



International Certification Corp.

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C.

Tel: 886-3-271-8666

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FCC 15B Test Report

Equipment : BTv4.0 Dual Mode USB HCI Module
refer to item 1.1.1 for more details

Model No. : BT800 refer to item 1.1.1 for more details

Brand Name : Laird Technologies

Applicant : Laird Technologies

Address : 11160 Thompson Ave. / Lenexa, Kansas /
66219 / USA

Standard : FCC Part 15, Subpart B, Class B
ICES-003:2012, Class B
ANSI C63.4:2003

Received Date : Jun. 25, 2013

Tested Date : Jun. 25 ~ Jul. 08, 2013

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Approved & Reviewed by:

Kent Chen / Assistant Manager





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Release Record

Report No.	Version	Description	Issued Date
FD362601	Rev. 01	Initial issue	Aug. 09, 2013



Summary of Test Results

FCC Part 15, Subpart B Emission Tests				
Ref. Std. Clause	Test Standard	Test Items	Measured	Result
15.107	FCC Part 15, Subpart B, Class B	Conducted Emissions	[dBuV]: 0.175MHz 44.59 (Margin 10.13dB) - AV	Pass
15.109	FCC Part 15, Subpart B, Class B	Radiated Emissions	[dBuV/m at 3m]: 48.49MHz 38.57 (Margin 1.43dB) - QP	Pass



1 General Description

1.1 Information

1.1.1 Product Details

The following models are provided to this EUT.

Model Name	Description	Difference
BT800	BTv4.0 Dual Mode USB HCI Module	---
BT810	BTv4.0 Dual Mode USB HCI Module (BG carrier board)	BT800 module mounted onto a PCB carrier board to change footprint – no other differences.
BT820	BTv4.0 Dual Mode USB Dongle	BT800 module mounted onto a carrier board with USB connector.
✦ The above models, model BT810 and BT820 were selected as representative ones for the radiated final test and only its data was recorded in this report.		

1.1.2 Specification of the Equipment under Test (EUT) – BT EDR

RF General Information				
Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number	Data Rate
2400-2483.5	BR V2.1	2402-2480	0-78 [79]	1 Mbps
2400-2483.5	EDR V2.1	2402-2480	0-78 [79]	2 Mbps
2400-2483.5	EDR V2.1	2402-2480	0-78 [79]	3 Mbps
Note 1: RF output power specifies that Maximum Peak Conducted Output Power.				
Note 2: Bluetooth BR uses a GFSK.				
Note 3: Bluetooth EDR uses a combination of $\pi/4$ -DQPSK and 8DPSK.				

1.1.3 Specification of the Equipment under Test (EUT) – BT LE

RF General Information				
Frequency Range (MHz)	Bluetooth Mode	Ch. Freq. (MHz)	Channel Number	Data Rate / MCS
2400-2483.5	BR	2402-2480	0-39 [40]	1 Mbps
Note 1: Bluetooth BR uses a GFSK (1Mbps).				
Note 2: Bluetooth BR uses as a system using FHSS modulation.				

1.1.4 Antenna Details

Ant. No.	Brand	Type	Gain (dBi)	Connector	Model
1	ACX	Chip	0.5	N/A	AT3216-B2R7HAA_3216



1.1.5 EUT Operational Condition

Supply Voltage	<input type="checkbox"/> AC mains	<input checked="" type="checkbox"/> DC (5V)	
Type of DC Source	<input type="checkbox"/> Internal DC supply	<input type="checkbox"/> External DC adapter	<input checked="" type="checkbox"/> From Host

1.1.6 Accessories

N/A

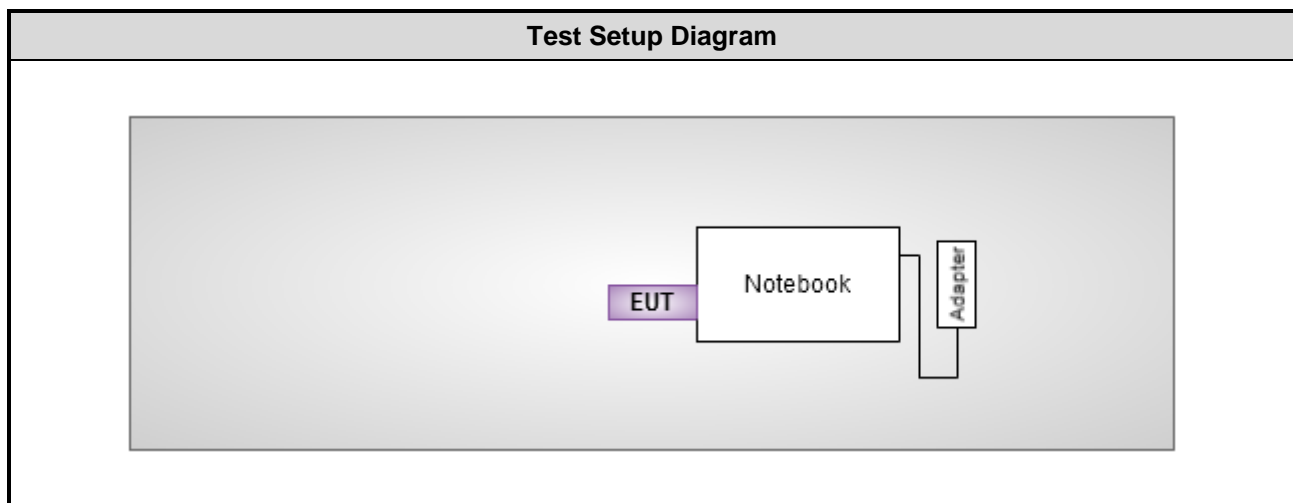
1.1.7 Channel List

Frequency band (MHz) – BT EDR				2400~2483.5			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	20	2422	40	2442	60	2462
1	2403	21	2423	41	2443	61	2463
2	2404	22	2424	42	2444	62	2464
3	2405	23	2425	43	2445	63	2465
4	2406	24	2426	44	2446	64	2466
5	2407	25	2427	45	2447	65	2467
6	2408	26	2428	46	2448	66	2468
7	2409	27	2429	47	2449	67	2469
8	2410	28	2430	48	2450	68	2470
9	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	38	2440	58	2460	78	2480
19	2421	39	2441	59	2461	---	---



Frequency band (MHz) – BT LE				2400~2483.5			
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

1.2 Test Setup Chart



1.3 Local Support Equipment List

Support Equipment List						
No.	Equipment	Brand	Model	S/N	FCC ID	Length (m)
1	Notebook	DELL	E6430	---	---	---



1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
EMC Receiver	R&S	ESCS 30	100169	Dec. 12, 2012	Dec. 11, 2013
LISN	SCHWARZBECK MESS-ELEKTRONIK	Schwarzbeck 8127	8127-667	Dec. 04, 2012	Dec. 03, 2013
LISN (Support Unit)	SCHWARZBECK MESS-ELEKTRONIK	Schwarzbeck 8127	8127-666	Dec. 04, 2012	Dec. 03, 2013
ISN	TESEQ	ISN T800	34406	Apr. 08, 2013	Apr. 07, 2014
ISN	TESEQ	ISN T200A	30494	Apr. 09, 2013	Apr. 08, 2014
ISN	TESEQ	ISN T8-Cat6	27262	Sep. 17, 2012	Sep. 16, 2013
ISN	TESEQ	ISN ST08	22589	Jan. 24, 2013	Jan. 23, 2014
RF Current Probe	FCC	F-33-4	121630	Dec. 04, 2012	Dec. 03, 2013
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Dec. 25, 2012	Dec. 24, 2013
ESH3-Z6 V-Network(+)	R&S	ESH3-Z6	100920	Nov. 21, 2012	Nov. 20, 2013
ESH3-Z6 V-Network(-)	R&S	ESH3-Z6	100951	Jan. 03, 2013	Jan. 02, 2014
Two-Line V-Network	R&S	ENV216	101579	Jan. 07, 2013	Jan. 06, 2014
50 ohm terminal	NA	50	01	Apr. 22, 2013	Apr. 21, 2014
50 ohm terminal	NA	50	02	Apr. 22, 2013	Apr. 21, 2014
50 ohm terminal	NA	50	03	Apr. 22, 2013	Apr. 21, 2014
50 ohm terminal (Support Unit)	NA	50	04	Apr. 22, 2013	Apr. 21, 2014
Note: Calibration Interval of instruments listed above is one year.					



Test Item	Radiated Emission above 1GHz				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
3m semi-anechoic chamber	CHAMPRO	SAC-03	03CH01-WS	Jan. 04, 2013	Jan. 03, 2014
Spectrum Analyzer	R&S	FSV40	101498	Jan. 24, 2013	Jan. 23, 2014
Receiver	ROHDE&SCHWARZ	ESR3	101658	Jan. 28, 2013	Jan. 27, 2014
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jan. 11, 2013	Jan. 10, 2014
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Feb. 18, 2013	Feb. 17, 2014
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Jan. 14, 2013	Jan. 13, 2014
Amplifier	Burgeon	BPA-530	100219	Nov. 28, 2012	Nov. 27, 2013
Amplifier	Agilent	83017A	MY39501308	Dec. 18, 2012	Dec. 17, 2013
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 25, 2012	Dec. 24, 2013
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 25, 2012	Dec. 24, 2013
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 25, 2012	Dec. 24, 2013
RF Cable-R03m	Woken	CFD400NL-LW	CFD400NL-001	Dec. 25, 2012	Dec. 24, 2013
RF Cable-R10m	Woken	CFD400NL-LW	CFD400NL-002	Dec. 25, 2012	Dec. 24, 2013
control	EM Electronics	EM1000	60612	N/A	N/A
Note: Calibration Interval of instruments listed above is one year.					

Loop Antenna	R&S	HFH2-Z2	100330	Nov. 15, 2012	Nov. 14, 2014
Amplifier	MITEQ	AMF-6F-260400	9121372	Apr. 19, 2013	Apr. 18, 2015
Note: Calibration Interval of instruments listed above is two year.					



1.5 Testing Applied Standards

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

FCC Part 15, Subpart B, Class B

ICES-003:2012, Class B

ANSI C63.4:2003

1.6 Measurement Uncertainty

CISPR 16-4-2 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ($k=2$))

Measurement Uncertainty		
Test Item	Frequency	Uncertainty
Conducted Emissions	150kHz ~ 30MHz	2.8 dB
Radiated Emissions	30MHz ~ 1GHz	3.9 dB
	Above 1GHz	4.2 dB



2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	22°C / 52%	Skys Huang
Radiated Emissions	03CH01-WS	25°C / 65%	Anderson Hong Aska Huang

2.2 The Worst Test Modes and Channel Details

BT EDR				
Test item	Mode	Test Frequency (MHz)	Data rate (Mbps)	Test Configuration
Conducted Emissions	8DPSK	2402	3Mbps	1, 2
Radiated Emissions (below 1GHz)	8DPSK	2402	3Mbps	1, 2
Radiated Emissions (above 1GHz)	8DPSK	2402, 2441, 2480	3Mbps 3Mbps	1, 2
NOTE: 1. 2 types EUT were selected to perform radiated emission test as below test configuration 1) Configuration 1 : BT810 2) Configuration 2 : BT820				

BT LE				
Test item	Mode	Test Frequency (MHz)	Data rate (Mbps)	Test Configuration
Conducted Emissions	GFSK	2402	1Mbps	1, 2
Radiated Emissions (below 1GHz)	GFSK	2402	1Mbps	1, 2
Radiated Emissions (above 1GHz)	GFSK	2402, 2440, 2480	1Mbps	1, 2
NOTE: 2. 2 types EUT were selected to perform radiated emission test as below test configuration 3) Configuration 1 : BT810 4) Configuration 2 : BT820				



3 Emission Tests Results

3.1 Conducted Emissions

3.1.1 Limit of Conducted Emissions

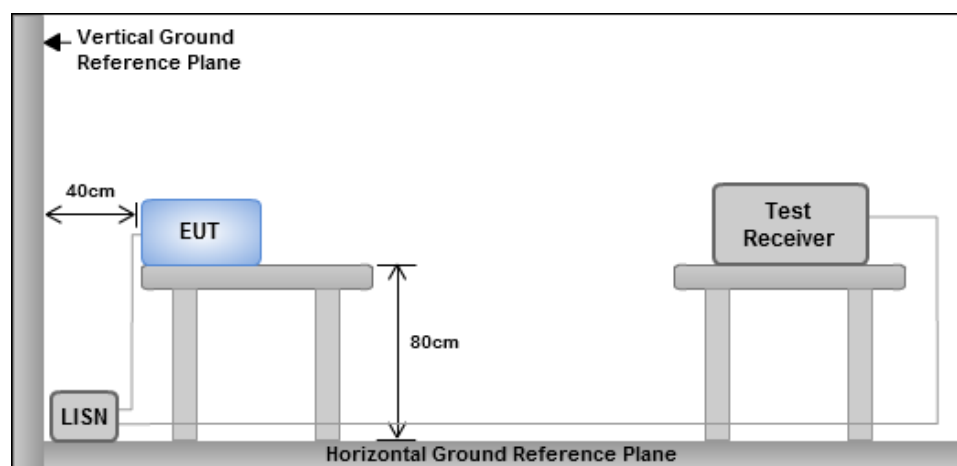
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

3.1.2 Test Procedures

- The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
- The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
- AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.

3.1.3 Test Setup



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes



3.1.4 Test Result of Conducted Emissions – BT EDR

Modulation Mode	8DPSK	Test Freq. (MHz)	2402
Power Phase	Line	Test Configuration	1

Level (dBuV) Date: 2013-07-01

Frequency (MHz)

	Freq	Level	Limit	Over	Read	LISN	cable	Remark
	MHz	dBuV	dBuV	dB	dBuV	factor	loss	
1	0.150	41.83	56.00	-14.17	41.74	0.03	0.06	Average
2	0.150	50.67	66.00	-15.33	50.58	0.03	0.06	QP
3	0.204	35.48	53.45	-17.97	35.27	0.03	0.18	Average
4	0.204	49.79	63.45	-13.66	49.58	0.03	0.18	QP
5	0.251	23.98	51.73	-27.75	23.81	0.03	0.14	Average
6	0.251	45.76	61.73	-15.97	45.59	0.03	0.14	QP
7	3.584	28.54	46.00	-17.46	28.25	0.06	0.23	Average
8	3.584	36.82	56.00	-19.18	36.53	0.06	0.23	QP
9	4.900	34.57	46.00	-11.43	34.29	0.07	0.21	Average
10	4.900	37.60	56.00	-18.40	37.32	0.07	0.21	QP
11	14.907	29.03	50.00	-20.97	28.78	0.12	0.13	Average
12	14.907	34.00	60.00	-26.00	33.75	0.12	0.13	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dBuV) = Limit Line (dBuV) – Level (dBuV).



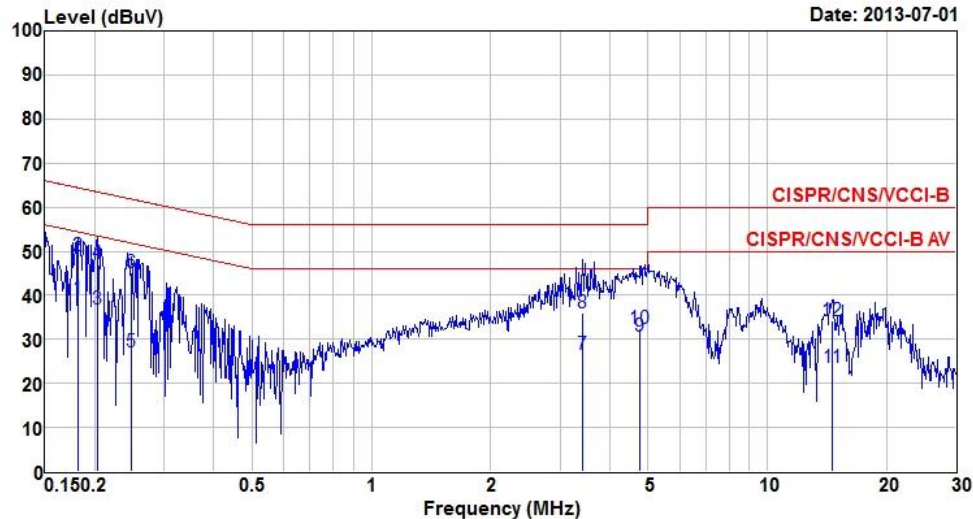
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Modulation Mode	8DPSK	Test Freq. (MHz)	2402
Power Phase	Neutral	Test Configuration	1



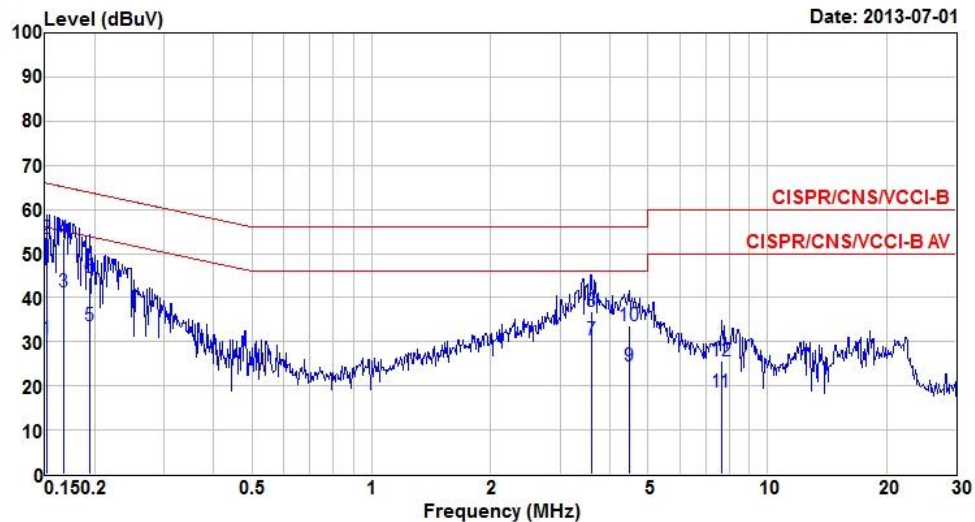
	Freq	Level	Limit	Over	Read	LISN	cable	
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark
			dBuV	dB	dBuV	dB	dB	
1	0.182	39.29	54.42	-15.13	39.13	0.02	0.14	Average
2	0.182	48.91	64.42	-15.51	48.75	0.02	0.14	QP
3	0.203	36.87	53.49	-16.62	36.67	0.02	0.18	Average
4	0.203	47.15	63.49	-16.34	46.95	0.02	0.18	QP
5	0.247	27.22	51.86	-24.64	27.06	0.02	0.14	Average
6	0.247	45.27	61.86	-16.59	45.11	0.02	0.14	QP
7	3.417	26.55	46.00	-19.45	26.28	0.05	0.22	Average
8	3.417	36.06	56.00	-19.94	35.79	0.05	0.22	QP
9	4.772	30.79	46.00	-15.21	30.52	0.05	0.22	Average
10	4.772	32.58	56.00	-23.42	32.31	0.05	0.22	QP
11	14.594	23.69	50.00	-26.31	23.45	0.11	0.13	Average
12	14.594	34.12	60.00	-25.88	33.88	0.11	0.13	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).

2: Over Limit (dBuV) = Limit Line (dBuV) - Level (dBuV).



Modulation Mode	8DPSK	Test Freq. (MHz)	2402
Power Phase	Line	Test Configuration	2



	Freq	Level	Limit	Over	Read	LISN	cable	
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark
			dBuV	dB	dBuV	dB	dB	
1	0.152	30.80	55.91	-25.11	30.71	0.03	0.06	Average
2	0.152	53.31	65.91	-12.60	53.22	0.03	0.06	QP
3	0.167	41.19	55.12	-13.93	41.06	0.03	0.10	Average
4	0.167	53.46	65.12	-11.66	53.33	0.03	0.10	QP
5	0.194	33.50	53.84	-20.34	33.30	0.03	0.17	Average
6	0.194	44.65	63.84	-19.19	44.45	0.03	0.17	QP
7	3.603	30.39	46.00	-15.61	30.10	0.06	0.23	Average
8	3.603	36.84	56.00	-19.16	36.55	0.06	0.23	QP
9	4.478	24.38	46.00	-21.62	24.10	0.06	0.22	Average
10	4.478	33.70	56.00	-22.30	33.42	0.06	0.22	QP
11	7.646	18.62	50.00	-31.38	18.38	0.09	0.15	Average
12	7.646	25.63	60.00	-34.37	25.39	0.09	0.15	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).

2: Over Limit (dBuV) = Limit Line (dBuV) – Level (dBuV).



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Modulation Mode	8DPSK	Test Freq. (MHz)	2402
Power Phase	Neutral	Test Configuration	2

Level (dBuV) Date: 2013-07-01

Frequency (MHz)

	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.158	37.28	55.56	-18.28	37.18	0.02	0.08	Average
2	0.158	53.36	65.56	-12.20	53.26	0.02	0.08	QP
3	0.168	37.08	55.08	-18.00	36.95	0.02	0.11	Average
4	0.168	53.47	65.08	-11.61	53.34	0.02	0.11	QP
5	0.179	32.41	54.55	-22.14	32.26	0.02	0.13	Average
6	0.179	51.79	64.55	-12.76	51.64	0.02	0.13	QP
7	0.232	11.85	52.39	-40.54	11.68	0.02	0.15	Average
8	0.232	43.06	62.39	-19.33	42.89	0.02	0.15	QP
9	3.472	29.21	46.00	-16.79	28.94	0.05	0.22	Average
10	3.472	36.33	56.00	-19.67	36.06	0.05	0.22	QP
11	8.367	18.94	50.00	-31.06	18.72	0.08	0.14	Average
12	8.367	25.88	60.00	-34.12	25.66	0.08	0.14	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dBuV) = Limit Line (dBuV) – Level (dBuV).



3.1.5 Test Result of Conducted Emissions – BT LE

Modulation Mode	GFSK	Test Freq. (MHz)	2402
Power Phase	Line	Test Configuration	1

Level (dBuV) Date: 2013-07-01

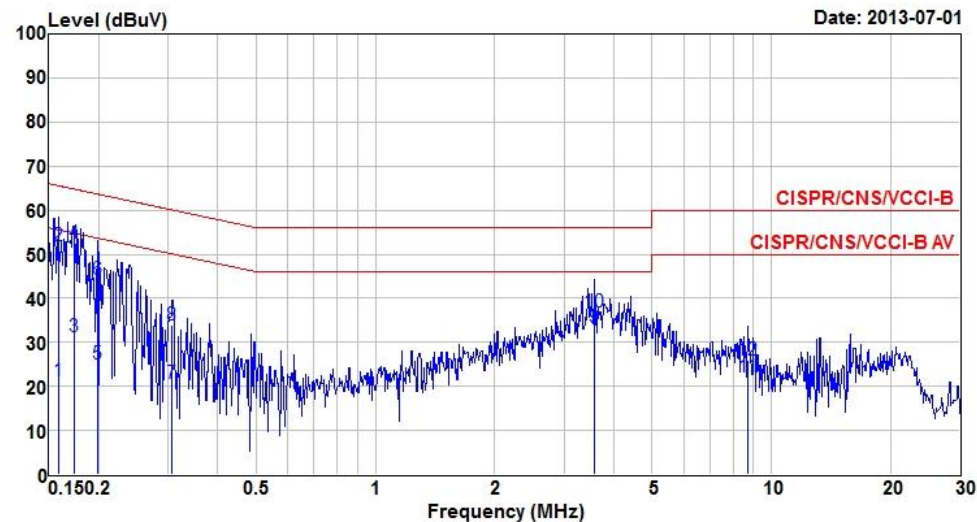
Frequency (MHz)

	Freq	Level	Limit	Over	Read	LISN	cable	
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark
			dBuV	dB	dBuV	dB	dB	
1	0.155	29.54	55.74	-26.20	29.44	0.03	0.07	Average
2	0.155	52.14	65.74	-13.60	52.04	0.03	0.07	QP
3	0.169	38.41	55.03	-16.62	38.27	0.03	0.11	Average
4	0.169	53.05	65.03	-11.98	52.91	0.03	0.11	QP
5	0.189	36.77	54.06	-17.29	36.58	0.03	0.16	Average
6	0.189	47.61	64.06	-16.45	47.42	0.03	0.16	QP
7	0.222	32.41	52.74	-20.33	32.22	0.03	0.16	Average
8	0.222	44.22	62.74	-18.52	44.03	0.03	0.16	QP
9	3.276	26.06	46.00	-19.94	25.78	0.06	0.22	Average
10	3.276	34.96	56.00	-21.04	34.68	0.06	0.22	QP
11	3.901	29.23	46.00	-16.77	28.93	0.06	0.24	Average
12	3.901	34.10	56.00	-21.90	33.80	0.06	0.24	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dBuV) = Limit Line (dBuV) – Level (dBuV).



Modulation Mode	GFSK	Test Freq. (MHz)	2402
Power Phase	Neutral	Test Configuration	1



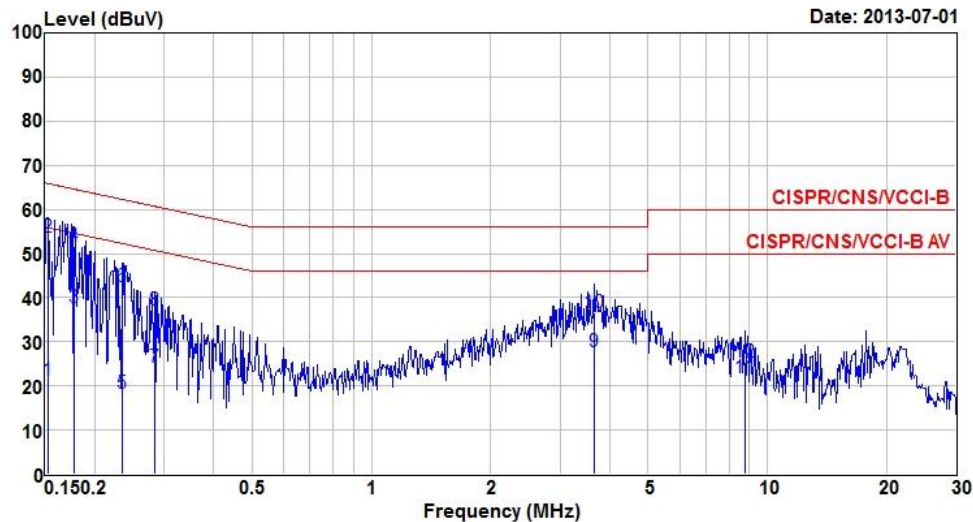
	Freq	Level	Limit	Over	Read	LISN	cable	
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark
			dBuV	dB	dBuV	dB	dB	
1	0.158	21.35	55.56	-34.21	21.25	0.02	0.08	Average
2	0.158	51.79	65.56	-13.77	51.69	0.02	0.08	QP
3	0.173	31.23	54.81	-23.58	31.09	0.02	0.12	Average
4	0.173	52.61	64.81	-12.20	52.47	0.02	0.12	QP
5	0.199	25.23	53.67	-28.44	25.03	0.02	0.18	Average
6	0.199	44.19	63.67	-19.48	43.99	0.02	0.18	QP
7	0.307	20.57	50.06	-29.49	20.45	0.02	0.10	Average
8	0.307	33.87	60.06	-26.19	33.75	0.02	0.10	QP
9	3.584	33.32	46.00	-12.68	33.04	0.05	0.23	Average
10	3.584	36.82	56.00	-19.18	36.54	0.05	0.23	QP
11	8.729	22.07	50.00	-27.93	21.86	0.08	0.13	Average
12	8.729	25.85	60.00	-34.15	25.64	0.08	0.13	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).

2: Over Limit (dBuV) = Limit Line (dBuV) - Level (dBuV).



Modulation Mode	GFSK	Test Freq. (MHz)	2402
Power Phase	Line	Test Configuration	2



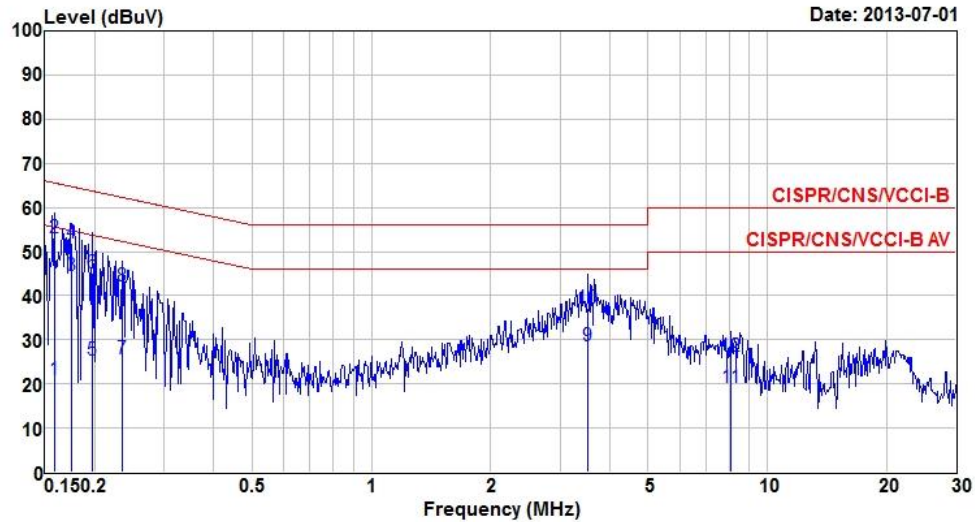
	Freq	Level	Limit	Over	Read	LISN	cable	
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark
			dBuV	dB	dBuV	dB	dB	
1	0.152	21.31	55.87	-34.56	21.21	0.03	0.07	Average
2	0.152	53.66	65.87	-12.21	53.56	0.03	0.07	QP
3	0.178	37.76	54.59	-16.83	37.60	0.03	0.13	Average
4	0.178	51.54	64.59	-13.05	51.38	0.03	0.13	QP
5	0.235	18.17	52.26	-34.09	17.99	0.03	0.15	Average
6	0.235	42.47	62.26	-19.79	42.29	0.03	0.15	QP
7	0.283	24.14	50.72	-26.58	24.00	0.03	0.11	Average
8	0.283	37.28	60.72	-23.44	37.14	0.03	0.11	QP
9	3.642	27.86	46.00	-18.14	27.57	0.06	0.23	Average
10	3.642	36.73	56.00	-19.27	36.44	0.06	0.23	QP
11	8.776	21.77	50.00	-28.23	21.55	0.09	0.13	Average
12	8.776	25.37	60.00	-34.63	25.15	0.09	0.13	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).

2: Over Limit (dBuV) = Limit Line (dBuV) – Level (dBuV).



Modulation Mode	GFSK	Test Freq. (MHz)	2402
Power Phase	Neutral	Test Configuration	2



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.158	21.09	55.56	-34.47	20.99	0.02	0.08	Average
2	0.158	53.01	65.56	-12.55	52.91	0.02	0.08	QP
3	0.175	44.59	54.72	-10.13	44.45	0.02	0.12	Average
4	0.175	51.97	64.72	-12.75	51.83	0.02	0.12	QP
5	0.198	25.30	53.71	-28.41	25.10	0.02	0.18	Average
6	0.198	45.21	63.71	-18.50	45.01	0.02	0.18	QP
7	0.234	25.72	52.30	-26.58	25.55	0.02	0.15	Average
8	0.234	42.20	62.30	-20.10	42.03	0.02	0.15	QP
9	3.528	28.64	46.00	-17.36	28.36	0.05	0.23	Average
10	3.528	37.10	56.00	-18.90	36.82	0.05	0.23	QP
11	8.105	19.26	50.00	-30.74	19.04	0.08	0.14	Average
12	8.105	26.20	60.00	-33.80	25.98	0.08	0.14	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).

2: Over Limit (dBuV) = Limit Line (dBuV) – Level (dBuV).



3.2 Radiated Emissions

3.2.1 Limit of Radiated Emissions

According to FCC Part 15, Subpart B §15.109, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

Note: According to FCC Part 15, Subpart B §15.33: For an unintentional radiator is shown in the table above.

3.2.2 Test Procedures

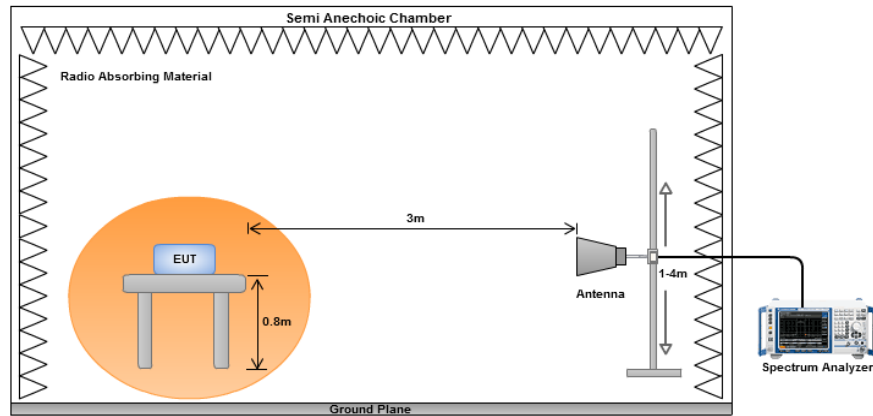
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at a height of 0.8 m test table above the ground plane.
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=3MHz and RMS detector is for average measured value of radiated emission above 1GHz.



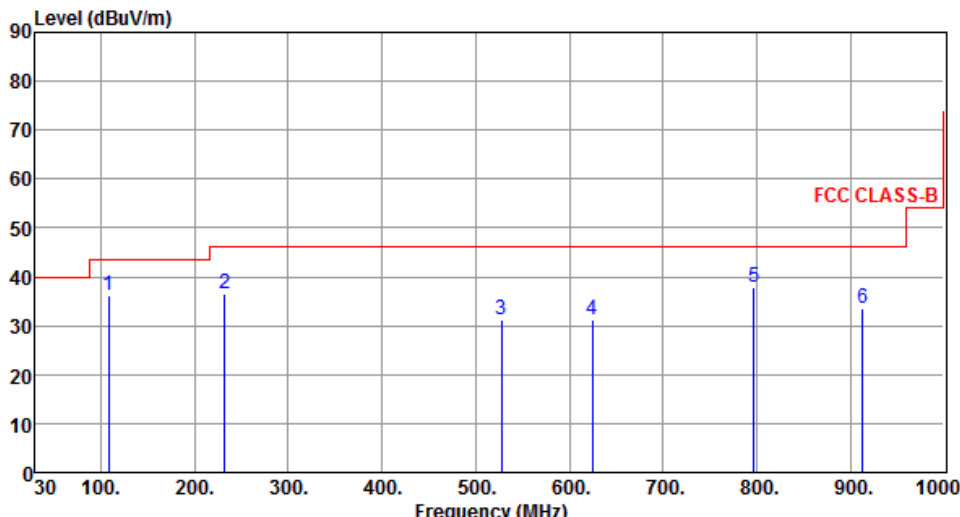
3.2.3 Test Setup





3.2.4 Radiated Emissions (Below 1GHz) – BT EDR

Modulation Mode	8DPSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Test Configuration	1



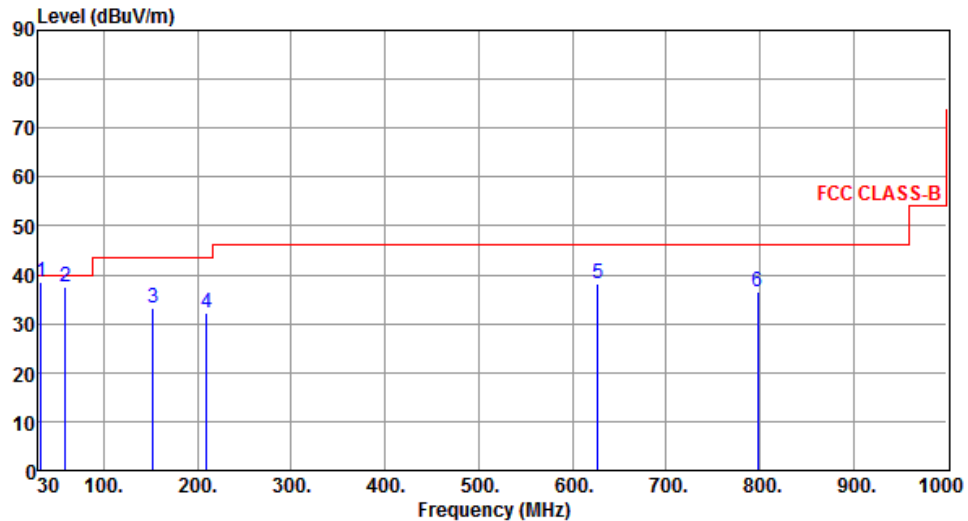
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	108.57	36.05	43.50	-7.45	56.27	-20.22	Peak	---	---
2	231.76	36.62	46.00	-9.38	55.34	-18.72	Peak	---	---
3	527.61	31.09	46.00	-14.91	42.18	-11.09	Peak	---	---
4	624.61	31.29	46.00	-14.71	40.68	-9.39	Peak	---	---
5	797.27	37.97	46.00	-8.03	44.76	-6.79	Peak	---	---
6	912.70	33.57	46.00	-12.43	38.91	-5.34	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).

2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	8DPSK	Test Freq. (MHz)	2402
Polarization	Vertical	Test Configuration	1

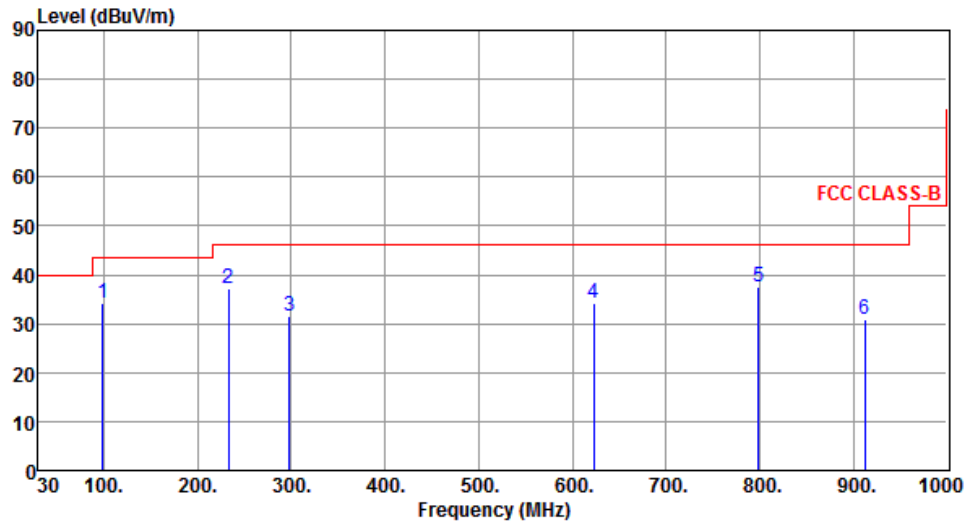


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	32.67	38.37	40.00	-1.63	55.93	-17.56	QP	---	---
2	58.71	37.59	40.00	-2.41	54.79	-17.20	QP	---	---
3	152.22	33.11	43.50	-10.39	50.03	-16.92	Peak	---	---
4	209.45	32.23	43.50	-11.27	51.64	-19.41	Peak	---	---
5	627.52	38.23	46.00	-7.77	47.58	-9.35	Peak	---	---
6	798.24	36.49	46.00	-9.51	43.26	-6.77	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	8DPSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	98.43	34.23	43.50	-9.27	56.07	-21.84	Peak	---	---
2	232.64	37.18	46.00	-8.82	55.84	-18.66	Peak	---	---
3	298.33	31.65	46.00	-14.35	47.92	-16.27	Peak	---	---
4	623.27	34.16	46.00	-11.84	43.57	-9.41	Peak	---	---
5	798.55	37.42	46.00	-8.58	44.19	-6.77	Peak	---	---
6	912.58	31.05	46.00	-14.95	36.39	-5.34	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	8DPSK	Test Freq. (MHz)	2402
Polarization	Vertical	Test Configuration	2

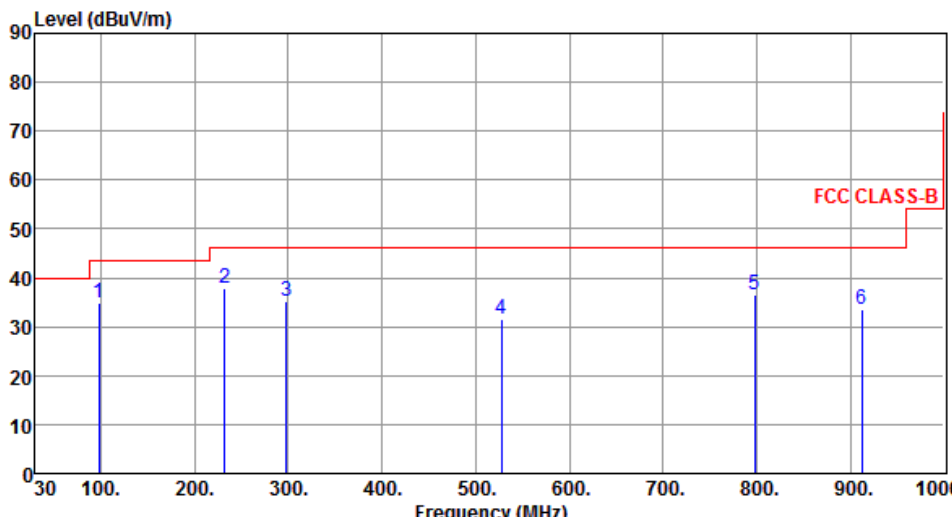
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	32.36	37.48	40.00	-2.52	55.07	-17.59	QP	---	---
2	46.85	36.94	40.00	-3.06	53.59	-16.65	QP	---	---
3	151.36	33.81	43.50	-9.69	50.74	-16.93	Peak	---	---
4	232.47	30.25	46.00	-15.75	48.92	-18.67	Peak	---	---
5	626.41	37.18	46.00	-8.82	46.55	-9.37	Peak	---	---
6	798.34	35.46	46.00	-10.54	42.23	-6.77	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).

Note 2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).

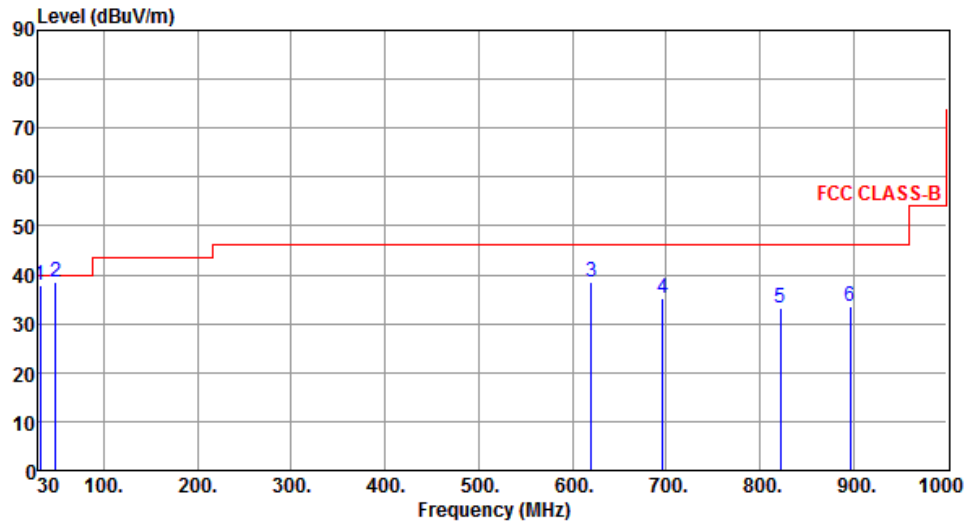


3.2.5 Radiated Emissions (Below 1GHz) – BT LE

Modulation Mode	GFSK	Test Freq. (MHz)	2402																																																																						
Polarization	Horizontal	Test Configuration	1																																																																						
<div></div> <table><tr><th></th><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>1</td><td>98.24</td><td>34.88</td><td>43.50</td><td>-8.62</td><td>56.74</td><td>-21.86</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>2</td><td>232.41</td><td>37.71</td><td>46.00</td><td>-8.29</td><td>56.38</td><td>-18.67</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>3</td><td>298.13</td><td>35.18</td><td>46.00</td><td>-10.82</td><td>51.45</td><td>-16.27</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>4</td><td>527.94</td><td>31.56</td><td>46.00</td><td>-14.44</td><td>42.64</td><td>-11.08</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>5</td><td>798.05</td><td>36.60</td><td>46.00</td><td>-9.40</td><td>43.38</td><td>-6.78</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>6</td><td>912.56</td><td>33.38</td><td>46.00</td><td>-12.62</td><td>38.72</td><td>-5.34</td><td>Peak</td><td>---</td><td>---</td></tr></table>					Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg	1	98.24	34.88	43.50	-8.62	56.74	-21.86	Peak	---	---	2	232.41	37.71	46.00	-8.29	56.38	-18.67	Peak	---	---	3	298.13	35.18	46.00	-10.82	51.45	-16.27	Peak	---	---	4	527.94	31.56	46.00	-14.44	42.64	-11.08	Peak	---	---	5	798.05	36.60	46.00	-9.40	43.38	-6.78	Peak	---	---	6	912.56	33.38	46.00	-12.62	38.72	-5.34	Peak	---	---
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg																																																																
1	98.24	34.88	43.50	-8.62	56.74	-21.86	Peak	---	---																																																																
2	232.41	37.71	46.00	-8.29	56.38	-18.67	Peak	---	---																																																																
3	298.13	35.18	46.00	-10.82	51.45	-16.27	Peak	---	---																																																																
4	527.94	31.56	46.00	-14.44	42.64	-11.08	Peak	---	---																																																																
5	798.05	36.60	46.00	-9.40	43.38	-6.78	Peak	---	---																																																																
6	912.56	33.38	46.00	-12.62	38.72	-5.34	Peak	---	---																																																																
Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB). 2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).																																																																									



Modulation Mode	GFSK	Test Freq. (MHz)	2402
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	32.43	37.90	40.00	-2.10	55.48	-17.58	QP	---	---
2	48.49	38.57	40.00	-1.43	55.17	-16.60	QP	---	---
3	619.85	38.37	46.00	-7.63	47.83	-9.46	Peak	---	---
4	696.75	35.35	46.00	-10.65	43.65	-8.30	Peak	---	---
5	821.78	33.08	46.00	-12.92	39.56	-6.48	Peak	---	---
6	896.33	33.39	46.00	-12.61	38.95	-5.56	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



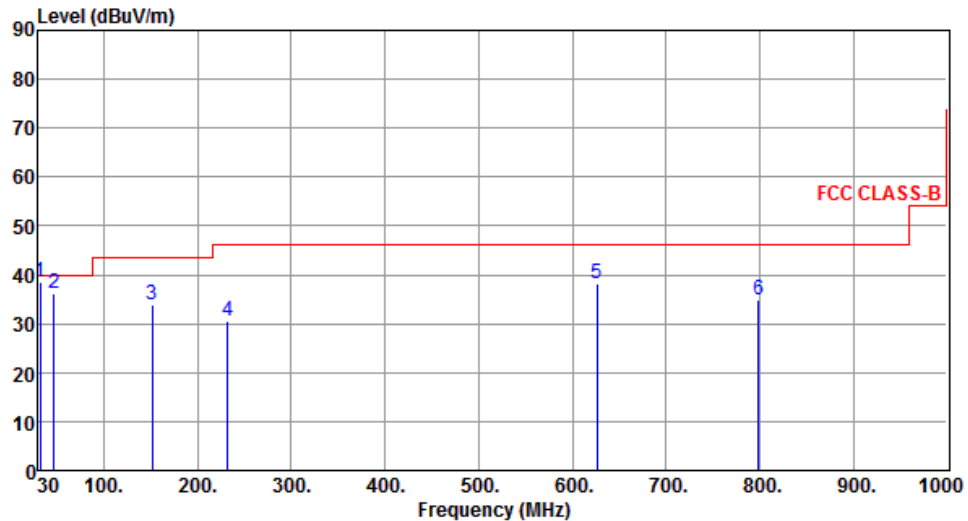
Modulation Mode	GFSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Test Configuration	2

	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	98.12	35.18	43.50	-8.32	57.06	-21.88	Peak	---	---
2	232.51	36.98	46.00	-9.02	55.64	-18.66	Peak	---	---
3	298.43	32.35	46.00	-13.65	48.62	-16.27	Peak	---	---
4	623.57	34.29	46.00	-11.71	43.69	-9.40	Peak	---	---
5	798.44	37.86	46.00	-8.14	44.63	-6.77	Peak	---	---
6	911.85	30.57	46.00	-15.43	35.92	-5.35	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	GFSK	Test Freq. (MHz)	2402
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	32.49	38.36	40.00	-1.64	55.94	-17.58	QP	---	---
2	46.50	36.14	40.00	-3.86	52.80	-16.66	QP	---	---
3	151.37	33.82	43.50	-9.68	50.75	-16.93	Peak	---	---
4	232.09	30.65	46.00	-15.35	49.34	-18.69	Peak	---	---
5	626.59	38.16	46.00	-7.84	47.52	-9.36	Peak	---	---
6	798.28	34.79	46.00	-11.21	41.56	-6.77	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



3.2.6 Radiated Emissions (Above 1GHz) – BT EDR

Modulation Mode	8DPSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Test Configuration	1

	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.00	25.20	54.00	-28.80	28.42	-3.22	Average	---	---
2	2392.00	38.25	74.00	-35.75	41.47	-3.22	Peak	---	---
3	3193.00	27.35	54.00	-26.65	27.67	-0.32	Average	---	---
4	3193.00	41.51	74.00	-32.49	41.83	-0.32	Peak	---	---
5	9614.00	42.48	54.00	-11.52	28.99	13.49	Average	---	---
6	9614.00	54.25	74.00	-19.75	40.76	13.49	Peak	---	---

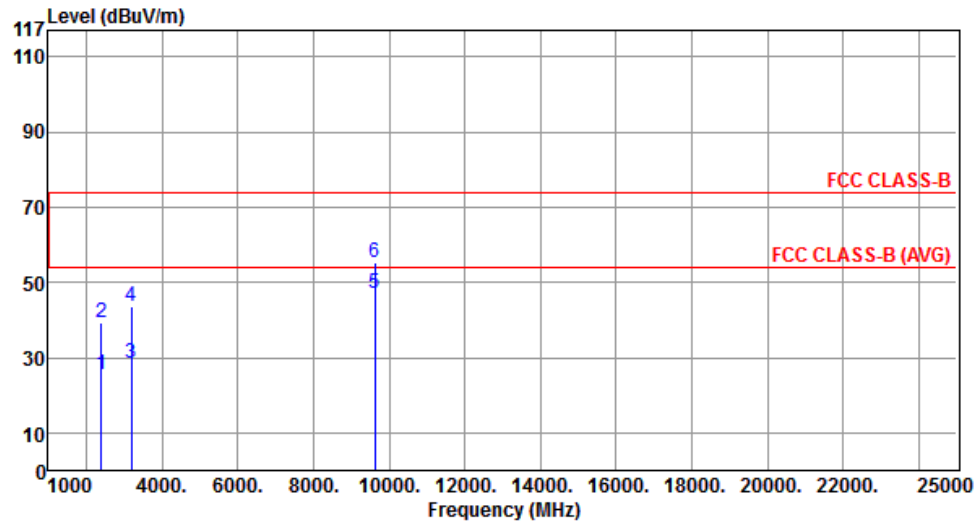
Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



International Certification Corp.

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C.
Tel: 886-3-271-8666 Fax: 886-3-318-0155

Modulation Mode	8DPSK	Test Freq. (MHz)	2402
Polarization	Vertical	Test Configuration	1

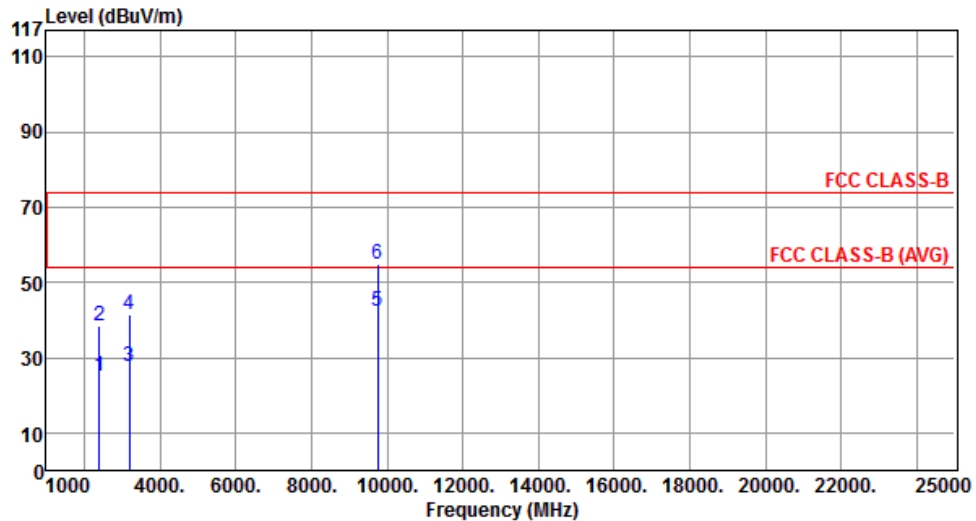


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.00	25.30	54.00	-28.70	28.52	-3.22	Average	---	---
2	2392.00	39.17	74.00	-34.83	42.39	-3.22	Peak	---	---
3	3193.00	28.38	54.00	-25.62	28.70	-0.32	Average	---	---
4	3193.00	43.56	74.00	-30.44	43.88	-0.32	Peak	---	---
5	9614.00	47.13	54.00	-6.87	33.64	13.49	Average	---	---
6	9614.00	55.41	74.00	-18.59	41.92	13.49	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	8DPSK	Test Freq. (MHz)	2441
Polarization	Horizontal	Test Configuration	1

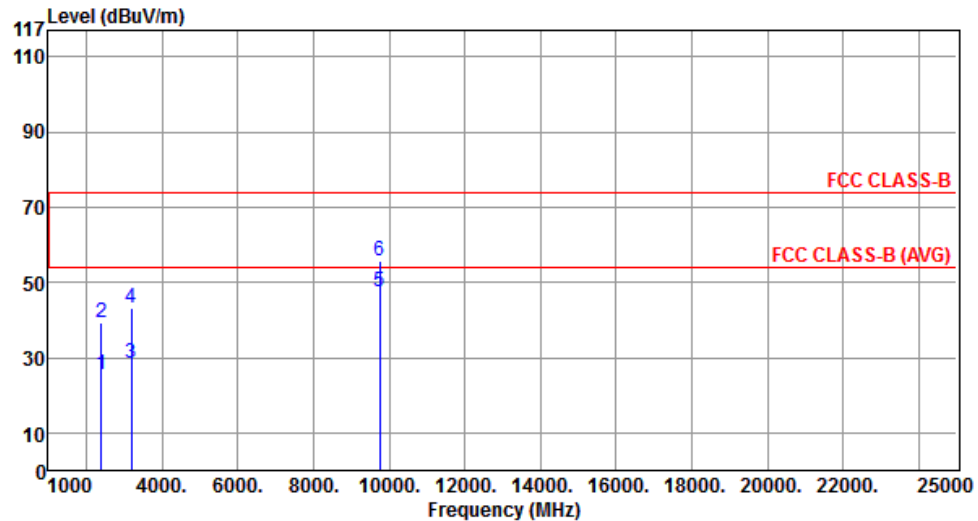


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.00	24.90	54.00	-29.10	28.12	-3.22	Average	---	---
2	2392.00	38.47	74.00	-35.53	41.69	-3.22	Peak	---	---
3	3193.00	27.50	54.00	-26.50	27.82	-0.32	Average	---	---
4	3193.00	41.23	74.00	-32.77	41.55	-0.32	Peak	---	---
5	9758.00	42.16	54.00	-11.84	28.42	13.74	Average	---	---
6	9758.00	54.71	74.00	-19.29	40.97	13.74	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	8DPSK	Test Freq. (MHz)	2441
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.00	25.63	54.00	-28.37	28.85	-3.22	Average	---	---
2	2392.00	39.17	74.00	-34.83	42.39	-3.22	Peak	---	---
3	3193.00	28.44	54.00	-25.56	28.76	-0.32	Average	---	---
4	3193.00	43.16	74.00	-30.84	43.48	-0.32	Peak	---	---
5	9758.00	47.37	54.00	-6.63	33.63	13.74	Average	---	---
6	9758.00	55.89	74.00	-18.11	42.15	13.74	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	8DPSK	Test Freq. (MHz)	2480
Polarization	Horizontal	Test Configuration	1

The graph displays the emission level in dBuV/m against frequency in MHz. The y-axis ranges from 0 to 117 dBuV/m, and the x-axis ranges from 1000 to 25000 MHz. Two horizontal red lines represent the FCC CLASS-B limit at approximately 74 dBuV/m and the FCC CLASS-B (AVG) limit at approximately 54 dBuV/m. Several peaks are identified and labeled with numbers 2 through 6. Peak 6 is the highest, reaching approximately 55.59 dBuV/m at 9926.00 MHz.

	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.00	25.50	54.00	-28.50	28.72	-3.22	Average	---	---
2	2392.00	39.13	74.00	-34.87	42.35	-3.22	Peak	---	---
3	3193.00	27.22	54.00	-26.78	27.54	-0.32	Average	---	---
4	3193.00	41.80	74.00	-32.20	42.12	-0.32	Peak	---	---
5	9926.00	42.84	54.00	-11.16	28.71	14.13	Average	---	---
6	9926.00	55.59	74.00	-18.41	41.46	14.13	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	8DPSK	Test Freq. (MHz)	2480
Polarization	Vertical	Test Configuration	1

	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.00	25.73	54.00	-28.27	28.95	-3.22	Average	---	---
2	2392.00	39.32	74.00	-34.68	42.54	-3.22	Peak	---	---
3	3193.00	28.09	54.00	-25.91	28.41	-0.32	Average	---	---
4	3193.00	44.14	74.00	-29.86	44.46	-0.32	Peak	---	---
5	9926.00	48.44	54.00	-5.56	34.31	14.13	Average	---	---
6	9926.00	56.77	74.00	-17.23	42.64	14.13	Peak	---	---

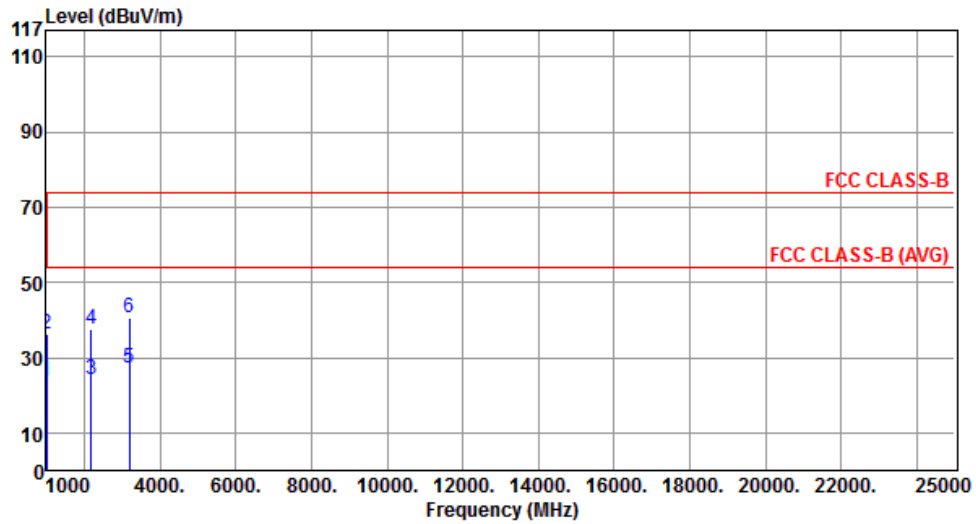
Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



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Modulation Mode	8DPSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Test Configuration	2

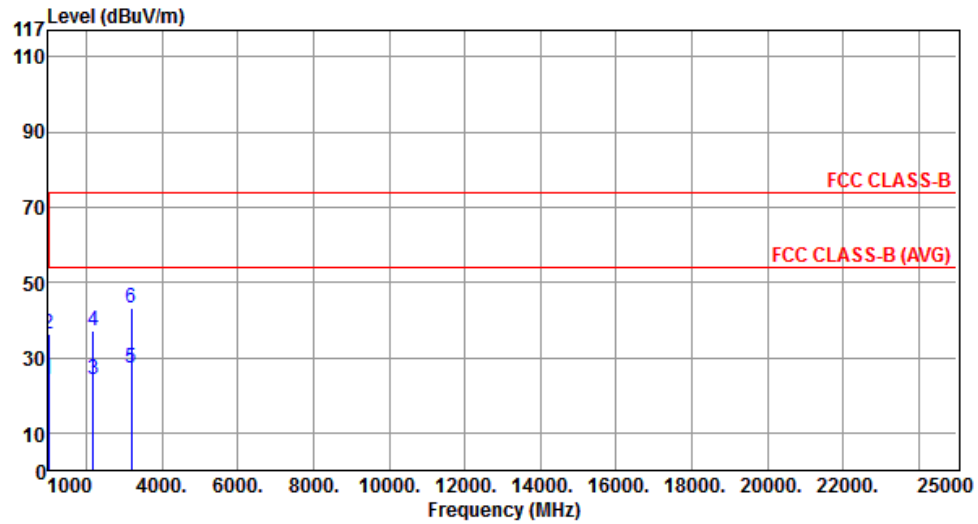


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1008.00	23.85	54.00	-30.15	33.31	-9.46	Average	---	---
2	1008.00	36.42	74.00	-37.58	45.88	-9.46	Peak	---	---
3	2186.00	24.13	54.00	-29.87	28.14	-4.01	Average	---	---
4	2186.00	37.35	74.00	-36.65	41.36	-4.01	Peak	---	---
5	3193.00	27.00	54.00	-27.00	27.32	-0.32	Average	---	---
6	3193.00	40.74	74.00	-33.26	41.06	-0.32	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	8DPSK	Test Freq. (MHz)	2402
Polarization	Vertical	Test Configuration	2

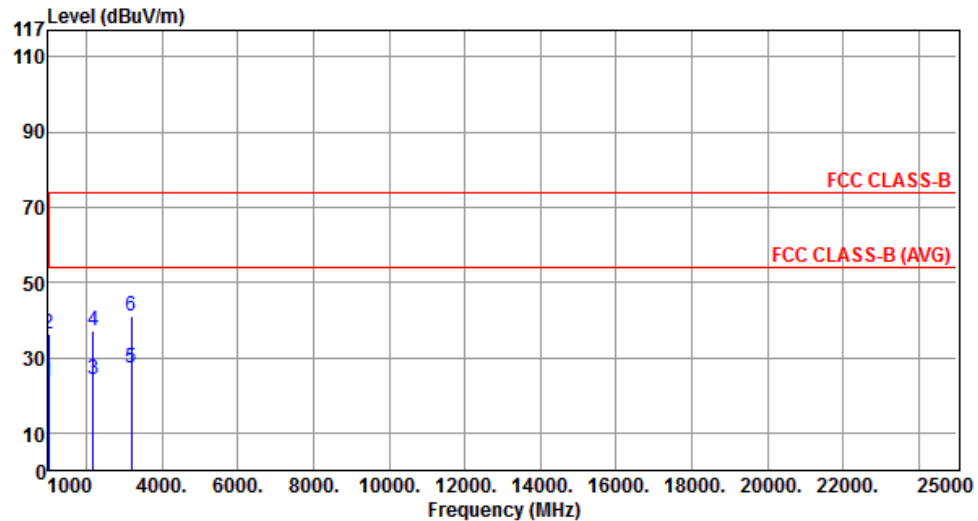


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1008.00	24.17	54.00	-29.83	33.63	-9.46	Average	---	---
2	1008.00	36.39	74.00	-37.61	45.85	-9.46	Peak	---	---
3	2186.00	24.15	54.00	-29.85	28.16	-4.01	Average	---	---
4	2186.00	37.24	74.00	-36.76	41.25	-4.01	Peak	---	---
5	3193.00	27.11	54.00	-26.89	27.43	-0.32	Average	---	---
6	3193.00	43.36	74.00	-30.64	43.68	-0.32	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	8DPSK	Test Freq. (MHz)	2441
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1008.00	23.73	54.00	-30.27	33.19	-9.46	Average	---	---
2	1008.00	36.28	74.00	-37.72	45.74	-9.46	Peak	---	---
3	2186.00	24.25	54.00	-29.75	28.26	-4.01	Average	---	---
4	2186.00	37.02	74.00	-36.98	41.03	-4.01	Peak	---	---
5	3193.00	27.19	54.00	-26.81	27.51	-0.32	Average	---	---
6	3193.00	41.16	74.00	-32.84	41.48	-0.32	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



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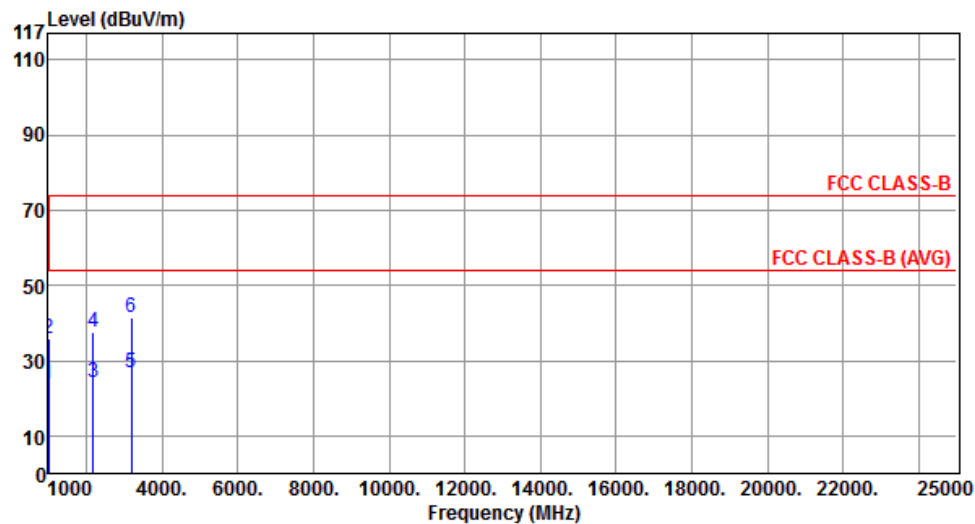
Modulation Mode	8DPSK	Test Freq. (MHz)	2441
Polarization	Vertical	Test Configuration	2

	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1008.00	24.12	54.00	-29.88	33.58	-9.46	Average	---	---
2	1008.00	36.45	74.00	-37.55	45.91	-9.46	Peak	---	---
3	2186.00	24.34	54.00	-29.66	28.35	-4.01	Average	---	---
4	2186.00	37.65	74.00	-36.35	41.66	-4.01	Peak	---	---
5	3193.00	27.48	54.00	-26.52	27.80	-0.32	Average	---	---
6	3193.00	43.23	74.00	-30.77	43.55	-0.32	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	8DPSK	Test Freq. (MHz)	2480
Polarization	Horizontal	Test Configuration	2

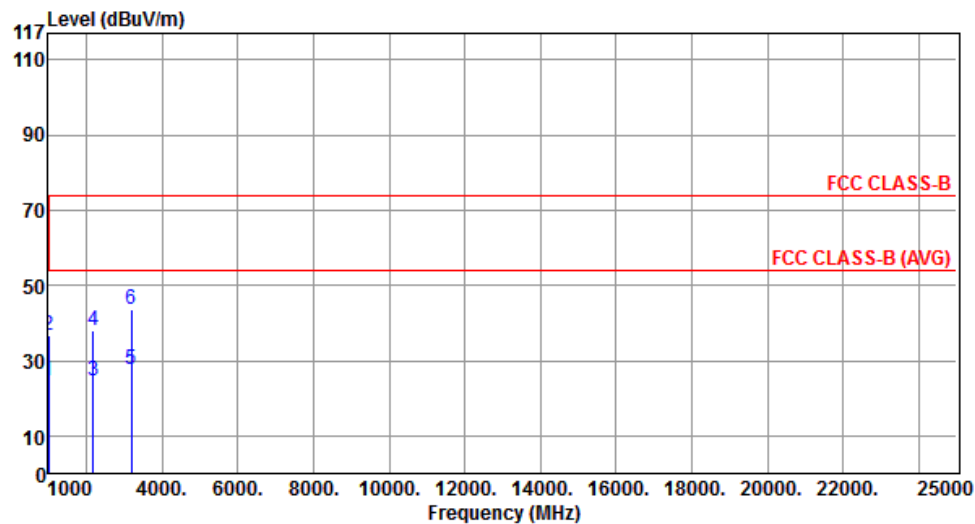


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1008.00	23.78	54.00	-30.22	33.24	-9.46	Average	---	---
2	1008.00	36.01	74.00	-37.99	45.47	-9.46	Peak	---	---
3	2186.00	24.37	54.00	-29.63	28.38	-4.01	Average	---	---
4	2186.00	37.53	74.00	-36.47	41.54	-4.01	Peak	---	---
5	3193.00	26.85	54.00	-27.15	27.17	-0.32	Average	---	---
6	3193.00	41.43	74.00	-32.57	41.75	-0.32	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	8DPSK	Test Freq. (MHz)	2480
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1008.00	24.48	54.00	-29.52	33.94	-9.46	Average	---	---
2	1008.00	36.57	74.00	-37.43	46.03	-9.46	Peak	---	---
3	2186.00	24.58	54.00	-29.42	28.59	-4.01	Average	---	---
4	2186.00	37.80	74.00	-36.20	41.81	-4.01	Peak	---	---
5	3193.00	27.60	54.00	-26.40	27.92	-0.32	Average	---	---
6	3193.00	43.44	74.00	-30.56	43.76	-0.32	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



3.2.7 Radiated Emissions (Above 1GHz) – BT LE

Modulation Mode	GFSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Test Configuration	1

	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.00	24.67	54.00	-29.33	27.89	-3.22	Average	---	---
2	2392.00	37.47	74.00	-36.53	40.69	-3.22	Peak	---	---
3	3193.00	27.18	54.00	-26.82	27.50	-0.32	Average	---	---
4	3193.00	41.01	74.00	-32.99	41.33	-0.32	Peak	---	---
5	9602.00	40.82	54.00	-13.18	27.35	13.47	Average	---	---
6	9602.00	53.99	74.00	-20.01	40.52	13.47	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	GFSK	Test Freq. (MHz)	2402
Polarization	Vertical	Test Configuration	1

Level (dBuV/m)

Frequency (MHz)

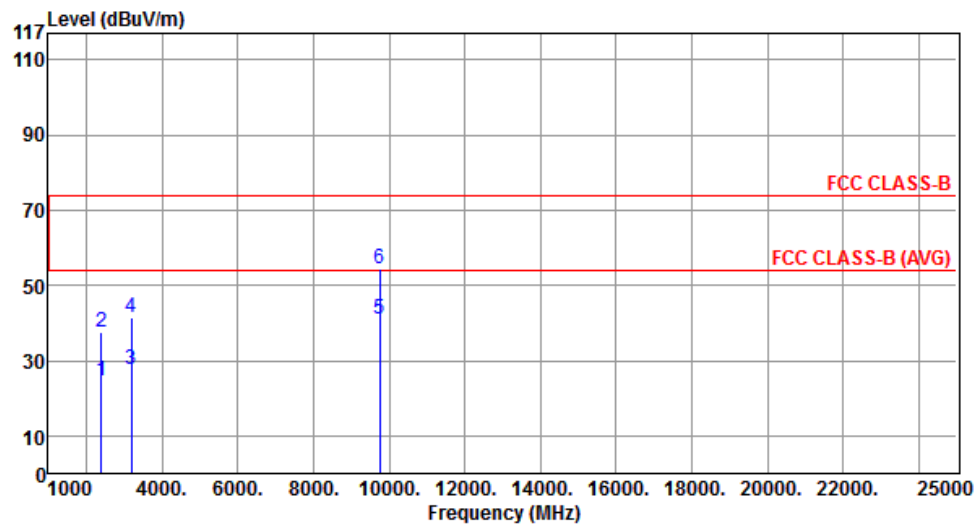
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.00	25.23	54.00	-28.77	28.45	-3.22	Average	---	---
2	2392.00	39.17	74.00	-34.83	42.39	-3.22	Peak	---	---
3	3193.00	27.18	54.00	-26.82	27.50	-0.32	Average	---	---
4	3193.00	42.94	74.00	-31.06	43.26	-0.32	Peak	---	---
5	9602.00	42.10	54.00	-11.90	28.63	13.47	Average	---	---
6	9602.00	54.71	74.00	-19.29	41.24	13.47	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).

2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	GFSK	Test Freq. (MHz)	2440
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.00	24.43	54.00	-29.57	27.65	-3.22	Average	---	---
2	2392.00	37.62	74.00	-36.38	40.84	-3.22	Peak	---	---
3	3193.00	27.58	54.00	-26.42	27.90	-0.32	Average	---	---
4	3193.00	41.25	74.00	-32.75	41.57	-0.32	Peak	---	---
5	9754.00	41.16	54.00	-12.84	27.42	13.74	Average	---	---
6	9754.00	54.29	74.00	-19.71	40.55	13.74	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



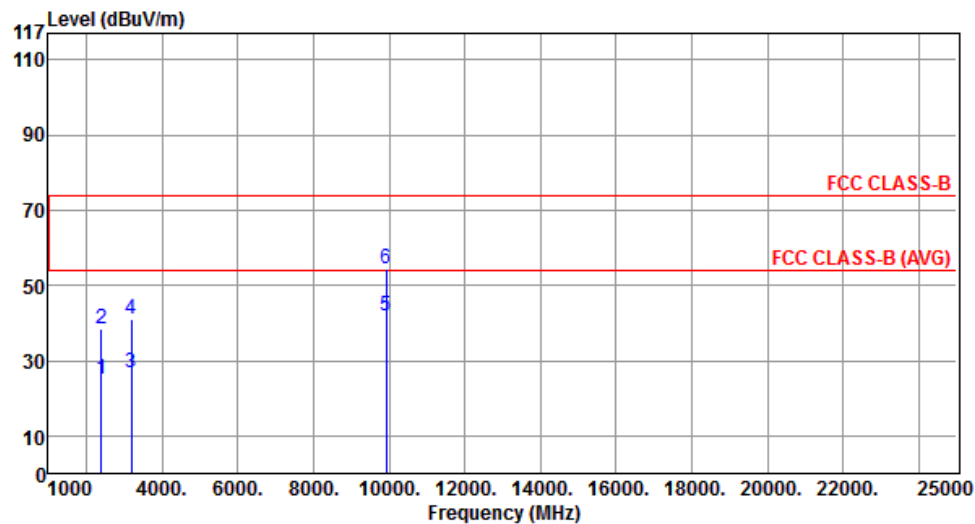
Modulation Mode	GFSK	Test Freq. (MHz)	2440
Polarization	Vertical	Test Configuration	1

	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.00	25.43	54.00	-28.57	28.65	-3.22	Average	---	---
2	2392.00	39.30	74.00	-34.70	42.52	-3.22	Peak	---	---
3	3193.00	27.56	54.00	-26.44	27.88	-0.32	Average	---	---
4	3193.00	43.11	74.00	-30.89	43.43	-0.32	Peak	---	---
5	9754.00	42.21	54.00	-11.79	28.47	13.74	Average	---	---
6	9754.00	55.10	74.00	-18.90	41.36	13.74	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
 2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	GFSK	Test Freq. (MHz)	2480
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.00	25.06	54.00	-28.94	28.28	-3.22	Average	---	---
2	2392.00	38.34	74.00	-35.66	41.56	-3.22	Peak	---	---
3	3193.00	26.83	54.00	-27.17	27.15	-0.32	Average	---	---
4	3193.00	41.05	74.00	-32.95	41.37	-0.32	Peak	---	---
5	9914.00	42.04	54.00	-11.96	27.93	14.11	Average	---	---
6	9914.00	54.58	74.00	-19.42	40.47	14.11	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	GFSK	Test Freq. (MHz)	2480
Polarization	Vertical	Test Configuration	1

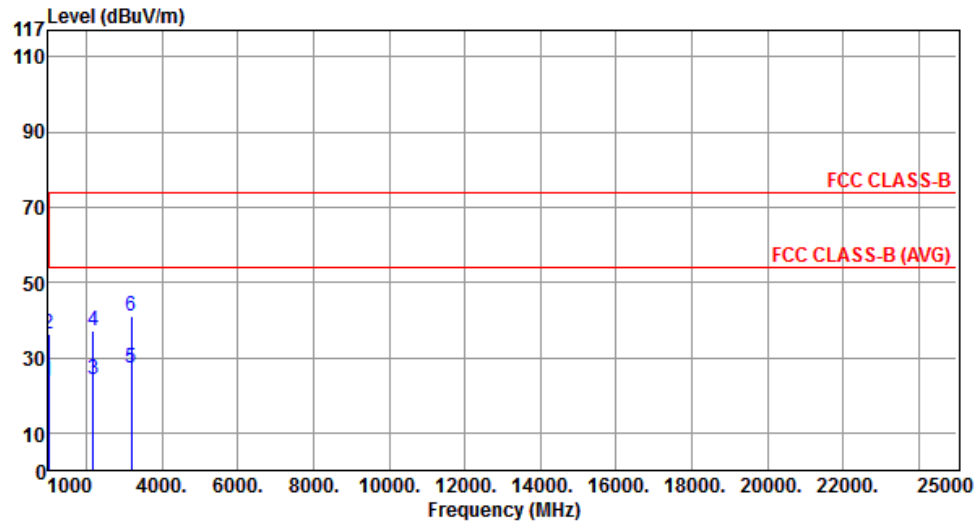
The graph displays the emission level in dBuV/m against frequency in MHz. The y-axis ranges from 0 to 117 dBuV/m, and the x-axis ranges from 1000 to 25000 MHz. Two horizontal red lines represent the FCC CLASS-B limit at approximately 74 dBuV/m and the FCC CLASS-B (AVG) limit at approximately 54 dBuV/m. Several peaks are identified and labeled with numbers 2 through 6. Peak 6 is the highest, reaching approximately 56 dBuV/m at 9914 MHz.

	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.00	25.76	54.00	-28.24	28.98	-3.22	Average	---	---
2	2392.00	39.62	74.00	-34.38	42.84	-3.22	Peak	---	---
3	3193.00	28.12	54.00	-25.88	28.44	-0.32	Average	---	---
4	3193.00	43.29	74.00	-30.71	43.61	-0.32	Peak	---	---
5	9914.00	43.07	54.00	-10.93	28.96	14.11	Average	---	---
6	9914.00	55.94	74.00	-18.06	41.83	14.11	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	GFSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1008.00	23.70	54.00	-30.30	33.16	-9.46	Average	---	---
2	1008.00	36.46	74.00	-37.54	45.92	-9.46	Peak	---	---
3	2186.00	23.96	54.00	-30.04	27.97	-4.01	Average	---	---
4	2186.00	37.02	74.00	-36.98	41.03	-4.01	Peak	---	---
5	3193.00	27.25	54.00	-26.75	27.57	-0.32	Average	---	---
6	3193.00	40.91	74.00	-33.09	41.23	-0.32	Peak	---	---

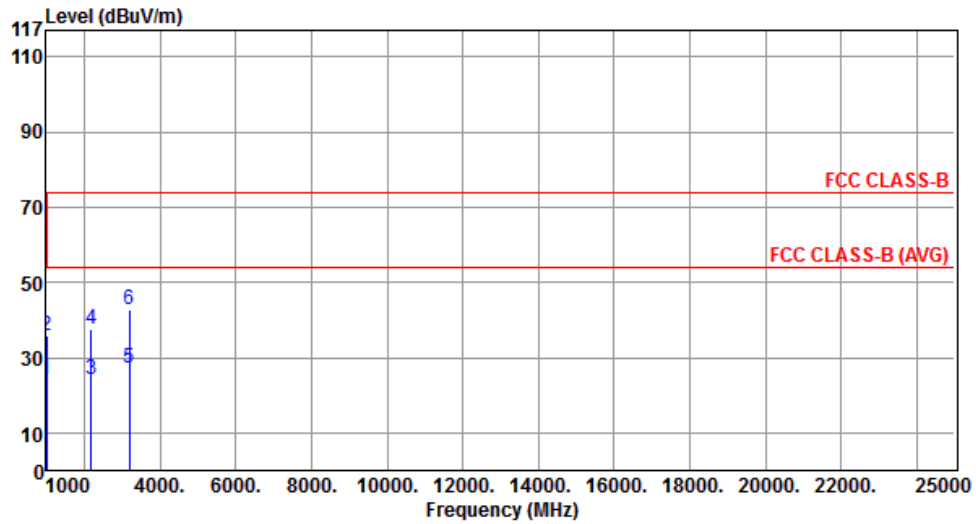
Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) - Level (dBuV/m).



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Modulation Mode	GFSK	Test Freq. (MHz)	2402
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1008.00	24.38	54.00	-29.62	33.84	-9.46	Average	---	---
2	1008.00	35.93	74.00	-38.07	45.39	-9.46	Peak	---	---
3	2186.00	24.01	54.00	-29.99	28.02	-4.01	Average	---	---
4	2186.00	37.55	74.00	-36.45	41.56	-4.01	Peak	---	---
5	3193.00	27.00	54.00	-27.00	27.32	-0.32	Average	---	---
6	3193.00	42.85	74.00	-31.15	43.17	-0.32	Peak	---	---

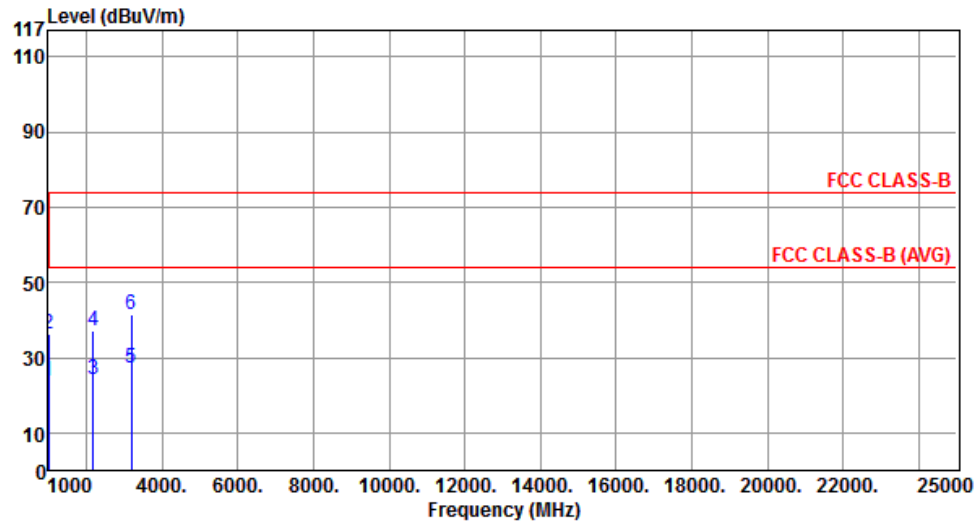
Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



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Modulation Mode	GFSK	Test Freq. (MHz)	2440
Polarization	Horizontal	Test Configuration	2

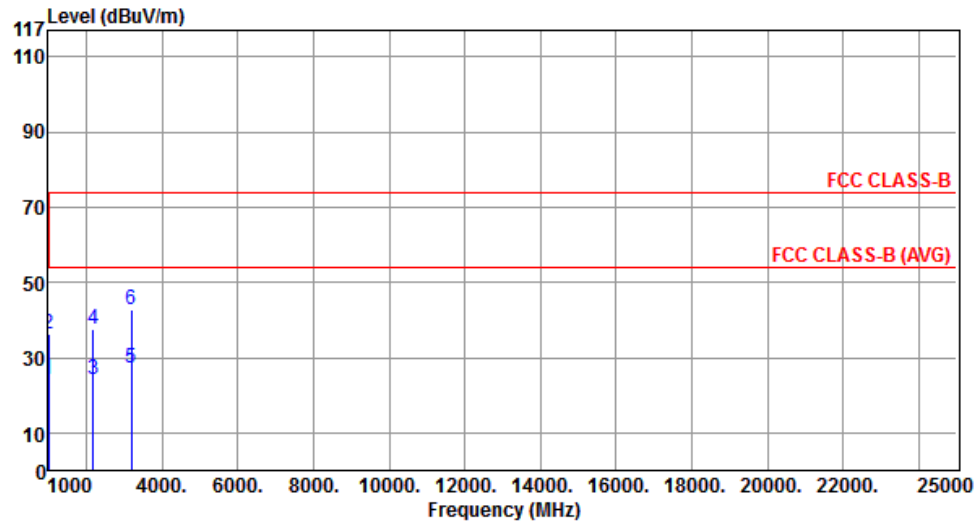


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1008.00	23.95	54.00	-30.05	33.41	-9.46	Average	---	---
2	1008.00	36.43	74.00	-37.57	45.89	-9.46	Peak	---	---
3	2186.00	24.01	54.00	-29.99	28.02	-4.01	Average	---	---
4	2186.00	37.14	74.00	-36.86	41.15	-4.01	Peak	---	---
5	3193.00	27.05	54.00	-26.95	27.37	-0.32	Average	---	---
6	3193.00	41.32	74.00	-32.68	41.64	-0.32	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	GFSK	Test Freq. (MHz)	2440
Polarization	Vertical	Test Configuration	2

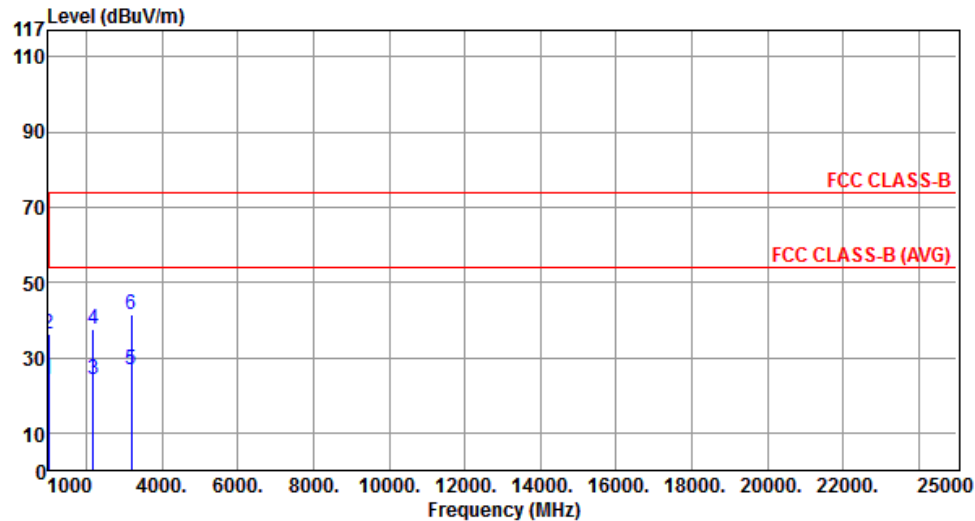


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1008.00	24.23	54.00	-29.77	33.69	-9.46	Average	---	---
2	1008.00	36.38	74.00	-37.62	45.84	-9.46	Peak	---	---
3	2186.00	24.11	54.00	-29.89	28.12	-4.01	Average	---	---
4	2186.00	37.74	74.00	-36.26	41.75	-4.01	Peak	---	---
5	3193.00	27.10	54.00	-26.90	27.42	-0.32	Average	---	---
6	3193.00	42.95	74.00	-31.05	43.27	-0.32	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	GFSK	Test Freq. (MHz)	2480
Polarization	Horizontal	Test Configuration	2

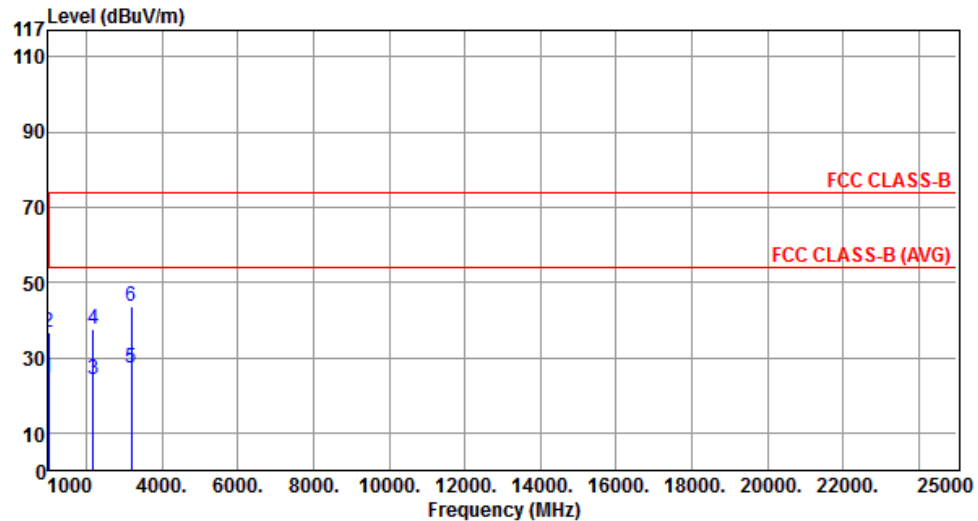


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1008.00	24.39	54.00	-29.61	33.85	-9.46	Average	---	---
2	1008.00	36.25	74.00	-37.75	45.71	-9.46	Peak	---	---
3	2186.00	24.14	54.00	-29.86	28.15	-4.01	Average	---	---
4	2186.00	37.36	74.00	-36.64	41.37	-4.01	Peak	---	---
5	3193.00	26.93	54.00	-27.07	27.25	-0.32	Average	---	---
6	3193.00	41.49	74.00	-32.51	41.81	-0.32	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).



Modulation Mode	GFSK	Test Freq. (MHz)	2480
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1008.00	24.40	54.00	-29.60	33.86	-9.46	Average	---	---
2	1008.00	36.51	74.00	-37.49	45.97	-9.46	Peak	---	---
3	2186.00	24.30	54.00	-29.70	28.31	-4.01	Average	---	---
4	2186.00	37.73	74.00	-36.27	41.74	-4.01	Peak	---	---
5	3193.00	27.31	54.00	-26.69	27.63	-0.32	Average	---	---
6	3193.00	43.56	74.00	-30.44	43.88	-0.32	Peak	---	---

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB).
2: Over Limit (dBuV/m) = Limit Line (dBuV/m) – Level (dBuV/m).

==END==