FCC PART 15.247

TEST REPORT

For

QUANZHOU BADU ELECTRONIC TECHNOLOGY CO., LTD

NO.12, EAST ROAD, ANQIAN INDUSTRIAL, ANHAI TOWN, JINJIANG, FUJIAN, China

FCC ID: 2BGS8-BD-881

Report Type:	**Product Name:**
Original Report	ELECTRONIC KEYBOARD

Report Number:	2407T28020E-RF-02
Report Date:	2024-07-10
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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	2407T28020E-RF-02	R1V1	2024-07-10	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product Name:	ELECTRONIC KEYBOARD
Tested Model:	BD-881
Multiple Model(s):	883, 886
Power Supply:	DC 5V from adapter or DC 6V from battery
Maximum Conducted Output Peak Power:	BLE: -2.66dBm
Frequency Range:	BLE: 2402~2480MHz
Modulation Technique:	BLE: GFSK
Antenna Type:	PCB on-board
★Maximum Antenna Gain:	0.5dBi
EUT Received Status:	Good

Note:
1. The Maximum Antenna Gain was declared by manufacturer.
2. The model difference please refer to declaration letter.
3. All measurement and test data in this report was gathered from production sample serial number: 2LBU-1. (Assigned by the BACL (Xiamen). The EUT supplied by the applicant was received on 2024-05-14)

Objective

This report is prepared on behalf of *QUANZHOU BADU ELECTRONIC TECHNOLOGY CO., LTD* in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commission's rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2020, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

And KDB 558074 D01 15.247 Meas Guidance v05r02.

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Xiamen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Xiamen) to collect test data is located on the Unit 102, No. 902 Meifeng South Road, Binhai West Avenue, Science and Technology Innovation Park, Torch High tech Zone XiaMen.

Bay Area Compliance Laboratories Corp. (Xiamen) Lab is accredited to ISO/IEC 17025 by A2LA (Certificate Number: 7134.01) and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No. : CN1384.

Measurement Uncertainty

Item		U_{lab}
Conducted Emission	150kHz-30MHz	2.33 dB
Radiated Emission	9kHz-30MHz	2.59 dB
	30MHz~1GHz	4.79 dB
	1GHz~6GHz	4.6 dB
	6GHz-18GHz	5.42 dB
	18GHz~26.5GHz	5.47 dB
Occupied Channel Bandwidth		±0.10MHz
Transmitter Conducted Power(Conducted RF power)		±0.624 dB
Conducted Spurious Emission		±2.52 dB
Power Spectral Density		±0.61dB
Duty Cycle		1%
Temperature		±1℃
Humidity		±5%
Supply voltages		±0.4%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

SYSTEM TEST CONFIGURATION

Test Mode and Voltage

The system was configured for testing in a typical mode (as normally used by a typical user).	
Test mode:	Test mode 1: Transmitting
Test voltage:	Test mode 1: DC 5V from adapter(AC 120V/60Hz) or DC 6V from battery
Remark:	During all emission tests, the EUT was configured to measure its highest possible emission level and the worst case's test data was presented in this test report.

Description of Test Configuration

For BLE mode, 40 channels are provided to testing:

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

EUT was tested with Channel 0, 19 and 39.

Equipment Modifications

No modification was made to the EUT tested.

★EUT Exercise Software

RF Test Tool: FCC_assist_1.0.2.2

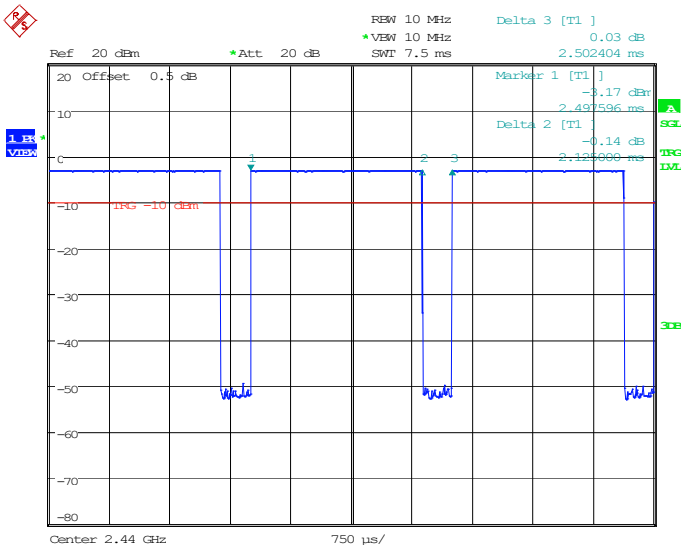
Mode	Power level		
	Low channel	Middle channel	High channel
BLE 1Mbps	0xff	0xff	0xff
BLE 2Mbps	0xff	0xff	0xff

Note: The power level was declared by the applicant.

Duty cycle

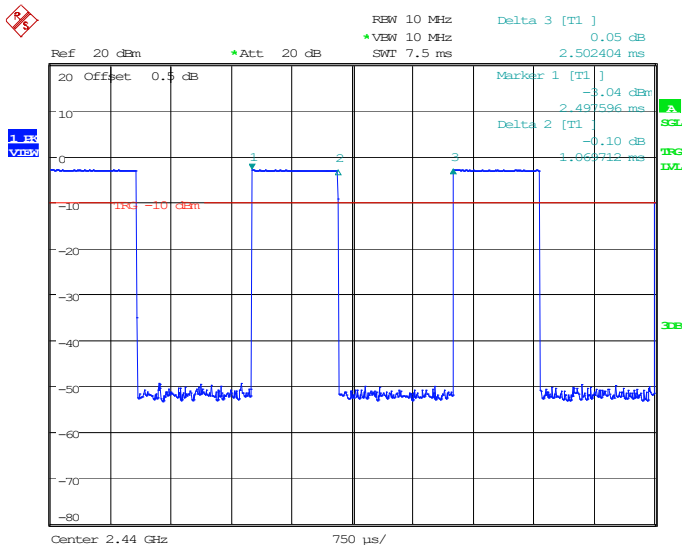
Test Modes	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	VBW Setting (kHz)
BLE 1Mbps	2.13	2.502	85.09	470	0.5
BLE 2Mbps	1.07	2.502	42.77	935	1

BLE 1Mbps: Middle Channel



Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 13:08:14

BLE 2Mbps: Middle Channel



Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 13:11:04

Support Equipment List and Details

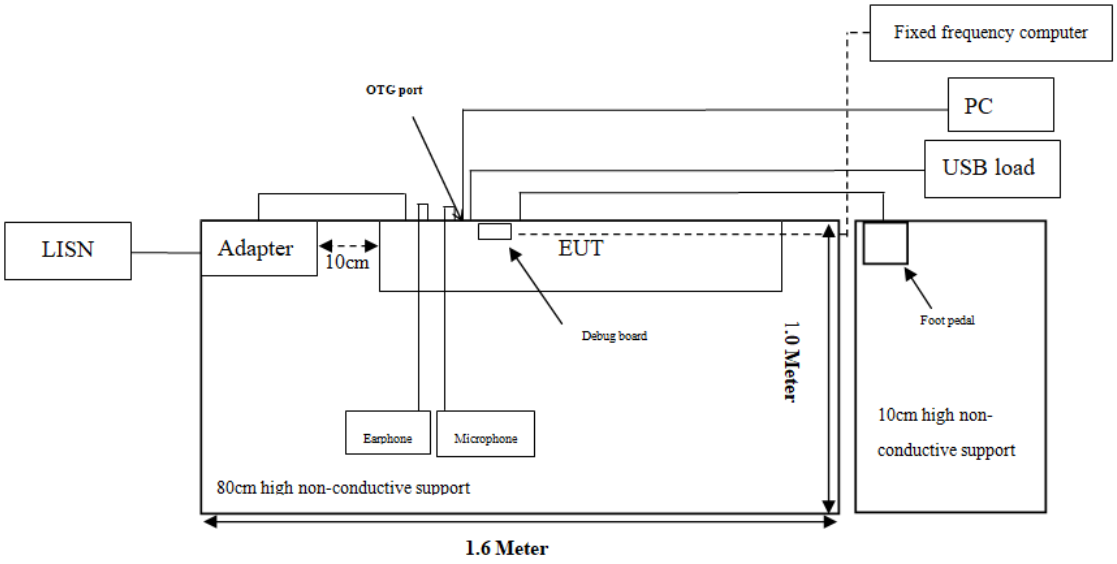
Manufacturer	Description	Model	Serial Number
KLEC	SWITCHING POWER SUPPLY	SW-0983	SW-W9721
Thinkpad	Fixed frequency computer	945K19U	20L6SDKD00
Thinkpad	PC	0SMMSG2	92D9459E
OPPO	Earphone	Reno4	022535448
KINGWAY	Microphone	BKW-X1	215632857
/	USB load	5W10RJ	/

External I/O Cable

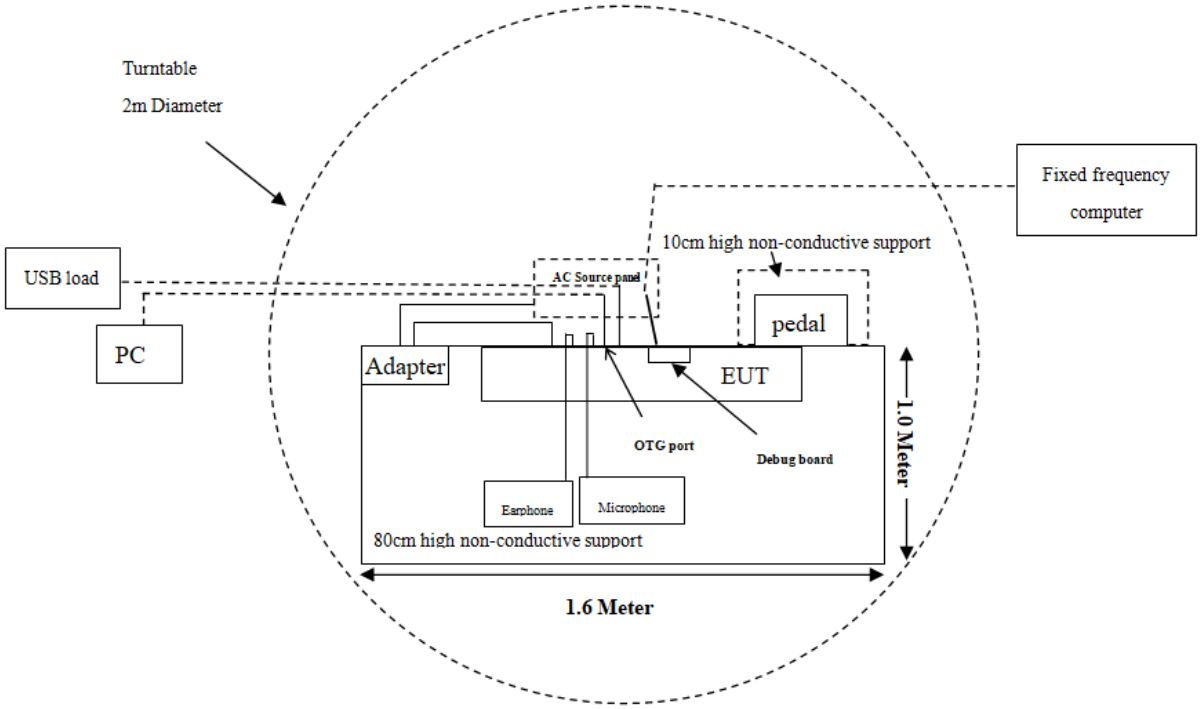
Cable Description	Length (m)	From Port	To
USB cable	1.0	AC Source	EUT
USB extension cable	8	Debug board	Fixed frequency computer
USB extension cable	8	USB port	USB load
USB extension cable	8	OTG port	PC
Earphone cable	1.0	EUT	Earphone
Microphone cable	1.0	EUT	Microphone

Block Diagram of Test Setup

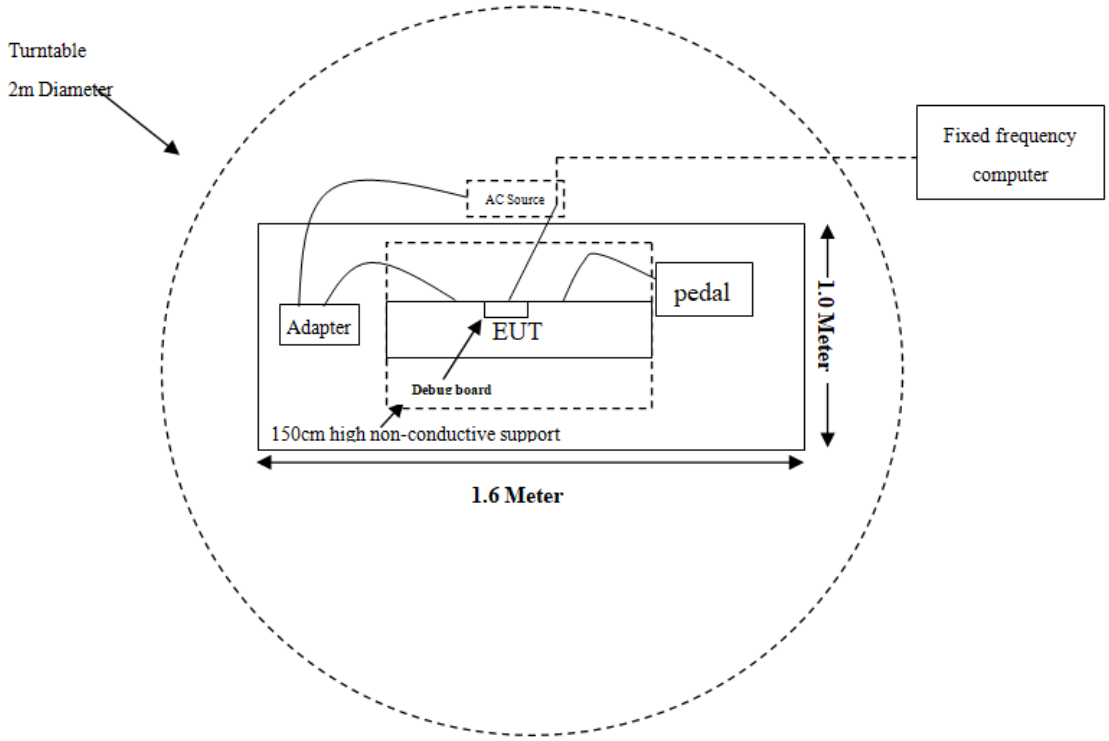
Conducted Emission:



Radiated Emission:
Below 1GHz



Above 1GHz


Turntable
2m Diameter
Fixed frequency computer
AC Source
pedal
Adapter
EUT
Debug board
150cm high non-conductive support
1.0 Meter
1.6 Meter

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207 (a)	AC Line Conducted Emissions	Compliant
§15.205, §15.209, §15.247(d)	Spurious Emissions & Conducted Spurious Emissions at Antenna Port	Compliant
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliant
§15.247(b)(3)	Maximum Conducted Output Power	Compliant
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliant
§15.247(e)	Power Spectral Density	Compliant

TEST EQUIPMENT LIST

Test Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions					
EMI Test Receiver	Rohde & Schwarz	ESR	103105	2023/09/12	2024/09/11
LISN	Rohde & Schwarz	ENV216	100129	2023/09/12	2024/09/11
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	0357.8810.54	2023/09/12	2024/09/11
Coaxial Cable	XINHANGWEIBO	XH400T-N-4M	CC001	2023/08/29	2024/08/28
Test Software	Audix	E3	18621a	N/A	N/A
Radiated Emissions Below 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESR	103103	2023/09/12	2024/09/11
Loop Antenna	Rohde & Schwarz	HFH2-Z2	830749/001	2023/07/27	2026/07/26
Antenna	Sunol Sciences	JB6	A122022-5	2023/07/27	2026/07/26
Amplifier	Sonoma	310B	120903	2023/09/12	2024/09/11
Coaxial Cable	XINHANGWEIBO	XH400T-N-4M	CC002	2023/08/29	2024/08/28
Coaxial Cable	XINHANGWEIBO	XH460B-N-2M	CC006	2023/08/29	2024/08/28
Coaxial Cable	XINHANGWEIBO	XH460B-N-12M	CC007	2023/08/29	2024/08/28
Coaxial Cable	XINHANGWEIBO	HFH2-CC	335.3609	2023.9.20	2024/09/19
Test Software	Audix	E3	18621a	N/A	N/A
Radiated Emissions Above 1 GHz					
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102051	2023/09/12	2024/09/11
Double Ridge Guide Horn Antenna	A.H.Systems	SAS-571	1980	2023/07/28	2026/07/27
Horn Antenna	EMCO	3116	9407-2232	2023/07/31	2026/07/30
Preamplifier	A.H.Systems	PAM-0118P	489	2023/09/12	2024/09/11
Preamplifier	A.H.Systems	PAM-1840	200	2023/09/12	2024/09/11
Coaxial Cable	XINHANGWEIBO	XH800A-N-6M	CC004	2023/08/29	2024/08/28
Coaxial Cable	XINHANGWEIBO	XH800A-N-1M	CC005	2023/08/29	2024/08/28
Test Software	Audix	E3	18621a	N/A	N/A
RF Conducted Test					
Spectrum Analyzer	Rohde & Schwarz	FSU	100405	2023-09-12	2024/09/11
Coaxial Cable	N/A	N/A	N/A	Each time	N/A

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Xiamen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, 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 shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.
And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has one PCB antenna arrangement for BLE, which was permanently attached and the antenna gain is 0.5 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

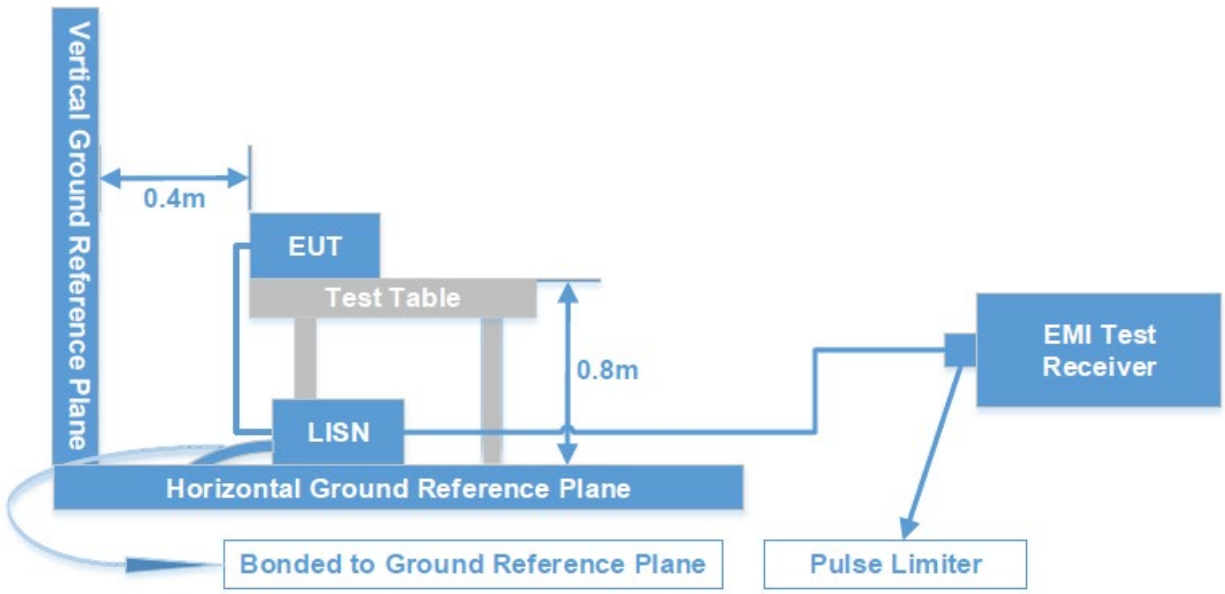
Result: Compliant

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

EUT Setup



The setup of EUT is according with per ANSI C63.10-2020 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	VBW	Detector
150 kHz – 30 MHz	9 kHz	30 kHz	QP/AV

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All final data was recorded in the Quasi-peak and average detection mode.

Level &Margin Calculation

The Level is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation from the Meter Reading. The basic equation is as follows:

Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB)
Level (dBμV) = Reading (dBμV) + Factor (dB)

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

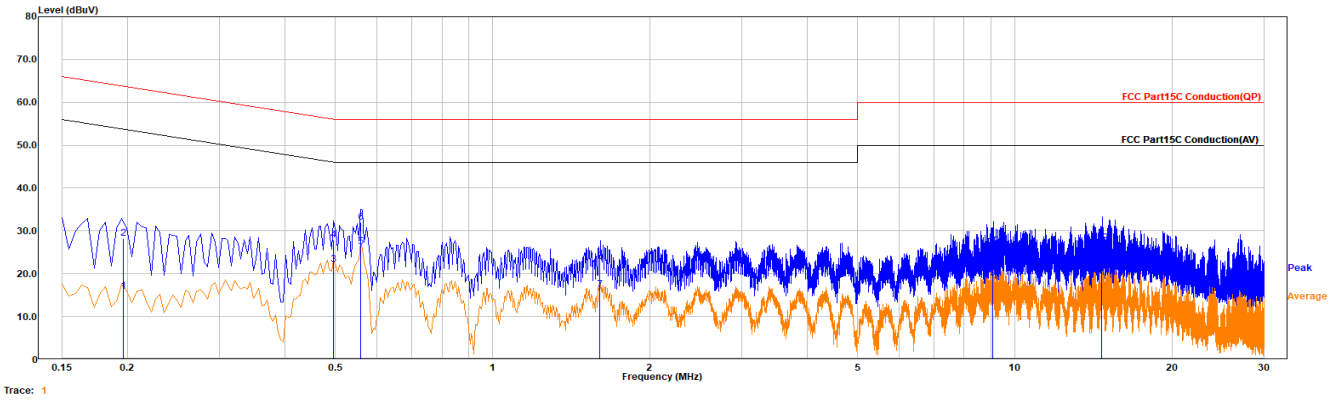
Margin (dB) = Limit (dBμV) – Level (dBμV)

Test Data

EUT operation mode: Transmitting in high channel (worst case)

Date: 2024-06-18

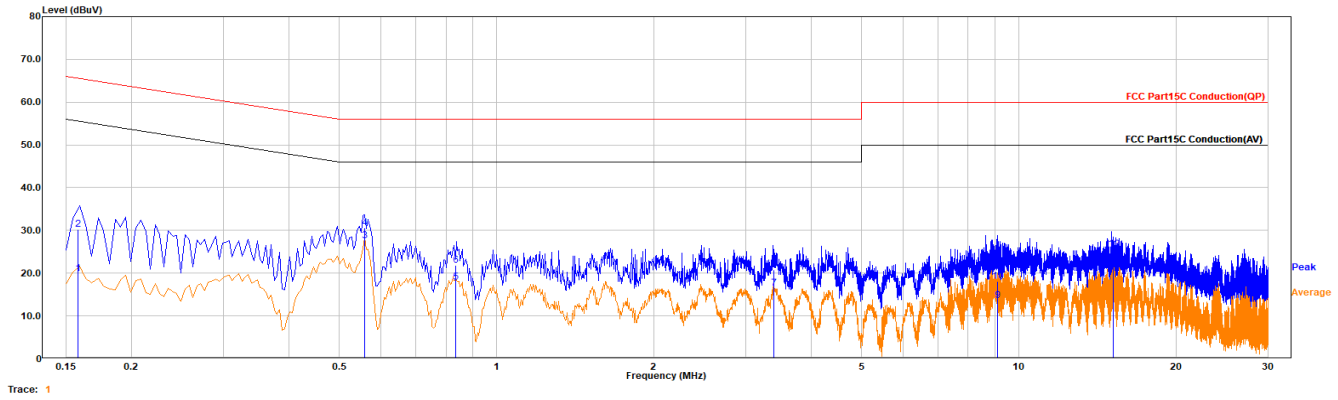
Project No.: 2407T28020E-RF Temp/Humi: 25.9℃/47%
Test Mode: BLE CH39 Transmitting Tested by : Stein Peng



Freq MHz	Reading dBuV	Factor dB	Level dBuV	Limit dBµV	Margin dB	Phase	Remark
0.196	-3.61	19.51	15.90	53.77	37.87	Line	Average
0.196	8.69	19.51	28.20	63.77	35.57	Line	QP
0.497	2.55	19.61	22.16	46.06	23.90	Line	Average
0.497	8.29	19.61	27.90	56.06	28.16	Line	QP
0.559	6.79	19.60	26.39	46.00	19.61	Line	Average
0.559	12.43	19.60	32.02	56.00	23.98	Line	QP
1.607	-3.34	19.64	16.30	46.00	29.70	Line	Average
1.607	3.31	19.64	22.95	56.00	33.05	Line	QP
9.082	-0.94	19.87	18.93	50.00	31.07	Line	Average
9.082	6.63	19.87	26.49	60.00	33.51	Line	QP
14.680	-0.45	19.97	19.52	50.00	30.48	Line	Average
14.680	7.32	19.97	27.29	60.00	32.71	Line	QP

Date: 2024-06-18

Project No.: 2407T28020E-RF Temp/Humi: 25.9℃/47%
Test Mode: BLE CH39 Transmitting Tested by : Stein Peng



Freq MHz	Reading dBuV	Factor dB	Level dBuV	Limit dBµV	Margin dB	Phase	Remark
0.158	0.45	19.49	19.94	55.56	35.62	Neutral	Average
0.158	10.74	19.49	30.23	65.56	35.33	Neutral	QP
0.560	7.90	19.60	27.50	46.00	18.50	Neutral	Average
0.560	11.02	19.60	30.62	56.00	25.38	Neutral	QP
0.835	-1.76	19.61	17.85	46.00	28.15	Neutral	Average
0.835	2.27	19.61	21.88	56.00	34.12	Neutral	QP
3.401	-3.13	19.64	16.51	46.00	29.49	Neutral	Average
3.401	1.16	19.64	20.80	56.00	35.20	Neutral	QP
9.109	-6.22	19.83	13.61	50.00	36.39	Neutral	Average
9.109	-1.78	19.83	18.05	60.00	41.95	Neutral	QP
15.161	1.87	19.95	21.82	50.00	28.18	Neutral	Average
15.161	5.60	19.95	25.55	60.00	34.45	Neutral	QP

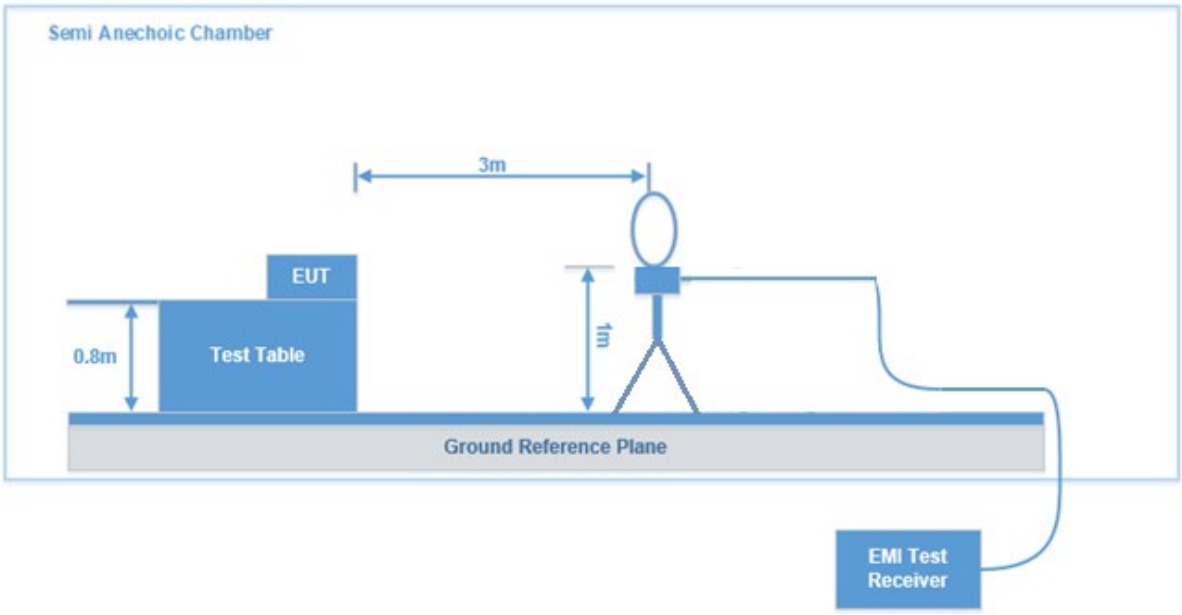
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

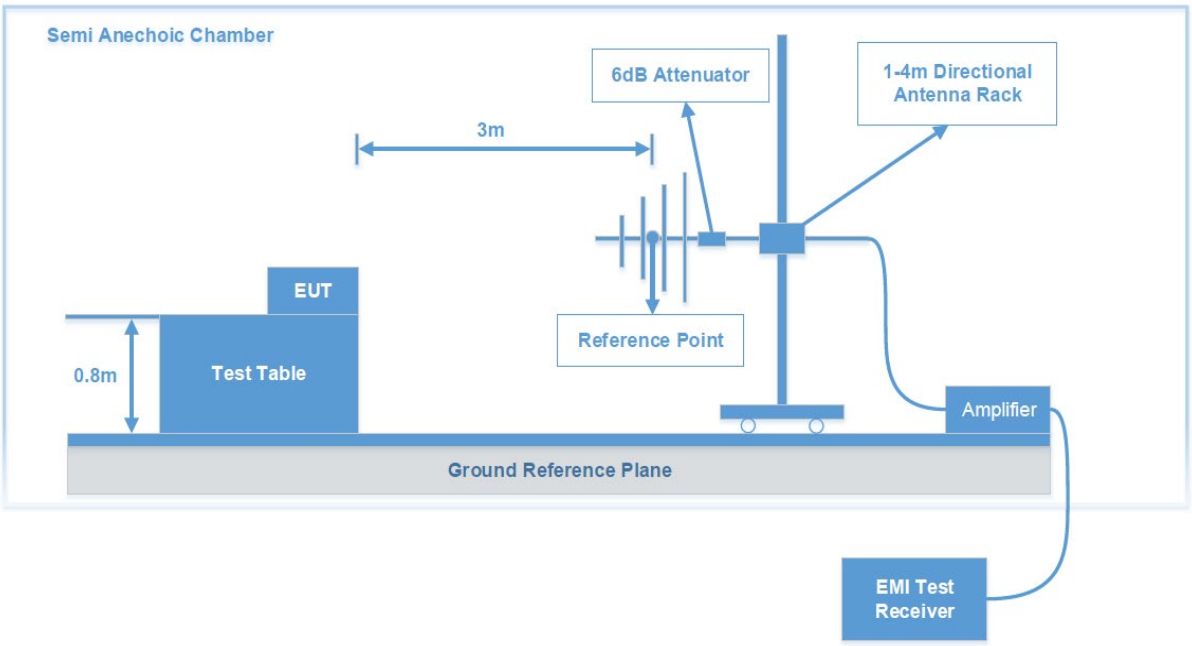
FCC §15.247 (d); §15.209; §15.205;

EUT Setup

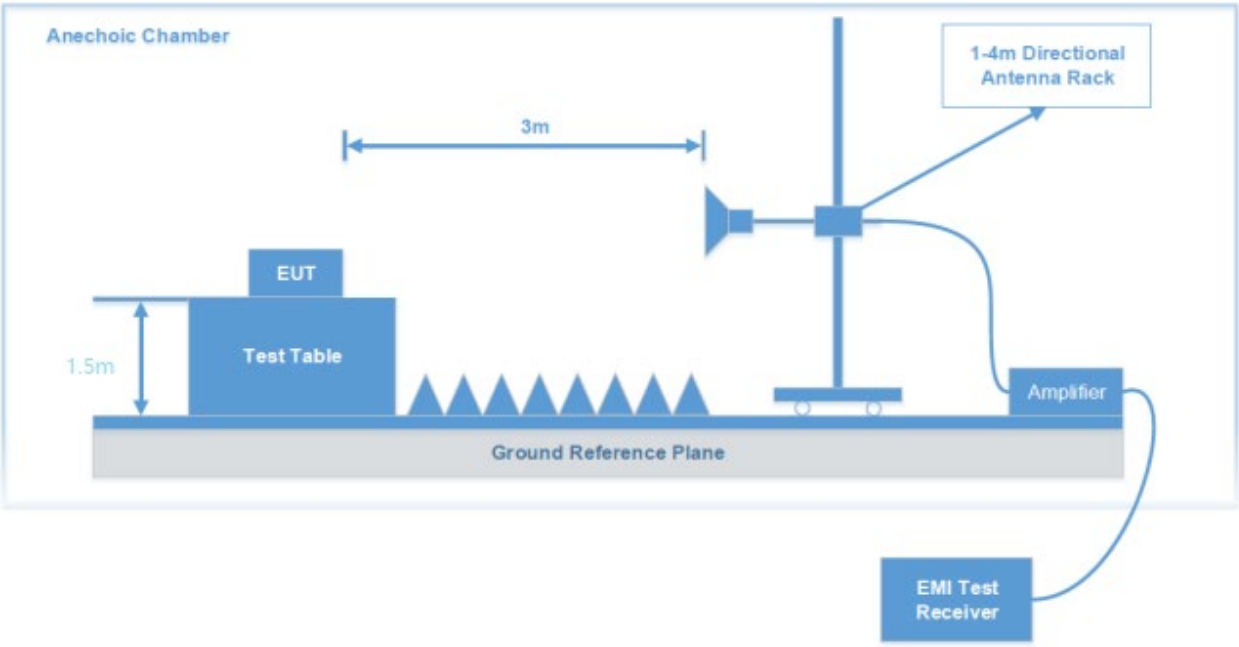
9 kHz-30MHz:



30MHz -1 GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2020. The specification used was the FCC 15.209, and FCC 15.247 limits.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Below 1GHz:

Frequency Range	RBW	VBW	IF B/W	Measurement
9 kHz – 150 kHz	200Hz	1 kHz	/	PK
	/	/	200Hz	QP/AV
150 kHz – 30 MHz	10 kHz	30 kHz	/	PK
	/	/	9kHz	QP/AV
30 MHz – 1000 MHz	100 kHz	300 kHz	/	PK
	/	/	120kHz	QP

Above 1GHz:

Duty Cycle	RBW	VBW	Measurement
Any	1MHz	3MHz	PK
＞98%	1MHz	10Hz	AV
＜98%	1MHz	≥1/T	AV

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

For each measurement antenna alignment, the EUT shall be rotated through 0° to 360° on a turntable. The report shall list the six emissions with the smallest margin relative to the limit, for each of the three antenna orientations (parallel, perpendicular, and ground parallel) unless the margin is greater than 20 dB, then the following statement shall be made: "all emissions were greater than 20 dB below the limit."

If the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is at least 6 dB below the QP emission limit, there's no need to record the measured QP level of the emissions in the report.

If the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is at below the AV emission limit, there's no need to record the measured AV level of the emissions in the report.

Level &Margin Calculation

The Level is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Factor (dB/m) =Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)
Level (dBμV/m) = Reading (dBμV) + Factor (dB/m)

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dBμV/m) –Level (dBμV/m)

Test Data

Please refer to the below table and plots.

Frequency Range:	Below 1 GHz	Above 1 GHz	Conducted Spurious Emissions at Antenna Port
Temperature:	22.3°C	20.0°C~23.2°C	23.6°C
Relative Humidity:	60 %	58 %~62%	59%
ATM Pressure:	101.1kPa	100.1 kPa~100.2 kPa	100.9kPa
Test Date:	2024-06-17	2024-05-29~2024-06-07	2024-07-08
Test Engineer:	Stein Peng	Stein Peng, Toby Chen	Stein Peng

1) 9 kHz~30MHz

EUT operation mode: Transmitting in Middle channel of BLE (2Mbps) (worst case)

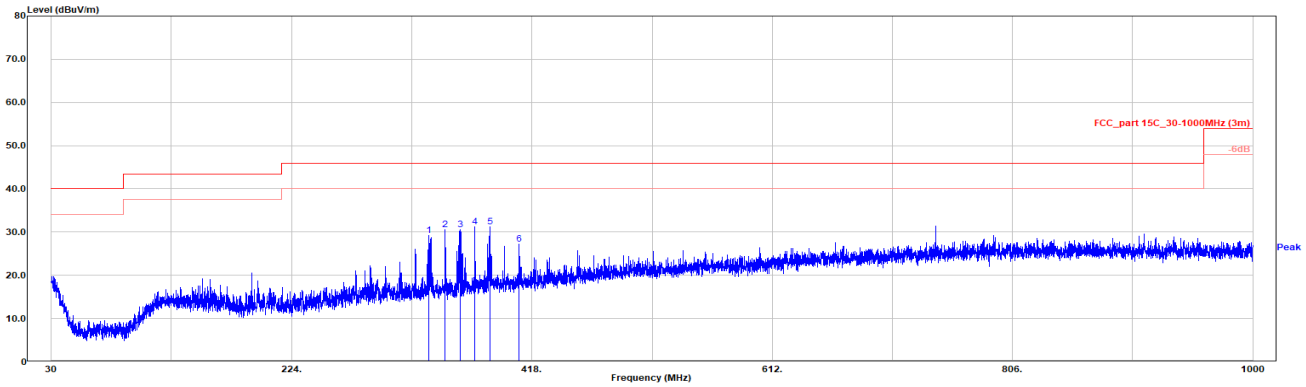
Pre-scan in parallel, ground-parallel and perpendicular of orientation of loop antenna, the amplitude of spurious emissions attenuated is more than 20 dB below the permissible value, which is not required to be report.

2) 30MHz-1GHz

EUT operation mode: Transmitting in Middle channel of BLE (2Mbps) (worst case)

Date: 2024-06-17

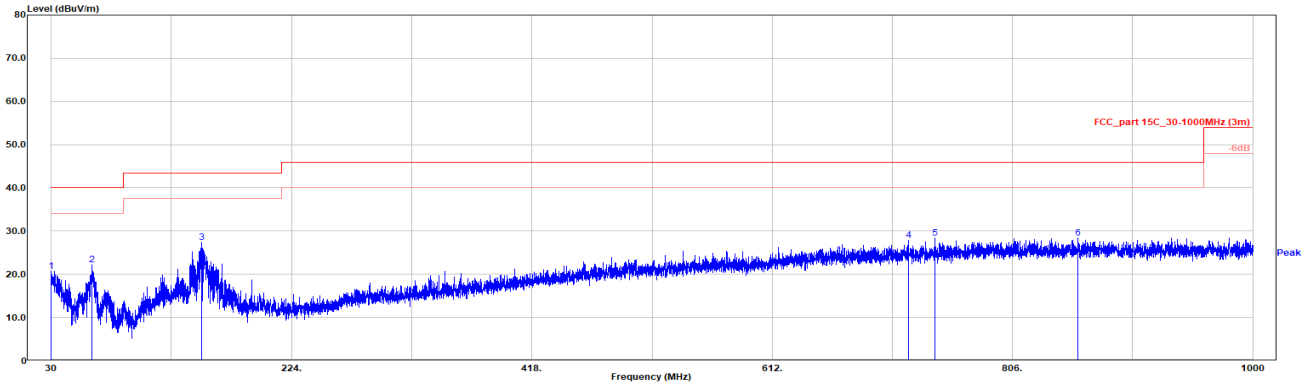
Project No.: 2407T28020E-RF Temp/Humi: 22.3℃/ 60%
Test Mode: BLE CH39 Transmitting Tested by : Stein Peng



Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
334.580	37.69	-8.41	29.29	46.00	16.71	Horizontal	Peak
347.966	38.68	-8.10	30.58	46.00	15.42	Horizontal	Peak
360.382	38.25	-7.73	30.52	46.00	15.48	Horizontal	Peak
372.022	38.62	-7.33	31.29	46.00	14.71	Horizontal	Peak
384.050	38.08	-6.93	31.15	46.00	14.85	Horizontal	Peak
407.524	33.34	-6.07	27.27	46.00	18.73	Horizontal	Peak

Date: 2024-06-17

Project No.: 2407T28020E-RF Temp/Humi: 22.3℃/ 60%
Test Mode: BLE CH39 Transmitting Tested by : Stein Peng



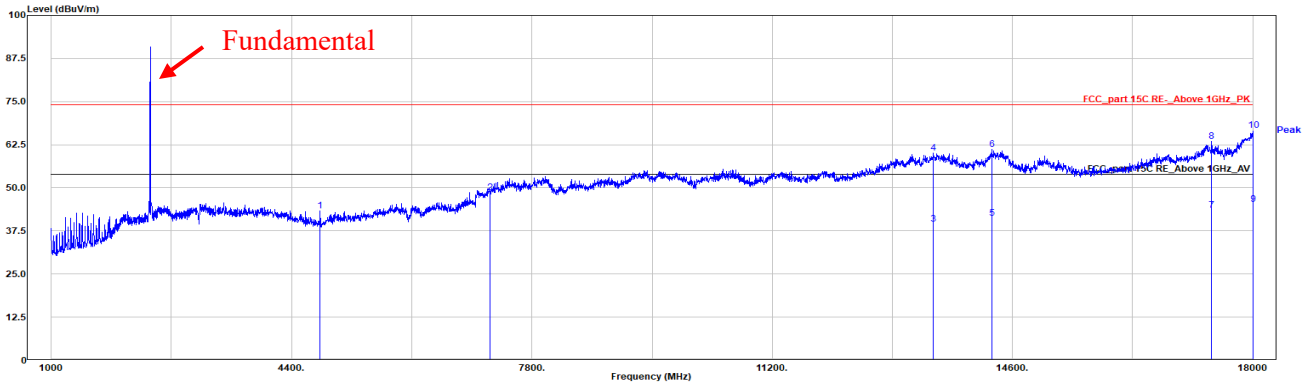
Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
30.000	26.25	-5.60	20.65	40.00	19.35	Vertical	Peak
62.689	39.67	-17.39	22.28	40.00	17.72	Vertical	Peak
151.638	38.58	-11.19	27.39	43.50	16.11	Vertical	Peak
721.901	27.88	0.06	27.93	46.00	18.07	Vertical	Peak
743.241	27.95	0.40	28.34	46.00	17.66	Vertical	Peak
858.962	26.41	2.06	28.47	46.00	17.53	Vertical	Peak

3) 1GHz~18GHz

EUT operation mode: Transmitting in low channel of BLE (1Mbps) mode

Date: 2024-05-29

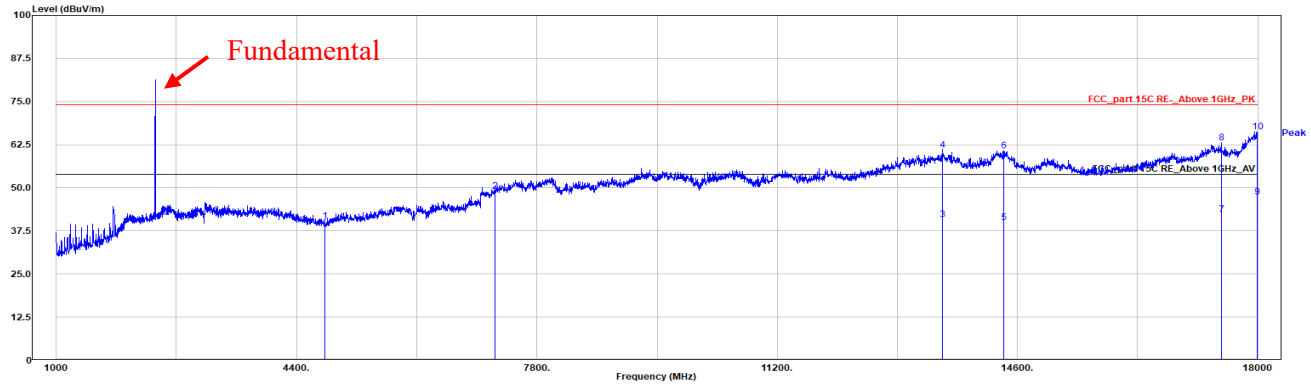
Project No.: 2407T28020E-RF Temp/Humi : 20℃/62%
Test Mode: Transmitting Tested by : Stein Peng



Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
4804.600	46.11	-2.73	43.38	74.00	30.62	horizontal	Peak
7206.000	43.59	5.07	48.66	74.00	25.34	horizontal	Peak
13478.000	24.40	15.08	39.48	54.00	14.52	horizontal	Average
13478.000	45.02	15.08	60.10	74.00	13.90	horizontal	Peak
14304.200	26.45	14.82	41.27	54.00	12.73	horizontal	Average
14304.200	46.40	14.82	61.22	74.00	12.78	horizontal	Peak
17418.600	28.44	15.03	43.47	54.00	10.53	horizontal	Average
17418.600	48.43	15.03	63.46	74.00	10.54	horizontal	Peak
18000.000	26.54	18.77	45.31	54.00	8.69	horizontal	Average
18000.000	47.92	18.77	66.69	74.00	7.31	horizontal	Peak

Date: 2024-05-29

Project No.: 2407T28020E-RF Temp/Humi : 20℃/62%
Test Mode: Transmitting Tested by : Stein Peng

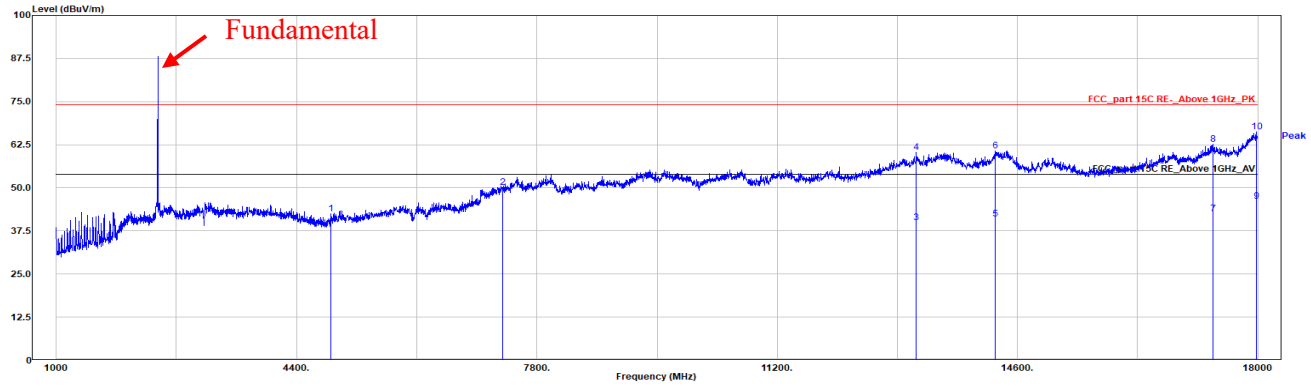


Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
4804.000	43.15	-2.73	40.42	74.00	33.58	vertical	Peak
7205.000	44.00	5.07	49.07	74.00	24.93	vertical	Peak
13542.600	25.94	14.91	40.85	54.00	13.15	vertical	Average
13542.600	46.13	14.91	61.04	74.00	12.96	vertical	Peak
14406.200	25.58	14.27	39.85	54.00	14.15	vertical	Average
14406.200	46.46	14.27	60.73	74.00	13.27	vertical	Peak
17486.600	27.21	15.13	42.34	54.00	11.66	vertical	Average
17486.600	47.85	15.13	62.98	74.00	11.02	vertical	Peak
17996.600	28.54	18.75	47.29	54.00	6.71	vertical	Average
17996.600	47.48	18.75	66.23	74.00	7.77	vertical	Peak

EUT operation mode: Transmitting in middle channel of BLE (1Mbps) mode

Date: 2024-05-29

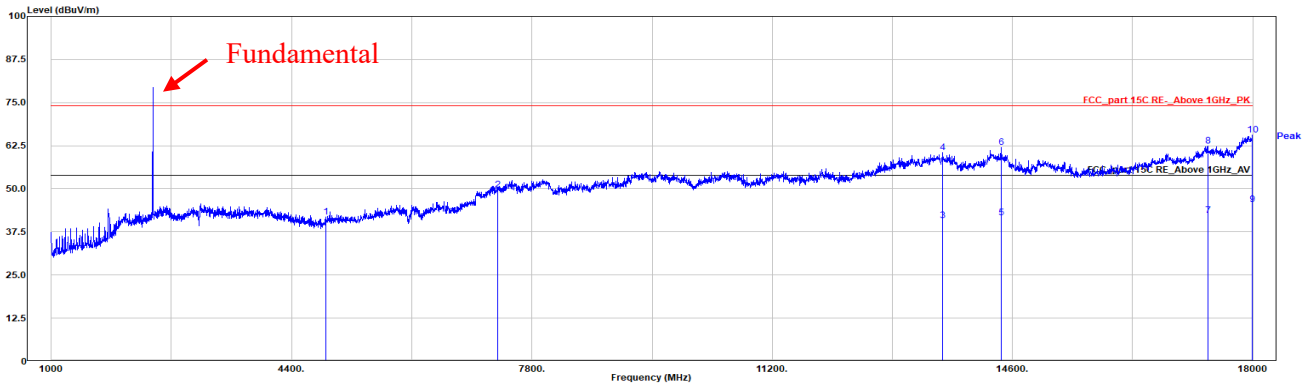
Project No.: 2407T28020E-RF Temp/Humi : 20℃/62%
Test Mode: Transmitting Tested by : Stein Peng



Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
4879.400	44.21	-1.81	42.40	74.00	31.60	horizontal	Peak
7320.000	44.42	5.61	50.03	74.00	23.97	horizontal	Peak
13168.600	25.45	14.54	39.99	54.00	14.01	horizontal	Average
13168.600	45.70	14.54	60.24	74.00	13.76	horizontal	Peak
14280.400	26.43	14.64	41.07	54.00	12.93	horizontal	Average
14280.400	46.17	14.64	60.81	74.00	13.19	horizontal	Peak
17371.000	27.46	14.92	42.38	54.00	11.62	horizontal	Average
17371.000	47.77	14.92	62.69	74.00	11.31	horizontal	Peak
17976.200	27.54	18.63	46.17	54.00	7.83	horizontal	Average
17976.200	47.69	18.63	66.32	74.00	7.68	horizontal	Peak

Date: 2024-05-29

Project No.: 2407T28020E-RF Temp/Humi : 20℃/62%
Test Mode: Transmitting Tested by : Stein Peng

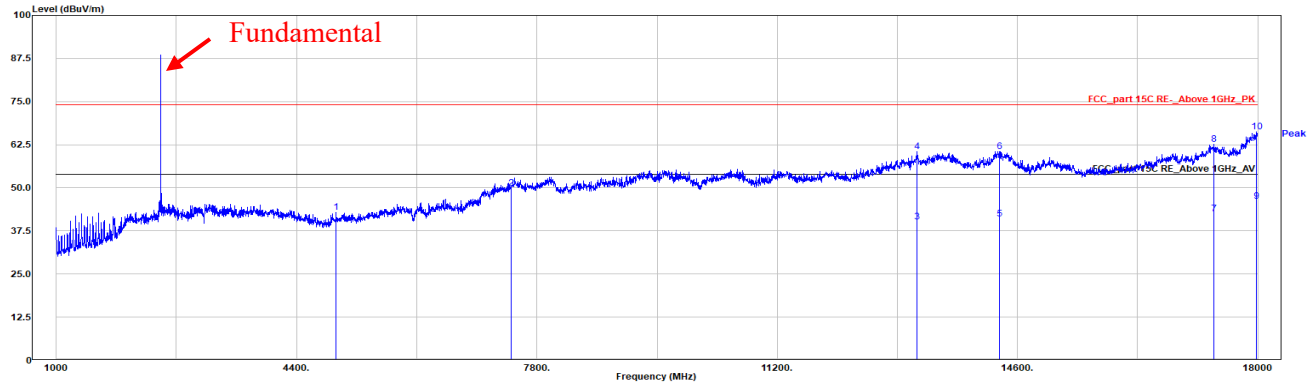


Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
4880.000	43.57	-1.80	41.77	74.00	32.23	vertical	Peak
7320.600	44.15	5.61	49.76	74.00	24.24	vertical	Peak
13610.600	26.25	14.55	40.80	54.00	13.20	vertical	Average
13610.600	46.04	14.55	60.59	74.00	13.41	vertical	Peak
14440.200	27.42	14.25	41.67	54.00	12.33	vertical	Average
14440.200	47.76	14.25	62.01	74.00	11.99	vertical	Peak
17367.600	27.42	14.92	42.34	54.00	11.66	vertical	Average
17367.600	47.56	14.92	62.48	74.00	11.52	vertical	Peak
17996.600	26.72	18.75	45.47	54.00	8.53	vertical	Average
17996.600	46.79	18.75	65.54	74.00	8.46	vertical	Peak

EUT operation mode: Transmitting in high channel of BLE (1Mbps) mode

Date: 2024-05-29

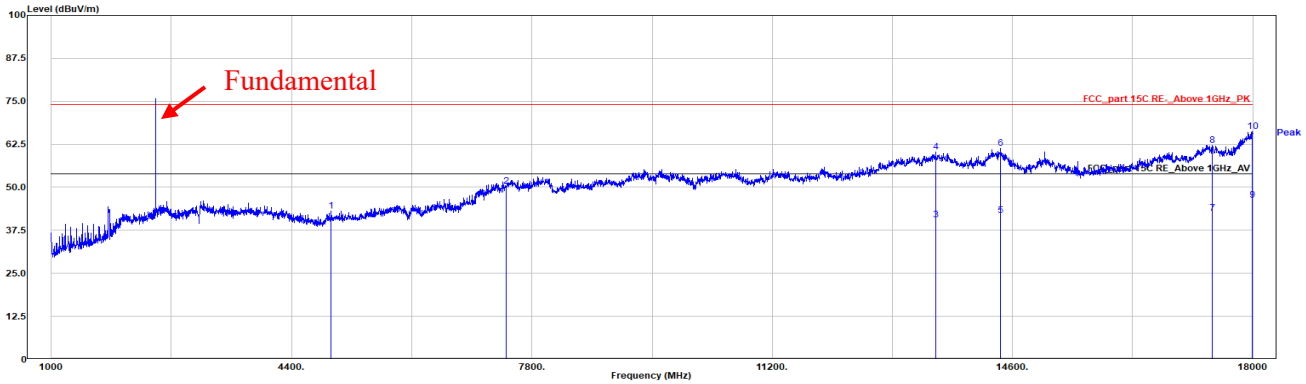
Project No.: 2407T28020E-RF Temp/Humi : 20℃/62%
Test Mode: Transmitting Tested by : Stein Peng



Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
4961.000	43.79	-0.98	42.81	74.00	31.19	horizontal	Peak
7440.000	43.34	6.55	49.89	74.00	24.11	horizontal	Peak
13182.200	25.58	14.59	40.17	54.00	13.83	horizontal	Average
13182.200	46.00	14.59	60.59	74.00	13.41	horizontal	Peak
14348.400	26.45	14.57	41.02	54.00	12.98	horizontal	Average
14348.400	46.01	14.57	60.58	74.00	13.42	horizontal	Peak
17377.800	27.54	14.94	42.48	54.00	11.52	horizontal	Average
17377.800	47.70	14.94	62.64	74.00	11.36	horizontal	Peak
17983.000	27.46	18.67	46.13	54.00	7.87	horizontal	Average
17983.000	47.61	18.67	66.28	74.00	7.72	horizontal	Peak

Date: 2024-05-29

Project No.: 2407T28020E-RF Temp/Humi : 20℃/62%
Test Mode: Transmitting Tested by : Stein Peng

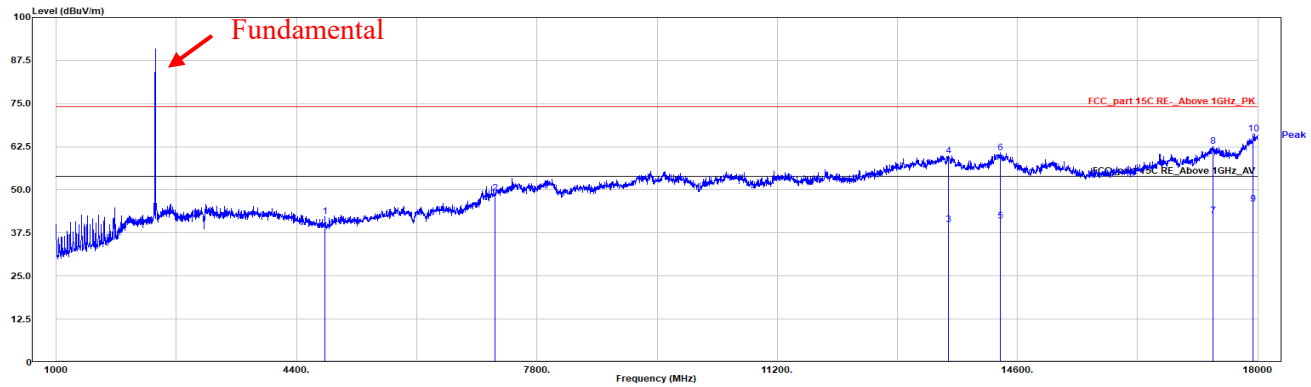


Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
4961.000	43.98	-0.98	43.00	74.00	31.00	vertical	Peak
7440.000	43.68	6.55	50.23	74.00	23.77	vertical	Peak
13515.400	25.46	15.03	40.49	54.00	13.51	vertical	Average
13515.400	45.18	15.03	60.21	74.00	13.79	vertical	Peak
14433.400	27.55	14.25	41.80	54.00	12.20	vertical	Average
14433.400	47.18	14.25	61.43	74.00	12.57	vertical	Peak
17425.400	27.47	15.04	42.51	54.00	11.49	vertical	Average
17425.400	47.22	15.04	62.26	74.00	11.74	vertical	Peak
17989.800	27.54	18.71	46.25	54.00	7.75	vertical	Average
17989.800	47.61	18.71	66.32	74.00	7.68	vertical	Peak

EUT operation mode: Transmitting in low channel of BLE (2Mbps) mode

Date: 2024-05-29

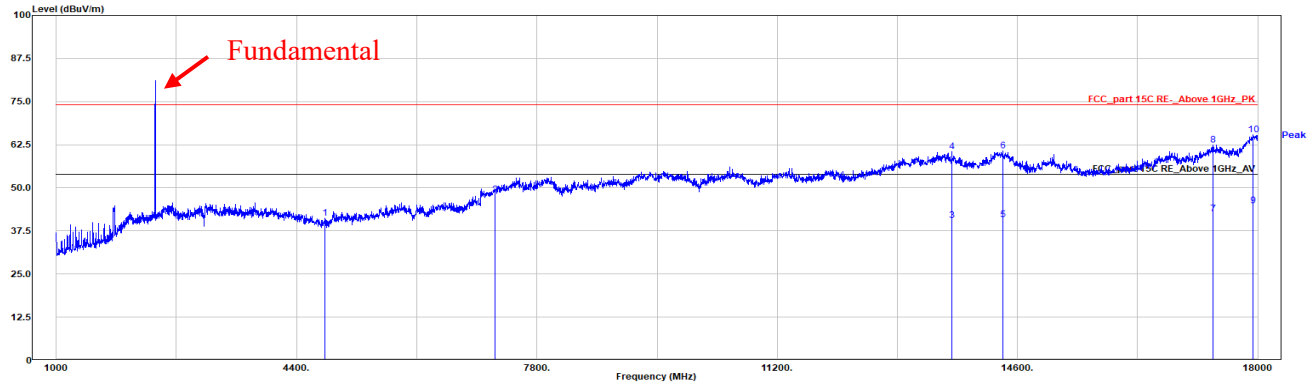
Project No.: 2407T28020E-RF Temp/Humi : 20℃/62%
Test Mode: Transmitting Tested by : Stein Peng



Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
4804.000	45.04	-2.73	42.31	74.00	31.69	horizontal	Peak
7206.000	43.93	5.07	49.00	74.00	25.00	horizontal	Peak
13620.800	25.45	14.46	39.91	54.00	14.09	horizontal	Average
13620.800	45.41	14.46	59.87	74.00	14.13	horizontal	Peak
14351.800	26.43	14.55	40.98	54.00	13.02	horizontal	Average
14351.800	46.10	14.55	60.65	74.00	13.35	horizontal	Peak
17360.800	27.54	14.90	42.44	54.00	11.56	horizontal	Average
17360.800	47.75	14.90	62.65	74.00	11.35	horizontal	Peak
17928.600	27.46	18.35	45.81	54.00	8.19	horizontal	Average
17928.600	47.96	18.35	66.31	74.00	7.69	horizontal	Peak

Date: 2024-05-29

Project No.: 2407T28020E-RF Temp/Humi : 20℃/62%
Test Mode: Transmitting Tested by : Stein Peng

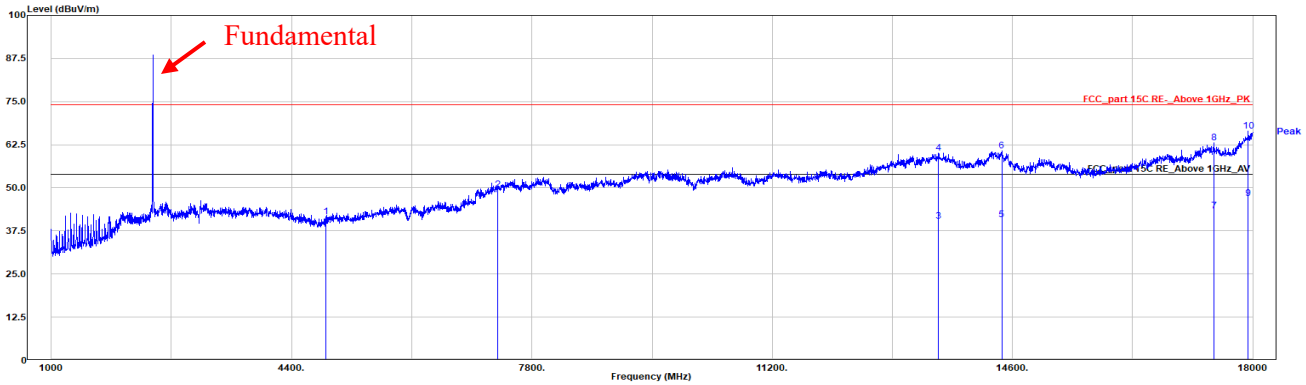


Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
4804.600	44.00	-2.73	41.27	74.00	32.73	vertical	Peak
7206.000	42.98	5.07	48.05	74.00	25.95	vertical	Peak
13668.400	26.42	14.05	40.47	54.00	13.53	vertical	Average
13668.400	46.54	14.05	60.59	74.00	13.41	vertical	Peak
14389.200	26.44	14.34	40.78	54.00	13.22	vertical	Average
14389.200	46.36	14.34	60.70	74.00	13.30	vertical	Peak
17367.600	27.45	14.92	42.37	54.00	11.63	vertical	Average
17367.600	47.44	14.92	62.36	74.00	11.64	vertical	Peak
17932.000	26.46	18.37	44.83	54.00	9.17	vertical	Average
17932.000	46.98	18.37	65.35	74.00	8.65	vertical	Peak

EUT operation mode: Transmitting in middle channel of BLE (2Mbps) mode

Date: 2024-05-29

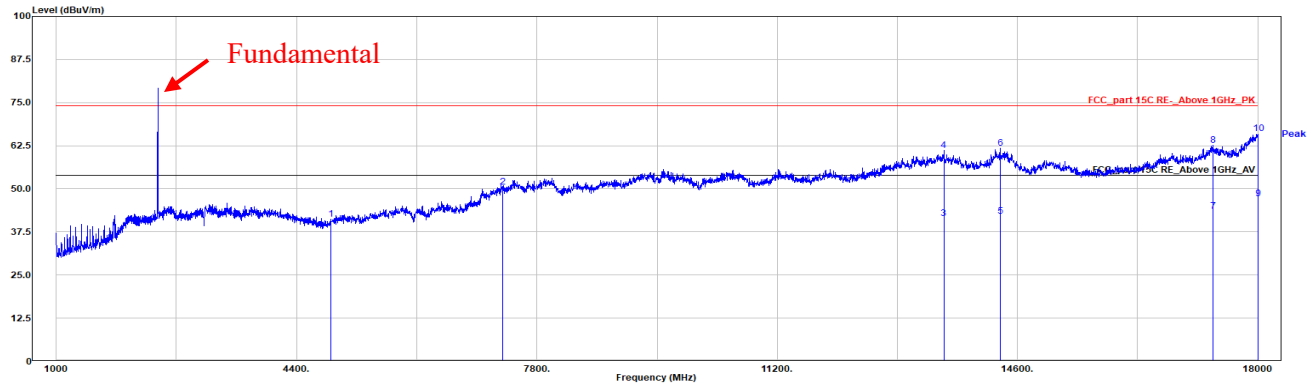
Project No.: 2407T28020E-RF Temp/Humi : 20℃/62%
Test Mode: Transmitting Tested by : Stein Peng



Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
4879.400	43.36	-1.81	41.55	74.00	32.45	horizontal	Peak
7320.000	43.96	5.61	49.57	74.00	24.43	horizontal	Peak
13552.800	25.45	14.87	40.32	54.00	13.68	horizontal	Average
13552.800	45.32	14.87	60.19	74.00	13.81	horizontal	Peak
14447.000	26.45	14.25	40.70	54.00	13.30	horizontal	Average
14447.000	46.47	14.25	60.72	74.00	13.28	horizontal	Peak
17449.200	28.24	15.07	43.31	54.00	10.69	horizontal	Average
17449.200	48.03	15.07	63.10	74.00	10.90	horizontal	Peak
17935.400	28.46	18.39	46.85	54.00	7.15	horizontal	Average
17935.400	48.07	18.39	66.46	74.00	7.54	horizontal	Peak

Date: 2024-05-29

Project No.: 2407T28020E-RF Temp/Humi : 20℃/62%
Test Mode: BLE CH19 Transmitting Tested by : Stein Peng

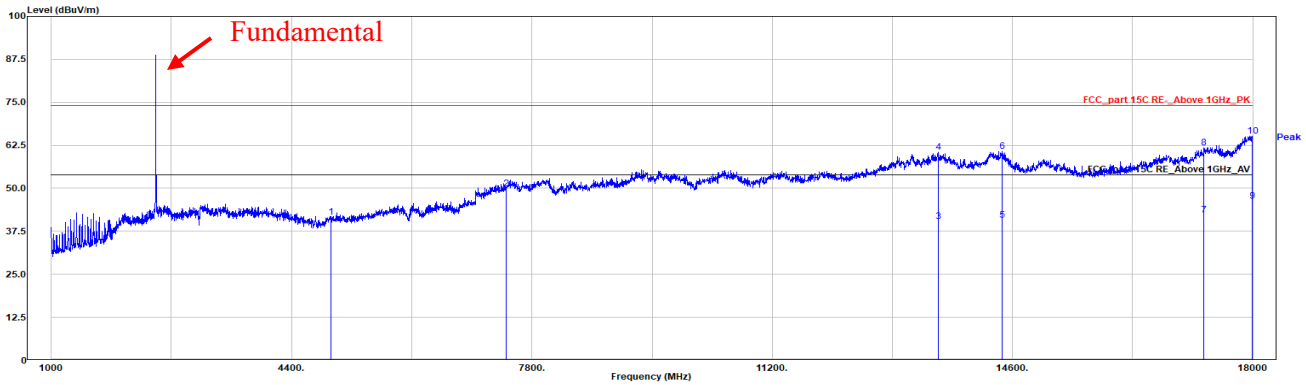


Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
4879.400	42.99	-1.81	41.18	74.00	32.82	vertical	Peak
7320.000	44.95	5.61	50.56	74.00	23.44	vertical	Peak
13556.200	26.46	14.84	41.30	54.00	12.70	vertical	Average
13556.200	46.34	14.84	61.18	74.00	12.82	vertical	Peak
14358.600	27.45	14.52	41.97	54.00	12.03	vertical	Average
14358.600	47.18	14.52	61.70	74.00	12.30	vertical	Peak
17371.000	28.55	14.92	43.47	54.00	10.53	vertical	Average
17371.000	47.79	14.92	62.71	74.00	11.29	vertical	Peak
18000.000	28.45	18.77	47.22	54.00	6.78	vertical	Average
18000.000	47.20	18.77	65.97	74.00	8.03	vertical	Peak

EUT operation mode: Transmitting in high channel of BLE (2Mbps) mode

Date: 2024-05-29

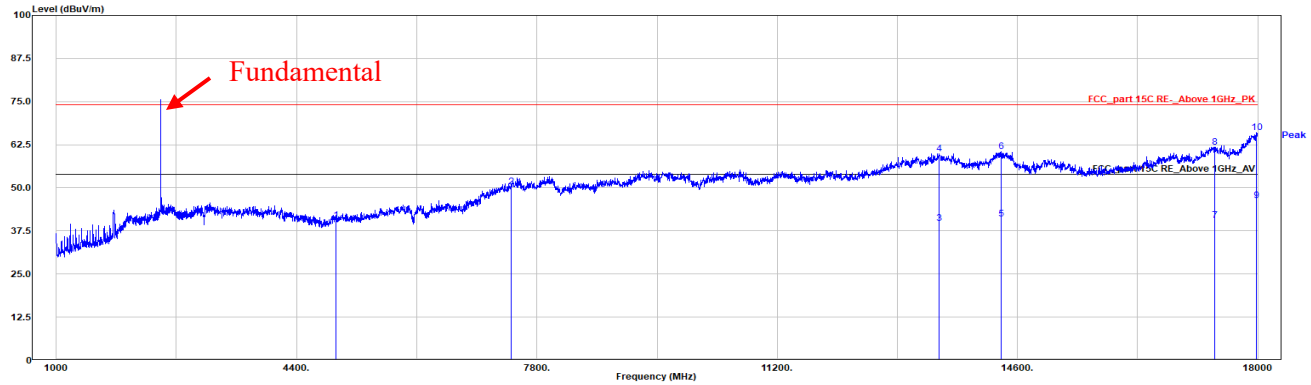
Project No.: 2407T28020E-RF Temp/Humi : 20℃/62%
Test Mode: BLE CH39 Transmitting Tested by : Stein Peng



Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
4961.000	42.59	-0.98	41.61	74.00	32.39	horizontal	Peak
7440.000	43.40	6.55	49.95	74.00	24.05	horizontal	Peak
13546.000	25.42	14.89	40.31	54.00	13.69	horizontal	Average
13546.000	45.52	14.89	60.41	74.00	13.59	horizontal	Peak
14450.400	26.46	14.24	40.70	54.00	13.30	horizontal	Average
14450.400	46.58	14.24	60.82	74.00	13.18	horizontal	Peak
17309.800	27.55	14.77	42.32	54.00	11.68	horizontal	Average
17309.800	47.09	14.77	61.86	74.00	12.14	horizontal	Peak
17993.200	27.54	18.73	46.27	54.00	7.73	horizontal	Average
17993.200	46.53	18.73	65.26	74.00	8.74	horizontal	Peak

Date: 2024-05-29

Project No.: 2407T28020E-RF Temp/Humi : 20℃/62%
Test Mode: BLE CH39 Transmitting Tested by : Stein Peng



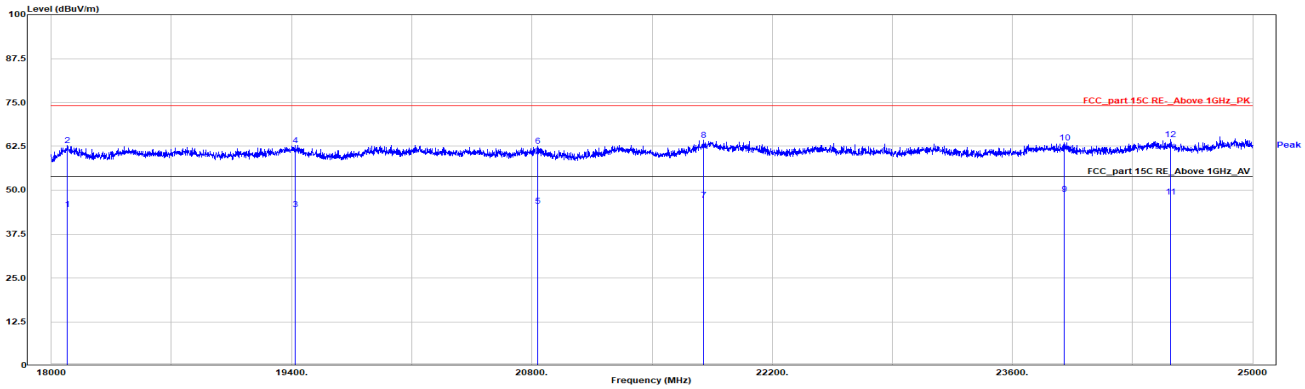
Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
4961.000	41.61	-0.98	40.63	74.00	33.37	vertical	Peak
7440.000	43.85	6.55	50.40	74.00	23.60	vertical	Peak
13488.200	24.57	15.10	39.67	54.00	14.33	vertical	Average
13488.200	44.79	15.10	59.89	74.00	14.11	vertical	Peak
14365.400	26.45	14.47	40.92	54.00	13.08	vertical	Average
14365.400	46.01	14.47	60.48	74.00	13.52	vertical	Peak
17391.400	25.55	14.97	40.52	54.00	13.48	vertical	Average
17391.400	46.89	14.97	61.86	74.00	12.14	vertical	Peak
17983.000	27.54	18.67	46.21	54.00	7.79	vertical	Average
17983.000	47.40	18.67	66.07	74.00	7.93	vertical	Peak

4) 18 GHz ~25 GHz

EUT operation mode: Transmitting in Middle channel of BLE (2Mbps) mode (Worst Case)

Date: 2024-06-07

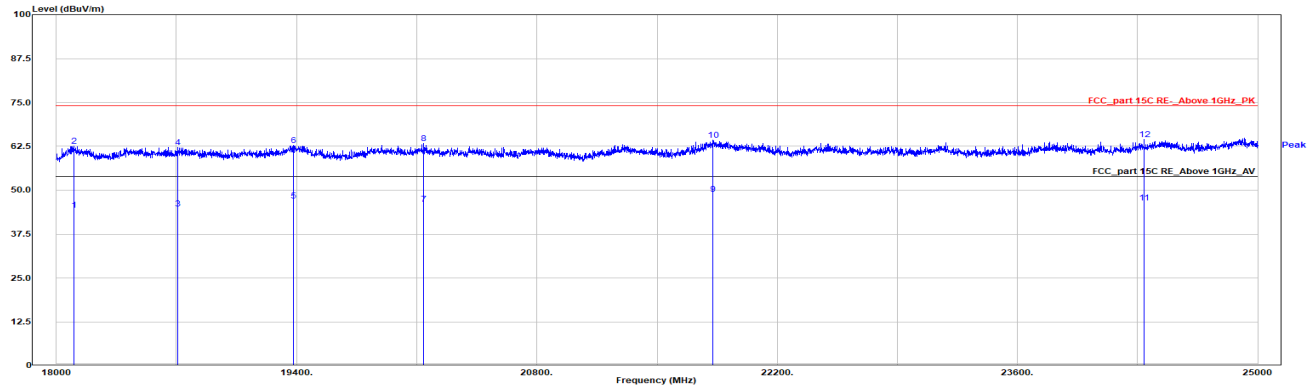
Project No. : 2407T28020E-RF Temp/Humi : 23.2°C/58%
Test Mode : BLE Transmitting Tested by: Toby Chen



Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
18095.2	21.15	24.11	45.26	54	8.74	horizontal	Average
18095.2	35.85	24.11	59.96	74	14.04	horizontal	Peak
19422.4	18.59	24.44	43.03	54	10.97	horizontal	Average
19422.4	35.42	24.44	59.86	74	14.14	horizontal	Peak
20835	19.93	24.58	44.51	54	9.49	horizontal	Average
20835	37.31	24.58	61.89	74	12.11	horizontal	Peak
21801	21.08	24.89	45.97	54	8.03	horizontal	Average
21801	38.05	24.89	62.94	74	11.06	horizontal	Peak
23899.6	21.28	25.9	47.18	54	6.82	horizontal	Average
23899.6	35.93	25.9	61.83	74	12.17	horizontal	Peak
24518.4	19.09	28.26	47.35	54	6.65	horizontal	Average
24518.4	35.43	28.26	63.69	74	10.31	horizontal	Peak

Date: 2024-06-07

Project No. : 2407T28020E-RF Temp/Humi : 23.2°C/58%
Test Mode : Transmitting Tested by: Toby Chen

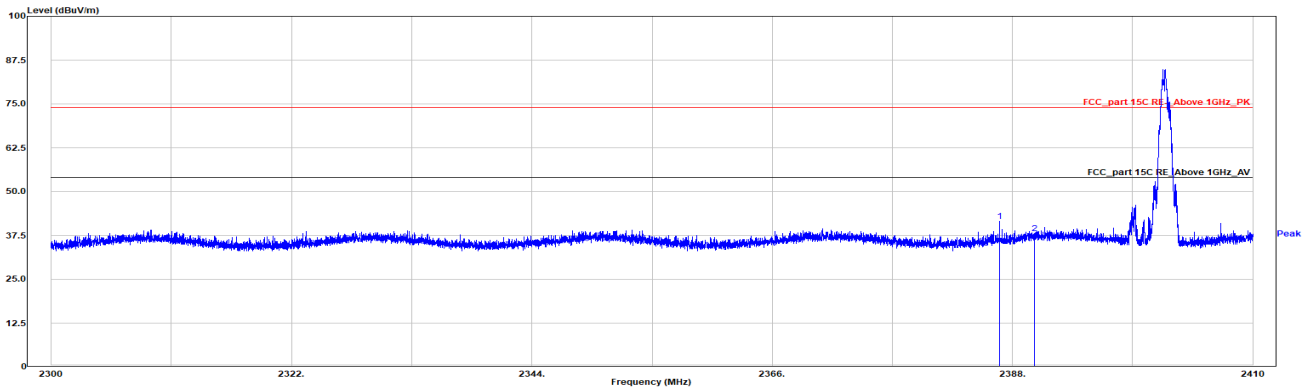


Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
18103.6	20.53	24.11	44.64	54	9.36	vertical	Average
18103.6	38.38	24.11	62.49	74	11.51	vertical	Peak
18708.4	20.61	24.44	45.05	54	8.95	vertical	Average
18708.4	37.72	24.44	62.16	74	11.84	vertical	Peak
19380.4	22.39	24.58	46.97	54	7.03	vertical	Average
19380.4	37.93	24.58	62.51	74	11.49	vertical	Peak
20142	21.24	24.89	46.13	54	7.87	vertical	Average
20142	38.67	24.89	63.56	74	10.44	vertical	Peak
21826.2	23.12	25.9	49.02	54	4.98	vertical	Average
21826.2	38.9	25.9	64.8	74	9.2	vertical	Peak
24336.4	18.07	28.26	46.33	54	7.67	vertical	Average
24336.4	36.08	28.26	64.34	74	9.66	vertical	Peak

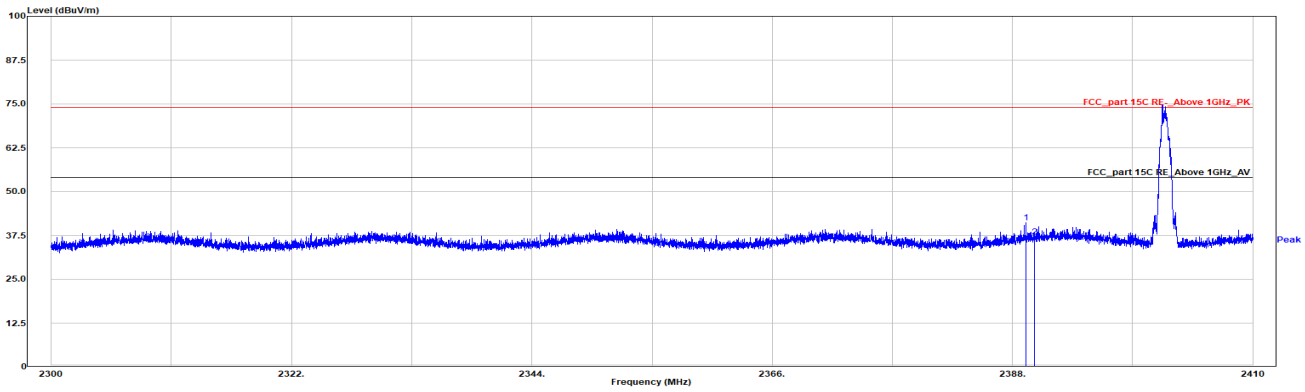
Restricted Bands Emissions:

Pre-Scan with BLE 1M and BLE 2M, the worst case BLE 2M is recorded.

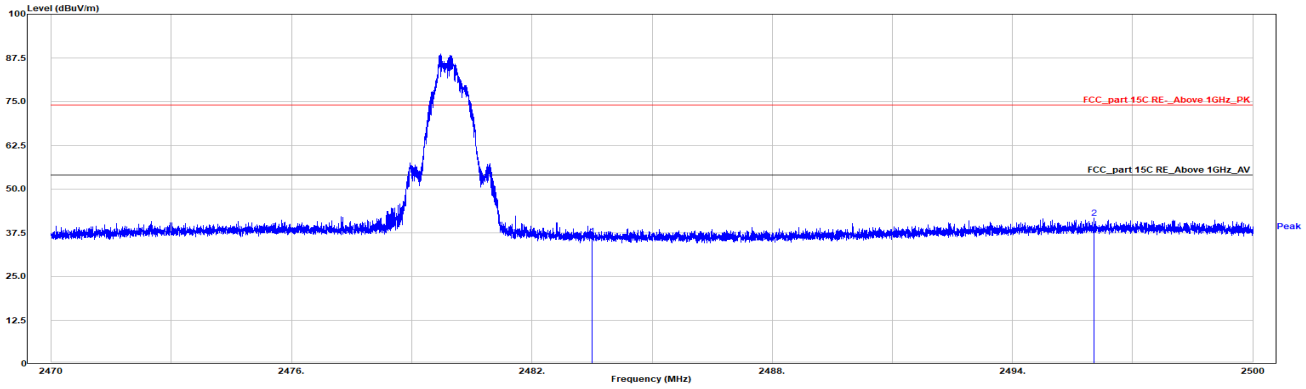
Note:
Factor (dB/m) =Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)
Level (dBµV/m) = Reading (dBµV) + Factor (dB/m)
Margin (dB) = Limit (dBµV/m) –Level (dBµV/m)



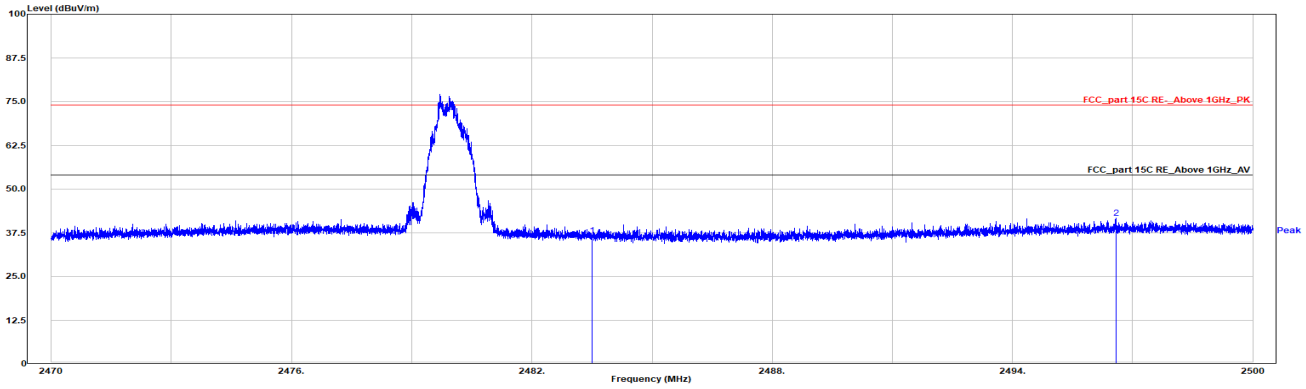
Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
2386.790	37.95	3.67	41.62	74.00	32.38	horizontal	Peak
2390.000	34.41	3.71	38.12	74.00	35.88	horizontal	Peak



Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
2389.221	37.43	3.70	41.13	74.00	32.87	vertical	Peak
2390.000	33.39	3.71	37.10	74.00	36.90	vertical	Peak



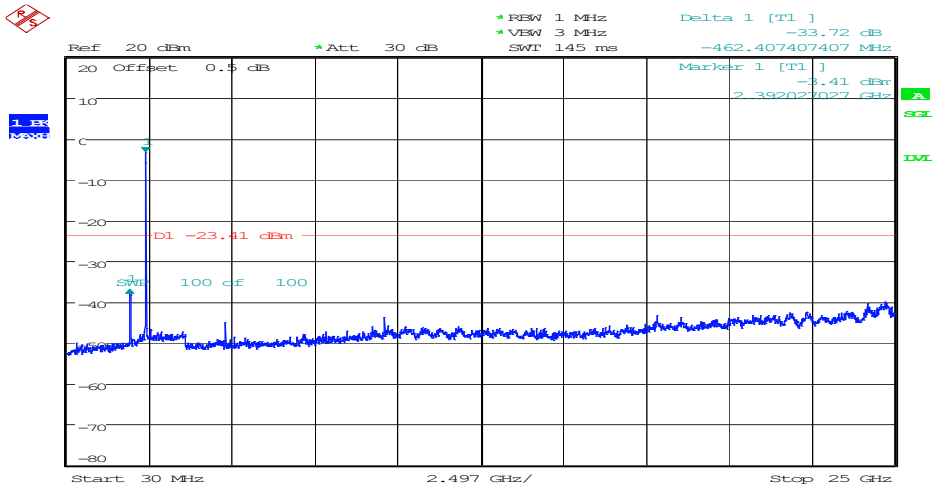
Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
2483.500	32.10	4.43	36.53	74.00	37.47	horizontal	Peak
2496.043	37.09	4.66	41.75	74.00	32.25	horizontal	Peak



Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Pol	Remark
2483.500	32.37	4.44	36.81	74.00	37.19	vertical	Peak
2496.589	37.09	4.66	41.75	74.00	32.25	vertical	Peak

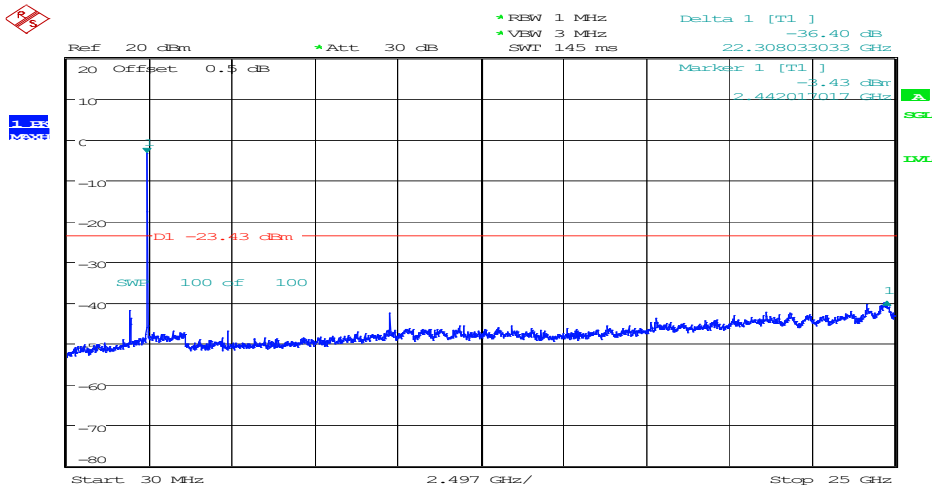
Conducted Spurious Emissions at Antenna Port

BLE 1M: Low Channel



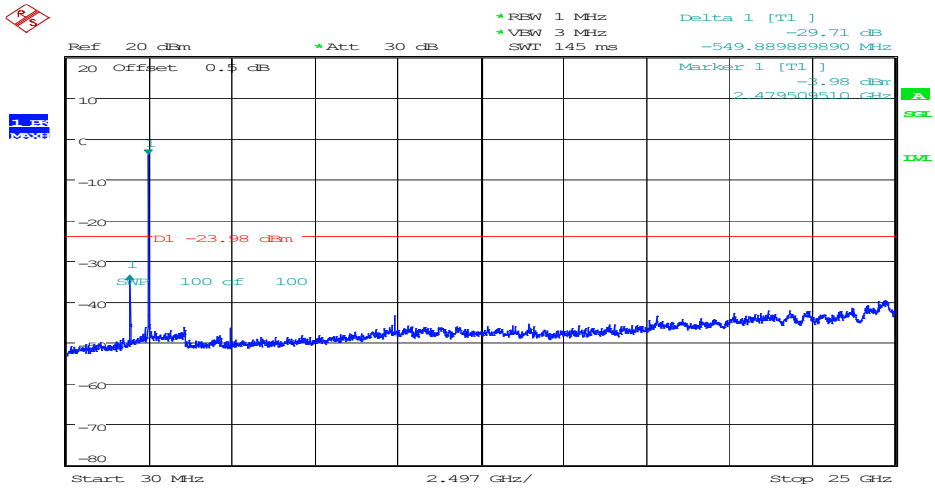
ProjectNo.:2407T28020E-RF Tester:Stein Peng
Date: 8.JUL.2024 11:20:42

BLE 1M: Middle Channel



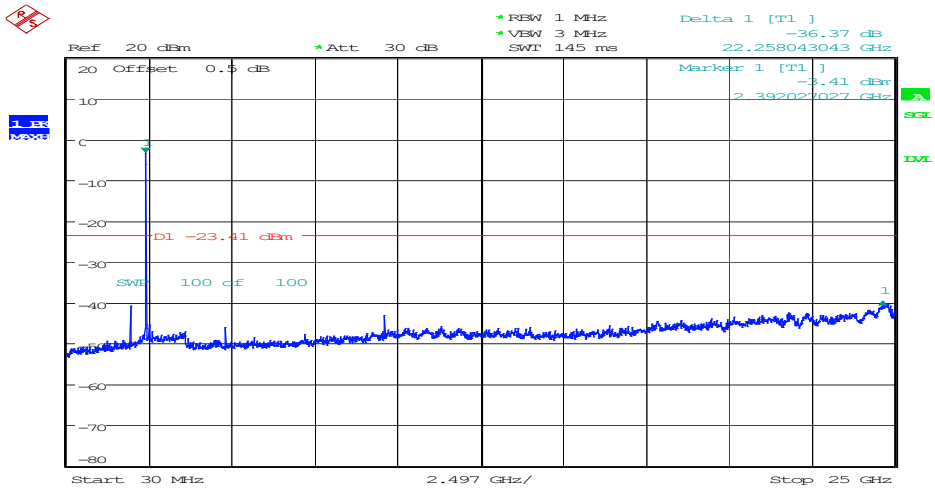
ProjectNo.:2407T28020E-RF Tester:Stein Peng
Date: 8.JUL.2024 11:22:29

BLE 1M: High Channel



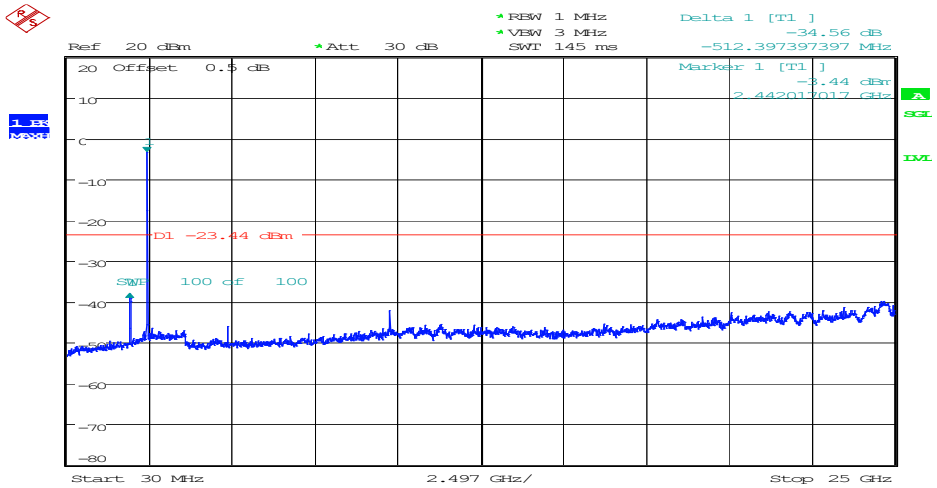
ProjectNo.:2407T28020E-RF Tester:Stein Peng
Date: 8.JUL.2024 11:23:44

BLE 2M: Low Channel



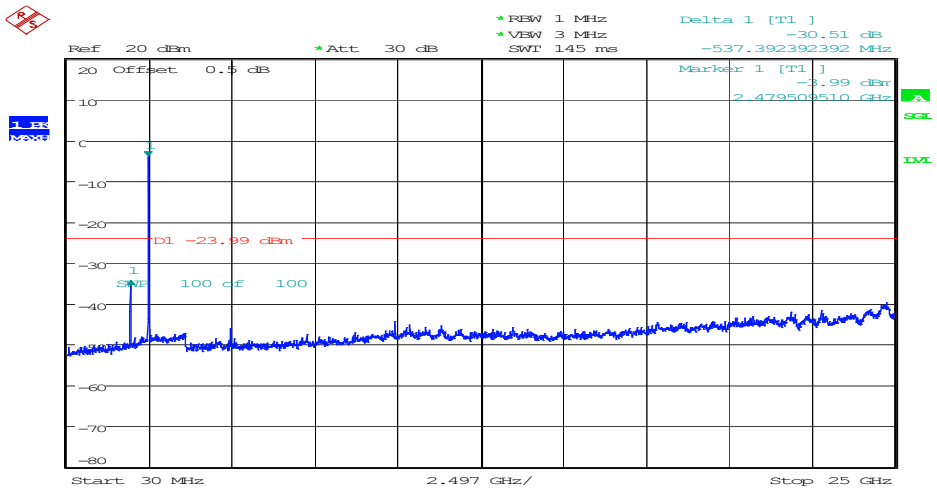
ProjectNo.:2407T28020E-RF Tester:Stein Peng
Date: 8.JUL.2024 11:26:41

BLE 2M: Middle Channel



ProjectNo.:2407T28020E-RF Tester:Stein Peng
Date: 8.JUL.2024 11:28:00

BLE 2M: High Channel



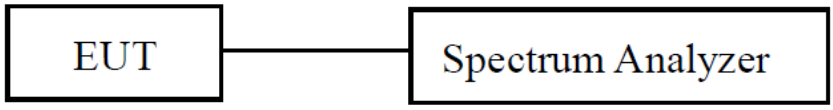
ProjectNo.:2407T28020E-RF Tester:Stein Peng
Date: 8.JUL.2024 11:31:31

FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

EUT Setup



Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

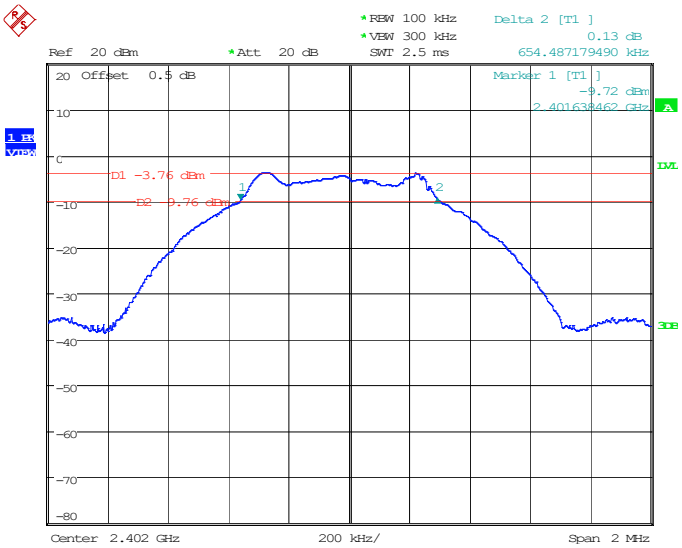
Test Data

Test Mode:	Transmitting	**Test Engineer:**	Stein Peng
Test Date:	2024-05-18~2024-05-20	**Environment:**	Temp.: 22.8℃~23.9℃ Humi.: 59%~60% Atm :99.8kPa~99.9 kPa

Test Result: Compliant

Test Modes	Test Channel	**Test Frequency (MHz)**	**6 dB Bandwidth (MHz)**	**Limit (MHz)**
BLE 1Mbps	Lowest	2402	0.654	⩾0.5
	Middle	2440	0.674	⩾0.5
	Highest	2480	0.665	⩾0.5
BLE 2Mbps	Lowest	2402	1.162	⩾0.5
	Middle	2440	1.162	⩾0.5
	Highest	2480	1.168	⩾0.5

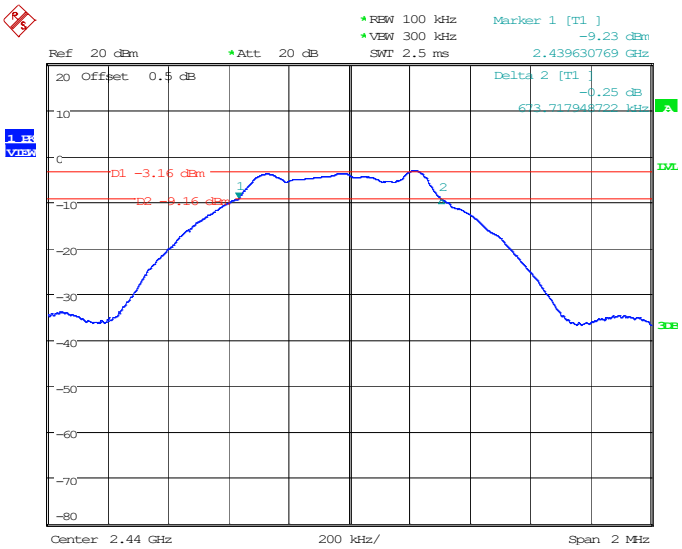
1Mbps_Lowest



Project No. :2407T28020E-RF Tester: Stein Peng

Date: 18.MAY.2024 16:36:49

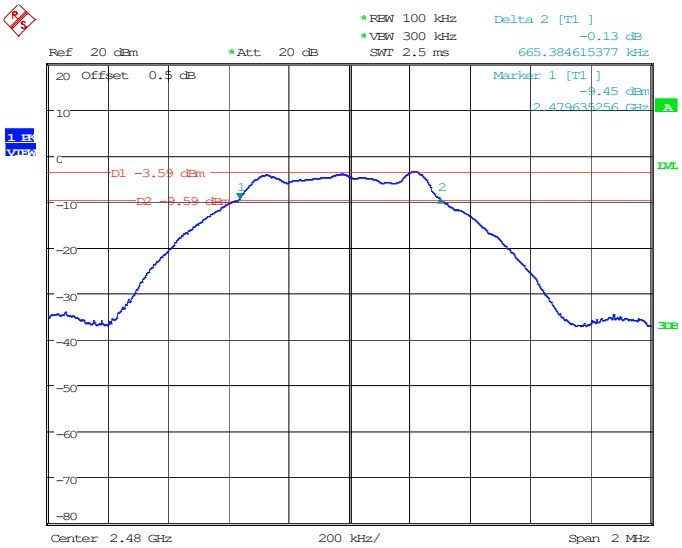
1Mbps_Middle



Project No. :2407T28020E-RF Tester: Stein Peng

Date: 20.MAY.2024 09:20:51

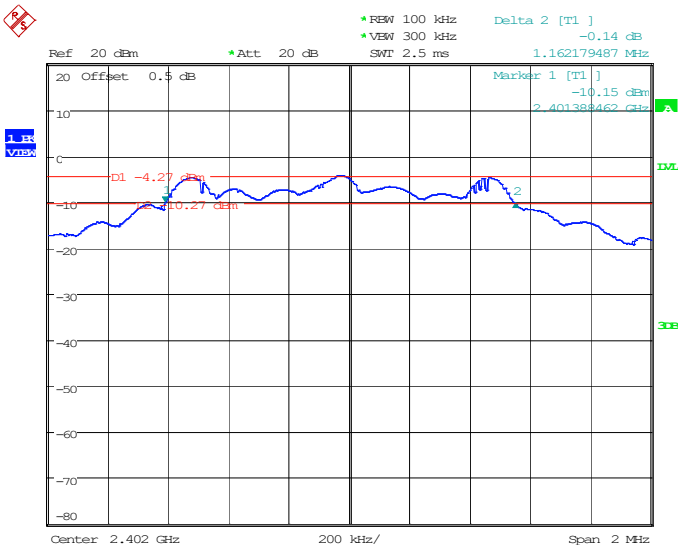
1Mbps_Highest



Project No. :2407T28020E-RF Tester: Stein Peng

Date: 20.MAY.2024 09:23:30

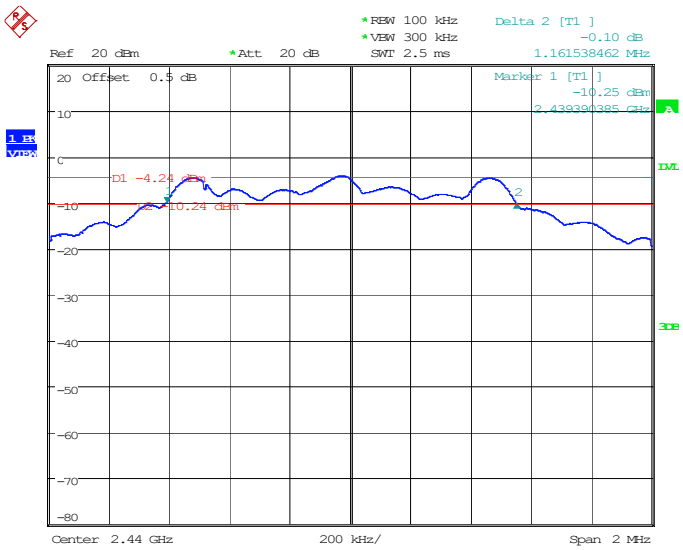
2Mbps_Lowest



Project No. :2407T28020E-RF Tester: Stein Peng

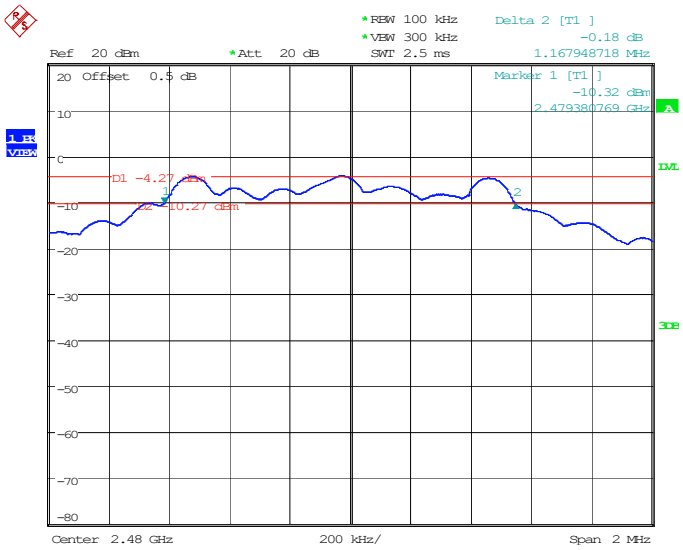
Date: 18.MAY.2024 16:46:32

2Mbps_Middle



Project No. :2407T28020E-RF Tester: Stein Peng
Date: 18.MAY.2024 16:50:09

2Mbps_Highest



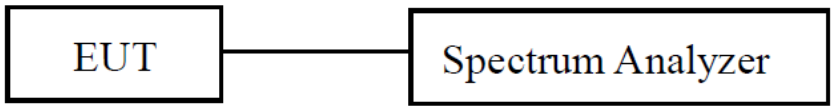
Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 09:27:32

FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

EUT Setup



Test Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
3. Add a correction factor to the display.

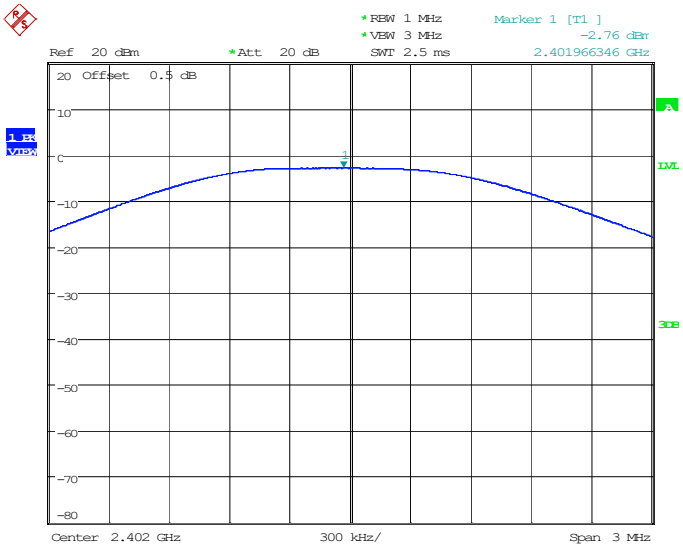
Test Data

Test Mode:	Transmitting	**Test Engineer:**	Stein Peng
Test Date:	2024-05-20~2024-05-23	**Environment:**	Temp.: 23.1℃~23.9℃ Humi.: 59%~60% Atm :99.8kPa ~100.0kPa

Test Result: Compliant

Test Modes	Test Channel	Test Frequency (MHz)	Maximum Conducted Peak Output Power(dBm)	Limit (MHz)
BLE 1Mbps	Lowest	2402	-2.76	≤30
	Middle	2440	-2.75	≤30
	Highest	2480	-3.09	≤30
BLE 2Mbps	Lowest	2402	-2.7	≤30
	Middle	2440	-2.66	≤30
	Highest	2480	-3.06	≤30

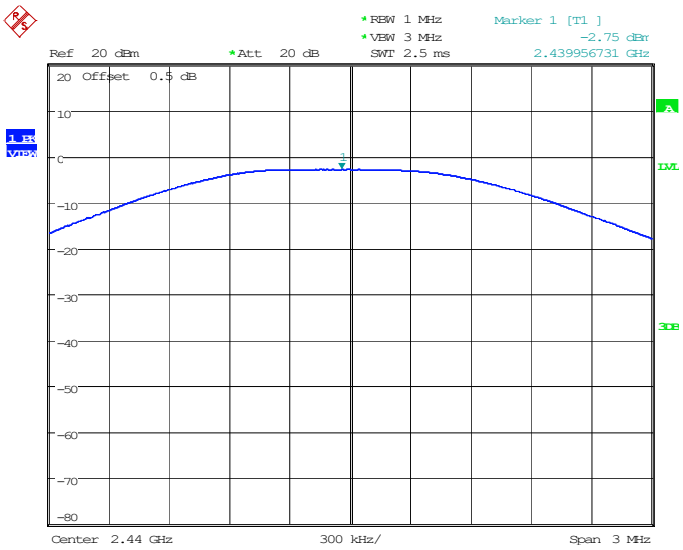
1Mbps_Lowest



Project No. :2407T28020E-RF Tester: Stein Peng

Date: 20.MAY.2024 09:52:13

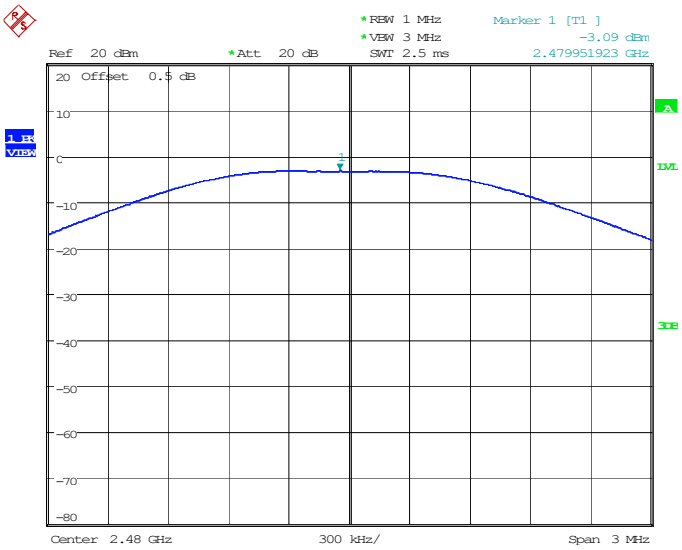
1Mbps_Middle



Project No. :2407T28020E-RF Tester: Stein Peng

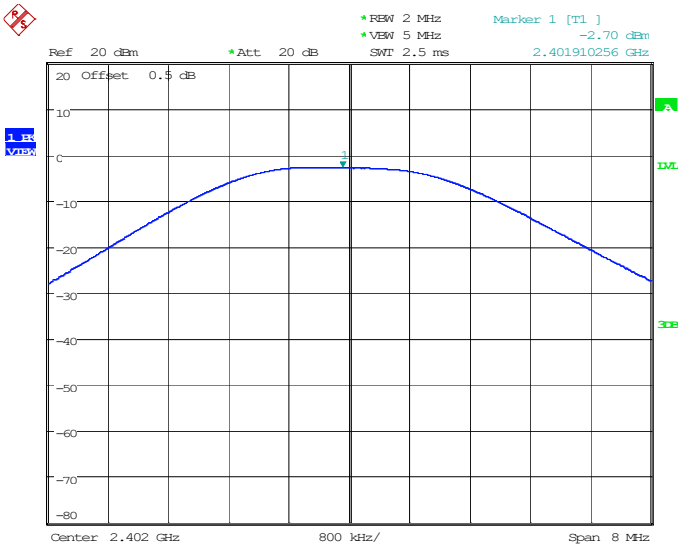
Date: 20.MAY.2024 09:50:52

1Mbps_Highest



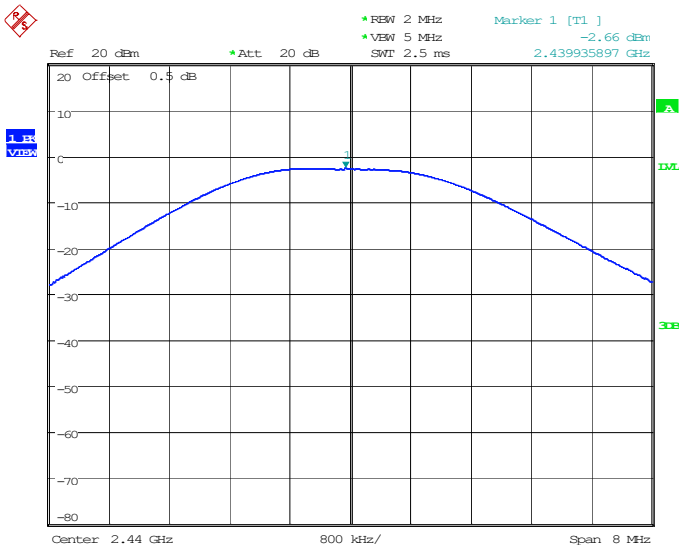
Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 09:49:46

2Mbps_Lowest



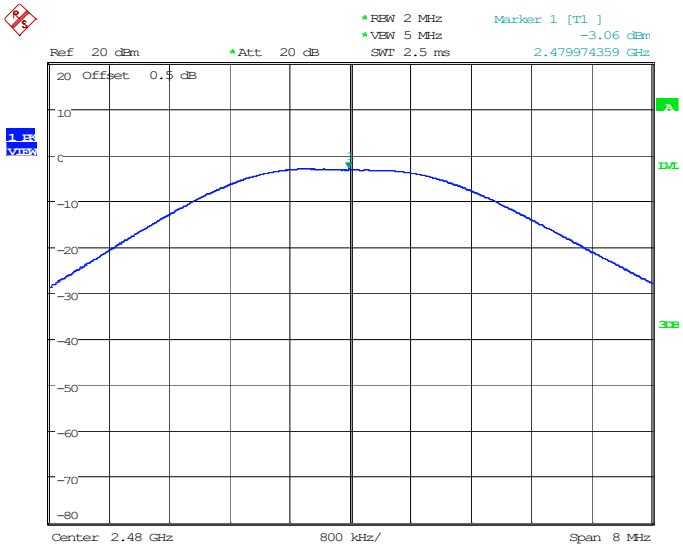
Project No. :2407T28020E-RF Tester: Stein Peng
Date: 23.MAY.2024 17:11:45

2Mbps_Middle



Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 10:17:07

2Mbps_Highest



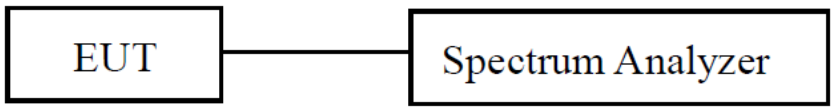
Project No. :2407T28020E-RF Tester: Stein Peng
Date: 23.MAY.2024 17:14:03

FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

EUT Setup



Test Procedure

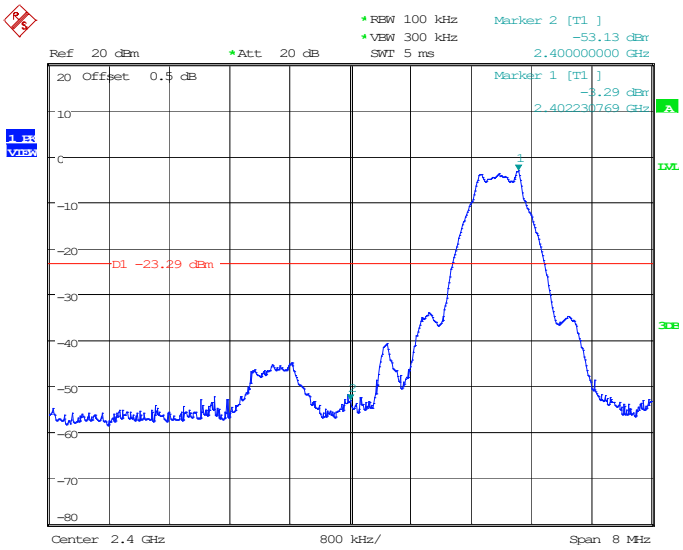
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

Test Data

Test Mode:	Transmitting	**Test Engineer:**	Stein Peng
Test Date:	2024-05-20	**Environment:**	Temp.: 23.9°C Humi.:60% Atm:99.8kPa

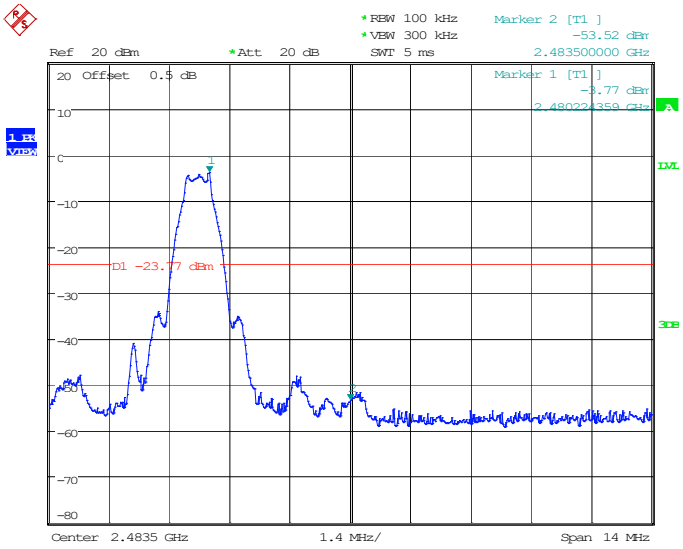
Test Result: Compliant

1Mbps_Lowest



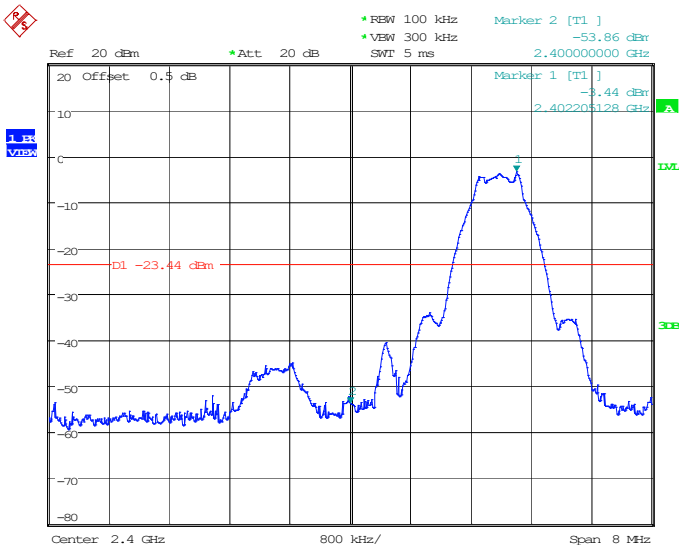
Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 10:40:43

1Mbps_Highest



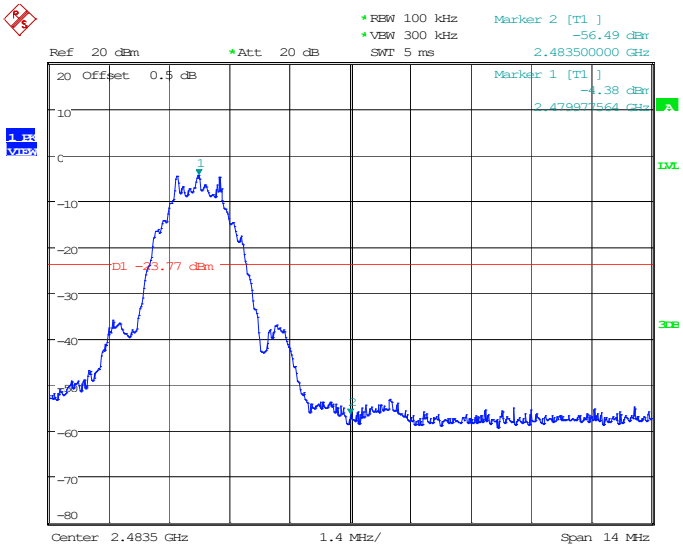
Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 10:44:59

2Mbps_Lowest



Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 10:47:39

2Mbps_Highest



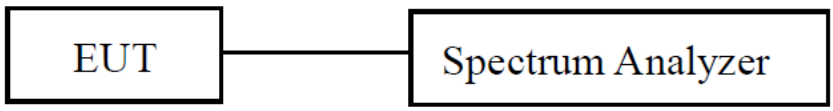
Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 10:46:02

FCC §15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

EUT Setup



Test Procedure

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW to: 3kHz≤ RBW≤100 kHz.
3. Set the VBW ≥ 3×RBW.
4. Set the span to 1.5 times the DTS bandwidth.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

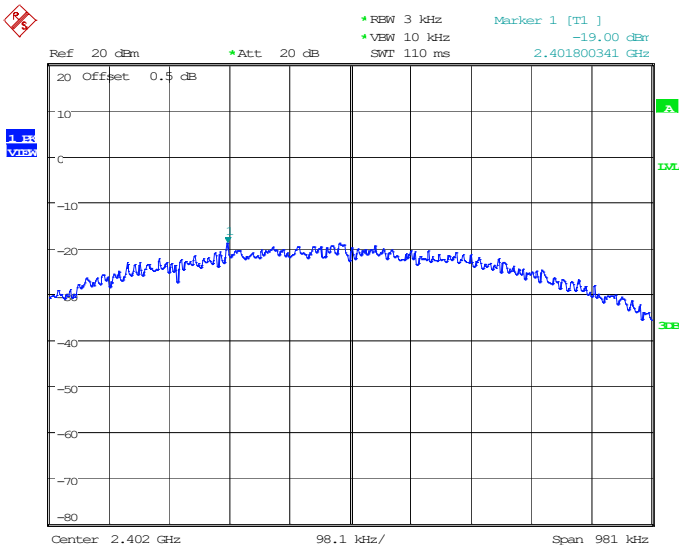
Test Data

Test Mode:	Transmitting	**Test Engineer:**	Stein Peng
Test Date:	2024-05-20	**Environment:**	Temp.: 23.9°C Humi.: 60% Atm :99.8kPa

Test Result: Compliant

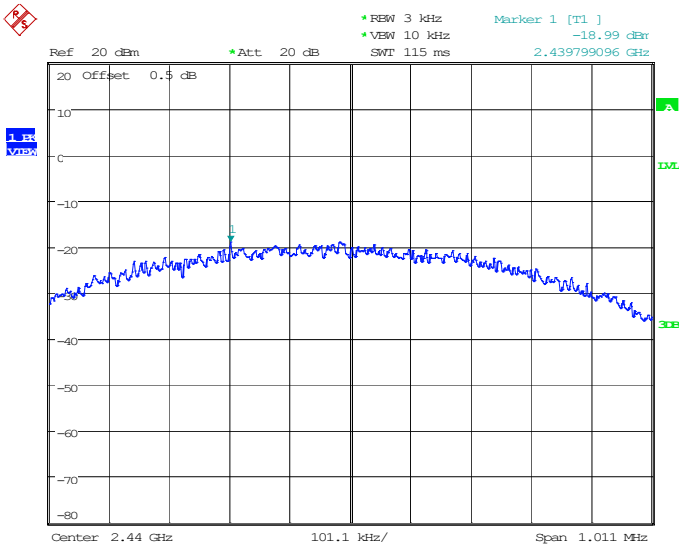
Test Modes	Test Channel	Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (MHz)
BLE 1Mbps	Lowest	2402	-19	≤8.00
	Middle	2440	-18.99	≤8.00
	Highest	2480	-19.26	≤8.00
BLE 2Mbps	Lowest	2402	-22.6	≤8.00
	Middle	2440	-22.59	≤8.00
	Highest	2480	-22.44	≤8.00

1Mbps_Lowest



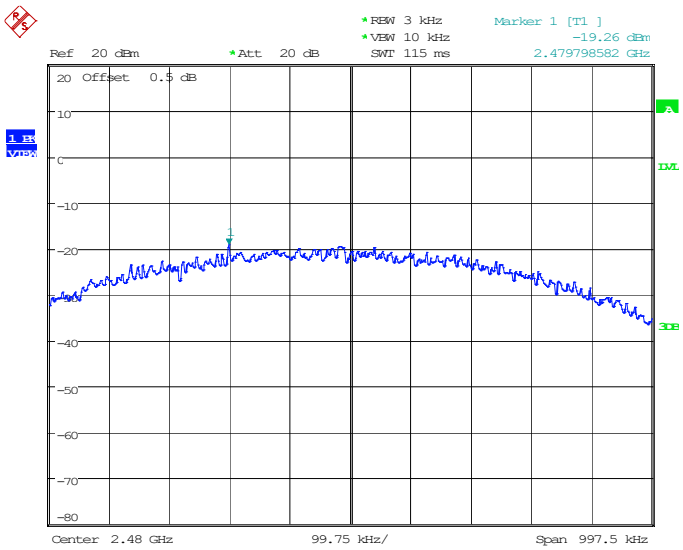
Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 10:54:32

1Mbps_Middle



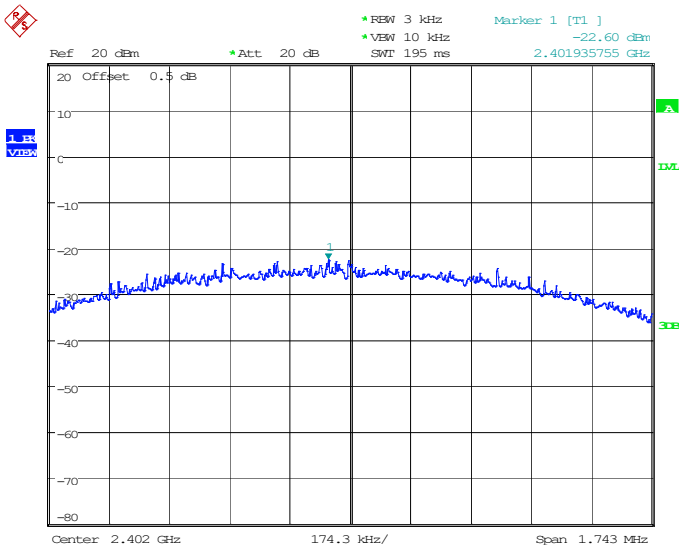
Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 10:58:52

1Mbps_Highest



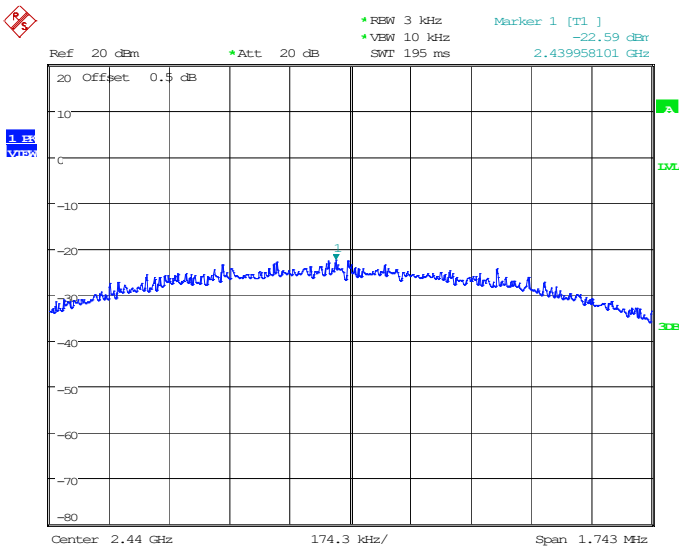
Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 11:02:58

2Mbps_Lowest



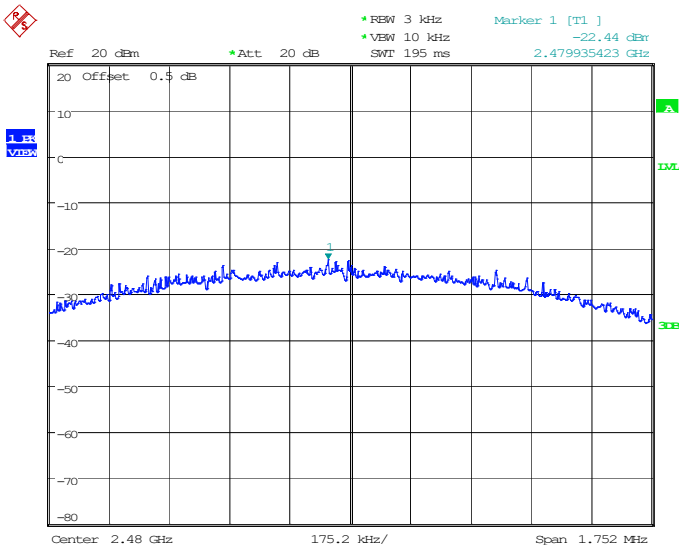
Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 11:01:36

2Mbps_Middle



Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 11:00:13

2Mbps_Highest



Project No. :2407T28020E-RF Tester: Stein Peng
Date: 20.MAY.2024 11:04:46

EUT PHOTOGRAPHS

Please refer to the attachment 2407T28020E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2407T28020E-RF-INP EUT INTERNAL PHOTOGRAPHS.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2407T28020E-RF-TSP SETUP PHOTOGRAPHS.

Declarations

1. Bay Area Compliance Laboratories Corp. (Xiamen) is not responsible for authenticity of any information provided by the applicant. Information from the applicant that may affect test results are marked with an asterisk "★".

2. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested.

3. Unless required by the rule provided by the applicant or product regulations, then decision rule in this report did not consider the uncertainty.

4. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor k=2 with the 95.45% confidence interval.

5. This report cannot be reproduced except in full, without prior written approval of Bay Area Compliance Laboratories Corp. (Xiamen).

6. This report is valid only with a valid digital signature. The digital signature may be available only under the adobe software above version 7.0.

******* END OF REPORT *******