中认信通
CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 6356.01

TEST REPORT

Applicant: FJ Dynamics Co.,Ltd.

Address: 21F, Das Tower, No. 28, 1st South Keji Road, Nanshan District , Shenzhen， China

FCC ID: **2A2LL-V10A**

Product Name: **GNSS Receiver**

Standard(s): **47 CFR Part 15, Subpart C(15.247)**
ANSI C63.10-2020
KDB 558074 D01 15.247 Meas Guidance v05r02

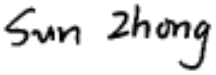
The above device has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: **2503S31640E-RF-00C**

Date Of Issue: **2025/9/8**

Reviewed By: **Calvin Chen**
Title: RF Engineer

Approved By: **Sun Zhong**
Title: Manager



Test Laboratory: **China Certification ICT Co., Ltd (Dongguan)**
No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China

Tel: +86-769-83085888
www.ccttt.com.cn

Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "▲". Customer model name, addresses, names, trademarks etc. are not considered data.

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

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Each test item follows the test standard(s) without deviation.

CONTENTS

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2503S31640E-RF-00C	Original Report	2025/9/8

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

1.1.1 General

EUT Name:	GNSS Receiver
Trade Name:	FJD Trion
EUT Model:	V10a
Operation Frequency:	2402-2480 MHz
Maximum Peak Output Power (Conducted)▲:	0.63dBm
Modulation Type:	GFSK
Rated Input Voltage:	DC 9~32V, Typical: DC 12V from AC/DC Adapter; or DC 7.3V from Built-in Battery
Serial Number:	CE/RE:310A-1 RF: 310A-2
EUT Received Date:	2025/4/7
EUT Received Status:	Good

1.1.2 Operation Frequency Detail

Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	20	2442
1	2404	…	…
…	…	…	…
…	…	…	…
…	…	38	2478
19	2440	39	2480

Per section 15.31(m), the below frequencies were performed the test as below:

Test Channel	Frequency (MHz)
Lowest	2402
Middle	2440
Highest	2480

1.1.3 Antenna Information Detail▲

Antenna Type	input impedance (Ohm)	Frequency Range (MHz)	Antenna Gain (dBi)
PIFA	50	2402-2480	-0.62

The Method of §15.203 Compliance:

☒ Antenna was permanently attached to the unit.

☐ Antenna use a unique type of connector to attach to the EUT.

☐ Unit was professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

1.1.4 Accessory Information

Accessory Description	Manufacturer	Model
Adapter	HUIZHOU FUJIA APPLIANCE TECH CO.,LTD	FJ-GN236CN

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:	The system was configured for testing in Engineering Mode, which was provided by the manufacturer.
Equipment Modifications:	No
EUT Exercise Software:	QRCT

The software was provided by manufacturer. The maximum power was configured as below, that was provided by the manufacturer▲:

Test Modes	**Power Level Setting**		
	Lowest Channel	**Middle Channel**	**Highest Channel**
BLE 1Mbps	**default**	**default**	**default**

1.2.2 Support Equipment List and Details

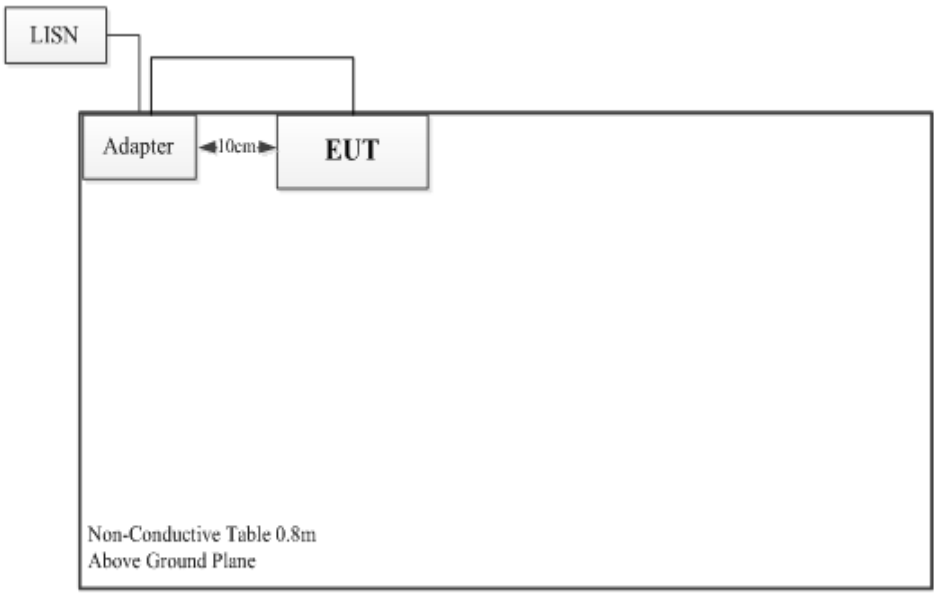
Manufacturer	**Description**	**Model**	**Serial Number**
/	/	/	/

1.2.3 Support CableList and Details

Cable Description	**Shielding Type**	**Ferrite Core**	**Length (m)**	**From Port**	**To**
USB Cable	NO	NO	1	Adapter	EUT

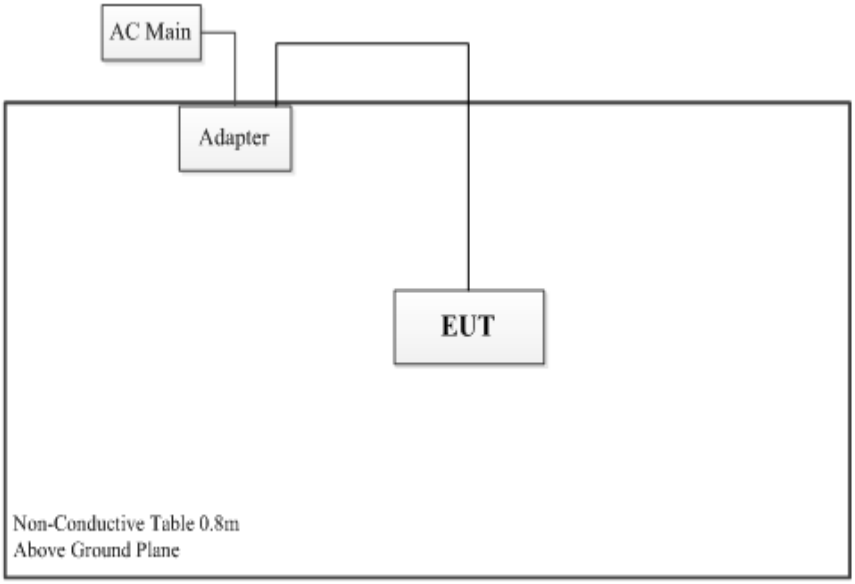
1.2.4 Block Diagram of Test Setup

AC line conducted emissions:

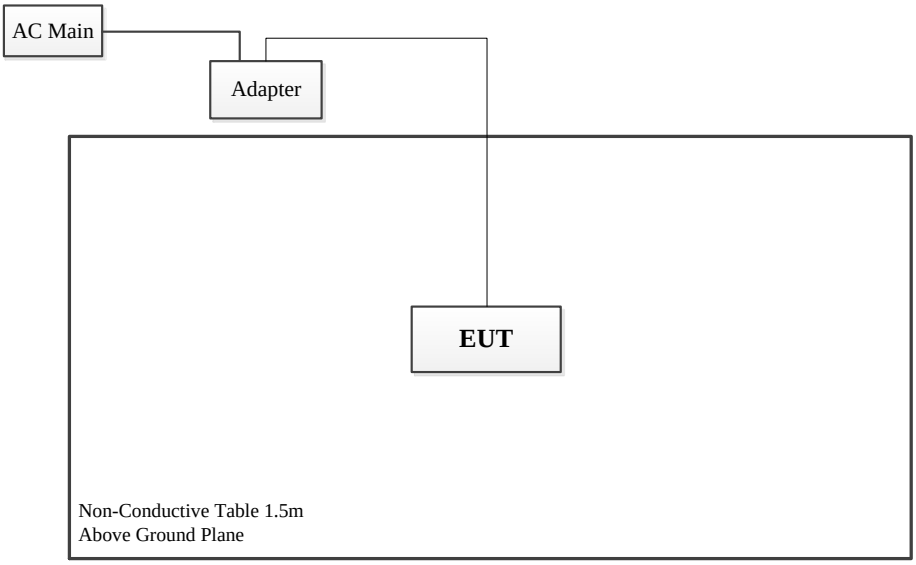


Spurious Emissions:

Below 1GHz:



Above 1GHz:



1.3 Measurement Uncertainty

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

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Power Spectral Density, conducted	±0.61 dB
Unwanted Emissions, radiated	9k~30MHz: 4.12dB, 30M~200MHz: 4.15 dB, 200M~1GHz: 5.61 dB,1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB,18G~26.5G:5.47 dB,26.5G~40G:5.63 dB
Unwanted Emissions, conducted	±1.26 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	2.8 dB (150 kHz to 30 MHz)

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.203	Antenna Requirement	Compliant
FCC §15.207(a)	AC Line Conducted Emissions	Compliant
FCC §15.205, §15.209, §15.247(d)	Radiated Spurious Emission	Compliant
FCC §15.207(a)(2)	6dB Emission Bandwidth	Note*
FCC §15.247(b)(1)	Maximum Conducted Output Power	Reporting
FCC §15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Note*
FCC §15.247(e)	Power Spectral Density	Note*
C63.10 §11.6	Duty Cycle	Compliant

Note 1:
For AC line conducted emissions and Radiated Spurious Emissions 9kHz~1GHz and 18~25GHz, the maximum output power mode and channel was tested.

Note2:
Note*: The device built in a certified module, FCC ID:XMR2023SC206EGL,the FCC ID base on the original FCC ID:XMR2023SC200EGL,model:SC200E-GL,per spot check, the RF parameters are identical with the original module report, therefore, the RF conducted test items please refer to the module report: SEWA2307000102RG03▲, which was issued by SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd. on 2023/10/26. (according to KDB 996369 D02 Module Q&A v02r02, Answer 1 b))

The China Certification ICT Co., Ltd (Dongguan) is responsible for all the information provided in this report, except when information is provided by the customer as identified in this report.

3. REQUIREMENTS AND TEST PROCEDURES

3.1 AC Line Conducted Emissions

3.1.1 Applicable Standard

FCC §15.207(a).

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

	Conducted limit (dBμV)	
Frequency of emission (MHz)	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

(b) The limit shown in paragraph (a) of this section shall not apply to carrier current systems operating as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

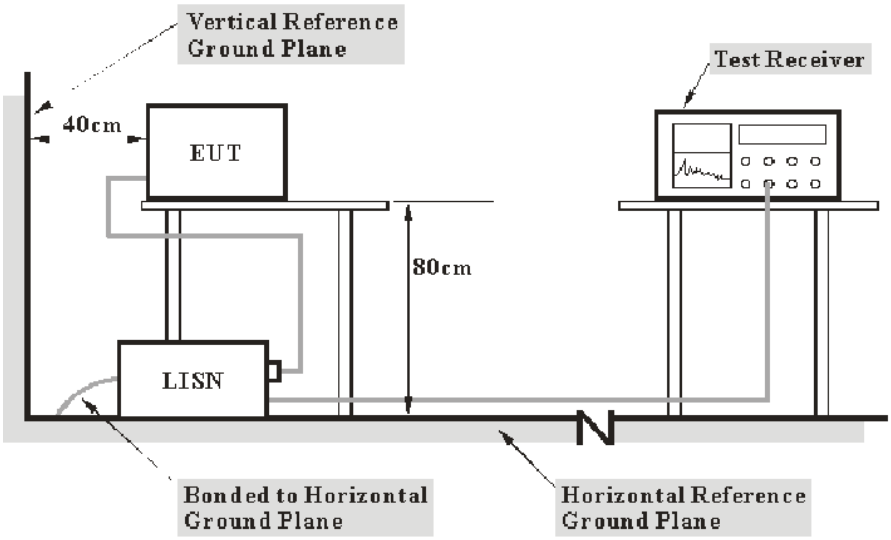
(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 μV within the frequency band 535-1705 kHz, as measured using a 50μH/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in §15.205, §15.209, §15.221, §15.223, or §15.227, as appropriate.

(c) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

3.1.2 EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

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

The spacing between the peripherals was 10cm.

3.1.3 EMI Test Receiver Setup

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

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

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

3.1.4 Test Procedure

The frequency and amplitude of the six highest ac power-line conducted emissions relative to the limit, measured over all the current-carrying conductors of the EUT power cords, and the operating frequency or frequency to which the EUT is tuned (if appropriate), should be reported, unless such emissions are more than 20 dB below the limit. AC power-line conducted emissions measurements are to be separately carried out only on each of the phase ("hot") line(s) and (if used) on the neutral line(s), but not on the ground[protective earth] line(s). If less than six emission frequencies are within 20 dB of the limit, then the noise level of the measuring instrument at representative frequencies should be reported. The specific conductor of the power-line cord for each of the reported emissions should be identified. Measure the six highest emissions with respect to the limit on each current-carrying conductor of each power cord associated with the EUT (but not the power cords of associated or peripheral equipment that are part of the test configuration). Then, report the six highest emissions with respect to the limit from among all the measurements identifying the frequency and specific current-carrying conductor identified with the emission. The six highest emissions should be reported for each of the current-carrying conductors, or the six highest emissions may be reported over all the current-carrying conductors.

3.1.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor
Factor=attenuation caused by cable loss + voltage division factor of AMN

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

3.2 Radiation Spurious Emissions

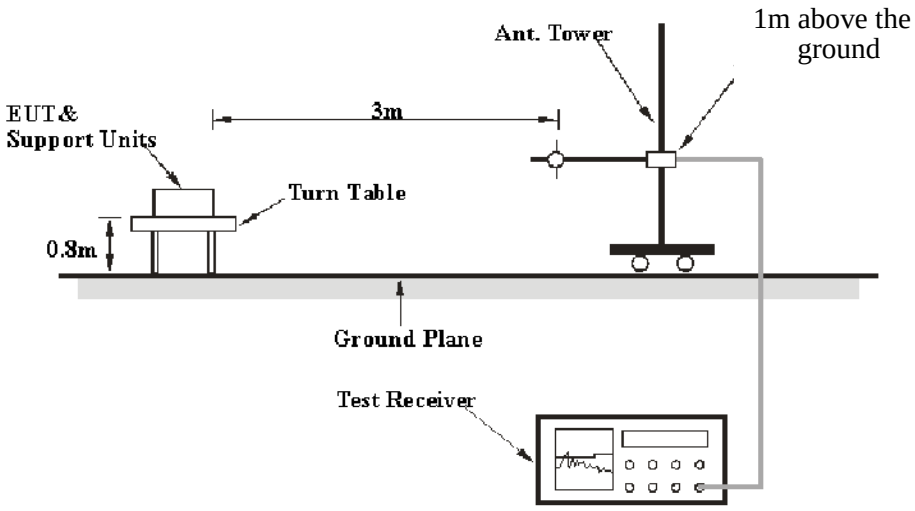
3.2.1 Applicable Standard

FCC §15.247 (d);

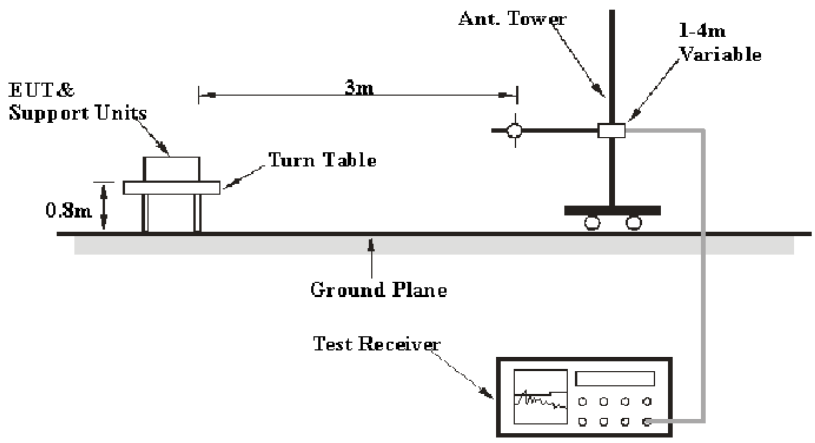
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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)).

3.2.2 EUT Setup

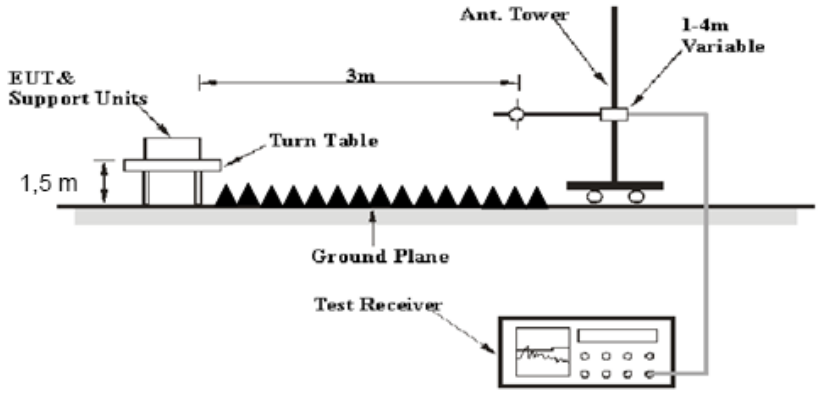
9kHz - 30MHz:



30MHz - 1GHz:



Above 1GHz:



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

The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle.

For 9kHz-30MHz test, the lowest height of the magnetic antenna shall be 1 m above the ground and three antenna orientations (parallel, perpendicular, and ground-parallel) shall be measured.

3.2.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9kHzto 25 GHz.

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

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

1GHz- 25GHz:
Pre-scan:

Measurement	Duty cycle	RBW	Video B/W	Detector
PK	Any	1MHz	3 MHz	Peak
Ave.	>98%	1MHz	5kHz	Peak
	<98%	1MHz	≥1/T, not less than 5 kHz	Peak

Note: T is minimum transmission duration

Final measurement for emission identified during the pre-scan:

Measurement	Duty cycle	RBW	Video B/W	Detector
PK	Any	1MHz	3 MHz	Peak
Ave.	>98%	1MHz	10 Hz	Peak
	<98%	1MHz	≥1/T	Peak

Note: T is minimum transmission duration

If the maximized peak measured value is under the QP/Average limit by more than 6dB, then it is unnecessary to perform an QP/Average measurement.

The spurious emissions which below the limit more than 20dB was not be recorded.

3.2.4 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 9 kHz-1 GHz except 9–90 kHz, 110–490 kHz, employing an average detector, peak and Average detection modes for frequencies above 1 GHz.

All emissions under the average limit and under the noise floor have not recorded in the report.

3.2.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor
Factor= Antenna Factor + Cable Loss- Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

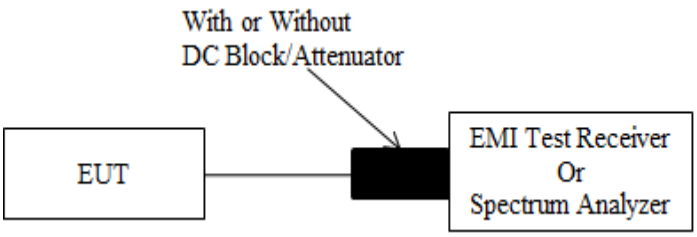
3.3 Maximum Conducted Output Power

3.3.1 Applicable Standard

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.

3.3.2 EUT Setup



A short RF cable with low cable loss connected to the EUT antenna port, The insert loss of this RF cable/attenuator was offset into the setting of test equipment.

3.3.3 Test Procedure

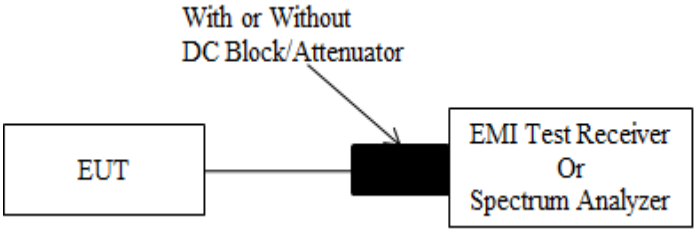
According to ANSI C63.10-2020 Section 11.9.1.1

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

a) Set the RBW ≥ DTS bandwidth.
b) Set VBW ≥ [3 × RBW].
c) Set span ≥ [3 × RBW].
d) Sweep time = No faster than coupled (auto) time.
e) Detector = peak.
f) Trace mode = max-hold.
g) Allow trace to fully stabilize.
h) Use peak marker function to determine the peak amplitude level.

3.4 Duty Cycle

3.4.1 EUT Setup



A short RF cable with low cable loss connected to the EUT antenna port, The insert loss of this RF cable/attenuator was offset into the setting of test equipment.

3.4.2 Test Procedure

According to ANSI C63.10-2020 Section 11.6

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:

1) Set the center frequency of the instrument to the center frequency of the transmission.
2) Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.
3) Set VBW ≥ RBW. Set detector = peak or average.
4) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if T ≤ 16.7 μs.)

3.5 Antenna Requirement

3.5.1 Applicable Standard

FCC §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 use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§15.211, 15.213, 15.217, 15.219, 15.221, or §15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.5.2 Judgment

Compliant. Please refer to the Antenna Information detail in Section 1.

4. TESTDATA AND RESULTS

4.1 AC Line Conducted Emissions

Sample Number:	310A-1	Test Date:	2025/8/19
Test Site:	CE	Test Mode:	Transmitting
Tester:	David Huang	Test Result:	Pass

Environmental Conditions:

Temperature: (℃)	25.5	Relative Humidity: (%)	51	ATM Pressure: (kPa)	100.5

Test Equipment List and Details:

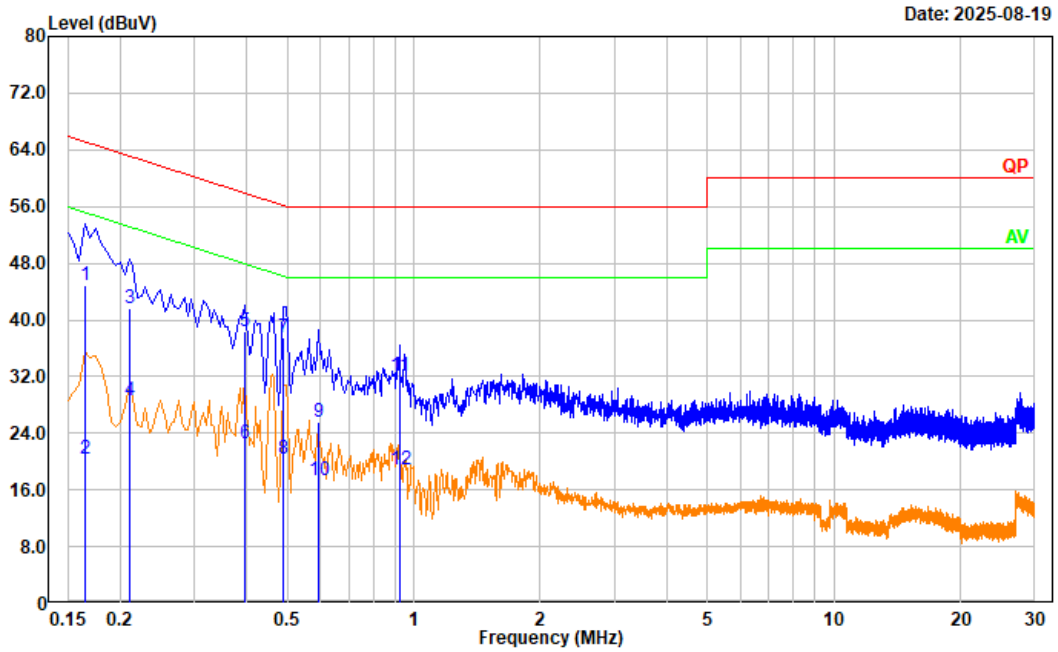
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101132	2025/3/31	2026/3/30
R&S	EMI Test Receiver	ESR3	103104	2025/5/9	2026/5/8
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2025/1/6	2026/1/5
Audix	Test Software	E3	191218 (V9)	N/A	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

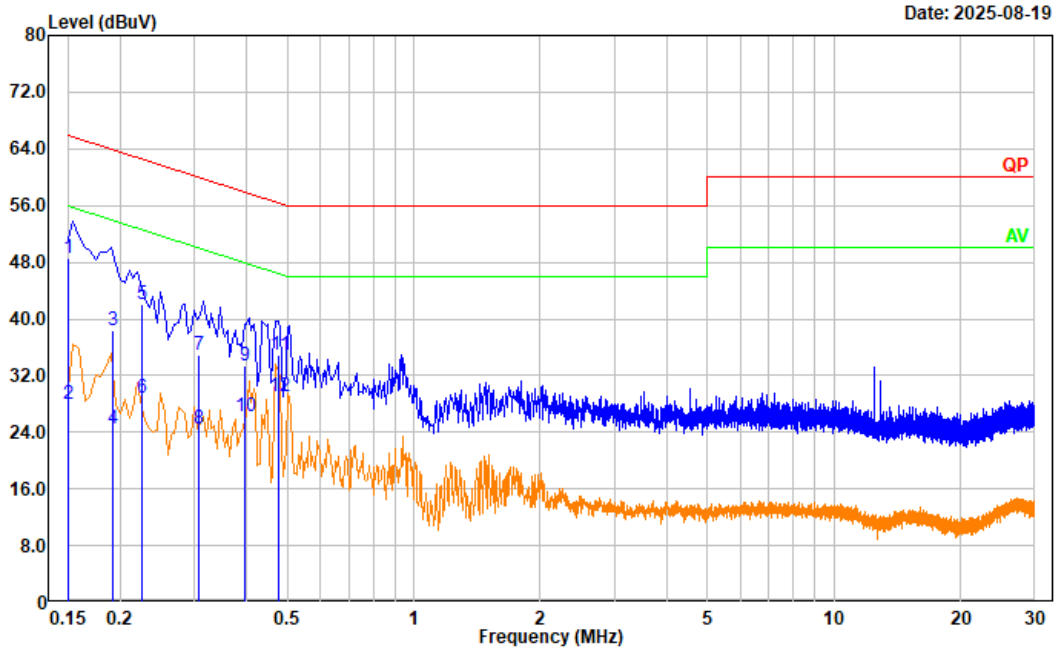
Note: The maximum output power mode: BLE 1Mbps Low channel was tested.

Project No.: 2503S31640E-RF
Tester: David Huang
Condition: IFBW:9 kHz Meas Time:0.025sec
Port: Line
Note: Transmitting BLE



No.	Frequency (MHz)	Reading (dBµV)	Factor (dBS)	Result (dBµA)	Limit (dBµA)	Margin (dB)	Detector
1	0.165	34.80	9.99	44.79	65.21	20.42	QP
2	0.165	10.35	9.99	20.34	55.21	34.87	Average
3	0.210	31.82	9.74	41.56	63.21	21.65	QP
4	0.210	18.93	9.74	28.67	53.21	24.54	Average
5	0.395	28.18	10.29	38.47	57.96	19.49	QP
6	0.395	12.25	10.29	22.54	47.96	25.42	Average
7	0.490	27.00	10.58	37.58	56.17	18.59	QP
8	0.490	9.89	10.58	20.47	46.17	25.70	Average
9	0.595	14.92	10.56	25.48	56.00	30.52	QP
10	0.595	6.78	10.56	17.34	46.00	28.66	Average
11	0.925	21.35	10.66	32.01	56.00	23.99	QP
12	0.925	8.11	10.66	18.77	46.00	27.23	Average

Project No.: 2503S31640E-RF
Tester: David Huang
Condition: IFBW:9 kHz Meas Time:0.025sec
Port: neutral
Note: Transmitting BLE



No.	Frequency (MHz)	Reading (dBµV)	Factor (dBS)	Result (dBµA)	Limit (dBµA)	Margin (dB)	Detector
1	0.151	38.17	10.31	48.48	65.96	17.48	QP
2	0.151	17.59	10.31	27.90	55.96	28.06	Average
3	0.192	28.13	10.23	38.36	63.97	25.61	QP
4	0.192	14.25	10.23	24.48	53.97	29.49	Average
5	0.226	31.75	10.22	41.97	62.59	20.62	QP
6	0.226	18.60	10.22	28.82	52.59	23.77	Average
7	0.309	24.76	10.25	35.01	60.00	24.99	QP
8	0.309	14.29	10.25	24.54	50.00	25.46	Average
9	0.396	23.17	10.28	33.45	57.94	24.49	QP
10	0.396	16.01	10.28	26.29	47.94	21.65	Average
11	0.477	24.66	10.30	34.96	56.39	21.43	QP
12	0.477	18.71	10.30	29.01	46.39	17.38	Average

4.2 Radiation Spurious Emissions

4.2.1 9kHz–1GHz

Sample Number:	310A-1	Test Date:	2025/8/30
Test Site:	966-2	Test Mode:	Transmitting
Tester:	Roinin Fu	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	21.5	Relative Humidity: (%)	53	ATM Pressure: (kPa)	100.9

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-5	2023/12/1	2026/11/30
BACL	Loop Antenna	1313-1A	3110611	2023/12/4	2026/12/3
Daruikang	Coaxial Cable	BNC-JJ-RG58	C-0300-01	2025/1/10	2026/1/9
Daruikang	Coaxial Cable	BNC-JJ-RG58	C-0500-01	2025/1/10	2026/1/9
R&S	EMI Test Receiver	ESR3	102724	2025/2/14	2026/2/13
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0100-03	2024/12/3	2025/12/2
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0370-01	2024/12/3	2025/12/2
XQY	Coaxial Cable	XQY-CMR400UF-NJ-NJ-7M	24056379	2025/6/4	2026/6/3
Sonoma	Amplifier	310N	186165	2024/12/3	2025/12/2
Audix	Test Software	E3	191218 (V9)	N/A	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

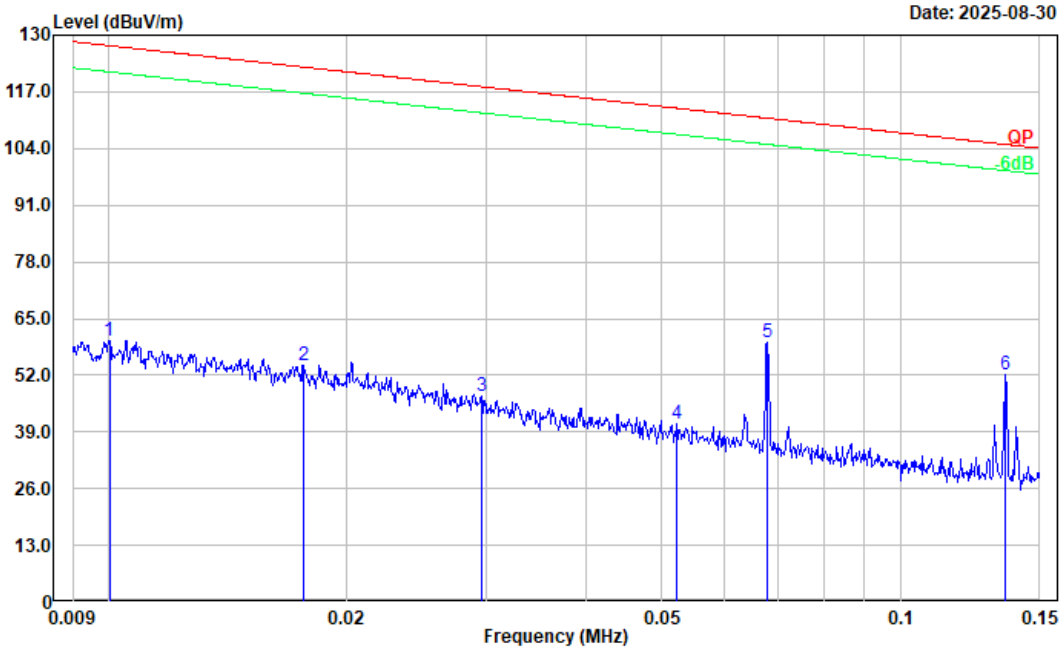
Test Data:

Please refer to the below plots.

After pre-scan in the X, Y and Z axes of orientation, the worst case is below:

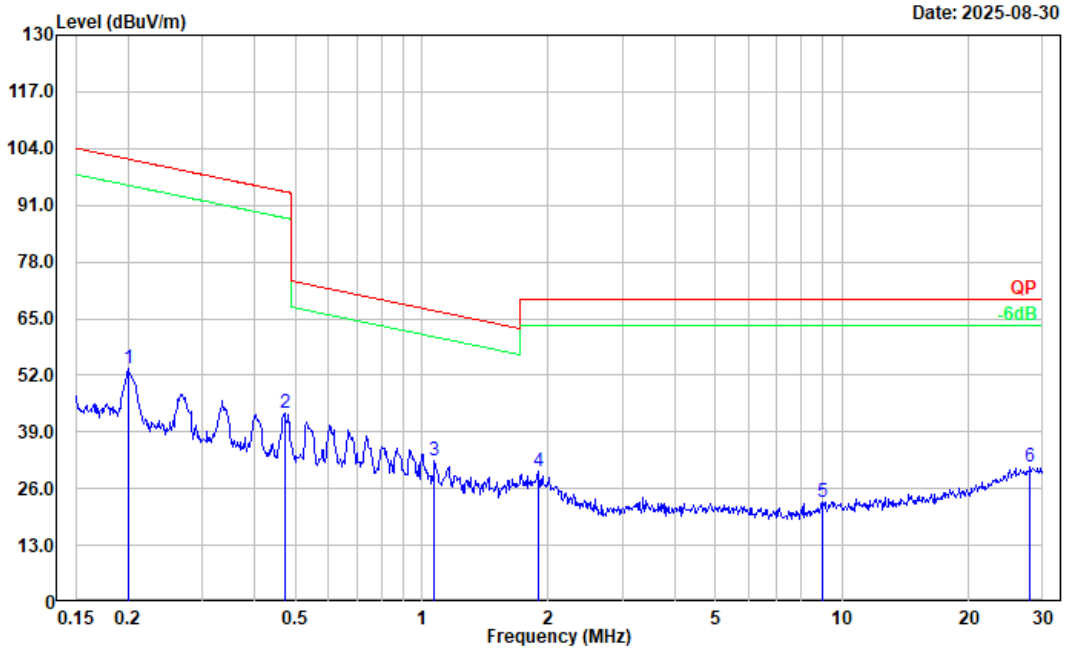
Note: The maximum output power mode: BLE 1Mbps Low channel was tested.

Project No.: 2503S31640E-RF
Tester: Roinin Fu
Condition: RBW:0.3kHz VBW:1kHz
Polarization: Parallel
Note: Transmitting BLE



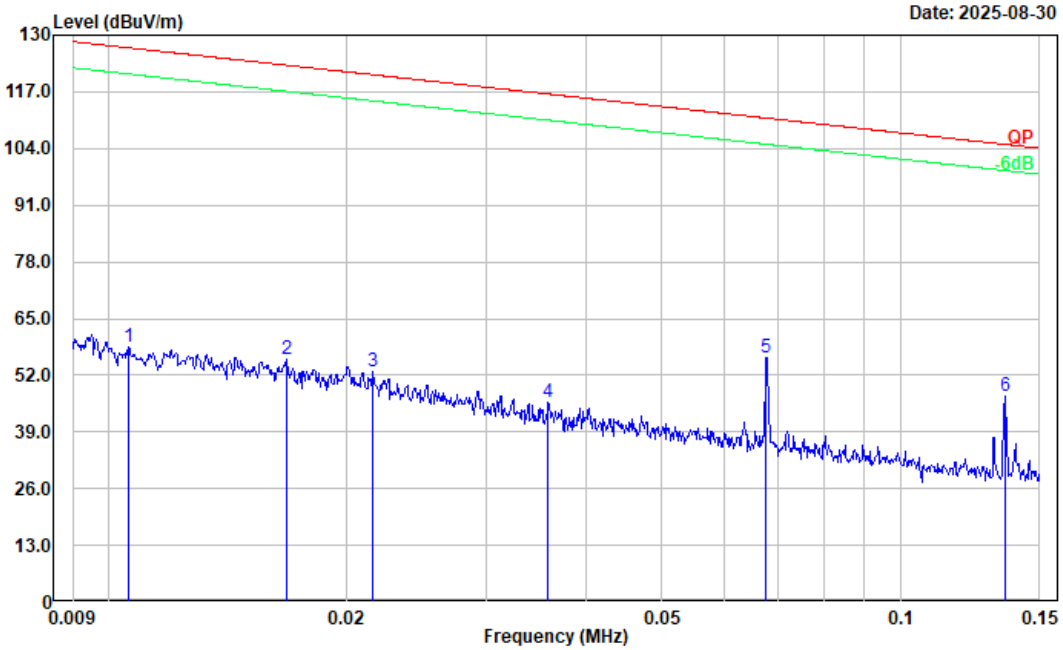
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	0.010	25.63	34.43	60.06	127.59	67.53	Peak
2	0.018	23.57	30.70	54.27	122.68	68.41	Peak
3	0.030	22.25	24.84	47.09	118.18	71.09	Peak
4	0.052	20.61	20.14	40.75	113.25	72.50	Peak
5	0.068	41.60	18.01	59.61	110.97	51.36	Peak
6	0.136	39.20	13.00	52.20	104.96	52.76	Peak

Project No.: 2503S31640E-RF
Tester: Roinin Fu
Condition: RBW:10kHz VBW:30kHz
Polarization: Parallel
Note: Transmitting BLE



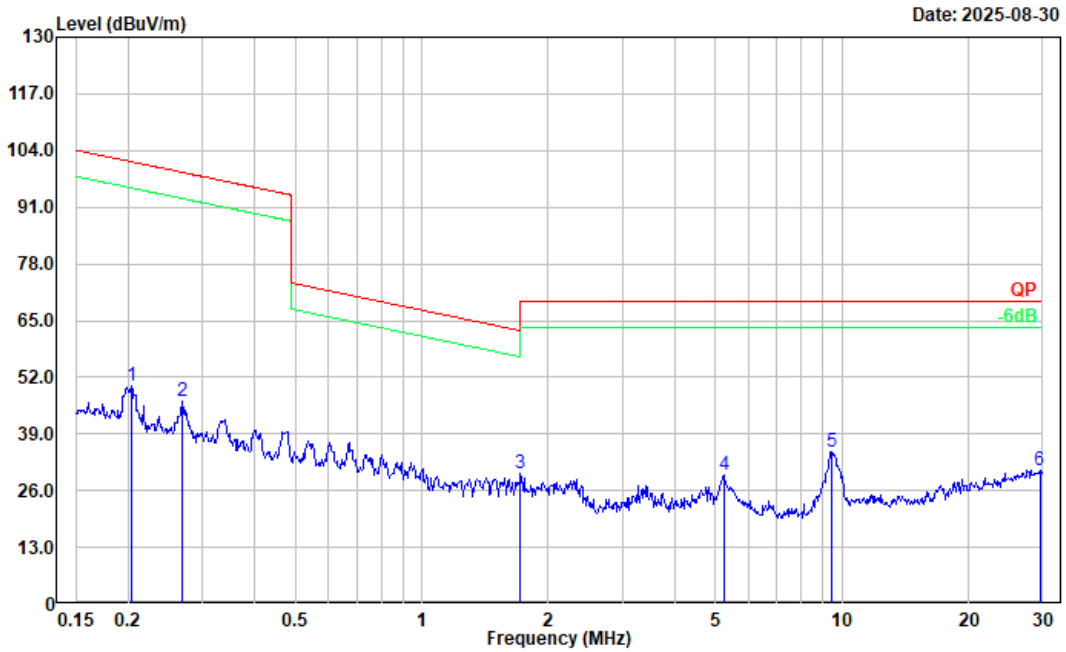
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	0.200	43.43	10.01	53.44	101.60	48.16	Peak
2	0.471	41.69	1.61	43.30	94.14	50.84	Peak
3	1.071	36.80	-4.46	32.34	66.86	34.52	Peak
4	1.888	37.25	-7.35	29.90	69.54	39.64	Peak
5	8.964	31.48	-8.45	23.03	69.54	46.51	Peak
6	28.003	38.47	-7.39	31.08	69.54	38.46	Peak

Project No.: 2503S31640E-RF
Tester: Roinin Fu
Condition: RBW:0.3kHz VBW:1kHz
Polarization: Perpendicular
Note: Transmitting BLE



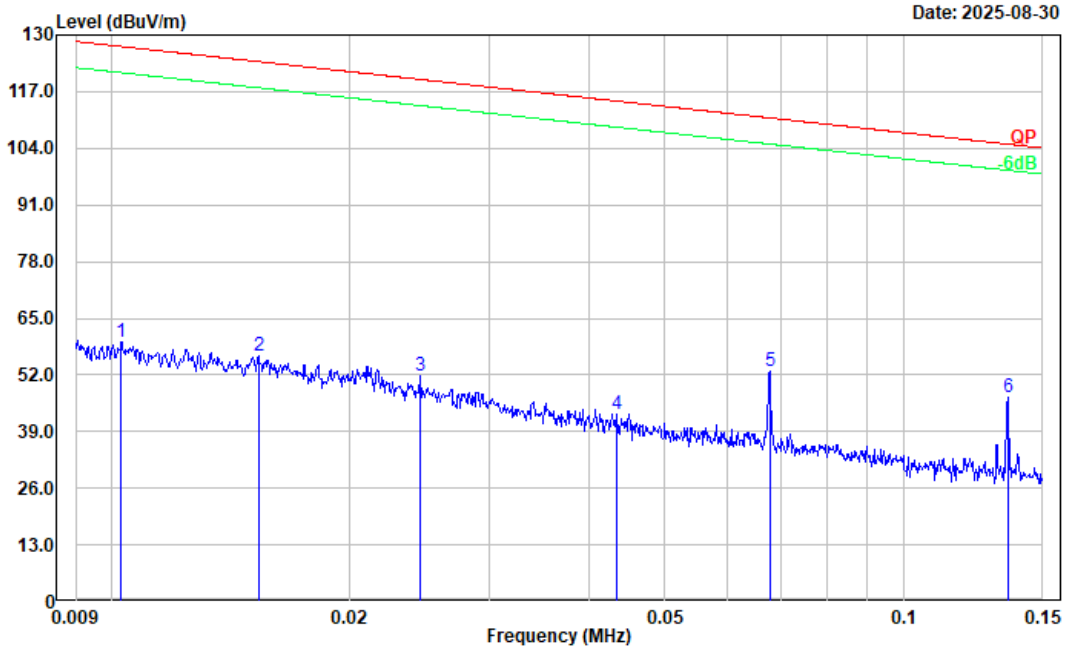
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	0.011	24.37	34.15	58.52	127.10	68.58	Peak
2	0.017	24.55	31.13	55.68	123.12	67.44	Peak
3	0.022	24.11	28.79	52.90	120.94	68.04	Peak
4	0.036	22.39	23.40	45.79	116.50	70.71	Peak
5	0.068	37.94	18.04	55.98	111.00	55.02	Peak
6	0.136	34.18	12.98	47.16	104.94	57.78	Peak

Project No.: 2503S31640E-RF
Tester: Roinin Fu
Condition: RBW:10kHz VBW:30kHz
Polarization: Perpendicular
Note: Transmitting BLE



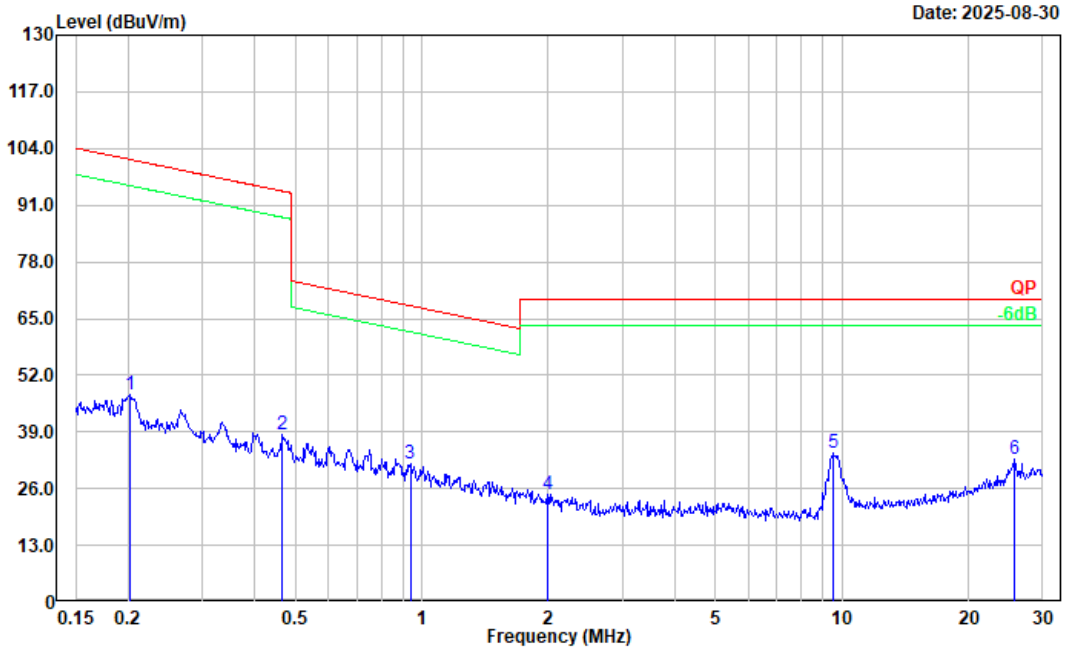
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	0.204	40.18	9.82	50.00	101.41	51.41	Peak
2	0.269	39.77	6.82	46.59	99.02	52.43	Peak
3	1.716	36.62	-6.74	29.88	69.54	39.66	Peak
4	5.249	38.52	-8.88	29.64	69.54	39.90	Peak
5	9.451	43.39	-8.34	35.05	69.54	34.49	Peak
6	29.527	37.92	-7.14	30.78	69.54	38.76	Peak

Project No.: 2503S31640E-RF
Tester: Roinin Fu
Condition: RBW:0.3kHz VBW:1kHz
Polarization: Ground-parallel
Note: Transmitting BLE



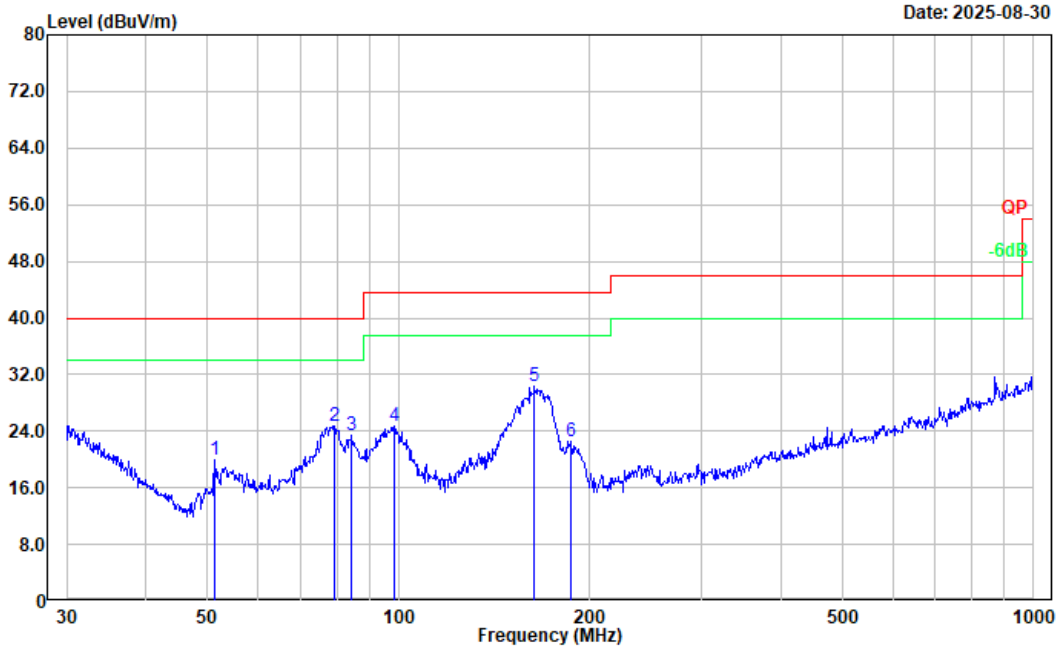
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	0.010	25.34	34.31	59.65	127.37	67.72	Peak
2	0.015	24.68	31.83	56.51	123.90	67.39	Peak
3	0.025	24.60	27.30	51.90	119.80	67.90	Peak
4	0.043	21.31	21.83	43.14	114.86	71.72	Peak
5	0.068	34.82	18.01	52.83	110.97	58.14	Peak
6	0.136	33.79	13.00	46.79	104.96	58.17	Peak

Project No.: 2503S31640E-RF
Tester: Roinin Fu
Condition: RBW:10kHz VBW:30kHz
Polarization: Ground-parallel
Note: Transmitting BLE



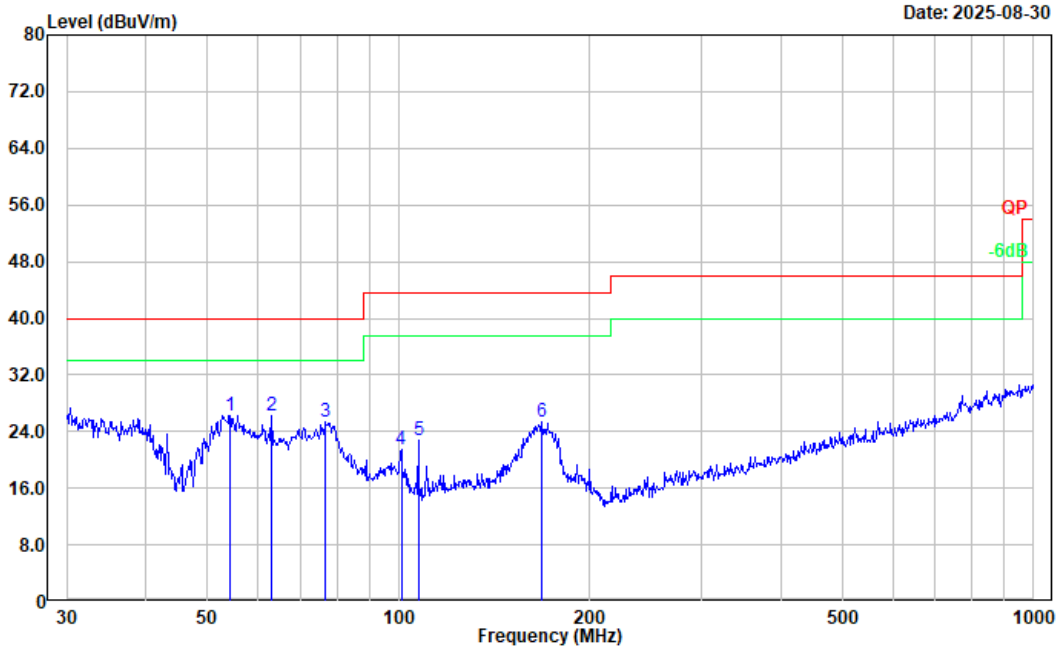
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	0.202	37.65	9.92	47.57	101.51	53.94	Peak
2	0.466	36.55	1.72	38.27	94.23	55.96	Peak
3	0.938	35.22	-3.67	31.55	68.04	36.49	Peak
4	1.991	32.48	-7.71	24.77	69.54	44.77	Peak
5	9.552	42.67	-8.32	34.35	69.54	35.19	Peak
6	25.727	40.49	-7.59	32.90	69.54	36.64	Peak

Project No.: 2503S31640E-RF
Tester: Roinin Fu
Condition: RBW:100kHz VBW:300kHz
Polarization: horizontal
Note: Transmitting BLE



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	51.301	37.33	-17.31	20.02	40.00	19.98	Peak
2	79.243	41.88	-17.15	24.73	40.00	15.27	Peak
3	84.405	40.59	-17.20	23.39	40.00	16.61	Peak
4	98.487	39.59	-14.88	24.71	43.50	18.79	Peak
5	163.755	42.40	-12.10	30.30	43.50	13.20	Peak
6	187.096	36.19	-13.65	22.54	43.50	20.96	Peak

Project No.: 2503S31640E-RF
Tester: Roinin Fu
Condition: RBW:100kHz VBW:300kHz
Polarization: vertical
Note: Transmitting BLE



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	54.261	43.93	-17.67	26.26	40.00	13.74	Peak
2	63.092	43.67	-17.49	26.18	40.00	13.82	Peak
3	76.781	42.41	-17.03	25.38	40.00	14.62	Peak
4	100.934	35.60	-14.13	21.47	43.50	22.03	Peak
5	107.510	35.34	-12.64	22.70	43.50	20.80	Peak
6	168.414	37.73	-12.41	25.32	43.50	18.18	Peak

4.2.2 1GHz –25GHz

Sample Number	310A-1	Test Date:	2025/8/28
Test Site:	966-1	Test Mode:	Transmitting
Tester:	Peter Rong	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	20.5	Relative Humidity: (%)	57	ATM Pressure: (kPa)	100.9

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
ETS-Lindgren	Horn Antenna	3115	9912-5985	2023/12/6	2026/12/5
R&S	Spectrum Analyzer	FSV40	101591	2025/3/31	2026/3/30
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2025/1/10	2026/1/9
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2025/1/10	2026/1/9
A.H	Pre-amplifier	PAM-0118P	628	2025/5/23	2026/5/22
Audix	Test Software	E3	191218 (V9)	N/A	N/A
PASTERNACK	Horn Antenna	PE9852/2F-20	112002	2024/2/4	2027/2/3
Quinstar	Preamplifier	QLW-18405536-JO	15964001005	2025/1/6	2026/1/5
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2025/1/6	2026/1/5
Decentest	Multiplex Switch Test Control Set	DT7220SCU	DQ77925	2025/8/4	2026/8/3
Decentest	Filter Switch Unit	DT7220FSU	DQ77928	20258/4	2026/8/3

**** Statement of Traceability:*** *China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

After pre-scan in the X, Y and Z axes of orientation, the worst case is below:

BLE 1Mbps:

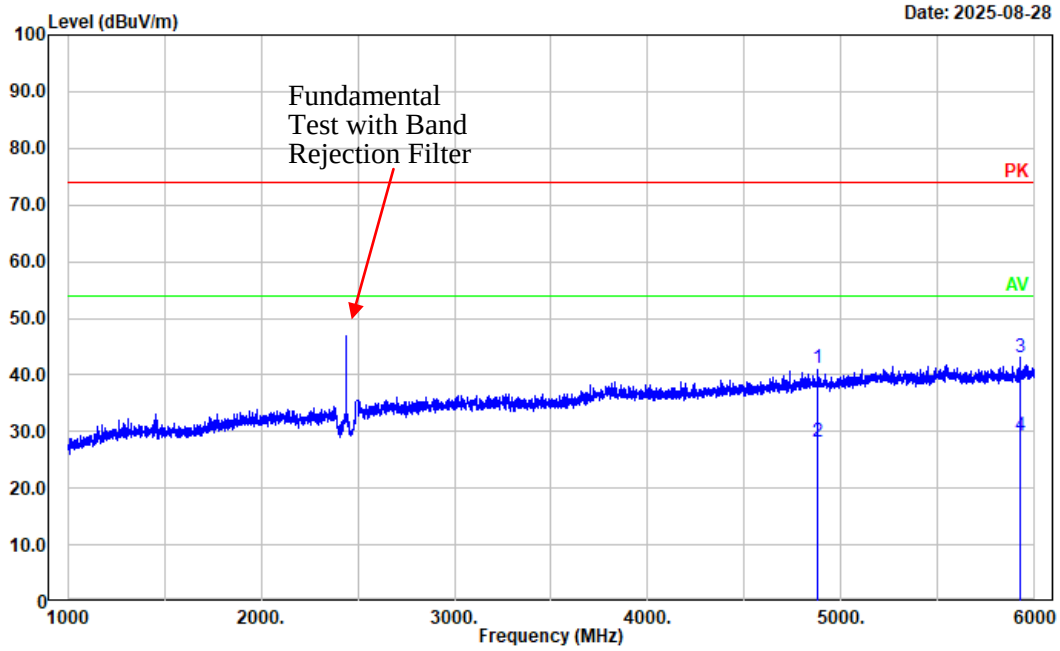
Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Remark					
Low Channel: 2402 MHz							
4804.000	47.22	PK	H	-6.12	41.10	74.00	32.90
4804.000	34.51	AV	H	-6.12	28.39	54.00	25.61
4804.000	46.05	PK	V	-6.12	39.93	74.00	34.07
4804.000	33.10	AV	V	-6.12	26.98	54.00	27.02
7206.000	46.89	PK	H	-1.05	45.84	74.00	28.16
7206.000	34.62	AV	H	-1.05	33.57	54.00	20.43
7206.000	47.01	PK	V	-1.05	45.96	74.00	28.04
7206.000	34.26	AV	V	-1.05	33.21	54.00	20.79
Middle Channel: 2440 MHz							
4880.000	47.36	PK	H	-6.09	41.27	74.00	32.73
4880.000	34.32	AV	H	-6.09	28.23	54.00	25.77
4880.000	48.78	PK	V	-6.09	42.69	74.00	31.31
4880.000	35.02	AV	V	-6.09	28.93	54.00	25.07
7320.000	47.17	PK	H	-0.55	46.62	74.00	27.38
7320.000	34.03	AV	H	-0.55	33.48	54.00	20.52
7320.000	46.97	PK	V	-0.55	46.42	74.00	27.58
7320.000	34.61	AV	V	-0.55	34.06	54.00	**19.94**
High Channel: 2480 MHz							
4960.000	46.91	PK	H	-6.15	40.76	74.00	33.24
4960.000	34.59	AV	H	-6.15	28.44	54.00	25.56
4960.000	47.05	PK	V	-6.15	40.90	74.00	33.10
4960.000	34.67	AV	V	-6.15	28.52	54.00	25.48
7440.000	46.27	PK	H	-0.62	45.65	74.00	28.35
7440.000	34.12	AV	H	-0.62	33.50	54.00	20.50
7440.000	47.52	PK	V	-0.62	46.90	74.00	27.10
7440.000	34.62	AV	V	-0.62	34.00	54.00	20.00

Worst radiation spurious emissions margin test plots for each mode

Note: for 18 – 25 GHz range, test was performed onthe maximum power mode.

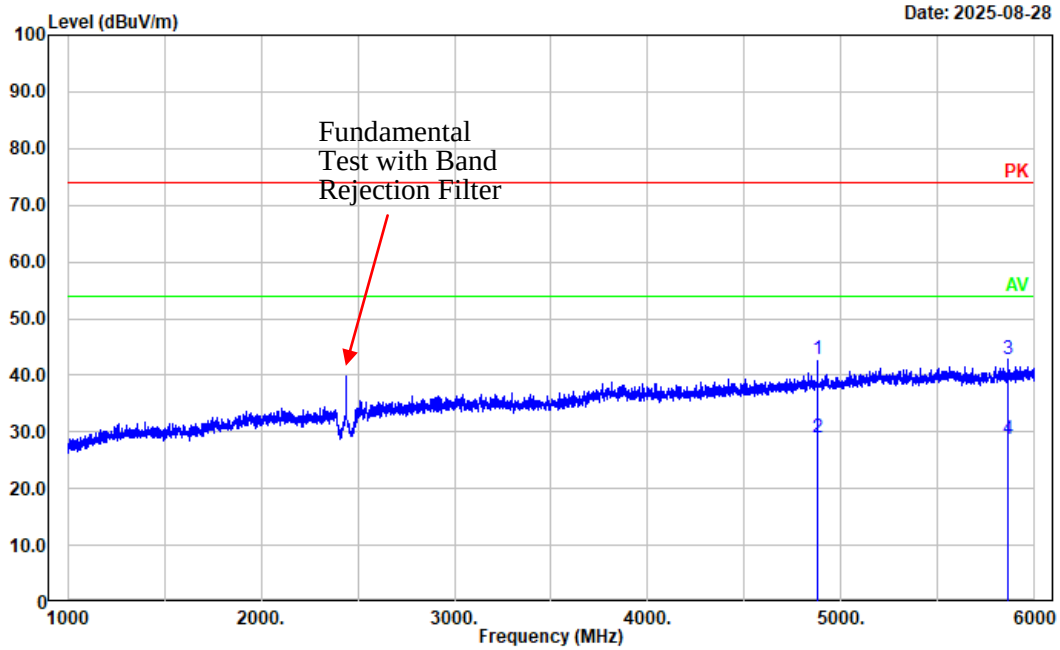
1-18GHz:

```
Project No.: 2503S31640E-RF
     Tester: Peter Rong
  Condition: PK trace RBW:1MHz; VBW:3MHz; SWT:0.3sec
Polarization: horizontal
       Note: BLE 1M Middle Channel 2440MHz
```



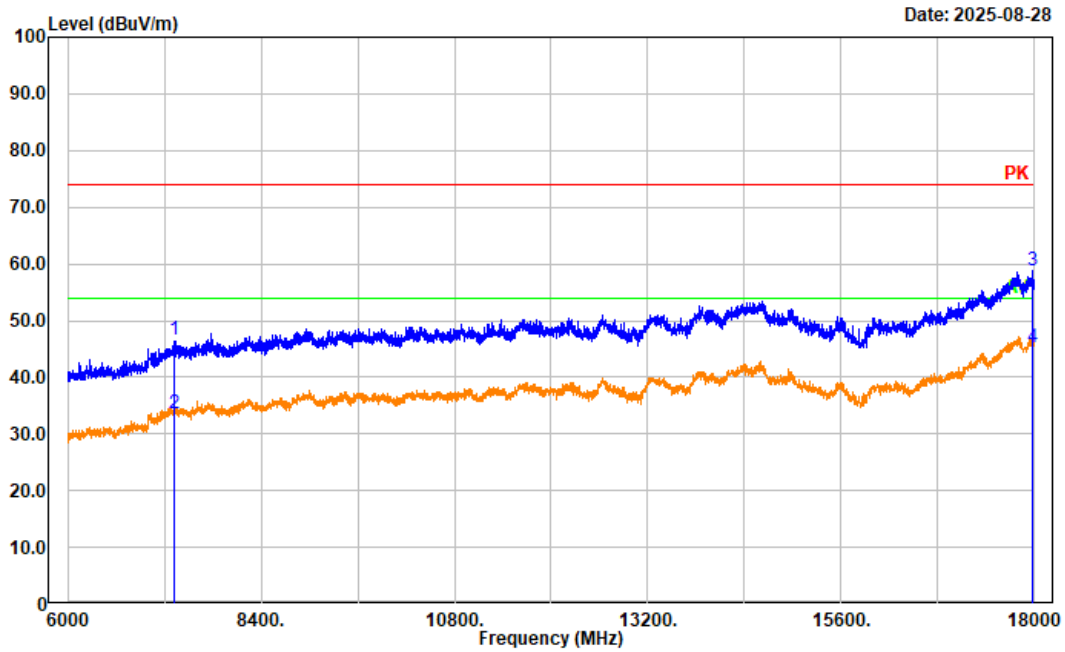
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	4880.000	47.36	-6.09	41.27	74.00	32.73	Peak
2	4880.000	34.32	-6.09	28.23	54.00	25.77	Average
3	5922.000	47.41	-4.36	43.05	74.00	30.95	Peak
4	5922.000	33.67	-4.36	29.31	54.00	24.69	Average

Project No.: 2503S31640E-RF
Tester: Peter Rong
Condition: PK trace RBW:1MHz; VBW:3MHz; SWT:0.3sec
Polarization: vertical
Note: BLE 1M Middle Channel 2440MHz



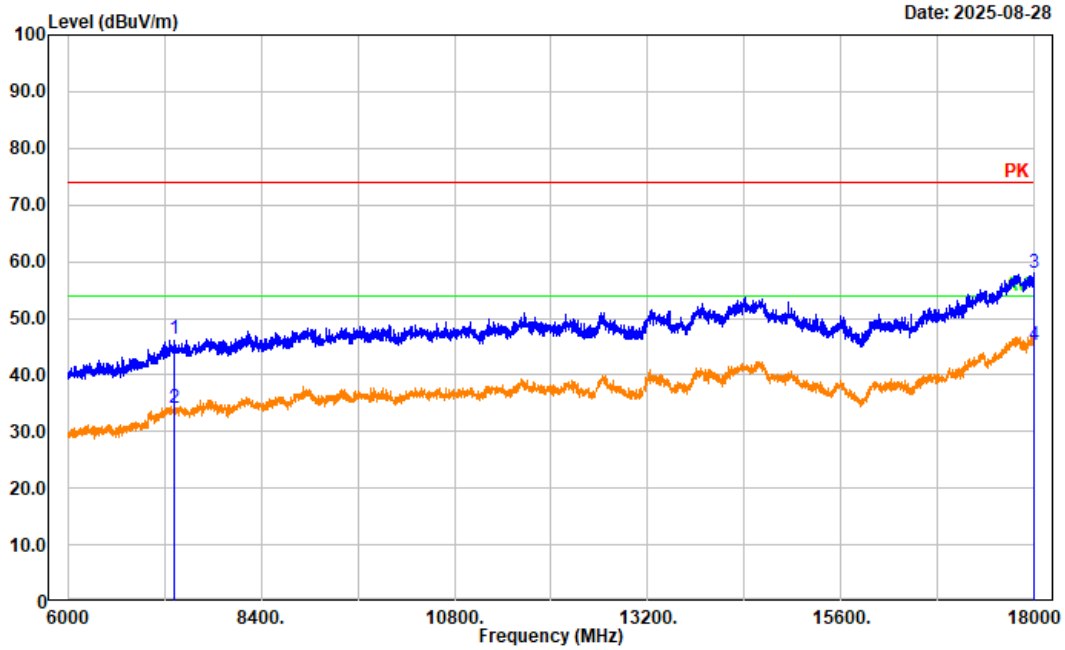
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	4880.000	48.78	-6.09	42.69	74.00	31.31	Peak
2	4880.000	35.02	-6.09	28.93	54.00	25.07	Average
3	5860.000	47.43	-4.69	42.74	74.00	31.26	Peak
4	5860.000	33.31	-4.69	28.62	54.00	25.38	Average

Project No.: 2503S31640E-RF
Tester: Peter Rong
Condition: PK trace RBW:1MHz; VBW:3MHz; SWT:0.3sec AV trace RBW:1MHz; VBW:5kHz; SWT:auto
Polarization: horizontal
Note: BLE 1M Middle Channel 2440MHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	7320.000	47.17	-0.55	46.62	74.00	27.38	Peak
2	7320.000	34.03	-0.55	33.48	54.00	20.52	Average
3	17966.400	45.38	13.45	58.83	74.00	15.17	Peak
4	17966.400	31.78	13.45	45.23	54.00	8.77	Average

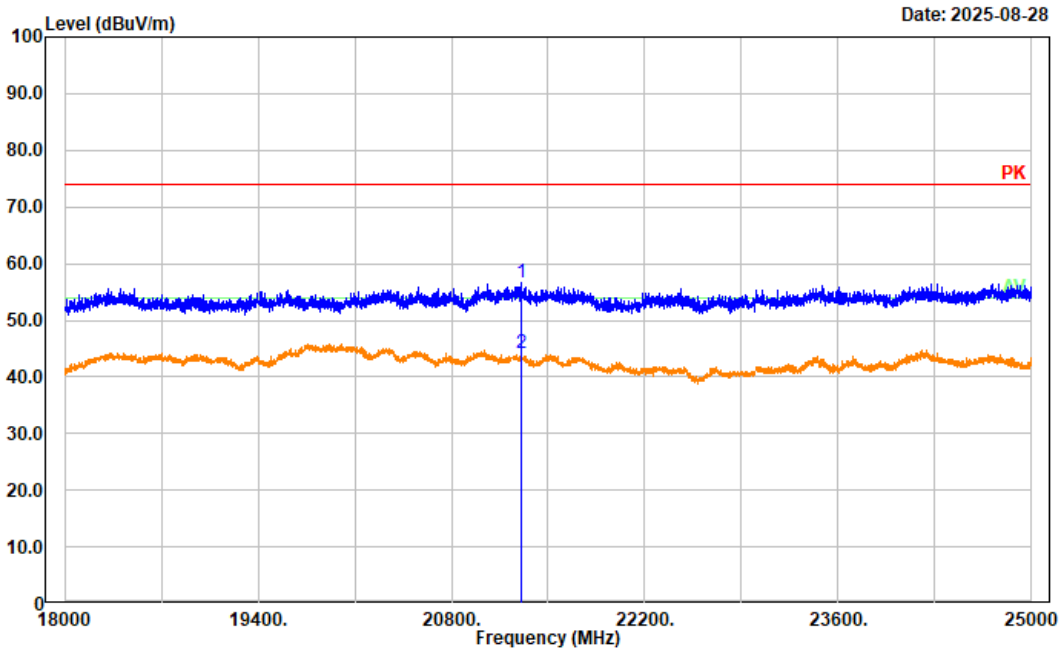
Project No.: 2503S31640E-RF
Tester: Peter Rong
Condition: PK trace RBW:1MHz; VBW:3MHz; SWT:0.3sec AV trace RBW:1MHz; VBW:5kHz; SWT:auto
Polarization: vertical
Note: BLE 1M Middle Channel 2440MHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	7320.000	46.97	-0.55	46.42	74.00	27.58	Peak
2	7320.000	34.61	-0.55	34.06	54.00	19.94	Average
3	17997.600	44.42	13.47	57.89	74.00	16.11	Peak
4	17997.600	31.75	13.47	45.22	54.00	8.78	Average

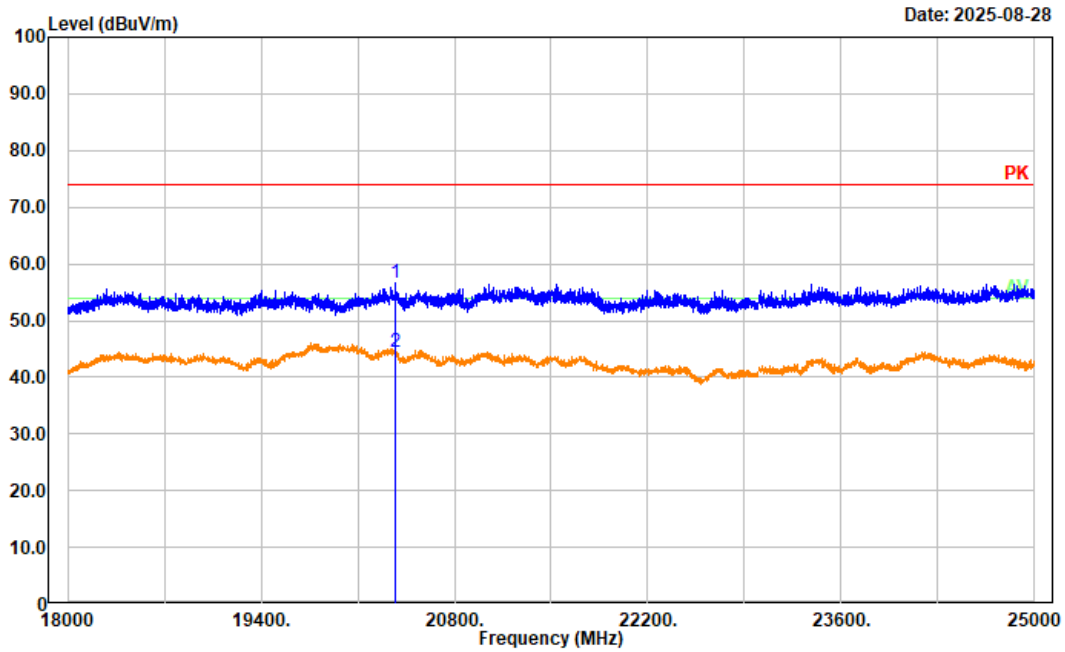
18-25GHz:

```
Project No.: 2503S31640E-RF
     Tester: Peter Rong
  Condition: PK trace RBW:1MHz; VBW:3MHz; SWT:0.3sec AV trace RBW:1MHz; VBW:5kHz; SWT:auto
Polarization: Horizontal
       Note: BLE 1M Low Channel 2402MHz
```



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	21302.600	51.74	4.89	56.63	74.00	17.37	Peak
2	21302.600	39.21	4.89	44.10	54.00	9.90	Average

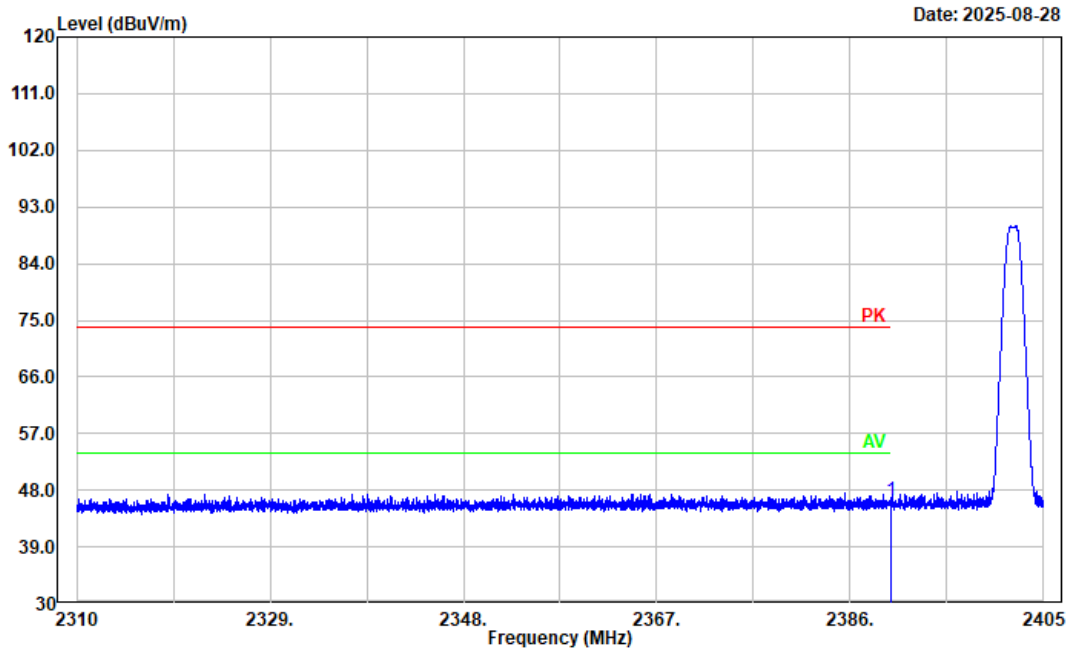
Project No.: 2503S31640E-RF
Tester: Peter Rong
Condition: PK trace RBW:1MHz; VBW:3MHz; SWT:0.3sec AV trace RBW:1MHz; VBW:5kHz; SWT:auto
Polarization: Vertical
Note: BLE 1M Low Channel 2402MHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	20375.800	51.88	4.88	56.76	74.00	17.24	Peak
2	20375.800	39.63	4.88	44.51	54.00	9.49	Average

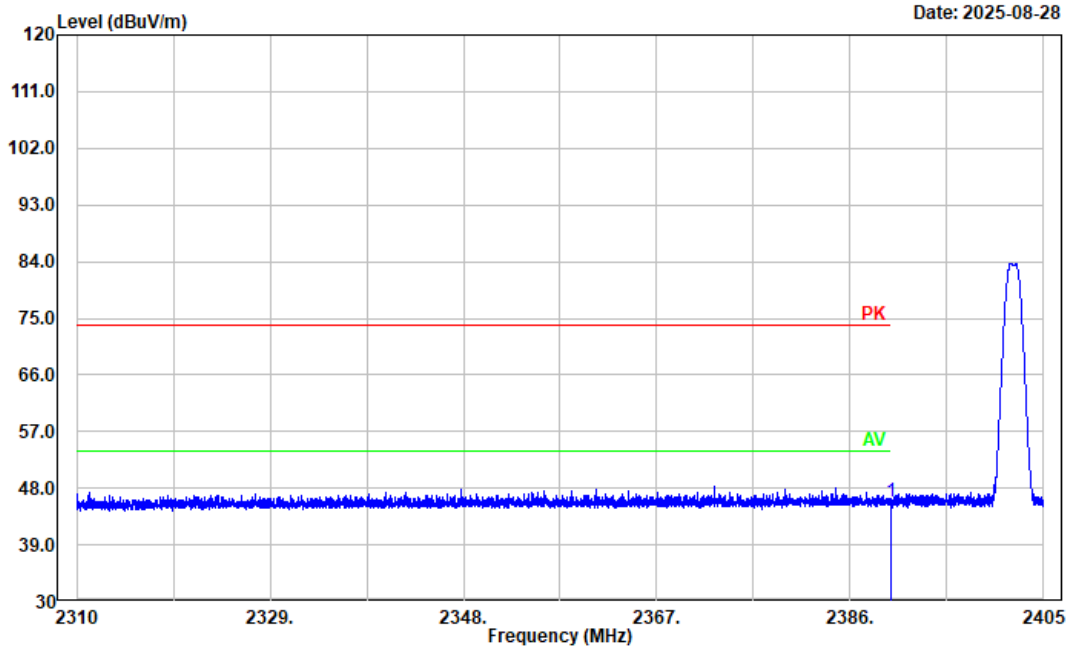
Band edge test plots

```
Project No.: 2503S31640E-RF
     Tester: Peter Rong
  Condition: PK trace RBW:1MHz; VBW:3MHz; SWT:0.3sec
Polarization: Horizontal
       Note: BLE 1M Low Channel 2402MHz
```



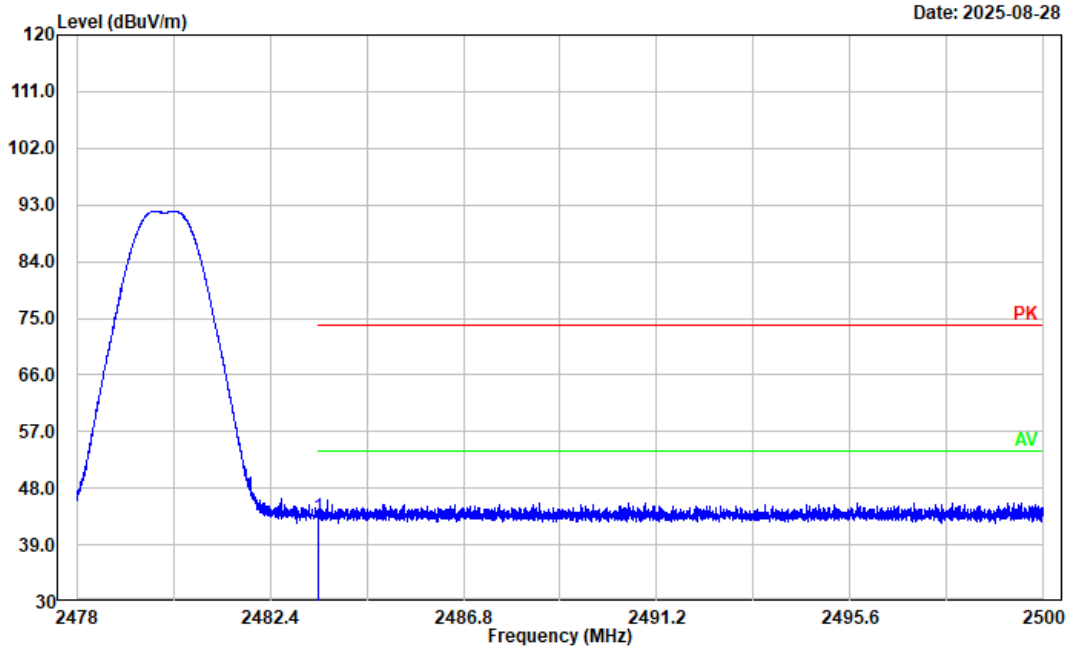
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	2390.000	59.47	-13.14	46.33	74.00	27.67	Peak

Project No.: 2503S31640E-RF
Tester: Peter Rong
Condition: PK trace RBW:1MHz; VBW:3MHz; SWT:0.3sec
Polarization: vertical
Note: BLE 1M Low Channel 2402MHz



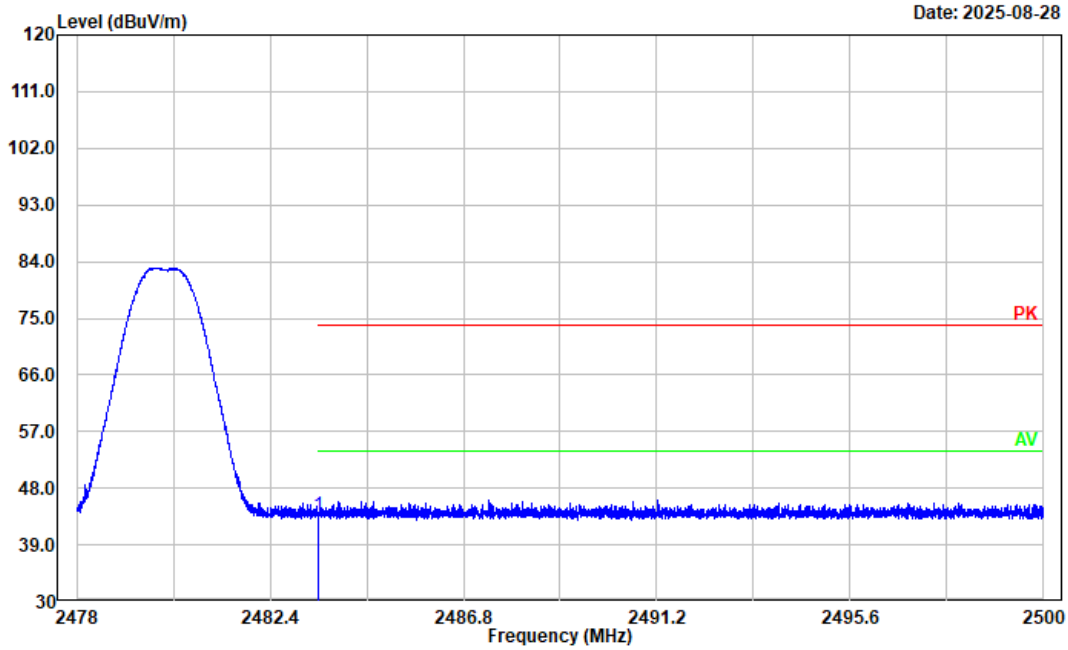
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	2390.000	59.02	-13.14	45.88	74.00	28.12	Peak

Project No.: 2503S31640E-RF
Tester: Peter Rong
Condition: PK trace RBW:1MHz; VBW:3MHz; SWT:0.3sec
Polarization: Horizontal
Note: BLE 1M High Channel 2480MHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	2483.500	56.29	-12.86	43.43	74.00	30.57	Peak

Project No.: 2503S31640E-RF
Tester: Peter Rong
Condition: PK trace RBW:1MHz; VBW:3MHz; SWT:0.3sec
Polarization: vertical
Note: BLE 1M High Channel 2480MHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
1	2483.500	56.55	-12.86	43.69	74.00	30.31	Peak

4.3 Spot Check With Maximum Conducted Output Power

Sample Number:	310A-2	Test Date:	2025/8/28
Test Site:	RF	Test Mode:	Transmitting
Tester:	Chloe Zhao	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	24.6	Relative Humidity: (%)	57	ATM Pressure: (kPa)	100.9

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200256	2025/3/31	2026/3/30
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

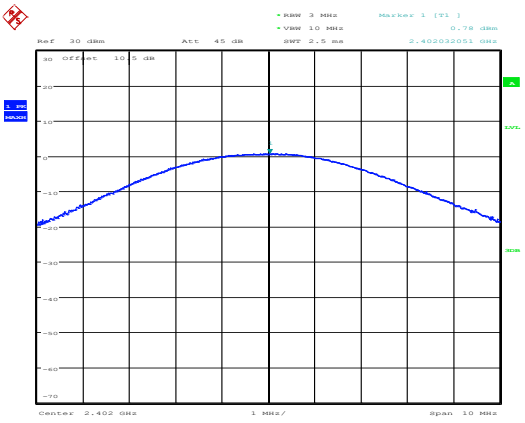
Test Data:

Test Modes	Test Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)	Limit (dBm)
BLE 1Mbps	2402	0.78	⩽30
	2440	-0.07	⩽30
	2480	-0.32	⩽30

Note: The Spot Check data was similar to the original data.

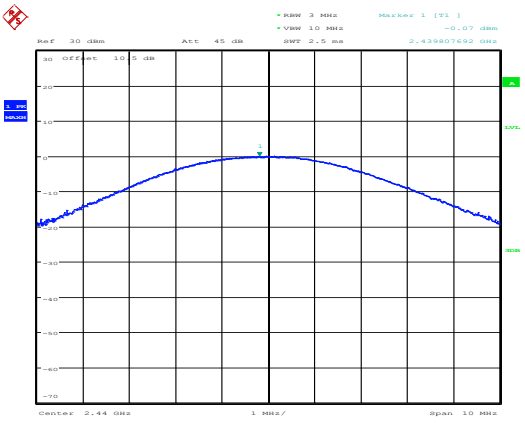
BLE 1M

BLE_1M_Low_Channel



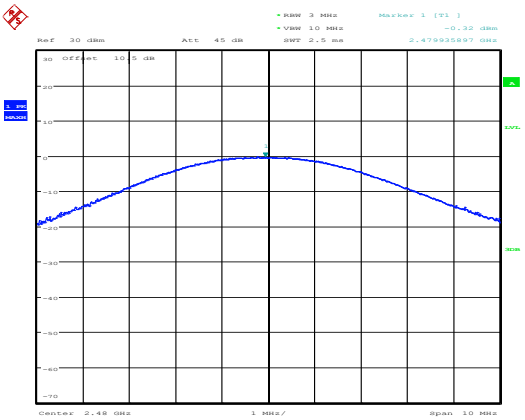
ProjectNo.:2503S31640E-RF Tester:Chloe Zhao
Date: 28.AUG.2025 13:56:23

BLE_1M_Middle_Channel



ProjectNo.:2503S31640E-RF Tester:Chloe Zhao
Date: 28.AUG.2025 14:23:47

BLE_1M_High_Channel



ProjectNo.:2503S31640E-RF Tester:Chloe Zhao
Date: 28.AUG.2025 14:42:08

4.4 Duty cycle

Sample Number:	310A-2	Test Date:	2025/9/8
Test Site:	RF	Test Mode:	Transmitting
Tester:	Chloe Zhao	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	24.6	Relative Humidity: (%)	57	ATM Pressure: (kPa)	100.4

Test Equipment List and Details:

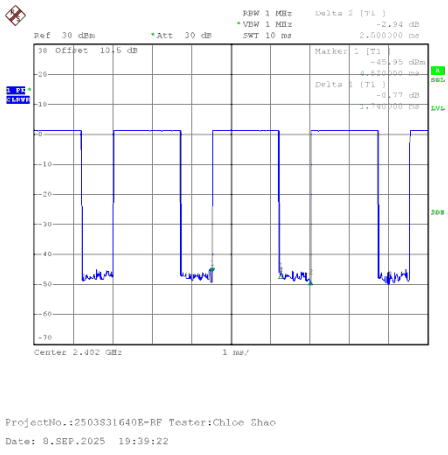
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200256	2025/3/31	2026/3/30
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

Test Modes	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	VBW Setting (kHz)
BLE 1Mbps	1.74	2.5	69.60	575	1

BLE_1M_Low_Channel



5. EUT PHOTOGRAPHS

Please refer to the attachment 2503S31640E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2503S31640E-RF-INP EUT INTERNAL PHOTOGRAPHS.

6. TEST SETUPPHOTOGRAPHS

Please refer to the attachment 2503S31640E-RF-00C-TSP TEST SETUP PHOTOGRAPHS.

===== END OF REPORT ====