

TEST REPORT

Applicant: Sony Corporation
EUT Description: GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac, NFC and GNSS
Brand: Sony
FCC ID: PY7-25130W
Standards: FCC 47 CFR Part 2 Subpart J
FCC 47 CFR Part 15 Subpart C
Date of Receipt: 2023/11/14
Date of Test: 2023/11/14 to 2024/02/18 (FCC ID: PY7-64228M (Lead Model))
2023/11/14 to 2024/02/20 (FCC ID: PY7-25130W (This Model))
Date of Issue: 2024/03/07

TOWE. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

the results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of the model are manufactured with identical electrical and mechanical components. All sample tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. without written approval of TOWE, the test report shall not be reproduced except in full.



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Huang Kun
Approved By:

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Chen Chengfu
Reviewed By:

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Description</u>	<u>Revised by</u>
01	2024/02/21	Original	Chen Chengfu
02	2024/03/07	Revise KDB version number on Page 7	Chen Chengfu

Summary of Test Results

Clause	FCC Part	Test Items	Result
4.1	§15.203/15.247(b)	Antenna Requirement	PASS
4.2	§15.207	AC Power Line Conducted Emission	PASS
4.3	§15.247 (b)(3)	Output Power	PASS*
4.4	§15.247 (a)(2)	Occupied Bandwidth	Reporting purposes only
4.5	§15.247 (e)	Power Spectral Density	PASS
4.6	§15.247(d)	Band Edge for Conducted Emissions	PASS
4.7	§15.247(d)	Spurious RF Conducted Emissions	PASS
4.8	§15.205 §15.209	Radiated Spurious emissions and Band Edge	PASS*

Test Method: ANSI C63.10-2013, KDB 558074 D01 15.247 Mesa Guidance v05r02.

Remark:

Pass: refers to FCC ID PY7-64228M (lead) data.

PASS: There is FCC ID PY7-25130W (this model) spot check data.*

Table of Contents

1	General Description	5
1.1	Lab Information.....	5
1.1.1	Testing Location	5
1.1.2	Test Facility / Accreditations	5
1.2	Client Information	5
1.2.1	Applicant.....	5
1.2.2	Manufacturer.....	5
1.3	Product Information.....	6
2	Test Configuration	8
2.1	Test Channel	8
2.2	Worst-case configuration and Mode	9
2.3	Test Duty Cycle	9
2.4	Support Unit used in test	9
2.5	Test Environment.....	9
2.6	Test RF Cable	9
2.7	Modifications.....	9
2.8	Test Setup Diagram	10
2.8.1	Conducted Configuration	10
2.8.2	Radiated Configuration	11
3	Equipment and Measurement Uncertainty.....	12
3.1	Test Equipment List.....	12
3.2	Measurement Uncertainty	13
4	Test Results.....	14
4.1	Antenna Requirement.....	14
4.2	AC Power Line Conducted Emissions	15
4.3	Output Power	18
4.4	Occupied Bandwidth	19
4.5	Power Spectral Density	20
4.6	Band Edge for Conducted Emissions.....	21
4.7	Spurious RF Conducted Emissions	22
4.8	Radiated Spurious Emissions and Band Edge	23
5	Test Setup Photos.....	25
	Appendix.....	26

1 General Description

1.1 Lab Information

1.1.1 Testing Location

These measurements tests were conducted at the Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. facility located at F401 and F101, Building E, Hongwei Industrial Zone, Liuxian 3rd Road, Bao'an District, Shenzhen, China. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014
Tel.: +86-755-27212361
Contact Email: info@towewireless.com

1.1.2 Test Facility / Accreditations

A2LA (Certificate Number: 7088.01)

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

FCC Designation No.: CN1353

Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. has been recognized as an accredited testing laboratory. Designation Number: CN1353.

ISED CAB identifier: CN0152

Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. has been recognized by ISED as an accredited testing laboratory.
CAB identifier: CN0152
Company Number: 31000

1.2 Client Information

1.2.1 Applicant

Applicant:	Sony Corporation
Address:	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan

1.2.2 Manufacturer

Manufacturer:	Sony Corporation
Address:	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan

1.3 Product Information

EUT Description:	GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac, NFC and GNSS	
Brand:	Sony	
Hardware Version:	A	
Software Version:	1.90	
SN.:	HQ63AX0D39 HQ63B10D26	
Bluetooth version:	Bluetooth V5.2	
Support Mode:	<input checked="" type="checkbox"/> LE 1M PHY:1Mbps	<input checked="" type="checkbox"/> LE 2M PHY:2Mbps
Modulation Type:	GFSK	
Frequency Range:	2400 ~ 2483.5MHz	
Channel Frequency:	2402 ~ 2480MHz	
Channel Number:	40	
Remark: The above EUT's information was declared by applicant, please refer to the specifications or user's manual for more detailed description.		

1.4 REUSE OF TEST DATA

1.4.1 INTRODUCTION

According to the manufacturer the major change between FCC ID: PY7-64228M (Lead Model), and FCC ID: PY7-25130W (This Model) is changing band configuration by software, The FCC ID: PY7-64228M (Lead Model) conducted test data shall remain representative of FCC ID: PY7-25130W so, FCC ID: PY7-25130W (This Model) leverages conducted test data from FCC ID: PY7-64228M (Lead Model).

1.4.2 DEVICE DIFFERENCES

The equipment under test (EUT) in this filing FCC ID: PY7-25130W (This Model) and the reference device certified under FCC ID: PY7-64228M (Lead Model) share a common design. The components used for 2.4GHz and 5GHz Wi-Fi and BT and NFC, including antennas and output power are identical between the EUT and reference device.

1.4.3 Spot Check Verification Data

In this filing, the worst-case data and spot checks were tested on the EUT as noted below, against the reference device. All the necessary test cases were performed to verify the variant EUT is still in compliance with the spot checked results to the reference device and was performed using the guidance of ANSI C63.10-2013.

According to FCC KDB 484596 D01 v02r02, Spot checks of the following tests were performed:

Sport check Items	PY7-25130W Worst case Result		PY7-64228M Worst case Result		Delta(dB)	
	Peak:	Average:	Peak:	Average:	Peak:	Average:
Output Power	Peak:	9.78	Peak:	9.40	Peak:	0.38
	Average:	9.12	Average:	8.78	Average:	0.34
Radiated Spurious Emission	Peak:	52.50	Peak:	52.44	Peak:	0.06
Radiated Band Edge	Peak:	49.31	Peak:	49.99	Peak:	0.68

2 Test Configuration

2.1 Test Channel

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

Remark:

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

Test Channel	Test Frequency
The Lowest channel(CH0)	2402MHz
The Middle channel(CH19)	2440MHz
The Highest channel(CH39)	2480MHz

2.2 Worst-case configuration and Mode

Modulation Type	LE 1M PHY	LE 2M PHY
Transmitting mode	Keep the EUT was programmed to be in continuously transmitting mode	
Normal Link	Keep the EUT operation to normal function.	

2.3 Test Duty Cycle

Test Type	T(ms)	T Period(ms)	Duty Cycle(%)	1/T	VBW Set
BLE_1MHz_2402	0.38	0.62	61.29	2.63	3KHz
BLE_1MHz_2440	0.38	0.62	61.29	2.63	3KHz
BLE_1MHz_2480	0.39	0.63	61.90	2.56	3KHz
BLE_2MHz_2402	0.21	0.63	33.33	4.76	10KHz
BLE_2MHz_2440	0.20	0.63	31.75	5.00	10KHz
BLE_2MHz_2480	0.21	0.63	33.33	4.76	10KHz

Note: If Duty Cycle>98% VBW is set to 10Hz.

2.4 Support Unit used in test

The EUT has been tested as an independent unit.

2.5 Test Environment

Temperature:	Normal: 15°C ~ 35°C
Humidity:	40-75 % RH Ambient
DC Voltage:	DC 3.89V
AC Voltage:	AC 120V/60Hz
Remark: The testing environment is within the scope of the EUT user manual and meets the requirements of the standard testing environment.	

2.6 Test RF Cable

For all conducted test items: The offset level is set spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

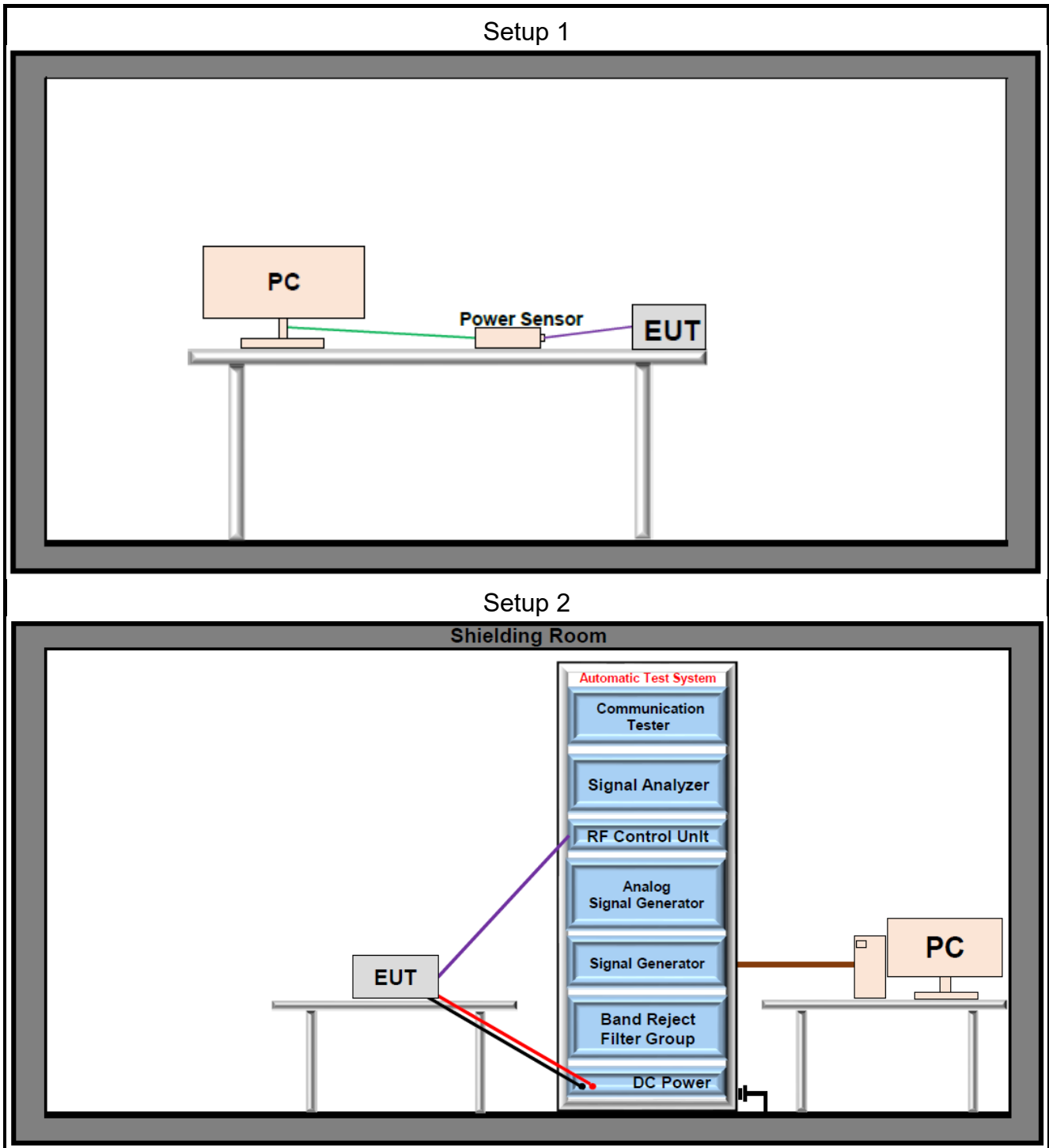
Offset = RF cable loss + attenuator factor.

2.7 Modifications

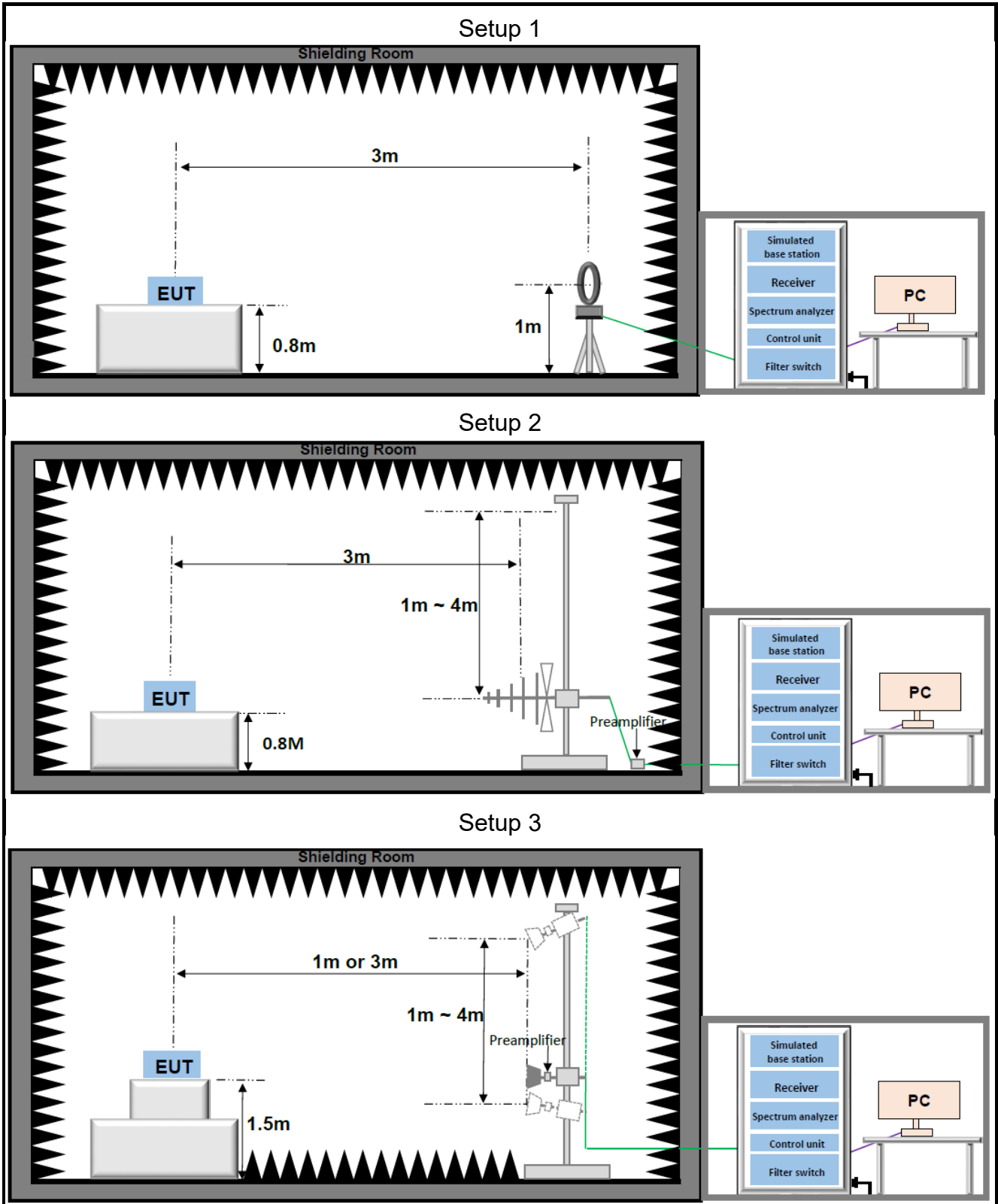
No modifications were made during testing.

2.8 Test Setup Diagram

2.8.1 Conducted Configuration



2.8.2 Radiated Configuration



3 Equipment and Measurement Uncertainty

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, whichever is less, and where applicable is traceable to recognized national standards.

3.1 Test Equipment List

RF-03					
Description	Manufacturer	Model	SN	Last Due	Cal Due
Signal Analyzer	Keysight	N9020A	US46470429	2023/04/08	2024/04/07
Signal Generator	R&S	SMR20	101027	2023/04/08	2024/04/07
Wireless Communication Tester	R&S	CMW270	102840	2023/06/27	2024/06/26
UP/Down-Converter	R&S	CMW-Z800A	100572	2023/06/27	2024/06/26
Hygrometer	BingYu	HTC-1	N/A	2023/06/01	2024/05/31
Vector Signal Generator	R&S	SMM100A	549353	2023/06/27	2024/06/26
RF Control Unit	Tonscend	JS0806-2	23C80620671	2023/06/27	2024/06/26
Power Sensor	Anritsu	MA24408A	12520	2023/07/28	2024/07/27
Shielding Room 13	Taihemaorui	4*3*3	N/A	2023/04/01	2026/03/31
Measurement Software	Tonscend	JS1120-3	10659	N/A	N/A

Radiated Emission					
Description	Manufacturer	Model	S.N.	Last Due	Cal Due
Loop Antenna	Schwarzbeck	FMZB 1519C	1519C-028	2023/06/29	2025/06/28
Biconic Logarithmic Periodic Antennas	Schwarzbeck	VULB9163	1643	2023/06/25	2025/06/24
Double-Ridged Horn Antennas	Schwarzbeck	BBHA 9120D	2809	2023/06/25	2025/06/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	1290	2023/06/25	2025/06/24
Signal Analyzer	Keysight	N9020A	MY49100252	2023/04/08	2024/04/07
Signal Analyzer	Keysight	N9010B	MY63440541	2023/06/27	2024/06/26
EMI Tester Receiver	Rohde & Schwarz	ESR7	102719	2023/08/17	2024/08/16
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	150645	2023/04/08	2024/04/07
Low Noise Amplifier	Tonscend	TAP9K3G40	AP23A8060273	2023/04/08	2025/04/07
Low Noise Amplifier	Tonscend	TAP01018050	AP22G806258	2023/04/08	2025/04/07
Band Reject Filter Group	Townshend	JS0806-F	23A806F0652	N/A	N/A
Test Software	Tonscend	TS+	Version: 5.0.0	N/A	N/A

Conducted Emission					
Description	Manufacturer	Model	S.N.	Last Due	Cal Due
EMI Tester Receiver	Rohde & Schwarz	ESR3	103108	2023/07/28	2024/07/27
LISN	Rohde & Schwarz	ENV 216	102836	2023/04/08	2024/04/07
Test software	Rohde & Schwarz	ELEKTRA v4.61	N/A	N/A	N/A

3.2 Measurement Uncertainty

Parameter	U _{lab}
Frequency Error	679.98Hz
Output Power	0.76dB
Conducted Spurious Emissions	2.22dB
Conducted Emissions(150KHz~30MHz)	2.43dB
Radiated Emissions(9kHz~30MHz)	2.40dB
Radiated Emissions(30MHz~1000MHz)	4.66dB
Radiated Emissions(1GHz~18GHHz)	5.42dB
Radiated Emissions(18GHz~40GHHz)	5.46dB

Uncertainty figures are valid to a confidence level of 95%

4 Test Results

4.1 Antenna Requirement

Standard Applicable:	47 CFR Part 15C Section 15.203 /247(b)
<p>15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p> <p>15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.</p>	
<p>The antenna gain and type as provided by the manufacturer are as follows: The antenna Type is PIFA. With maximum gain is -2.8dBi. Antenna Anti-Replacement Construction: An embedded-in antenna design is used.</p>	

4.2 AC Power Line Conducted Emissions

Limits

Frequency range (MHz)	Limit (dB μ V)	
	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.

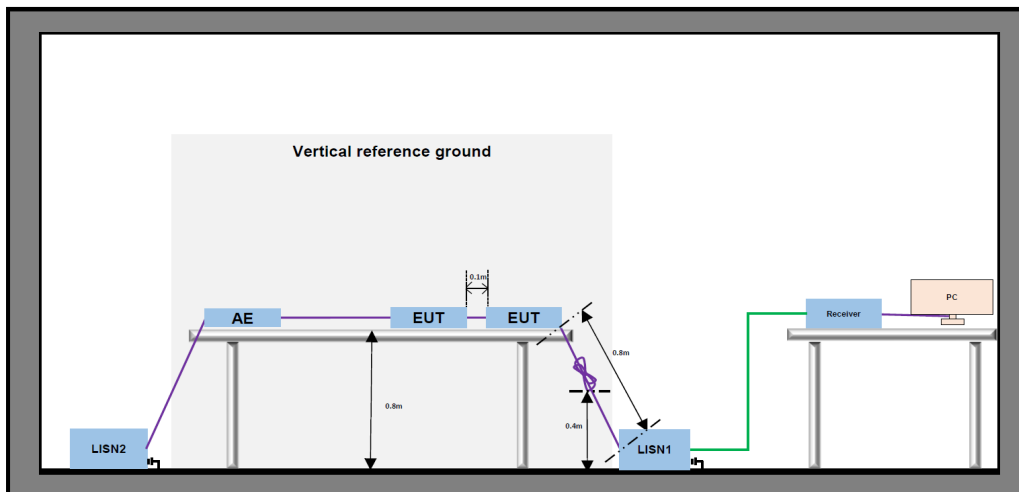
Test Procedure

ANSI C63.10-2013, Section 6.2.

Test Settings

- The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu\text{H} + 5\Omega$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.
- The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- The receiver is set to a resolution bandwidth of 9kHz. Peak detection is used unless otherwise noted as quasi-peak or average.
- AC Power Line Conducted Emissions, the channel with the highest output power was tested.
- Both sides of AC line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Test Setup

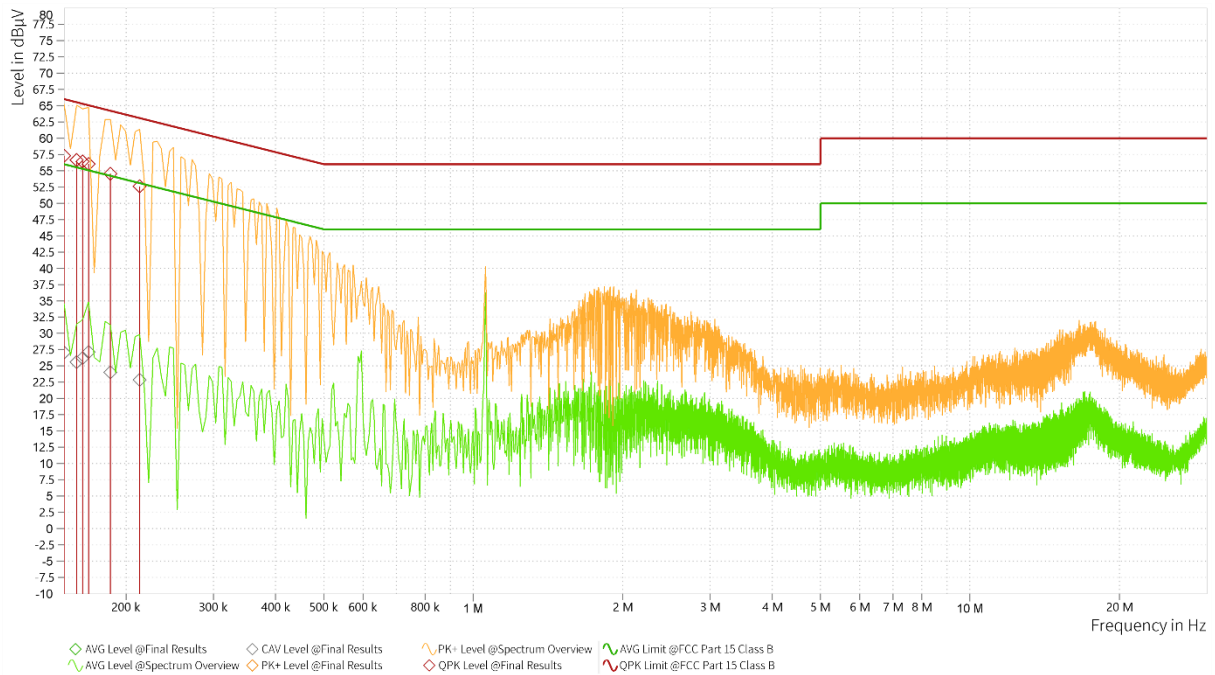


Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result:

Test mode:	Transmitting		
Test Voltage:	AC 120V / 60Hz	Phase:	Line

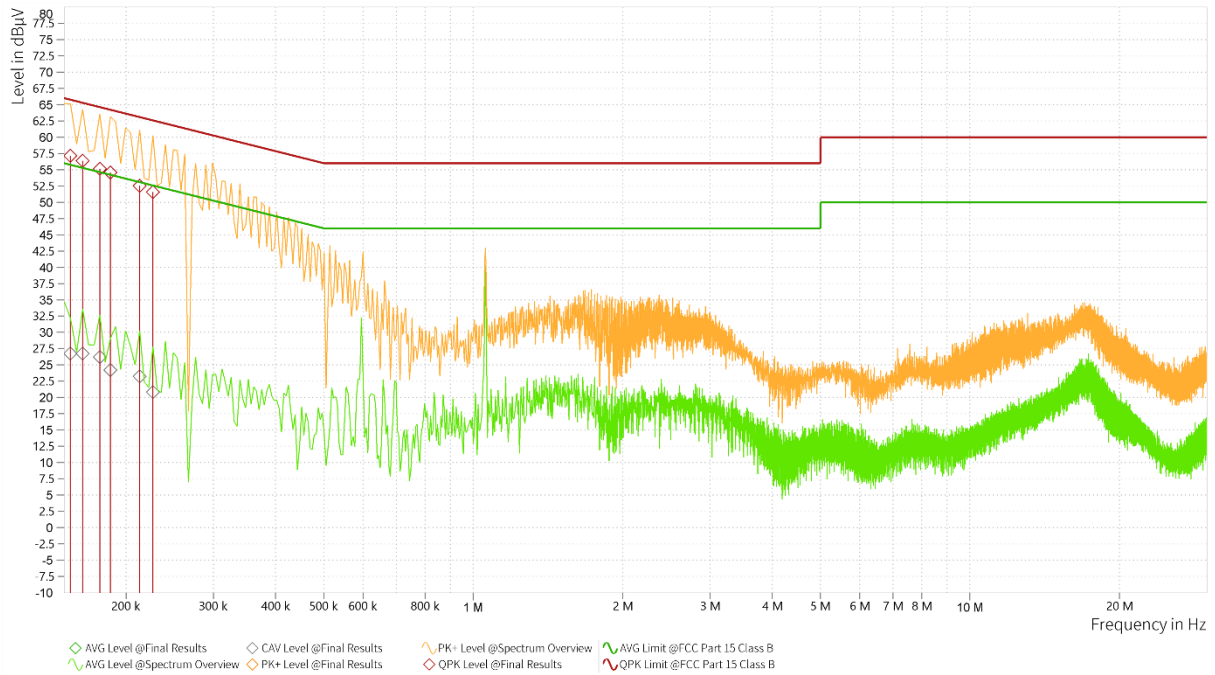


Rg	Frequency [MHz]	CAV Level [dBµV]	CAV: AVG Limit [dBµV]	CAV Margin [dB]	CAV Raw Lvl [dBµV]	QPK Level [dBµV]	QPK Limit [dBµV]	QPK Margin [dB]	QPK Raw Lvl [dBµV]	Correction [dB]	Line	SigPath Att [dB]
1	0.150	27.07	56.00	28.93	16.59	57.32	66.00	8.68	46.83	10.48	L1	0.01
1	0.159	25.59	55.52	29.93	15.11	56.65	65.52	8.86	46.17	10.48	L1	0.01
1	0.164	26.22	55.28	29.06	15.74	56.41	65.28	8.87	45.93	10.48	L1	0.01
1	0.168	27.13	55.06	27.92	16.65	56.03	65.06	9.03	45.54	10.48	L1	0.01
1	0.186	24.00	54.21	30.21	13.51	54.54	64.21	9.68	44.05	10.49	L1	0.01
1	0.213	22.85	53.09	30.24	12.35	52.62	63.09	10.47	42.12	10.49	L1	0.01

Note:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Level = Raw Level[dBµV] + Correction[dB]
3. Margin = Limit[dBµV] - Level[dBµV]

Test mode:	Transmitting		
Test Voltage:	AC 120V / 60Hz	Phase:	Neutral



Rg	Frequency [MHz]	CAV Level [dBµV]	CAV: AVG Limit [dBµV]	CAV Margin [dB]	CAV Raw Lvl [dBµV]	QPK Level [dBµV]	QPK Limit [dBµV]	QPK Margin [dB]	QPK Raw Lvl [dBµV]	Correction [dB]	Line	SigPath Att [dB]
1	0.155	26.73	55.75	29.02	16.31	57.16	65.75	8.60	46.73	10.43	N	0.01
1	0.164	26.73	55.28	28.55	16.31	56.36	65.28	8.93	45.94	10.42	N	0.01
1	0.177	26.22	54.63	28.41	15.80	55.14	64.63	9.48	44.72	10.42	N	0.02
1	0.186	24.21	54.21	30.00	13.80	54.55	64.21	9.66	44.14	10.41	N	0.01
1	0.213	23.26	53.09	29.83	12.86	52.51	63.09	10.58	42.11	10.40	N	0.01
1	0.227	20.82	52.58	31.75	10.42	51.55	62.58	11.03	41.14	10.40	N	0.01

Note:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Level = Raw Level[dBµV] + Correction[dB]
3. Margin = Limit[dBµV] - Level[dBµV]

4.3 Output Power

Limits

If With directional antenna gains less than 6 dBi, the limit is 30dBm.

Test Procedure

ANSI C63.10:2013 Section 11.9.1.3(PKPM1) or 11.9.2.3.2(AVGPM-G)

Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously.
2. The power output was measured on the EUT antenna port using RF Cable with attenuator connected to a power meter via wideband power sensor. Peak output power was read directly from power meter.
3. Measure and record the results in the test report.

Test Setup

Refer to section 2.8.1- Setup 1 for details.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix**.

4.4 Occupied Bandwidth

Limits

DTSBW: The minimum 6 dB bandwidth shall be at least 500 kHz.

99%BW: None, for reporting purposes only.

Test Procedure

ANSI C63.10:2013 Section 11.8.2 and 6.9.3

Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously.
2. The transmitter output is connected to a spectrum analyzer:
3. RBW = 100kHz(DTS)
4. RBW = 1% - 5%(99%BW)
5. VBW = 3 times the RBW
6. Sweep = Auto
7. Detector = Peak
8. Trace = Max hold
9. The trace was allowed to stabilize
10. Measure and record the results in the test report.

Test Notes

DTS: The signal analyzers' automatic bandwidth measurement capability of the spectrum analyzer was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to X= 6. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.

Test Setup

Refer to section 2.8.1- Setup 2 for details.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix**.

4.5 Power Spectral Density

Limits

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.

Test Procedure

ANSI C63.10:2013 Section 11.10.2(PKPSD)

Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously
2. The transmitter output is connected to a spectrum analyzer
3. $3\text{kHz} \leq \text{RBW} \leq 100\text{ kHz}$
(If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.)
4. $\text{VBW} \geq 3$ times RBW
5. Span = 1.5 times the DTS bandwidth
6. Sweep = Auto
7. Detector = Peak
8. Trace = Max hold
9. The trace was allowed to stabilize
10. Measure and record the results in the test report.

Test Setup

Refer to section 2.8.1- Setup 2 for details.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix**.

4.6 Band Edge for Conducted Emissions

Limits

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 15.247(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Test Procedure

ANSI C63.10:2013 Section 11.11.3

Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously
2. The transmitter output is connected to a spectrum analyzer
3. RBW = 100kHz
4. VBW = 300kHz
5. Point $\geq 2 \times \text{span/RBW}$
6. Sweep = Auto
7. Detector = Peak
8. Trace = Max hold
9. The trace was allowed to stabilize
10. Measure and record the results in the test report

Test Setup

Refer to section 2.8.1- Setup 2 for details.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix**.

4.7 Spurious RF Conducted Emissions

Limits

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 15.247(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Test Procedure

ANSI C63.10:2013 Section 11.11.3

Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously.
2. Activate frequency hopping function if necessary.
3. The transmitter output is connected to a spectrum analyzer
4. The spectrum from 30MHz - 26.5GHz
5. RBW = 100kHz
6. VBW = 300kHz
7. Sweep = Auto
8. Detector = Peak
9. Trace = Max hold
10. The trace was allowed to stabilize
11. Measure and record the results in the test report

Test Setup

Refer to section 2.8.1- Setup 2 for details.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix**.

4.8 Radiated Spurious Emissions and Band Edge

Limits

Spurious emissions are permitted in an of the frequency bands:

MHz	MHz	MHz	MHz	GHz	GHz
0.090 - 0.110	12.29 - 12.293	149.9 - 150.05	1660 - 1710	4.5 - 5.15	14.47 - 14.5
0.495 - 0.505	12.51975 - 12.52025	156.52475 - 156.52525	1718.8 - 1722.2	5.35 - 5.46	15.35 - 16.2
2.1735 - 2.1905	12.5767 - 12.57725	156.7 - 156.9	2200 - 2300	7.25 - 7.75	17.7 - 21.4
4.125 - 128	13.36 - 13.41	162.0125 - 167.17	2310 - 2390	8.025 - 8.5	22.01 - 23.12
4.17725 - 4.17775	16.42 - 16.423	167.72 - 173.2	2483.5 - 2500	9.0 - 9.2	23.6 - 24.0
4.20725 - 4.20775	16.69475 - 16.69525	240 - 285	2655 - 2900	9.3 - 9.5	31.2 - 31.8
6.215 - 6.218	1680425 - 1680475	322 - 335.4	3260 - 3267	10.6 - 12.7	36.43 - 36.5
6.26775 - 6.26825	25.5 - 25.67	399.9 - 410	3332 - 3339	13.25 - 13.4	
6.31175 - 6.31225	37.5 - 38.25	608 - 614	3345.8 - 3358		
8.291 - 8.294	73 - 74.6	960 - 1240	3600 - 4400		
8.362 - 8.366	74.8 - 75.2	1300 - 1427			
8.37625 - 8.38675	108 - 121.94	1435 - 1626.5			
8.41425 - 8.41475	123 - 138	1645.5 - 1646.5			

Radiated disturbance of an intentional radiator:

Frequency	Field strength ($\mu\text{V}/\text{m}$)	Limit (dB $\mu\text{V}/\text{m}$)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	74.0	Peak	3
		54.0	Average	

Test Procedure

ANSI C63.10:2013 Section 6.4 & 6.5 & 6.6

Test Settings

- For radiated emissions measurements performed at frequencies less than or equal to 1GHz, the EUT shall be placed on a RF-transparent table or support at a nominal height of 80cm above the reference ground plane.
- For radiated emissions measurements performed at frequencies above 1GHz, the EUT shall be placed on a RF-transparent table or support at a nominal height of 80cm above the ground plane.
- Radiated measurements shall be made with the measurement antenna positioned in both horizontal and vertical polarization. The measurement antenna shall be varied from 1m to 4m in height above the reference ground in a search for the relative positioning that produces the maximum radiated signal level (i.e, field strength or received power), when orienting the measurement antenna in vertical polarization, the minimum height of the lowest element of the antenna shall clear the site reference ground plane by at least 25cm.
- For each suspected emission, the EUT was ranged its worst case and then tune the antenna tower(from 1~4m) and turntable(from 0~360°) find the maximum reading. Pre-amplifier and a high pass filter are used for the test in order get better signal level comply with the guidelines.
- Set to the maximum power setting and enable the EUT transmit continuously.
- The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
- spectrum analyzer setting:
Measurements Below 1000MHz: RBW = 120 kHz; VBW \geq 300 kHz; Detector = Peak

Measurements Above 1000MHz: RBW = 1 MHz; VBW \geq 3 MHz; Detector = Peak

Average Measurements Above 1000MHz:

RBW = 1 MHz, VBW \geq 1/T, with peak detector for average measurements.

8. The field strength is calculated by adding the Antenna Factor, Cable Factor. The basic equation with a sample calculation is as follows:

Level = Reading(dB μ V) + AF(dB/m) + Factor(dB):

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin = Limit(dB μ V/m) – Level(dB μ V/m)

9. Repeat above procedures until all frequencies measured was complete.
10. Measure and record the results in the test report.

Test Notes

1. Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. the disturbance between 9KHz to 30MHz and 18GHz was very low. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be recorded, so only the harmonics had been displayed.
2. If the peak measurement value does not exceed the average limit, it is determined that further investigation is not necessary.

Test Setup

Refer to section 2.8.2 for details.

Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

Test Result

The detailed test data see: **Appendix**.

5 Test Setup Photos

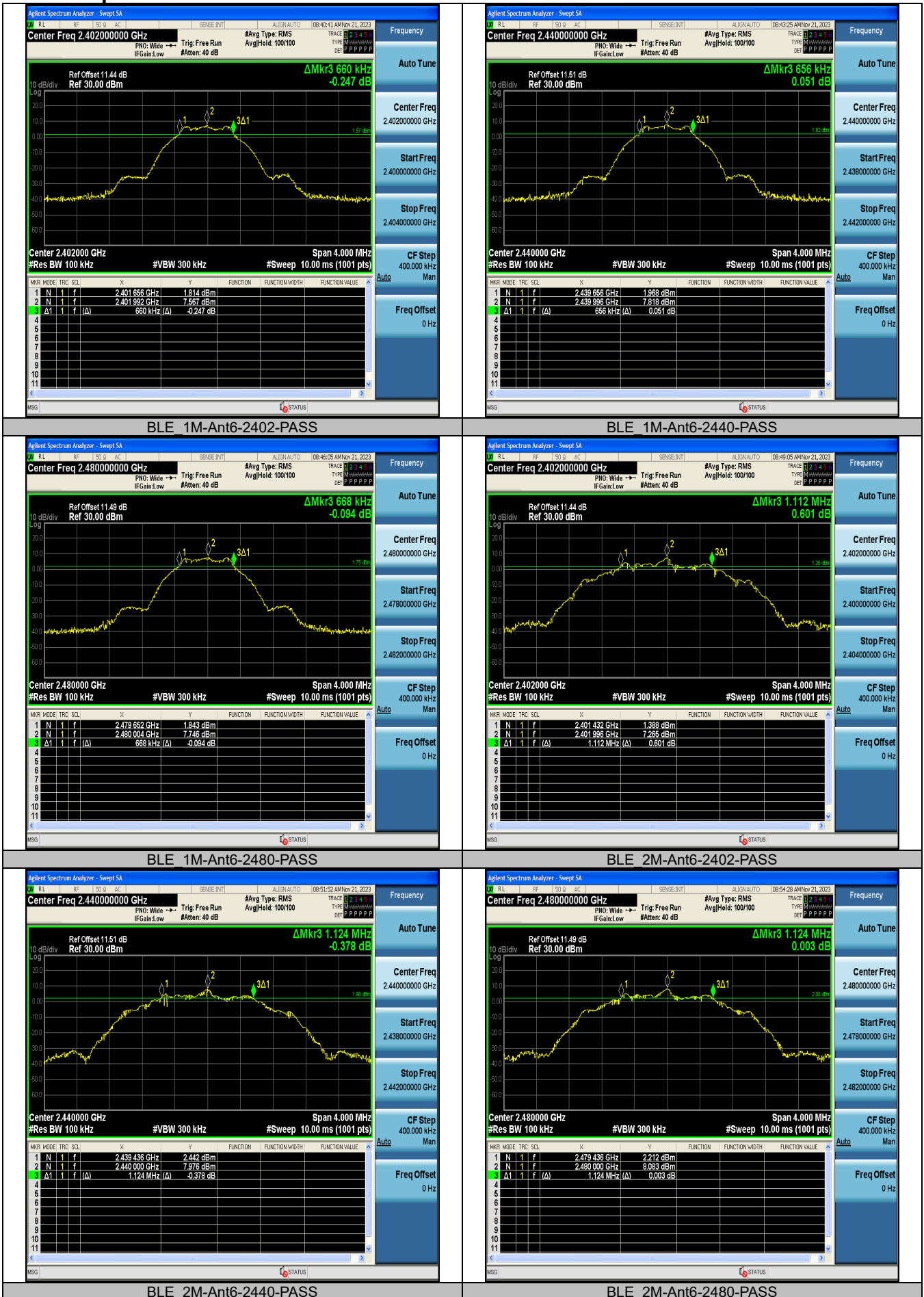
The detailed test data see: **Test Setup Photos**

Appendix

DTS Bandwidth Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE 1M	Ant6	2402	0.660	2401.656	2402.316	0.5	PASS
BLE 1M	Ant6	2440	0.656	2439.656	2440.312	0.5	PASS
BLE 1M	Ant6	2480	0.668	2479.652	2480.320	0.5	PASS
BLE 2M	Ant6	2402	1.112	2401.432	2402.544	0.5	PASS
BLE 2M	Ant6	2440	1.124	2439.436	2440.560	0.5	PASS
BLE 2M	Ant6	2480	1.124	2479.436	2480.560	0.5	PASS

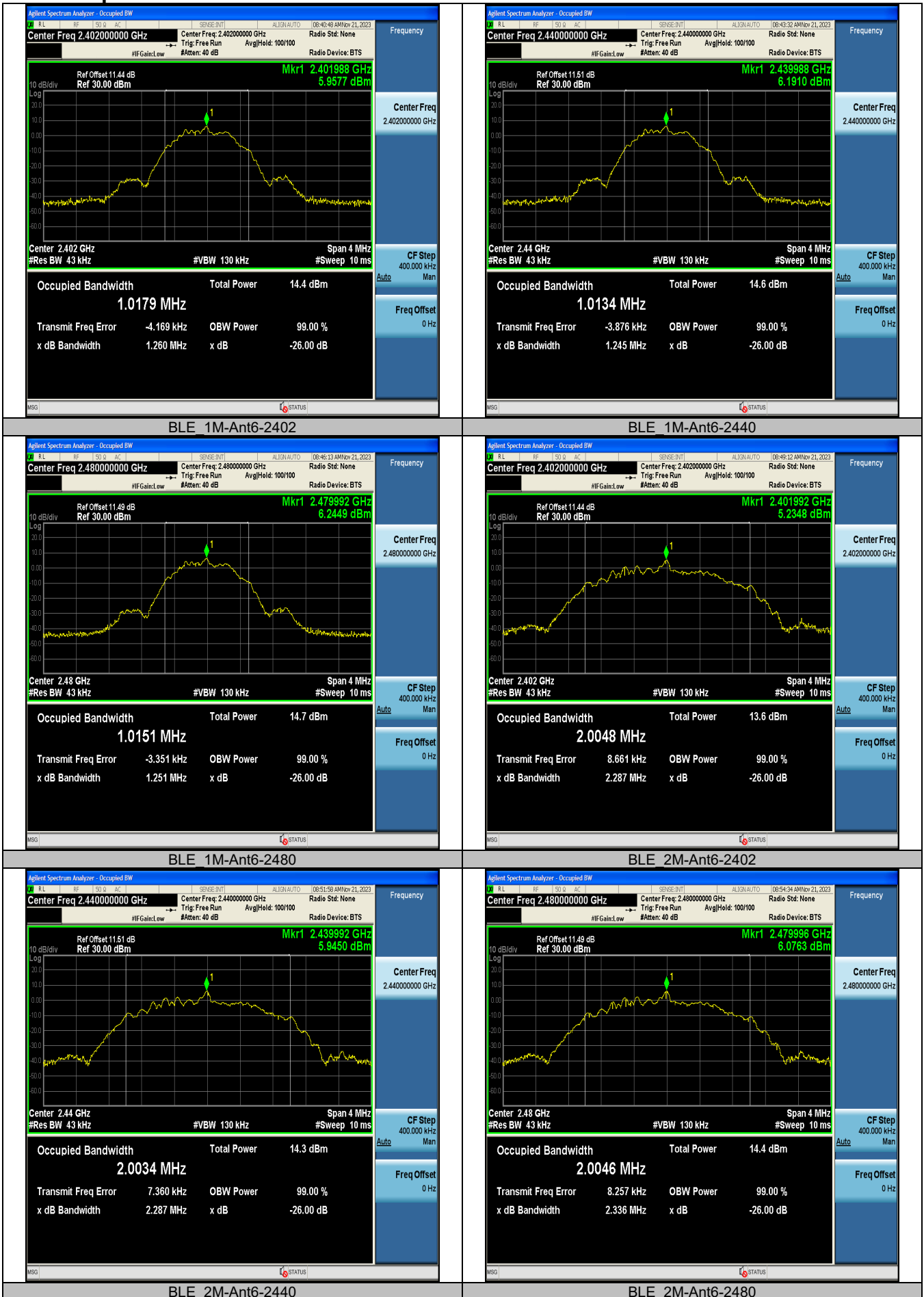
Test Graphs



Occupied Channel Bandwidth Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant6	2402	1.0179	2401.4869	2402.5048	---	---
BLE_1M	Ant6	2440	1.0134	2439.4894	2440.5028	---	---
BLE_1M	Ant6	2480	1.0151	2479.4891	2480.5042	---	---
BLE_2M	Ant6	2402	2.0048	2401.0063	2403.0111	---	---
BLE_2M	Ant6	2440	2.0034	2439.0057	2441.0091	---	---
BLE_2M	Ant6	2480	2.0046	2479.0060	2481.0106	---	---

Test Graphs



Maximum conducted output power
FCC ID: PY7-64228M (Lead Model)

Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant6	2402	8.58	≤30	PASS
BLE_1M	Ant6	2440	9.01	≤30	PASS
BLE_1M	Ant6	2480	9.17	≤30	PASS
BLE_2M	Ant6	2402	8.86	≤30	PASS
BLE_2M	Ant6	2440	8.96	≤30	PASS
BLE_2M	Ant6	2480	9.40	≤30	PASS

Test Result Average

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant6	2402	8.05	≤30	PASS
BLE_1M	Ant6	2440	8.40	≤30	PASS
BLE_1M	Ant6	2480	8.78	≤30	PASS
BLE_2M	Ant6	2402	7.99	≤30	PASS
BLE_2M	Ant6	2440	8.30	≤30	PASS
BLE_2M	Ant6	2480	8.72	≤30	PASS

FCC ID: PY7-25130W (This Model)

Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant6	2480	9.56	≤30	PASS
BLE_2M	Ant6	2480	9.78	≤30	PASS

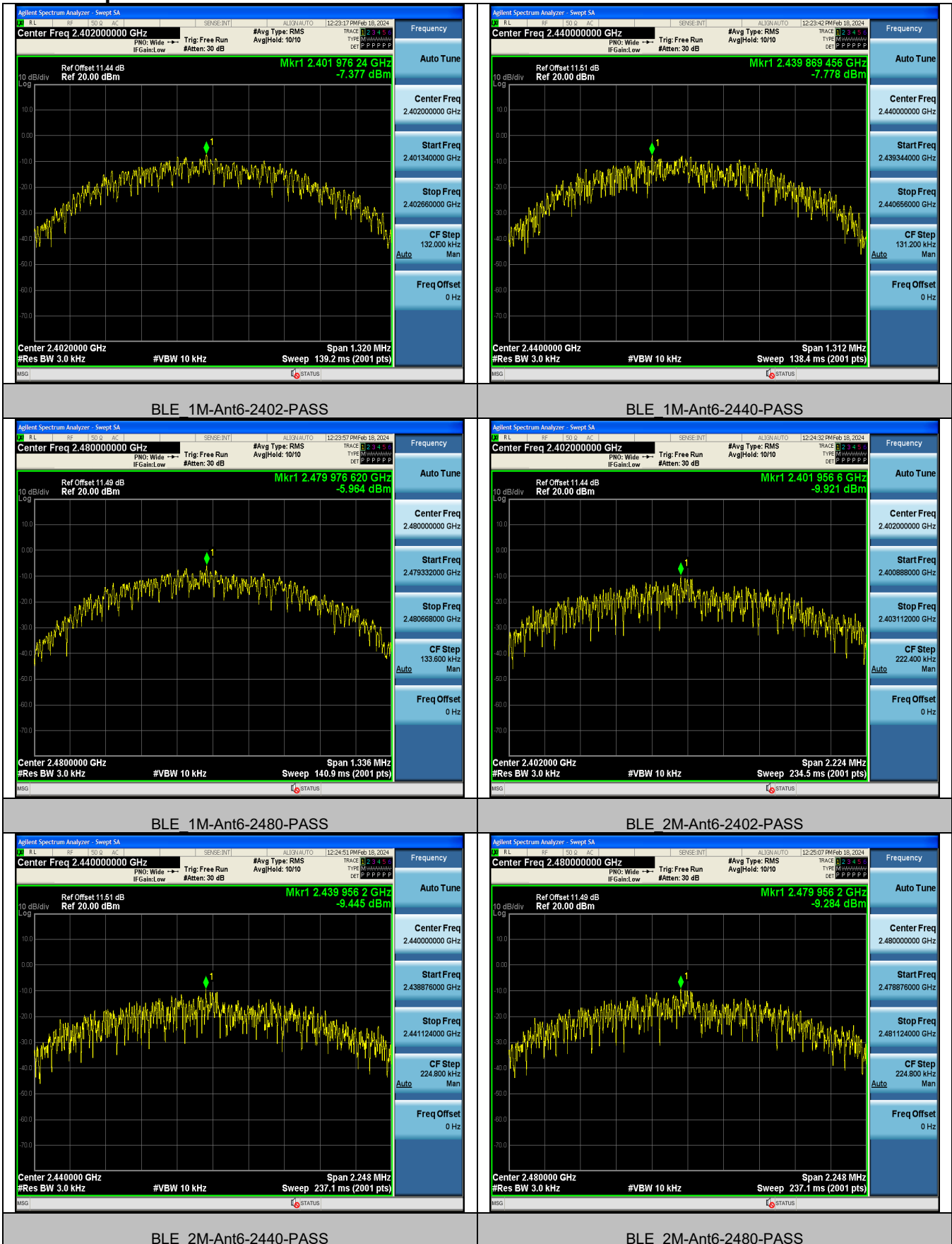
Test Result Average

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant6	2480	9.18	≤30	PASS
BLE_2M	Ant6	2480	9.12	≤30	PASS

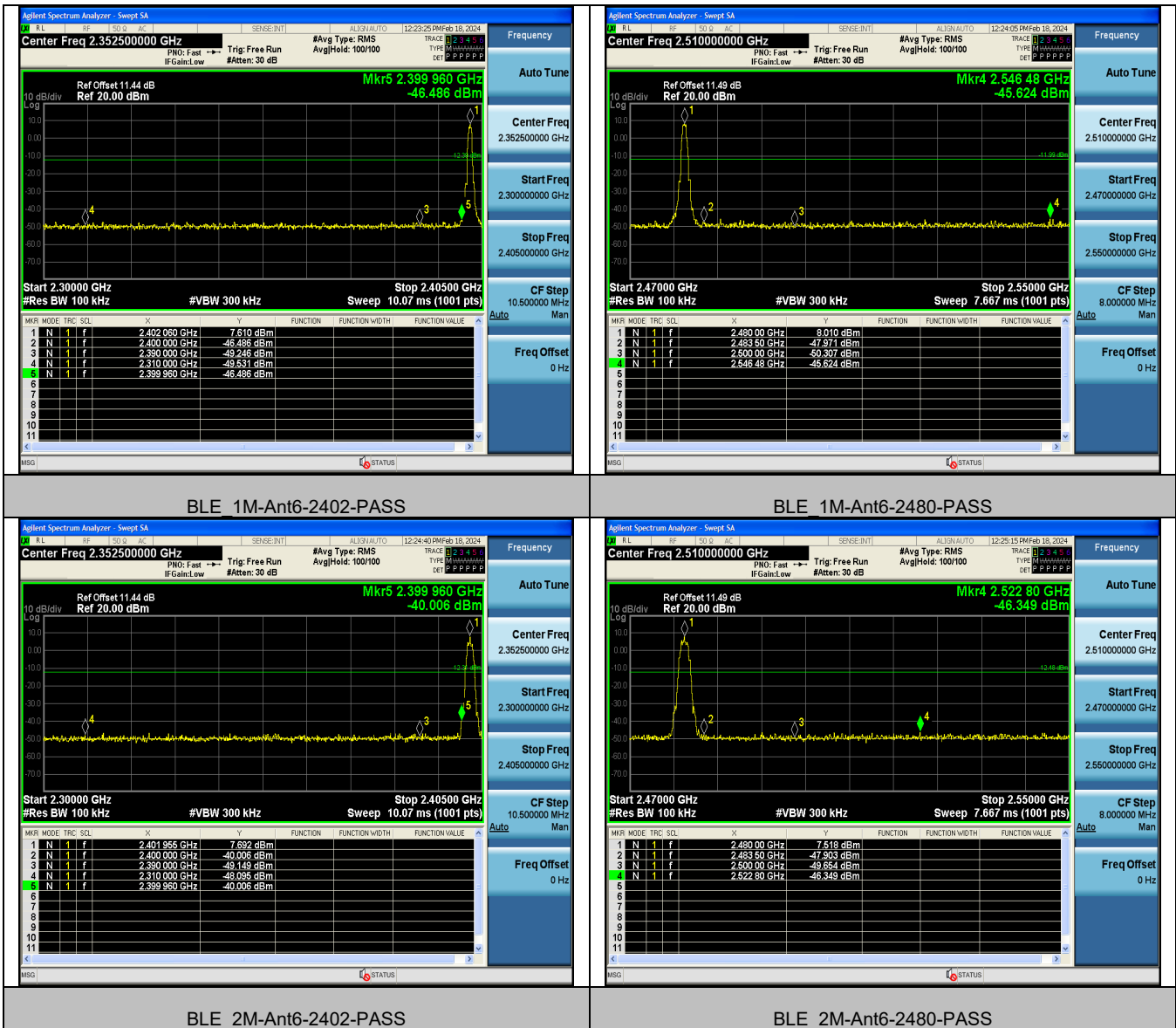
**Maximum power spectral density
Test Result**

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant6	2402	-7.38	≤8.00	PASS
BLE_1M	Ant6	2440	-7.78	≤8.00	PASS
BLE_1M	Ant6	2480	-5.96	≤8.00	PASS
BLE_2M	Ant6	2402	-9.92	≤8.00	PASS
BLE_2M	Ant6	2440	-9.45	≤8.00	PASS
BLE_2M	Ant6	2480	-9.28	≤8.00	PASS

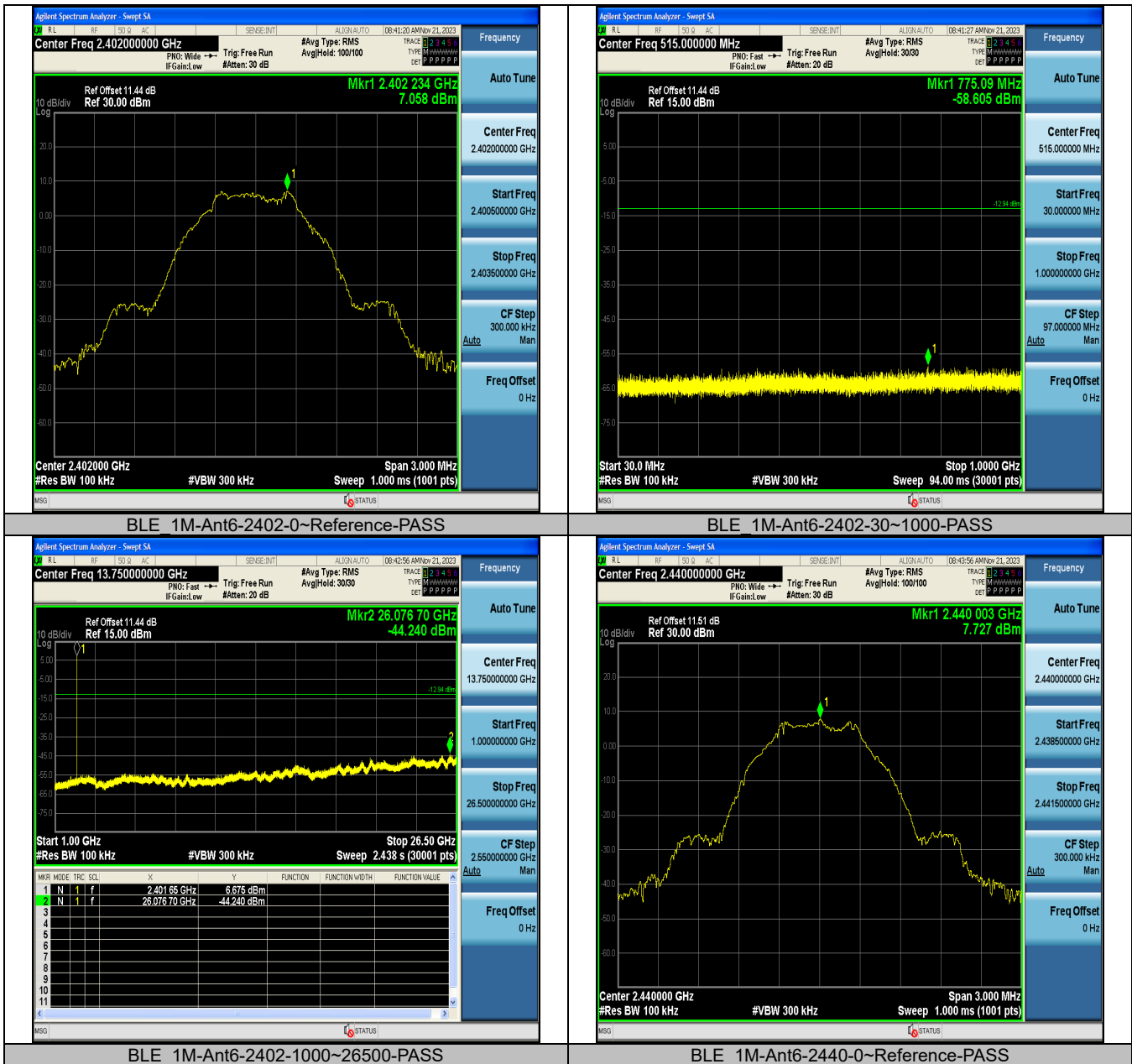
Test Graphs

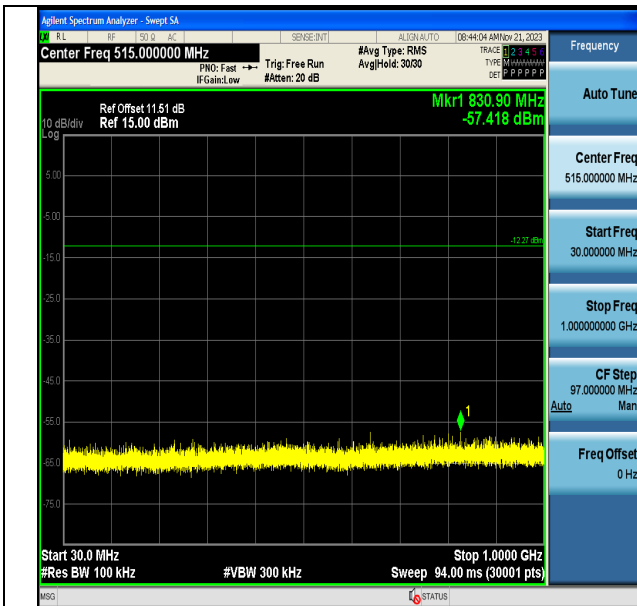


Band edge measurements Test Graphs

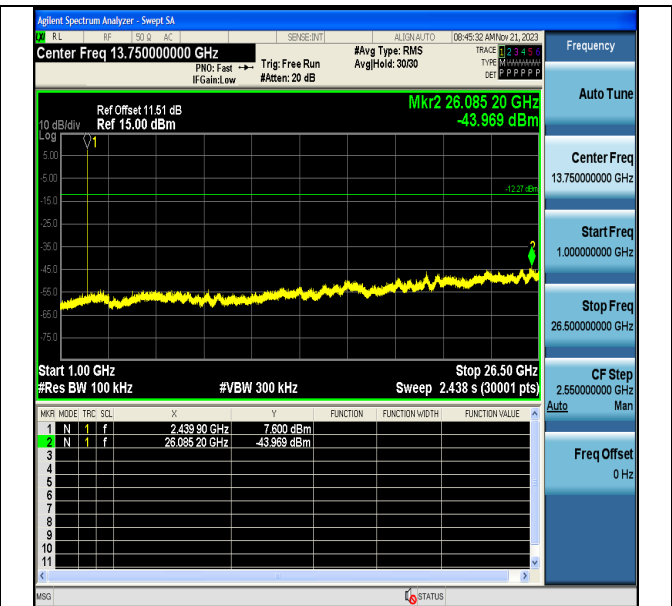


Conducted Spurious Emission Test Graphs





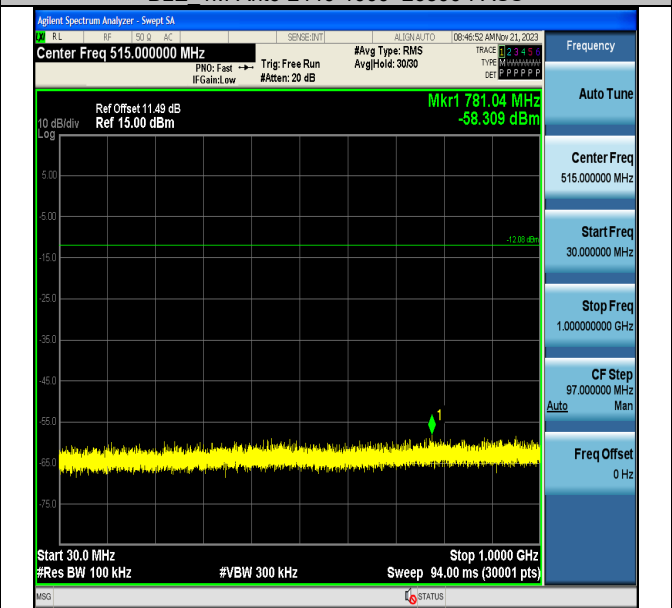
BLE 1M-Ant6-2440-30~1000-PASS



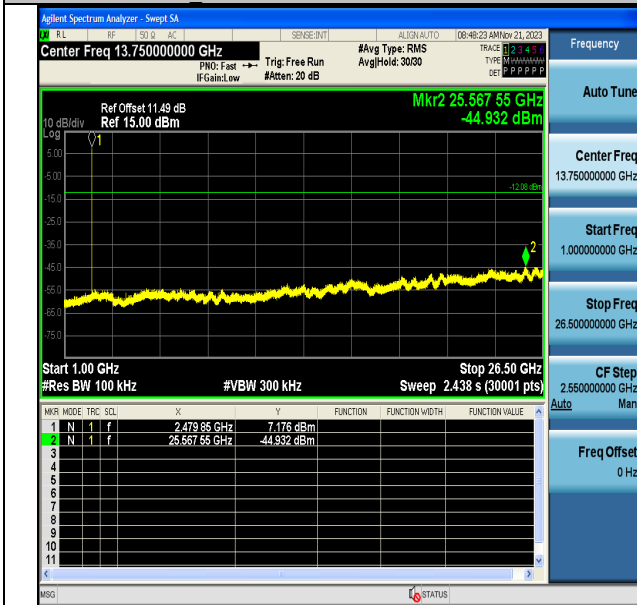
BLE 1M-Ant6-2440-1000~26500-PASS



BLE 1M-Ant6-2480-0~Reference-PASS



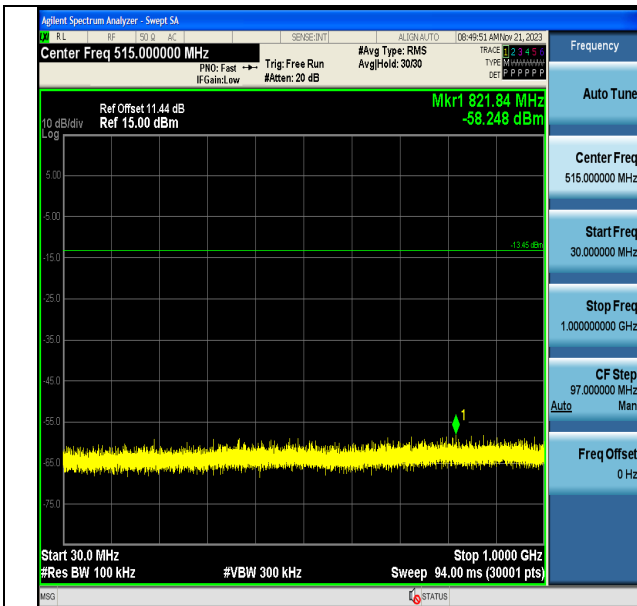
BLE 1M-Ant6-2480-30~1000-PASS



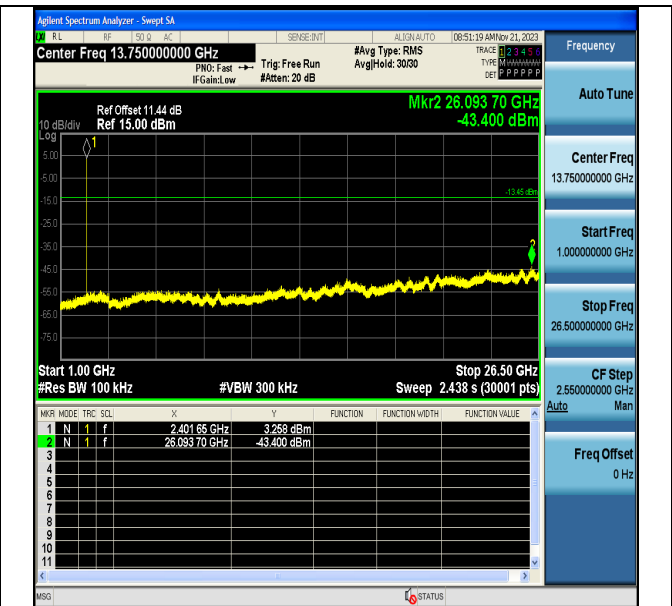
BLE 1M-Ant6-2480-1000~26500-PASS



BLE 2M-Ant6-2402-0~Reference-PASS



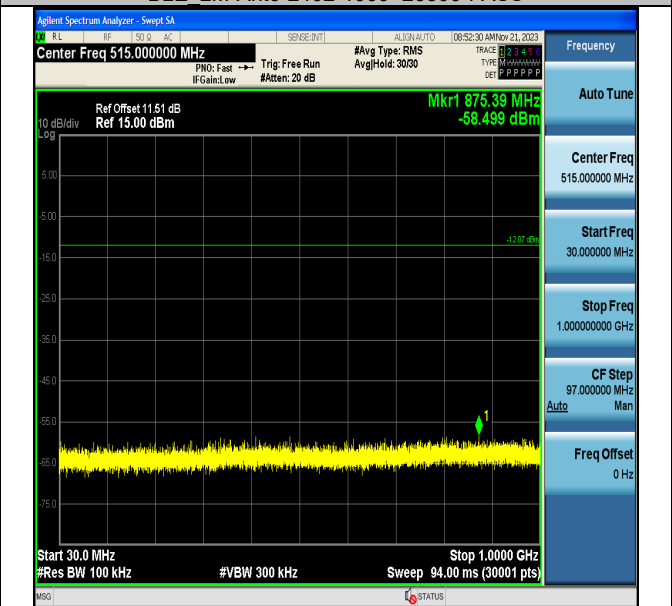
BLE 2M-Ant6-2402-30~1000-PASS



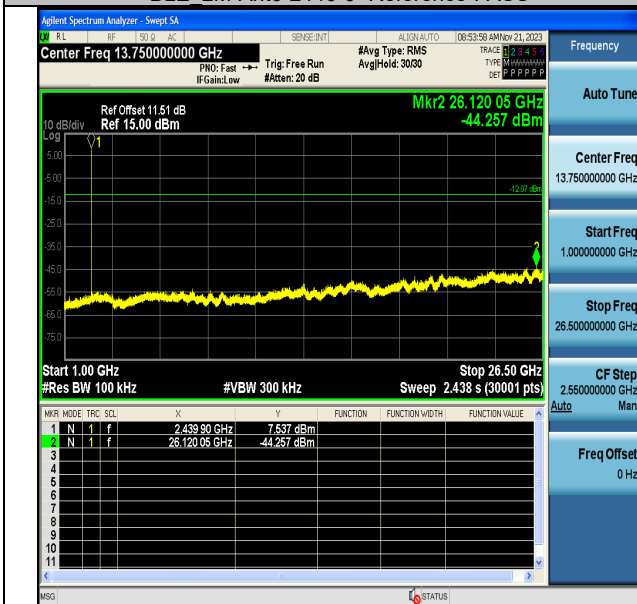
BLE 2M-Ant6-2402-1000~26500-PASS



BLE 2M-Ant6-2440-0~Reference-PASS



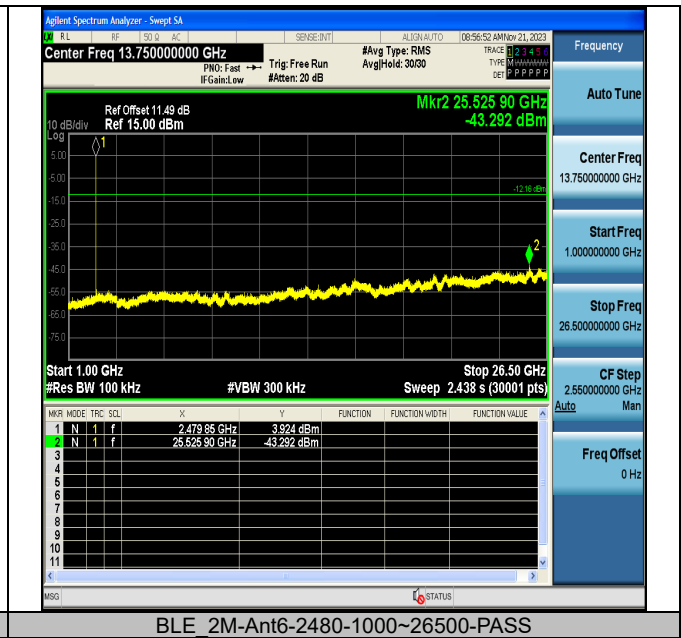
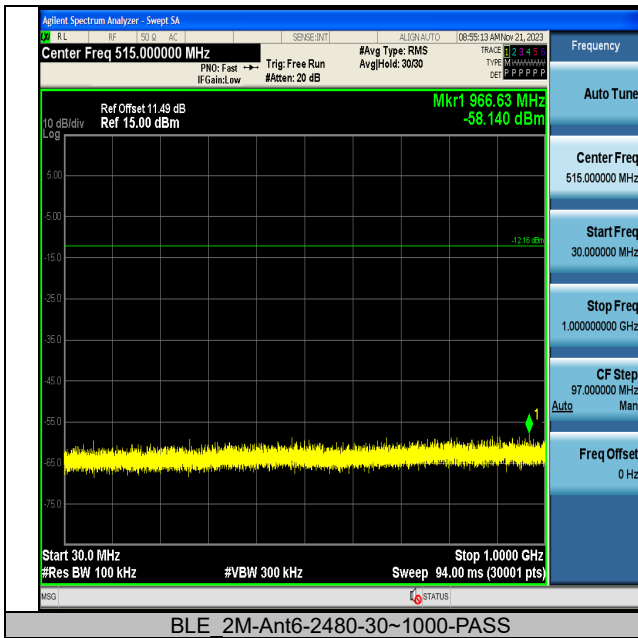
BLE 2M-Ant6-2440-30~1000-PASS



BLE 2M-Ant6-2440-1000~26500-PASS



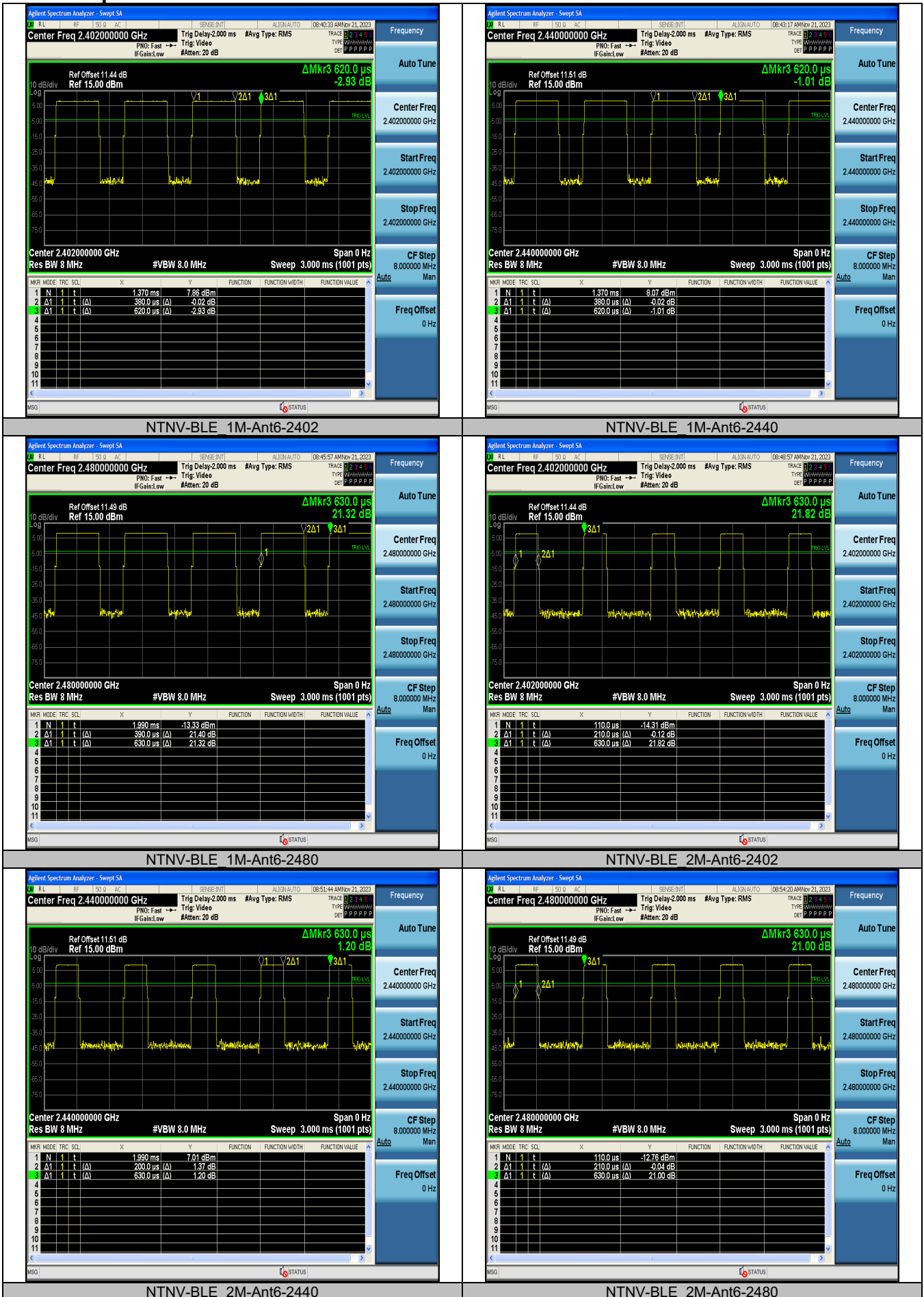
BLE 2M-Ant6-2480-0~Reference-PASS



**Duty Cycle
Test Result**

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE 1M	Ant6	2402	0.38	0.62	61.29	2.13
BLE 1M	Ant6	2440	0.38	0.62	61.29	2.13
BLE 1M	Ant6	2480	0.39	0.63	61.90	2.08
BLE 2M	Ant6	2402	0.21	0.63	33.33	4.77
BLE 2M	Ant6	2440	0.20	0.63	31.75	4.98
BLE 2M	Ant6	2480	0.21	0.63	33.33	4.77

Test Graphs



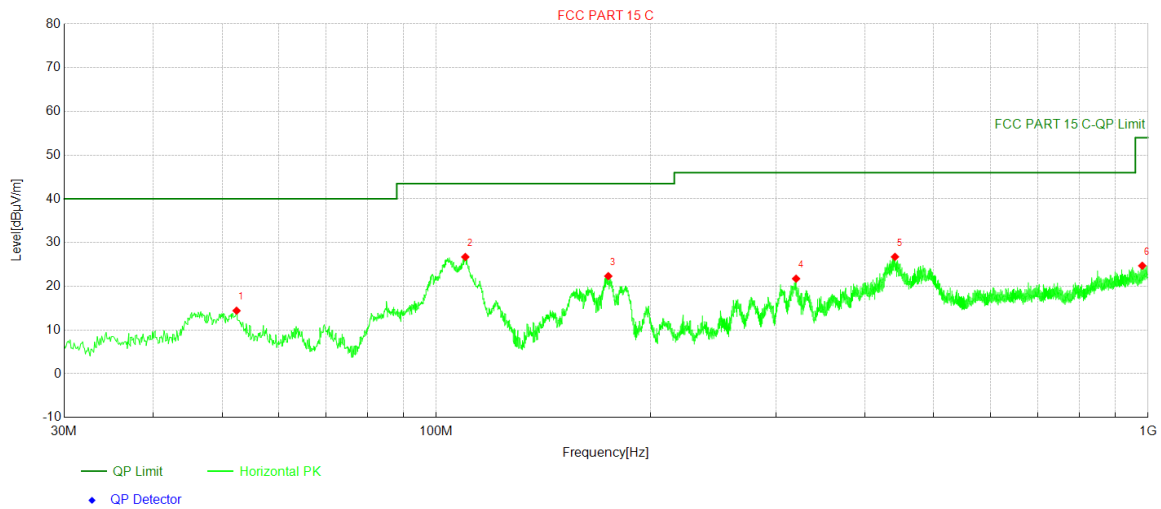
Radiated Spurious Emissions Test Result

FCC ID: PY7-64228M (Lead Model)

Below 1GHz

Project Information			
Mode:	BLE	Voltage:	120V 60HZ
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

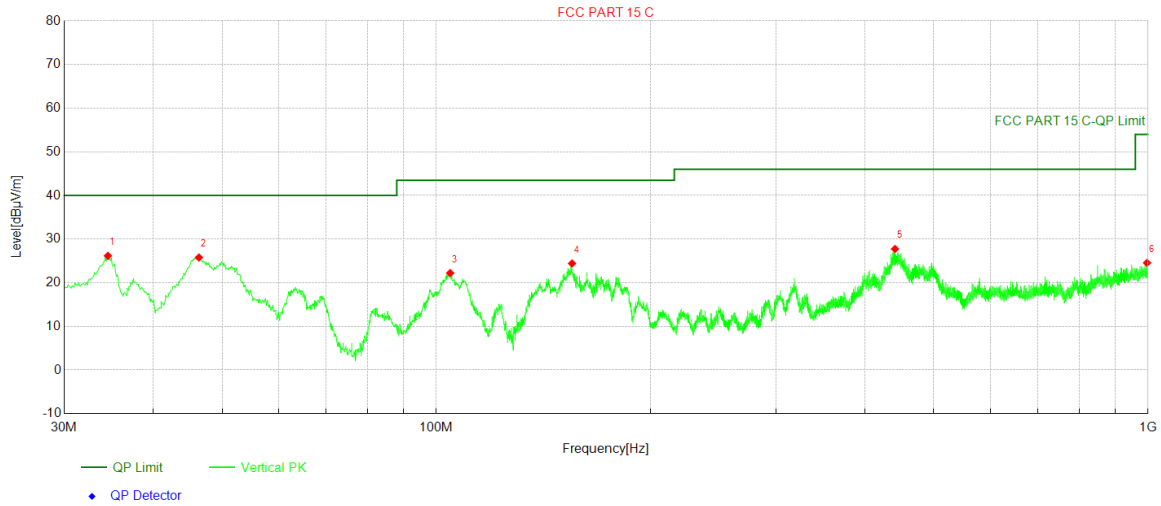
Test Graph



NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Trace	Polarity	Verdict
1	52.407	42.50	-28.07	14.43	40.00	25.57	118	276	PK	Horizonta	PASS
2	109.831	54.85	-28.13	26.72	43.50	16.78	243	292	PK	Horizonta	PASS
3	174.433	52.90	-30.57	22.33	43.50	21.17	186	124	PK	Horizonta	PASS
4	320.224	45.91	-24.16	21.75	46.00	24.25	114	247	PK	Horizonta	PASS
5	440.989	41.47	-14.73	26.74	46.00	19.26	172	56	PK	Horizonta	PASS
6	981.473	37.29	-12.58	24.71	54.00	29.29	287	247	PK	Horizonta	PASS

Project Information			
Mode:	BLE	Voltage:	120V 60HZ
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

Test Graph

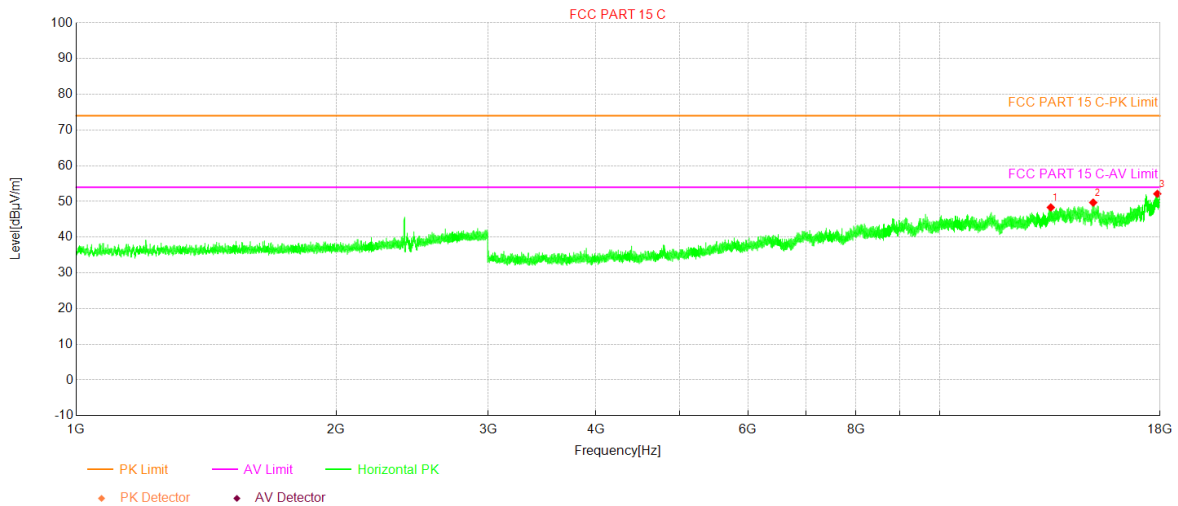


NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Trace	Polarity	Verdict
1	34.559	57.05	-30.87	26.18	40.00	13.82	140	266	PK	Vertical	PASS
2	46.393	54.97	-29.17	25.80	40.00	14.20	284	94	PK	Vertical	PASS
3	104.593	51.69	-29.46	22.23	43.50	21.27	113	21	PK	Vertical	PASS
4	155.13	56.08	-31.65	24.43	43.50	19.07	155	290	PK	Vertical	PASS
5	440.989	42.52	-14.77	27.75	46.00	18.25	205	90	PK	Vertical	PASS
6	996.702	36.61	-12.04	24.57	54.00	29.43	247	286	PK	Vertical	PASS

Above 1GHz

Project Information			
Mode:	BLE	Band:	/
Bandwidth	1MHz	Channel	Low
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

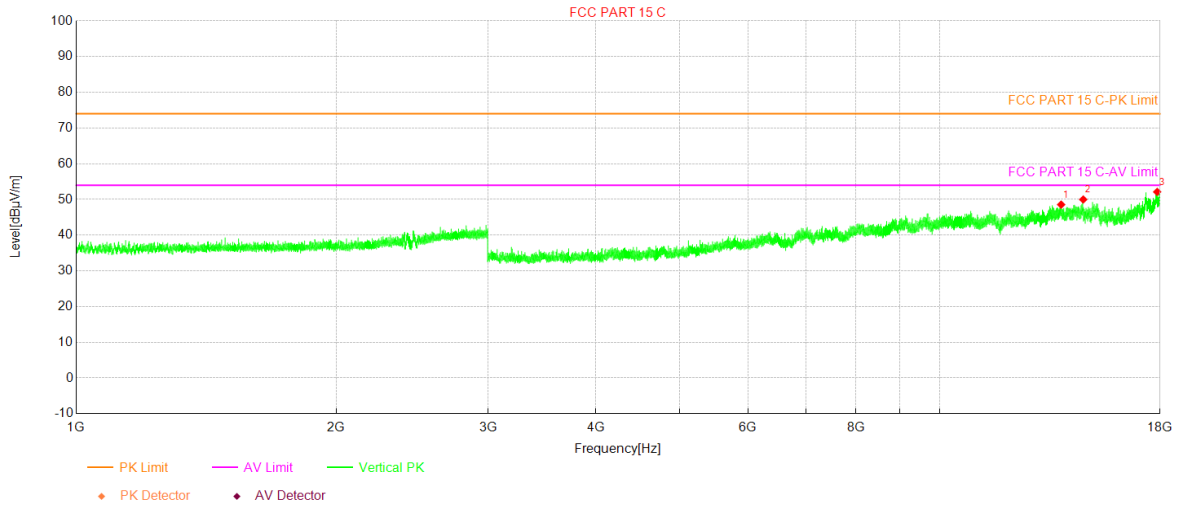
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13452	41.41	6.92	48.33	74.00	25.67	164	185	Horizontal
2	15063	40.76	8.93	49.69	74.00	24.31	219	309	Horizontal
3	17870.5	38.96	13.18	52.14	74.00	21.86	141	353	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	1MHz	Channel	Low
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

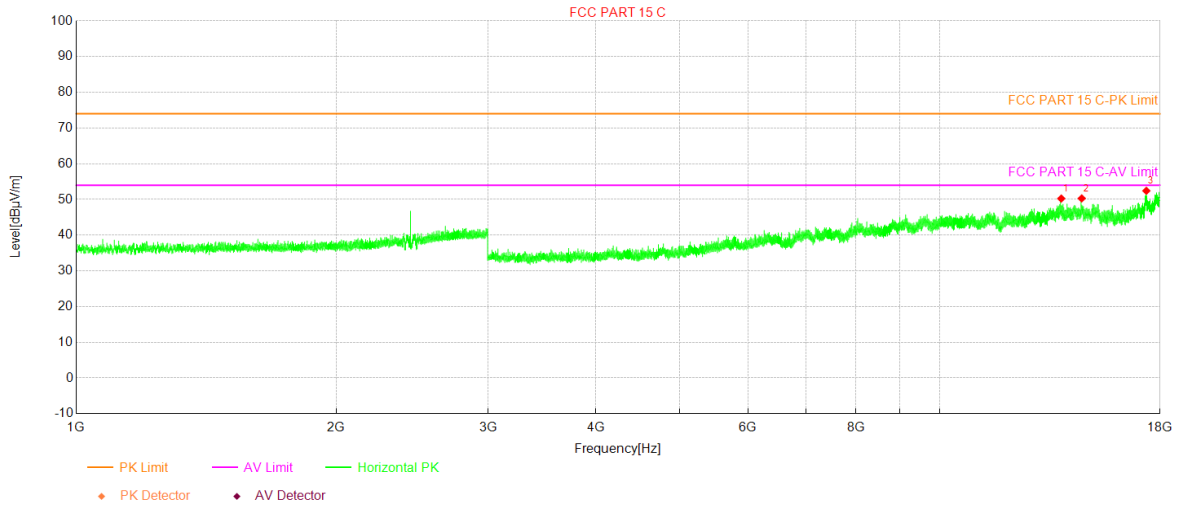
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13827	40.20	8.36	48.56	74.00	25.44	116	352	Vertical
2	14666.5	40.53	9.46	49.99	74.00	24.01	142	157	Vertical
3	17864	38.87	13.26	52.13	74.00	21.87	224	105	Vertical

Project Information			
Mode:	BLE	Band:	/
Bandwidth	1MHz	Channel	Mid
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

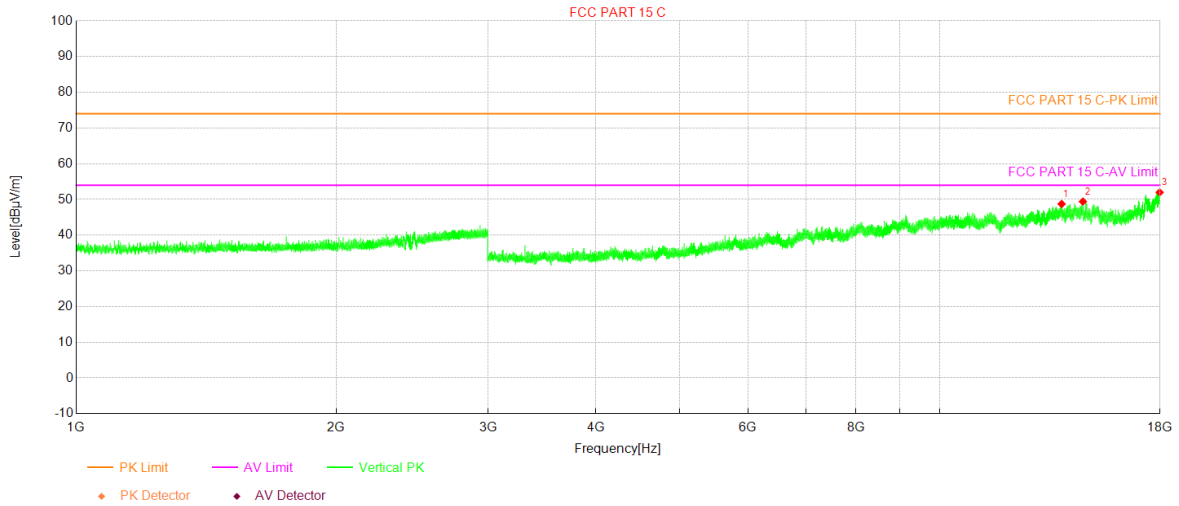
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13832	41.82	8.44	50.26	74.00	23.74	182	54	Horizontal
2	14607	41.39	8.91	50.30	74.00	23.70	140	39	Horizontal
3	17355	39.76	12.67	52.43	74.00	21.57	294	120	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	1MHz	Channel	Mid
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

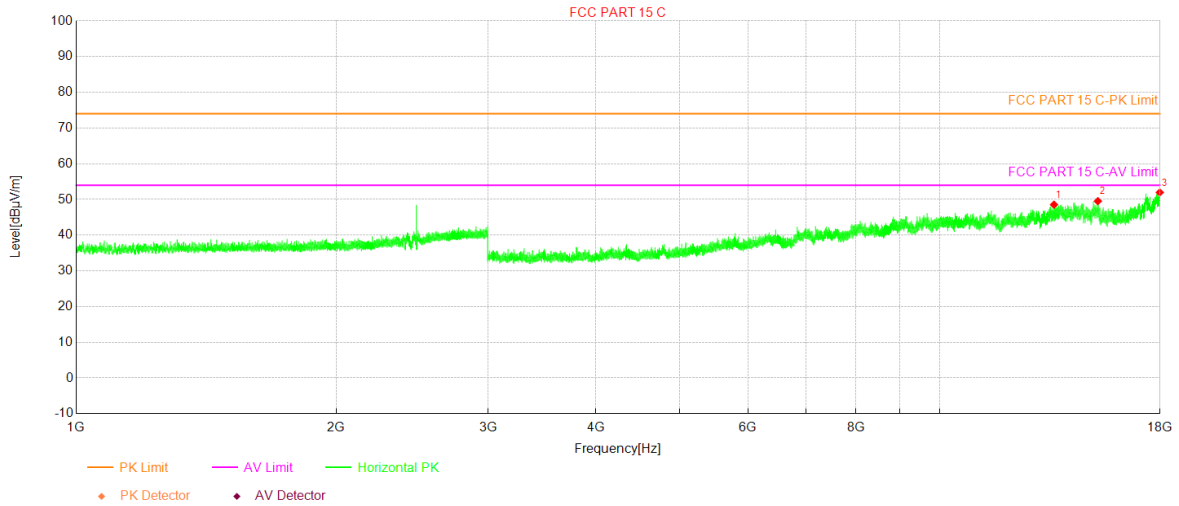
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13844.5	40.10	8.64	48.74	74.00	25.26	250	250	Vertical
2	14652	39.56	9.86	49.42	74.00	24.58	166	10	Vertical
3	17980.5	38.79	13.19	51.98	74.00	22.02	170	90	Vertical

Project Information			
Mode:	BLE	Band:	/
Bandwidth	1MHz	Channel	High
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

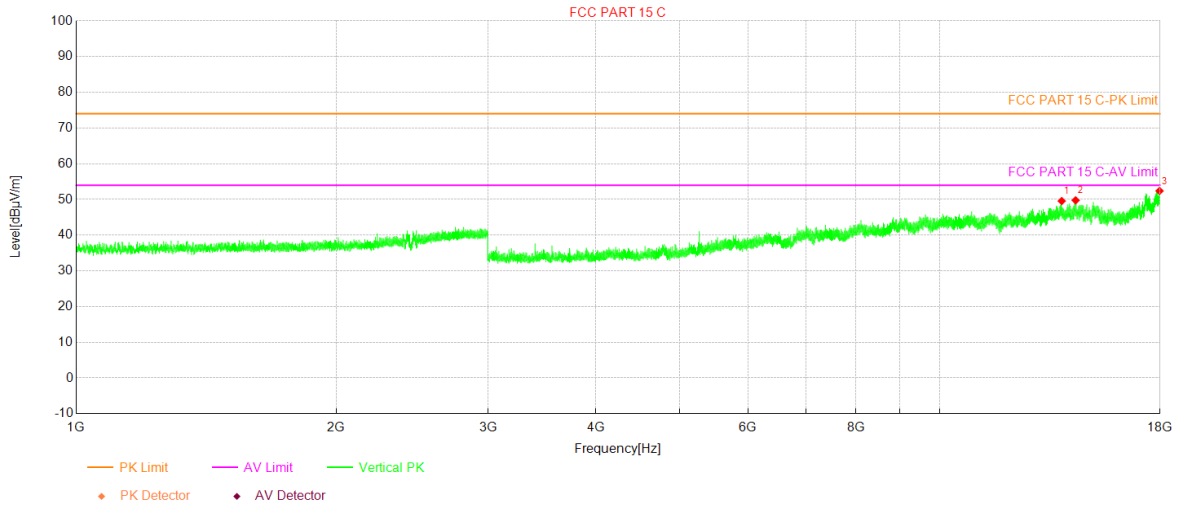
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13566	41.75	6.79	48.54	74.00	25.46	123	126	Horizontal
2	15249.5	40.19	9.34	49.53	74.00	24.47	199	172	Horizontal
3	17988	38.67	13.29	51.96	74.00	22.04	152	292	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	1MHz	Channel	High
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

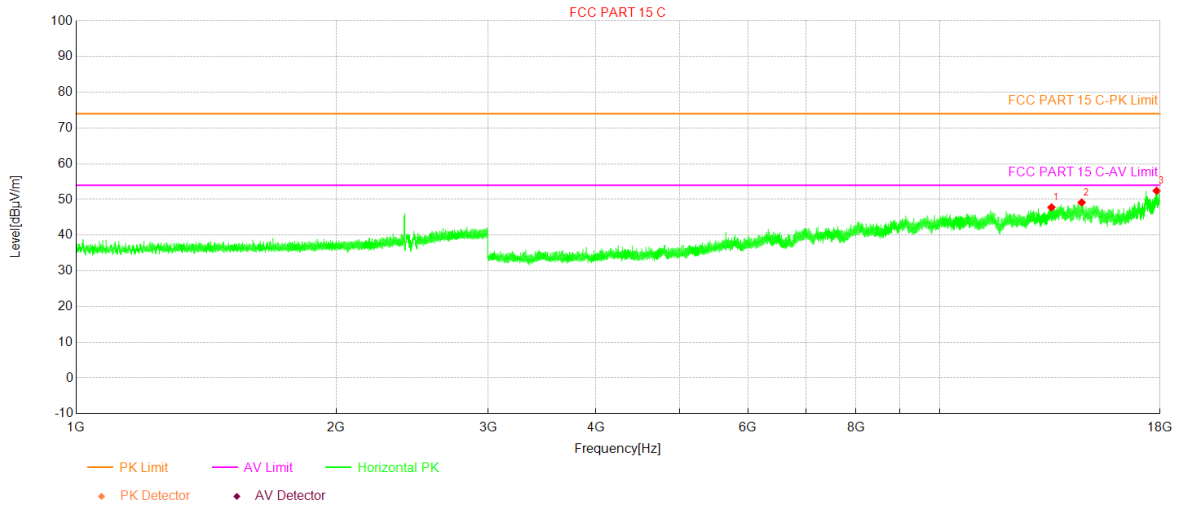
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13848	40.87	8.70	49.57	74.00	24.43	204	357	Vertical
2	14372	40.88	8.89	49.77	74.00	24.23	181	330	Vertical
3	17976	39.28	13.12	52.40	74.00	21.60	248	98	Vertical

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2M	Channel	Low
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

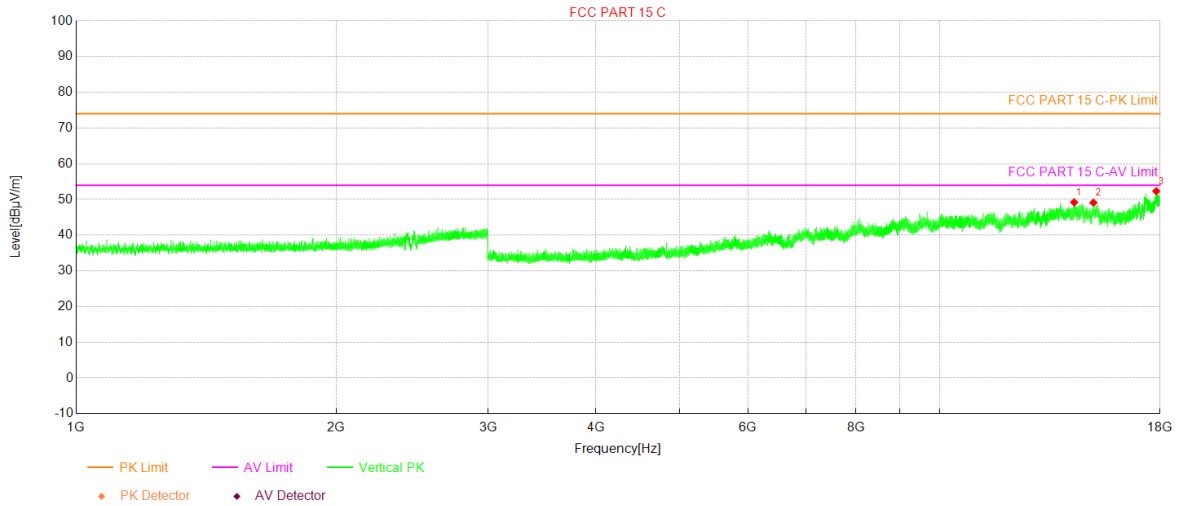
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13475.5	40.92	6.88	47.80	74.00	26.20	196	360	Horizontal
2	14607.5	40.24	8.92	49.16	74.00	24.84	213	131	Horizontal
3	17837	39.21	13.23	52.44	74.00	21.56	161	360	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2M	Channel	Low
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

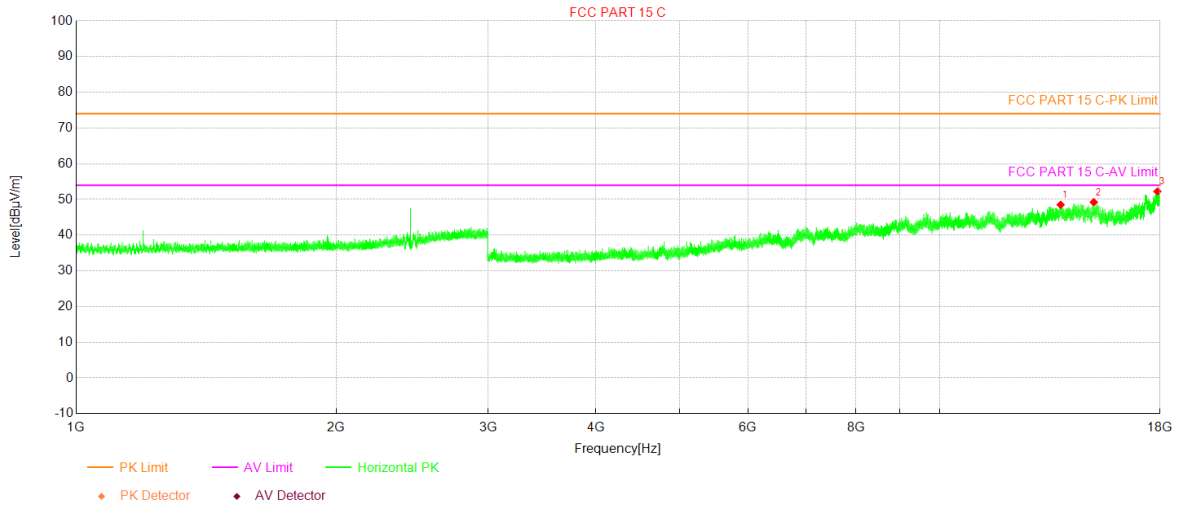
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	14315.5	40.70	8.50	49.20	74.00	24.80	163	11	Vertical
2	15071.5	40.15	8.96	49.11	74.00	24.89	177	203	Vertical
3	17822.5	39.30	13.02	52.32	74.00	21.68	105	157	Vertical

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2M	Channel	Mid
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

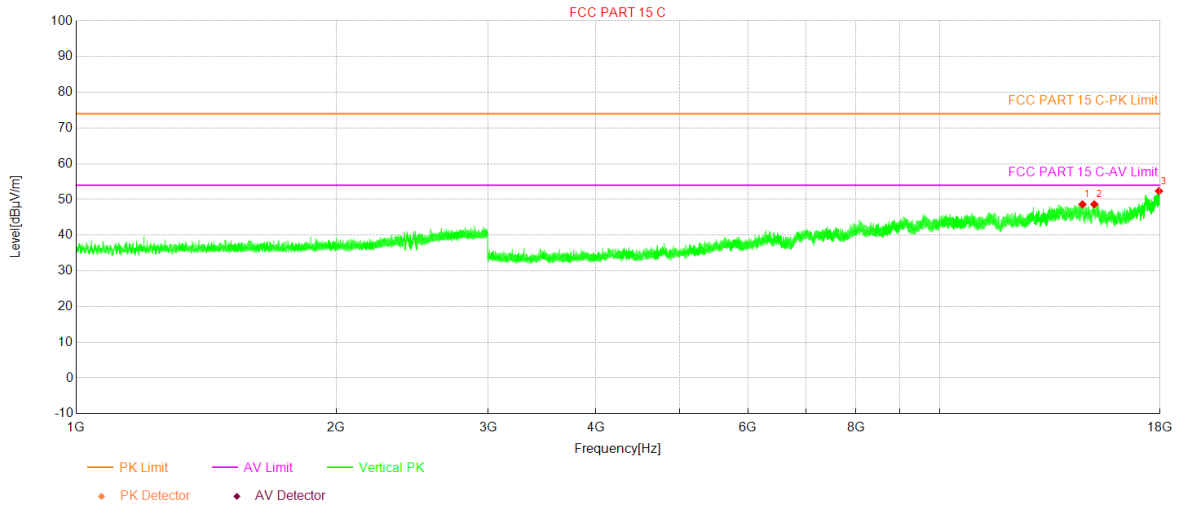
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13808.5	40.45	8.07	48.52	74.00	25.48	191	75	Horizontal
2	15085.5	40.24	9.01	49.25	74.00	24.75	148	279	Horizontal
3	17875	39.13	13.12	52.25	74.00	21.75	131	360	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2M	Channel	Mid
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

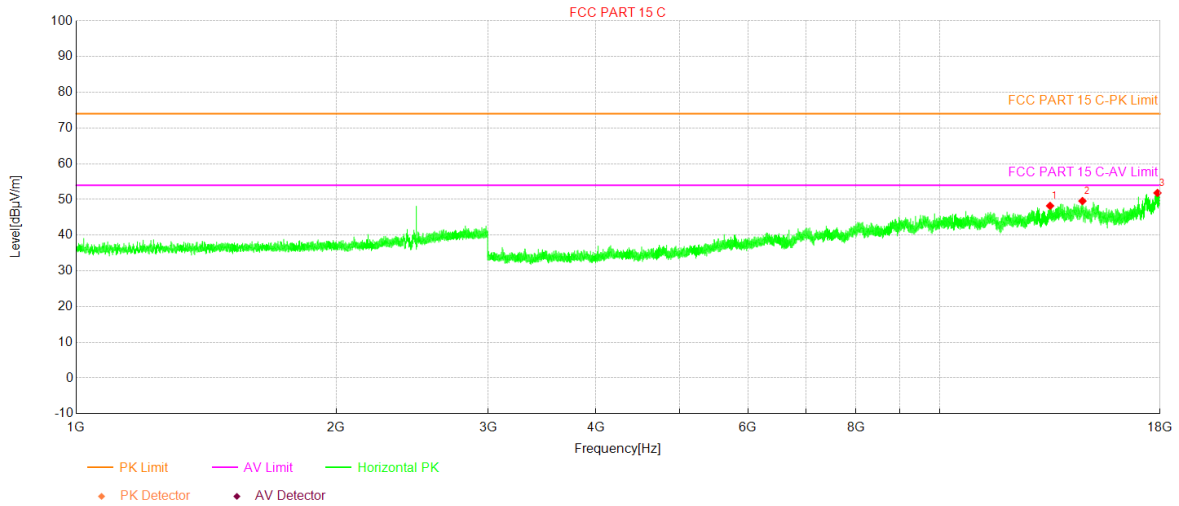
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	14637	39.01	9.61	48.62	74.00	25.38	231	186	Vertical
2	15107.5	39.67	8.96	48.63	74.00	25.37	170	357	Vertical
3	17949	39.58	12.78	52.36	74.00	21.64	248	3	Vertical

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2M	Channel	High
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

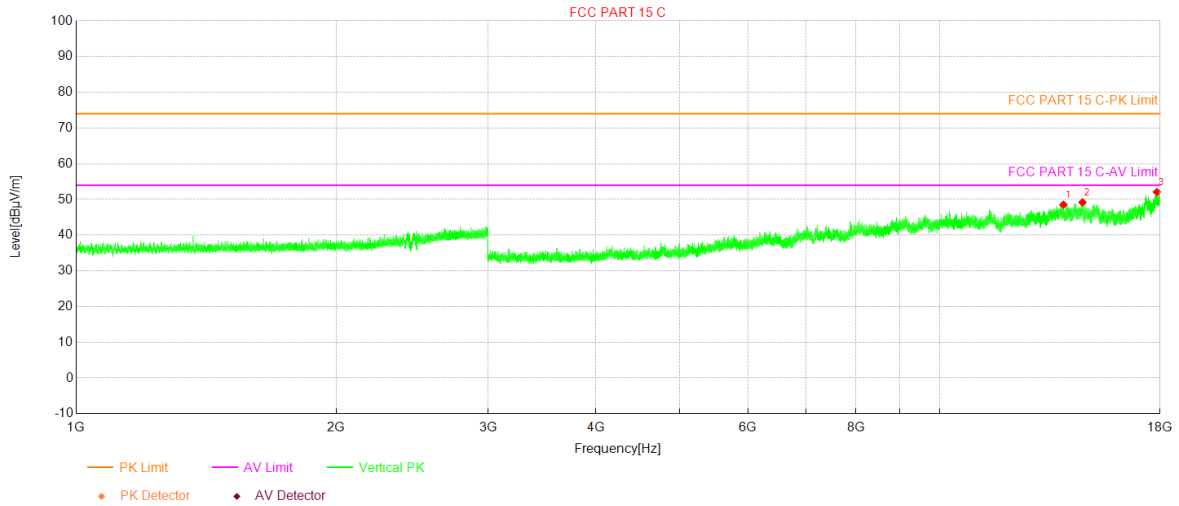
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13426	41.20	7.01	48.21	74.00	25.79	228	360	Horizontal
2	14635	40.00	9.57	49.57	74.00	24.43	148	251	Horizontal
3	17876.5	38.73	13.10	51.83	74.00	22.17	167	346	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2M	Channel	High
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC PART 15 C			

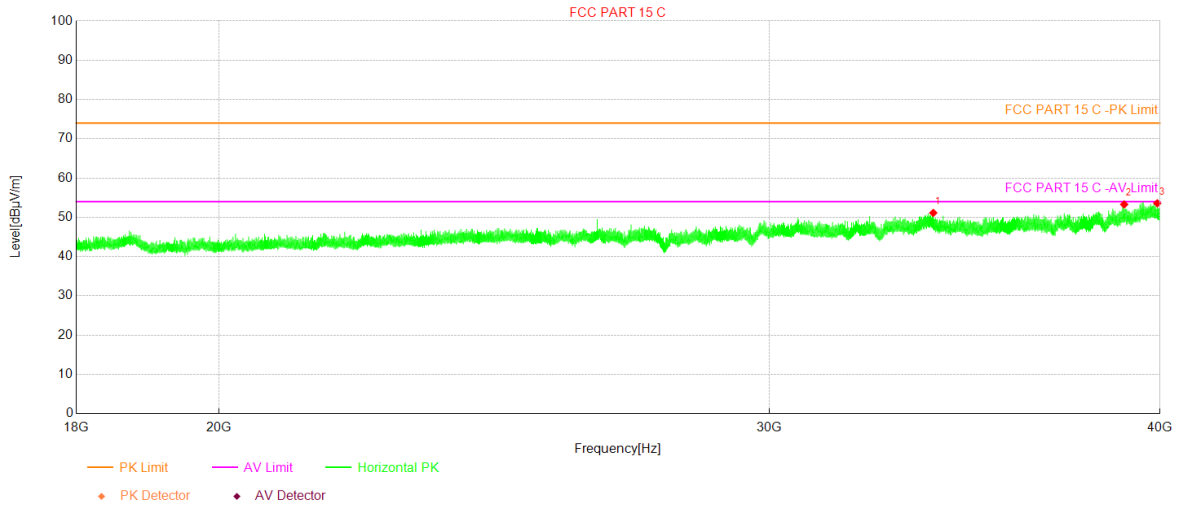
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13913.5	40.73	7.81	48.54	74.00	25.46	178	250	Vertical
2	14635.5	39.62	9.58	49.20	74.00	24.80	137	25	Vertical
3	17848.5	38.69	13.40	52.09	74.00	21.91	281	84	Vertical

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2MHz	Channel	Low
SN:	HQ63B10377	Engineer:	欧树炎
Remark:	Polarity: X		
Test Standard: FCC PART 15 C			

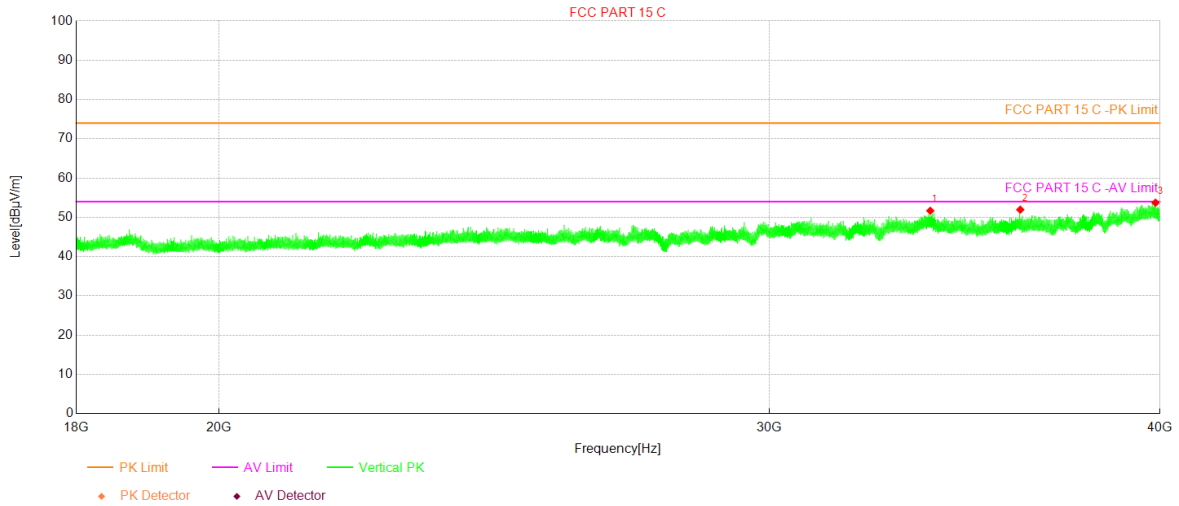
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	33845.8	52.34	-1.21	51.13	74.00	22.87	265	337	Horizontal
2	38957.35	50.34	2.94	53.28	74.00	20.72	136	344	Horizontal
3	39918.55	50.07	3.50	53.57	74.00	19.93	205	279	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2MHz	Channel	Low
SN:	HQ63B10377	Engineer:	欧树炎
Remark:	Polarity: X		
Test Standard: FCC PART 15 C			

Test Graph



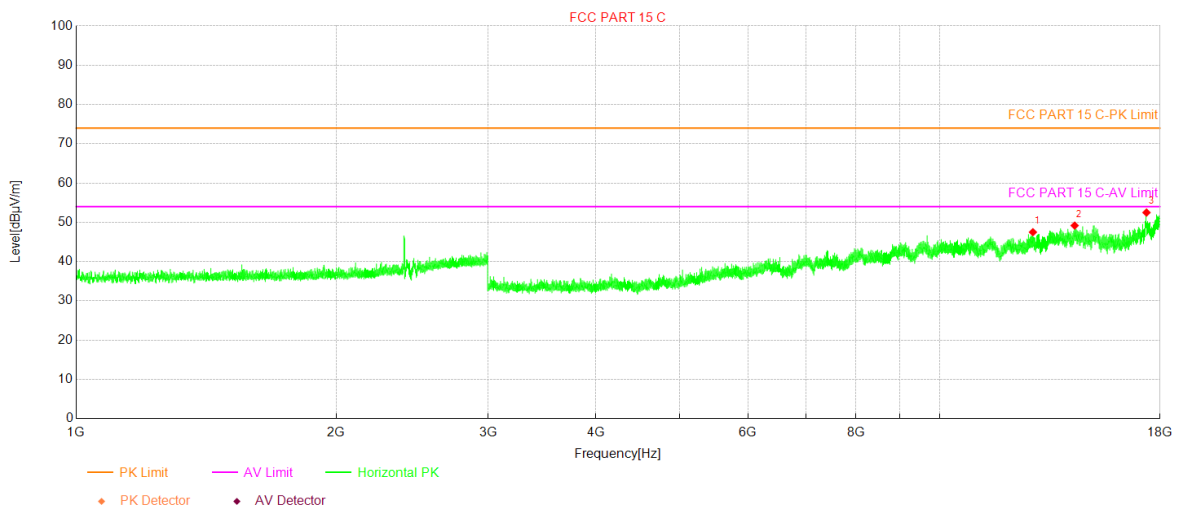
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	33771.55	52.84	-1.16	51.68	74.00	22.32	120	302	Vertical
2	36085.45	51.51	0.44	51.95	74.00	22.05	183	39	Vertical
3	39867.7	50.03	3.70	53.73	74.00	20.27	245	170	Vertical

FCC ID: PY7-25130W (This Model)

Above 1GHz

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2M	Channel	Low
SN:	HQ63B10D26	Engineer:	欧树炎
Remark:	Polarity: X		
Test Standard: FCC PART 15 C			

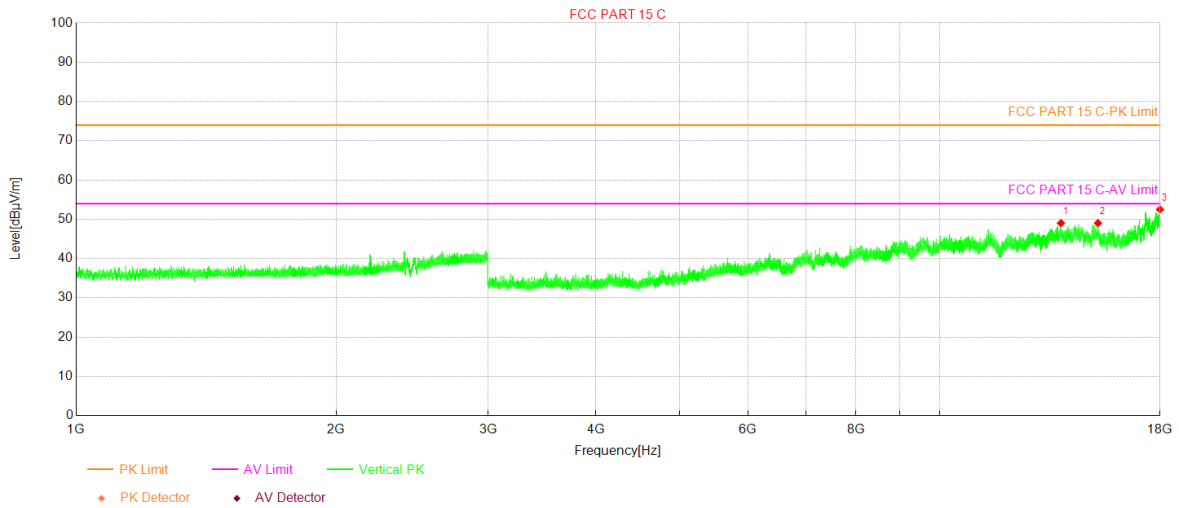
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	12825	41.59	5.90	47.49	74.00	26.51	199	76	Horizontal
2	14334.5	40.21	8.97	49.18	74.00	24.82	138	142	Horizontal
3	17360.5	40.04	12.45	52.49	74.00	21.51	262	18	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2M	Channel	Low
SN:	HQ63B10D26	Engineer:	欧树炎
Remark:	Polarity: X		
Test Standard: FCC PART 15 C			

Test Graph



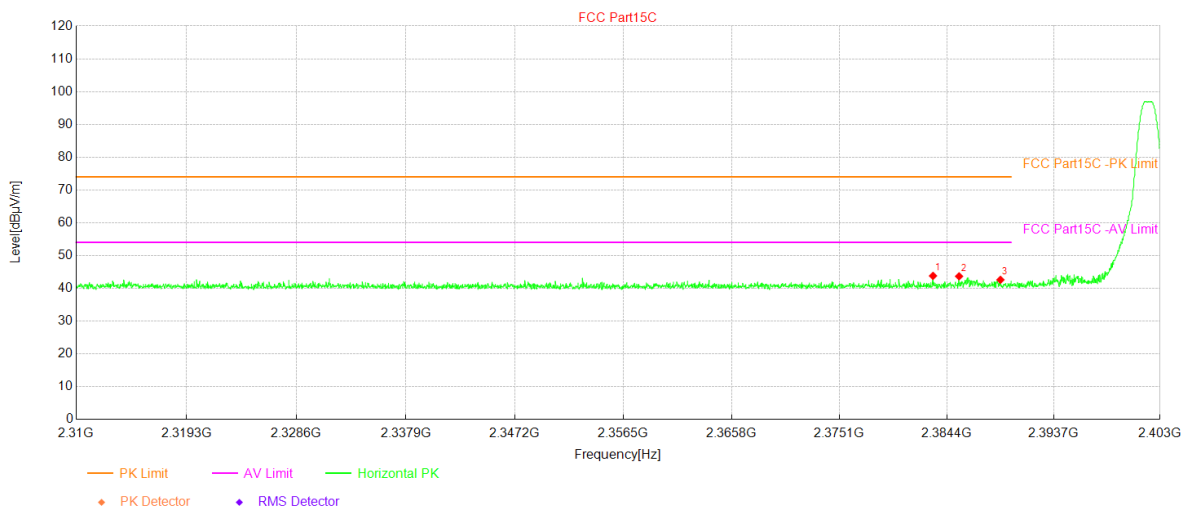
Suspected Data List									
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13819	40.80	8.23	49.03	74.00	24.97	113	290	Vertical
2	15254.5	39.77	9.28	49.05	74.00	24.95	234	297	Vertical
3	17998.5	39.07	13.43	52.50	74.00	21.50	158	358	Vertical

Radiated Band Edge FCC ID: PY7-64228M (Lead Model)

Test Result

Project Information			
Mode:	BLE	Band:	/
Bandwidth	1MHz	Channel	Low
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC Part15C			

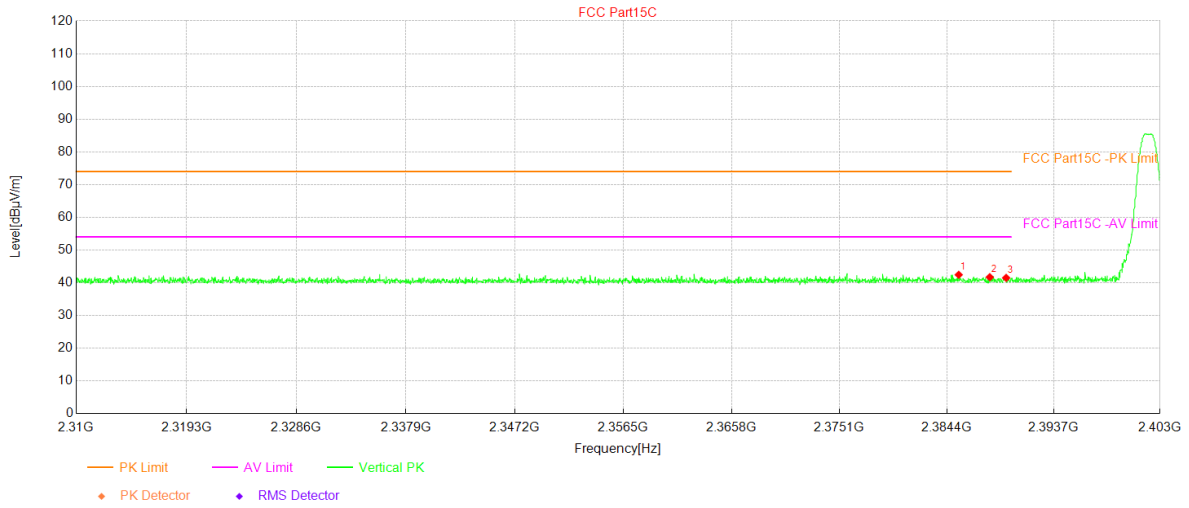
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2383.215	40.43	3.37	43.80	74.00	30.20	184	111	Horizontal
2	2385.479	40.29	3.38	43.67	74.00	30.33	165	95	Horizontal
3	2389.076	39.21	3.40	42.61	74.00	31.39	179	332	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	1MHz	Channel	Low
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC Part15C			

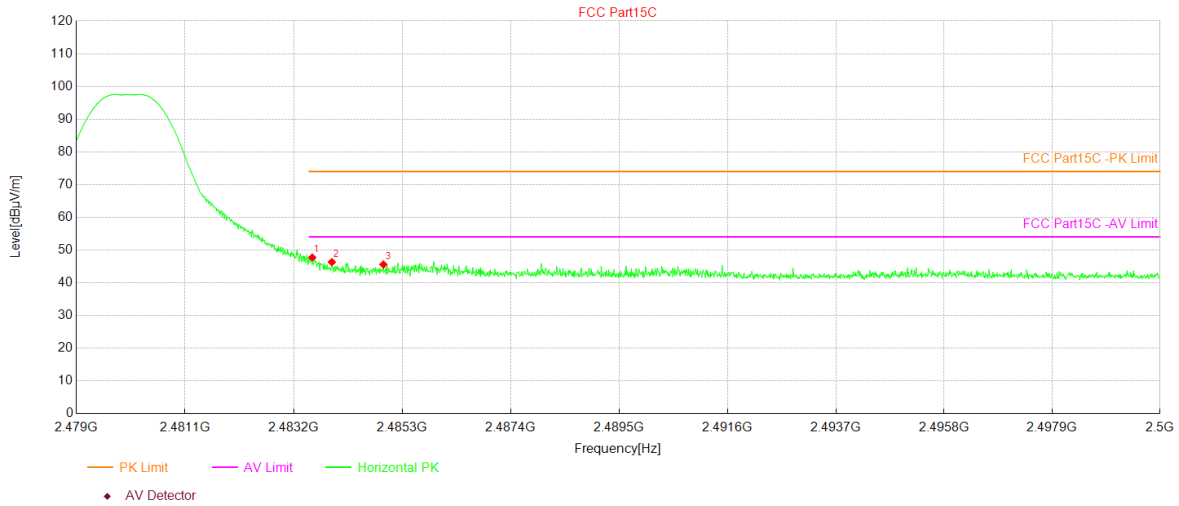
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2385.448	39.06	3.38	42.44	74.00	31.56	137	301	Vertical
2	2388.146	38.33	3.39	41.72	74.00	32.28	153	339	Vertical
3	2389.572	38.09	3.40	41.49	74.00	32.51	219	143	Vertical

Project Information			
Mode:	BLE	Band:	/
Bandwidth	1MHz	Channel	High
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC Part15C			

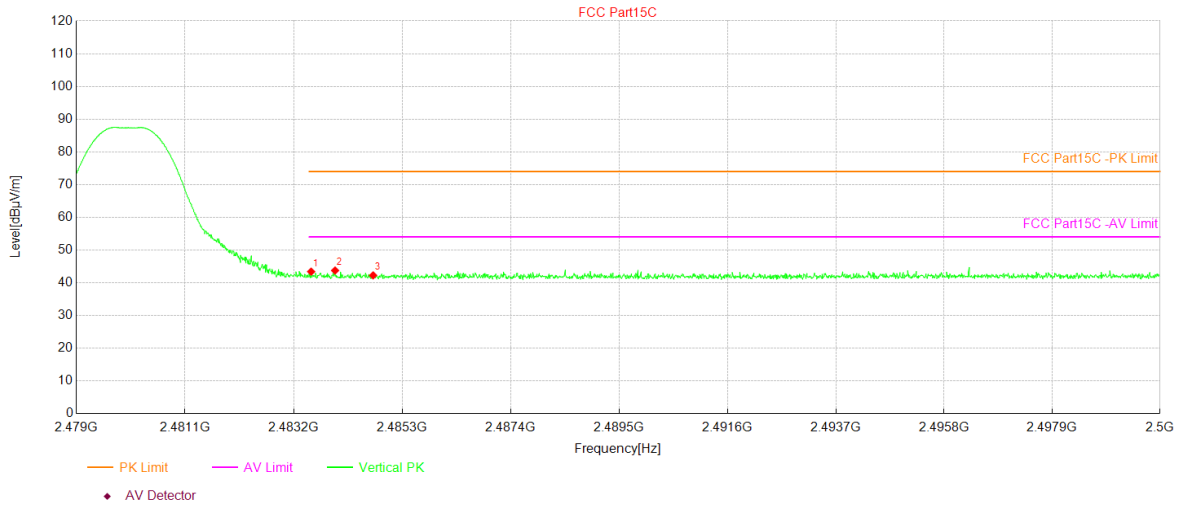
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.559	43.47	4.25	47.72	74.00	26.28	184	113	Horizontal
2	2483.937	42.06	4.26	46.32	74.00	27.68	127	117	Horizontal
3	2484.935	41.33	4.26	45.59	74.00	28.41	221	129	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	1MHz	Channel	High
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC Part15C			

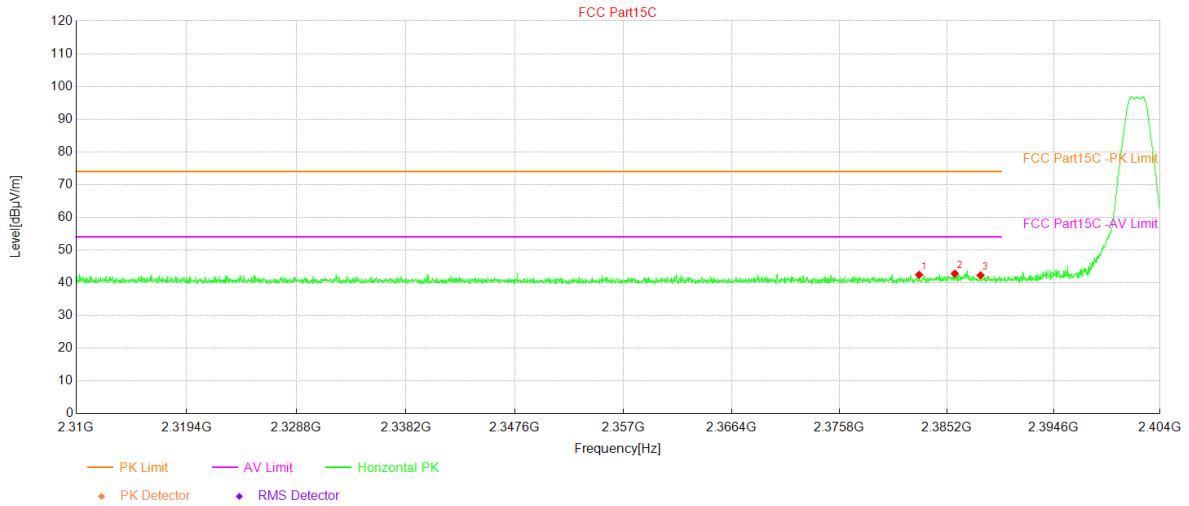
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.538	39.15	4.25	43.40	74.00	30.60	168	200	Vertical
2	2484.000	39.49	4.26	43.75	74.00	30.25	196	276	Vertical
3	2484.735	38.00	4.26	42.26	74.00	31.74	266	240	Vertical

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2MHz	Channel	Low
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC Part15C			

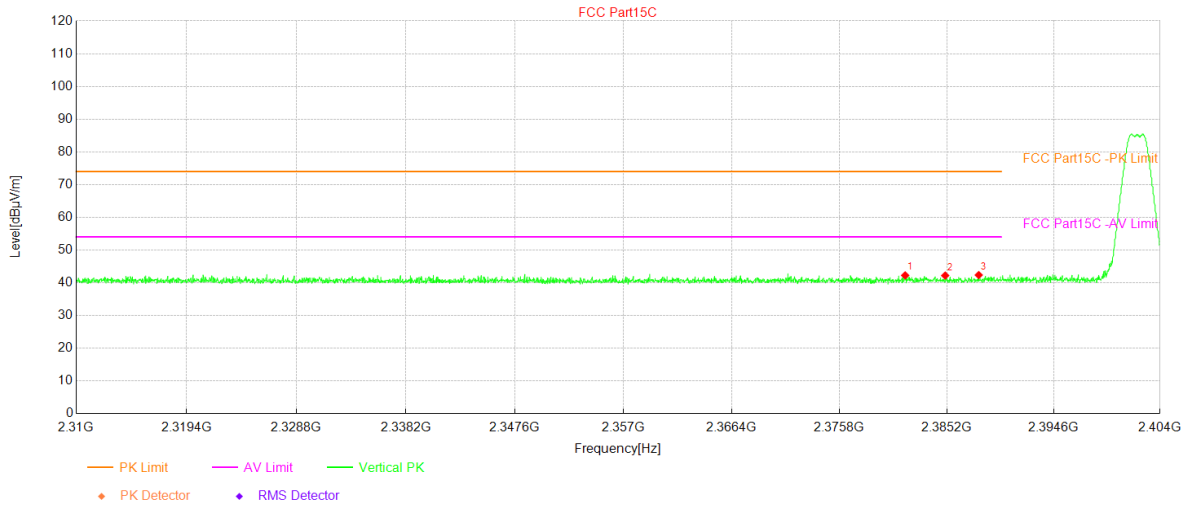
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2382.780	39.06	3.37	42.43	74.00	31.57	279	12	Horizontal
2	2385.914	39.42	3.38	42.80	74.00	31.20	138	87	Horizontal
3	2388.171	38.87	3.39	42.26	74.00	31.74	140	220	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2MHz	Channel	Low
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC Part15C			

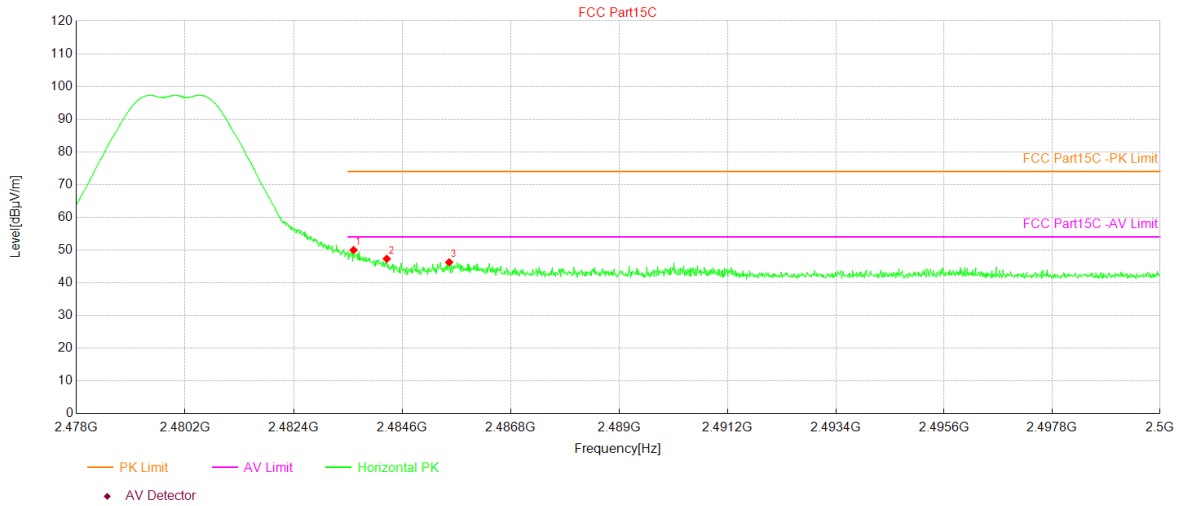
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2381.557	38.89	3.36	42.25	74.00	31.75	112	143	Vertical
2	2385.068	38.82	3.38	42.20	74.00	31.80	154	251	Vertical
3	2388.014	38.98	3.39	42.37	74.00	31.63	195	0	Vertical

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2MHz	Channel	High
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC Part15C			

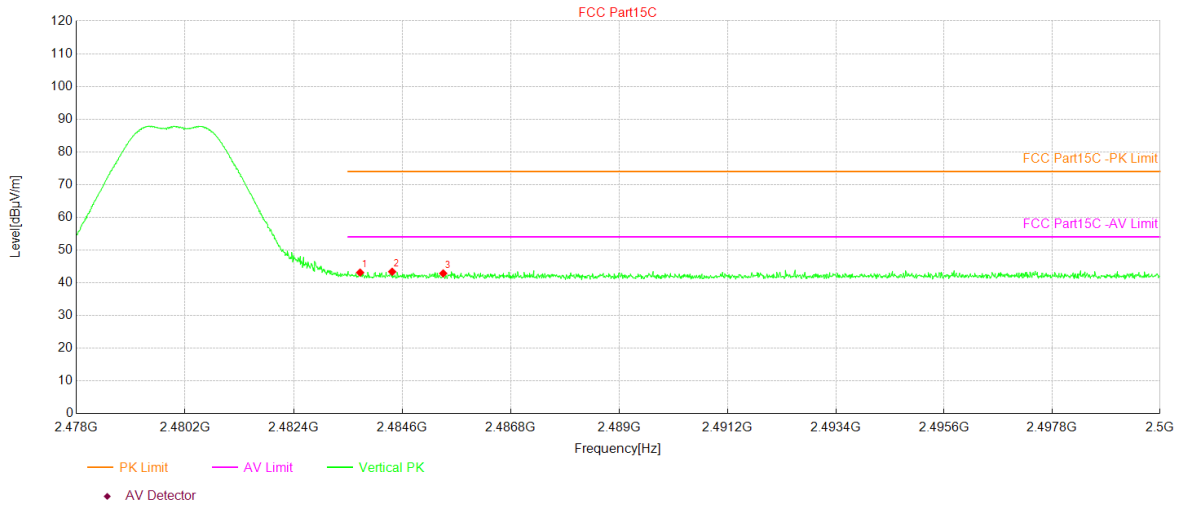
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.612	45.74	4.25	49.99	74.00	24.01	139	116	Horizontal
2	2484.284	43.07	4.26	47.33	74.00	26.67	287	116	Horizontal
3	2485.549	42.01	4.26	46.27	74.00	27.73	158	124	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2MHz	Channel	High
SN:	HQ63B1038C	Engineer:	欧树炎
Remark:	POLARITY: X		
Test Standard: FCC Part15C			

Test Graph



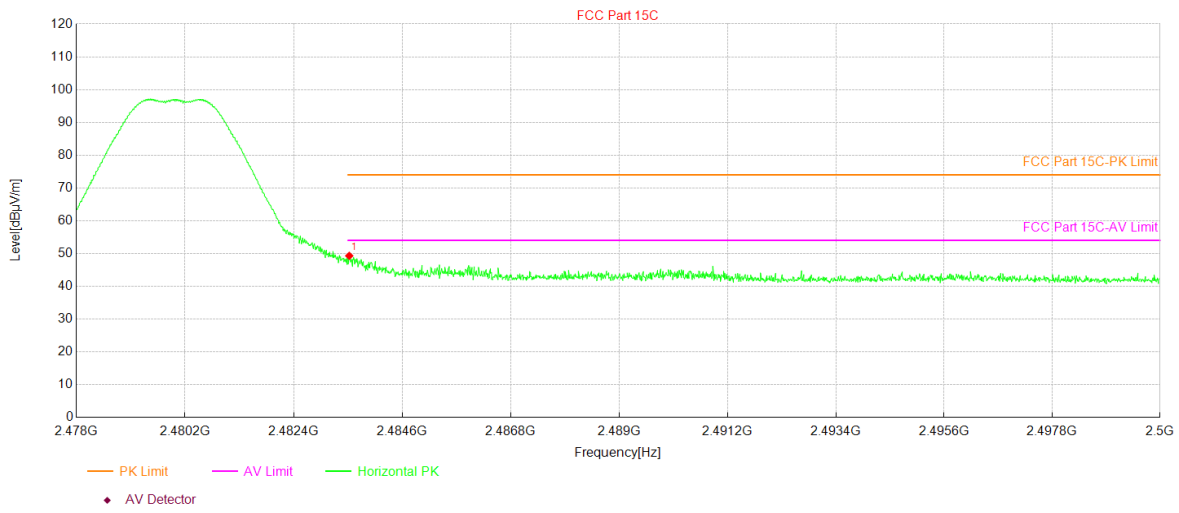
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.744	38.88	4.25	43.13	74.00	30.87	198	357	Vertical
2	2484.394	39.12	4.26	43.38	74.00	30.62	135	58	Vertical
3	2485.428	38.61	4.26	42.87	74.00	31.13	159	284	Vertical

FCC ID: PY7-25130W (This Model)

Test Result

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2MHz	Channel	High
SN:	HQ63B10D26	Engineer:	欧树炎
Remark:	Polarity: X		
Test Standard: FCC Part 15C			

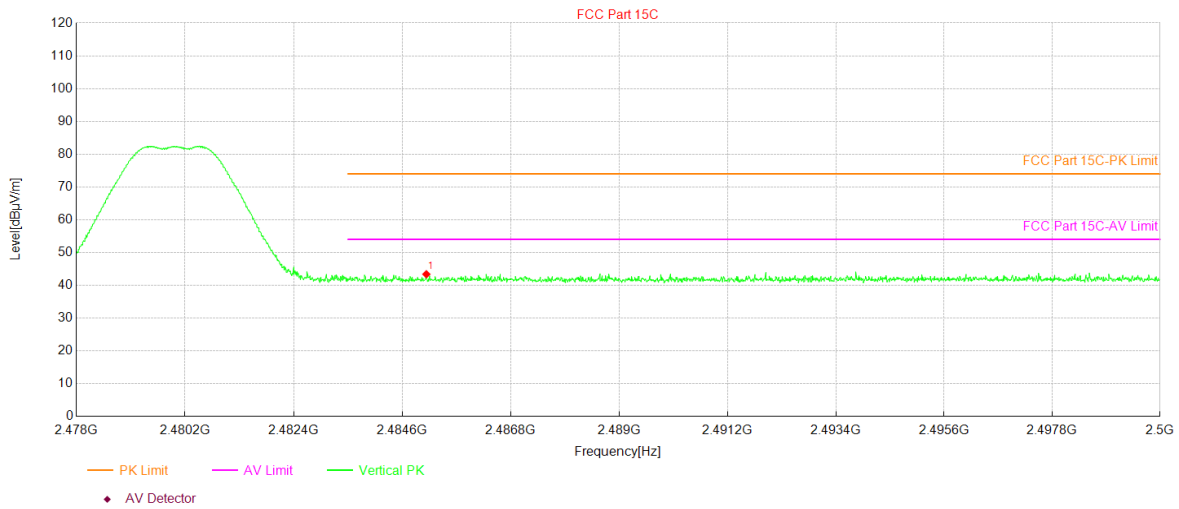
Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.524762	45.06	4.25	49.31	74.00	24.69	238	118	Horizontal

Project Information			
Mode:	BLE	Band:	/
Bandwidth	2MHz	Channel	High
SN:	HQ63B10D26	Engineer:	欧树炎
Remark:	Polarity: X		
Test Standard: FCC Part 15C			

Test Graph



NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2485.087544	39.13	4.26	43.39	74.00	30.61	147	26	Vertical

~The End~