps)	2440	9.47	20	Pass
T _{max} V _{nom}	BT-LE(125kbps)	2440	9.57	20	Pass
T _{nom} V _{nom}	BT-LE(125kbps)	2480	9.48	20	Pass
T _{min} V _{nom}	BT-LE(125kbps)	2480	9.40	20	Pass
T _{max} V _{nom}	BT-LE(125kbps)	2480	9.54	20	Pass
T _{nom} V _{nom}	BT-LE(500kbps)	2402	9.57	20	Pass
T _{min} V _{nom}	BT-LE(500kbps)	2402	9.50	20	Pass
T _{max} V _{nom}	BT-LE(500kbps)	2402	9.64	20	Pass
T _{nom} V _{nom}	BT-LE(500kbps)	2440	9.53	20	Pass
T _{min} V _{nom}	BT-LE(500kbps)	2440	9.54	20	Pass
T _{max} V _{nom}	BT-LE(500kbps)	2440	9.62	20	Pass
T _{nom} V _{nom}	BT-LE(500kbps)	2480	9.49	20	Pass
T _{min} V _{nom}	BT-LE(500kbps)	2480	9.46	20	Pass
T _{max} V _{nom}	BT-LE(500kbps)	2480	9.55	20	Pass

Note:

- 1) Test method is conducted.
- 2) EIRP = Measured conducted power + Antenna gain. (1.82dBi)

RF Output Power (dBm)					
Condition	Modulation Mode	Freq. (MHz)	EIRP Power (dBm)	Limit (dBm)	Results
T _{nom} V _{nom}	BT-LE(1Mbps)	2402	9.57	20	Pass
T _{min} V _{nom}	BT-LE(1Mbps)	2402	9.56	20	Pass
T _{max} V _{nom}	BT-LE(1Mbps)	2402	9.67	20	Pass
T _{nom} V _{nom}	BT-LE(1Mbps)	2440	9.52	20	Pass
T _{min} V _{nom}	BT-LE(1Mbps)	2440	9.47	20	Pass
T _{max} V _{nom}	BT-LE(1Mbps)	2440	9.58	20	Pass
T _{nom} V _{nom}	BT-LE(1Mbps)	2480	9.48	20	Pass
T _{min} V _{nom}	BT-LE(1Mbps)	2480	9.45	20	Pass
T _{max} V _{nom}	BT-LE(1Mbps)	2480	9.54	20	Pass
T _{nom} V _{nom}	BT-LE(2Mbps)	2402	9.58	20	Pass
T _{min} V _{nom}	BT-LE(2Mbps)	2402	9.51	20	Pass
T _{max} V _{nom}	BT-LE(2Mbps)	2402	9.64	20	Pass
T _{nom} V _{nom}	BT-LE(2Mbps)	2440	9.53	20	Pass
T _{min} V _{nom}	BT-LE(2Mbps)	2440	9.48	20	Pass
T _{max} V _{nom}	BT-LE(2Mbps)	2440	9.57	20	Pass
T _{nom} V _{nom}	BT-LE(2Mbps)	2480	9.50	20	Pass
T _{min} V _{nom}	BT-LE(2Mbps)	2480	9.48	20	Pass
T _{max} V _{nom}	BT-LE(2Mbps)	2480	9.59	20	Pass

Note:

- 3) Test method is conducted.
- 4) EIRP = Measured conducted power + Antenna gain. (1.82dBi)

Configuration 2: Laird part number: 453-00145, 10dBm, Integrated Antenna

RF Output Power (dBm)					
Condition	Modulation Mode	Freq. (MHz)	EIRP Power (dBm)	Limit (dBm)	Results
T _{nom} V _{nom}	BT-LE(125kbps)	2402	9.25	20	Pass
T _{min} V _{nom}	BT-LE(125kbps)	2402	9.15	20	Pass
T _{max} V _{nom}	BT-LE(125kbps)	2402	9.30	20	Pass
T _{nom} V _{nom}	BT-LE(125kbps)	2440	9.95	20	Pass
T _{min} V _{nom}	BT-LE(125kbps)	2440	9.89	20	Pass
T _{max} V _{nom}	BT-LE(125kbps)	2440	9.98	20	Pass
T _{nom} V _{nom}	BT-LE(125kbps)	2480	9.80	20	Pass
T _{min} V _{nom}	BT-LE(125kbps)	2480	9.70	20	Pass
T _{max} V _{nom}	BT-LE(125kbps)	2480	9.84	20	Pass
T _{nom} V _{nom}	BT-LE(500kbps)	2402	9.25	20	Pass
T _{min} V _{nom}	BT-LE(500kbps)	2402	9.19	20	Pass
T _{max} V _{nom}	BT-LE(500kbps)	2402	9.29	20	Pass
T _{nom} V _{nom}	BT-LE(500kbps)	2440	9.95	20	Pass
T _{min} V _{nom}	BT-LE(500kbps)	2440	9.81	20	Pass
T _{max} V _{nom}	BT-LE(500kbps)	2440	9.97	20	Pass
T _{nom} V _{nom}	BT-LE(500kbps)	2480	9.81	20	Pass
T _{min} V _{nom}	BT-LE(500kbps)	2480	9.74	20	Pass
T _{max} V _{nom}	BT-LE(500kbps)	2480	9.85	20	Pass

Note:

- 1) Test method is conducted.
- 2) EIRP = Measured conducted power + Antenna gain. (1.82dBi)

RF Output Power (dBm)					
Condition	Modulation Mode	Freq. (MHz)	EIRP Power (dBm)	Limit (dBm)	Results
T _{nom} V _{nom}	BT-LE(1Mbps)	2402	9.25	20	Pass
T _{min} V _{nom}	BT-LE(1Mbps)	2402	9.20	20	Pass
T _{max} V _{nom}	BT-LE(1Mbps)	2402	9.31	20	Pass
T _{nom} V _{nom}	BT-LE(1Mbps)	2440	9.95	20	Pass
T _{min} V _{nom}	BT-LE(1Mbps)	2440	9.93	20	Pass
T _{max} V _{nom}	BT-LE(1Mbps)	2440	9.98	20	Pass
T _{nom} V _{nom}	BT-LE(1Mbps)	2480	9.81	20	Pass
T _{min} V _{nom}	BT-LE(1Mbps)	2480	9.77	20	Pass
T _{max} V _{nom}	BT-LE(1Mbps)	2480	9.86	20	Pass
T _{nom} V _{nom}	BT-LE(2Mbps)	2402	9.26	20	Pass
T _{min} V _{nom}	BT-LE(2Mbps)	2402	9.11	20	Pass
T _{max} V _{nom}	BT-LE(2Mbps)	2402	9.33	20	Pass
T _{nom} V _{nom}	BT-LE(2Mbps)	2440	9.09	20	Pass
T _{min} V _{nom}	BT-LE(2Mbps)	2440	9.06	20	Pass
T _{max} V _{nom}	BT-LE(2Mbps)	2440	9.12	20	Pass
T _{nom} V _{nom}	BT-LE(2Mbps)	2480	9.85	20	Pass
T _{min} V _{nom}	BT-LE(2Mbps)	2480	9.81	20	Pass
T _{max} V _{nom}	BT-LE(2Mbps)	2480	9.93	20	Pass

Note:

- 1) Test method is conducted.
- 2) EIRP = Measured conducted power + Antenna gain. (1.82dBi)

Configuration 3: Laird part number: 453-00148, 10dBm, RF Trace Pad (External antenna)

RF Output Power (dBm)					
Condition	Modulation Mode	Freq. (MHz)	EIRP Power (dBm)	Limit (dBm)	Results
T _{nom} V _{nom}	BT-LE(125kbps)	2402	9.58	20	Pass
T _{min} V _{nom}	BT-LE(125kbps)	2402	9.54	20	Pass
T _{max} V _{nom}	BT-LE(125kbps)	2402	9.65	20	Pass
T _{nom} V _{nom}	BT-LE(125kbps)	2440	9.40	20	Pass
T _{min} V _{nom}	BT-LE(125kbps)	2440	9.36	20	Pass
T _{max} V _{nom}	BT-LE(125kbps)	2440	9.45	20	Pass
T _{nom} V _{nom}	BT-LE(125kbps)	2480	9.20	20	Pass
T _{min} V _{nom}	BT-LE(125kbps)	2480	9.13	20	Pass
T _{max} V _{nom}	BT-LE(125kbps)	2480	9.25	20	Pass
T _{nom} V _{nom}	BT-LE(500kbps)	2402	9.58	20	Pass
T _{min} V _{nom}	BT-LE(500kbps)	2402	9.54	20	Pass
T _{max} V _{nom}	BT-LE(500kbps)	2402	9.65	20	Pass
T _{nom} V _{nom}	BT-LE(500kbps)	2440	9.40	20	Pass
T _{min} V _{nom}	BT-LE(500kbps)	2440	9.38	20	Pass
T _{max} V _{nom}	BT-LE(500kbps)	2440	9.47	20	Pass
T _{nom} V _{nom}	BT-LE(500kbps)	2480	9.20	20	Pass
T _{min} V _{nom}	BT-LE(500kbps)	2480	9.18	20	Pass
T _{max} V _{nom}	BT-LE(500kbps)	2480	9.25	20	Pass

Note:

- 1) Test method is conducted.
- 2) EIRP = Measured conducted power + Antenna gain. (2dBi)

RF Output Power (dBm)					
Condition	Modulation Mode	Freq. (MHz)	EIRP Power (dBm)	Limit (dBm)	Results
T _{nom} V _{nom}	BT-LE(1Mbps)	2402	9.58	20	Pass
T _{min} V _{nom}	BT-LE(1Mbps)	2402	9.52	20	Pass
T _{max} V _{nom}	BT-LE(1Mbps)	2402	9.59	20	Pass
T _{nom} V _{nom}	BT-LE(1Mbps)	2440	9.40	20	Pass
T _{min} V _{nom}	BT-LE(1Mbps)	2440	9.36	20	Pass
T _{max} V _{nom}	BT-LE(1Mbps)	2440	9.42	20	Pass
T _{nom} V _{nom}	BT-LE(1Mbps)	2480	9.20	20	Pass
T _{min} V _{nom}	BT-LE(1Mbps)	2480	9.16	20	Pass
T _{max} V _{nom}	BT-LE(1Mbps)	2480	9.23	20	Pass
T _{nom} V _{nom}	BT-LE(2Mbps)	2402	9.59	20	Pass
T _{min} V _{nom}	BT-LE(2Mbps)	2402	9.56	20	Pass
T _{max} V _{nom}	BT-LE(2Mbps)	2402	9.65	20	Pass
T _{nom} V _{nom}	BT-LE(2Mbps)	2440	9.42	20	Pass
T _{min} V _{nom}	BT-LE(2Mbps)	2440	9.39	20	Pass
T _{max} V _{nom}	BT-LE(2Mbps)	2440	9.44	20	Pass
T _{nom} V _{nom}	BT-LE(2Mbps)	2480	9.25	20	Pass
T _{min} V _{nom}	BT-LE(2Mbps)	2480	9.20	20	Pass
T _{max} V _{nom}	BT-LE(2Mbps)	2480	9.28	20	Pass

Note:

- 1) Test method is conducted.
- 2) EIRP = Measured conducted power + Antenna gain. (2dBi)

**Summary**

Mode	EIRP PD (dBm/MHz)
2.4-2.4835GHz	-
BT-LE(125kbps)	9.51

RBW=1MHz

Result

Mode	Result	Gain (dBi)	PD (dBm/MHz)	EIRP PD (dBm/MHz)	EIRP PD Limit (dBm/MHz)
BT-LE(125kbps)	-	-	-	-	-
2402MHz_Tnom	Pass	1.82	7.69	9.51	10.00
2440MHz_Tnom	Pass	1.82	7.63	9.45	10.00
2480MHz_Tnom	Pass	1.82	7.60	9.42	10.00

RBW=1MHz;

Port X = Port X power density;

**Summary**

Mode	EIRP PD (dBm/MHz)
2.4-2.4835GHz	-
BT-LE(500kbps)	9.52

RBW=1MHz

Result

Mode	Result	Gain (dBi)	PD (dBm/MHz)	EIRP PD (dBm/MHz)	EIRP PD Limit (dBm/MHz)
BT-LE(500kbps)	-	-	-	-	-
2402MHz_Tnom	Pass	1.82	7.70	9.52	10.00
2440MHz_Tnom	Pass	1.82	7.65	9.47	10.00
2480MHz_Tnom	Pass	1.82	7.62	9.44	10.00

RBW=1MHz;

Port X = Port X power density;

**Summary**

Mode	EIRP PD (dBm/MHz)
2.4-2.4835GHz	-
BT-LE(1Mbps)	9.51

RBW=1MHz

Result

Mode	Result	Gain (dBi)	PD (dBm/MHz)	EIRP PD (dBm/MHz)	EIRP PD Limit (dBm/MHz)
BT-LE(1Mbps)	-	-	-	-	-
2402MHz_Tnom	Pass	1.82	7.69	9.51	10.00
2440MHz_Tnom	Pass	1.82	7.64	9.46	10.00
2480MHz_Tnom	Pass	1.82	7.60	9.42	10.00

RBW=1MHz;

Port X = Port X power density;

**Summary**

Mode	EIRP PD (dBm/MHz)
2.4-2.4835GHz	-
BT-LE(2Mbps)	9.96

RBW=1MHz

Result

Mode	Result	Gain (dBi)	PD (dBm/MHz)	EIRP PD (dBm/MHz)	EIRP PD Limit (dBm/MHz)
BT-LE(2Mbps)	-	-	-	-	-
2404MHz_Tnom	Pass	1.82	7.64	9.46	10.00
2440MHz_Tnom	Pass	1.82	7.58	9.40	10.00
2478MHz_Tnom	Pass	1.82	8.14	9.96	10.00

RBW=1MHz;

Port X = Port X power density;

**Summary**

Mode	OBW (Hz)	ITU-Code
2.4-2.4835GHz	-	-
BT-LE(125kbps)	1.034M	1M03F1D

OBW = 99% occupied bandwidth

Result

Mode	Result	Limit (Hz)	fl-OBW (Hz)	fh-OBW (Hz)	OBW (Hz)
BT-LE(125kbps)	-	-	-	-	-
2402MHz_Tnom	Pass	2.4-2.4835G	2.401483G	2.402516G	1.034M
2440MHz_Tnom	Pass	2.4-2.4835G	2.439483G	2.440515G	1.032M
2480MHz_Tnom	Pass	2.4-2.4835G	2.479485G	2.480514G	1.029M

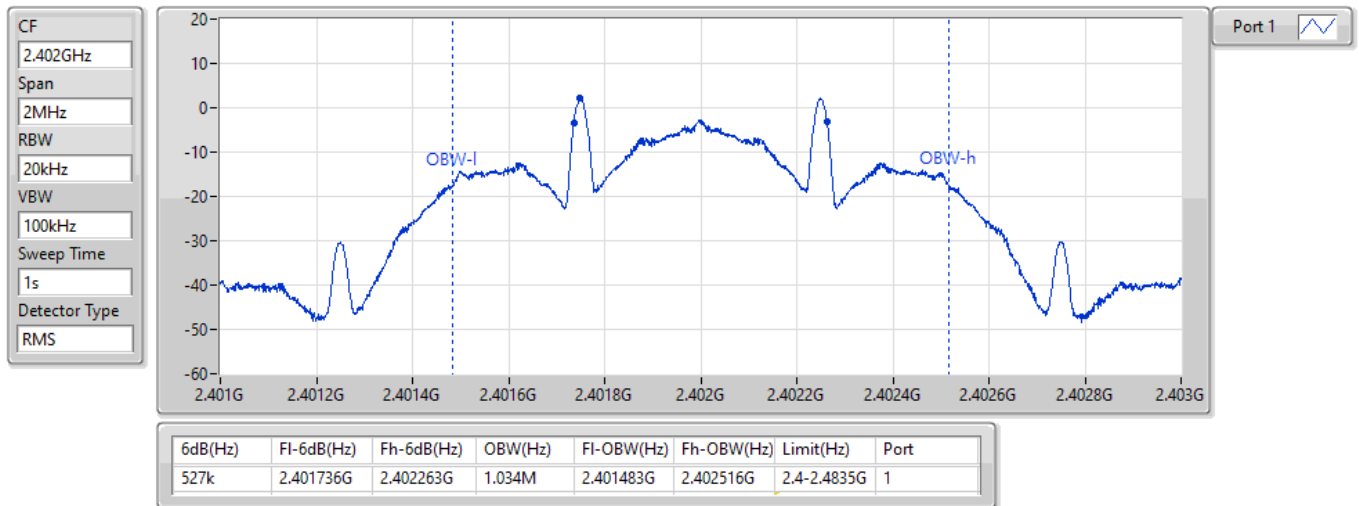
fl-OBW = fl lower edge 99% occupied bandwidth; fh-OBW = fh higher edge 99% occupied bandwidth; OBW = 99% occupied bandwidth;

N dB = 6dB down bandwidth

BT-LE(125kbps)

EBW-DTS

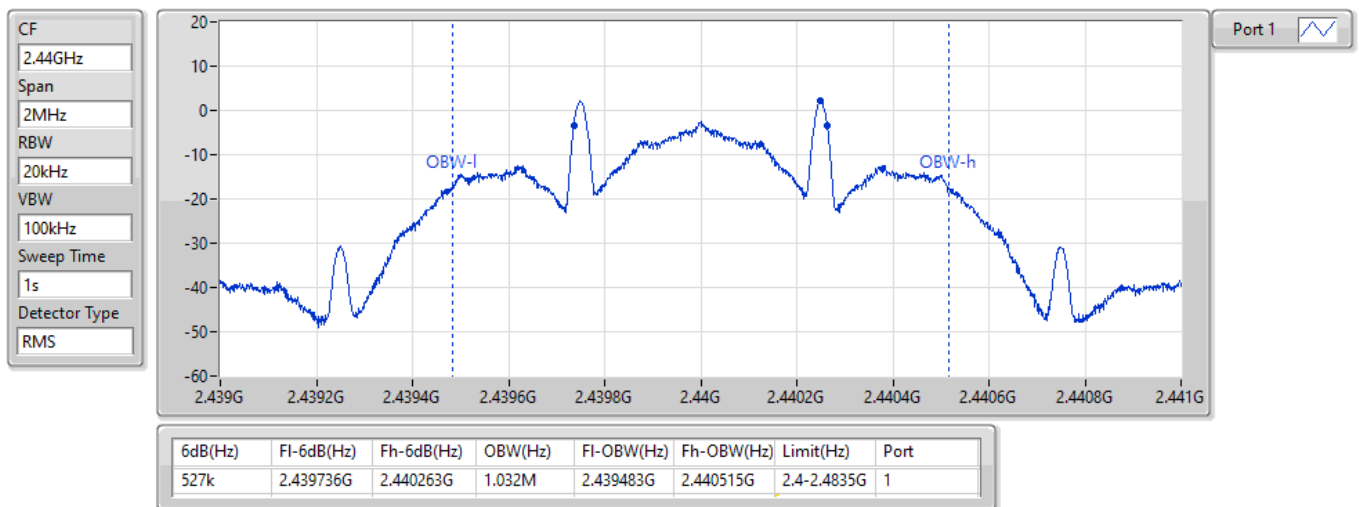
2402MHz



BT-LE(125kbps)

EBW-DTS

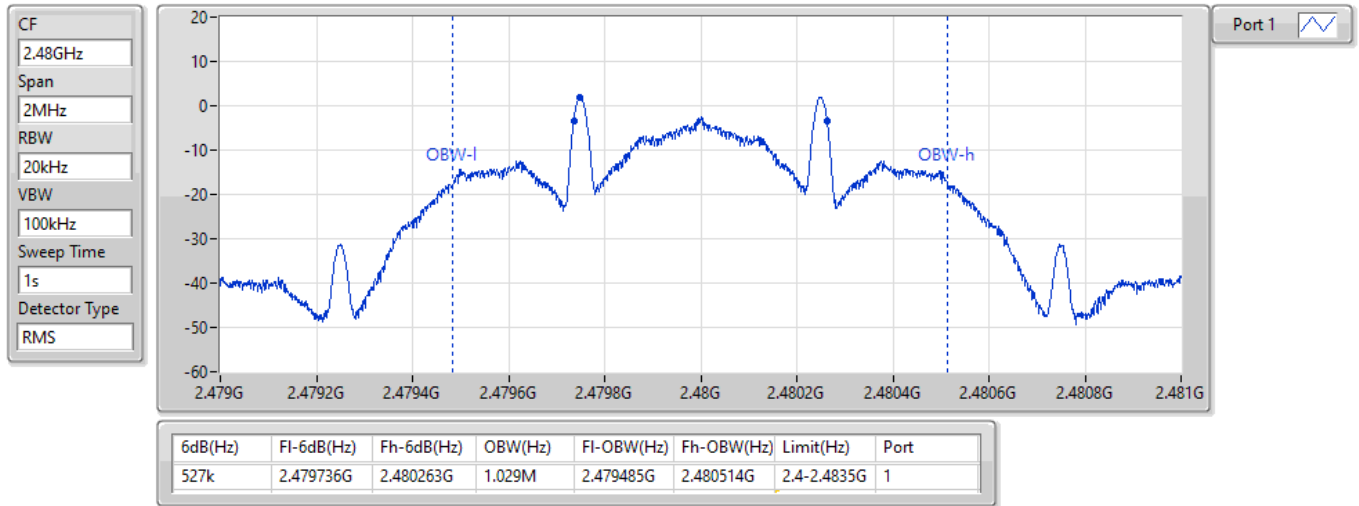
2440MHz



BT-LE(125kbps)

EBW-DTS

2480MHz



**Summary**

Mode	OBW (Hz)	ITU-Code
2.4-2.4835GHz	-	-
BT-LE(500kbps)	1.004M	1M00F1D

OBW = 99% occupied bandwidth

Result

Mode	Result	Limit (Hz)	fl-OBW (Hz)	fh-OBW (Hz)	OBW (Hz)
BT-LE(500kbps)	-	-	-	-	-
2402MHz_Tnom	Pass	2.4-2.4835G	2.401501G	2.402505G	1.004M
2440MHz_Tnom	Pass	2.4-2.4835G	2.439501G	2.440505G	1.004M
2480MHz_Tnom	Pass	2.4-2.4835G	2.479501G	2.480505G	1.004M

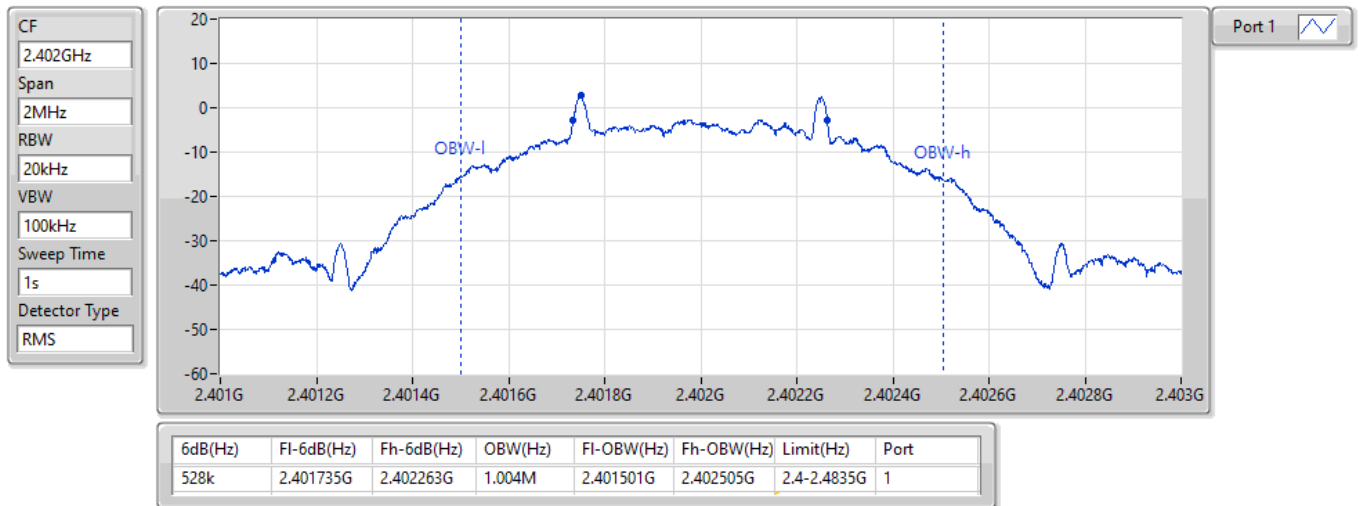
fl-OBW = fl lower edge 99% occupied bandwidth; fh-OBW = fh higher edge 99% occupied bandwidth; OBW = 99% occupied bandwidth;

N dB = 6dB down bandwidth

BT-LE(500kbps)

EBW-DTS

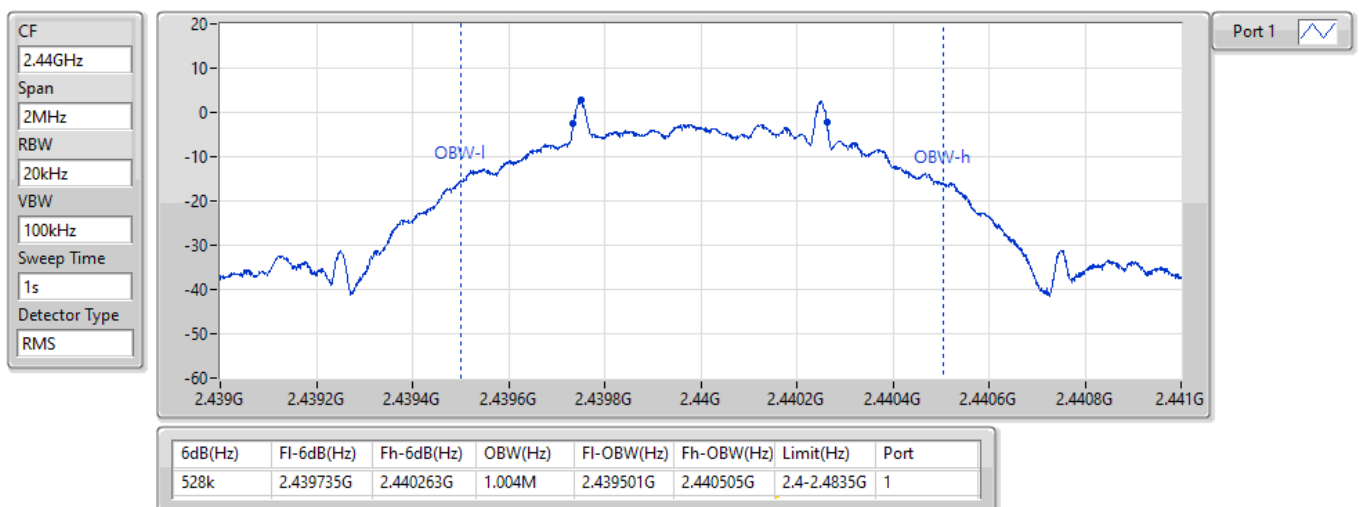
2402MHz



BT-LE(500kbps)

EBW-DTS

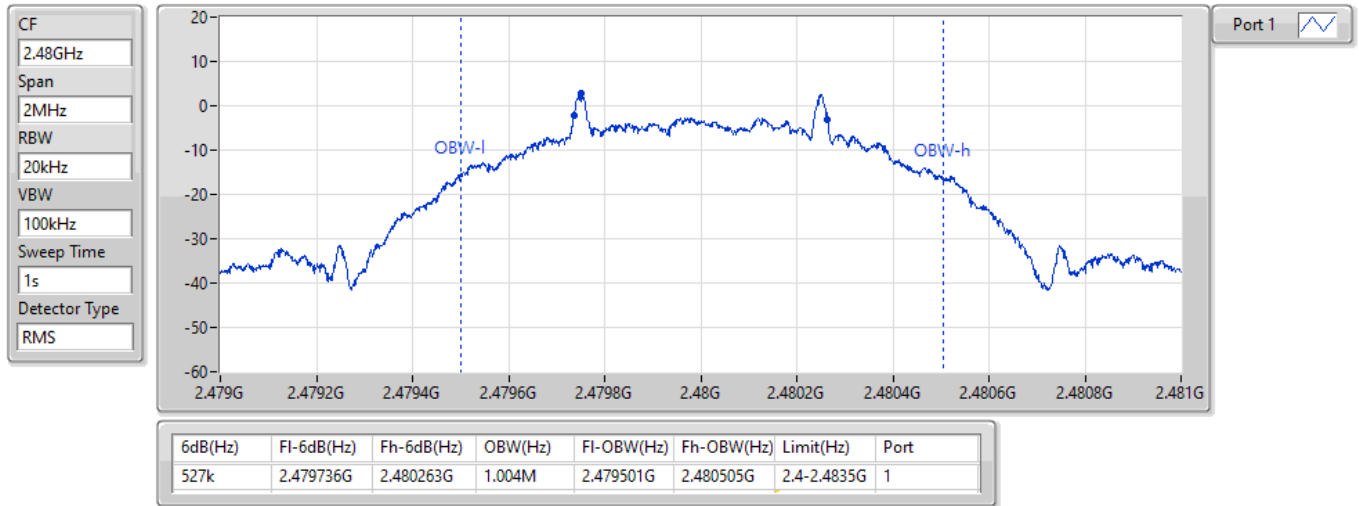
2440MHz



BT-LE(500kbps)

EBW-DTS

2480MHz



**Summary**

Mode	OBW (Hz)	ITU-Code
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	1.025M	1M03F1D

OBW = 99% occupied bandwidth

Result

Mode	Result	Limit (Hz)	fl-OBW (Hz)	fh-OBW (Hz)	OBW (Hz)
BT-LE(1Mbps)	-	-	-	-	-
2402MHz_Tnom	Pass	2.4-2.4835G	2.4015G	2.402525G	1.025M
2440MHz_Tnom	Pass	2.4-2.4835G	2.4395G	2.440525G	1.025M
2480MHz_Tnom	Pass	2.4-2.4835G	2.479499G	2.480525G	1.025M

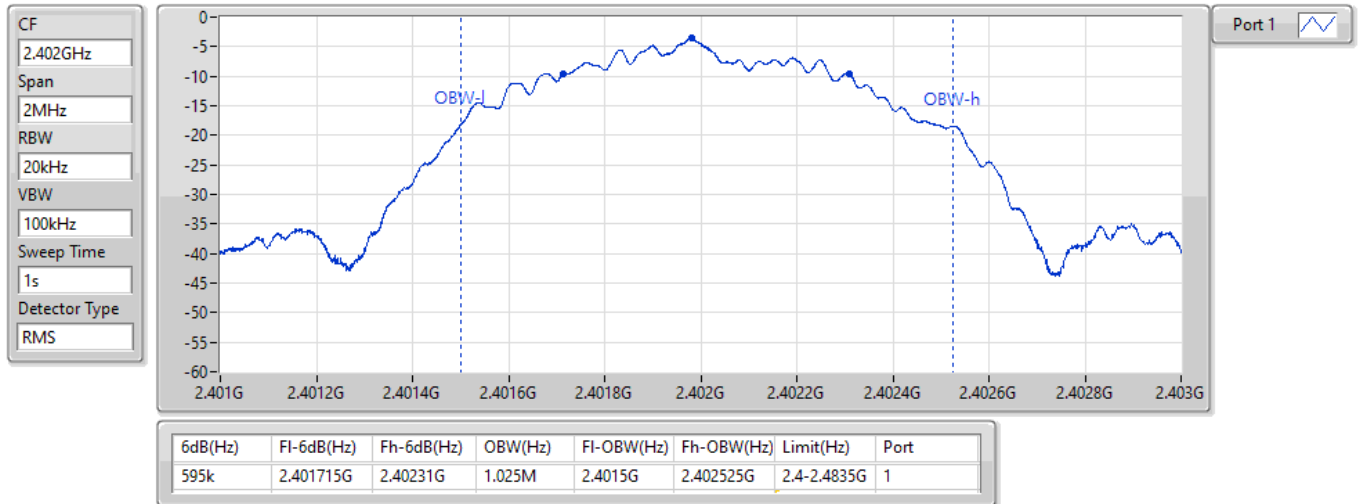
fl-OBW = fl lower edge 99% occupied bandwidth; fh-OBW = fh higher edge 99% occupied bandwidth; OBW = 99% occupied bandwidth;

N dB = 6dB down bandwidth

BT-LE(1Mbps)

EBW-DTS

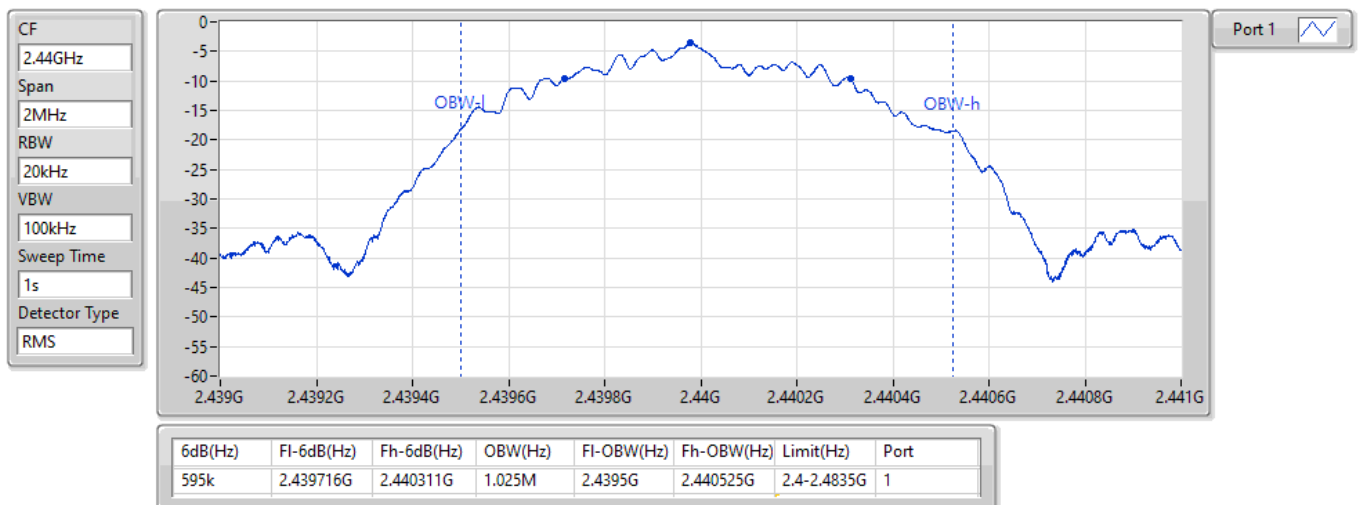
2402MHz



BT-LE(1Mbps)

EBW-DTS

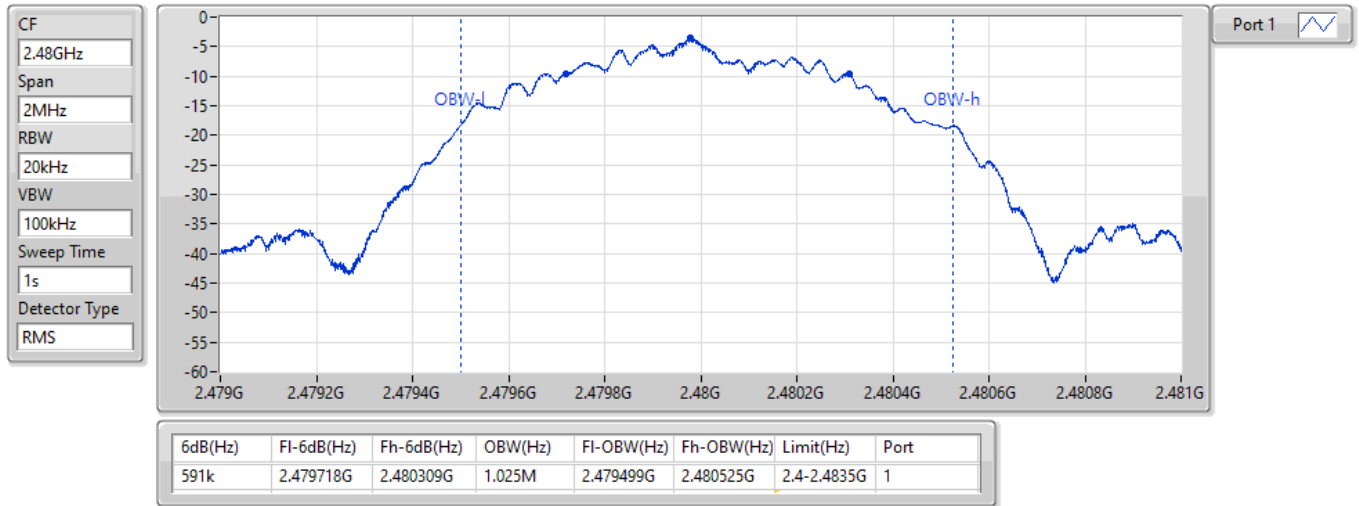
2440MHz



BT-LE(1Mbps)

EBW-DTS

2480MHz



**Summary**

Mode	OBW (Hz)	ITU-Code
2.4-2.4835GHz	-	-
BT-LE(2Mbps)	2.076M	2M08F1D

OBW = 99% occupied bandwidth

Result

Mode	Result	Limit (Hz)	fl-OBW (Hz)	fh-OBW (Hz)	OBW (Hz)
BT-LE(2Mbps)	-	-	-	-	-
2404MHz_Tnom	Pass	2.4-2.4835G	2.40299G	2.405057G	2.067M
2440MHz_Tnom	Pass	2.4-2.4835G	2.438987G	2.441059G	2.072M
2478MHz_Tnom	Pass	2.4-2.4835G	2.476985G	2.479061G	2.076M

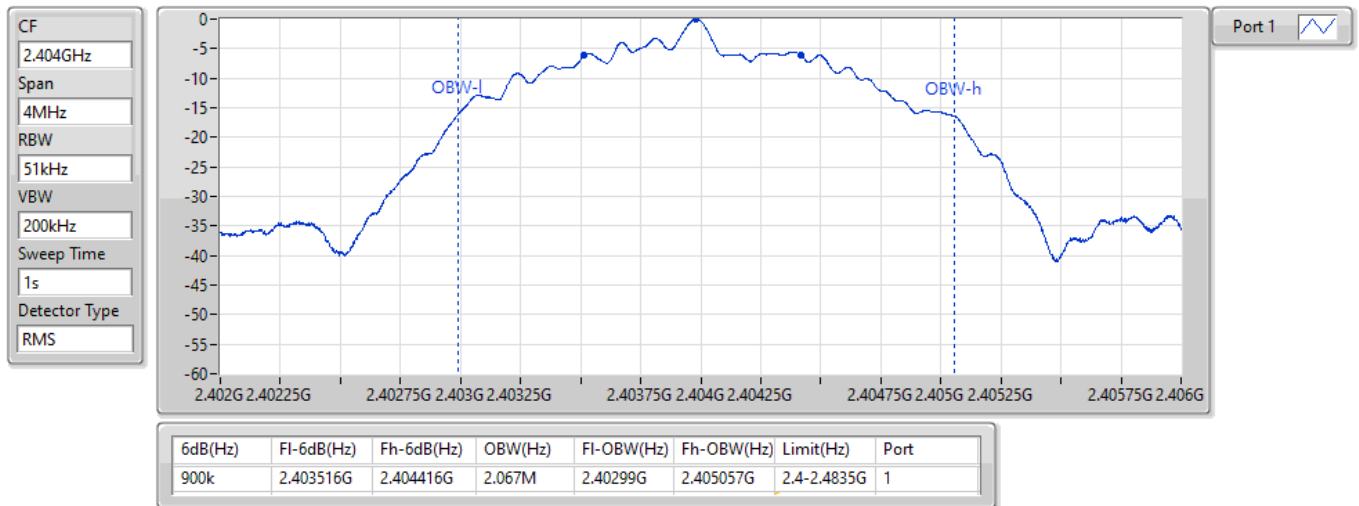
fl-OBW = fl lower edge 99% occupied bandwidth; fh-OBW = fh higher edge 99% occupied bandwidth; OBW = 99% occupied bandwidth;

N dB = 6dB down bandwidth

BT-LE(2Mbps)

EBW-DTS

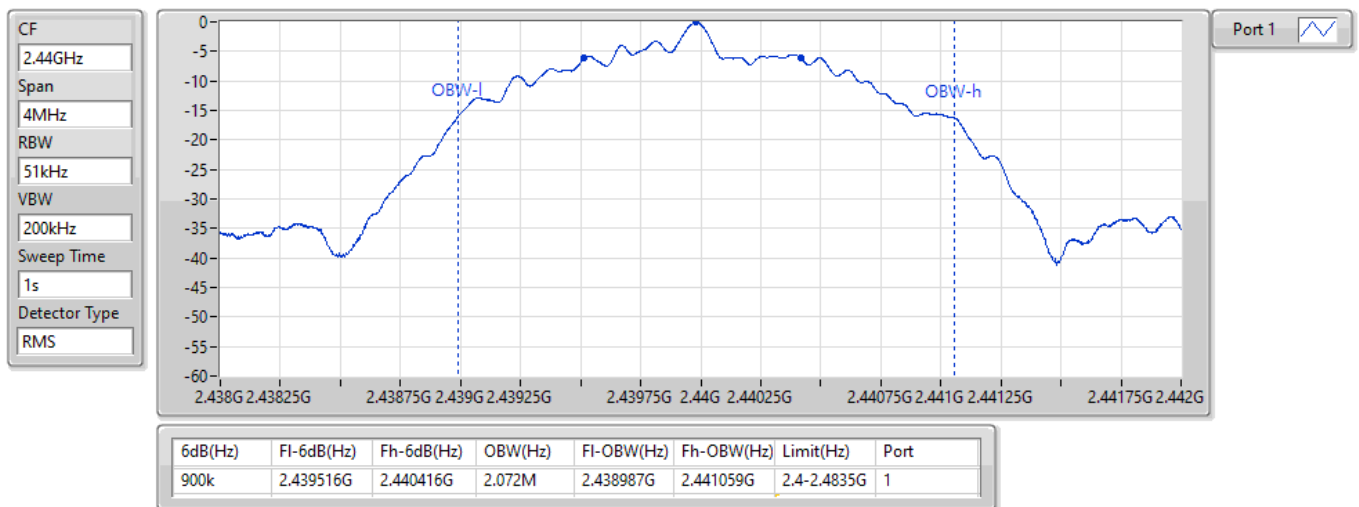
2404MHz



BT-LE(2Mbps)

EBW-DTS

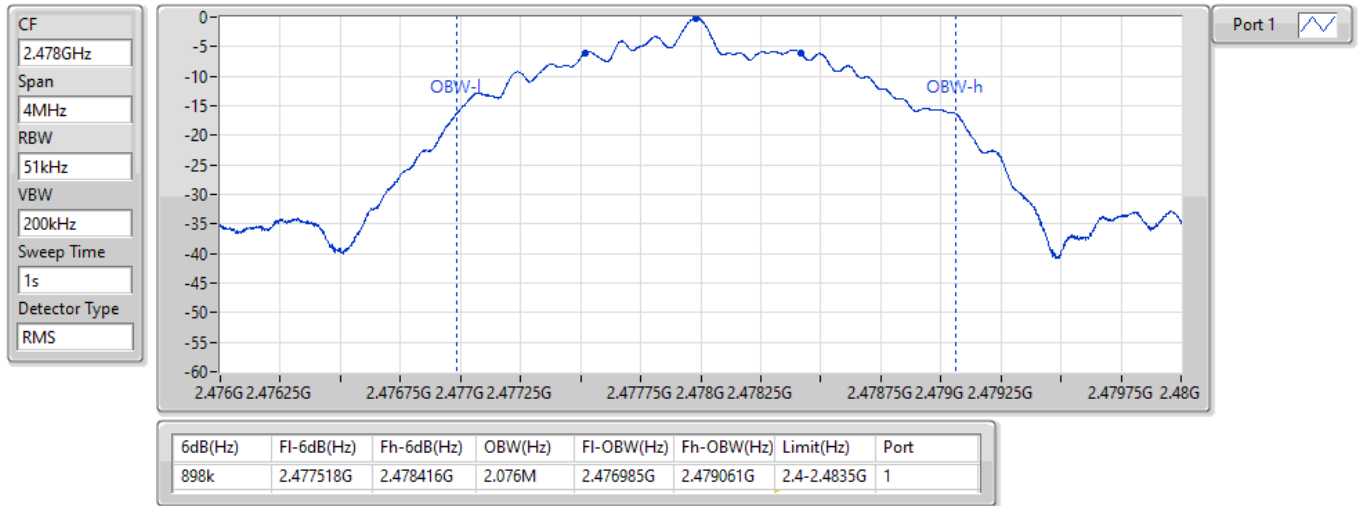
2440MHz



BT-LE(2Mbps)

EBW-DTS

2478MHz



**Summary**

Mode	EIRP-A (dBm)	Limit-A (dBm)	EIRP-B (dBm)	Limit-B (dBm)
2.4-2.4835GHz	-	-	-	-
BT-LE(125kbps)	-35.26	-10	-32.47	-20

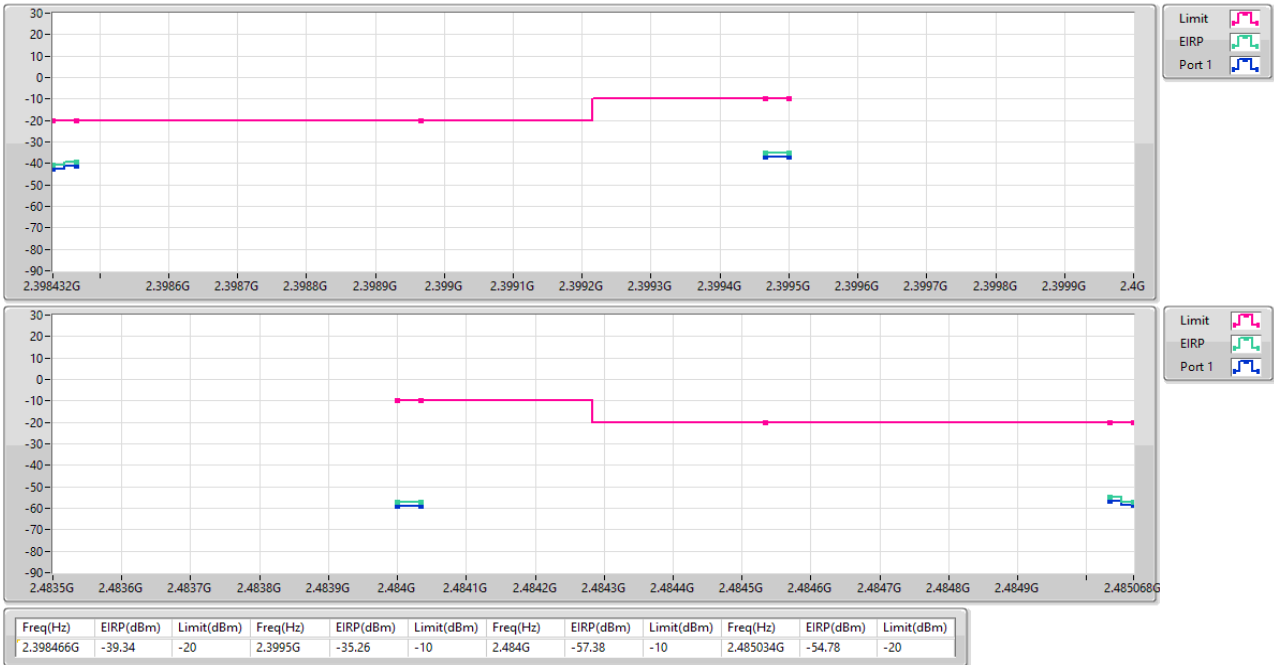
Result

Mode	Result	Freq (Hz)	EIRP (dBm)	Limit (dBm)	Freq (Hz)	EIRP (dBm)	Limit (dBm)
BT-LE(125kbps)	-	-	-	-	-	-	-
2402MHz_Tnom	Pass	2.398466G	-39.34	-20	2.3995G	-35.26	-10
2402MHz_Tnom	Pass	2.485034G	-54.78	-20	2.484G	-57.38	-10
2480MHz_Tnom	Pass	2.398471G	-56.04	-20	2.3995G	-56.14	-10
2480MHz_Tnom	Pass	2.485058G	-32.47	-20	2.484029G	-39.30	-10

BT-LE(125kbps)

MASK-DTS

2402MHz_Tnom



BT-LE(125kbps)

MASK-DTS

2480MHz_Tnom



**Summary**

Mode	EIRP-A (dBm)	Limit-A (dBm)	EIRP-B (dBm)	Limit-B (dBm)
2.4-2.4835GHz	-	-	-	-
BT-LE(500kbps)	-34.22	-10	-29.16	-20

Result

Mode	Result	Freq (Hz)	EIRP (dBm)	Limit (dBm)	Freq (Hz)	EIRP (dBm)	Limit (dBm)
BT-LE(500kbps)	-	-	-	-	-	-	-
2402MHz_Tnom	Pass	2.398492G	-37.80	-20	2.3995G	-34.22	-10
2402MHz_Tnom	Pass	2.485004G	-52.44	-20	2.484004G	-53.69	-10
2480MHz_Tnom	Pass	2.398492G	-53.78	-20	2.3995G	-55.16	-10
2480MHz_Tnom	Pass	2.485004G	-29.16	-20	2.484G	-37.18	-10

BT-LE(500kbps)

MASK-DTS

2402MHz_Tnom



BT-LE(500kbps)

MASK-DTS

2480MHz_Tnom



**Summary**

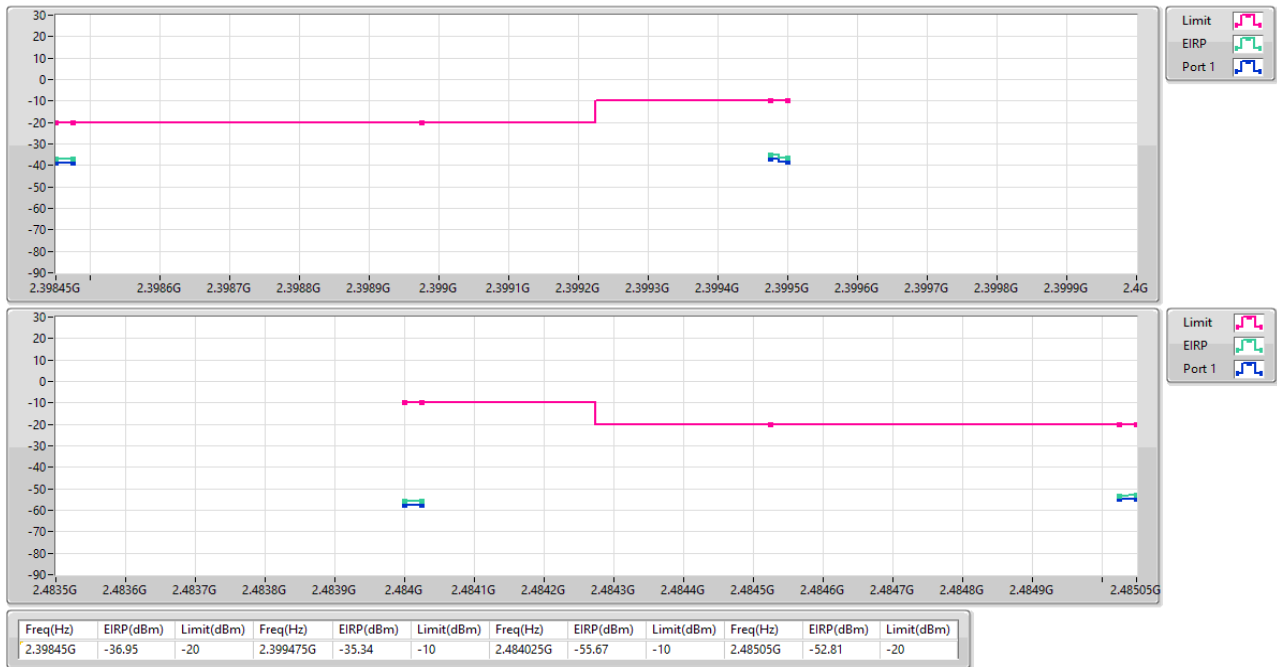
Mode	EIRP-A (dBm)	Limit-A (dBm)	EIRP-B (dBm)	Limit-B (dBm)
2.4-2.4835GHz	-	-	-	-
BT-LE(1Mbps)	-35.34	-10	-30.05	-20

Result

Mode	Result	Freq (Hz)	EIRP (dBm)	Limit (dBm)	Freq (Hz)	EIRP (dBm)	Limit (dBm)
BT-LE(1Mbps)	-	-	-	-	-	-	-
2402MHz_Tnom	Pass	2.39845G	-36.95	-20	2.399475G	-35.34	-10
2402MHz_Tnom	Pass	2.48505G	-52.81	-20	2.484025G	-55.67	-10
2480MHz_Tnom	Pass	2.398475G	-54.99	-20	2.3995G	-54.76	-10
2480MHz_Tnom	Pass	2.485025G	-30.05	-20	2.484025G	-37.36	-10

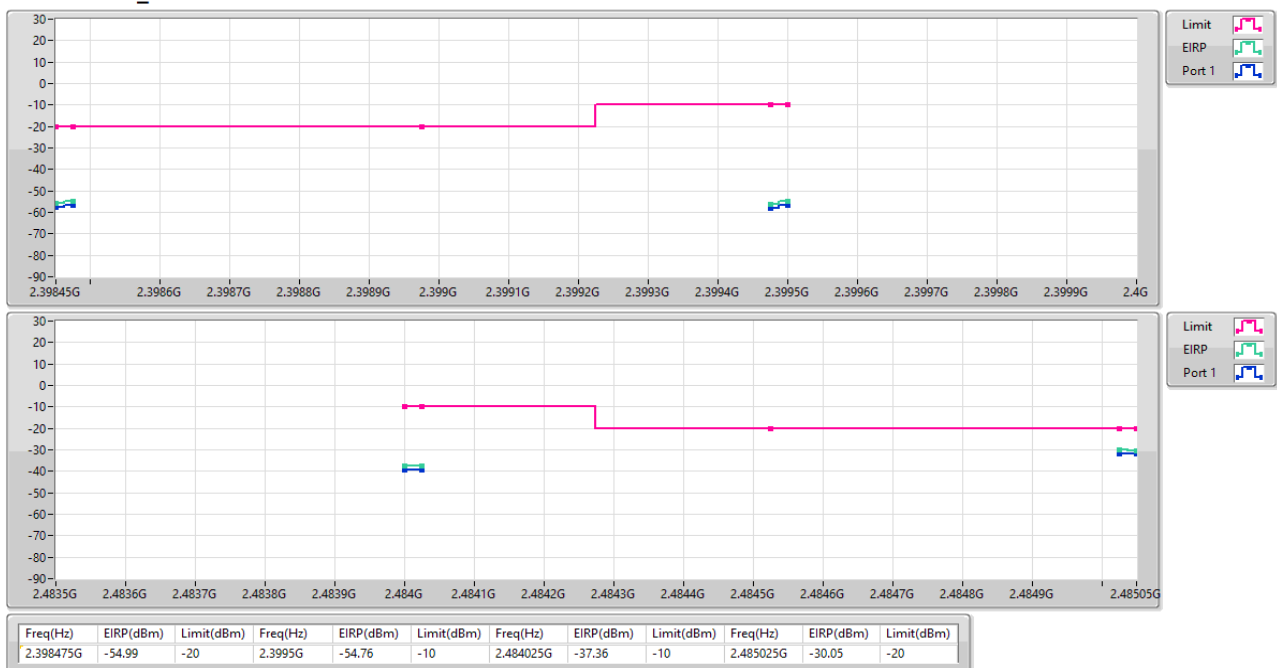
BT-LE(1Mbps) 2402MHz_Tnom

MASK-DTS



BT-LE(1Mbps) 2480MHz_Tnom

MASK-DTS



**Summary**

Mode	EIRP-A (dBm)	Limit-A (dBm)	EIRP-B (dBm)	Limit-B (dBm)
2.4-2.4835GHz	-	-	-	-
BT-LE(2Mbps)	-29.51	-10	-37.6	-20

Result

Mode	Result	Freq (Hz)	EIRP (dBm)	Limit (dBm)	Freq (Hz)	EIRP (dBm)	Limit (dBm)
BT-LE(2Mbps)	-	-	-	-	-	-	-
2404MHz_Tnom	Pass	2.396433G	-37.83	-20	2.3995G	-29.51	-10
2404MHz_Tnom	Pass	2.487134G	-49.96	-20	2.484G	-50.86	-10
2478MHz_Tnom	Pass	2.396348G	-52.80	-20	2.3995G	-51.49	-10
2478MHz_Tnom	Pass	2.487152G	-37.60	-20	2.484G	-37.74	-10

BT-LE(2Mbps) 2404MHz_Tnom

MASK-DTS



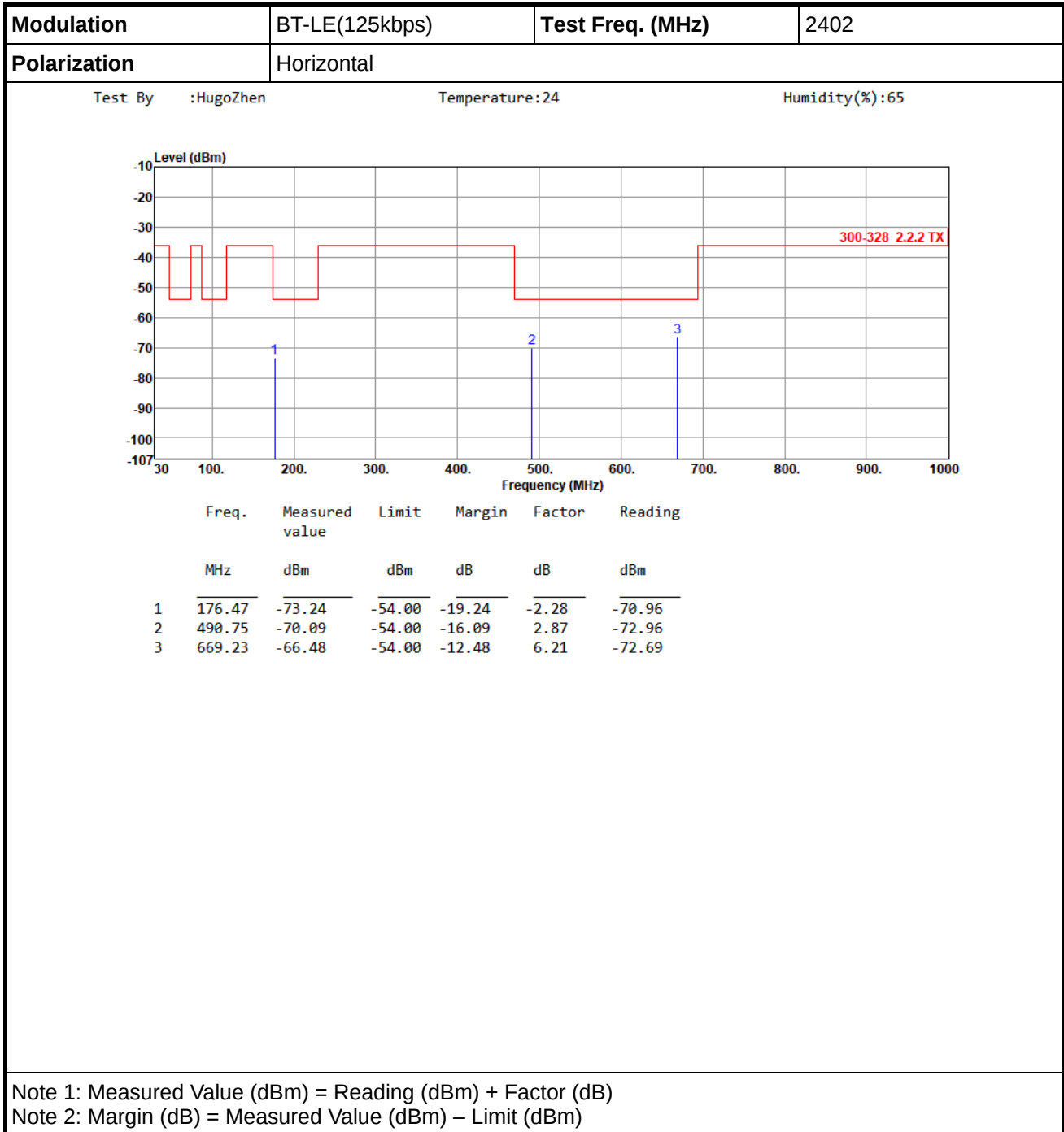
BT-LE(2Mbps) 2478MHz_Tnom

MASK-DTS





Emissions (Below 1GHz)



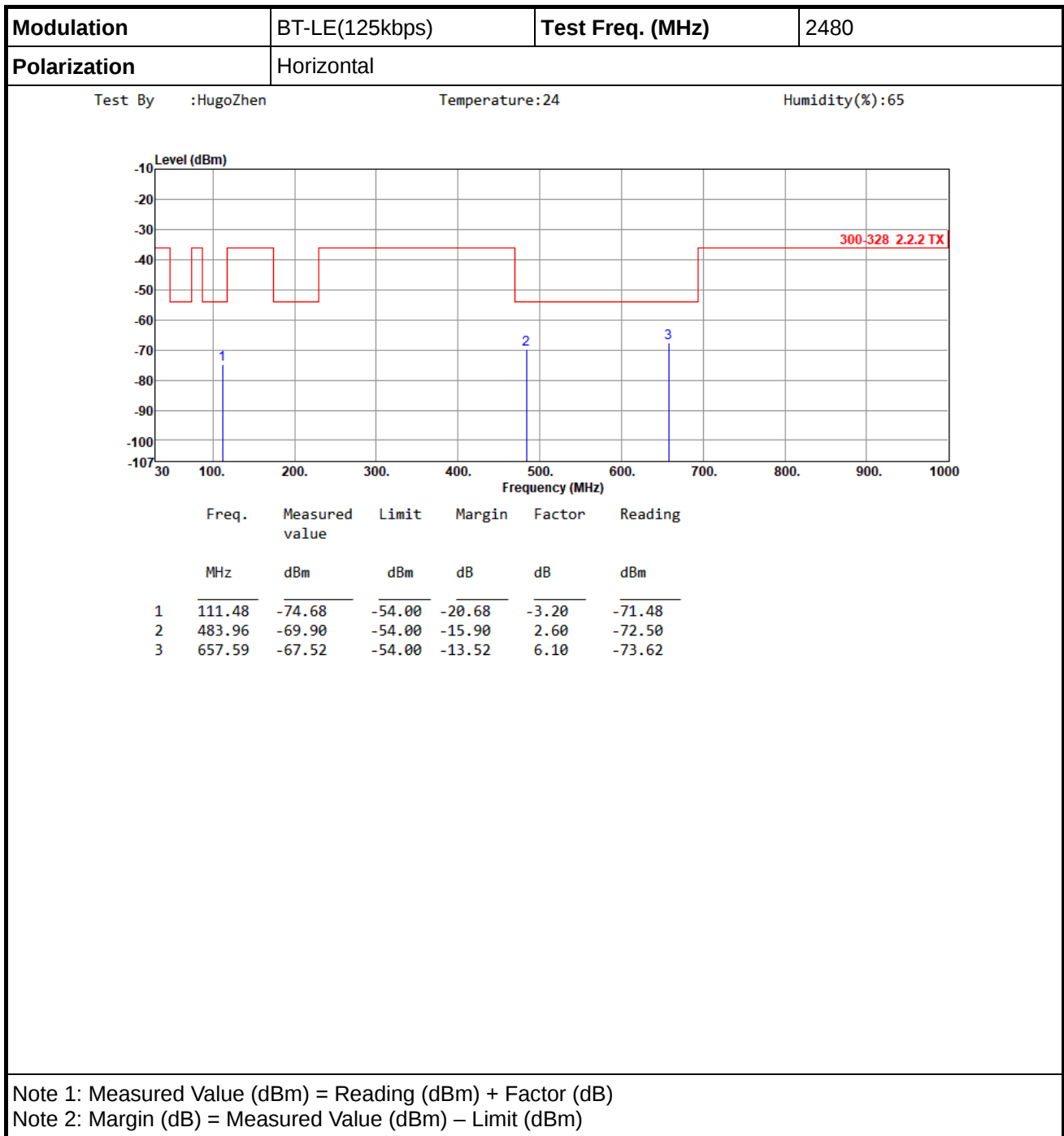
Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2402
Polarization	Vertical		

Test By :HugoZhen
Temperature:24
Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	93.05	-70.34	-54.00	-16.34	-4.84	-65.50
2	560.59	-68.63	-54.00	-14.63	4.55	-73.18
3	628.49	-67.54	-54.00	-13.54	5.65	-73.19

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)





Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2480
Polarization	Vertical		
Test By :HugoZhen			

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2402
Polarization	Horizontal		

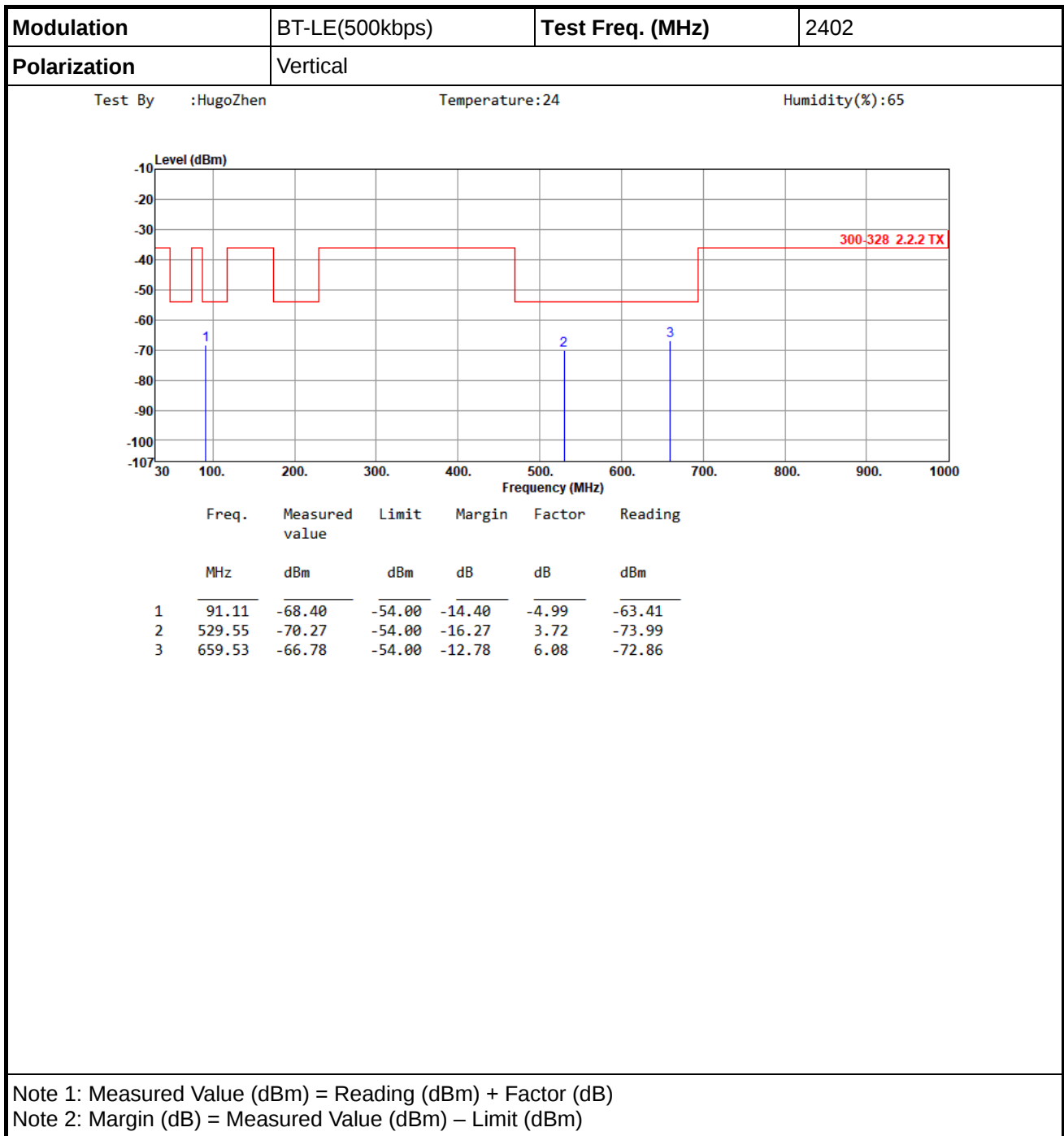
Test By :HugoZhen

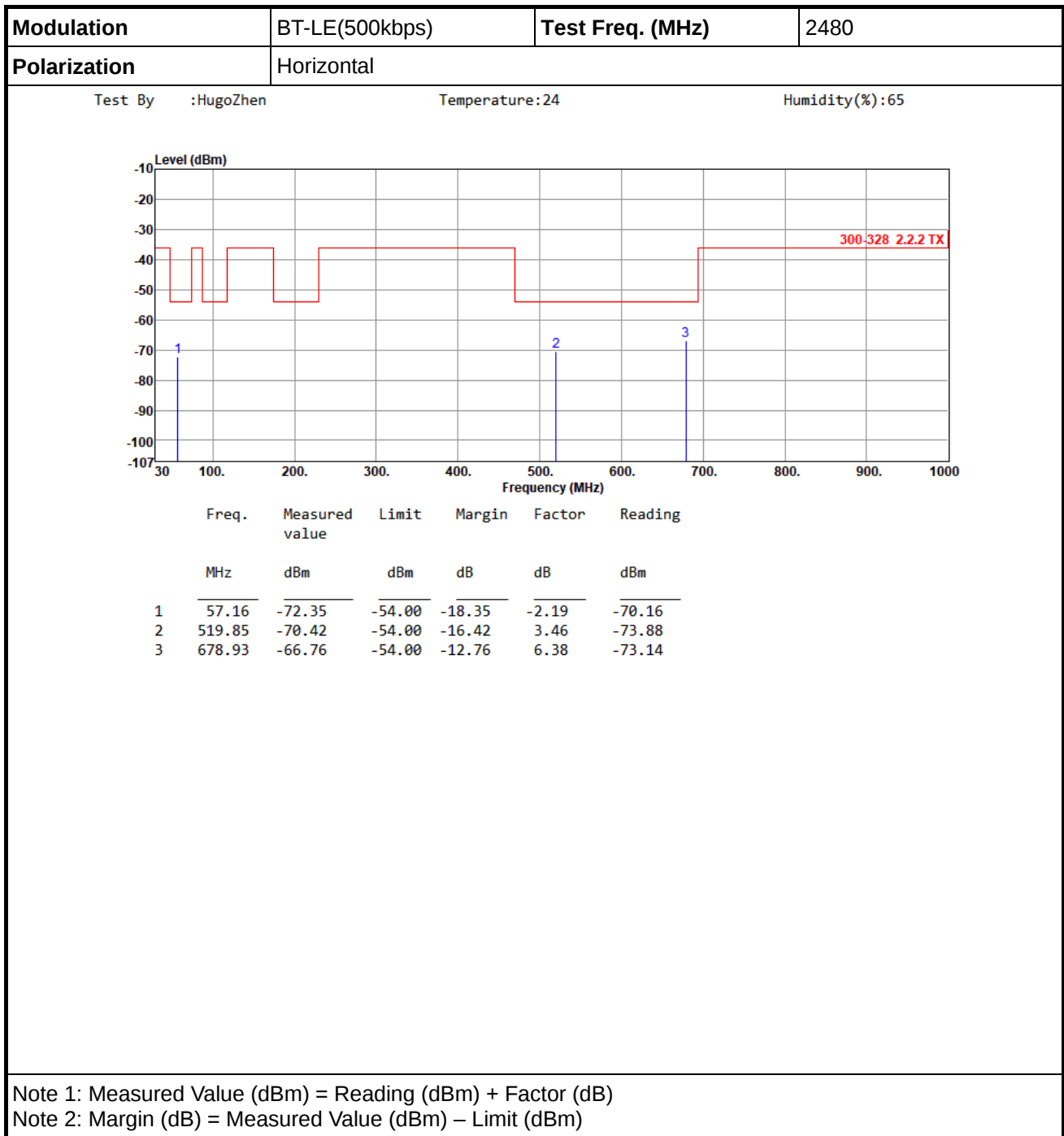
Temperature:24

Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	51.34	-73.12	-54.00	-19.12	-1.75	-71.37
2	552.83	-69.50	-54.00	-15.50	4.43	-73.93
3	645.95	-66.70	-54.00	-12.70	6.24	-72.94

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





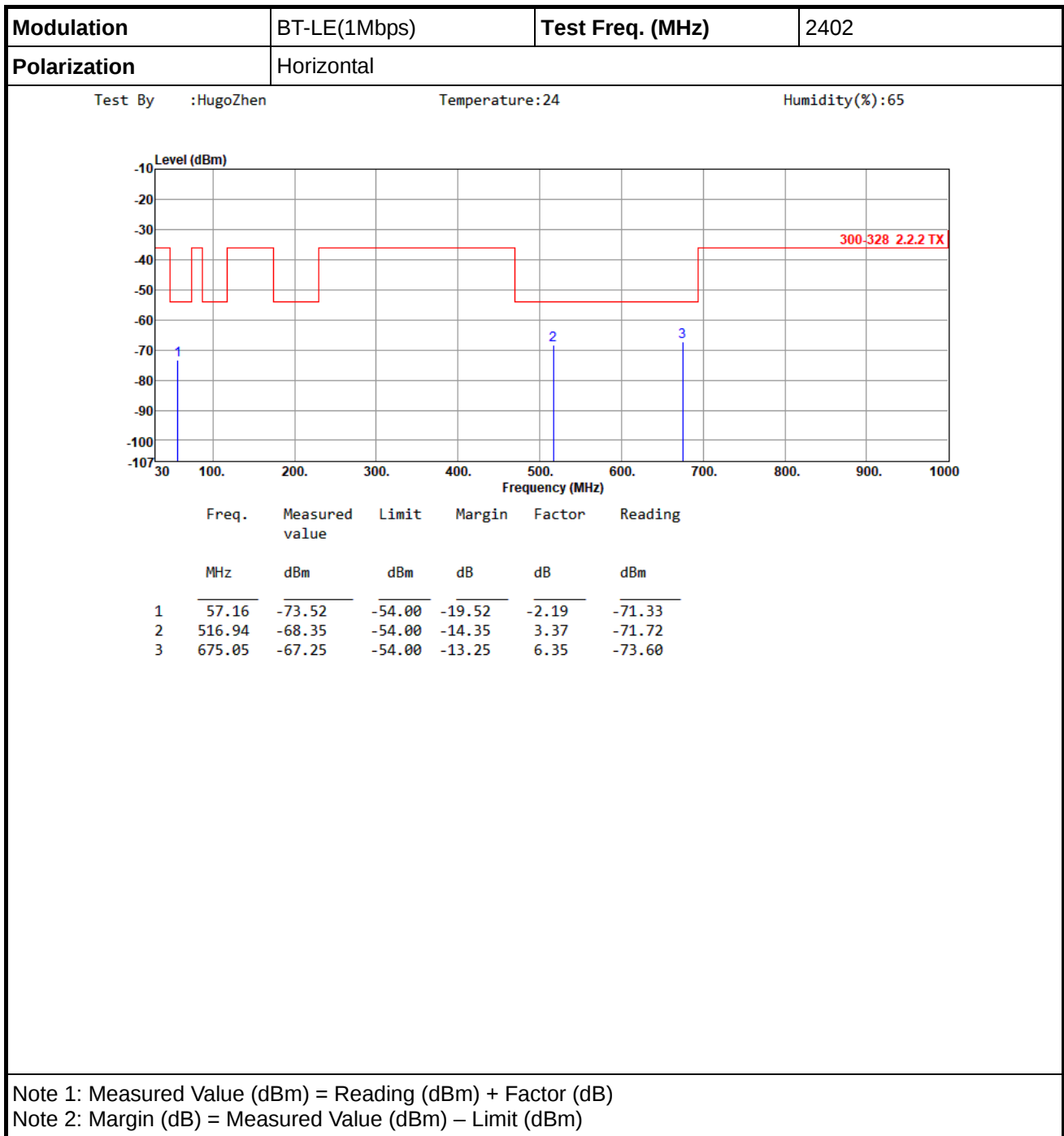
Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2480
Polarization	Vertical		

Test By :HugoZhen
Temperature:24
Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	186.17	-76.08	-54.00	-22.08	-4.56	-71.52
2	565.44	-68.77	-54.00	-14.77	4.59	-73.36
3	667.29	-67.85	-54.00	-13.85	6.24	-74.09

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)



Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2402
Polarization	Vertical		

Test By :HugoZhen
Temperature:24
Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	191.02	-77.23	-54.00	-23.23	-4.67	-72.56
2	533.43	-69.76	-54.00	-15.76	3.81	-73.57
3	627.52	-67.09	-54.00	-13.09	5.65	-72.74

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2480
Polarization	Horizontal		

Test By :HugoZhen
Temperature:24
Humidity(%):65

The spectrum plot displays the measured signal level across a frequency range from 30 MHz to 1000 MHz. The y-axis represents the level in dBm, ranging from -107 to -10. A red stepped line indicates the limit, and three blue vertical lines mark the measurement points at 113.42 MHz, 549.92 MHz, and 655.65 MHz. A red label '300-328 2.2.2 TX' is present in the upper right corner of the plot area.

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	113.42	-74.48	-54.00	-20.48	-3.11	-71.37
2	549.92	-69.76	-54.00	-15.76	4.40	-74.16
3	655.65	-67.47	-54.00	-13.47	6.10	-73.57

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2480
Polarization	Vertical		

Test By :HugoZhen
Temperature:24
Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	188.11	-77.26	-54.00	-23.26	-4.56	-72.70
2	556.71	-68.69	-54.00	-14.69	4.54	-73.23
3	642.07	-67.60	-54.00	-13.60	5.88	-73.48

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(2Mbps)	Test Freq. (MHz)	2404
Polarization	Horizontal		

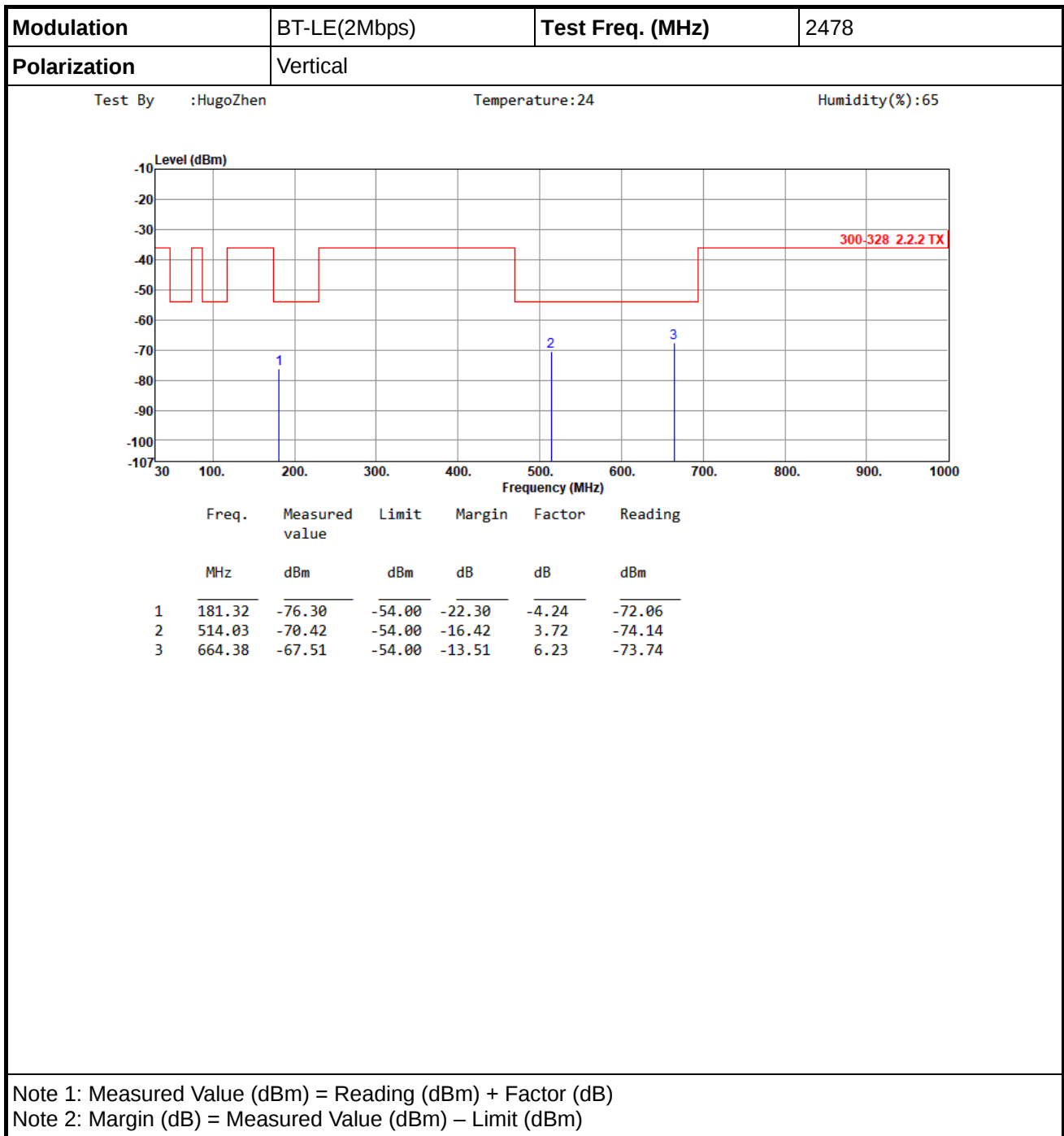
Test By :HugoZhen

Temperature:24

Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	180.35	-75.80	-54.00	-21.80	-3.17	-72.63
2	547.01	-69.33	-54.00	-15.33	4.20	-73.53
3	627.52	-67.23	-54.00	-13.23	6.19	-73.42

Modulation	BT-LE(2Mbps)	Test Freq. (MHz)	2404
Polarization	Vertical		
Test By :HugoZhen		Temperature:24	Humidity(%):65
Level (dBm) </			





Emissions (Above 1GHz)

Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2402																								
Polarization	Horizontal																										
Test By :Hugo Zhen Temperature:24 Humidity(%):65																											
Level (dBm) Frequency (MHz) <table><tr><th>Freq.</th><th>Measured value</th><th>Limit</th><th>Margin</th><th>Factor</th><th>Reading</th></tr><tr><th>MHz</th><th>dBm</th><th>dBm</th><th>dB</th><th>dB</th><th>dBm</th></tr><tr><td>1 4804.29</td><td>-46.73</td><td>-30.00</td><td>-16.73</td><td>13.35</td><td>-60.08</td></tr><tr><td>2 7206.04</td><td>-47.55</td><td>-30.00</td><td>-17.55</td><td>18.91</td><td>-66.46</td></tr></table>				Freq.	Measured value	Limit	Margin	Factor	Reading	MHz	dBm	dBm	dB	dB	dBm	1 4804.29	-46.73	-30.00	-16.73	13.35	-60.08	2 7206.04	-47.55	-30.00	-17.55	18.91	-66.46
Freq.	Measured value	Limit	Margin	Factor	Reading																						
MHz	dBm	dBm	dB	dB	dBm																						
1 4804.29	-46.73	-30.00	-16.73	13.35	-60.08																						
2 7206.04	-47.55	-30.00	-17.55	18.91	-66.46																						
Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB) Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)																											

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Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2480
Polarization	Horizontal		
Test By :Hugo Zhen Temperature:24 Humidity(%):65			
Level (dBm) <			

Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2480
Polarization	Vertical		

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

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4960.39	-50.67	-30.00	-20.67	13.65	-64.32
2	7440.19	-45.11	-30.00	-15.11	19.34	-64.45

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2402
Polarization	Horizontal		
Test By :Hugo Zhen Temperature:24 Humidity(%):65			
Level (dBm) </			

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2402
Polarization	Vertical		
Test By :Hugo Zhen Temperature:24 Humidity(%):65			
Level (dBm) </			

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2480
Polarization	Horizontal		

Test By :Hugo Zhen

Temperature:24

Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4960.48	-51.45	-30.00	-21.45	13.91	-65.36
2	7440.12	-46.10	-30.00	-16.10	19.57	-65.67

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2480
Polarization	Vertical		

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

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4960.42	-51.68	-30.00	-21.68	13.65	-65.33
2	7440.06	-45.84	-30.00	-15.84	19.34	-65.18

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2402
Polarization	Horizontal		

Test By :Hugo Zhen

Temperature:24

Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4804.11	-46.80	-30.00	-16.80	13.35	-60.15
2	7206.24	-47.56	-30.00	-17.56	18.91	-66.47

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)



Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2402
Polarization	Vertical		
Test By :Hugo Zhen Temperature:24 Humidity(%):65			
Level (dBm) </			

Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2480
Polarization	Horizontal		

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

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4960.18	-50.18	-30.00	-20.18	13.91	-64.09
2	7440.35	-45.23	-30.00	-15.23	19.57	-64.80

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2480
Polarization	Vertical		
Test By :Hugo Zhen Temperature:24 Humidity(%):65			
Level (dBm) <			



Modulation	BT-LE(2Mbps)	Test Freq. (MHz)	2404
Polarization	Horizontal		
Test By :Hugo Zhen			

[illegible]

Modulation	BT-LE(2Mbps)	Test Freq. (MHz)	2478
Polarization	Horizontal		
Test By :Hugo Zhen		Temperature:24	Humidity(%):65
Level (dBm)			

[illegible]



Emissions (Below 1GHz)

Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2402
Polarization	Horizontal		
Test By :HugoZhen			

Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2402
Polarization	Vertical		
Test By :HugoZhen		Temperature:24	Humidity(%):65
Level (dBm)			

Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2480
Polarization	Horizontal		
Test By :HugoZhen		Temperature:24	Humidity(%):65
Level (dBm)			



Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2480
Polarization	Vertical		
Test By :HugoZhen Temperature:24 Humidity(%):65			
Level (dBm) <			

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2402
Polarization	Horizontal		
Test By :HugoZhen		Temperature:24	Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	182.29	-74.42	-57.00	-17.42	-3.58	-70.84
2	444.19	-69.68	-57.00	-12.68	2.51	-72.19
3	954.41	-63.09	-57.00	-6.09	11.31	-74.40

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

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2402
Polarization	Vertical		
Test By :HugoZhen		Temperature:24	Humidity(%):65
Level (dBm) </			

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2480
Polarization	Horizontal		

Test By :HugoZhen
Temperature:24
Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	414.12	-71.17	-57.00	-14.17	1.67	-72.84
2	745.86	-65.90	-57.00	-8.90	8.57	-74.47
3	960.23	-63.24	-57.00	-6.24	12.06	-75.30

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2480
Polarization	Vertical		
Test By :HugoZhen Temperature:24 Humidity(%):65			
Level (dBm) <			



Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2402
Polarization	Horizontal		
Test By :HugoZhen			

Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2402
Polarization	Vertical		

Test By :HugoZhen Temperature:24 Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	333.61	-72.58	-57.00	-15.58	-0.55	-72.03
2	596.48	-68.15	-57.00	-11.15	5.22	-73.37
3	993.21	-62.99	-57.00	-5.99	11.70	-74.69

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

Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2480
Polarization	Horizontal		

Test By :HugoZhen
Temperature:24
Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	367.56	-72.84	-57.00	-15.84	0.13	-72.97
2	628.49	-67.75	-57.00	-10.75	6.24	-73.99
3	949.56	-63.75	-57.00	-6.75	11.12	-74.87

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2480
Polarization	Vertical		
Test By :HugoZhen		Temperature:24	Humidity(%):65
Level (dBm)			

Modulation	BT-LE(2Mbps)	Test Freq. (MHz)	2404
Polarization	Horizontal		
Test By :HugoZhen		Temperature:24	Humidity(%):65
Level (dBm) </			

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Modulation	BT-LE(2Mbps)	Test Freq. (MHz)	2478
Polarization	Horizontal		
Test By :HugoZhen		Temperature:24	Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	258.92	-73.89	-57.00	-16.89	-2.35	-71.54
2	668.26	-67.34	-57.00	-10.34	6.21	-73.55
3	958.29	-62.27	-57.00	-5.27	11.84	-74.11

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

Modulation	BT-LE(2Mbps)	Test Freq. (MHz)	2478
Polarization	Vertical		
Test By :HugoZhen		Temperature:24	Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	326.82	-73.96	-57.00	-16.96	-0.54	-73.42
2	661.47	-66.20	-57.00	-9.20	6.14	-72.34
3	958.29	-62.97	-57.00	-5.97	11.44	-74.41

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



Emissions (Above 1GHz)

Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2402
Polarization	Horizontal		
Test By :Hugo Zhen Temperature:24 Humidity(%):65			
Level (dBm)			

Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2402
Polarization	Vertical		
Test By :Hugo Zhen Temperature:24 Humidity(%):65			
Level (dBm)			

Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2480
Polarization	Horizontal		
Test By :Hugo Zhen		Temperature:24	Humidity(%):65

The spectrum plot displays the signal level in dBm across a frequency range from 1000 to 12750 MHz. A red horizontal line at -47.00 dBm indicates the limit, labeled '300-328 RX'. A blue vertical line at 4960.12 MHz is labeled '1', corresponding to the measured value in the table below.

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4960.12	-53.47	-47.00	-6.47	13.91	-67.38

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(125kbps)	Test Freq. (MHz)	2480
Polarization	Vertical		
Test By :Hugo Zhen Temperature:24 Humidity(%):65			
Level (dBm) </			

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2402
Polarization	Horizontal		
Test By :HugoZhen		Temperature:24	Humidity(%):65
Level (dBm)			

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2402
Polarization	Vertical		

Test By :HugoZhen
Temperature:24
Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4805.18	-53.61	-47.00	-6.61	13.13	-66.74

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2480
Polarization	Horizontal		
Test By :HugoZhen		Temperature:24	Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4961.51	-52.50	-47.00	-5.50	13.92	-66.42

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

Modulation	BT-LE(500kbps)	Test Freq. (MHz)	2480
Polarization	Vertical		
Test By :HugoZhen		Temperature:24	Humidity(%):65
Level (dBm)			

Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2402
Polarization	Horizontal		
Test By :HugoZhen		Temperature:24	Humidity(%):65
Level (dBm) <			

Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2402
Polarization	Vertical		

Test By :HugoZhen
Temperature:24
Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4805.20	-54.28	-47.00	-7.28	13.13	-67.41

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2480
Polarization	Horizontal		
Test By :HugoZhen		Temperature:24	Humidity(%):65
Level (dBm) <			

Modulation	BT-LE(1Mbps)	Test Freq. (MHz)	2480
Polarization	Vertical		

Test By :HugoZhenTemperature:24Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4961.36	-52.90	-47.00	-5.90	13.66	-66.56

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(2Mbps)	Test Freq. (MHz)	2404
Polarization	Horizontal		
Test By :HugoZhen		Temperature:24	Humidity(%):65
Level (dBm)			

Modulation	BT-LE(2Mbps)	Test Freq. (MHz)	2404
Polarization	Vertical		
Test By :HugoZhen		Temperature:24	Humidity(%):65
Level (dBm)			

Modulation	BT-LE(2Mbps)	Test Freq. (MHz)	2478
Polarization	Horizontal		
Test By :HugoZhen		Temperature:24	Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4960.13	-53.44	-47.00	-6.44	13.91	-67.35

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

Modulation	BT-LE(2Mbps)	Test Freq. (MHz)	2478
Polarization	Vertical		

Test By :HugoZhen

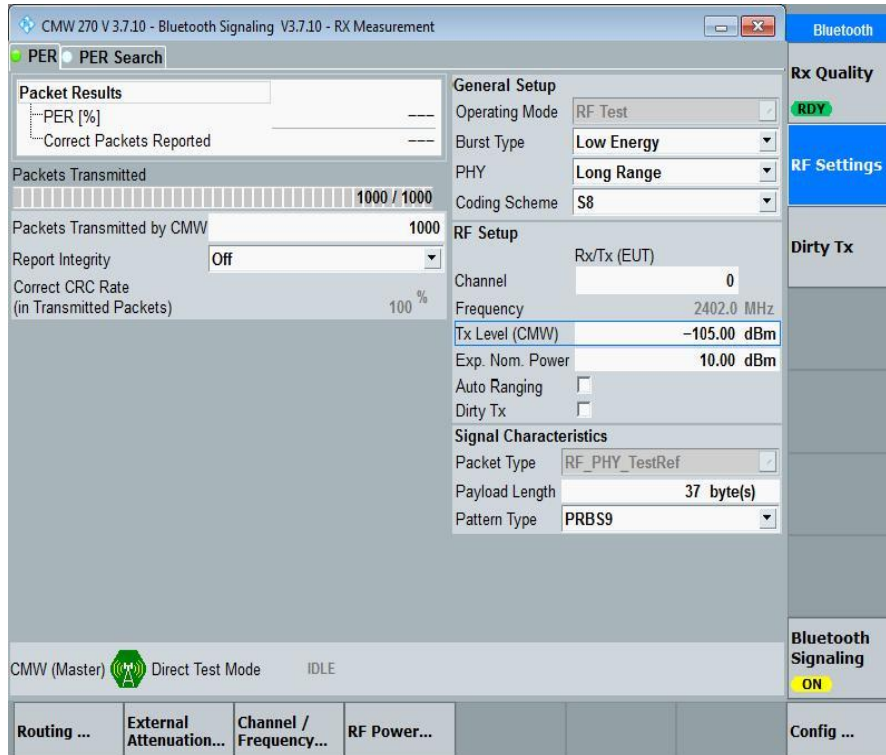
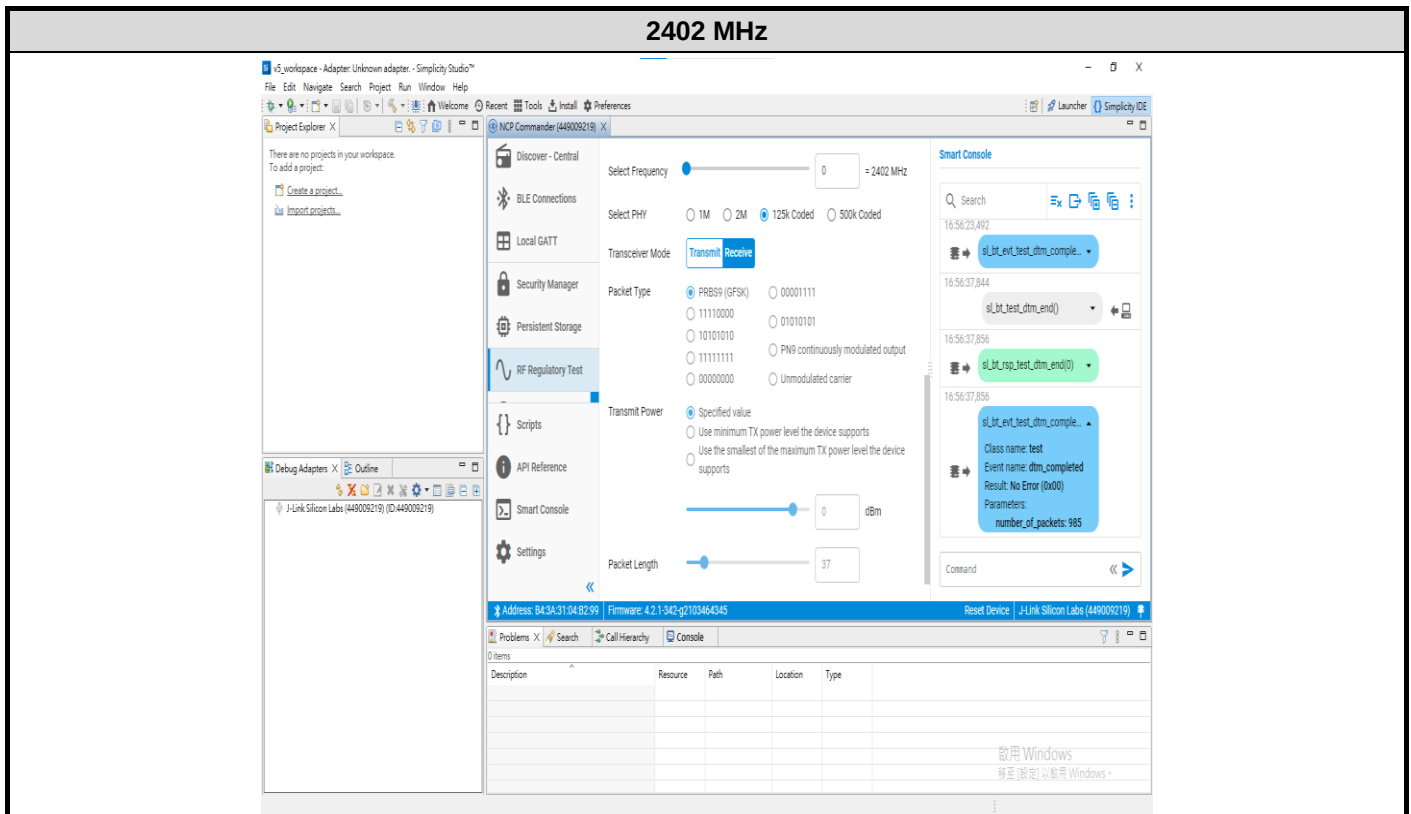
Temperature:24

Humidity(%):65

	Freq.	Measured value	Limit	Margin	Factor	Reading
	MHz	dBm	dBm	dB	dB	dBm
1	4958.96	-52.97	-47.00	-5.97	13.63	-66.60

Note 1: Measured Value (dBm) = Reading (dBm) + Factor (dB)

Note 2: Margin (dB) = Measured Value (dBm) – Limit (dBm)

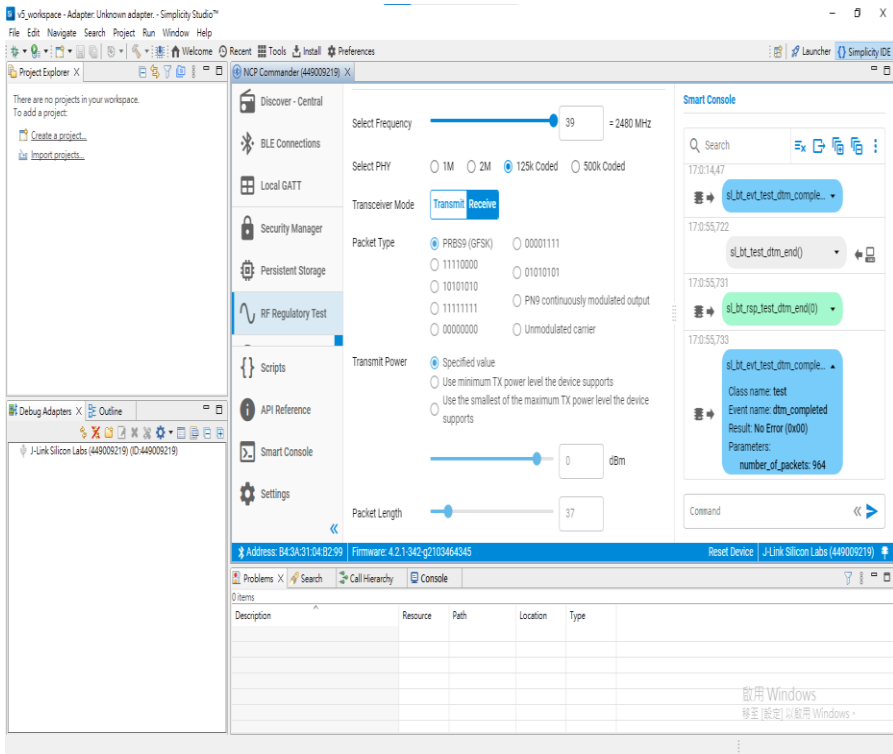
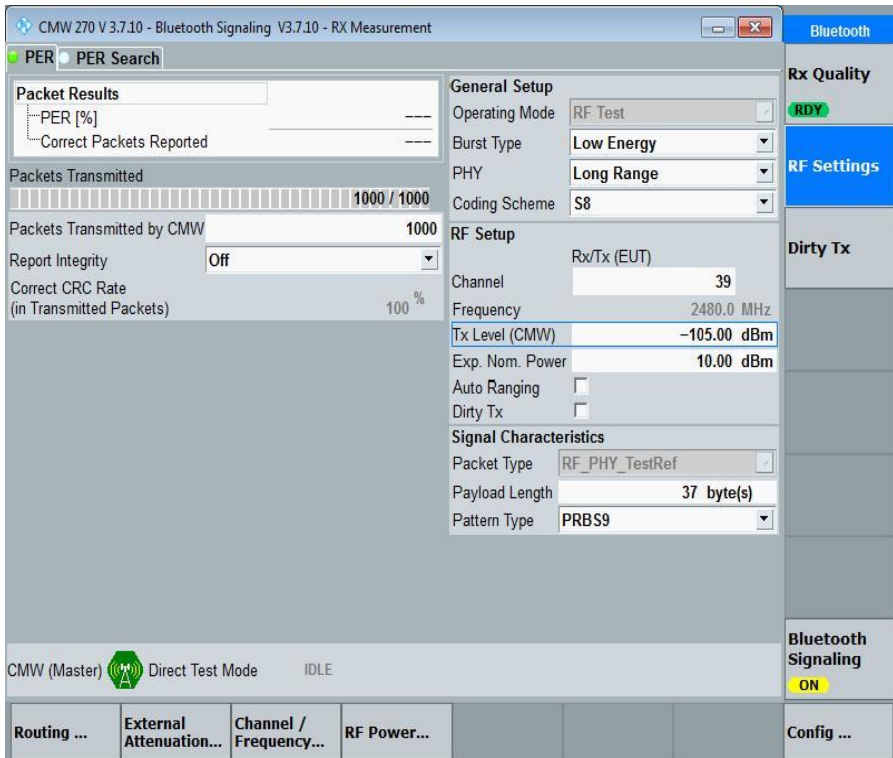


Packet Sent Numbers	1000
Packet Received Numbers	985
PER(%)	1.5



Receiver Category	2		
Performance Criteria Limit	PER ≤ 10 %		
Wanted Signal Mean Power from Companion Device (dBm)	Blocking Signal Frequency (MHz)	Blocking Signal Power (dBm)	Test Result
-67.03	2380	-32.18	Pass
-67.03	2300	-32.18	Pass

2480 MHz

Packet Sent Numbers	1000
Packet Received Numbers	964
PER(%)	3.6



Receiver Category	2		
Performance Criteria Limit	PER ≤ 10 %		
Wanted Signal Mean Power from Companion Device (dBm)	Blocking Signal Frequency (MHz)	Blocking Signal Power (dBm)	Test Result
-67.06	2504	-32.18	Pass
-67.06	2584	-32.18	Pass