Shenzhen Huaxia Testing Technology Co., Ltd.

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Report Template Version: V05
Report Template Revision Date: 2021-11-03

Test Report

Report No.:	CQASZ20250200188E-01
Applicant:	Shenzhen DO Intelligent Technology Co., Ltd
Address of Applicant:	11th Floor, 3# Building, Guole Tech Park, Lirong Road, Dalang, Longhua District, Shenzhen, China
Equipment Under Test (EUT):	
Product:	Smart Watch
Model No.:	GTC1, GTC2, GTC3
Test Model No.:	GTC1, GTC2, GTC3
Brand Name:	IDO
FCC ID:	2AHFT866
Standards:	47 CFR Part 15, Subpart C KDB558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10:2013
Date of Receipt:	2025-02-08
Date of Test:	2025-02-08 to 2025-03-13
Date of Issue:	2025-03-13
Test Result:	**PASS***

***In the configuration tested, the EUT complied with the standards specified above.**

Tested By: lewis zhou
(Lewis Zhou)

Reviewed By: Timo Lei
(Timo Lei)

Approved By: Jack Ai
(Jack Ai)

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20250200188E-01	Rev.01	Initial report	2025-03-13

2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203/15.247 (c)	ANSI C63.10 2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10 2013	PASS
Conducted Peak Output Power	47 CFR Part 15, Subpart C Section 15.247 (b)(3)	ANSI C63.10 2013	PASS
6dB Occupied Bandwidth	47 CFR Part 15, Subpart C Section 15.247 (a)(2)	ANSI C63.10 2013	PASS
Power Spectral Density	47 CFR Part 15, Subpart C Section 15.247 (e)	ANSI C63.10 2013	PASS
Band-edge for RF Conducted Emissions	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 2013	PASS
RF Conducted Spurious Emissions	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 2013	PASS
Radiated Spurious Emissions	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10 2013	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10 2013	PASS

Note:

AC Power Line Conducted Emission and Radiated Spurious Emissions1G and below have tested all models and all batteries and provided data, RF project only tested GTC1 because PCB and RF circuit are consistent.

3 Contents

4 General Information

4.1 Client Information

Applicant:	Shenzhen DO Intelligent Technology Co., Ltd
Address of Applicant:	11th Floor, 3# Building, Guole Tech Park, Lirong Road, Dalang, Longhua District, Shenzhen, China
Manufacturer:	Shenzhen DO Intelligent Technology Co., Ltd
Address of Manufacturer:	11th Floor, 3# Building, Guole Tech Park, Lirong Road, Dalang, Longhua District, Shenzhen, China
Factory:	Shenzhen DO Intelligent Technology Co., Ltd
Address of Factory:	11th Floor, 3# Building, Guole Tech Park, Lirong Road, Dalang, Longhua District, Shenzhen, China

4.2 General Description of EUT

Product Name:	Smart Watch
Model No.:	GTC1, GTC2, GTC3
Test Model No.:	GTC1, GTC2, GTC3
Trade Mark:	IDO
Software Version:	V1.00.10
Hardware Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.3
Modulation Type:	GFSK
Transfer Rate:	1Mbps, 2Mbps
Number of Channel:	40
Product Type:	☐ Mobile ☒ Portable
Test Software of EUT:	SiFli RF Tool v1.1.6
Antenna Type:	Metal frame antenna
Antenna Gain:	-3.2dBi
EUT Power Supply:	GTC1: Li-ion battery DC 3.85V 350mAh(551925 04) 1# Li-ion battery DC 3.85V 350mAh(551925 16) 2# GTC2: Li-ion battery DC 3.85V 350mAh(551925 04) 3# Li-ion battery DC 3.85V 350mAh(551925 16) 4# GTC3: Li-ion battery DC 3.85V 350mAh(551925 04) 5# Li-ion battery DC 3.85V 350mAh(551925 16) 6#

Simultaneous Transmission	☐ Simultaneous TX is supported and evaluated in this report. ☒ Simultaneous TX is not supported.

Note:
Here the product 1#2# means the product version (model: GTC1), product 3#4# means the (model: GTC2).
product 5#6# means the (model: GTC3).
The difference between product 1#3#5# and product 2#4#6# is that the battery model is different including having different battery supplier.
The difference between product model: GTC1 and product model: GTC2, model: GTC3 is that the screen model and appearance and strapis different including having different sreen supplier. The key differences are the appearance and the model number.
These changes do not affect RF performance.

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

Note:
In section 15.31(m), regards to the operating frequency range over 10 MHz, the lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel (CH0)	2402MHz
The middle channel (CH19)	2440MHz
The highest channel (CH39)	2480MHz

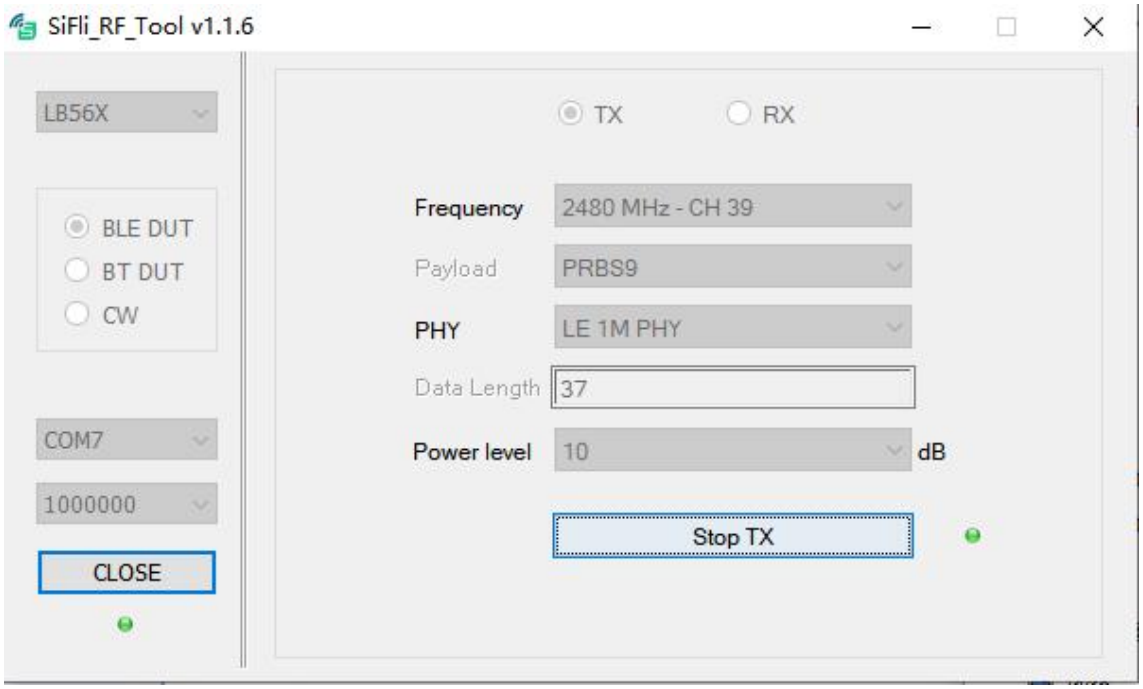
4.3 Additional Instructions

EUT Test Software Settings:	
Mode:	☒ Special software is used. ☐ Through engineering command into the engineering mode. engineering command: *#*#3646633#*#*
EUT Power level:	Class2 (Power level is built-in set parameters and cannot be changed and selected)

Use test software to set the lowest frequency, the middle frequency and the highest frequency keep transmitting of the EUT.

Mode	Channel	Frequency(MHz)
GFSK	CH0	2402
	CH19	2440
	CH39	2480

Run Software:



4.4 Test Environment

Operating Environment:	
Temperature:	24.5°C
Humidity:	59% RH
Atmospheric Pressure:	1009mbar
Test Mode:	Use test software to set the lowest frequency, the middle frequency and the highest frequency keep transmitting of the EUT.

4.5 Description of Support Units

The EUT has been tested with associated equipment below.

1）Support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
Adapter	/	/	/	CQA

2) Cable

Cable No.	Description	Manufacturer	Cable Type/Length	Supplied by
/	/	/	/	/

4.6 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate.

The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities.

The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the **Shenzhen Huaxia Testing Technology Co., Ltd.** quality system acc. to DIN EN ISO/IEC 17025.

Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for CQA laboratory is reported:

No.	Item	Uncertainty
1	Radiated Emission (Below 1GHz)	5.12dB
2	Radiated Emission (Above 1GHz)	4.60dB
3	Conducted Disturbance (0.15~30MHz)	3.34dB
4	Radio Frequency	3×10^{-8}
5	Duty cycle	0.6 %
6	Occupied Bandwidth	1.1%
7	RF conducted power	0.86dB
8	RF power density	0.74
9	Conducted Spurious emissions	0.86dB
10	Temperature test	0.8℃
11	Humidity test	2.0%
12	Supply voltages	0.5 %
13	Frequency Error	5.5 Hz

4.7 Test Location

All tests were performed at:

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

4.8 Test Facility

• A2LA (Certificate No. 4742.01)

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

• FCC Registration No.: 522263

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

4.9 Deviation from Standards

None.

4.10 Other Information Requested by the Customer

None.

4.11 Equipment List

Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR7	CQA-005	2024/9/2	2025/9/1
Spectrum analyzer	R&S	FSU26	CQA-038	2024/9/2	2025/9/1
Spectrum analyzer	R&S	FSU40	CQA-075	2024/9/2	2025/9/1
Preamplifier	MITEQ	AFS4-00010300-18-10P-4	CQA-035	2024/9/2	2025/9/1
Preamplifier	MITEQ	AMF-6D-02001800-29-20P	CQA-036	2024/9/2	2025/9/1
Preamplifier	EMCI	EMC184055SE	CQA-089	2024/9/2	2025/9/1
Loop antenna	Schwarzbeck	FMZB1516	CQA-060	2023/9/8	2026/9/7
Bilog Antenna	R&S	HL562	CQA-011	2023/11/01	2026/10/31
Horn Antenna	R&S	HF906	CQA-012	2023/11/01	2026/10/31
Horn Antenna	Schwarzbeck	BBHA 9170	CQA-088	2023/9/7	2026/9/6
Coaxial Cable (Above 1GHz)	CQA	N/A	C007	2024/9/2	2025/9/1
Coaxial Cable (Below 1GHz)	CQA	N/A	C013	2024/9/2	2025/9/1
Antenna Connector	CQA	RFC-01	CQA-080	2024/9/2	2025/9/1
RF cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2024/9/2	2025/9/1
Power meter	R&S	NRVD	CQA-029	2024/9/2	2025/9/1
Power divider	MIDWEST	PWD-2533-02-SMA-79	CQA-067	2024/9/2	2025/9/1
EMI Test Receiver	R&S	ESR7	CQA-005	2024/9/2	2025/9/1
LISN	R&S	ENV216	CQA-003	2024/9/2	2025/9/1
Coaxial cable	CQA	N/A	CQA-C009	2024/9/2	2025/9/1
DC power	KEYSIGHT	E3631A	CQA-028	2024/9/2	2025/9/1

Test software:

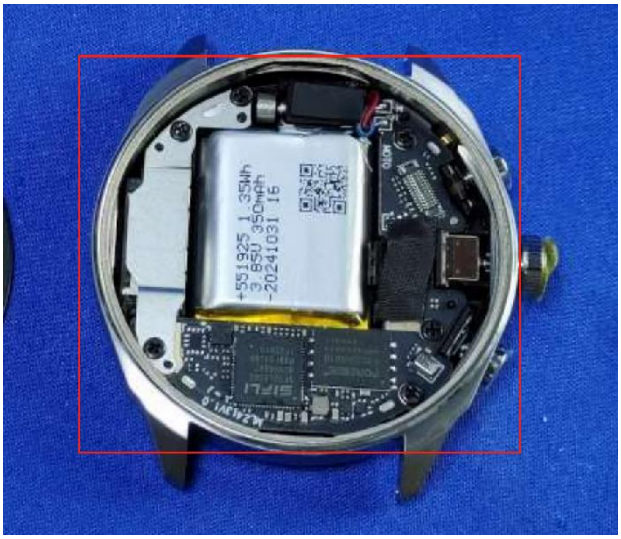
	Manufacturer	Software brand	Software version
Radiated Emissions test software	Tonscend	JS1120-3	Version:8
Conducted Emissions test software	Audix	e3	Version:9
RF Conducted test software	Audix	e3	V3.5.39

Note:

The temporary antenna connector is soldered on the pcb board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

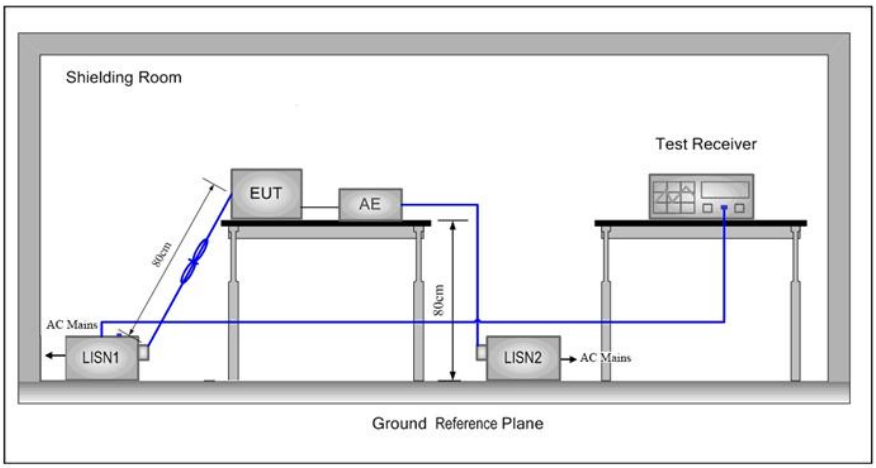
5 Test results and Measurement Data

5.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203 /247(c)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
EUT Antenna:	
The antenna is Metal frame antenna. The connection/connection type between the antenna to the EUT's antenna port is: permanently attachment. This is either permanently attachment or a unique coupling that satisfies the requirement.	

5.2 Conducted Emissions

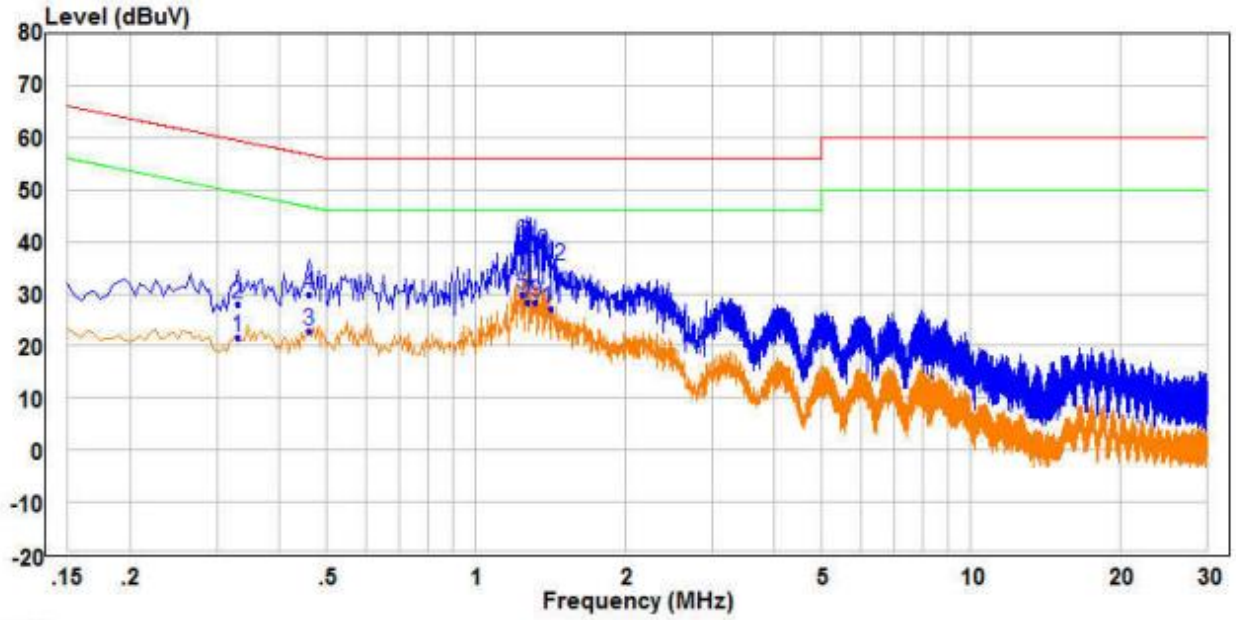
<table>
<tr><td>Test Requirement:</td><td>47 CFR Part 15C Section 15.207</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10: 2013</td></tr>
<tr><td>Test Frequency Range:</td><td>150kHz to 30MHz</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr>
<tr><th>Quasi-peak</th><th>Average</th></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* Decreases with the logarithm of the frequency.
</td></tr>
<tr><td>Test Procedure:</td><td>1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.</td></tr>
</table>

Test Setup:	
Test Mode:	Through Pre-scan, find the transmitting mode at the lowest channel is the worst case.
Test Voltage:	AC 120V/60Hz
Test Results:	Pass

1# Li-ion battery DC 3.85V 350mAh(551925 04)

Measurement Data

Live line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.330	12.22	9.53	21.75	49.45	-27.70	Average	Line
2		0.330	18.46	9.53	27.99	59.45	-31.46	QP	Line
3		0.460	13.09	9.67	22.76	46.69	-23.93	Average	Line
4		0.460	20.13	9.67	29.80	56.69	-26.89	QP	Line
5	PP	1.240	19.71	10.30	30.01	46.00	-15.99	Average	Line
6	QP	1.240	29.49	10.30	39.79	56.00	-16.21	QP	Line
7		1.275	18.09	10.38	28.47	46.00	-17.53	Average	Line
8		1.275	28.37	10.38	38.75	56.00	-17.25	QP	Line
9		1.320	17.88	10.48	28.36	46.00	-17.64	Average	Line
10		1.320	27.49	10.48	37.97	56.00	-18.03	QP	Line
11		1.425	16.39	10.69	27.08	46.00	-18.92	Average	Line
12		1.425	24.67	10.69	35.36	56.00	-20.64	QP	Line

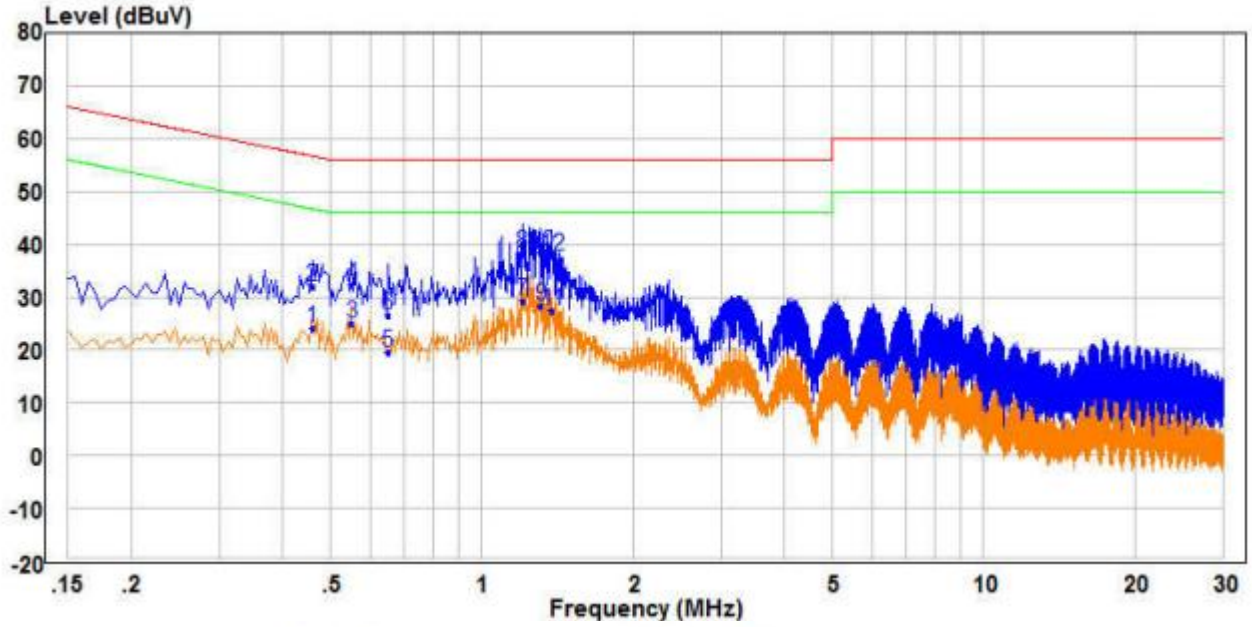
Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

Neutral line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.460	14.49	9.66	24.15	46.69	-22.54	Average	Neutral
2		0.460	22.27	9.66	31.93	56.69	-24.76	QP	Neutral
3		0.550	15.15	9.75	24.90	46.00	-21.10	Average	Neutral
4		0.550	22.54	9.75	32.29	56.00	-23.71	QP	Neutral
5		0.650	9.80	9.85	19.65	46.00	-26.35	Average	Neutral
6		0.650	16.64	9.85	26.49	56.00	-29.51	QP	Neutral
7	PP	1.205	19.64	9.71	29.35	46.00	-16.65	Average	Neutral
8	QP	1.205	28.69	9.71	38.40	56.00	-17.60	QP	Neutral
9		1.310	18.72	9.72	28.44	46.00	-17.56	Average	Neutral
10		1.310	28.55	9.72	38.27	56.00	-17.73	QP	Neutral
11		1.380	17.61	9.72	27.33	46.00	-18.67	Average	Neutral
12		1.380	28.07	9.72	37.79	56.00	-18.21	QP	Neutral

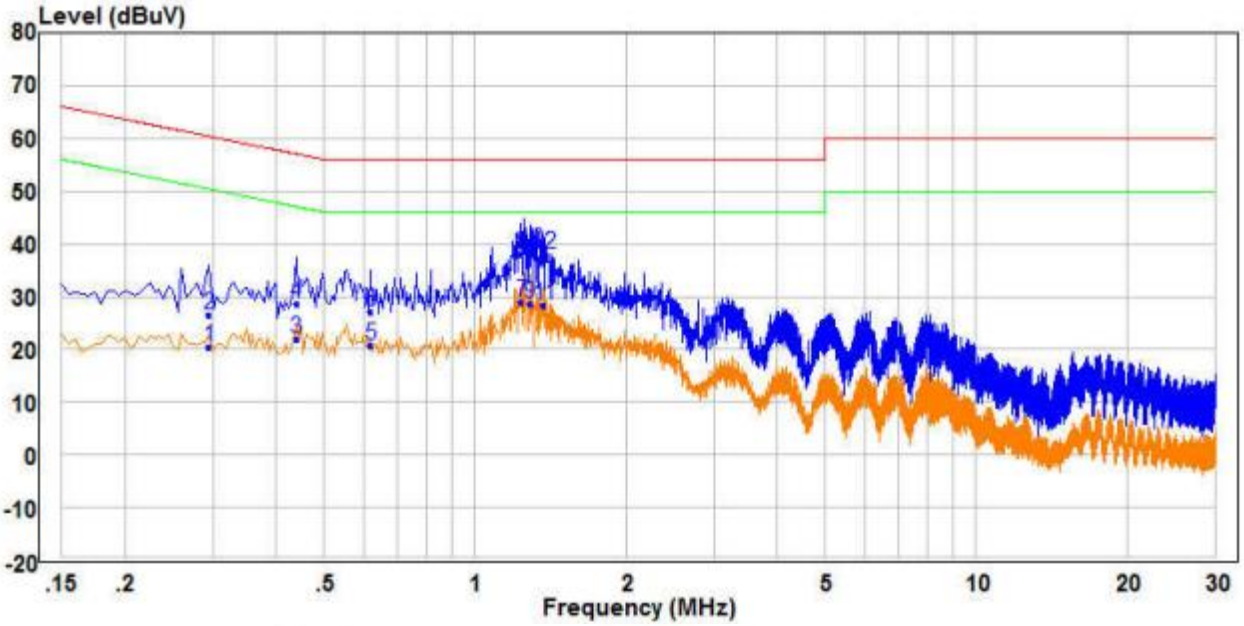
Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.
3. If the Peak value under Average limit, the Average value is not recorded in the report.

2# Li-ion battery DC 3.85V 350mAh(551925 16)

Measurement Data

Live line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.295	10.93	9.50	20.43	50.38	-29.95	Average	Line
2		0.295	17.03	9.50	26.53	60.38	-33.85	QP	Line
3		0.440	12.18	9.65	21.83	47.06	-25.23	Average	Line
4		0.440	19.02	9.65	28.67	57.06	-28.39	QP	Line
5		0.620	10.83	9.82	20.65	46.00	-25.35	Average	Line
6		0.620	17.44	9.82	27.26	56.00	-28.74	QP	Line
7	PP	1.235	18.51	10.29	28.80	46.00	-17.20	Average	Line
8		1.235	27.82	10.29	38.11	56.00	-17.89	QP	Line
9		1.290	18.18	10.41	28.59	46.00	-17.41	Average	Line
10	QP	1.290	28.19	10.41	38.60	56.00	-17.40	QP	Line
11		1.370	17.88	10.58	28.46	46.00	-17.54	Average	Line
12		1.370	27.61	10.58	38.19	56.00	-17.81	QP	Line

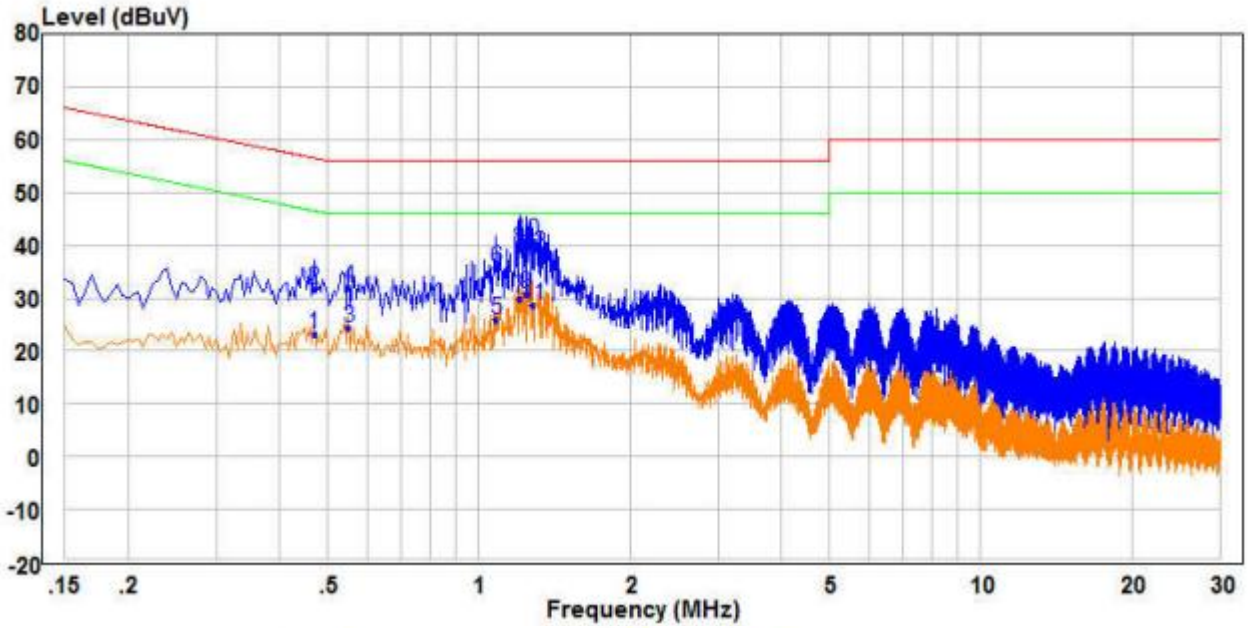
Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

Neutral line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.470	13.59	9.67	23.26	46.51	-23.25	Average	Neutral
2		0.470	22.14	9.67	31.81	56.51	-24.70	QP	Neutral
3		0.550	14.67	9.75	24.42	46.00	-21.58	Average	Neutral
4		0.550	22.36	9.75	32.11	56.00	-23.89	QP	Neutral
5		1.085	16.25	9.70	25.95	46.00	-20.05	Average	Neutral
6		1.085	25.99	9.70	35.69	56.00	-20.31	QP	Neutral
7		1.205	20.20	9.71	29.91	46.00	-16.09	Average	Neutral
8		1.205	29.71	9.71	39.42	56.00	-16.58	QP	Neutral
9	AV	1.240	21.05	9.71	30.76	46.00	-15.24	Average	Neutral
10	PP	1.240	31.06	9.71	40.77	56.00	-15.23	QP	Neutral
11		1.285	18.99	9.71	28.70	46.00	-17.30	Average	Neutral
12		1.285	28.63	9.71	38.34	56.00	-17.66	QP	Neutral

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

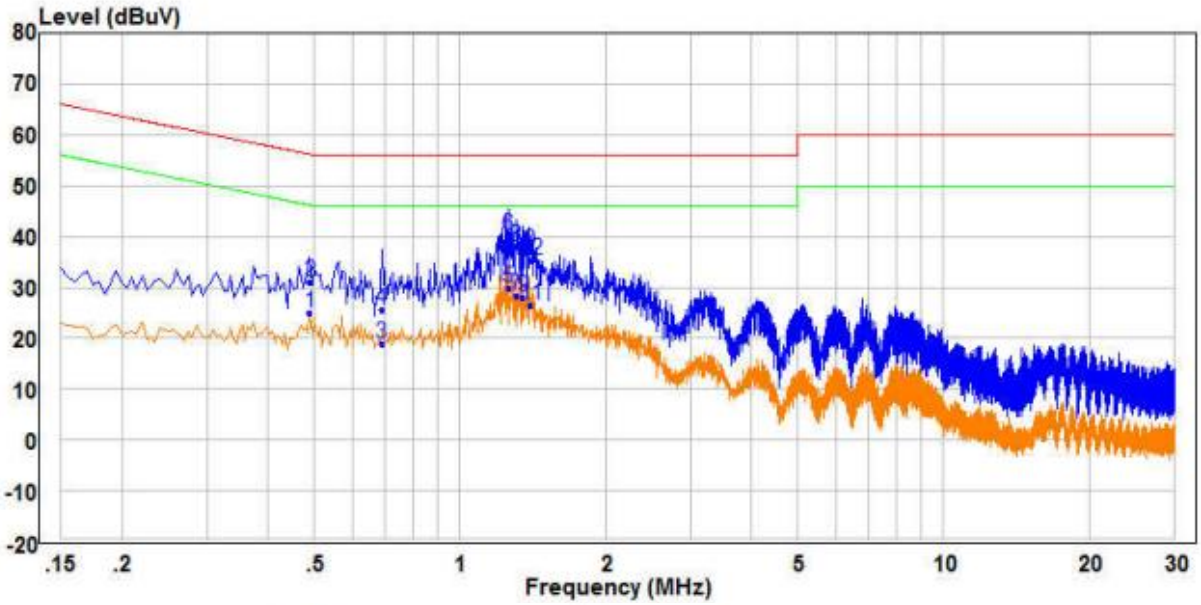
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

3# Li-ion battery DC 3.85V 350mAh(551925 04)

Measurement Data

Live line:



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.490	15.32	9.69	25.01	46.17	-21.16	Average	Line
2	0.490	21.48	9.69	31.17	56.17	-25.00	QP	Line
3	0.690	8.97	9.89	18.86	46.00	-27.14	Average	Line
4	0.690	15.62	9.89	25.51	56.00	-30.49	QP	Line
5 AV	1.260	19.66	10.34	30.00	46.00	-16.00	Average	Line
6 PP	1.260	29.86	10.34	40.20	56.00	-15.80	QP	Line
7	1.305	17.78	10.45	28.23	46.00	-17.77	Average	Line
8	1.305	27.67	10.45	38.12	56.00	-17.88	QP	Line
9	1.350	17.59	10.54	28.13	46.00	-17.87	Average	Line
10	1.350	26.73	10.54	37.27	56.00	-18.73	QP	Line
11	1.400	15.99	10.64	26.63	46.00	-19.37	Average	Line
12	1.400	24.61	10.64	35.25	56.00	-20.75	QP	Line

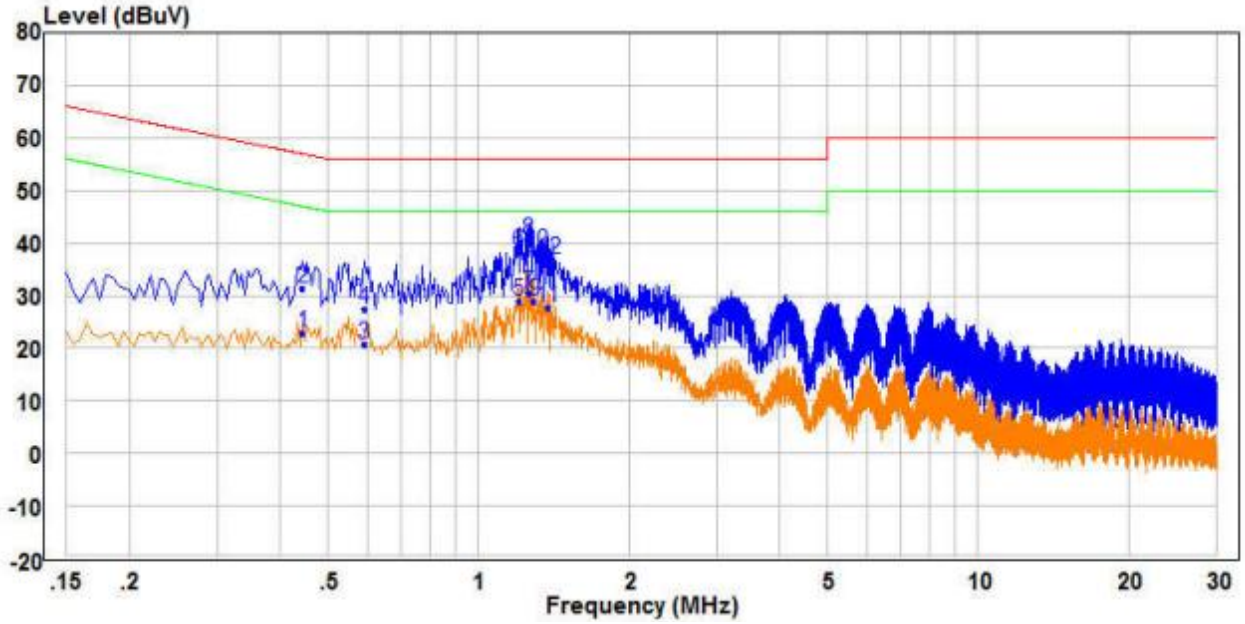
Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

Neutral line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.445	13.27	9.65	22.92	46.97	-24.05	Average	Neutral
2		0.445	21.86	9.65	31.51	56.97	-25.46	QP	Neutral
3		0.590	10.96	9.79	20.75	46.00	-25.25	Average	Neutral
4		0.590	17.75	9.79	27.54	56.00	-28.46	QP	Neutral
5		1.205	19.33	9.71	29.04	46.00	-16.96	Average	Neutral
6		1.205	28.81	9.71	38.52	56.00	-17.48	QP	Neutral
7	AV	1.260	20.63	9.71	30.34	46.00	-15.66	Average	Neutral
8	PP	1.260	30.76	9.71	40.47	56.00	-15.53	QP	Neutral
9		1.295	19.25	9.71	28.96	46.00	-17.04	Average	Neutral
10		1.295	28.70	9.71	38.41	56.00	-17.59	QP	Neutral
11		1.375	18.03	9.72	27.75	46.00	-18.25	Average	Neutral
12		1.375	27.14	9.72	36.86	56.00	-19.14	QP	Neutral

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

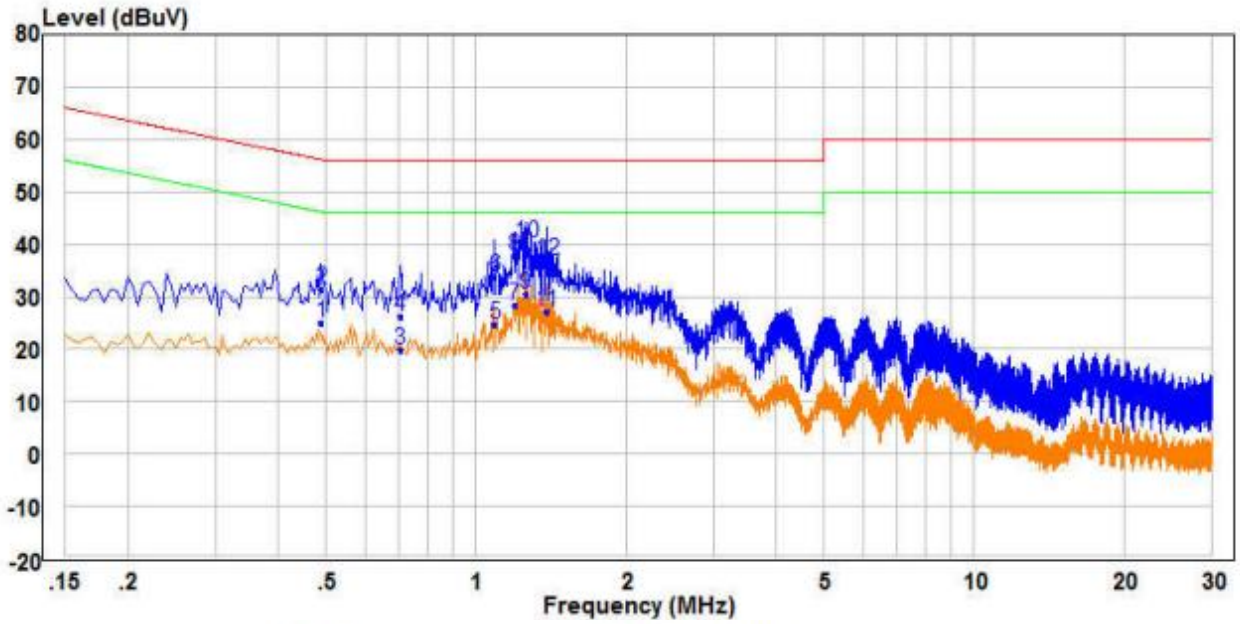
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

4# Li-ion battery DC 3.85V 350mAh(551925 16)

Measurement Data

Live line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.490	15.39	9.69	25.08	46.17	-21.09	Average	Line
2		0.490	21.63	9.69	31.32	56.17	-24.85	QP	Line
3		0.705	10.00	9.90	19.90	46.00	-26.10	Average	Line
4		0.705	16.38	9.90	26.28	56.00	-29.72	QP	Line
5		1.090	14.73	9.94	24.67	46.00	-21.33	Average	Line
6		1.090	23.83	9.94	33.77	56.00	-22.23	QP	Line
7		1.195	18.04	10.20	28.24	46.00	-17.76	Average	Line
8		1.195	27.46	10.20	37.66	56.00	-18.34	QP	Line
9	PP	1.260	20.06	10.34	30.40	46.00	-15.60	Average	Line
10	QP	1.260	29.94	10.34	40.28	56.00	-15.72	QP	Line
11		1.385	16.60	10.61	27.21	46.00	-18.79	Average	Line
12		1.385	26.12	10.61	36.73	56.00	-19.27	QP	Line

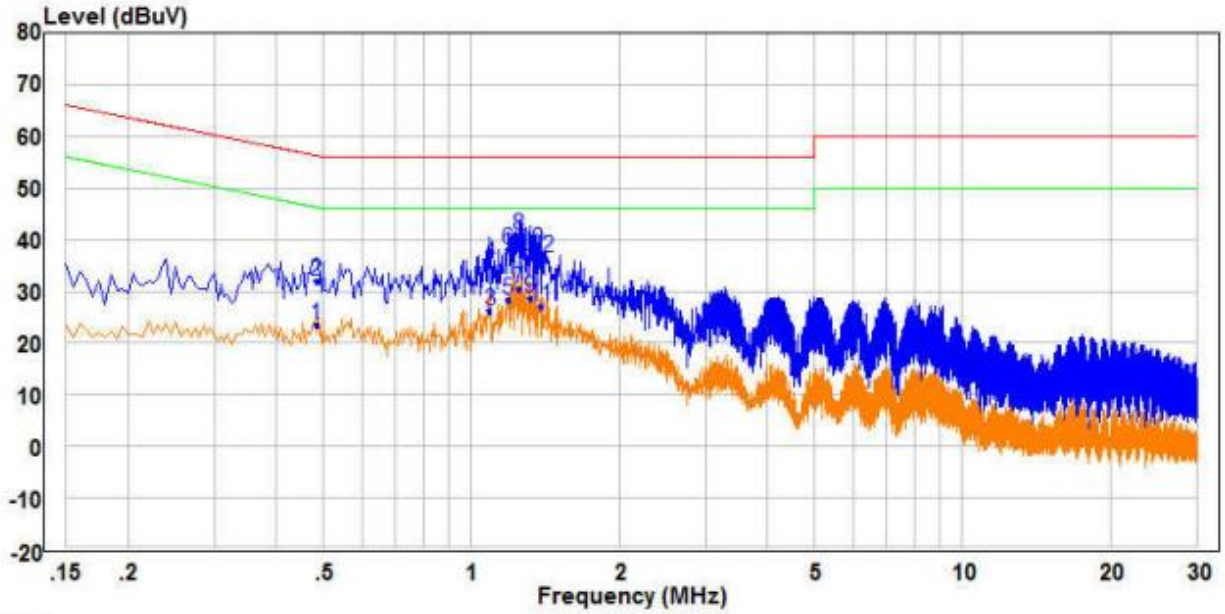
Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

Neutral line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.485	13.75	9.69	23.44	46.25	-22.81	Average	Neutral
2		0.485	22.33	9.69	32.02	56.25	-24.23	QP	Neutral
3		1.090	16.38	9.70	26.08	46.00	-19.92	Average	Neutral
4		1.090	25.78	9.70	35.48	56.00	-20.52	QP	Neutral
5		1.190	18.77	9.71	28.48	46.00	-17.52	Average	Neutral
6		1.190	28.32	9.71	38.03	56.00	-17.97	QP	Neutral
7	AV	1.250	20.68	9.71	30.39	46.00	-15.61	Average	Neutral
8	PP	1.250	31.16	9.71	40.87	56.00	-15.13	QP	Neutral
9		1.315	18.99	9.72	28.71	46.00	-17.29	Average	Neutral
10		1.315	28.46	9.72	38.18	56.00	-17.82	QP	Neutral
11		1.385	17.45	9.72	27.17	46.00	-18.83	Average	Neutral
12		1.385	26.68	9.72	36.40	56.00	-19.60	QP	Neutral

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

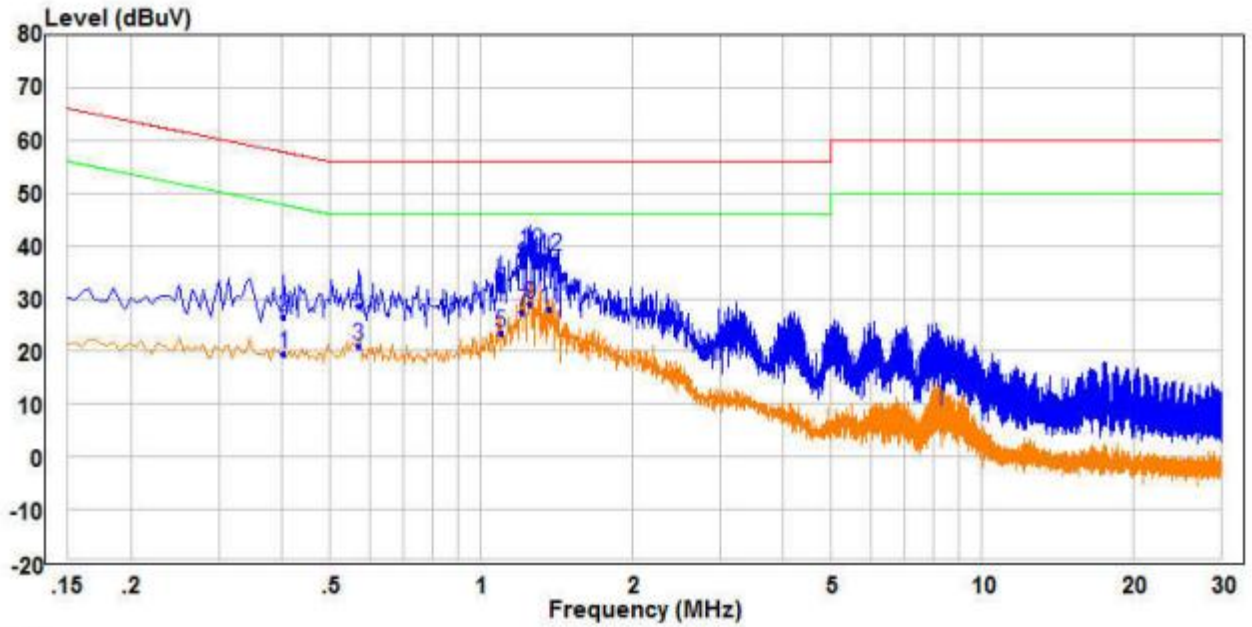
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

5# Li-ion battery DC 3.85V 350mAh(551925 04)

Measurement Data

Live line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.405	9.93	9.61	19.54	47.75	-28.21	Average	Line
2		0.405	16.90	9.61	26.51	57.75	-31.24	QP	Line
3		0.570	11.34	9.77	21.11	46.00	-24.89	Average	Line
4		0.570	18.89	9.77	28.66	56.00	-27.34	QP	Line
5		1.095	13.67	9.95	23.62	46.00	-22.38	Average	Line
6		1.095	21.64	9.95	31.59	56.00	-24.41	QP	Line
7		1.210	17.25	10.23	27.48	46.00	-18.52	Average	Line
8		1.210	25.99	10.23	36.22	56.00	-19.78	QP	Line
9	PP	1.255	18.62	10.33	28.95	46.00	-17.05	Average	Line
10	QP	1.255	28.59	10.33	38.92	56.00	-17.08	QP	Line
11		1.370	17.52	10.58	28.10	46.00	-17.90	Average	Line
12		1.370	27.57	10.58	38.15	56.00	-17.85	QP	Line

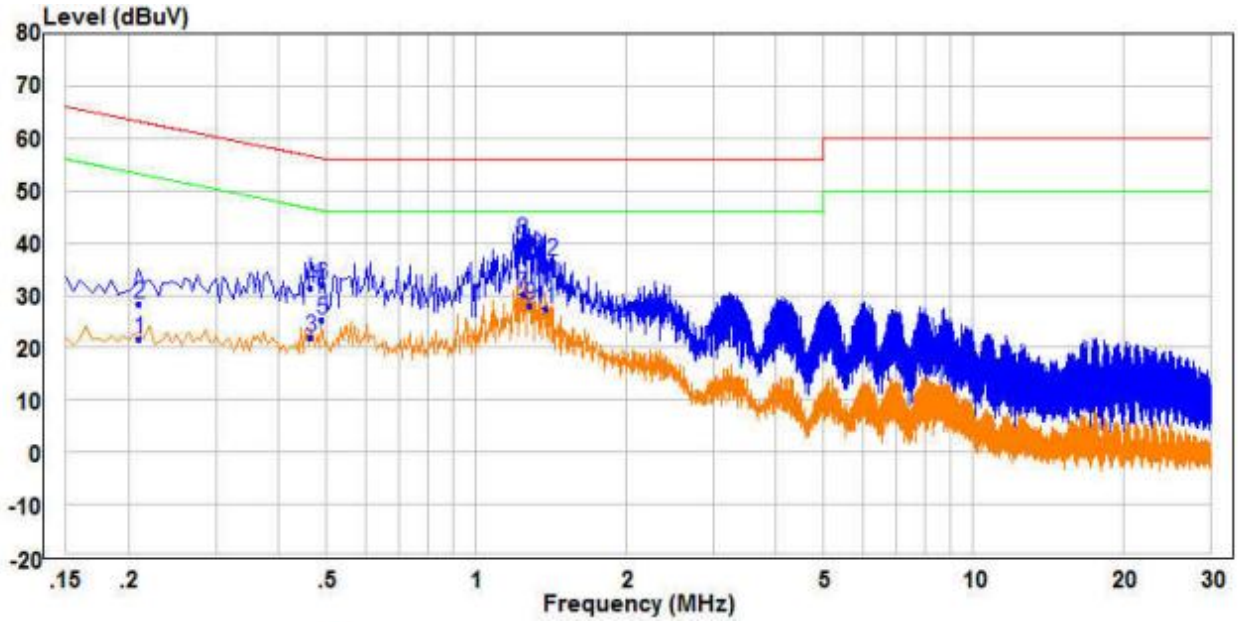
Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

Neutral line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.210	12.20	9.59	21.79	53.21	-31.42	Average	Neutral
2		0.210	18.73	9.59	28.32	63.21	-34.89	QP	Neutral
3		0.465	12.37	9.67	22.04	46.60	-24.56	Average	Neutral
4		0.465	21.59	9.67	31.26	56.60	-25.34	QP	Neutral
5		0.490	15.48	9.69	25.17	46.17	-21.00	Average	Neutral
6		0.490	22.34	9.69	32.03	56.17	-24.14	QP	Neutral
7	AV	1.240	20.32	9.71	30.03	46.00	-15.97	Average	Neutral
8	PP	1.240	30.85	9.71	40.56	56.00	-15.44	QP	Neutral
9		1.285	18.19	9.71	27.90	46.00	-18.10	Average	Neutral
10		1.285	27.76	9.71	37.47	56.00	-18.53	QP	Neutral
11		1.375	17.82	9.72	27.54	46.00	-18.46	Average	Neutral
12		1.375	26.74	9.72	36.46	56.00	-19.54	QP	Neutral

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

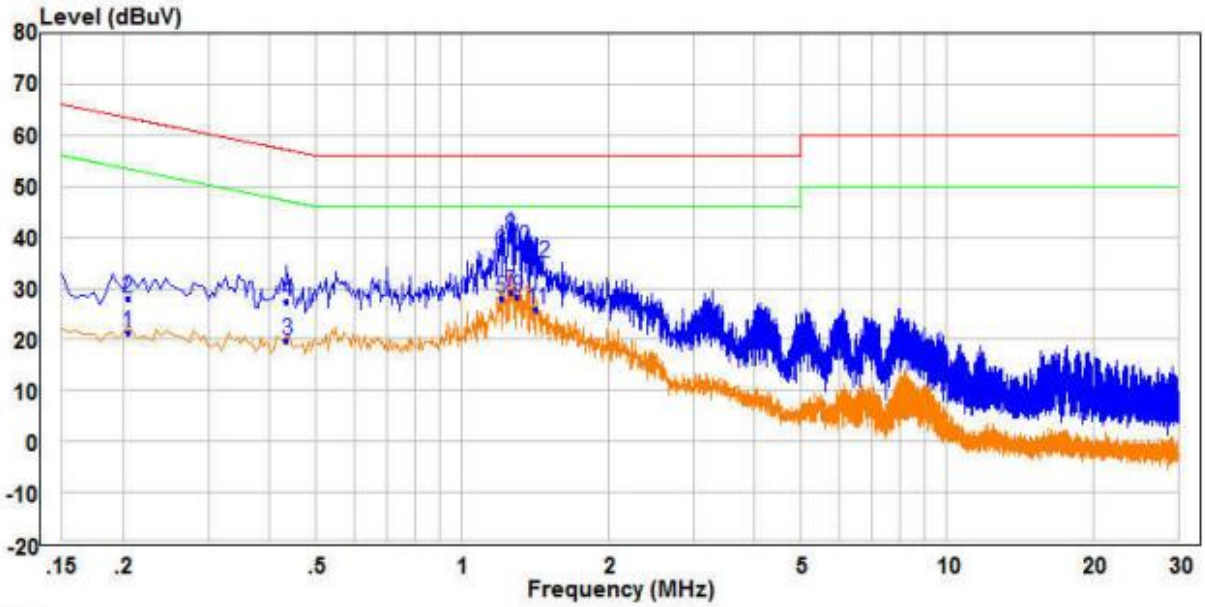
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

6# Li-ion battery DC 3.85V 350mAh(551925 16)

Measurement Data

Live line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.205	11.81	9.61	21.42	53.41	-31.99	Average	Line
2		0.205	18.38	9.61	27.99	63.41	-35.42	QP	Line
3		0.435	10.24	9.64	19.88	47.16	-27.28	Average	Line
4		0.435	17.93	9.64	27.57	57.16	-29.59	QP	Line
5		1.205	17.85	10.22	28.07	46.00	-17.93	Average	Line
6		1.205	26.96	10.22	37.18	56.00	-18.82	QP	Line
7	AV	1.260	18.91	10.34	29.25	46.00	-16.75	Average	Line
8	PP	1.260	29.75	10.34	40.09	56.00	-15.91	QP	Line
9		1.300	17.77	10.44	28.21	46.00	-17.79	Average	Line
10		1.300	27.68	10.44	38.12	56.00	-17.88	QP	Line
11		1.425	15.30	10.69	25.99	46.00	-20.01	Average	Line
12		1.425	24.31	10.69	35.00	56.00	-21.00	QP	Line

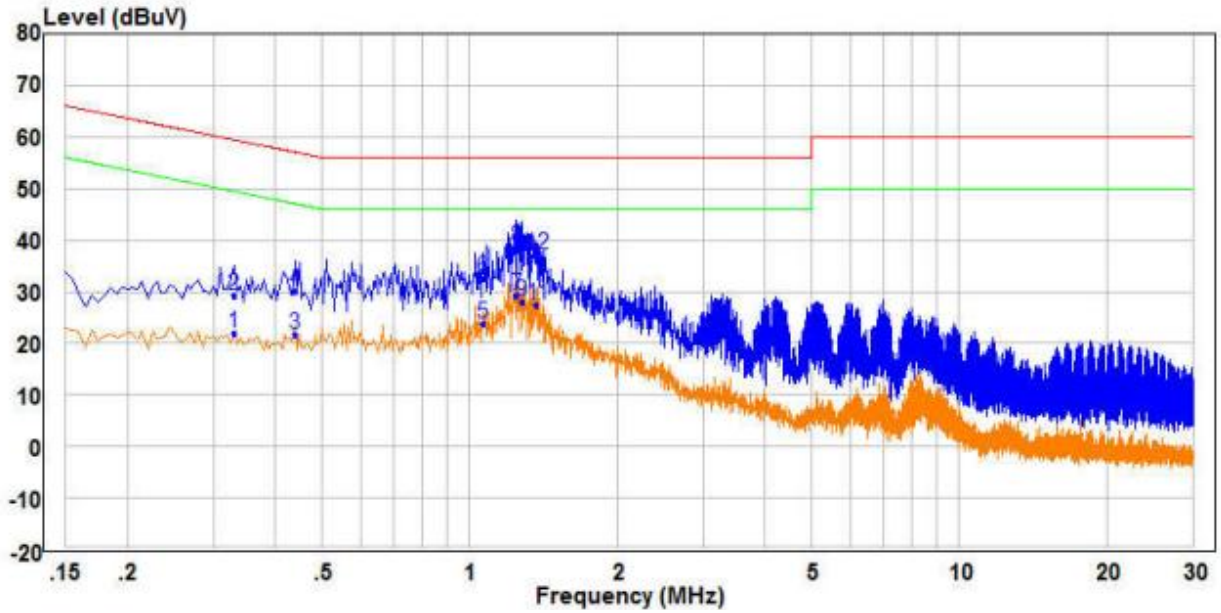
Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

Neutral line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.330	12.47	9.52	21.99	49.45	-27.46	Average	Neutral
2		0.330	19.81	9.52	29.33	59.45	-30.12	QP	Neutral
3		0.440	12.15	9.64	21.79	47.06	-25.27	Average	Neutral
4		0.440	20.45	9.64	30.09	57.06	-26.97	QP	Neutral
5		1.065	14.03	9.70	23.73	46.00	-22.27	Average	Neutral
6		1.065	22.97	9.70	32.67	56.00	-23.33	QP	Neutral
7	PP	1.245	19.49	9.71	29.20	46.00	-16.80	Average	Neutral
8	QP	1.245	29.08	9.71	38.79	56.00	-17.21	QP	Neutral
9		1.280	18.18	9.71	27.89	46.00	-18.11	Average	Neutral
10		1.280	27.15	9.71	36.86	56.00	-19.14	QP	Neutral
11		1.370	17.76	9.72	27.48	46.00	-18.52	Average	Neutral
12		1.370	27.54	9.72	37.26	56.00	-18.74	QP	Neutral

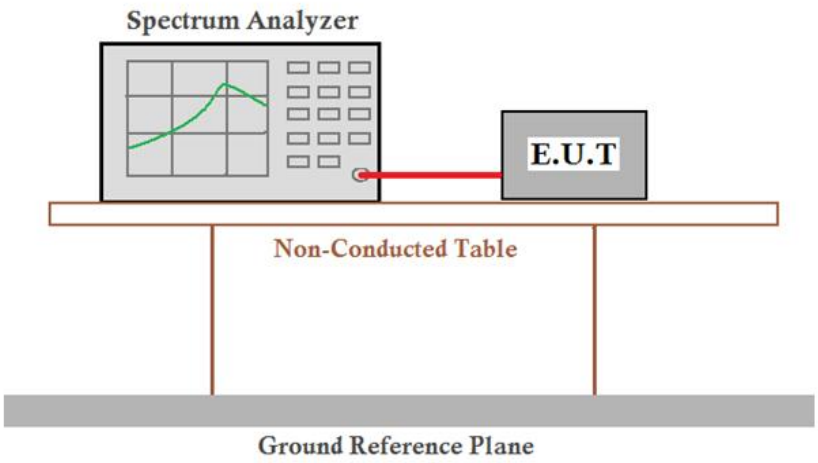
Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

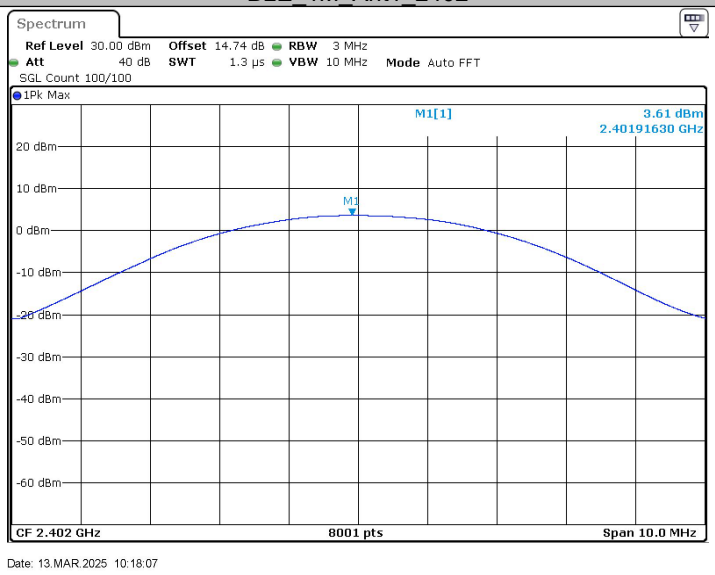
5.3 Conducted Peak Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(3)
Test Method:	ANSI C63.10 2013
Test Setup:	 *Remark: Offset=Cable loss+ attenuation factor.*
Limit:	30dBm
Test Mode:	Transmitting with GFSK modulation.
Test Results:	Pass

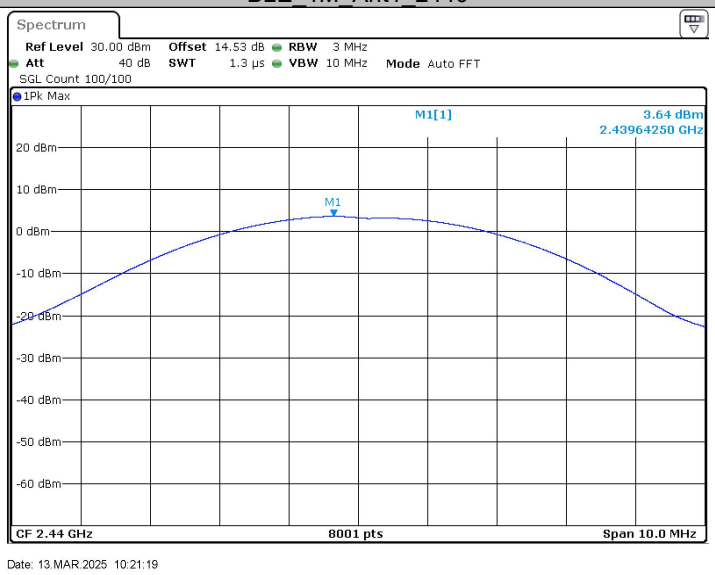
Measurement Data

GFSK mode (1Mbps)			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	3.61	30.00	Pass
Middle	3.64	30.00	Pass
Highest	2.47	30.00	Pass
GFSK mode (2Mbps)			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	3.47	30.00	Pass
Middle	3.33	30.00	Pass
Highest	2.29	30.00	Pass

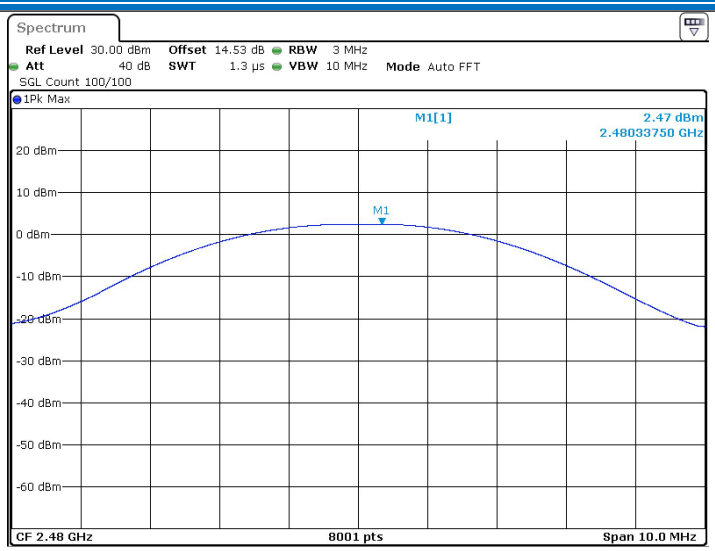
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440

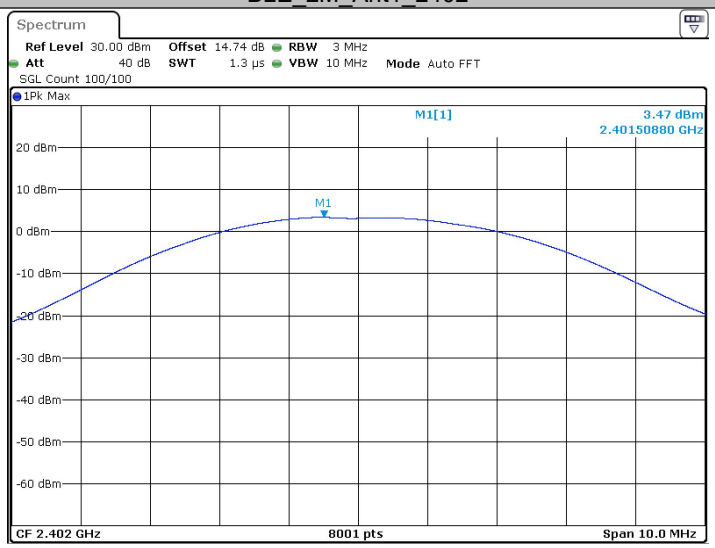


BLE_1M_Ant1_2480



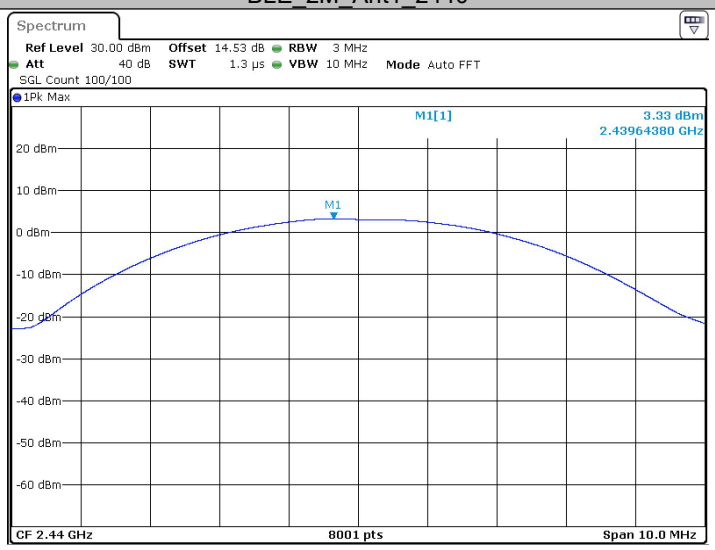
Date: 13.MAR.2025 10:22:36

BLE_2M_Ant1_2402



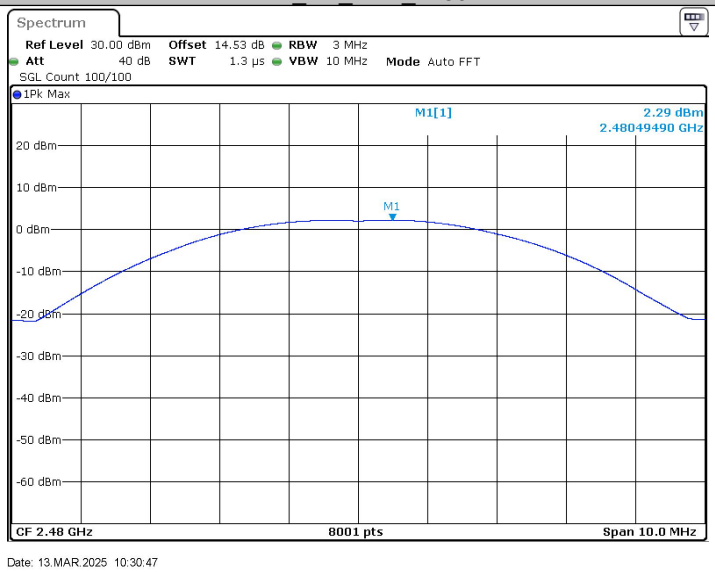
Date: 13.MAR.2025 10:25:11

BLE_2M_Ant1_2440

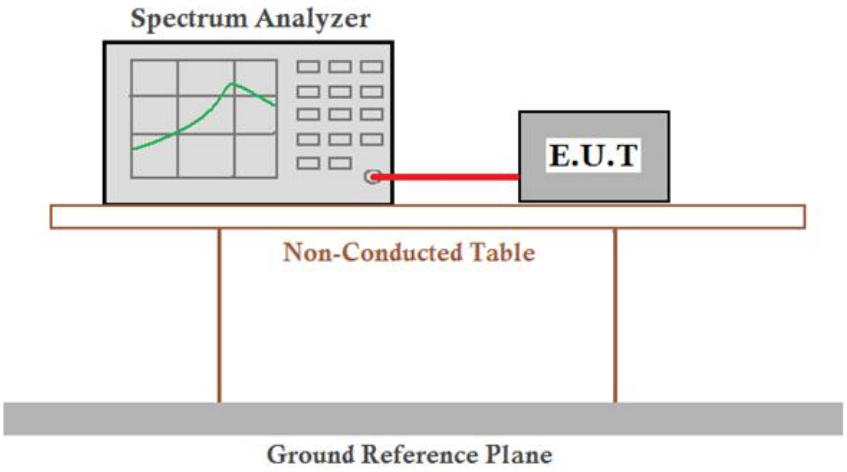


Date: 13.MAR.2025 10:28:15

BLE_2M_Ant1_2480



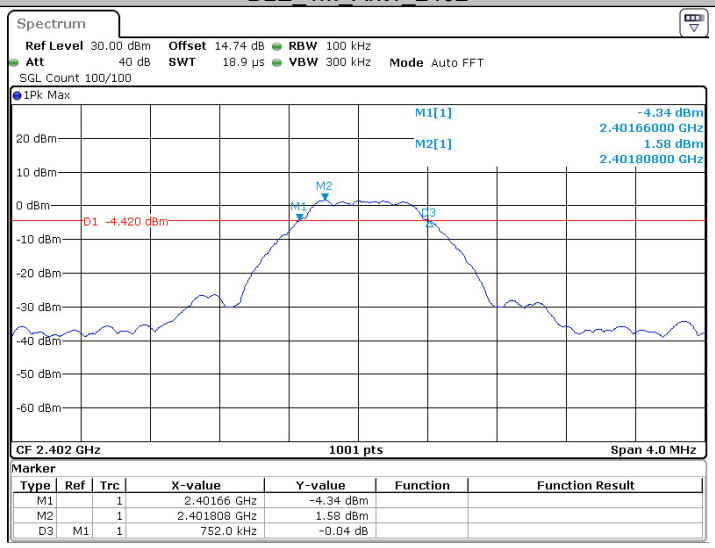
5.4 6dB Occupy Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(2)
Test Method:	ANSI C63.10 2013
Test Setup:	 *Remark: Offset=Cable loss+ attenuation factor.*
Limit:	≥ 500 kHz
Instruments Used:	Refer to section 4.11 for details.
Test Results:	Pass

Measurement Data

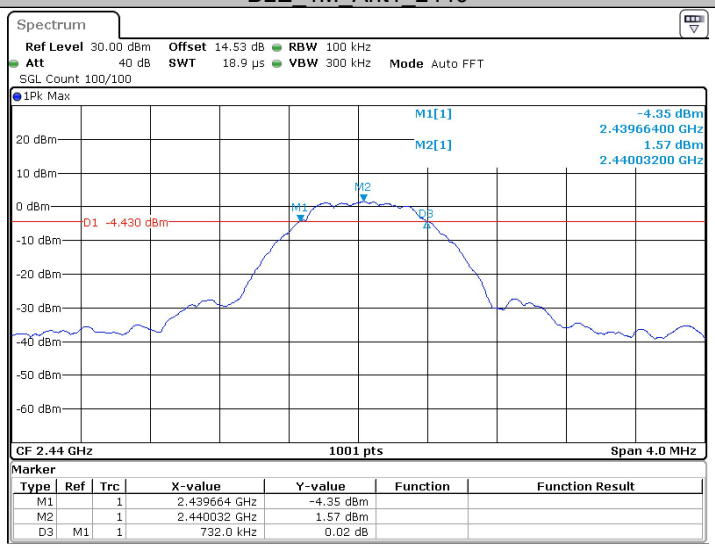
GFSK mode (1Mbps)			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
Lowest	0.75	≥500	Pass
Middle	0.73	≥500	Pass
Highest	0.71	≥500	Pass
GFSK mode (2Mbps)			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
Lowest	1.13	≥500	Pass
Middle	0.97	≥500	Pass
Highest	0.98	≥500	Pass

BLE_1M_Ant1_2402



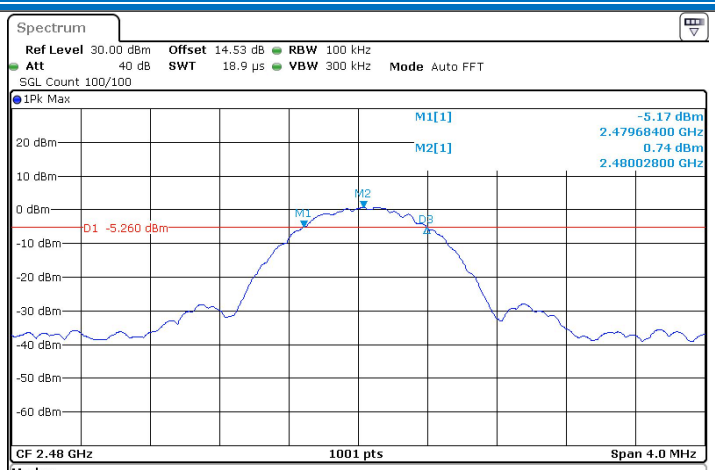
Date: 13.MAR.2025 10:17:58

BLE_1M_Ant1_2440



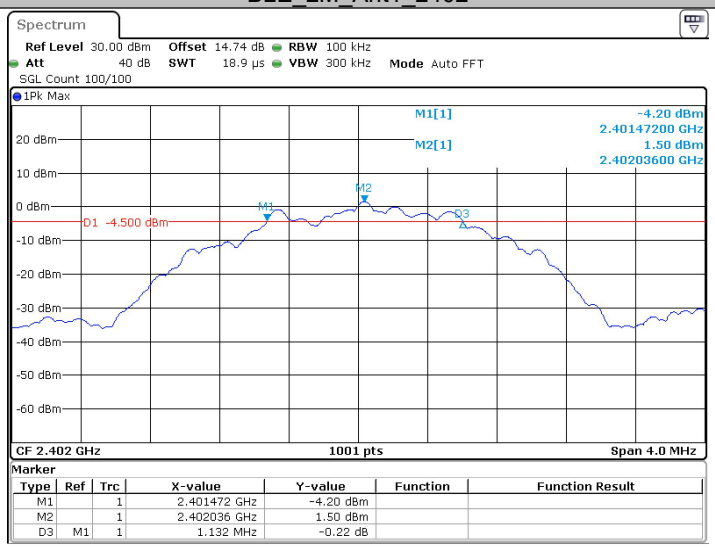
Date: 13.MAR.2025 10:21:10

BLE_1M_Ant1_2480



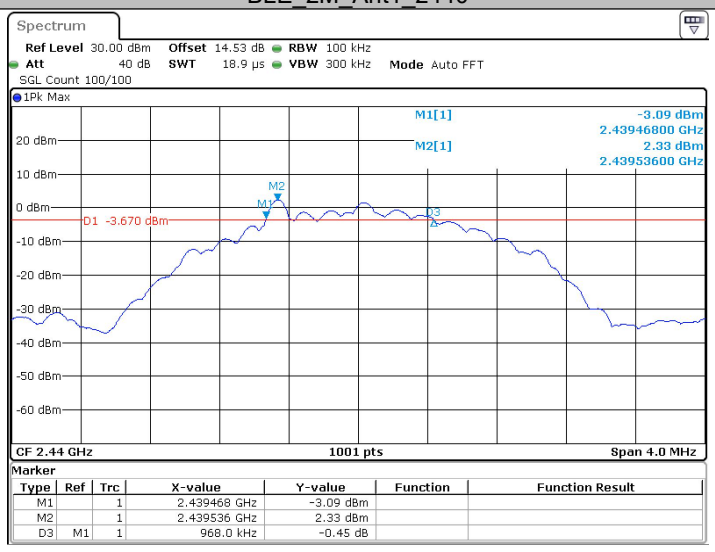
Date: 13.MAR.2025 10:22:27

BLE_2M_Ant1_2402



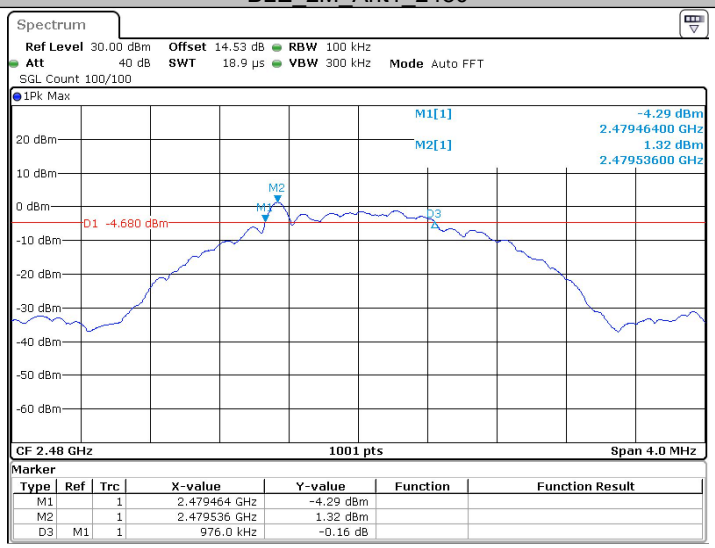
Date: 13.MAR.2025 10:25:03

BLE_2M_Ant1_2440

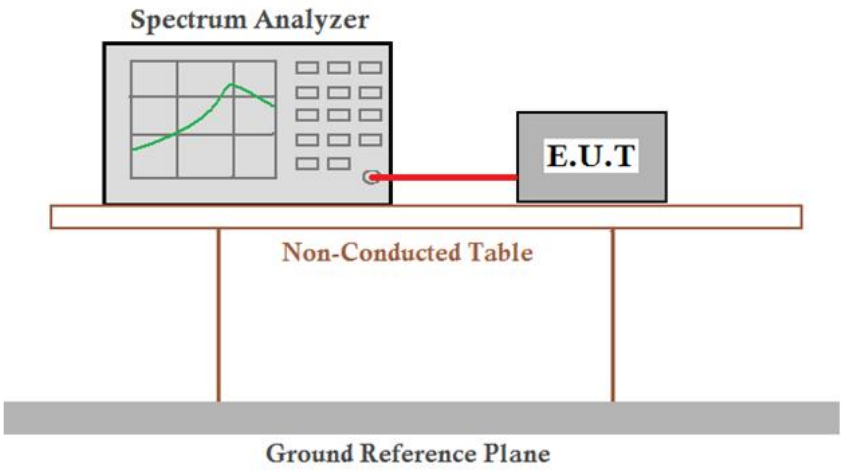


Date: 13.MAR.2025 10:28:07

BLE_2M_Ant1_2480



5.5 Power Spectral Density

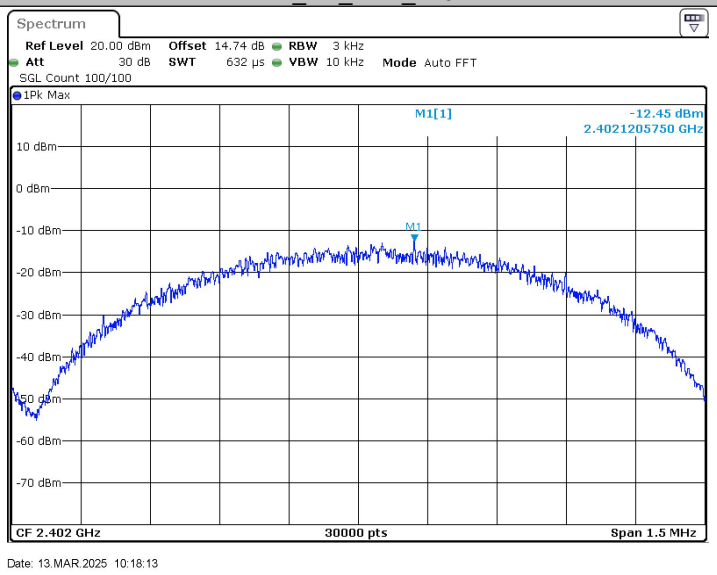
Test Requirement:	47 CFR Part 15C Section 15.247 (e)
Test Method:	ANSI C63.10 2013
Test Setup:	 *Remark: Offset=Cable loss+ attenuation factor.*
Limit:	≤8.00dBm/3kHz
Test Mode:	Transmitting with GFSK modulation.
Test Results:	Pass

Measurement Data

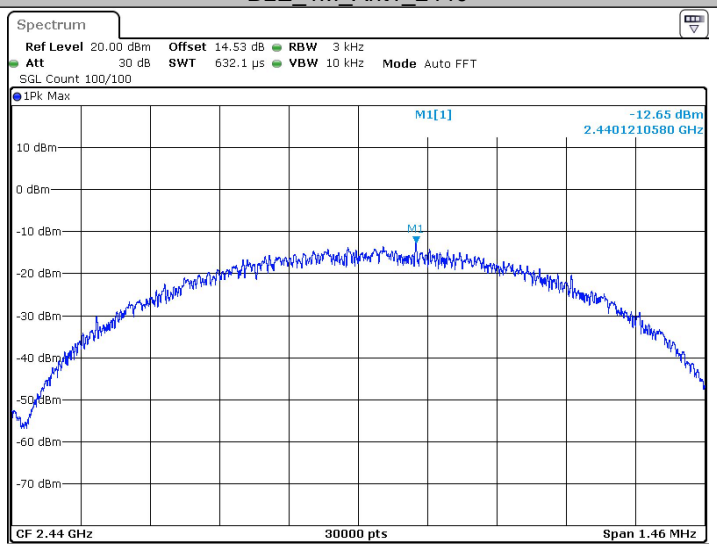
GFSK mode (1Mbps)			
Test channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Lowest	-12.45	≤8.00	Pass
Middle	-12.65	≤8.00	Pass
Highest	-13.53	≤8.00	Pass
GFSK mode (2Mbps)			
Test channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Lowest	-15.88	≤8.00	Pass
Middle	-16.08	≤8.00	Pass
Highest	-16.87	≤8.00	Pass

Test plot as follows:

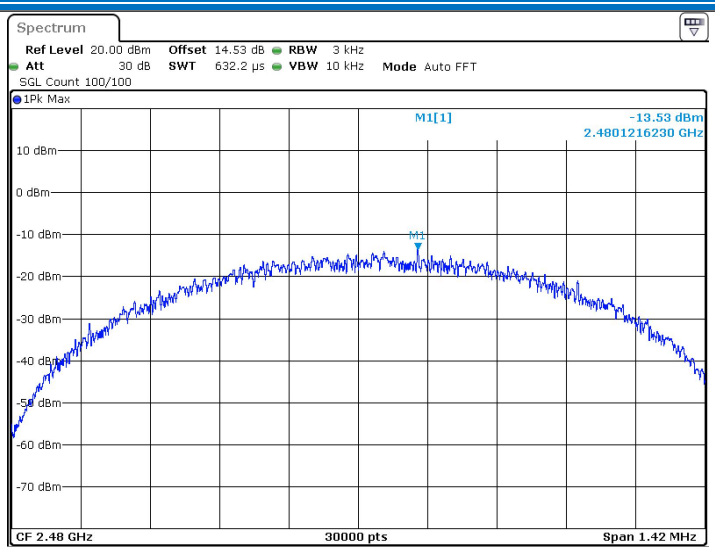
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440

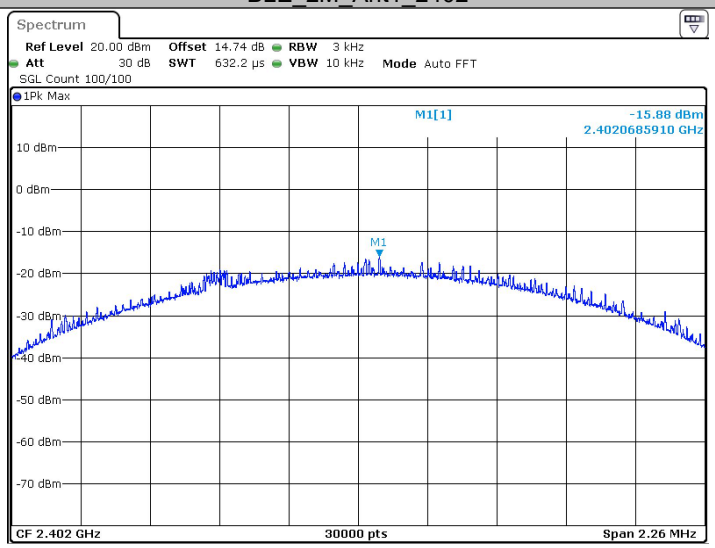


BLE_1M_Ant1_2480



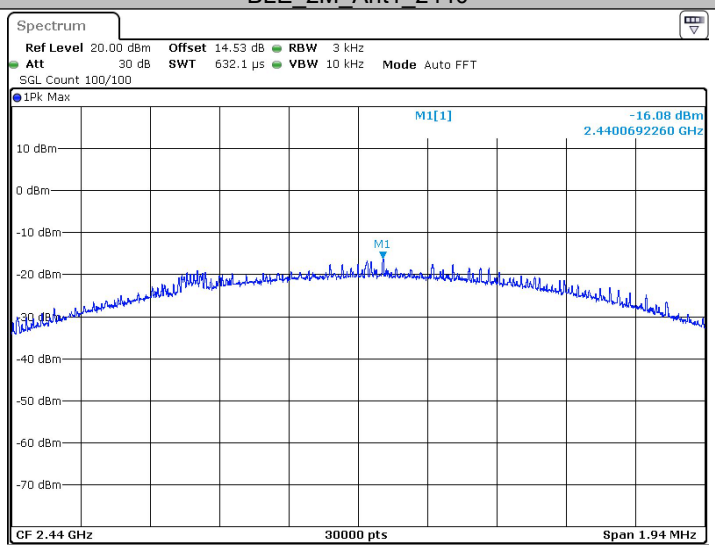
Date: 13.MAR.2025 10:22:42

BLE_2M_Ant1_2402



Date: 13.MAR.2025 10:25:17

BLE_2M_Ant1_2440



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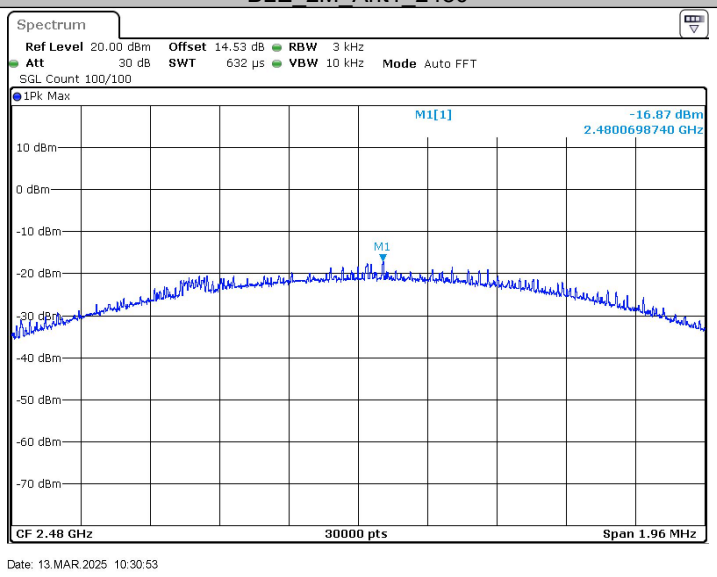
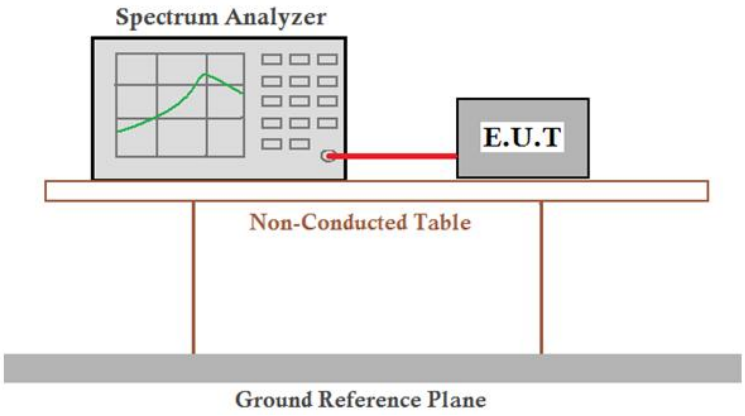
BLE_2M_Ant1_2480



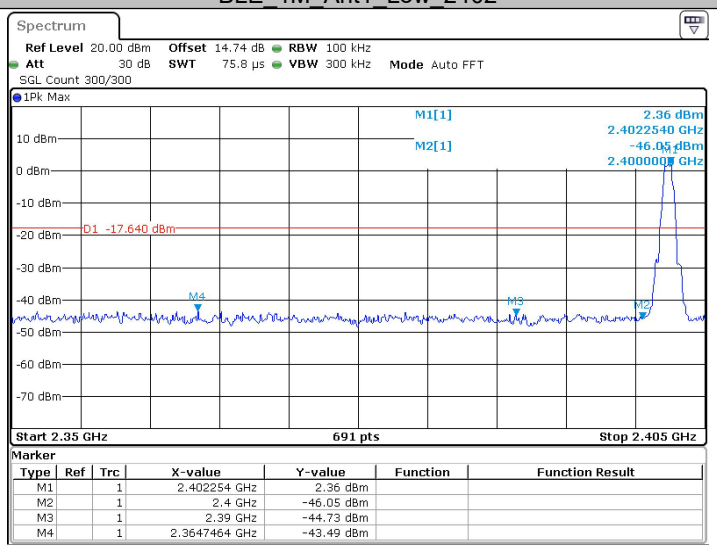
5.6 Band-edge for RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10 2013
Test Setup:	 *Remark: Offset=Cable loss+ attenuation factor.*
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test Mode:	Transmitting with GFSK modulation.
Test Results:	Pass

TestMode	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Low	2402	2.36	-43.49	≤-17.64	PASS
	High	2480	1.79	-40.79	≤-18.21	PASS
BLE_2M	Low	2402	2.49	-36.04	≤-17.51	PASS
	High	2480	1.40	-41.96	≤-18.6	PASS

Test plot as follows:

BLE_1M_Ant1_Low_2402



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.402254 GHz	2.36 dBm		
M2		1	2.4 GHz	-46.05 dBm		
M3		1	2.39 GHz	-44.73 dBm		
M4		1	2.3647464 GHz	-43.49 dBm		

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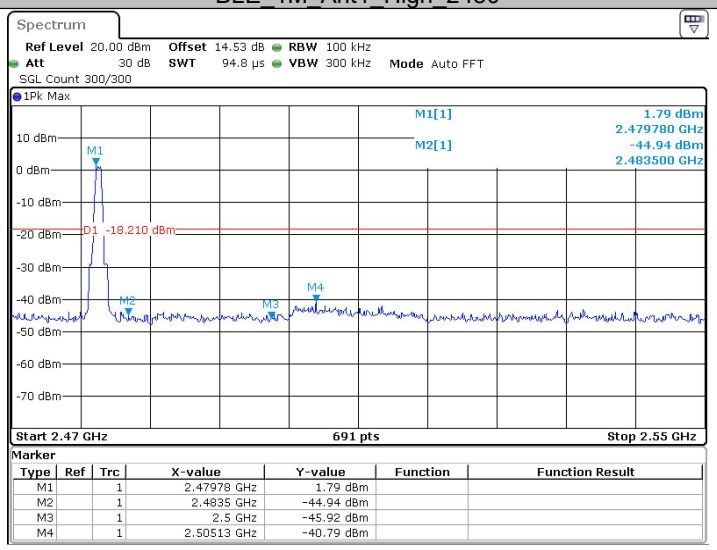
BLE_1M_Ant1_High_2480



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47978 GHz	1.79 dBm		
M2		1	2.4835 GHz	-44.94 dBm		
M3		1	2.5 GHz	-45.92 dBm		
M4		1	2.50513 GHz	-40.79 dBm		

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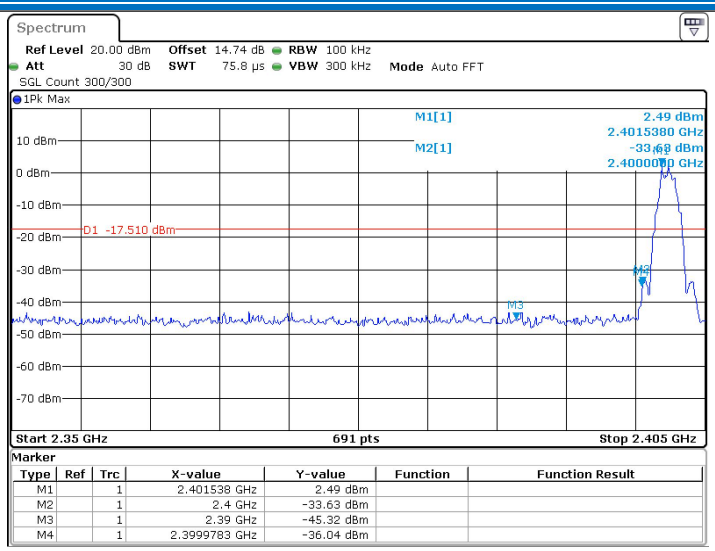
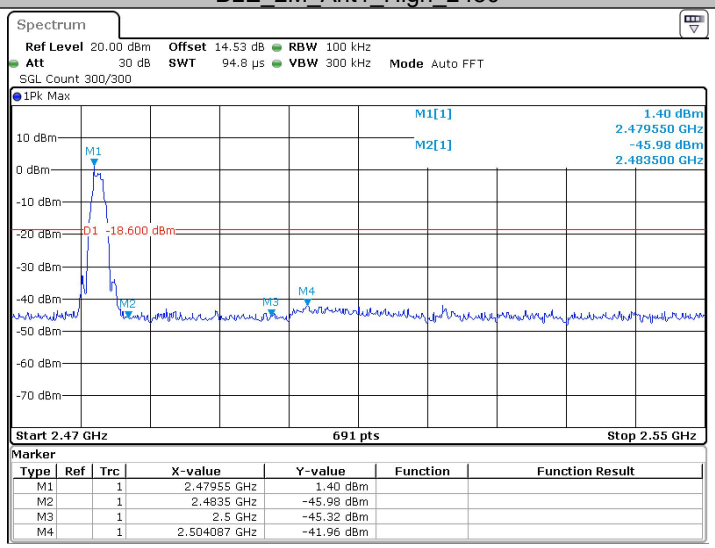
BLE_2M_Ant1_Low_2402



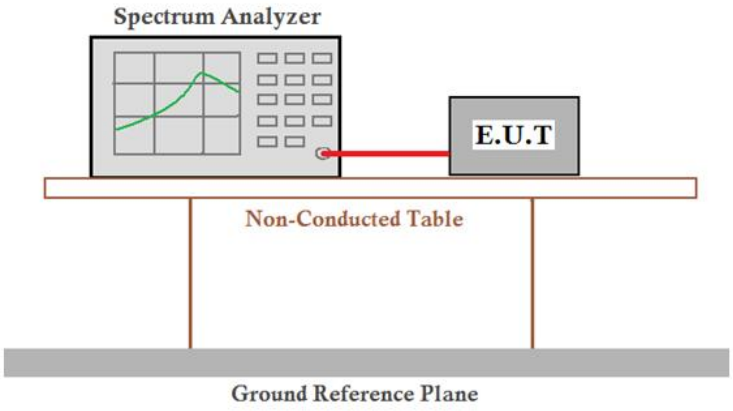
Date: 13.MAR.2025 10:25:23

BLE_2M_Ant1_High_2480



Date: 13.MAR.2025 10:30:59

5.7 Spurious RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10 2013
Test Setup:	 *Remark: Offset=Cable loss+ attenuation factor.*
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test Mode:	Transmitting with GFSK modulation.
Test Results:	Pass