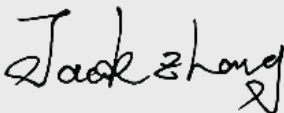


Test report No:
2370455R-RF-US-P06V01

FCC & ISED TEST REPORT

Product Name	AIROC Bluetooth Module
Trademark	
Model and /or type reference	CYW20822-P4TAI040 CYW20822-P4EPI040
FCC ID	WAP822I04
IC	7922A-822I04
Applicant's name / address	Cypress Semiconductor 198 Champion Ct, San Jose, California 95134, United States
Test method requested, standard	47 CFR FCC Part 15 (Section 15.247) ANSI C63.10: 2013 RSS-Gen Issue 5 RSS-247 Issue 2
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Jun Xu/ Project Engineer 
Approved by (name / position & signature)	Jack Zhang/ Manager 
Date of issue	2023-08-11
Report Version	V1.0
Report template No	Template_FCC Part 15C-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Jul. 14, 2023
Date (start test)	Jul. 17, 2023
Date (finish test)	Aug. 01, 2023

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
U_N	: Nominal voltage
T_x	: Transmitter
R_x	: Receiver
N/A	: Not Applicable
N/M	: Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2370455R-RF-US-P06V01	V1.0	Initial issue of report.	2023-08-11

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with 47 CFR FCC Part 15 (Section 15.247), RSS-247 Issue 2, RSS-Gen Issue 5.
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
 - Chapter 1.1 General Description of the Item(s);
 - Chapter 1.2 Antenna Informaion;
 - Chapter 1.3 Channel List.

USED EQUIPMENT

Conducted Test/ TR8

Instrument	Manufacturer	Model No.	Serial No.	Next Cal. Date	Firmware Version	Software version
Wireless Connectivity Tester	R&S	CMW 270	102593	2024.05.19	V 4.0.60	N/A
Coaxial Cable	N/A	N/A	2477	2024.06.07	N/A	N/A
Coaxial Cable	N/A	N/A	2478	2024.06.07	N/A	N/A
High and low temperature and fast temperature change test box	ASTUOD	ASTD-FBT-225K	N/A	2024.05.19	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	RF08	2023.08.22	N/A	N/A
Test system						
Instrument	Manufacturer	Model No.	Serial No.	Next Cal. Date	Firmware Version	Software version
MAX Signal Analyzer	Keysight	N9010A	MY48030494	2023.12.07	A.14.03	N/A
RF Control Unit	Tonscend	JS0806-2	22G8060594	2024.02.03	N/A	N/A
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY61252529	2024.05.19	B.01.96	N/A
Frequency extender for EXG or MXG	Keysight	N5182BX07	MY59362500	2024.05.19	N/A	N/A
EXG-B MW Analog Signal Generator	Keysight	N5173B	MY61252566	2023.09.27	B.01.95	N/A
Test Software	Tonscend	TS1120	JS1120-3	N/A	N/A	V3.0.22

Radiated Emission(9KHz-1GHz) / AC2

Instrument	Manufacturer	Model No.	Serial No.	Next Cal. Date	Firmware Version	Software version
EMI Test Receiver	R&S	ESCI	100573	2023.09.16	4.42 SP3	N/A
Loop Antenna	R&S	HFH2-Z2E	101149	2024.04.24	N/A	N/A
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2024.02.09	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2024.05.18	N/A	N/A
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2024.05.20	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	3

Radiated Emission (1GHz-40GHz) / AC5

Instrument	Manufacturer	Model No.	Serial No.	Next Cal. Date	Firmware Version	Software version
EXA Spectrum Analyzer	Keysight	N9020B	MY60112218	2023.12.07	A.31.05	N/A
Pre-Amplifier	SKET	LNPA_0118G-45	SK2021090101	2024.05.13	N/A	N/A
Preamplifier	CHENGYI	EMC184045SE	980263	2024.07.08	N/A	N/A
DRG Horn	ETS-Lindgren	3117	00123988	2023.10.31	N/A	N/A
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2024.05.30	N/A	N/A
Filter Switch Box	MVE	MSW-F196	C070001S	2024.05.20	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	AC5-TH	2024.05.18	N/A	N/A
Coaxial Cable	TIMES	HF290A-NMNM-5.00M	651945-0001	2023.11.18	N/A	N/A
Coaxial Cable	TIMES	HF290A-NMNM-6.00M	651946-0001	2023.11.18	N/A	N/A
Coaxial Cable	TIMES	HF290A-NMNM-0.50M	651944-0001	2023.11.18	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	3

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95% .

Test item	Uncertainty
AC Power Line Conducted Emission	9kHz~150kHz: 2.80dB 150kHz~30MHz: 2.40dB
Peak Power Output	± 1.27 dB
Radiated Emission(30MHz~1GHz)	Horizontal: 30MHz~200MHz: 3.50 dB 300MHz~1GHz: 3.60 dB Vertical: 30MHz~200MHz: 3.60 dB 300MHz~1GHz: 3.50 dB
Radiated Emission(1GHz~26.5GHz)	Horizontal: 1GHz~18GHz: 5.00 dB Vertical: 1GHz~18GHz: 4.80 dB Horizontal: 18GHz~26.5GHz: 5.30 dB Vertical: 18GHz~26.5GHz: 4.90 dB
RF antenna conducted test	± 1.27 dB
Radiated Emission Band Edge	± 3.9 dB
DTS Bandwidth	± 150 Hz
Occupied Bandwidth	± 1 kHz
Power Density	± 1.27 dB

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name	AIROC Bluetooth Module
Model No.	CYW20822-P4TAI040, CYW20822-P4EPI040
Trademark	
FCC ID	WAP822I04
IC	7922A-822I04
Hardware Version	REV1.0
Software Version	REV1.0
Manufacturer	Cypress Semiconductor
Manufacturer Address	198 Champion Ct, San Jose, California 95134, United States
Factory	Wujiang Sigmatron Electronics Co., Ltd
Factory address	386 Huahong Rd, Wujiang, Suzhou, Jiangsu, China
Model difference	Two modules share the same design, the difference is antenna configuration, CYW20822-P4TAI040 is PCB antenna; CYW20822-P4EPI040 is RF pad which connect external antenna.

Wireless specification	Bluetooth (LE)					
Operating frequency range(s)	2402~2480MHz					
Type of Modulation	GFSK					
PHYs	☒	LE 1M	☒	LE 2M	☒	LE Coded S=2/8
Data Rate	☒	1Mbit/s	☒	2Mbit/s	☒	500/125 Kbit/s
Number of channel	40					

Rated power supply	Voltage and Frequency	
	☐	AC: 220 - 240 V, 50/60 Hz
	☐	AC: 100 - 240 V, 50/60 Hz
	☒	DC: 1.7~3.3V
	☐	Battery:
	☐	Adapter:
Mounting position	☐	Tabletop equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☐	Hand-held/Portable equipment
	☒	Other: RF module

1.2 Antenna Information

CYW20822-P4TAI040 PCB Antenna:

Antenna model / type number	N/A		
Antenna serial number	N/A		
Antenna Delivery	☒	1TX + 1RX	
	☐	2TX + 2RX	
	☐	Others:	
Antenna technology	☒	SISO	
	☐	MIMO	☐ CDD
			☐ Beam-forming
Antenna Type	☐	External	☐ Dipole
			☐ Sectorized
	☒	Internal	☐ Ceramic Chip
			☐ PIFA
			☒ PCB
			☐ Others.....
Antenna Gain	4.21dBi		

CYW20822-P4EPI040 External Antenna:

Antenna model / type number	N/A		
Antenna serial number	W1010		
Antenna Delivery	☒	1TX + 1RX	
	☐	2TX + 2RX	
	☐	Others:	
Antenna technology	☒	SISO	
	☐	MIMO	☐ CDD
			☐ Beam-forming
Antenna Type	☒	External	☒ Dipole
			☐ Sectorized
	☐	Internal	☐ Ceramic Chip
			☐ PIFA
			☐ PCB
			☐ Others.....
Antenna Gain	2.0dBi		

1.3 Channel List

Bluetooth Working Frequency of Each Channel: (For LE)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz	03	2408 MHz
04	2410 MHz	05	2412 MHz	06	2414 MHz	07	2416 MHz
08	2418 MHz	09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz	15	2432 MHz
16	2434 MHz	17	2436 MHz	18	2438 MHz	19	2440 MHz
20	2442 MHz	21	2444 MHz	22	2446 MHz	23	2448 MHz
24	2450 MHz	25	2452 MHz	26	2454 MHz	27	2456 MHz
28	2458 MHz	29	2460 MHz	30	2462 MHz	31	2464 MHz
32	2466 MHz	33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz	39	2480 MHz

Note: The General Description of the Item , antenna information and Channel List for the EUT in clause 1 are provided and confirmed by the client.

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

During the tests the following operating mode(s) has(have) been used.

Test Mode	Mode 1: Transmit by LE_1Mbps
	Mode 2: Transmit by LE_2Mbps
	Mode 3: Transmit by LE_Coded S=8
	Mode 4: Transmit by LE_Coded S=2

Note 1: Regards to the frequency band operation: the lowest, middle and highest frequency channel were selected to perform the test, then shown on this report.

Note 2: For portable device, radiated tests was verified over X, Y, Z axis, and shown the worst case on this report.

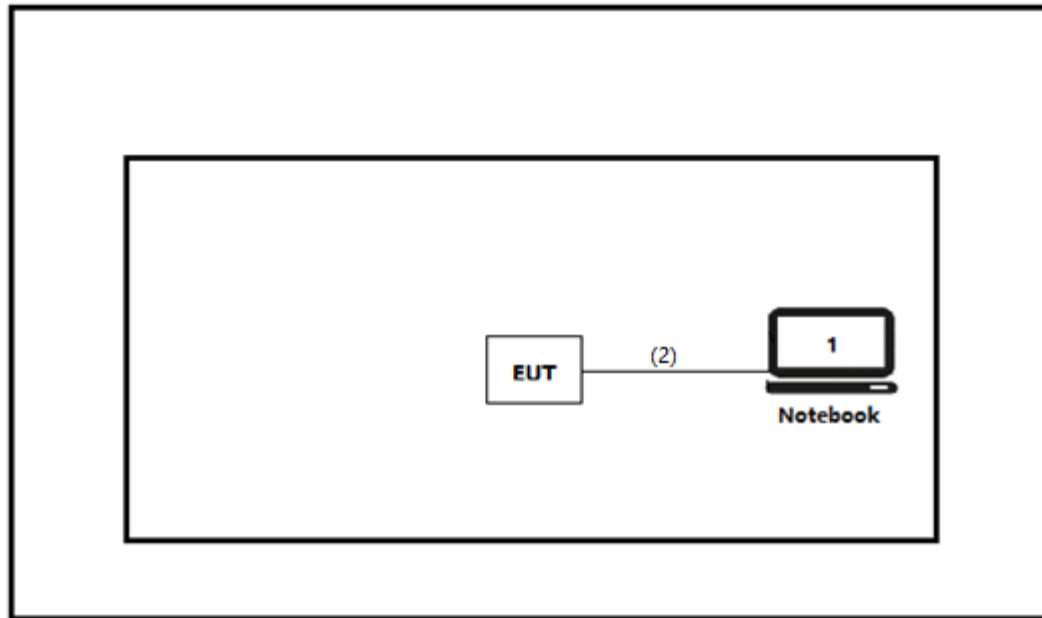
2.2 Auxiliary equipment / Test software for the EUT

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
(1) Notebook	Think pad x220	Lenovo	Adapter
(2) USB Control Cable	N/A	N/A	N/A
(3) USB Control Cable	N/A	N/A	N/A
software	Type / Version	Manufacturer	Supplied by
BlueTool	N/A	N/A	N/A

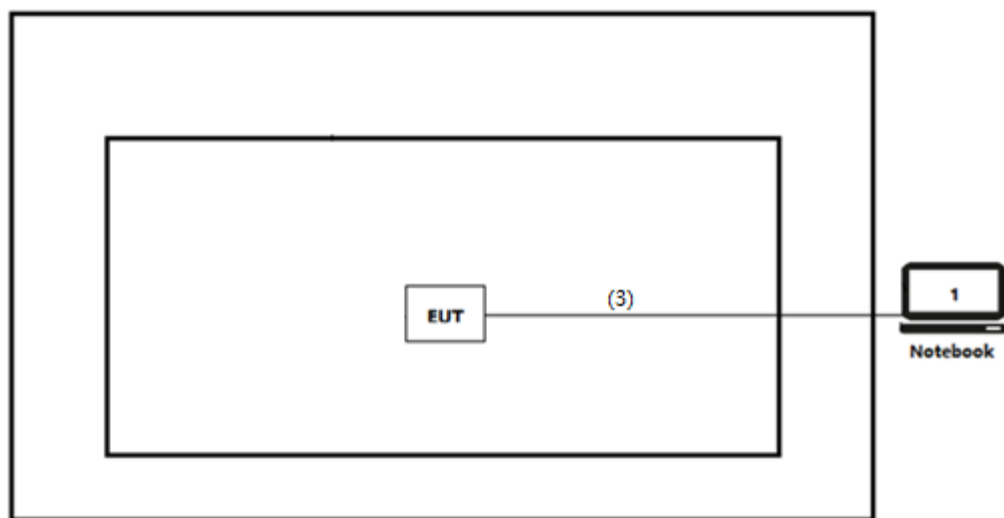
Accessories Information	Cable		
	Length used during test [m]	Attached during test	Shielded
(2)USB Control Cable	1	☒	☒
(3)USB Control Cable	8	☒	☒

2.3 Test Configuration / Block diagram used for tests

Test setup Diagram- Conducted test



Test setup Diagram- Radiated test



2.4 Testing process

1	Setup the EUT shown in Section 2.3.
2	Execute the [BlueTool] on the notebook.
3	Configure the test mode, the test channel, and the data rate.
4	Verify that the EUT works properly.

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
47 CFR FCC Part 15 (Section 15.247)	2023	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10	2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
RSS-Gen Issue 5 Amendment 1	2019	General Requirements for Compliance of Radio Apparatus
RSS-247 Issue 2	2017	Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSS) and Licence-Exempt Local Area Network (LE-LAN) Devices

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.

(Please define the deviations from the standard(s) if applicable)

3.3 Overview of results

Requirement – Test Item of FCC	Standard(s)	Verdict	Remark
20dB Emission Bandwidth	FCC 15.247(a)(2)	PASS	Test data please refer to Appendix A
Maximum conducted output power	15.247 (b)(3)	PASS	Test data please refer to Appendix C
Maximum power spectral density	FCC 15.247(e)	PASS	Test data please refer to Appendix D
Band edge measurements	FCC 15.247(d) FCC 15.205 FCC 15.209	PASS	Test data please refer to Appendix E
Conducted Spurious Emission	FCC 15.247(d), FCC 15.209	PASS	Test data please refer to Appendix F
Duty cycle	ANSI C63.10:2013	PASS	Test data please refer to Appendix G
Emissions in Restricted Bands	FCC 15.205 FCC 15.209	PASS	Test data please refer to Appendix H
AC Power Line Conducted Emission	FCC 15.207	N/A	Not applicable, EUT is DC operated.
Antenna Requirement	FCC 15.203	PASS	---

Requirement – Test case of ISED	Standard(s)	Verdict	Remark
DTS Bandwidth	RSS-Gen Issue 5 Paragraph 6.7 RSS-247 Issue 2 Paragraph 5.2	PASS	Test data please refer to Appendix A
Occupied Channel Bandwidth	RSS-Gen Issue 5 Paragraph 6.7 RSS-247 Issue 2 Paragraph 5.2	PASS	Test data please refer to Appendix B
Maximum conducted output power	RSS-247 Issue 2 Paragraph 5.4(d)	PASS	Test data please refer to Appendix C
Maximum power spectral density	RSS-247 Issue 2 Paragraph 5.2(b)	PASS	Test data please refer to Appendix D
Band edge measurements	RSS-Gen Issue 5 Paragraph 8.10	PASS	Test data please refer to Appendix E
Conducted Spurious Emission	RSS-247 Issue 2 Paragraph 5.5	PASS	Test data please refer to Appendix F
Duty cycle	ANSI C63.10:2013	PASS	Test data please refer to Appendix G
Emissions in Restricted Bands	RSS-Gen Issue 5 Paragraph 8.9	PASS	Test data please refer to Appendix H
AC Power Line Conducted Emission	RSS-Gen Issue 5 Paragraph 8.8	N/A	Not applicable, EUT is DC operated.
Antenna Requirement	RSS-Gen Issue 5 Paragraph 6.8	PASS	---

3.4 Power setting in test

Mode	Channel	Frequency (MHz)	Power setting
Mode1	00	2402	7
	19	2440	7
	39	2480	7
Mode2	00	2402	7
	19	2440	7
	39	2480	7
Mode3	00	2402	7
	19	2440	7
	39	2480	7
Mode4	00	2402	7
	19	2440	7
	39	2480	7

3.5 Test Matrix

Test item	Mode: CYW20822-P4TAI040		Mode: CYW20822-P4EPI040
	1(#1)	2(#2)	3(#3)
DTS Bandwidth	☒	☐	☐
Occupied Channel Bandwidth	☒	☐	☐
Maximum conducted output power	☒	☐	☐
Maximum power spectral density	☒	☐	☐
Band edge measurements	☐	☒	☒
Conducted Spurious Emission	☒	☐	☐
Duty cycle	☒	☐	☐
Emissions in Restricted Bands	☐	☒	☒

Note1: The only difference between sample #1 and sample #2/3 is whether to keep the original antenna, sample #1 is a conduction test product that removes the original antenna and is equipped with SMA wires, and sample #2/3 is a complete product that retains the original antenna.

Note2: Modules CYW20822-P4TAI040 and CYW20822-P4EPI040 have the same PCB, Bluetooth chip, peripheral parts and the encapsulation of the main chip. The difference is the configuration of antenna. The conducted sample for these two modules are the same. So, this The conducted test data of the two samples are shared, and the radiation tests are carried out on the two samples separately.

3.6 Test Facility

USA	:	FCC Designation Number: CN1199
CA	:	ISED CAB identifier: CN0040

4 TEST ITEMS OF LIMIT/SETUP/PROCEDURE

4.1 DTS Bandwidth

VERDICT: PASS

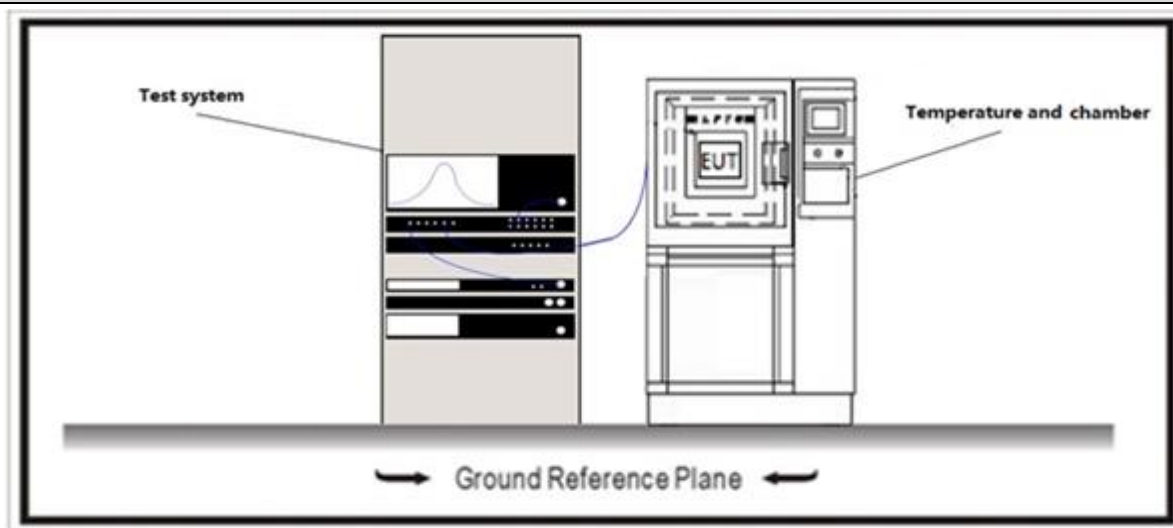
4.1.1 Limit

Standard

FCC Part 15 Subpart C Paragraph 15.247 (a)(2); RSS-247 Issue 2 Paragraph 5.2.

Systems using digital modulation techniques operate in the 2400-2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz

4.1.2 Test Setup



4.1.3 Test Procedure

	Reference Rule	Chapter	Description
☒	ANSI C63.10	11.8	DTS bandwidth
☐	ANSI C63.10	11.8.1	Option 1
☒	ANSI C63.10	11.8.2	Option 2

4.2 Occupied Channel Bandwidth

VERDICT: PASS

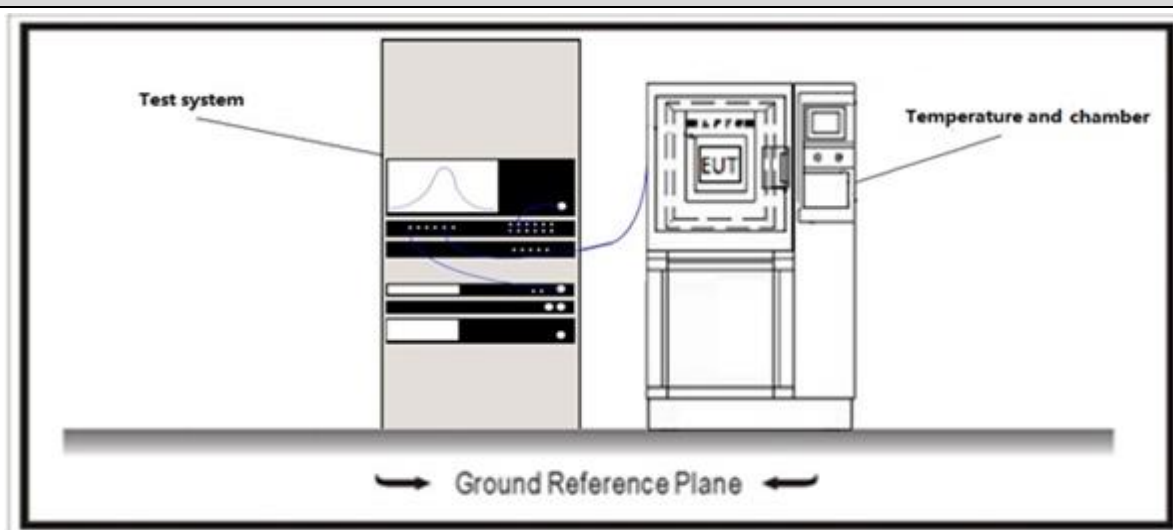
4.2.1 Limit

Standard

RSS-Gen Issue 5 Paragraph 6.7

The occupied bandwidth or the “99% emission bandwidth” is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs

4.2.2 Test Setup



4.2.3 Test Procedure

	Reference Rule		Chapter	Description
☒	ANSI C63.10		11.8	DTS bandwidth
☐	ANSI C63.10	11.8.1	Option 1	
☒	ANSI C63.10	11.8.2	Option 2	

4.3 Maximum Conducted Output Power

VERDICT: PASS

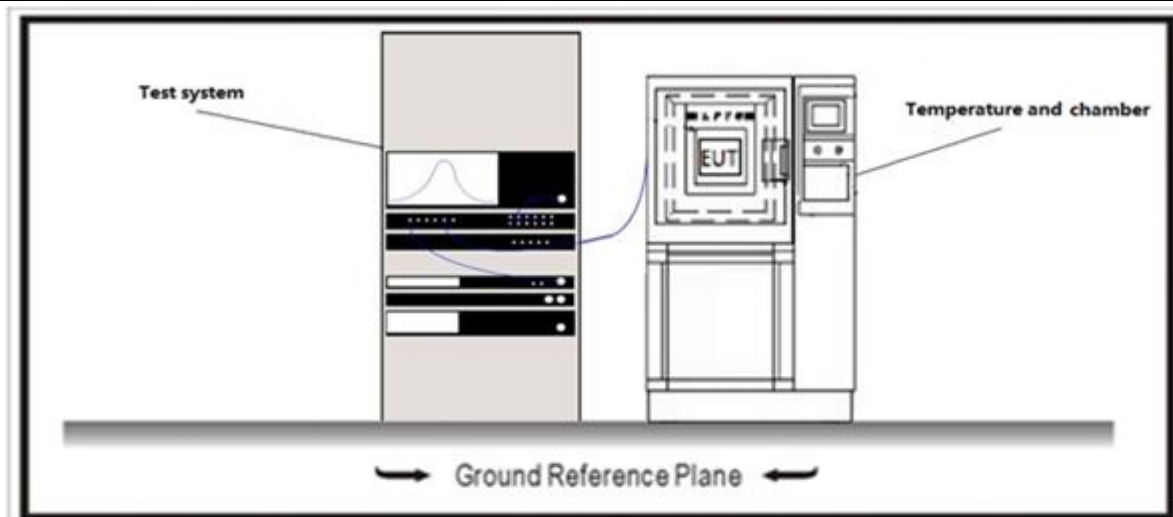
4.3.1 Limit

Standard		FCC Part 15 Subpart C Paragraph 15.247 (b)(3); RSS-247 Issue 2 Paragraph 5.4(d).
☒	GTX < 6dBi	Pout≤30dBm
☐	GTX > 6dBi	
☐	Non-Fix point-point	Pout≤30-(GTX -6)
☐	Fix point-point	Pout≤30-[(GTX-6)]/3
☐	Point-to-multipoint	Pout≤30-(GTX-6)
☐	Overlap Beams	Pout≤30-[(GTX-6)]/3
☐	Aggregate power transmitted simultaneously on all beams	Pout≤30-[(GTX-6)]/3
☐	single directional beam	Pout≤30-[(GTX-6)]/3+8dB

Note 1 : GTX directional gain of transmitting antennas.

Note 2 : Pout is maximum peak conducted output power .

4.3.2 Test Setup



4.3.3 Test Procedure

	References Rule			Chapter	Description		
☒	ANSI C63.10			11.9	Fundamental emission output power		
	☒	ANSI C63.10			11.9.1	Maximum peak conducted output power	
		☐	ANSI C63.10	11.9.1.1	RBW ≥ DTS bandwidth		
		☐	ANSI C63.10	11.9.1.2	Integrated band power method		
		☐	ANSI C63.10	11.9.1.3	PKPM1 Peak power meter method		
	☐	ANSI C63.10			11.9.2	Maximum conducted (average) output power	
		☐	ANSI C63.10			11.9.2.2	Measurement using a spectrum analyzer (SA)
			☐	ANSI C63.10	11.9.2.2.2	Method AVGSA-1(Duty cycle ≥98%)	
			☐	ANSI C63.10	11.9.2.2.3	Method AVGSA-1A(Duty cycle ≥98%)	
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-2(Duty cycle ≤98%)	
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-2A(Duty cycle ≤98%)	
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-3	
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-3A	
		☒	ANSI C63.10			11.9.2.3	Measurement using a power meter (PM)
			☒	ANSI C63.10	11.9.2.3.1	Method AVGPM	
			☐	ANSI C63.10	11.9.2.3.2	Method AVGPM-G	

4.4 Maximum Power Spectral Density

VERDICT: PASS

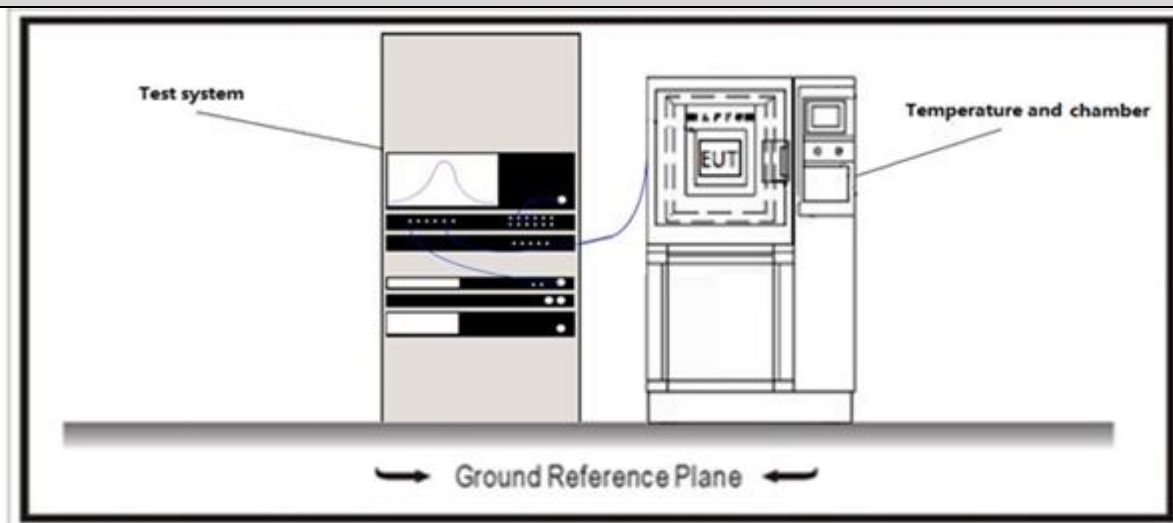
4.4.1 Limit

Standard

 FCC Part 15 Subpart C Paragraph 15.247 (b)(3);
 RSS-247 Issue 2 Paragraph 5.2(b).

 Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$

4.4.2 Test Setup



4.4.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		11.10	Maximum power spectral density level in the fundamental emission
	☒	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)
	☐	ANSI C63.10	11.10.3	Method AVGPSD-1(Duty cycle $\geq 98\%$)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle $\geq 98\%$)
	☐	ANSI C63.10	11.10.5	Method AVGPSD-2(Duty cycle $< 98\%$)
	☐	ANSI C63.10	11.10.6	Method AVGPSD-2A(Duty cycle $< 98\%$)
	☐	ANSI C63.10	11.10.7	Method AVGPSD-3
	☐	ANSI C63.10	11.10.8	Method AVGPSD-3A

4.5 Band Edge Measurements

VERDICT: PASS

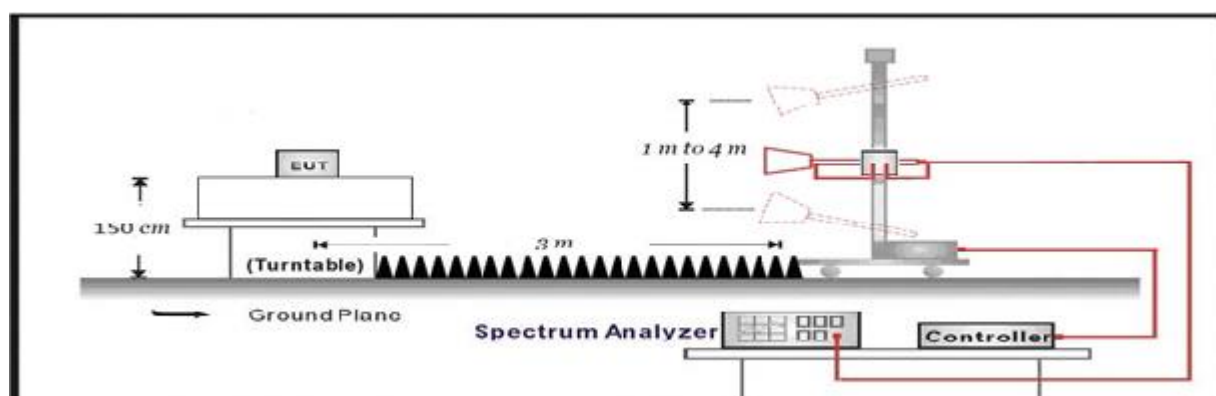
4.5.1 Limit

Standard		FCC Part 15 Subpart C Paragraph 15.247(d) , 15.209; RSS-Gen Issue 5 Paragraph 8.10.		
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3

Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.

4.5.2 Test Setup

Above 1GHz Test Setup:



4.5.3 Test Procedure

	References Rule	Chapter	Description
☒	ANSI C63.10	6.10	Band-edge testing
☒	ANSI C63.10	6.10.5	Restricted-band band-edge measurements
☐	ANSI C63.10	6.10.6	Marker-delta method
☒	ANSI C63.10	11.12	Emissions in restricted frequency bands
☒	ANSI C63.10	11.12.1	Radiated emission measurements
☒	ANSI C63.10	11.12.2.7	Radiated spurious emission test
☐	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☐	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.6 Conducted Spurious Emission

VERDICT: PASS

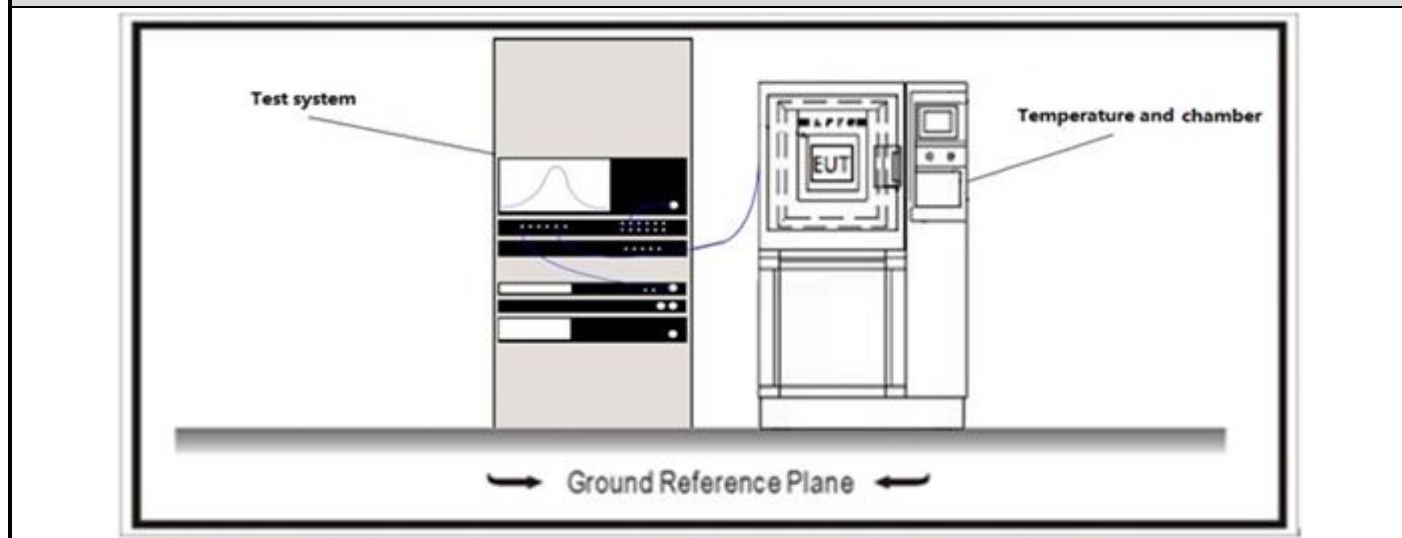
4.6.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d); RSS-247 Issue 2 Paragraph 5.5.
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30dBc(Note1)
RF Output power(PK detector)	20dBc(Note2)

Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).

4.6.2 Test Setup



4.6.3 Test Procedure

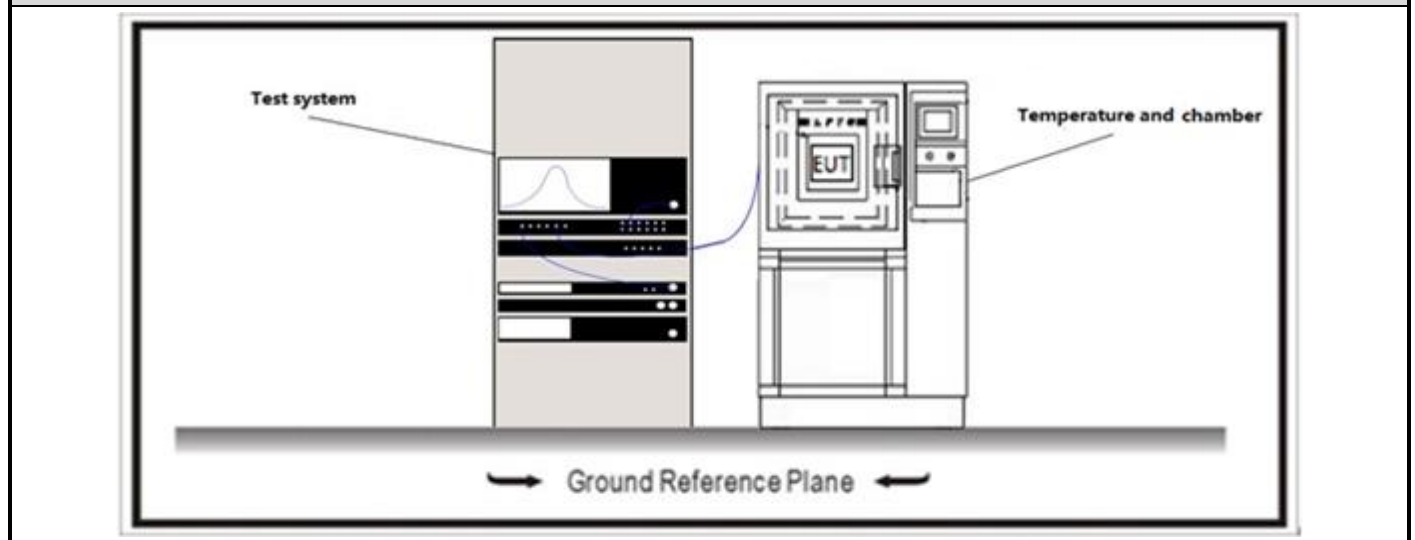
References Rule	Chapter	Description
☒ ANSI C63.10	11.11	Emissions in non-restricted frequency bands
☒ ANSI C63.10	11.11.1	General
☒ ANSI C63.10	11.11.2	Reference level measurement
☒ ANSI C63.10	11.11.3	Emission level measurement

4.7 Duty cycle	VERDICT: PASS
-----------------------	----------------------

4.7.1 Limit

N/A

4.7.2 Test Setup



4.7.3 Test Procedure

References Rule	Chapter	Description
☒ ANSI C63.10	11.6	Duty cycle (D), transmission duration (T), and maximum power control level

4.8 Emissions in Restricted Bands**VERDICT: PASS****4.8.1 Limit****Standard**

FCC Part 15 Subpart C Paragraph 15.205

Restricted Bands of operation

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

Standard

RSS-Gen Issue 5 Paragraph 8.10

Restricted Bands of operation for IC

0.090 - 0.110	13.36 - 13.41	960 - 1427	9.0 - 9.2
0.495 - 0.505	16.42 - 16.423	1435 - 1626.5	9.3 - 9.5
2.1735 - 2.1905	16.69475 - 16.69525	1645.5 - 1646.5	10.6 - 12.7
3.020 - 3.026	16.80425 - 16.80475	1660 - 1710	13.25 - 13.4
4.125 - 4.128	25.5 - 25.67	1718.8 - 1722.2	14.47 - 14.5
4.17725 - 4.17775	37.5 - 38.25	2200 - 2300	15.35 - 16.2
4.20725 - 4.20775	73 - 74.6	2310 - 2390	17.7 - 21.4
5.677 - 5.683	74.8 - 75.2	2483.5 - 2500	22.01 - 23.12
6.215 - 6.218	108 - 138	2655 - 2900	23.6 - 24.0
6.26775 - 6.26825	149.9 - 150.05	3260 - 3267	31.2 - 31.8
6.31175 - 6.31225	156.52475 - 156.52525	3332 - 3339	36.43 - 36.5
8.291 - 8.294	156.7 - 156.9	3345.8 - 3358	Above 38.6
8.362 - 8.366	162.0125 - 167.17	3500 - 4400	
8.37625 - 8.38675	167.72 - 173.2	4500 - 5150	
8.41425 - 8.41475	240 - 285	5350 - 5460	
12.29 - 12.293	322 - 335.4	7250 - 7750	
12.51975 - 12.52025	399.9 - 410	8025 - 8500	
12.57675 - 12.57725	608 - 614	--	

Restricted Band Emissions Limit

FCC Part 15 Subpart C Paragraph 15.209

Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Field strength ($\text{dB}\mu\text{V/m}$)	Measurement distance (m)
0.009 - 0.49	$2400/F(\text{kHz})$	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	$24000/F(\text{kHz})$	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88 - 216	150	43.5	3 _(Note 2)
216 - 960	200	46	3 _(Note 2)
Above 960	500	54	3 _(Note 2)

RSS-Gen Issue 5 Paragraph 8.9.

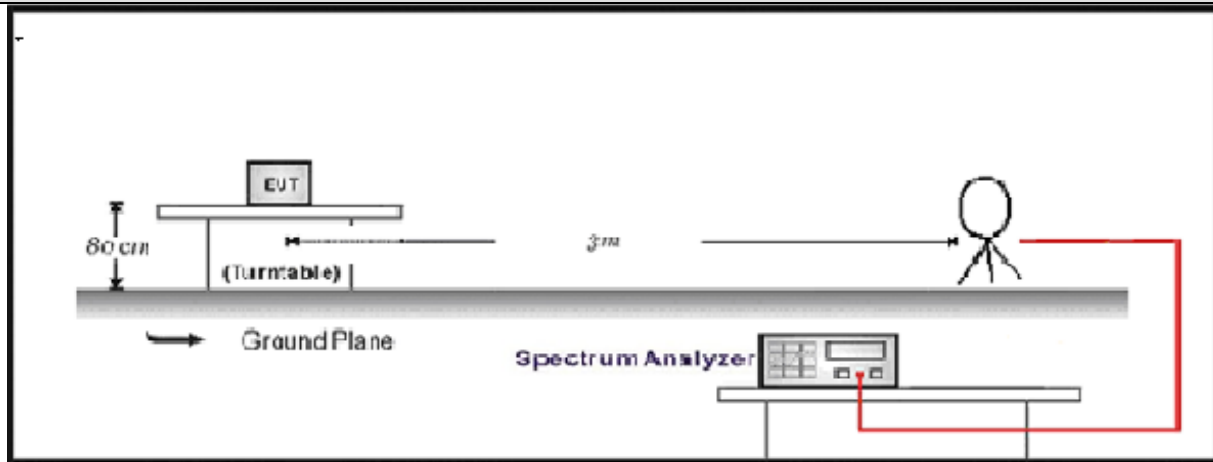
Frequency (MHz)	Field strength	Field strength ($\text{dB}\mu\text{V/m}$)	Measurement distance (m)
0.009 - 0.49	$6.37/F(\text{kHz}) \mu\text{A/m}$	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	$63.7/F(\text{kHz}) \mu\text{A/m}$	33.8 - 23	30 _(Note 1)
1.705 - 30	30 $\mu\text{V/m}$	29.5	30 _(Note 1)
30 - 88	100 $\mu\text{V/m}$	40	3 _(Note 2)
88 - 216	150 $\mu\text{V/m}$	43.5	3 _(Note 2)
216 - 960	200 $\mu\text{V/m}$	46	3 _(Note 2)
Above 960	500 $\mu\text{V/m}$	54	3 _(Note 2)

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

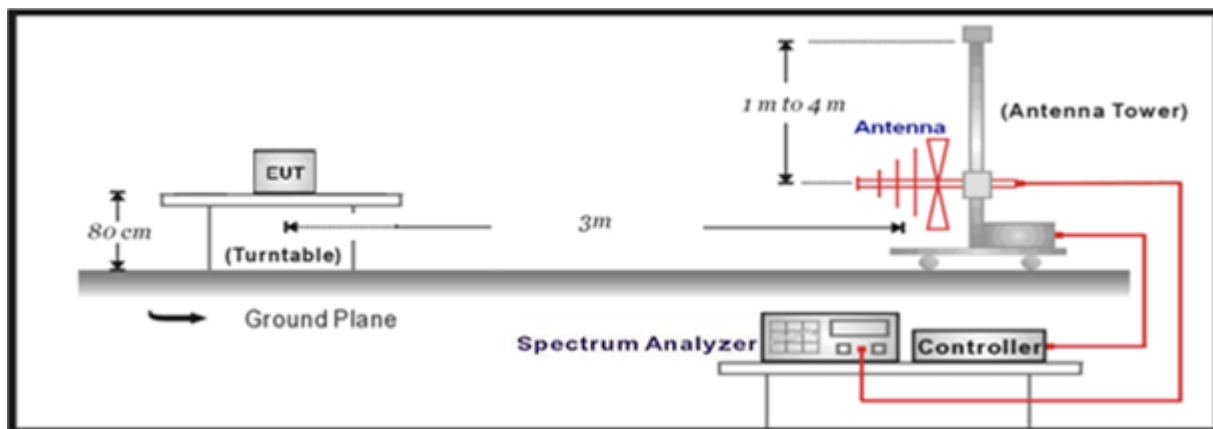
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.8.2 Test Setup

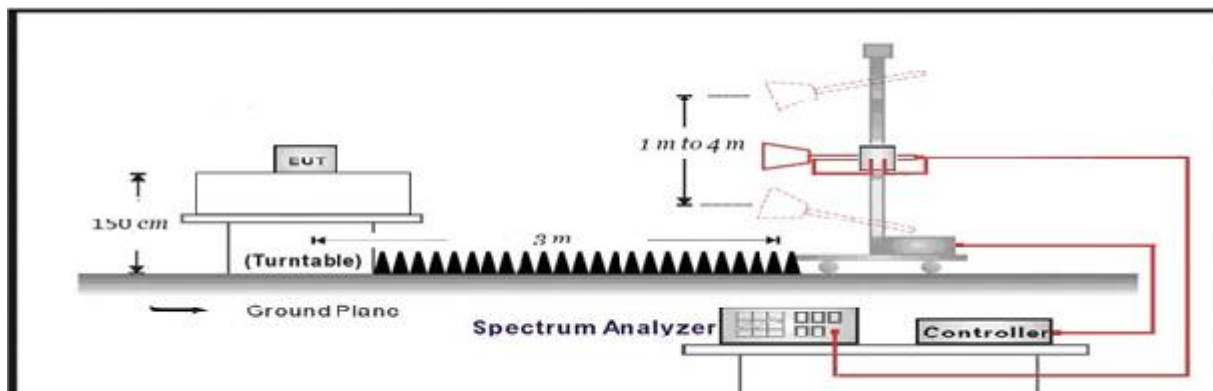
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.8.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10	11.12.1	Radiated emission measurements
	☒	ANSI C63.10	11.12.2.7	Radiated spurious emission test
		☒ ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
		☒ ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
		☒ ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.9 AC Power Line Conducted Emission

VERDICT: N/A

4.9.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.207; RSS-Gen Issue 5 Paragraph 8.8.	
Frequency range [MHz]	Limit: QP [dB(μV) ¹⁾]	Limit: AV [dB(μV) ¹⁾]
0,15 - 0,50	66 - 56 ²⁾	56 - 46 ²⁾
0,50 - 5,0	56	46
5,0 - 30	60	50

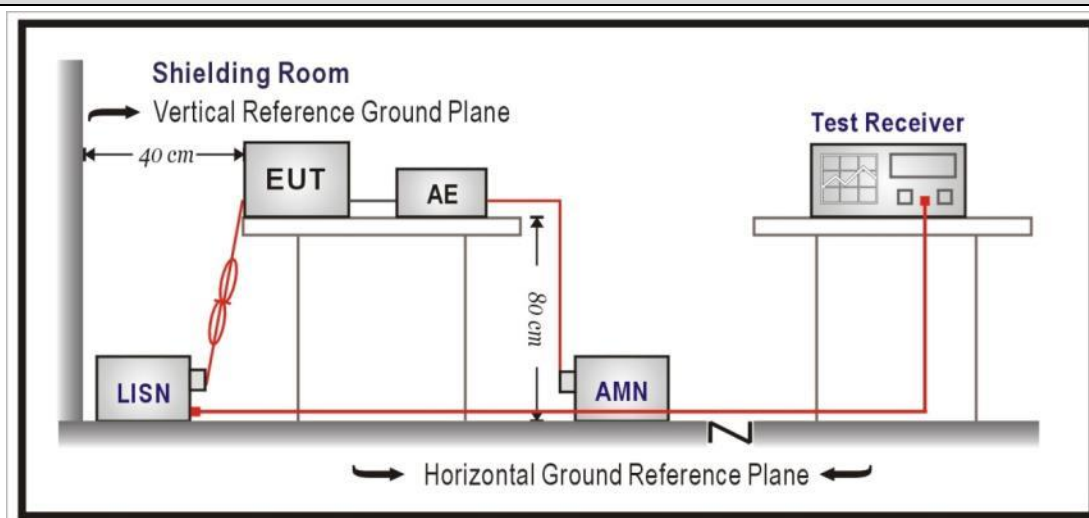
¹⁾ At the transition frequency, the lower limit applies.

²⁾ The limit decreases linearly with the logarithm of the frequency.

NOTE 1: The exclusion band for transmitters shall be considered for transmitters operating at frequencies below 30 MHz.

NOTE 2: Where the AC output port is directly connected (or via a circuit breaker) to the AC power input port of the EUT the AC power output port need not to be tested.

4.9.2 Test Setup



4.9.3 Test Procedure

	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

4.10 Antenna Requirement**VERDICT: PASS****4.10.1 Limit:****Standard**FCC Part 15 Subpart C Paragraph 15.203;
RSS-Gen Issue 5 Paragraph 6.8.

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, or §15.221. 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.

4.10.2 Antenna Connector Construction:

- | | |
|-------------------------------------|--|
| ☒ | The use of a permanently attached antenna |
| ☒ | The antenna use of a unique coupling to the intentional radiator |
| ☐ | The use of a nonstandard antenna jack or electrical connector |

Please refer to the attached document "Internal Photograph" to show the antenna connector.

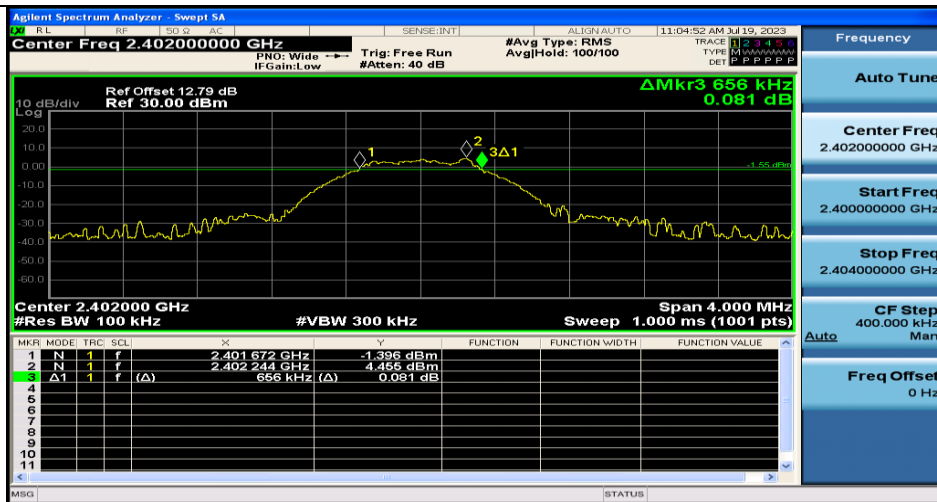
5 TEST SETUP PHOTO AND EUT PHOTO

Remark: The test setup photo and EUT Photo please see appendix.

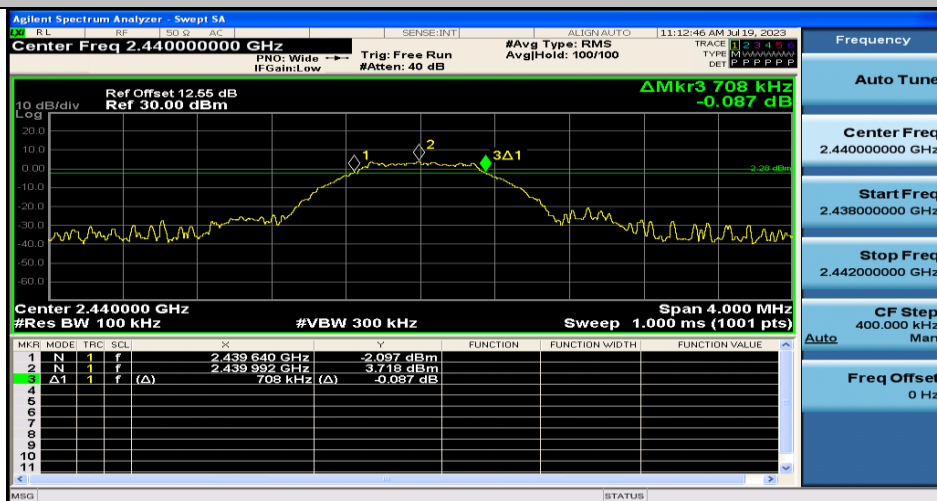
6 TEST RESULT

Appendix A: DTS Bandwidth

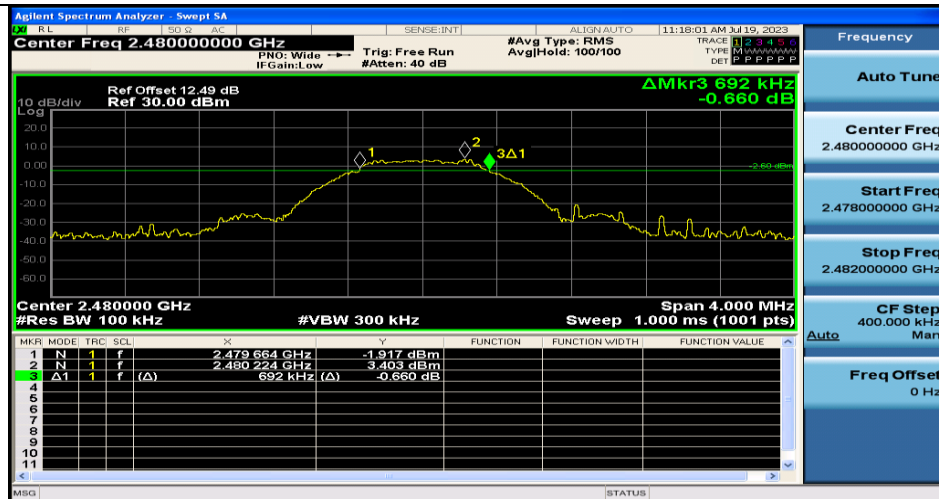
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.656	2401.672	2402.328	0.5	PASS
BLE_1M	Ant1	2440	0.708	2439.640	2440.348	0.5	PASS
BLE_1M	Ant1	2480	0.692	2479.664	2480.356	0.5	PASS
BLE_2M	Ant1	2402	1.144	2401.436	2402.580	0.5	PASS
BLE_2M	Ant1	2440	1.132	2439.428	2440.560	0.5	PASS
BLE_2M	Ant1	2480	1.140	2479.436	2480.576	0.5	PASS
BLE_125K	Ant1	2402	0.680	2401.660	2402.340	0.5	PASS
BLE_125K	Ant1	2440	0.684	2439.656	2440.340	0.5	PASS
BLE_125K	Ant1	2480	0.648	2479.676	2480.324	0.5	PASS
BLE_500K	Ant1	2402	0.736	2401.628	2402.364	0.5	PASS
BLE_500K	Ant1	2440	0.660	2439.676	2440.336	0.5	PASS
BLE_500K	Ant1	2480	0.664	2479.676	2480.340	0.5	PASS



BLE_1M-Ant1-2402



BLE_1M-Ant1-2440



BLE_1M-Ant1-2480



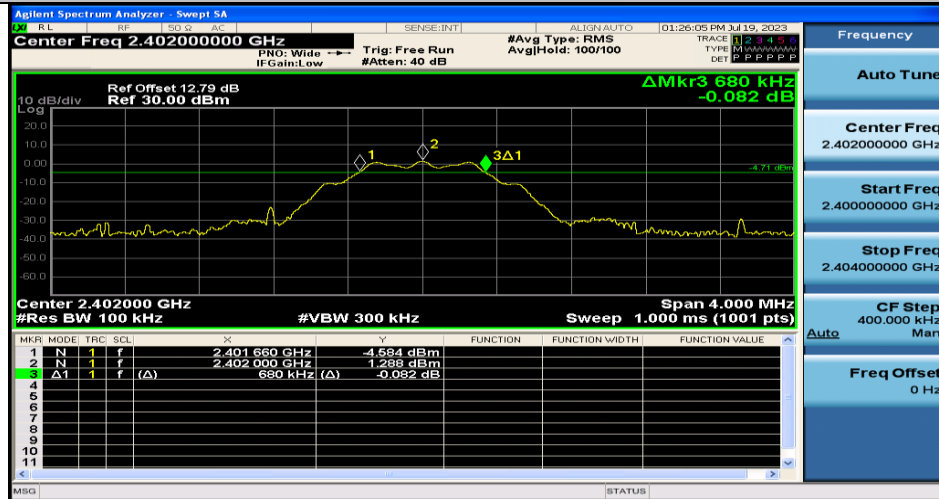
BLE_2M-Ant1-2402



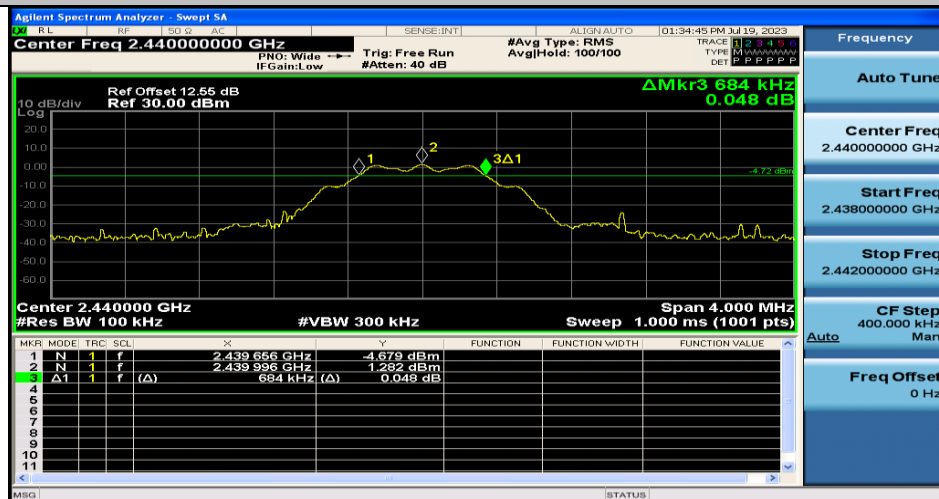
BLE_2M-Ant1-2440



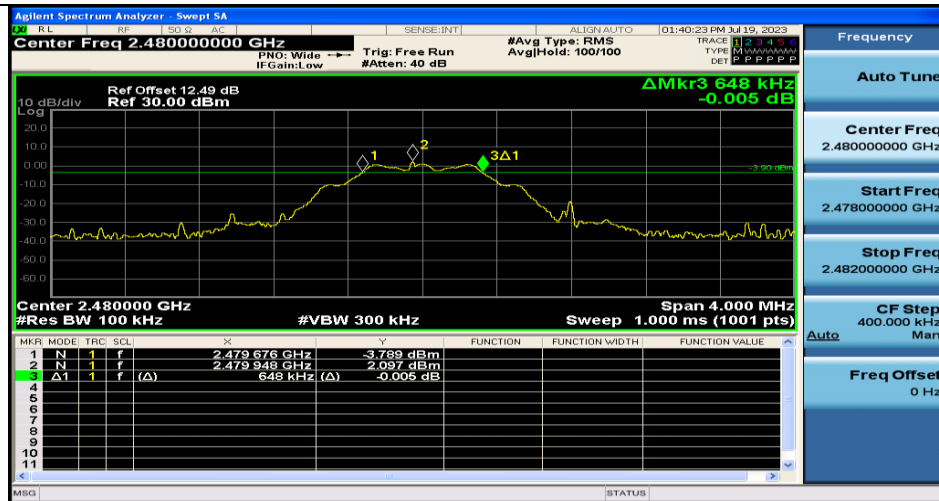
BLE_2M-Ant1-2480



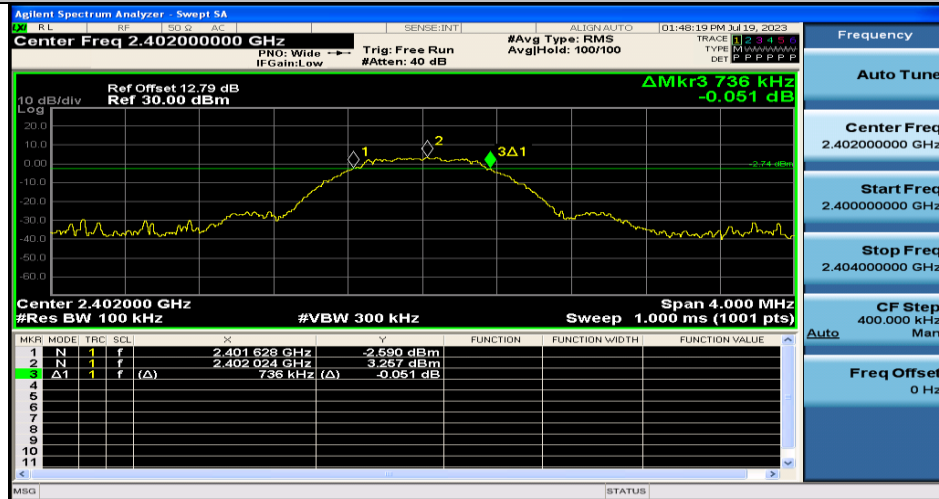
BLE_125K-Ant1-2402



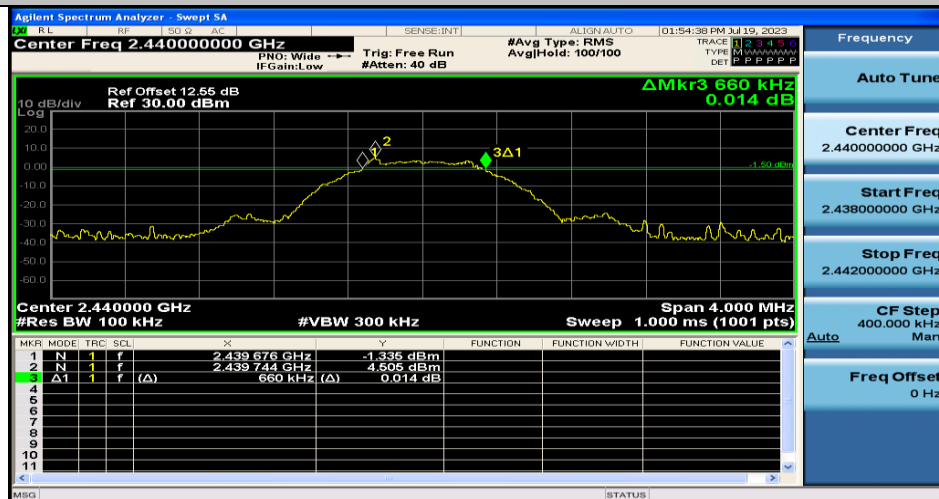
BLE_125K-Ant1-2440



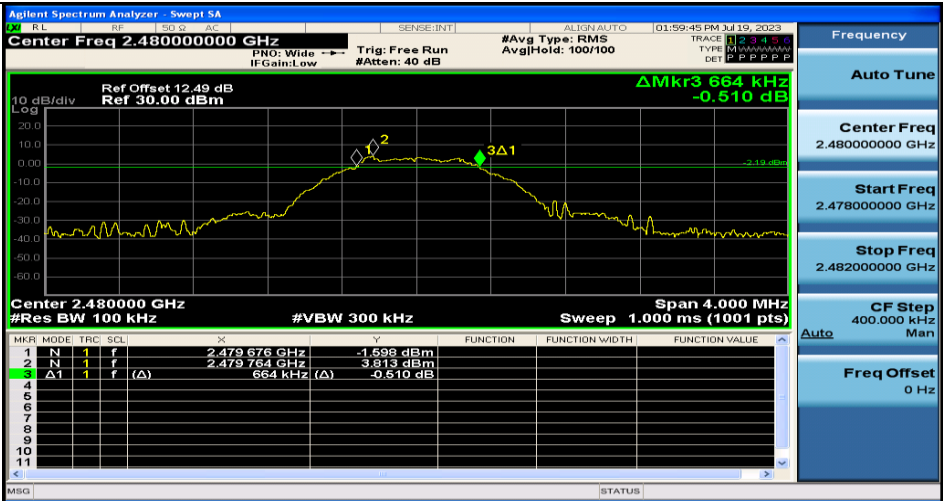
BLE_125K-Ant1-2480



BLE_500K-Ant1-2402



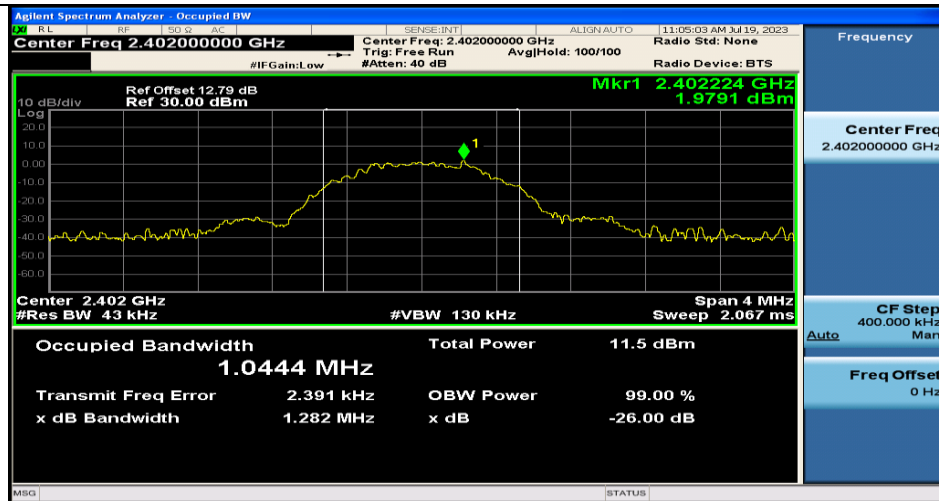
BLE_500K-Ant1-2440



BLE_500K-Ant1-2480

Appendix B: Occupied Channel Bandwidth

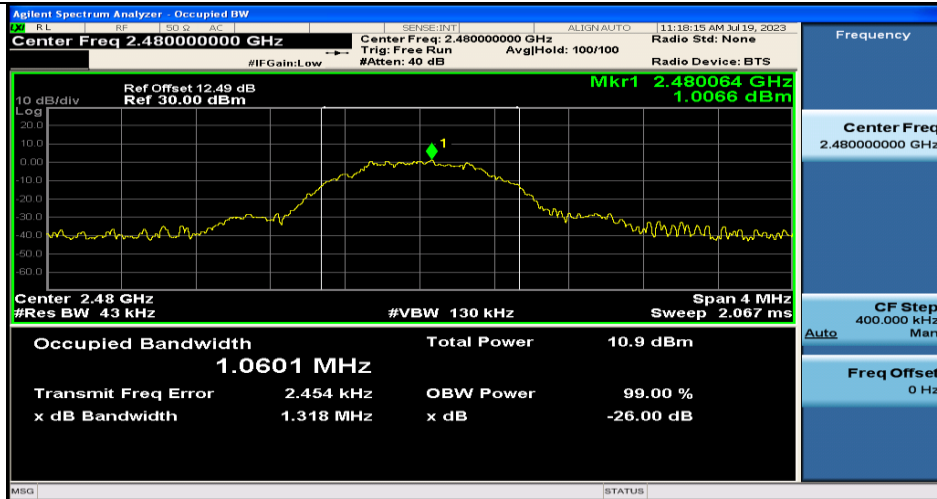
TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]
BLE_1M	Ant1	2402	1.0444	2401.4802	2402.5246
BLE_1M	Ant1	2440	1.0434	2439.4791	2440.5225
BLE_1M	Ant1	2480	1.0601	2479.4724	2480.5325
BLE_2M	Ant1	2402	2.0825	2400.9777	2403.0602
BLE_2M	Ant1	2440	2.0863	2438.9709	2441.0572
BLE_2M	Ant1	2480	2.0912	2478.9686	2481.0598
BLE_125K	Ant1	2402	1.0652	2401.4657	2402.5309
BLE_125K	Ant1	2440	1.0669	2439.4639	2440.5308
BLE_125K	Ant1	2480	1.0709	2479.4614	2480.5323
BLE_500K	Ant1	2402	1.0287	2401.4851	2402.5138
BLE_500K	Ant1	2440	1.0399	2439.4792	2440.5191
BLE_500K	Ant1	2480	1.0386	2479.4818	2480.5204



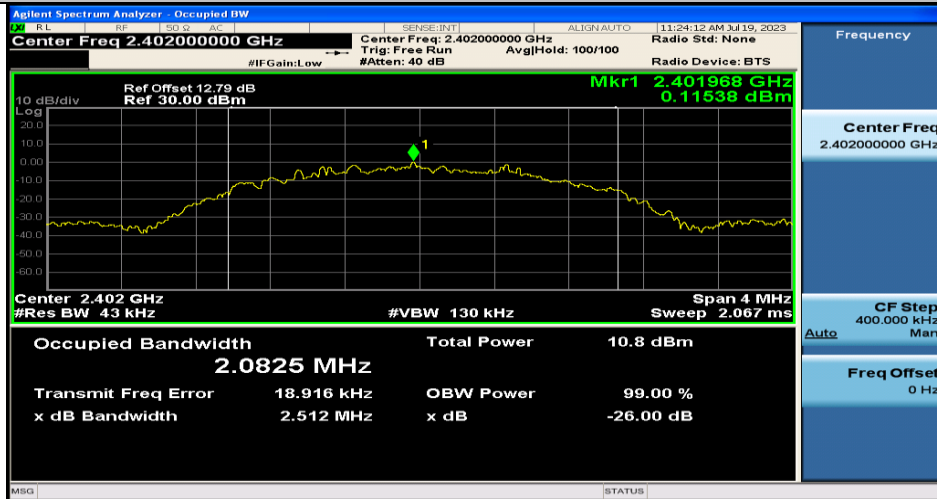
BLE_1M-Ant1-2402



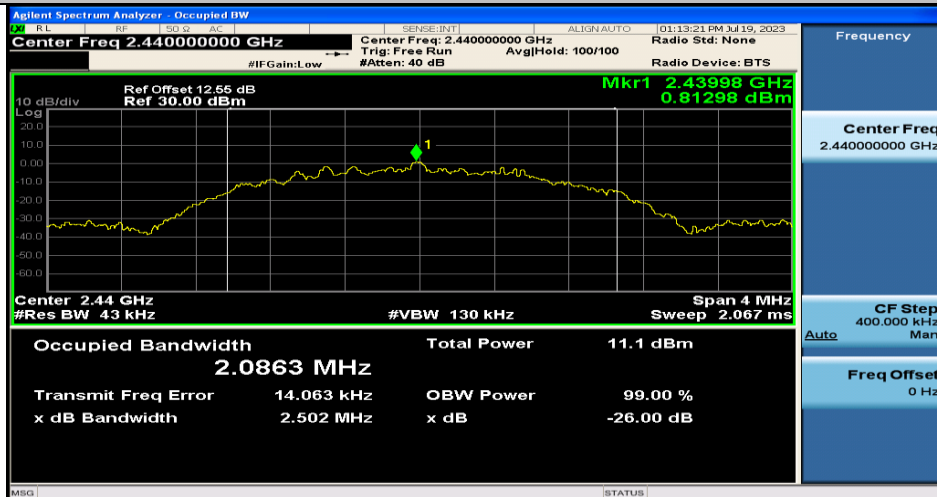
BLE_1M-Ant1-2440



BLE_1M-Ant1-2480



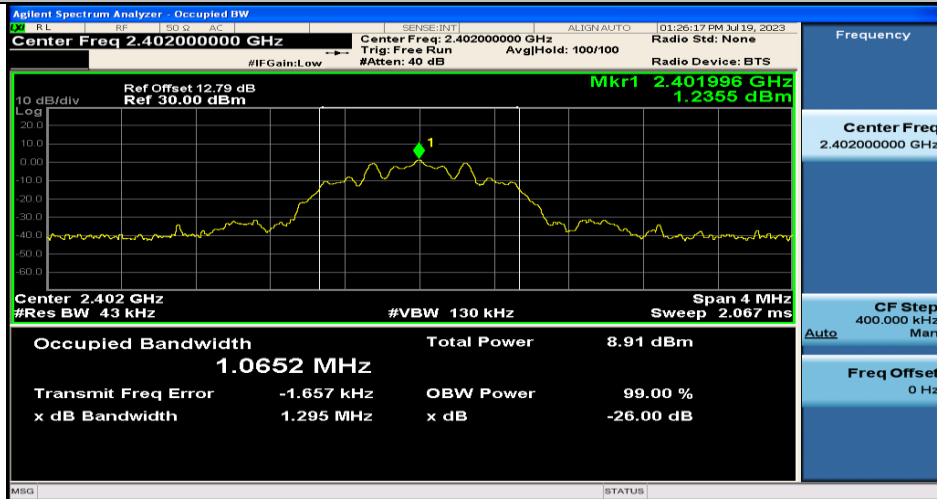
BLE_2M-Ant1-2402



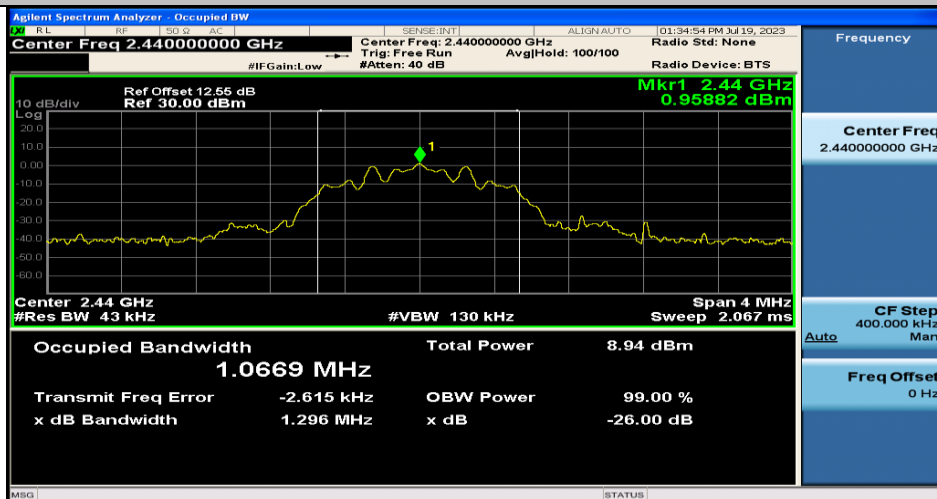
BLE_2M-Ant1-2440



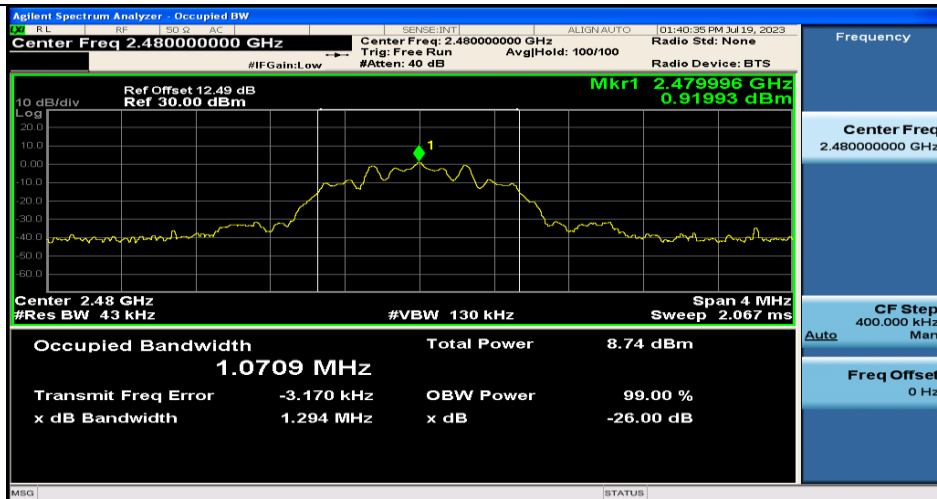
BLE_2M-Ant1-2480



BLE_125K-Ant1-2402



BLE_125K-Ant1-2440



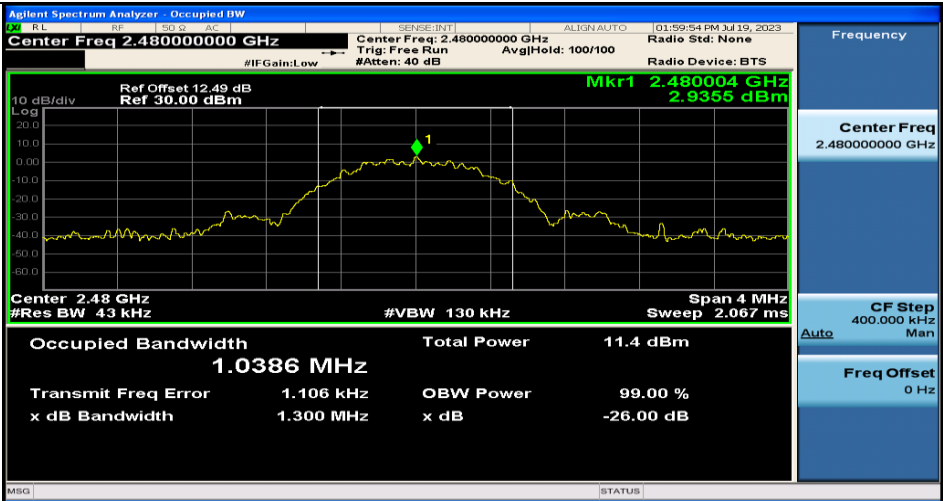
BLE_125K-Ant1-2480



BLE_500K-Ant1-2402



BLE_500K-Ant1-2440



BLE_500K-Ant1-2480

Appendix C: Maximum conducted output power

CYW20822-P4TAI040 PCB Antenna:

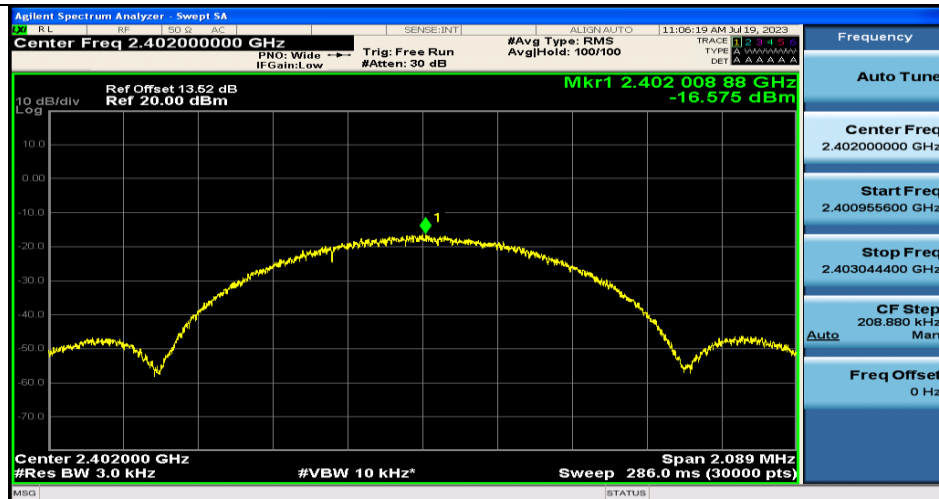
TestMode	Antenna	Frequency[MHz]	Conducted Average Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	3.63	≤30	7.84	≤36	PASS
BLE_1M	Ant1	2440	3.61	≤30	7.82	≤36	PASS
BLE_1M	Ant1	2480	3.53	≤30	7.74	≤36	PASS
BLE_2M	Ant1	2402	3.66	≤30	7.87	≤36	PASS
BLE_2M	Ant1	2440	3.62	≤30	7.83	≤36	PASS
BLE_2M	Ant1	2480	3.56	≤30	7.77	≤36	PASS
BLE_125K	Ant1	2402	3.65	≤30	7.86	≤36	PASS
BLE_125K	Ant1	2440	3.59	≤30	7.80	≤36	PASS
BLE_125K	Ant1	2480	3.55	≤30	7.76	≤36	PASS
BLE_500K	Ant1	2402	3.62	≤30	7.83	≤36	PASS
BLE_500K	Ant1	2440	3.58	≤30	7.79	≤36	PASS
BLE_500K	Ant1	2480	3.56	≤30	7.77	≤36	PASS

CYW20822-P4EPI040 External Antenna:

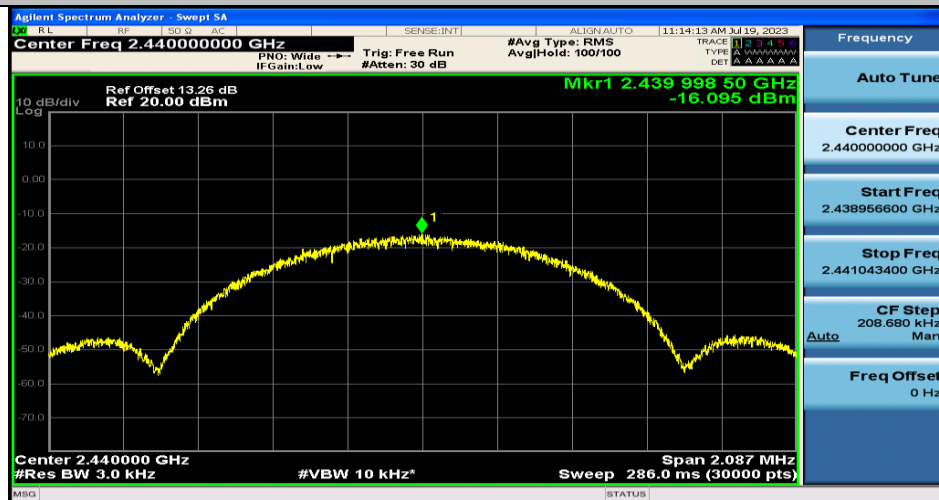
TestMode	Antenna	Frequency[MHz]	Conducted Average Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	3.63	≤30	5.63	≤36	PASS
BLE_1M	Ant1	2440	3.61	≤30	5.61	≤36	PASS
BLE_1M	Ant1	2480	3.53	≤30	5.53	≤36	PASS
BLE_2M	Ant1	2402	3.66	≤30	5.66	≤36	PASS
BLE_2M	Ant1	2440	3.62	≤30	5.62	≤36	PASS
BLE_2M	Ant1	2480	3.56	≤30	5.56	≤36	PASS
BLE_125K	Ant1	2402	3.65	≤30	5.65	≤36	PASS
BLE_125K	Ant1	2440	3.59	≤30	5.59	≤36	PASS
BLE_125K	Ant1	2480	3.55	≤30	5.55	≤36	PASS
BLE_500K	Ant1	2402	3.62	≤30	5.62	≤36	PASS
BLE_500K	Ant1	2440	3.58	≤30	5.58	≤36	PASS
BLE_500K	Ant1	2480	3.56	≤30	5.56	≤36	PASS

Appendix D: Maximum power spectral density

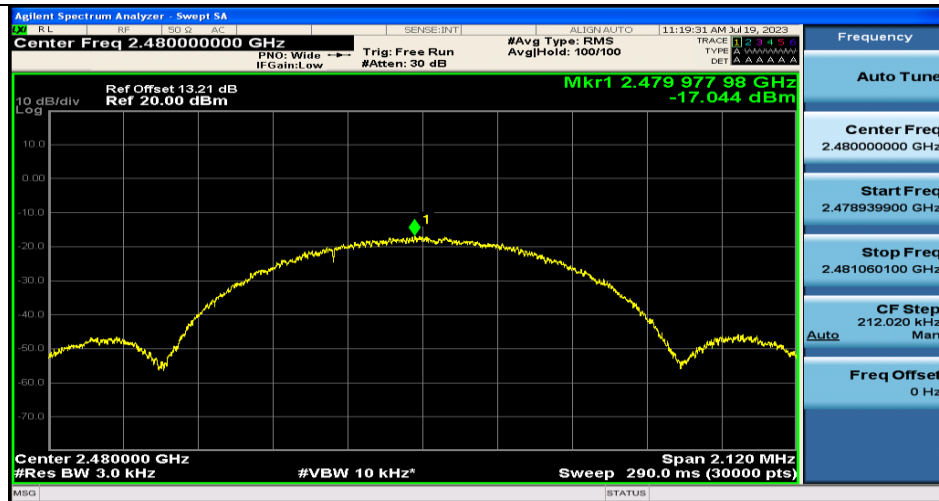
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.58	≤8.00	PASS
BLE_1M	Ant1	2440	-16.10	≤8.00	PASS
BLE_1M	Ant1	2480	-17.04	≤8.00	PASS
BLE_2M	Ant1	2402	-18.50	≤8.00	PASS
BLE_2M	Ant1	2440	-18.12	≤8.00	PASS
BLE_2M	Ant1	2480	-18.53	≤8.00	PASS
BLE_125K	Ant1	2402	-1.90	≤8.00	PASS
BLE_125K	Ant1	2440	-1.80	≤8.00	PASS
BLE_125K	Ant1	2480	-1.93	≤8.00	PASS
BLE_500K	Ant1	2402	-11.25	≤8.00	PASS
BLE_500K	Ant1	2440	-12.77	≤8.00	PASS
BLE_500K	Ant1	2480	-11.51	≤8.00	PASS



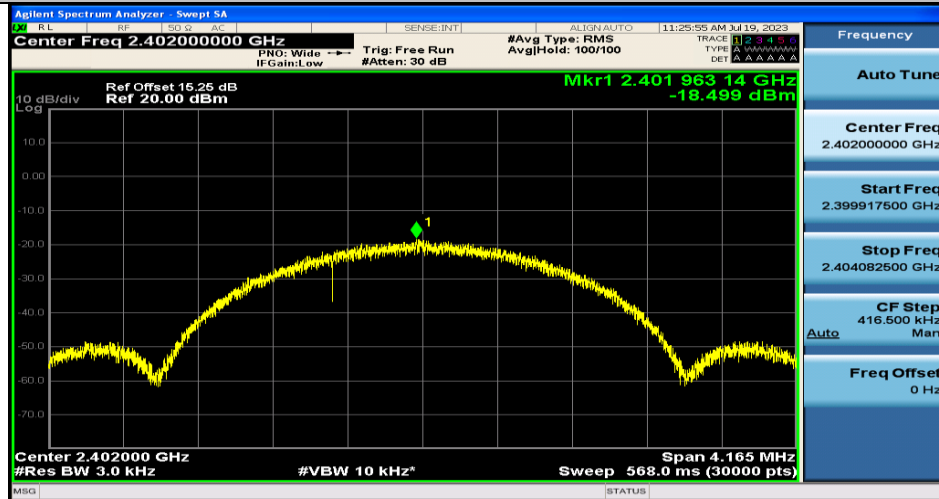
BLE_1M-Ant1-2402



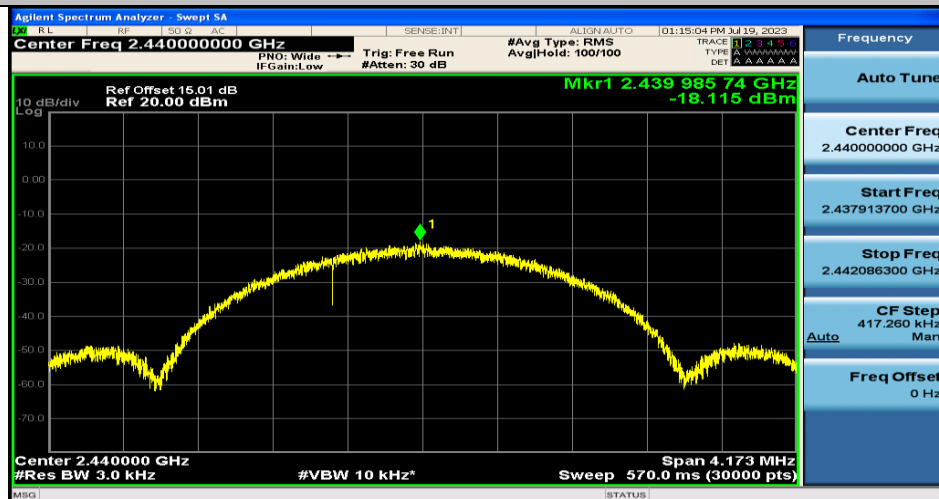
BLE_1M-Ant1-2440



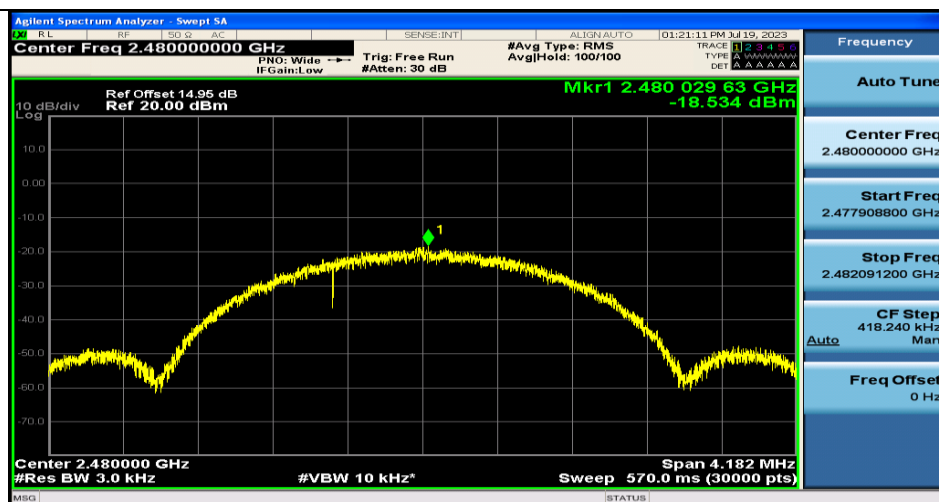
BLE_1M-Ant1-2480



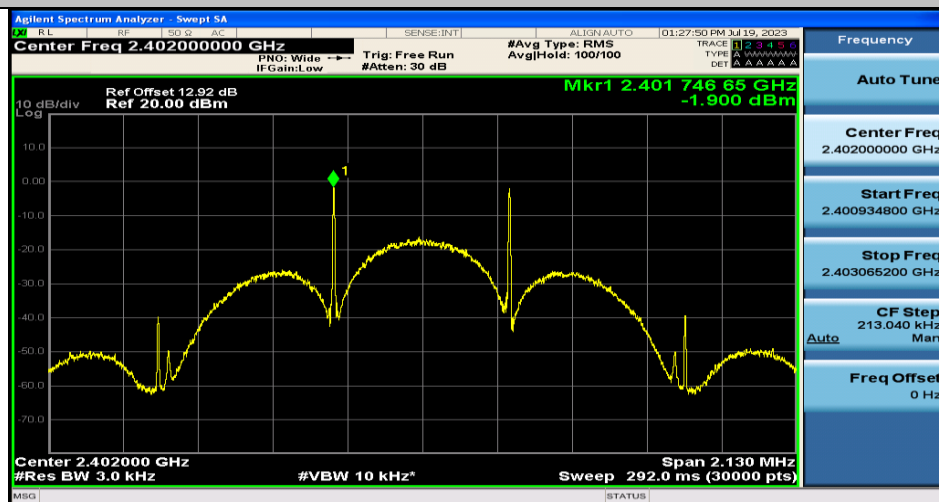
BLE_2M-Ant1-2402



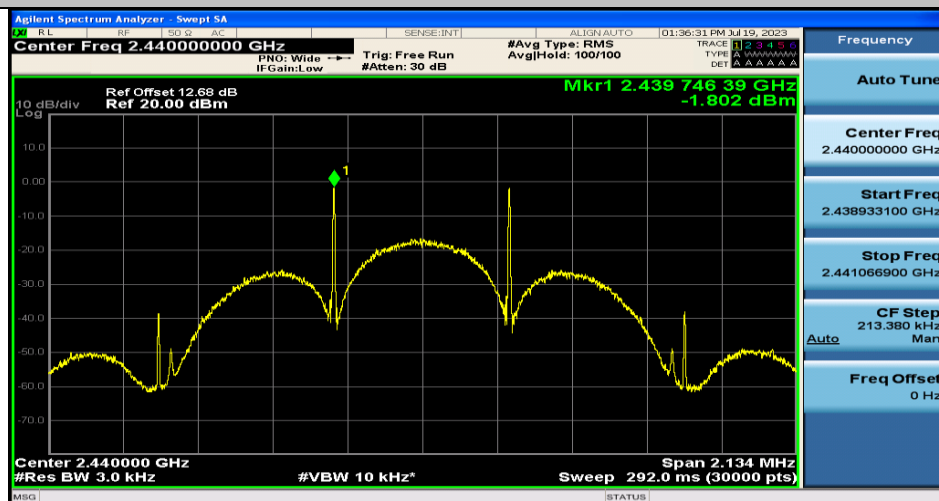
BLE_2M-Ant1-2440



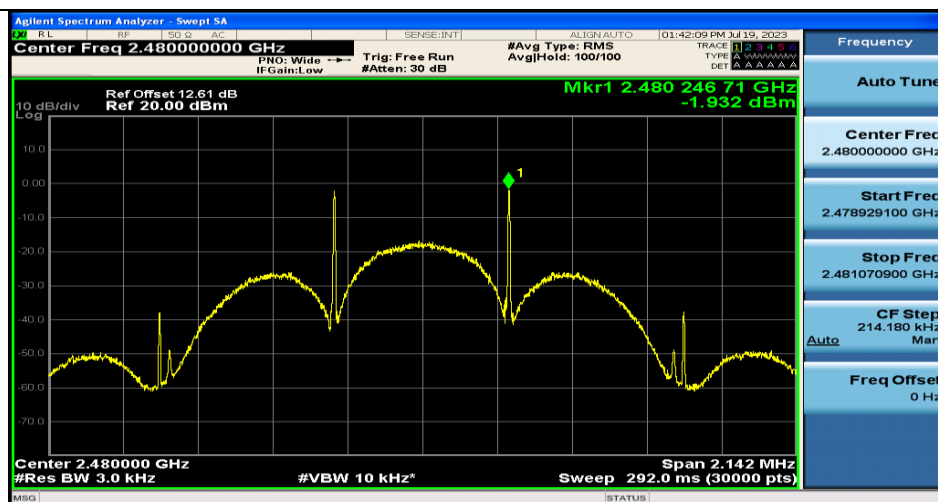
BLE_2M-Ant1-2480



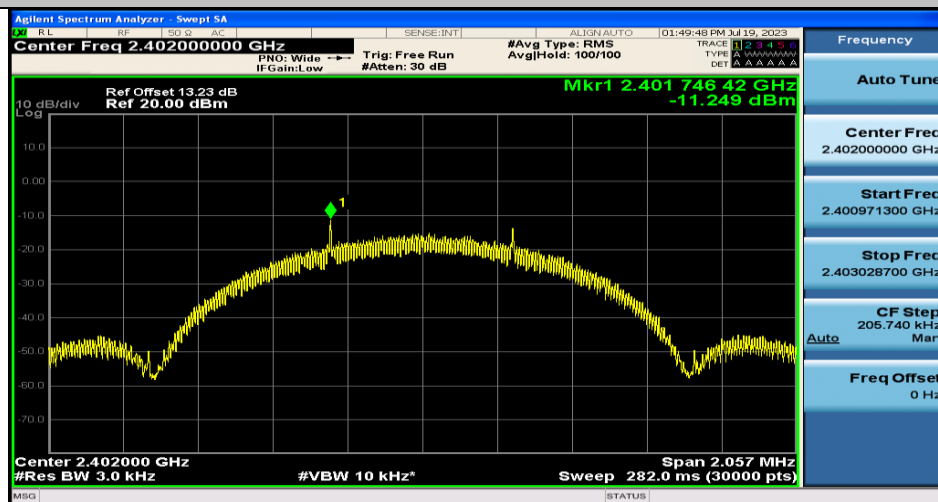
BLE_125K-Ant1-2402



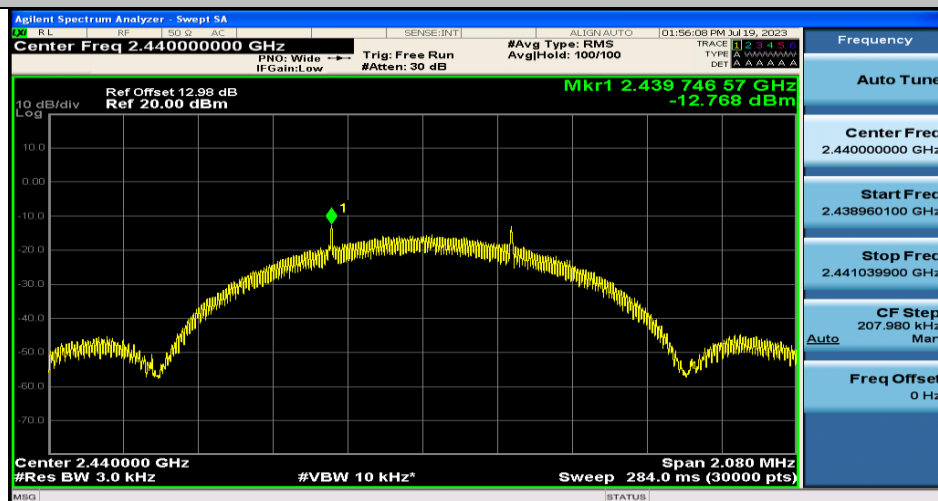
BLE_125K-Ant1-2440



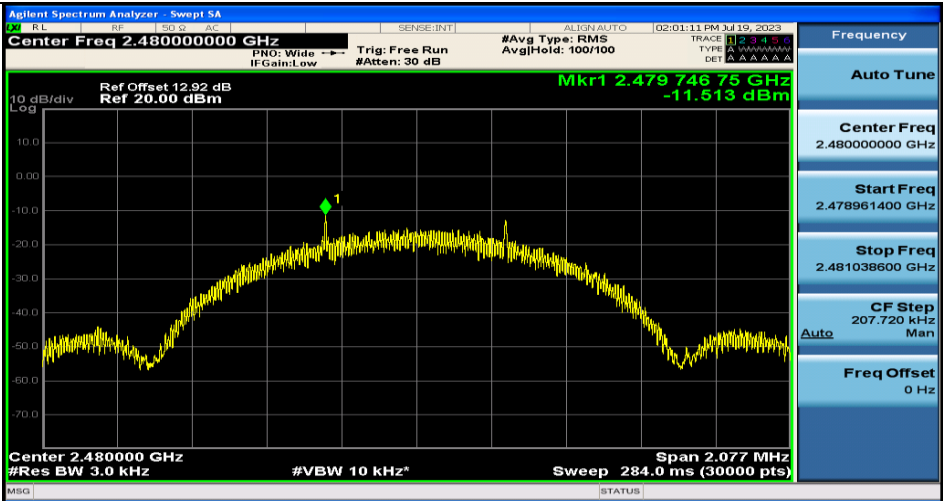
BLE_125K-Ant1-2480



BLE_500K-Ant1-2402



BLE_500K-Ant1-2440

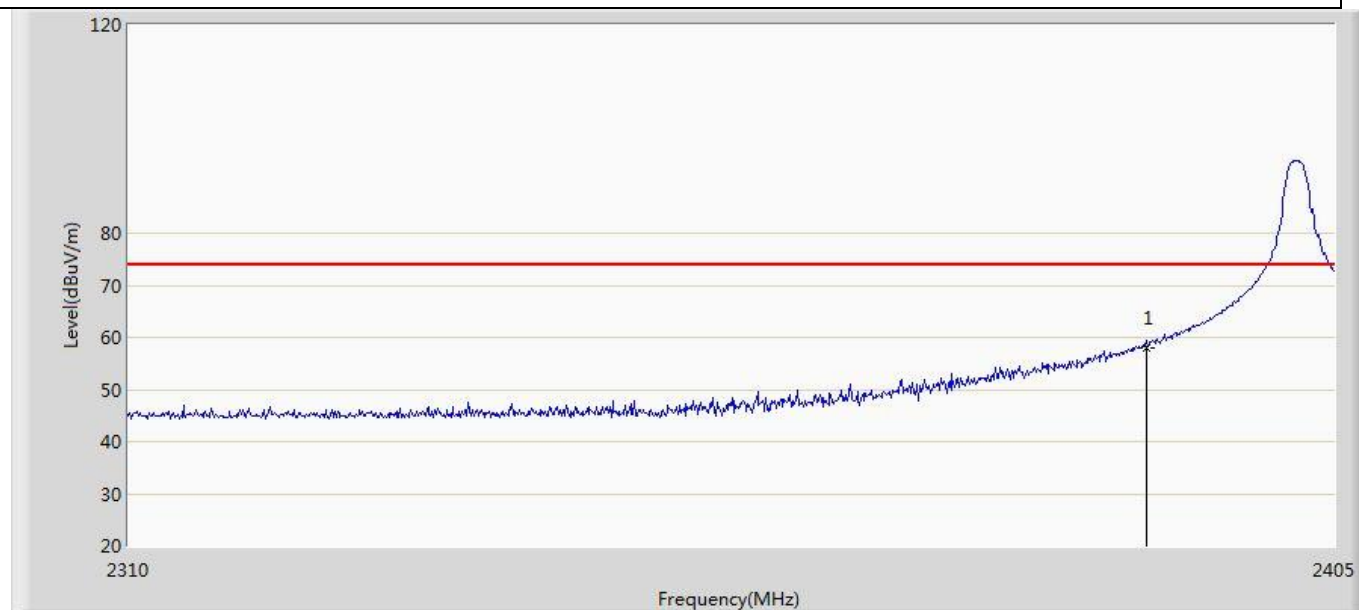


BLE_500K-Ant1-2480

Appendix E: Band edge measurements

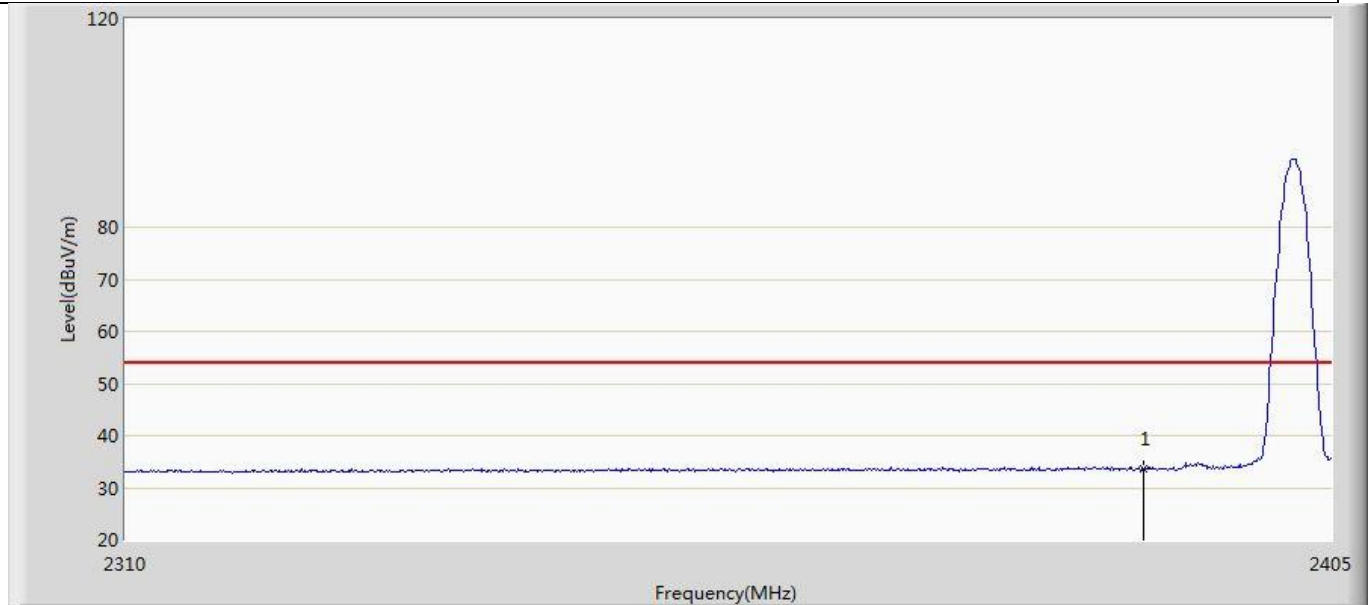
CYW20822-P4TAI040 PCB Antenna:

Profile: 2370455R	Page No.: 1
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2402MHz by LE_1Mbps	



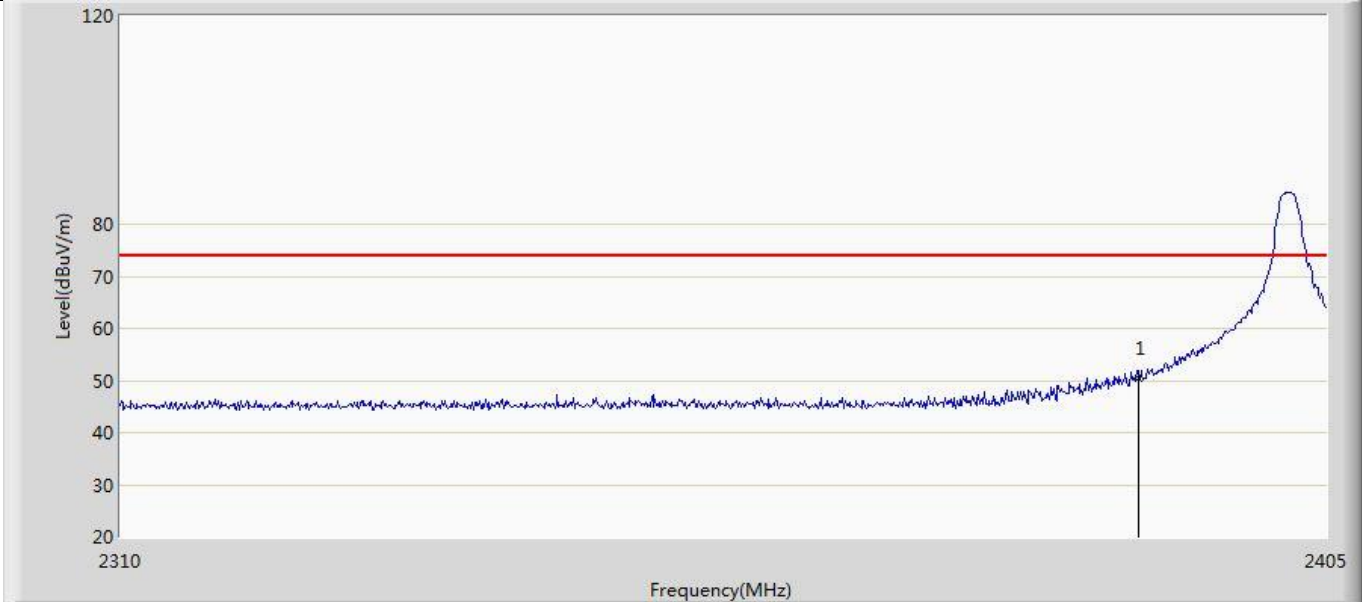
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	58.041	23.928	-15.959	74.000	34.113	PK

Profile: 2370455R	Page No.: 2
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2402MHz by LE_1Mbps	



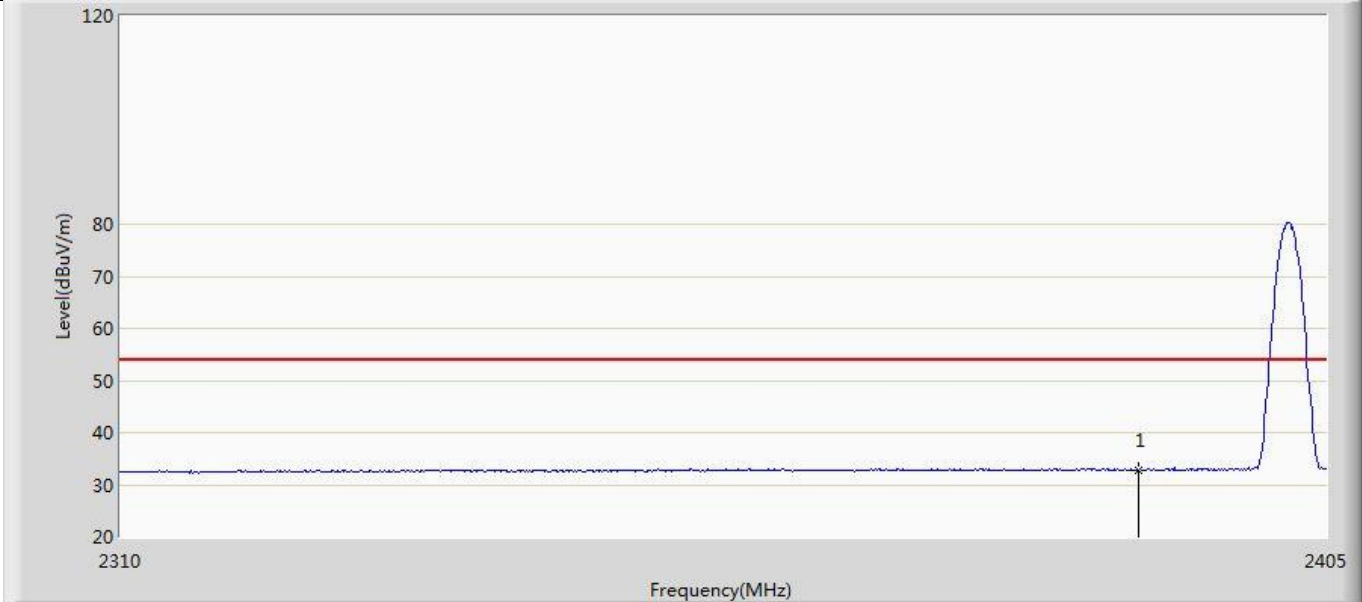
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.706	-0.407	-20.294	54.000	34.113	AV

Profile: 2370455R	Page No.: 3
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2402MHz by LE_1Mbps	



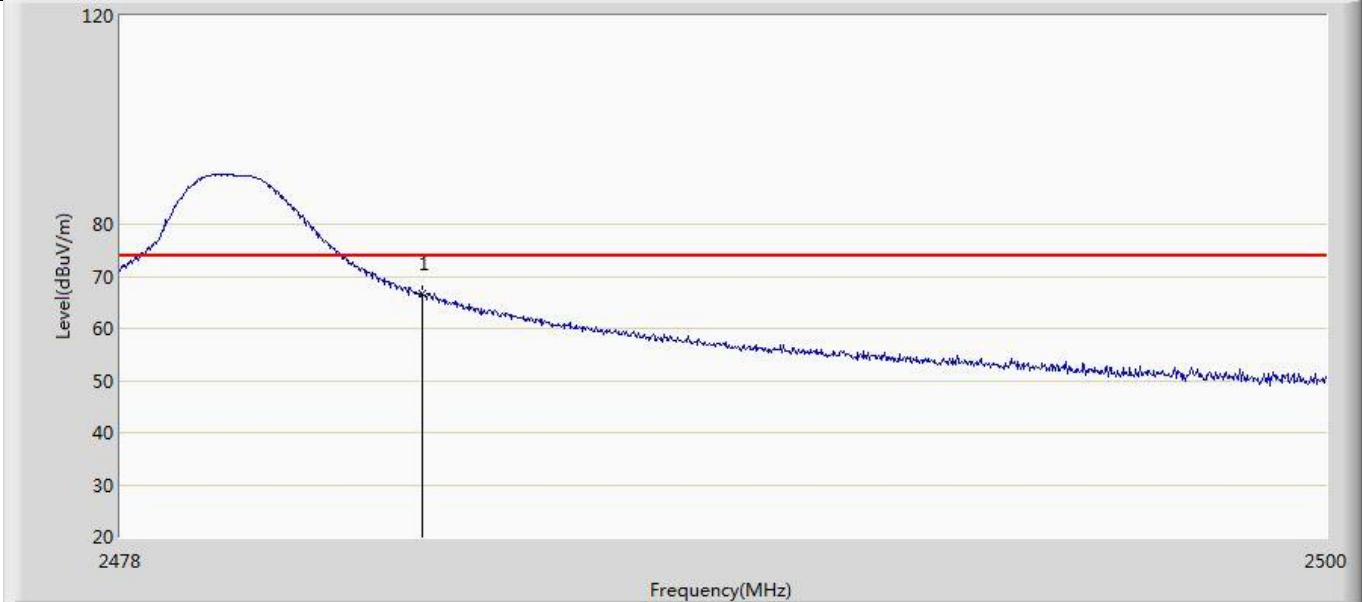
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	50.529	16.416	-23.471	74.000	34.113	PK

Profile: 2370455R	Page No.: 4
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2402MHz by LE_1Mbps	



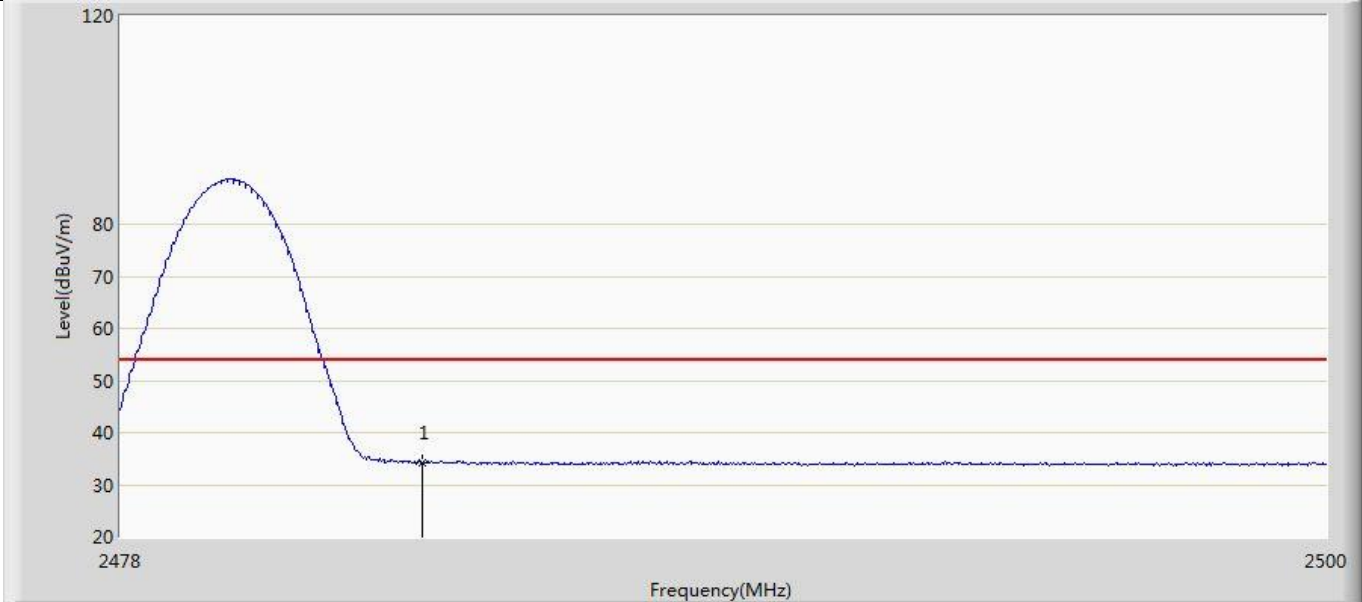
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	32.852	-1.261	-21.148	54.000	34.113	AV

Profile: 2370455R	Page No.: 5
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2480MHz by LE_1Mbps	



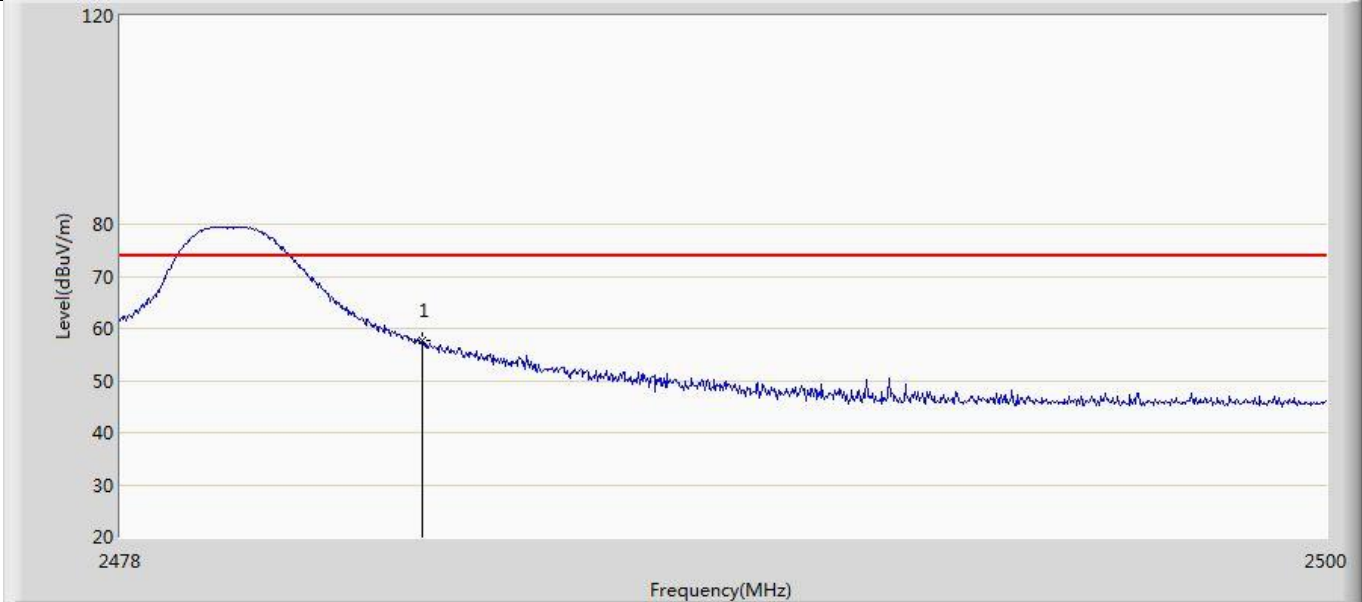
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	66.689	32.173	-7.311	74.000	34.516	PK

Profile: 2370455R	Page No.: 6
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2480MHz by LE_1Mbps	



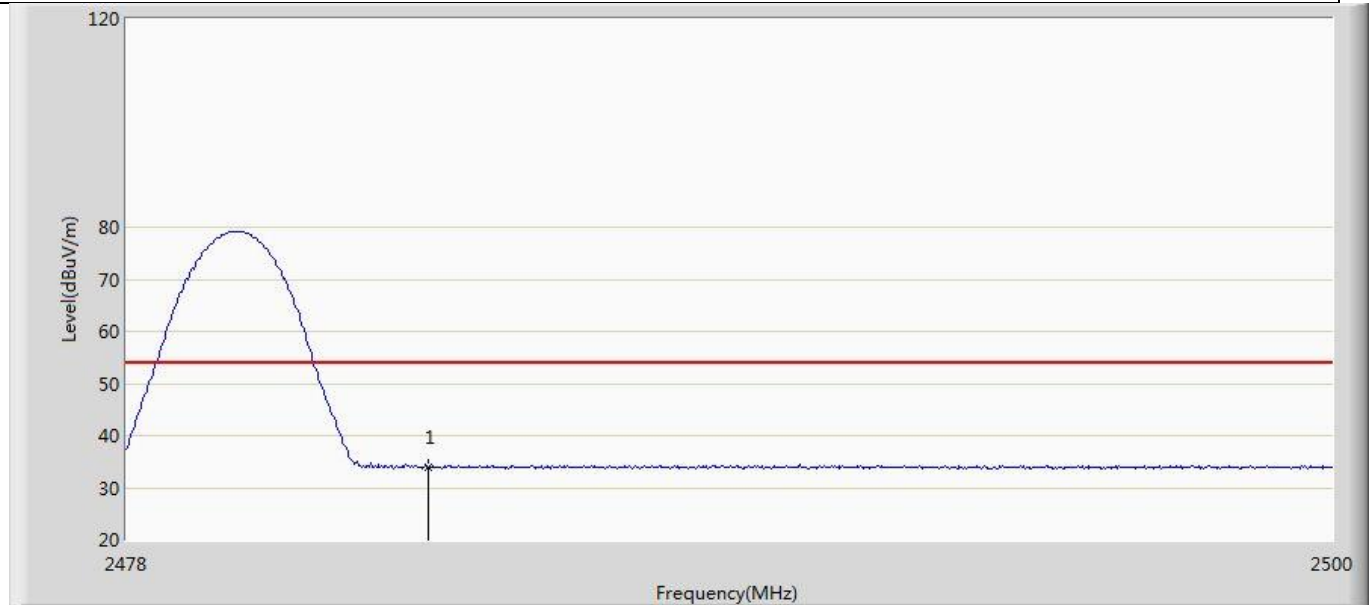
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	34.136	-0.380	-19.864	54.000	34.516	AV

Profile: 2370455R	Page No.: 7
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2480MHz by LE_1Mbps	



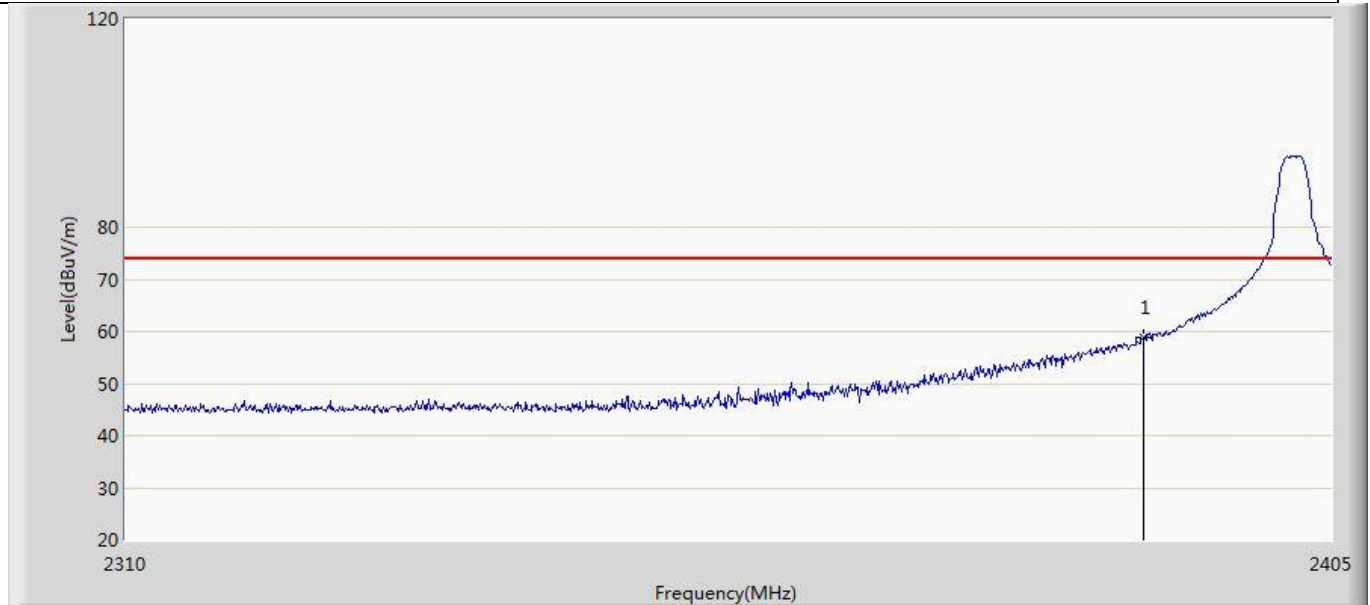
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	57.773	23.257	-16.227	74.000	34.516	PK

Profile: 2370455R	Page No.: 8
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2480MHz by LE_1Mbps	



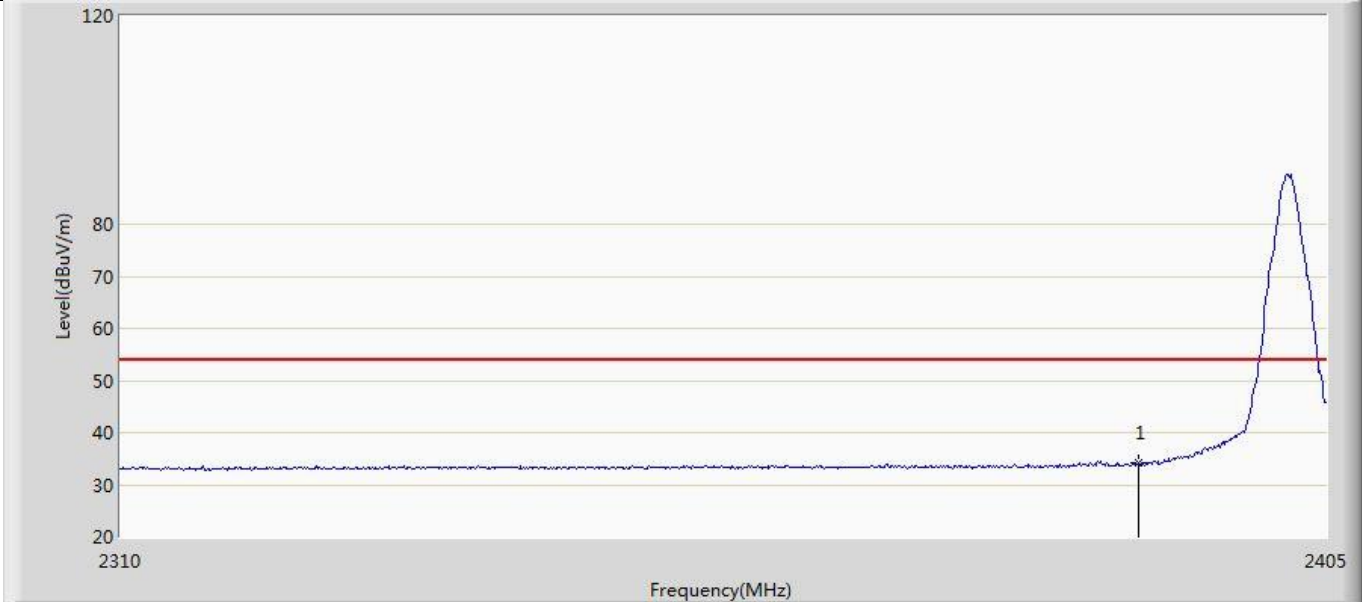
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	34.028	-0.488	-19.972	54.000	34.516	AV

Profile: 2370455R	Page No.: 9
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2402MHz by LE_2Mbps	



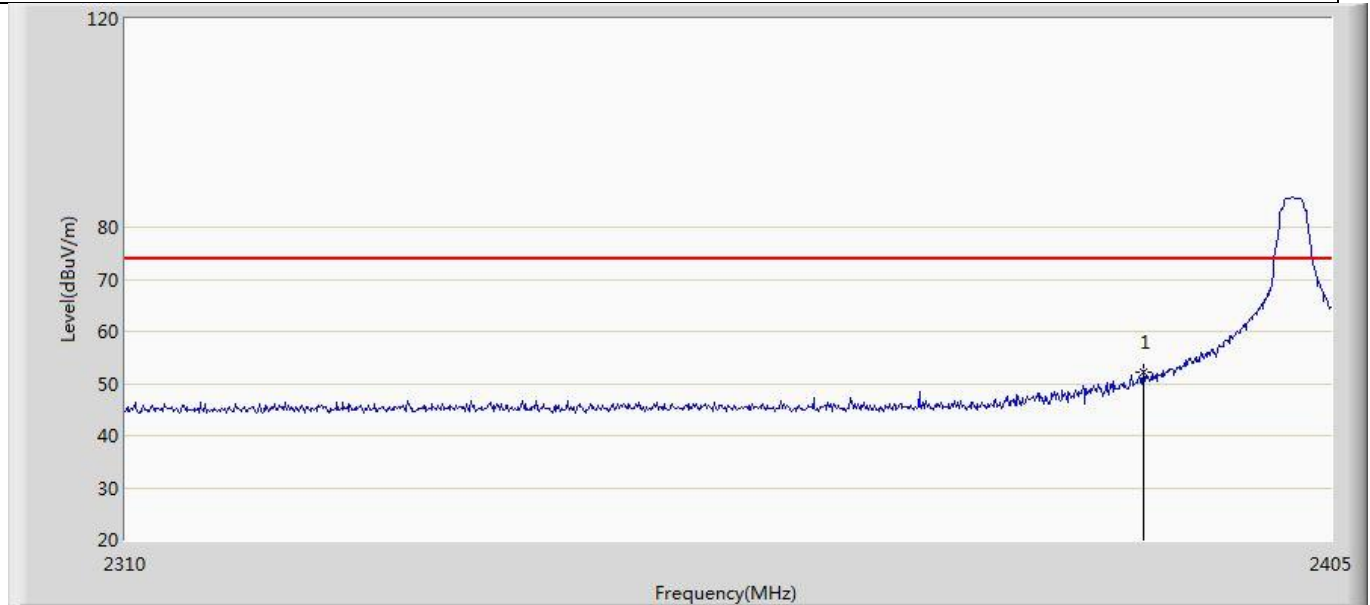
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	58.780	24.667	-15.220	74.000	34.113	PK

Profile: 2370455R	Page No.: 10
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2402MHz by LE_2Mbps	



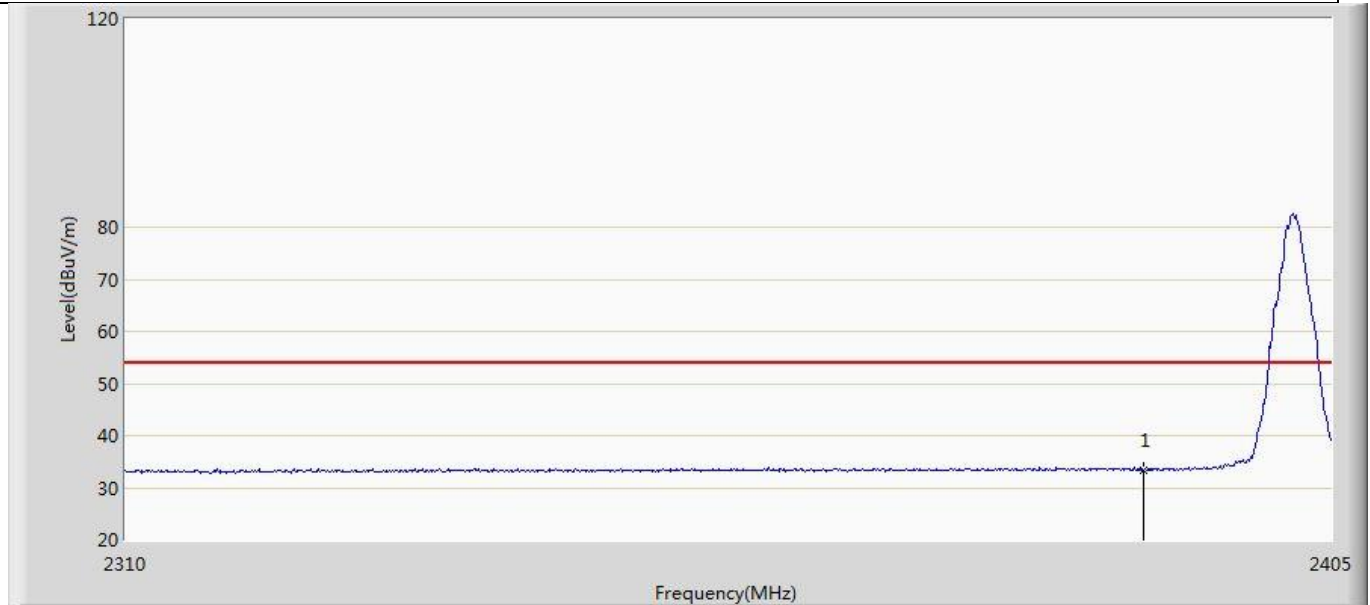
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	34.080	-0.033	-19.920	54.000	34.113	AV

Profile: 2370455R	Page No.: 11
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2402MHz by LE_2Mbps	



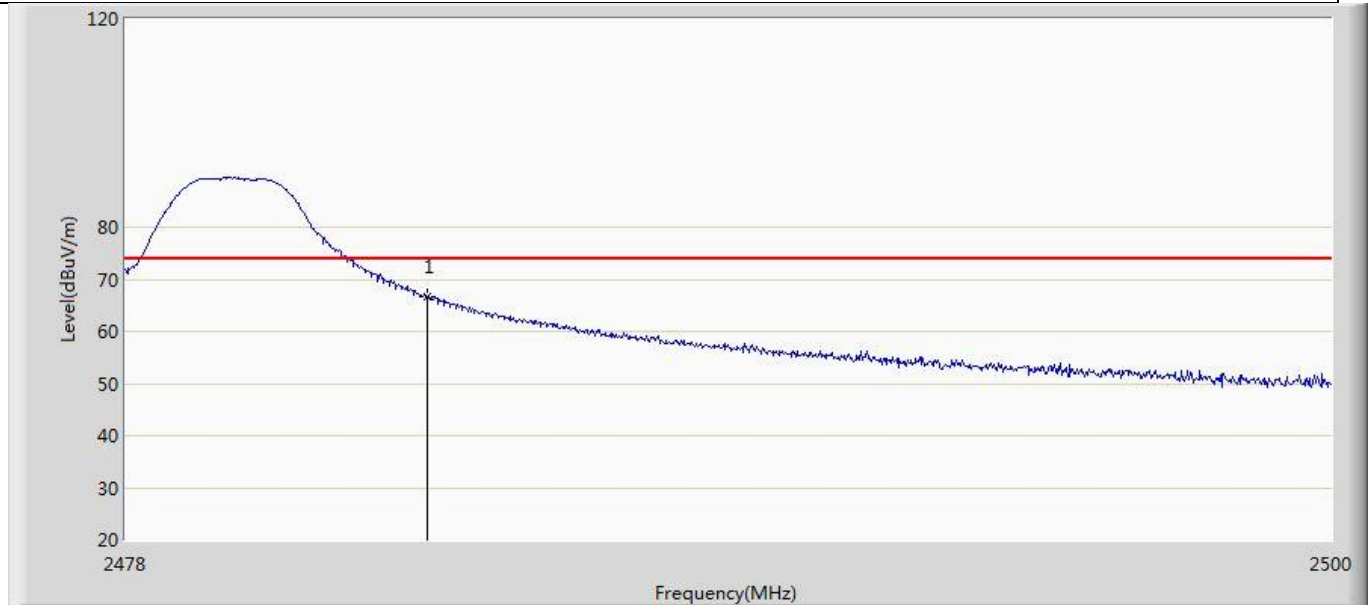
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	52.188	18.075	-21.812	74.000	34.113	PK

Profile: 2370455R	Page No.: 12
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2402MHz by LE_2Mbps	



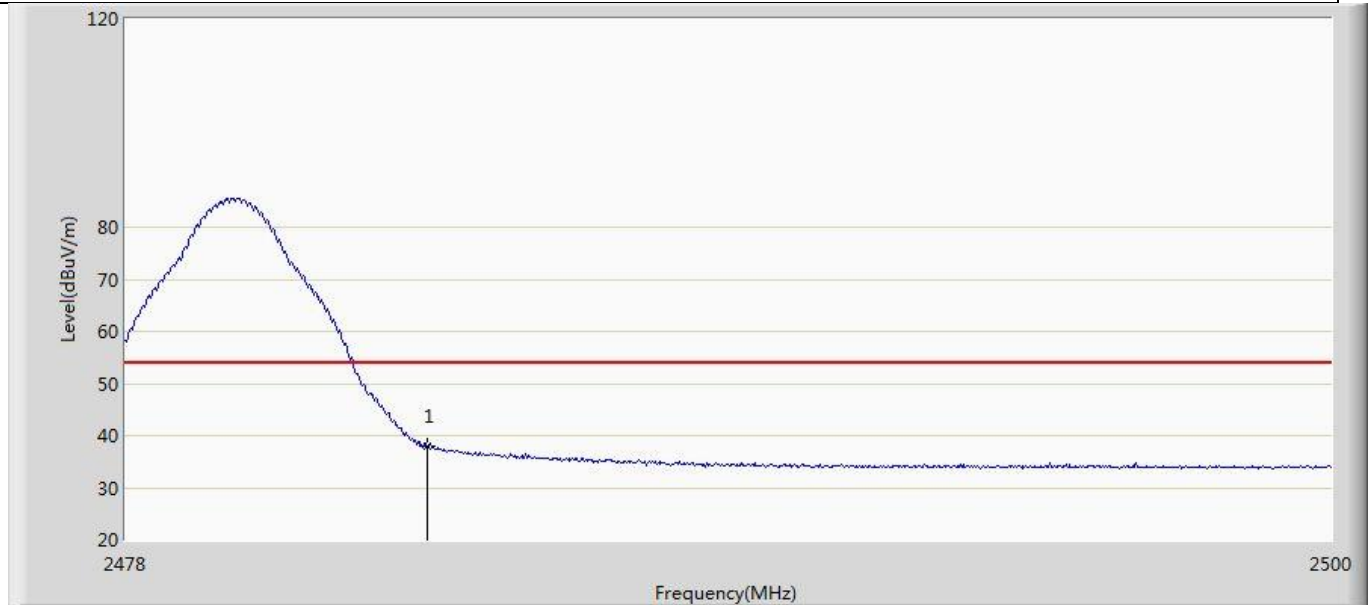
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.443	-0.670	-20.557	54.000	34.113	AV

Profile: 2370455R	Page No.: 13
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2480MHz by LE_2Mbps	



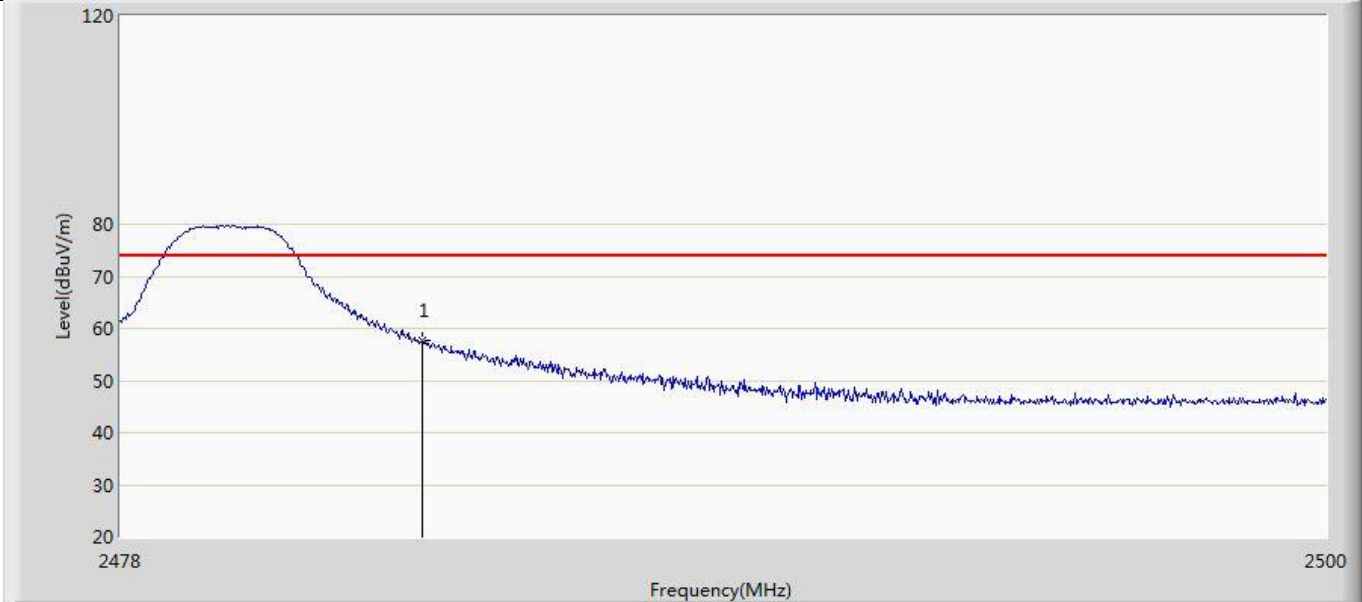
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	66.759	32.243	-7.241	74.000	34.516	PK

Profile: 2370455R	Page No.: 14
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2480MHz by LE_2Mbps	



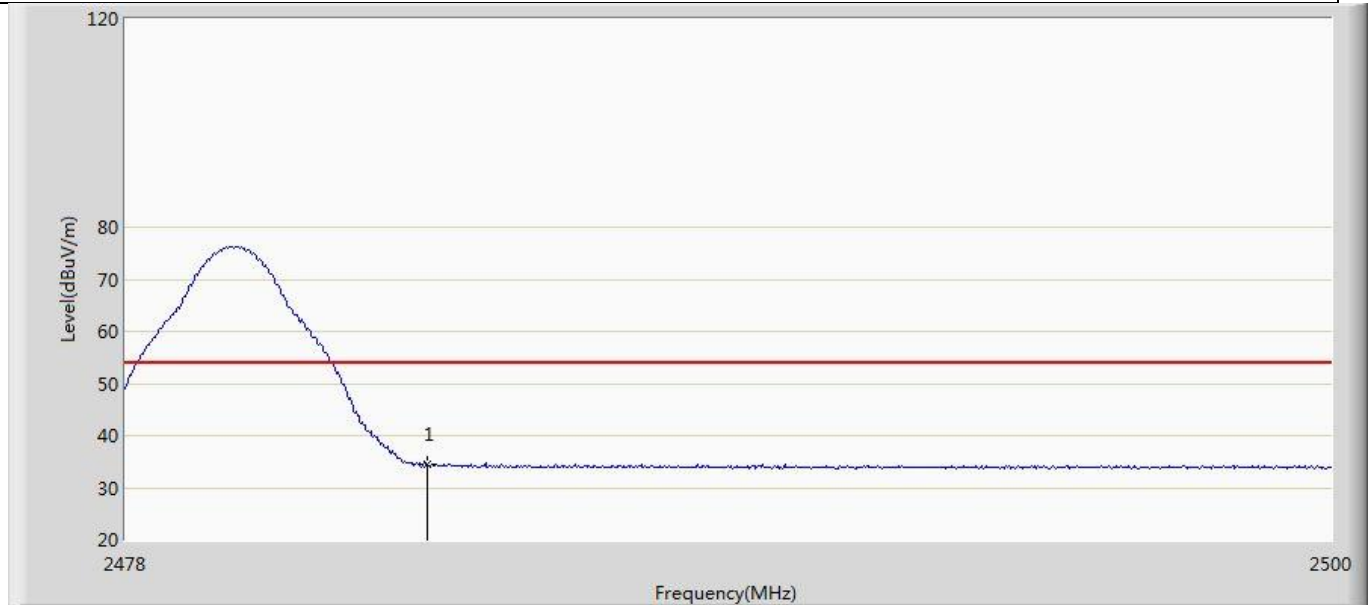
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	37.869	3.353	-16.131	54.000	34.516	AV

Profile: 2370455R	Page No.: 15
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2480MHz by LE_2Mbps	



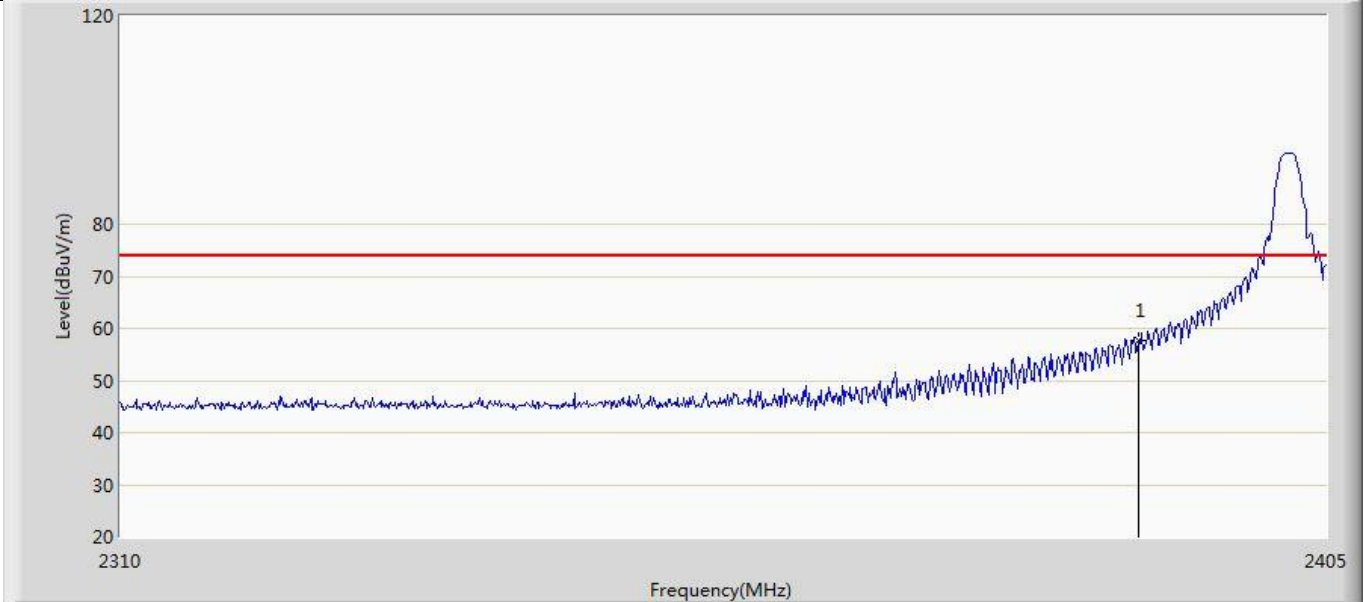
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	57.588	23.072	-16.412	74.000	34.516	PK

Profile: 2370455R	Page No.: 16
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2480MHz by LE_2Mbps	



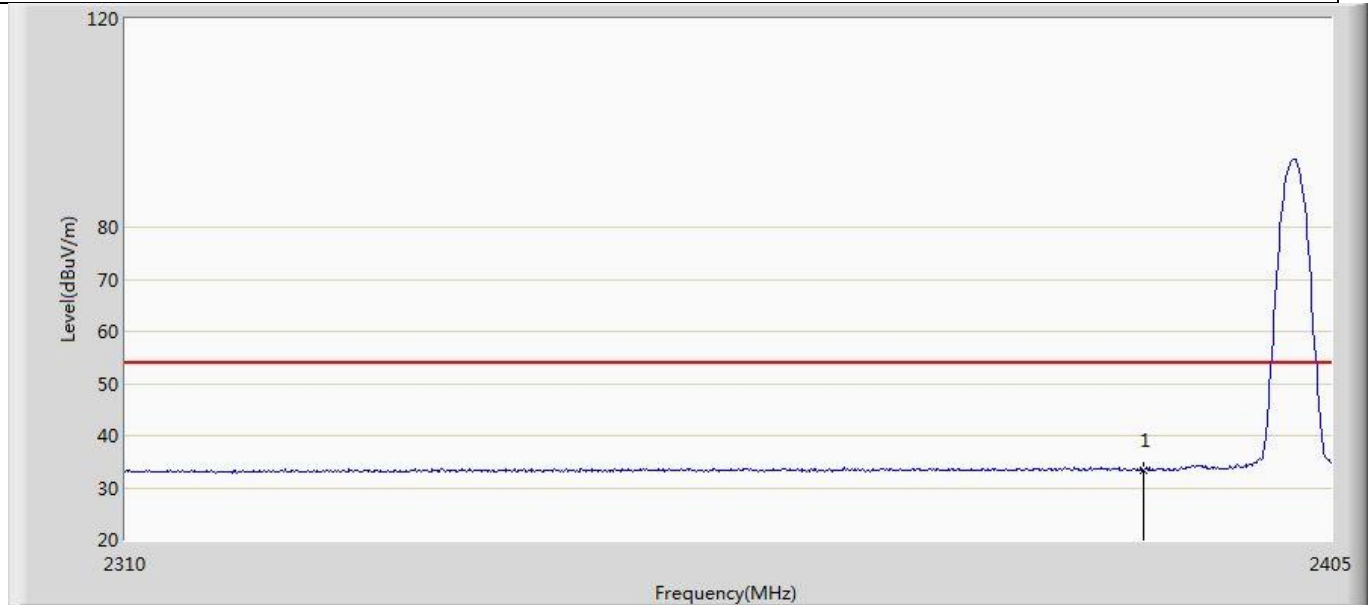
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	34.553	0.037	-19.447	54.000	34.516	AV

Profile: 2370455R	Page No.: 17
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2402MHz by LE_Coded S=8	



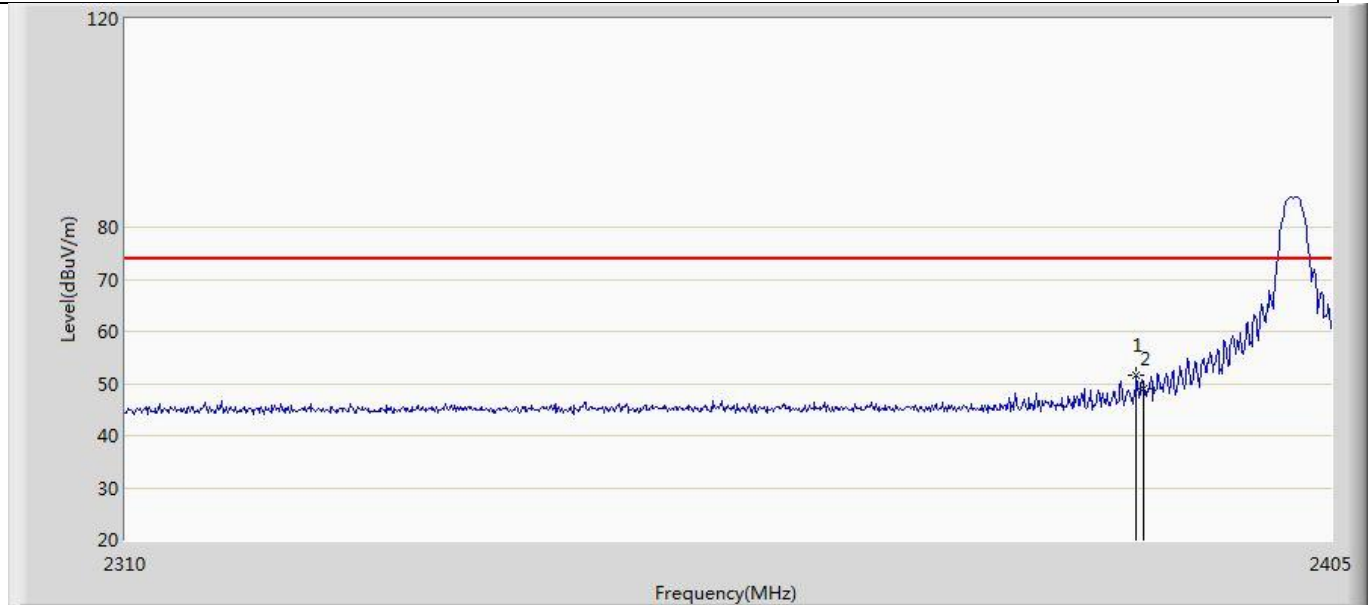
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	57.549	23.436	-16.451	74.000	34.113	PK

Profile: 2370455R	Page No.: 18
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2402MHz by LE_Coded S=8	



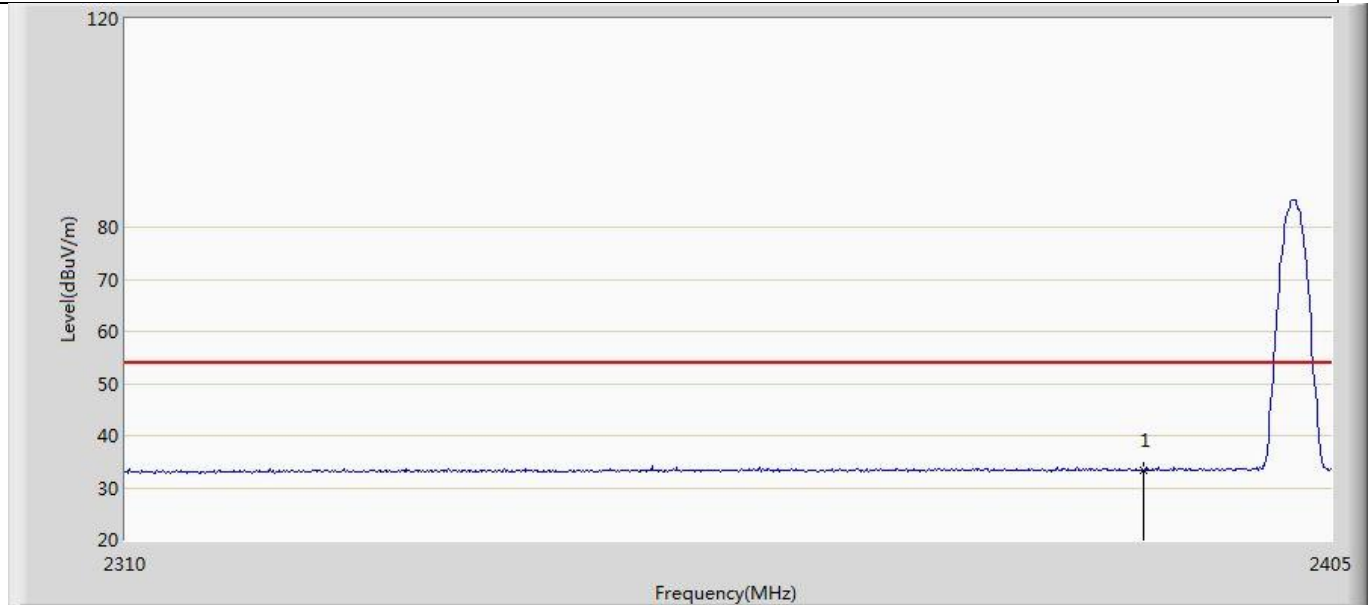
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.324	-0.789	-20.676	54.000	34.113	AV

Profile: 2370455R	Page No.: 19
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 20:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2402MHz by LE_Coded S=8	



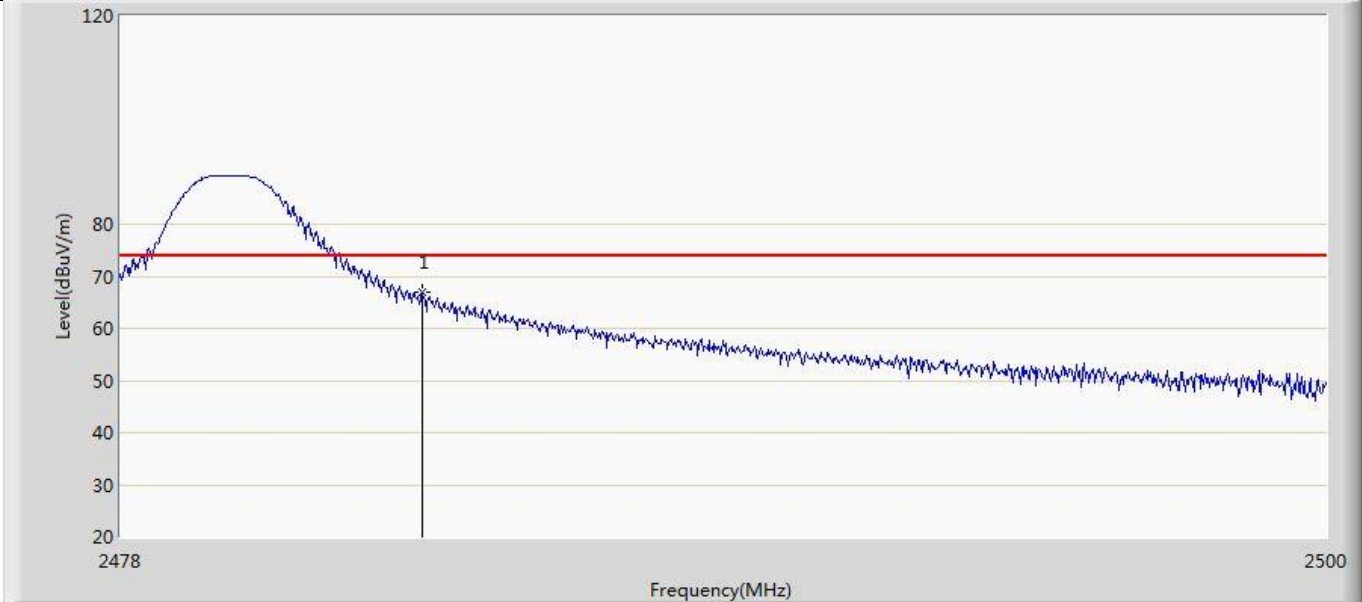
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2389.420	51.497	17.387	-22.503	74.000	34.110	PK
2		2390.000	49.050	14.937	-24.950	74.000	34.113	PK

Profile: 2370455R	Page No.: 20
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2402MHz by LE_Coded S=8	



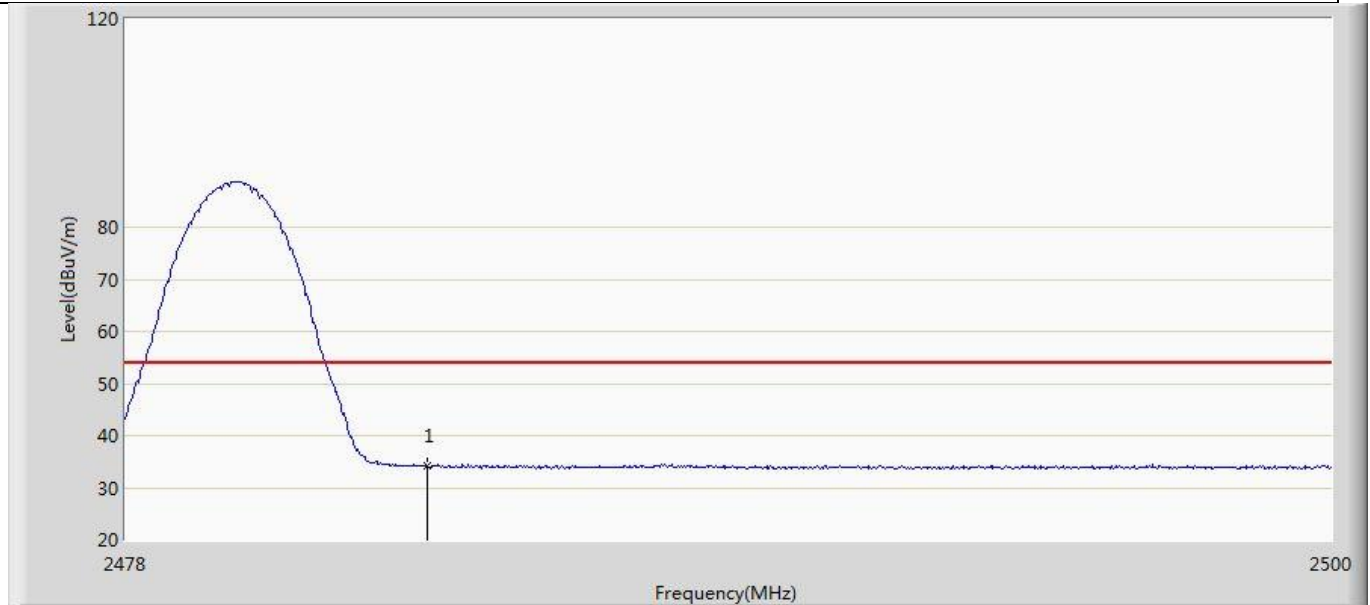
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.449	-0.664	-20.551	54.000	34.113	AV

Profile: 2370455R	Page No.: 21
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2480MHz by LE_Coded S=8	



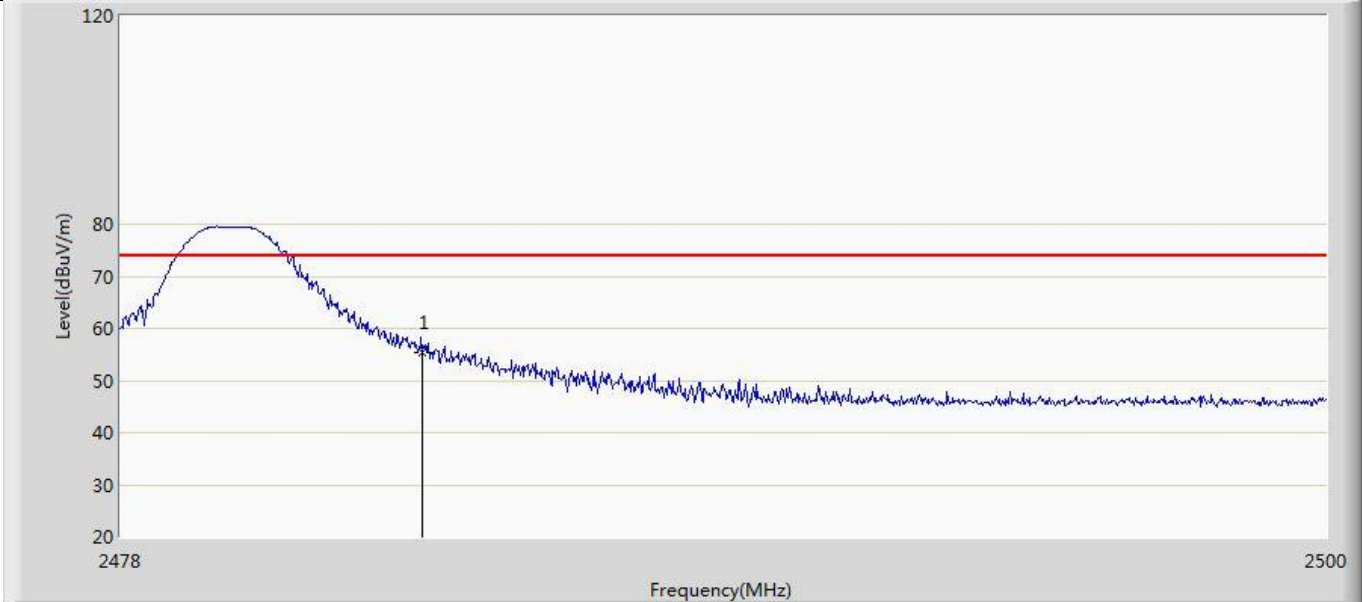
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	66.905	32.389	-7.095	74.000	34.516	PK

Profile: 2370455R	Page No.: 22
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2480MHz by LE_Coded S=8	



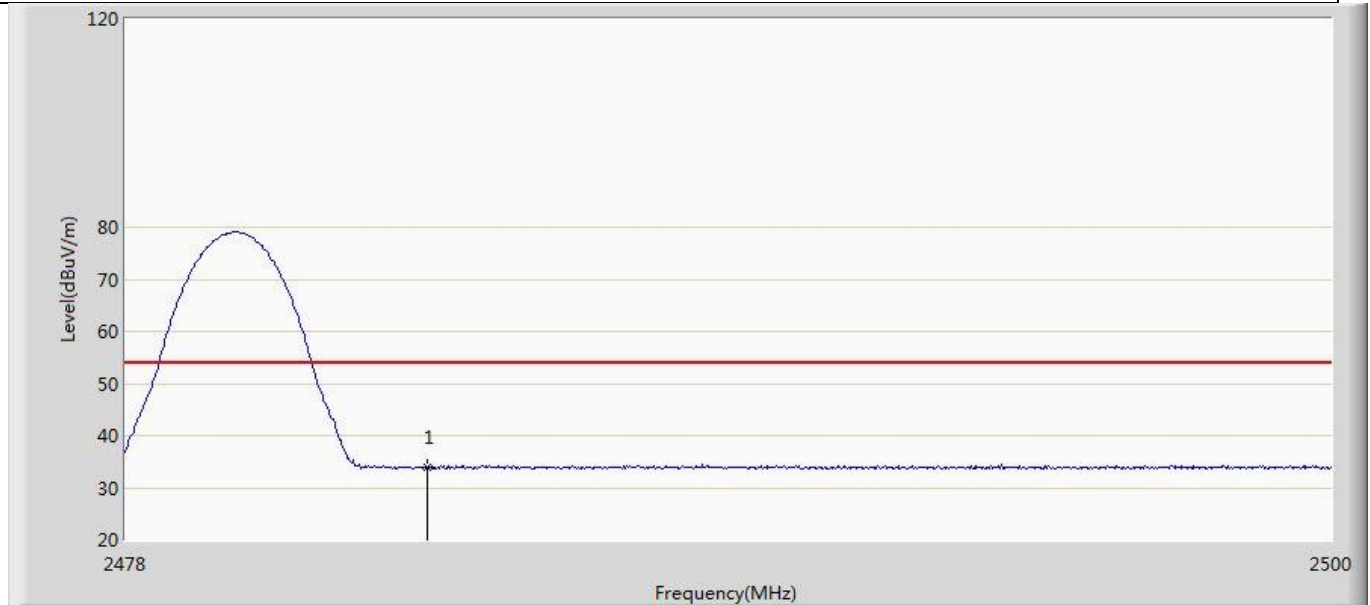
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	34.202	-0.314	-19.798	54.000	34.516	AV

Profile: 2370455R	Page No.: 23
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2480MHz by LE_Coded S=8	



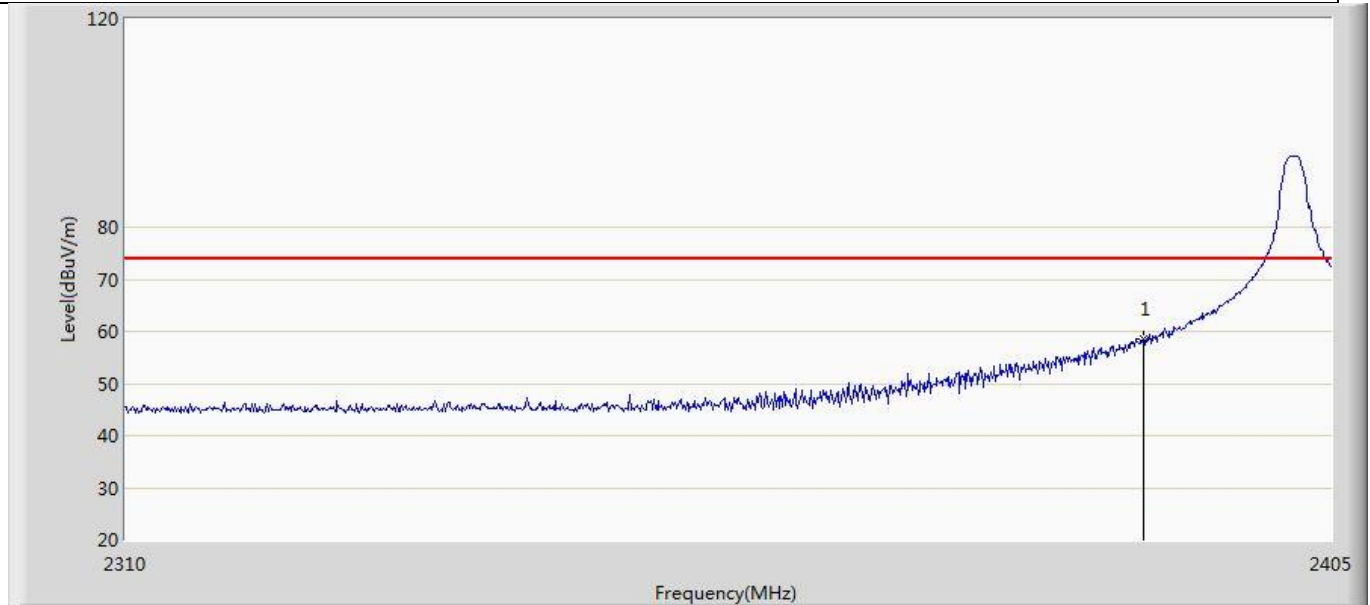
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	55.465	20.949	-18.535	74.000	34.516	PK

Profile: 2370455R	Page No.: 24
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2480MHz by LE_Coded S=8	



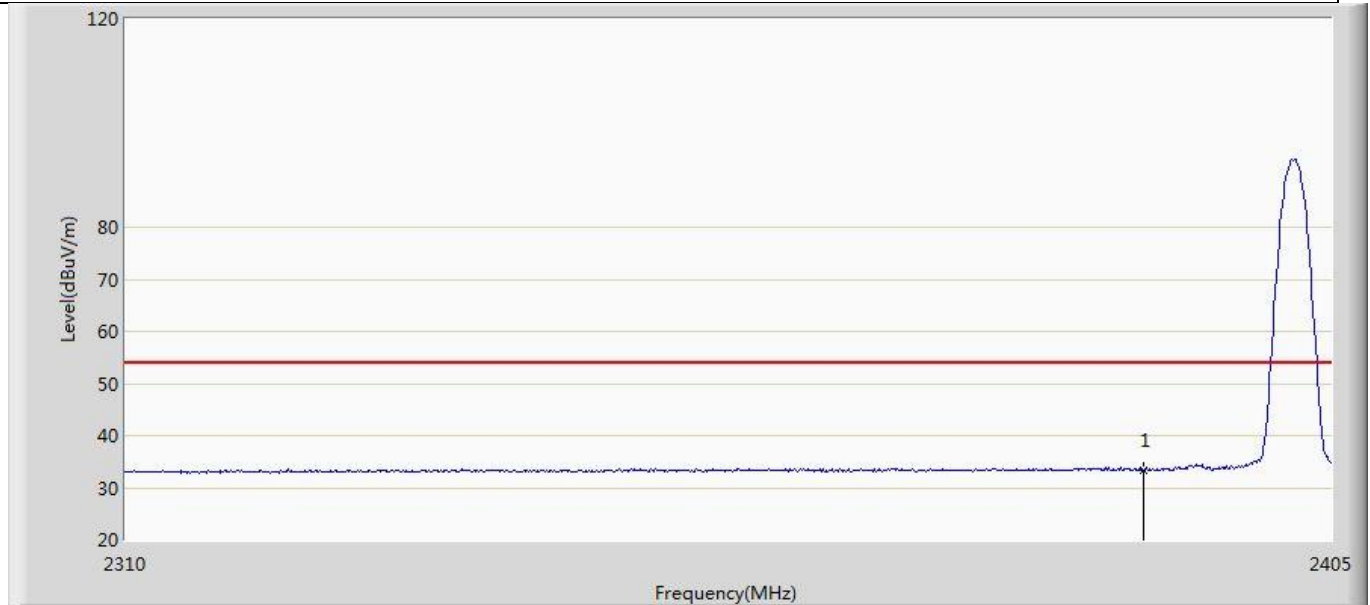
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	33.899	-0.617	-20.101	54.000	34.516	AV

Profile: 2370455R	Page No.: 25
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2402MHz by LE_Coded S=2	



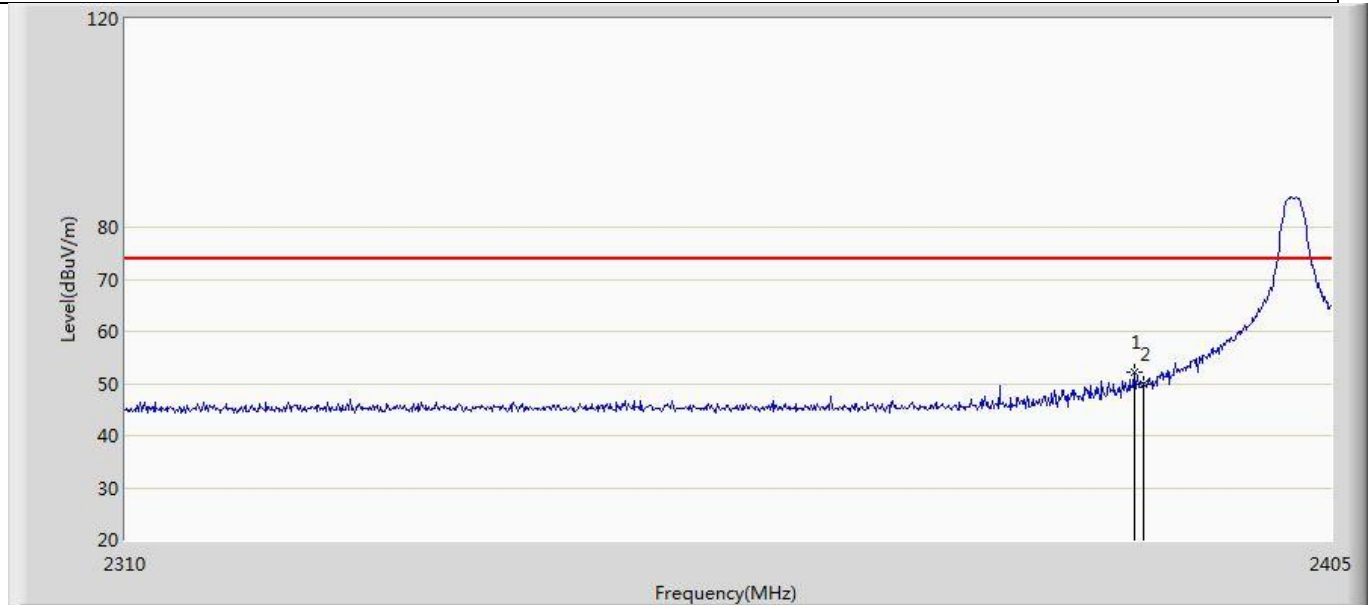
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	58.487	24.374	-15.513	74.000	34.113	PK

Profile: 2370455R	Page No.: 26
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2402MHz by LE_Coded S=2	



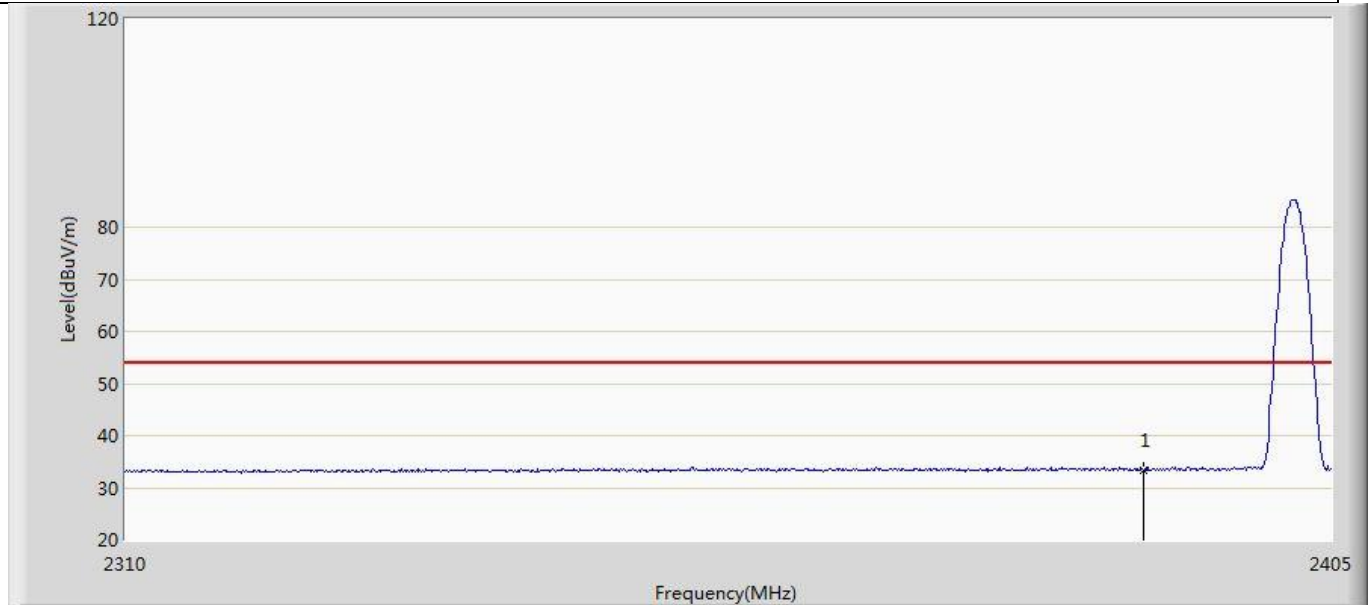
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.397	-0.716	-20.603	54.000	34.113	AV

Profile: 2370455R	Page No.: 27
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2402MHz by LE_Coded S=2	



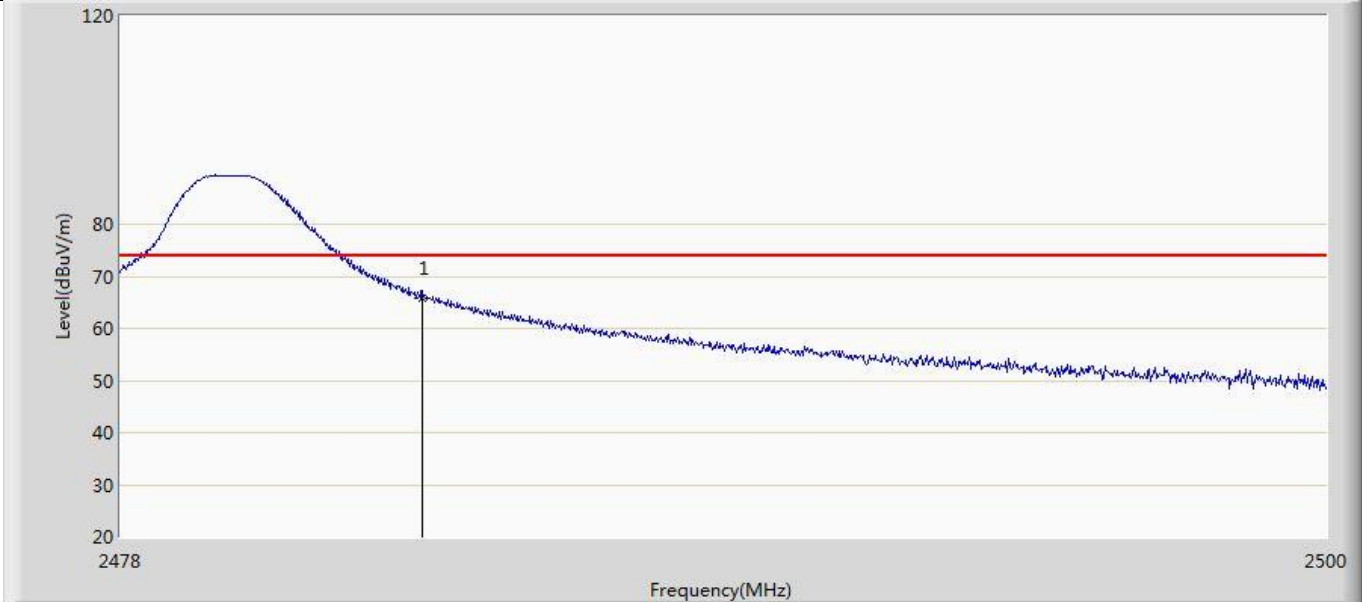
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2389.230	52.271	18.162	-21.729	74.000	34.110	PK
2		2390.000	49.987	15.874	-24.013	74.000	34.113	PK

Profile: 2370455R	Page No.: 28
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2402MHz by LE_Coded S=2	



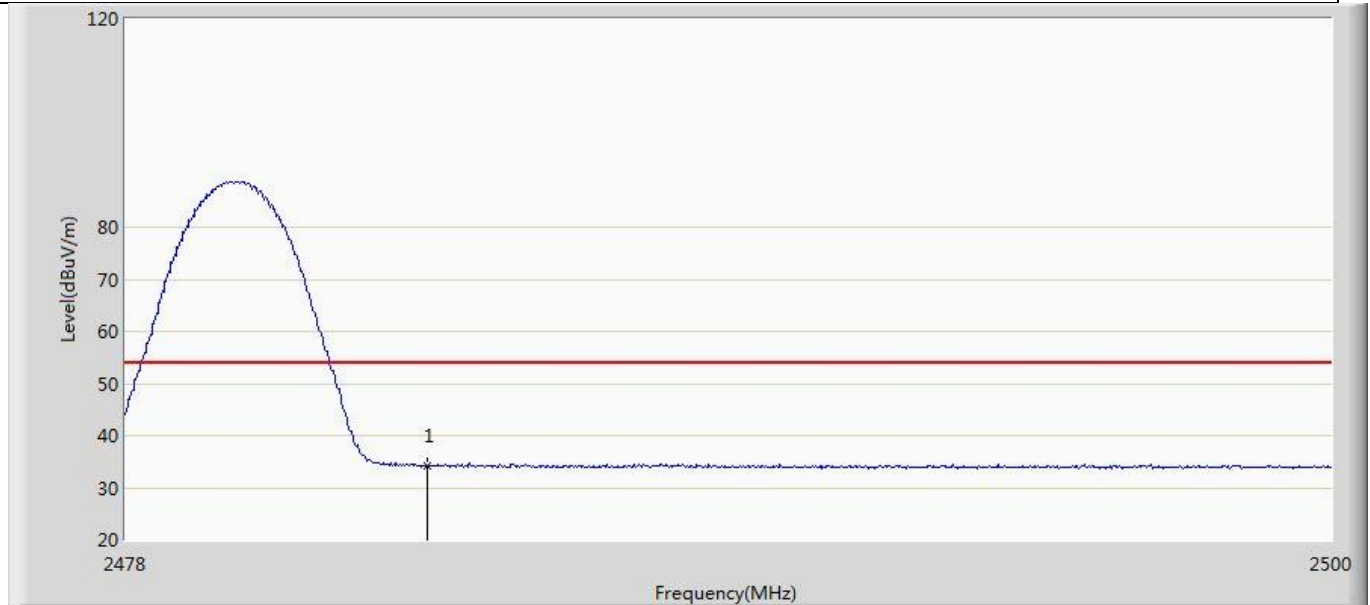
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.407	-0.706	-20.593	54.000	34.113	AV

Profile: 2370455R	Page No.: 29
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2480MHz by LE_Coded S=2	



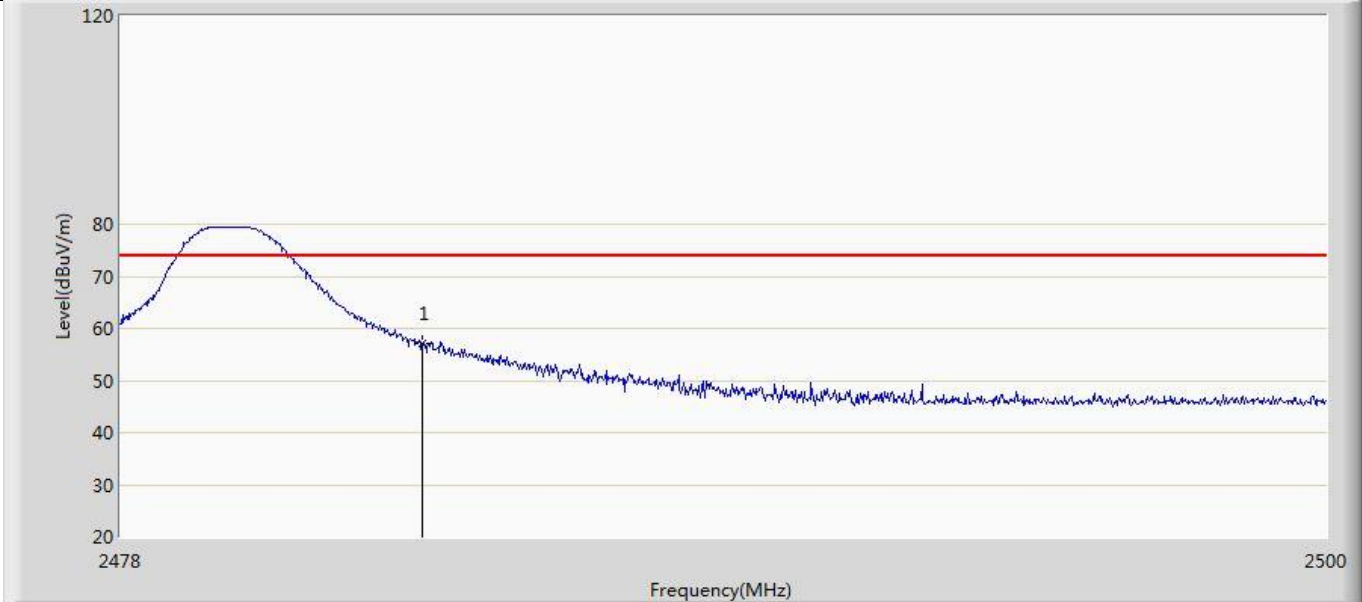
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	65.746	31.230	-8.254	74.000	34.516	PK

Profile: 2370455R	Page No.: 30
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2480MHz by LE_Coded S=2	



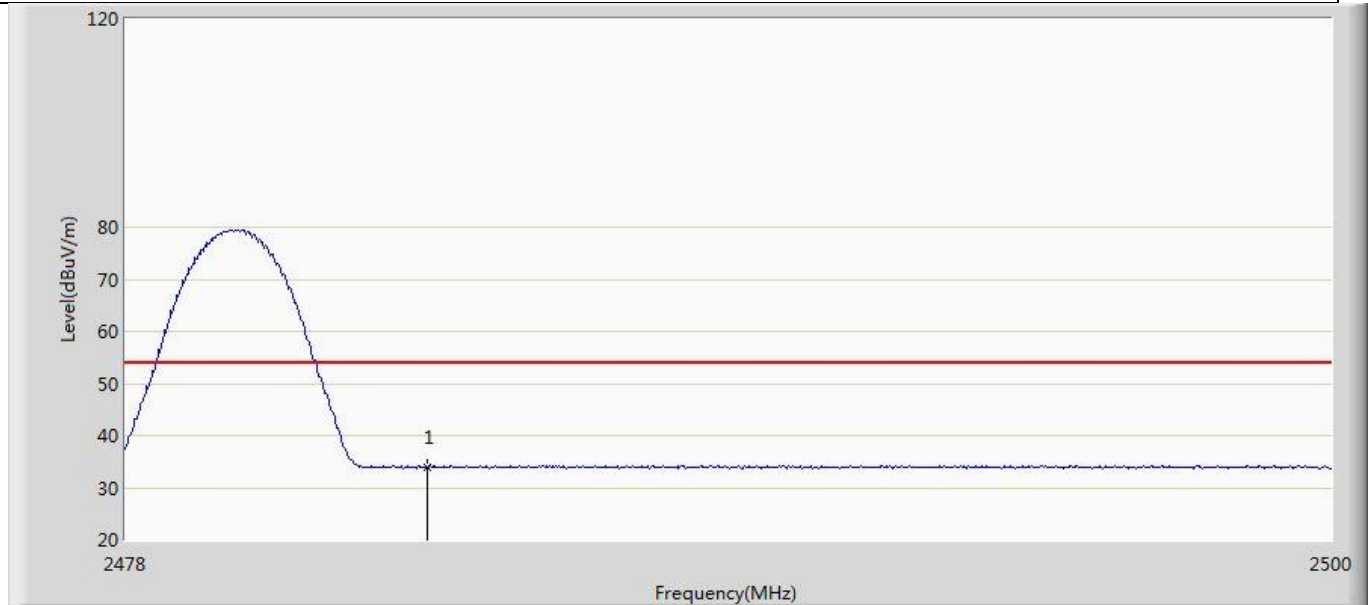
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	34.221	-0.295	-19.779	54.000	34.516	AV

Profile: 2370455R	Page No.: 31
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2480MHz by LE_Coded S=2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	56.992	22.476	-17.008	74.000	34.516	PK

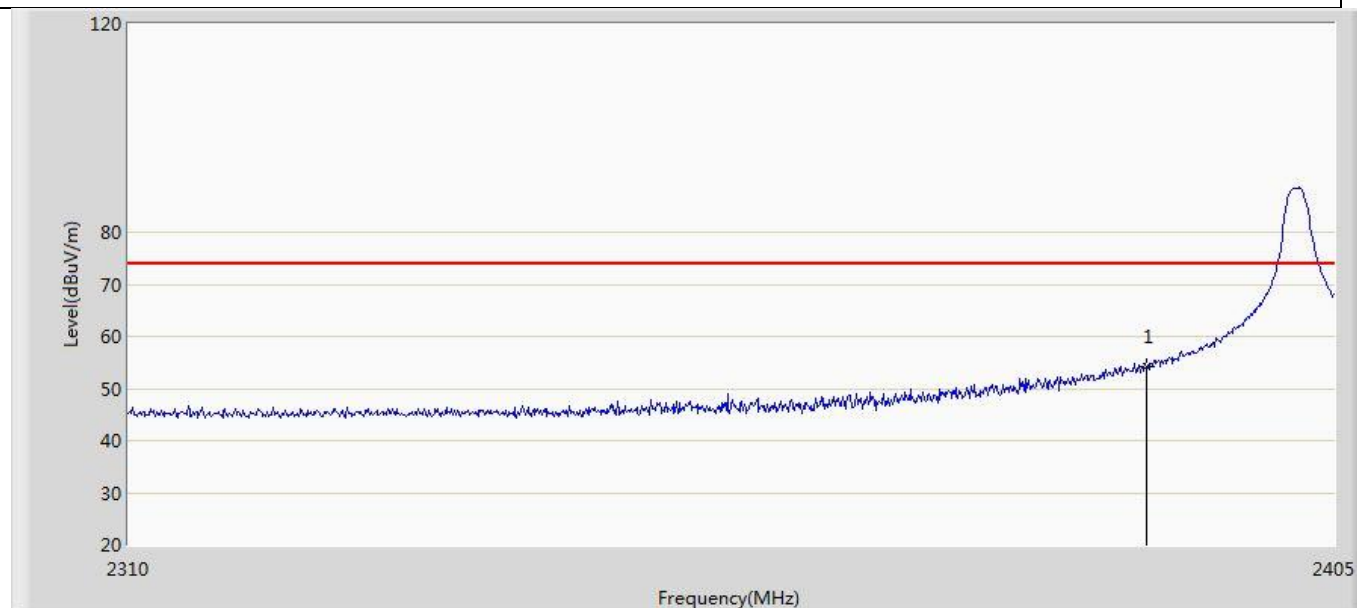
Profile: 2370455R	Page No.: 32
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/18 - 21:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2480MHz by LE_Coded S=2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	34.049	-0.467	-19.951	54.000	34.516	AV

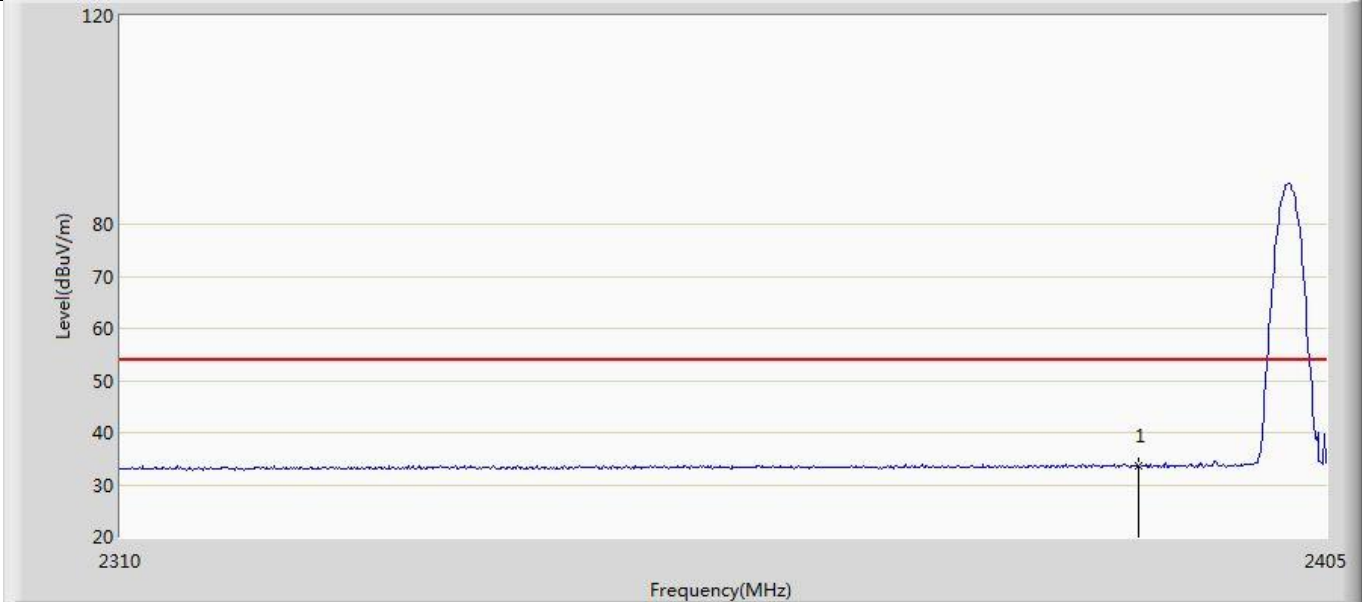
CYW20822-P4EPI040 External Antenna:

Profile: 2370455R	Page No.: 1
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 22:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2402MHz by LE_1Mbps	



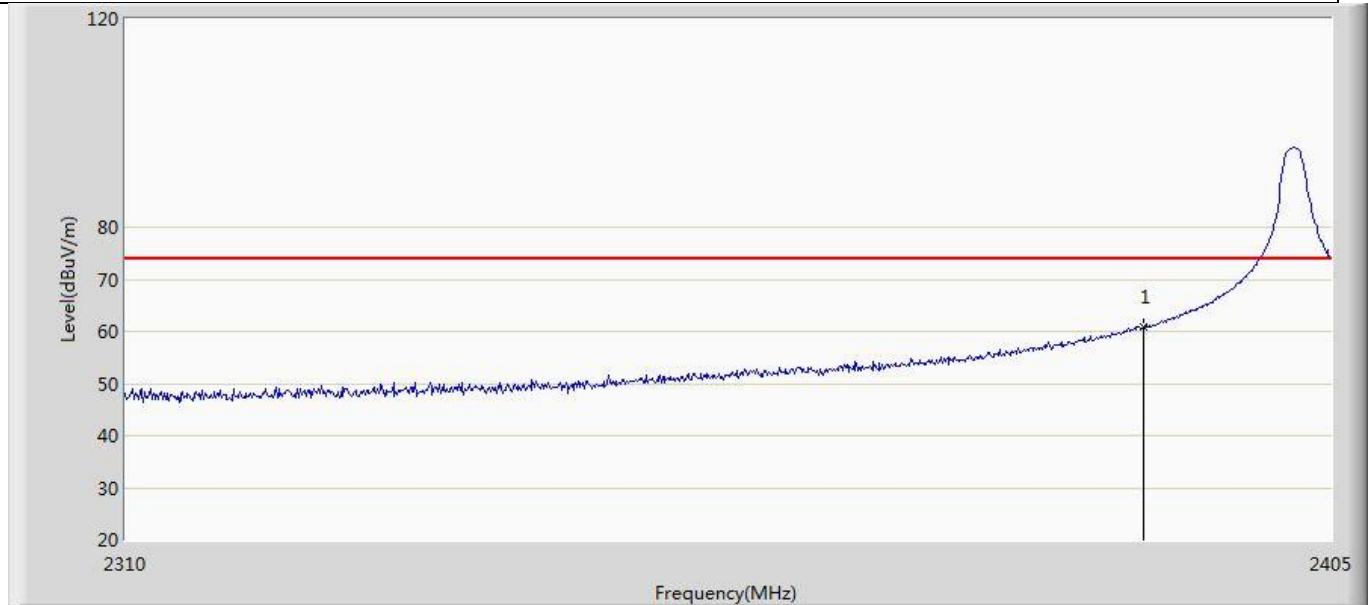
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	54.332	20.219	-19.668	74.000	34.113	PK

Profile: 2370455R	Page No.: 2
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 22:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2402MHz by LE_1Mbps	



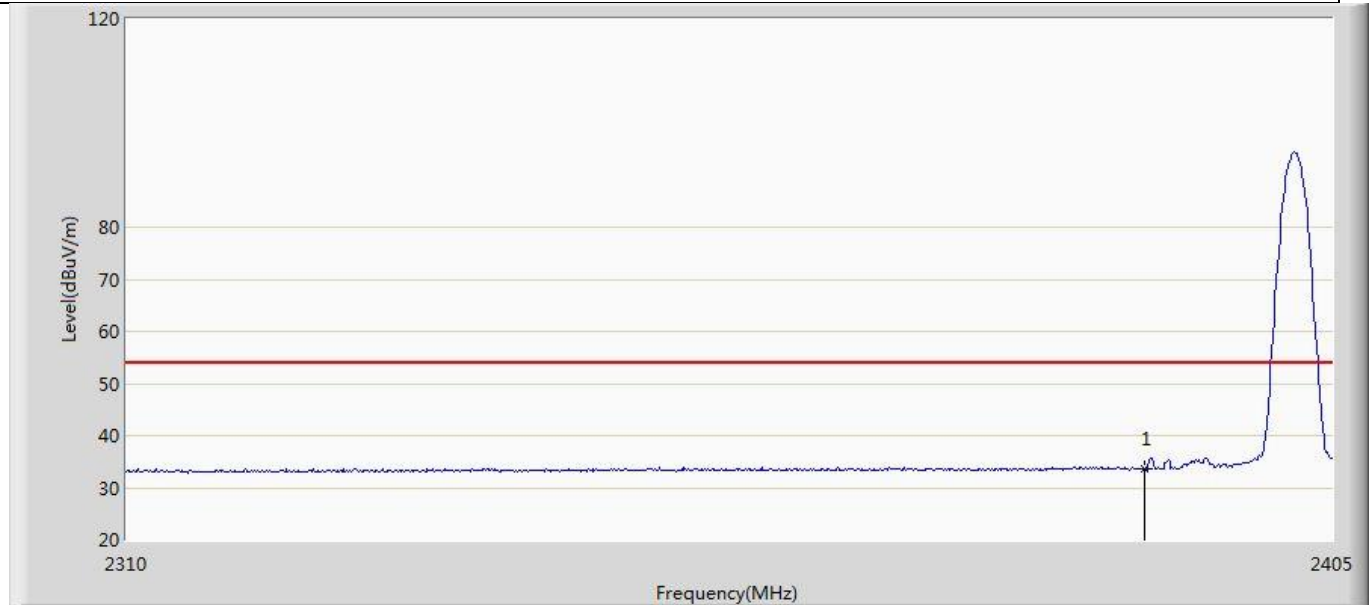
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.503	-0.610	-20.497	54.000	34.113	AV

Profile: 2370455R	Page No.: 3
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 22:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2402MHz by LE_1Mbps	



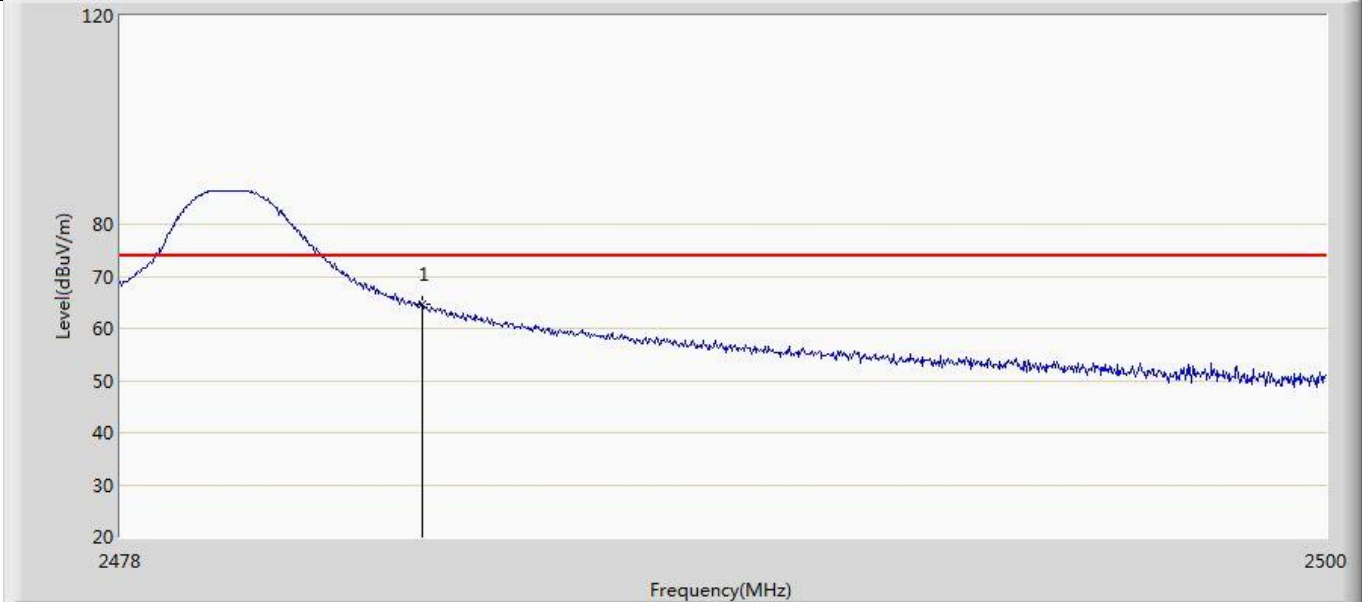
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	60.803	26.690	-13.197	74.000	34.113	PK

Profile: 2370455R	Page No.: 4
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 22:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2402MHz by LE_1Mbps	



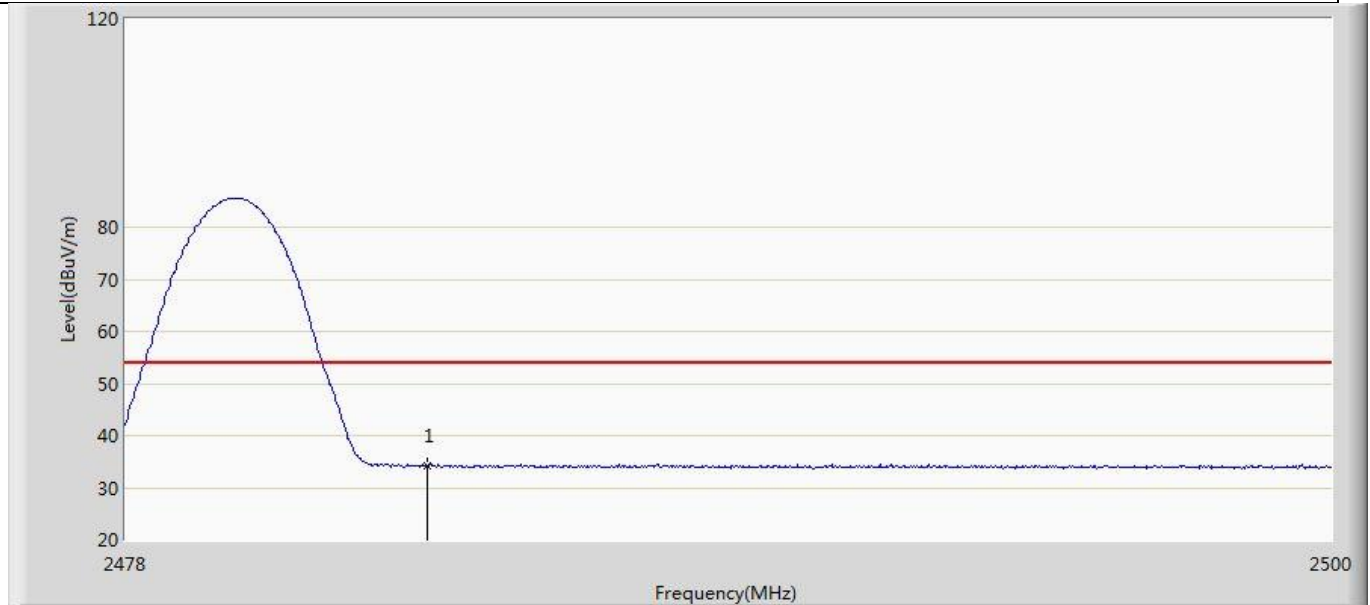
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.652	-0.461	-20.348	54.000	34.113	AV

Profile: 2370455R	Page No.: 5
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 22:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2480MHz by LE_1Mbps	



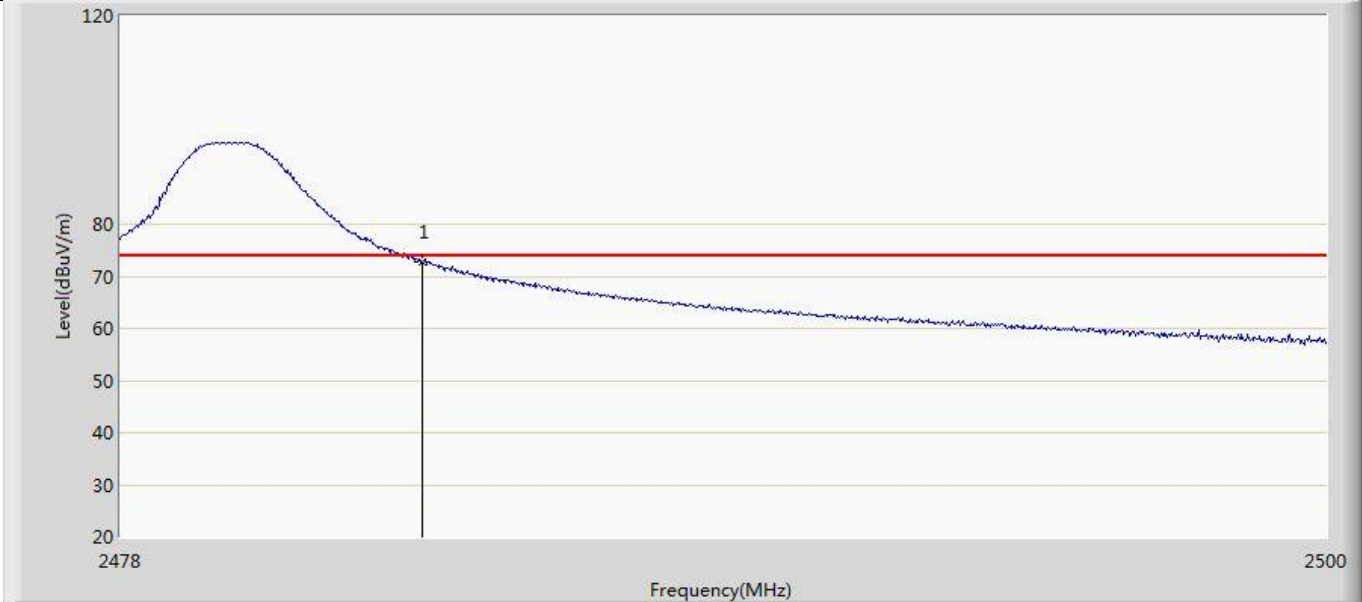
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	64.576	30.060	-9.424	74.000	34.516	PK

Profile: 2370455R	Page No.: 6
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 22:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2480MHz by LE_1Mbps	



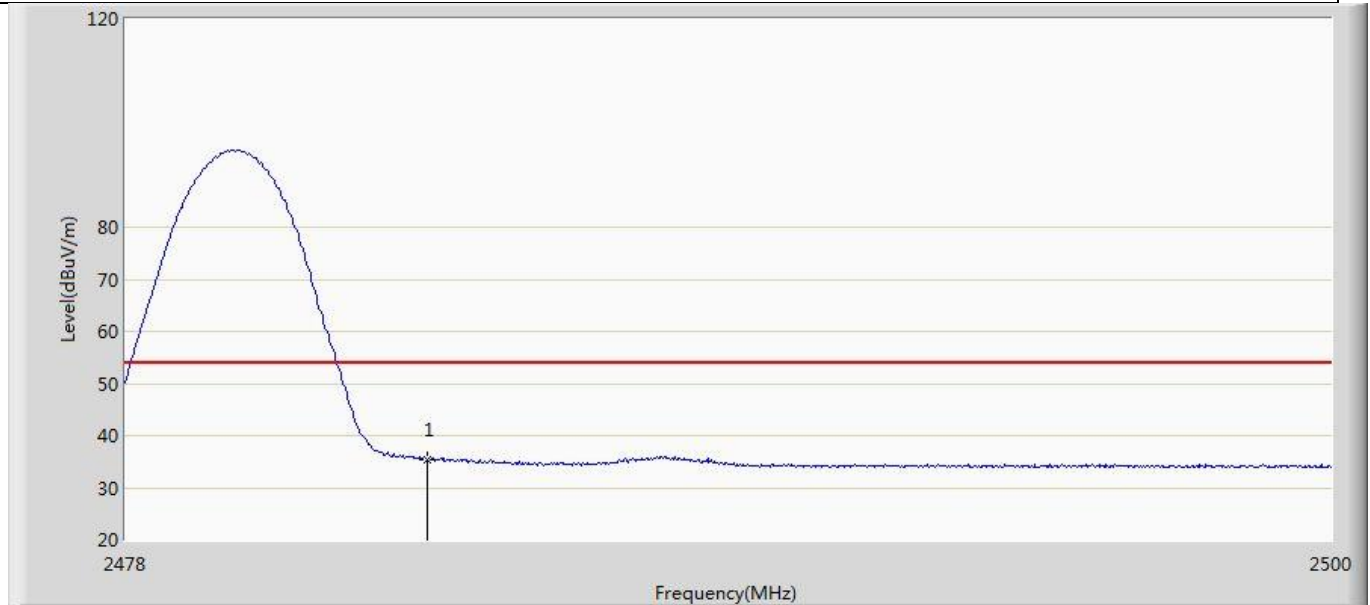
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	34.240	-0.276	-19.760	54.000	34.516	AV

Profile: 2370455R	Page No.: 7
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 22:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2480MHz by LE_1Mbps	



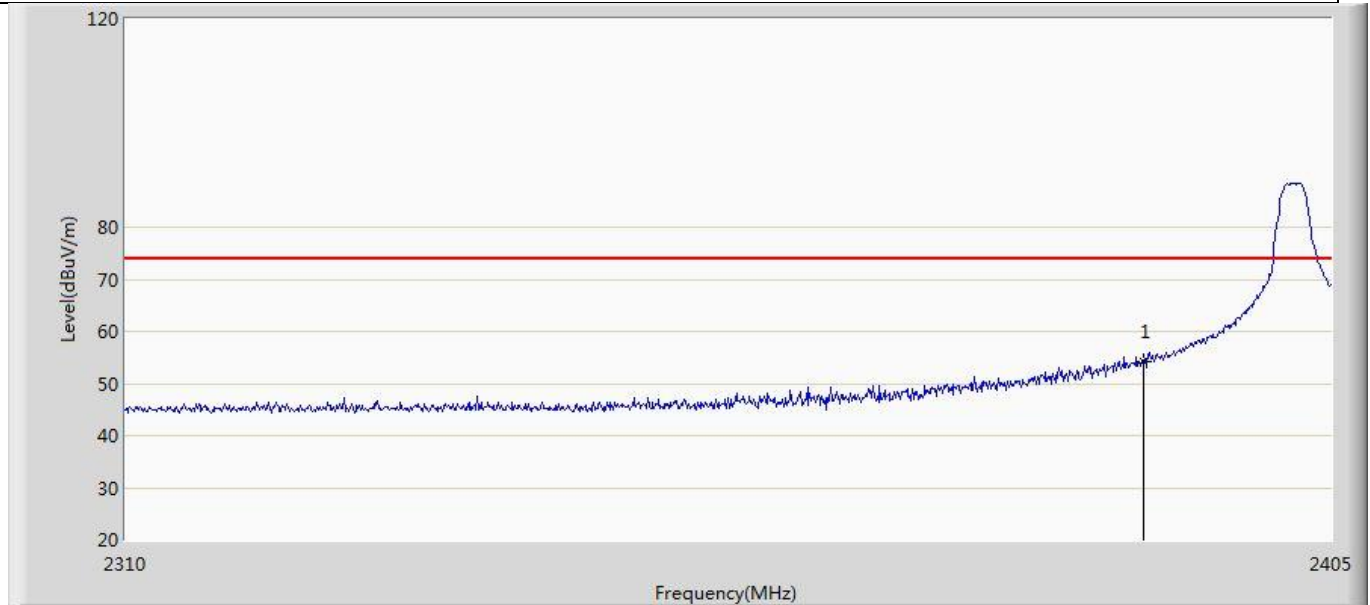
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	72.784	38.268	-1.216	74.000	34.516	PK

Profile: 2370455R	Page No.: 8
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 22:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 1 : Transmit at 2480MHz by LE_1Mbps	



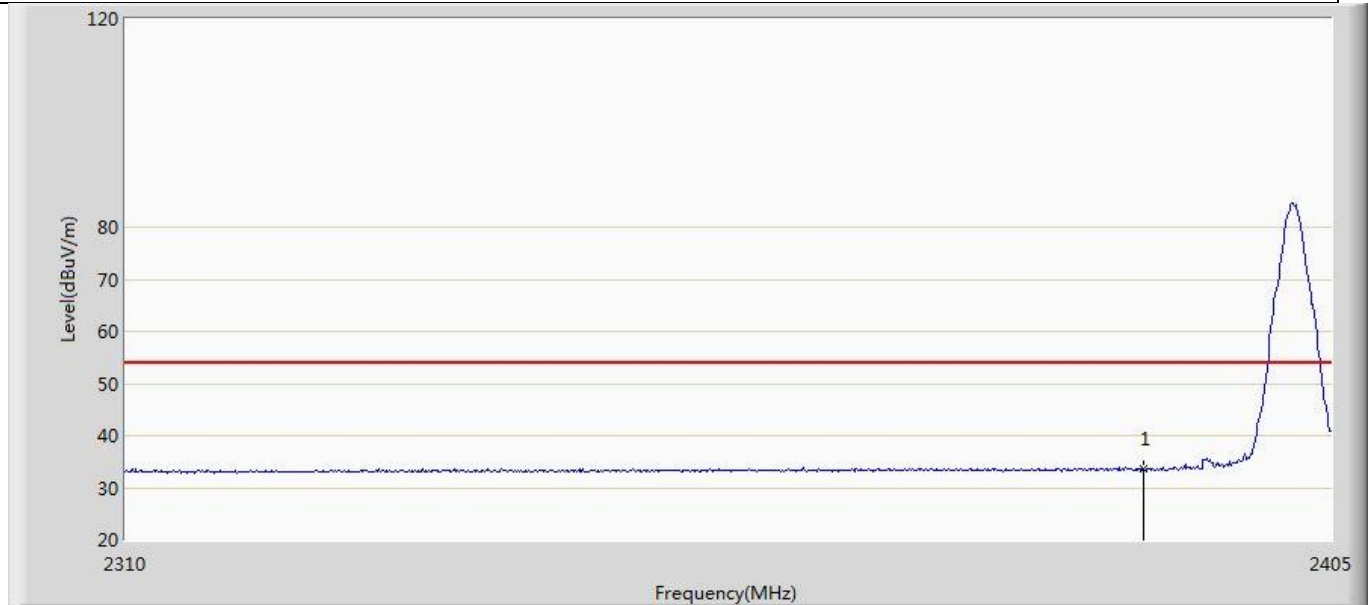
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	35.329	0.813	-18.671	54.000	34.516	AV

Profile: 2370455R	Page No.: 9
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 22:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2402MHz by LE_2Mbps	



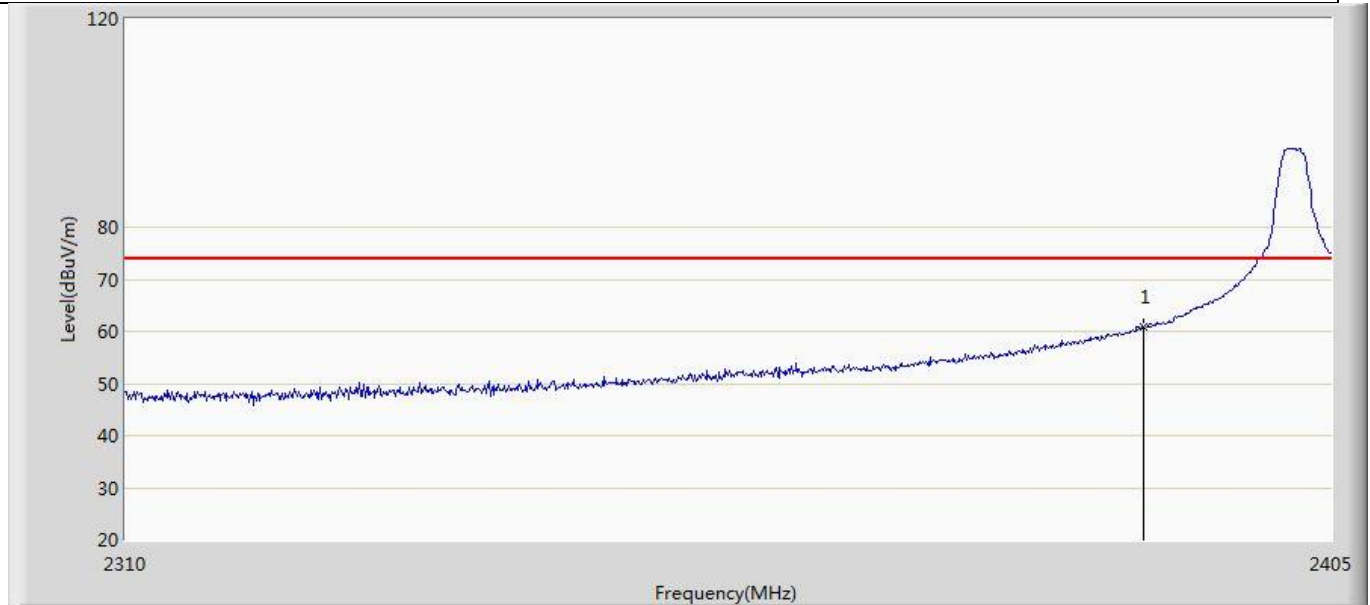
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	54.296	20.183	-19.704	74.000	34.113	PK

Profile: 2370455R	Page No.: 10
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 22:55
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2402MHz by LE_2Mbps	



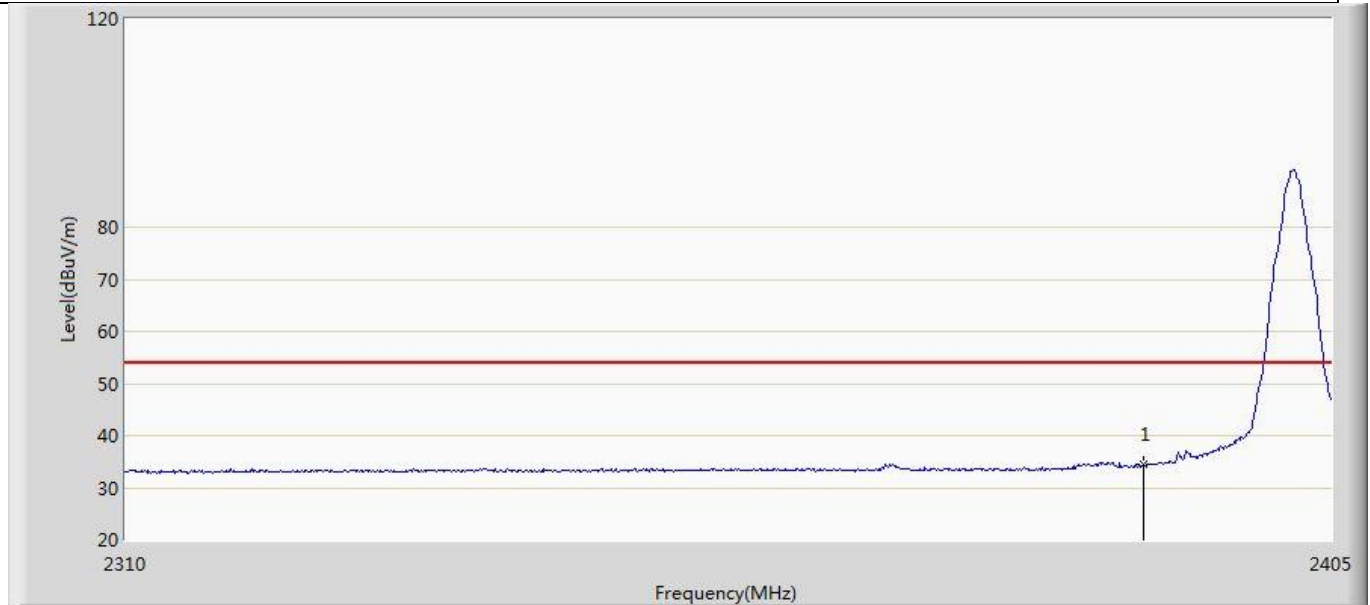
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.562	-0.551	-20.438	54.000	34.113	AV

Profile: 2370455R	Page No.: 11
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 22:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2402MHz by LE_2Mbps	



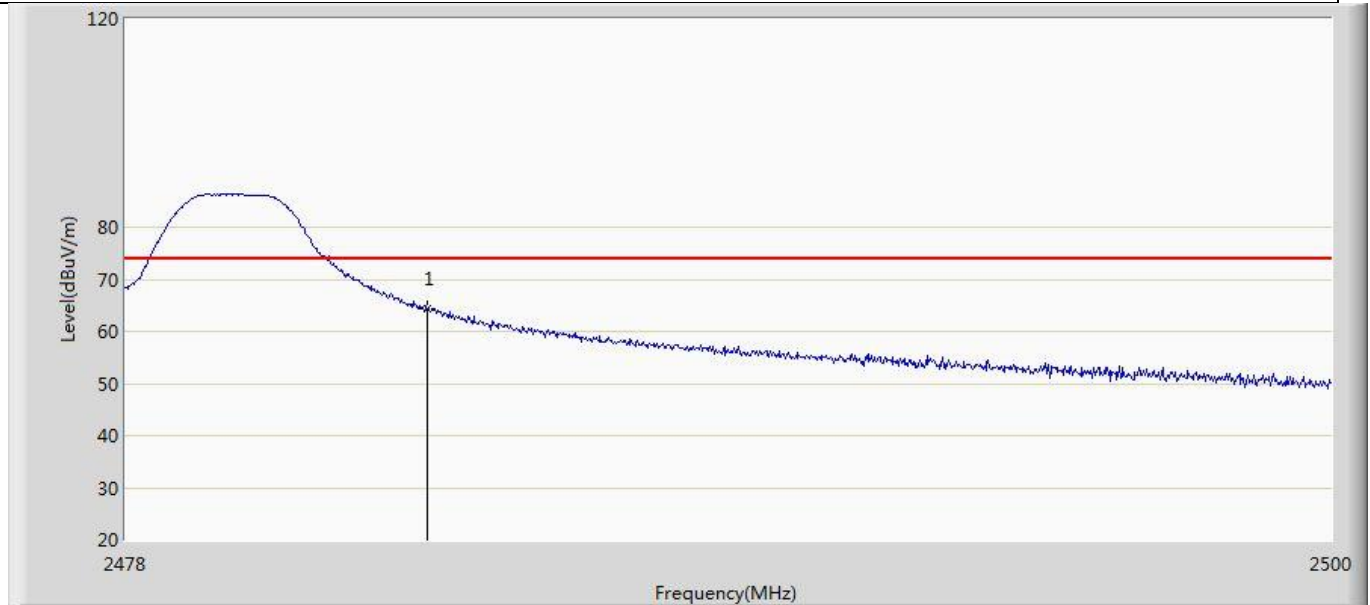
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	60.876	26.763	-13.124	74.000	34.113	PK

Profile: 2370455R	Page No.: 12
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2402MHz by LE_2Mbps	



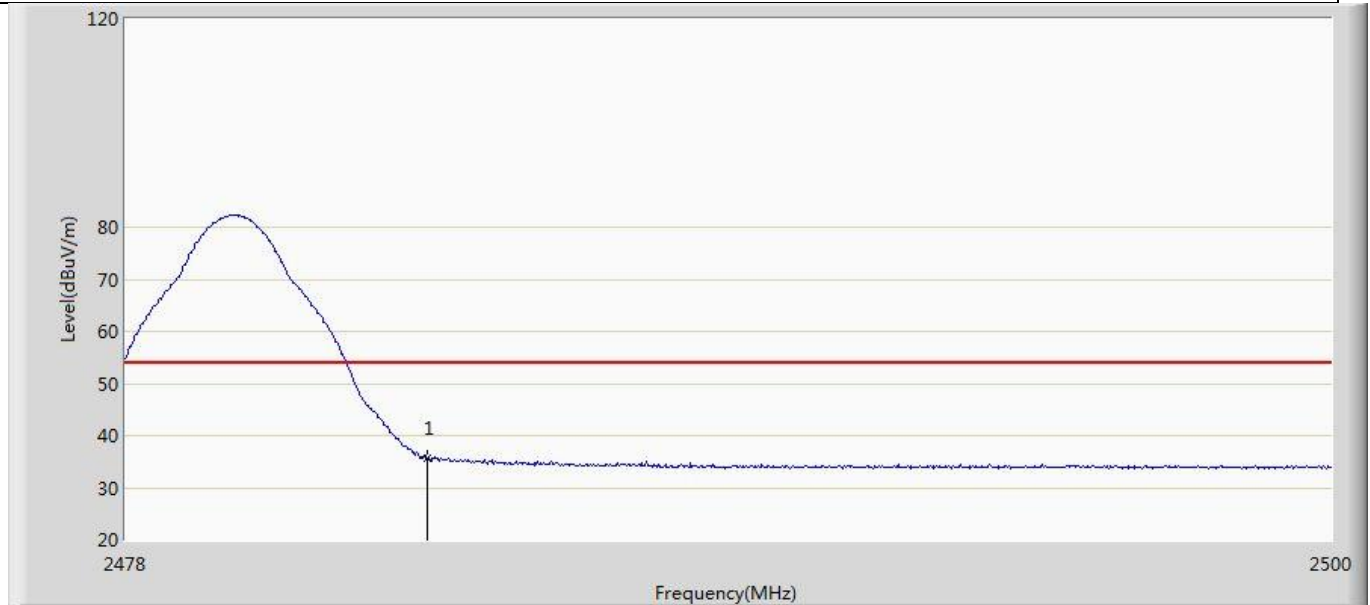
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	34.361	0.248	-19.639	54.000	34.113	AV

Profile: 2370455R	Page No.: 13
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2480MHz by LE_2Mbps	



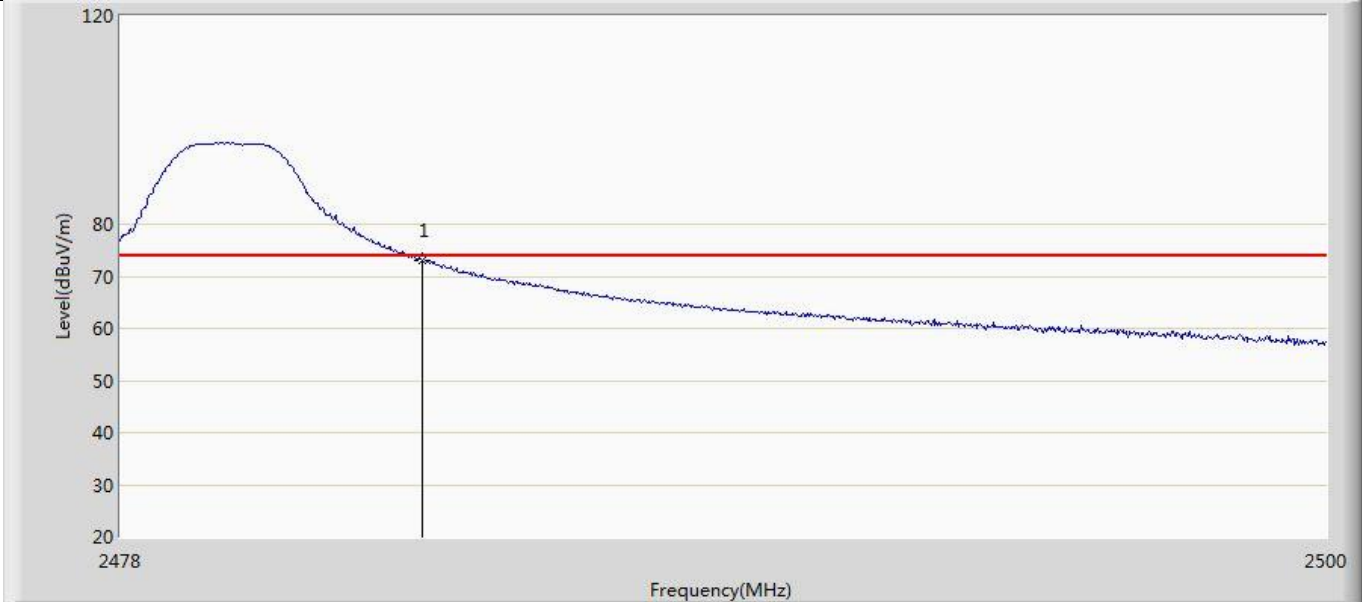
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	64.388	29.872	-9.612	74.000	34.516	PK

Profile: 2370455R	Page No.: 14
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2480MHz by LE_2Mbps	



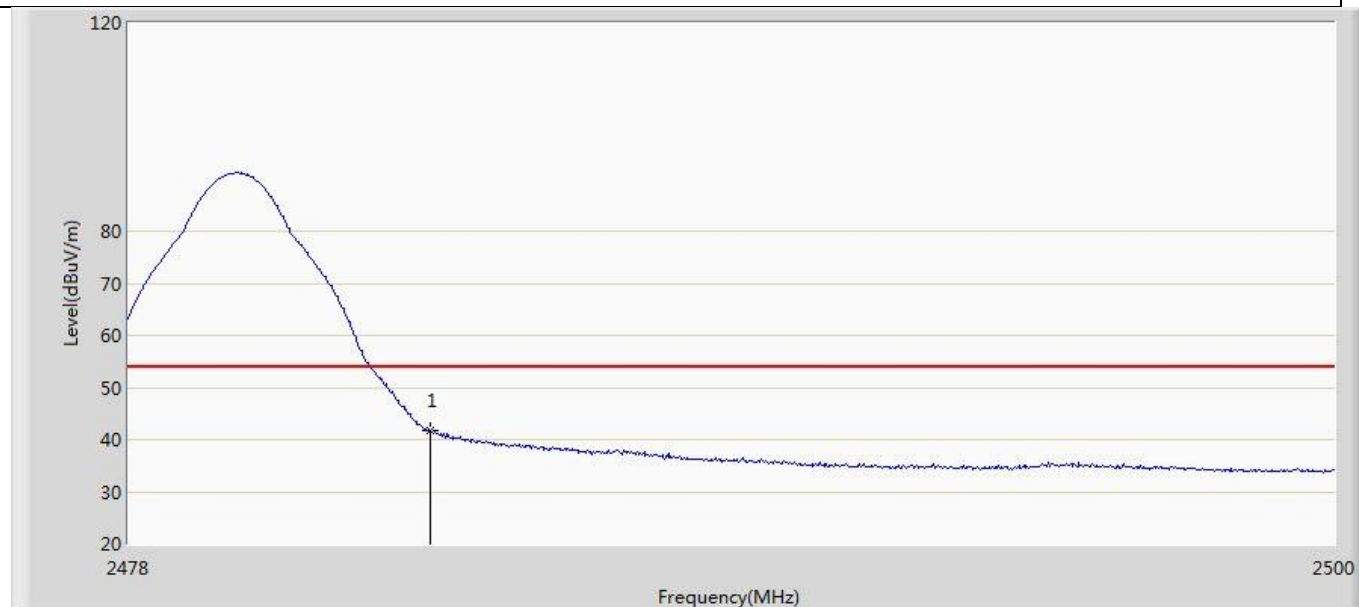
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	35.670	1.154	-18.330	54.000	34.516	AV

Profile: 2370455R	Page No.: 15
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2480MHz by LE_2Mbps	



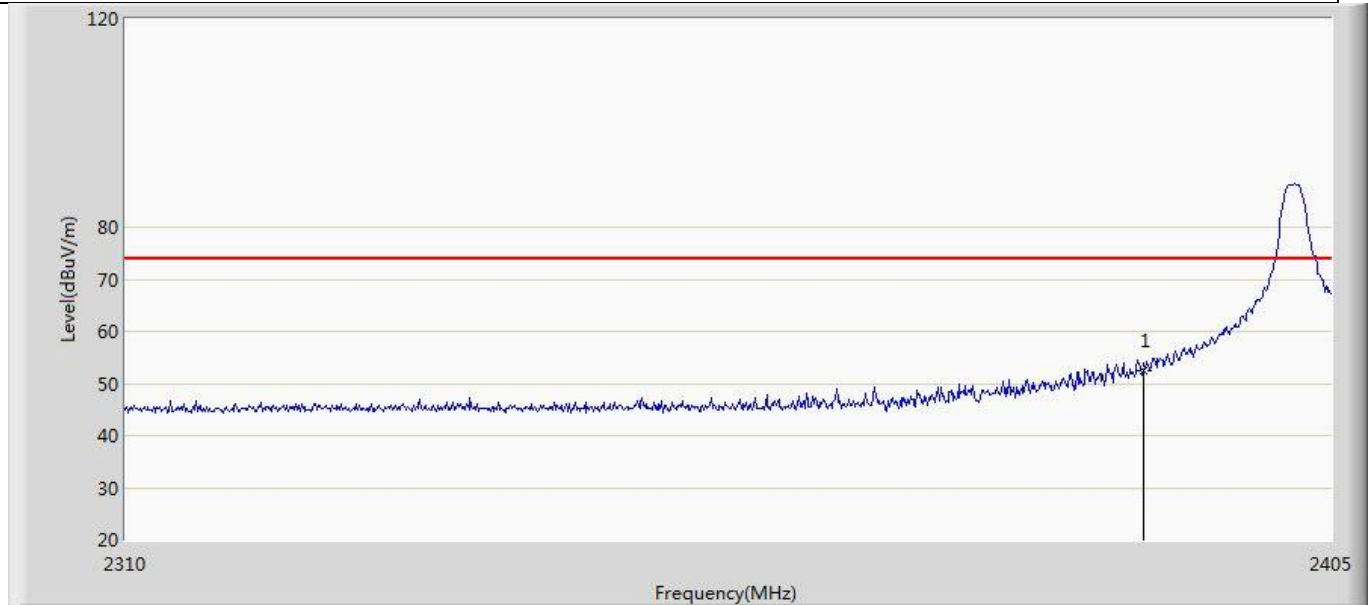
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	73.074	38.558	-0.926	74.000	34.516	PK

Profile: 2370455R	Page No.: 16
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 2 : Transmit at 2480MHz by LE_2Mbps	



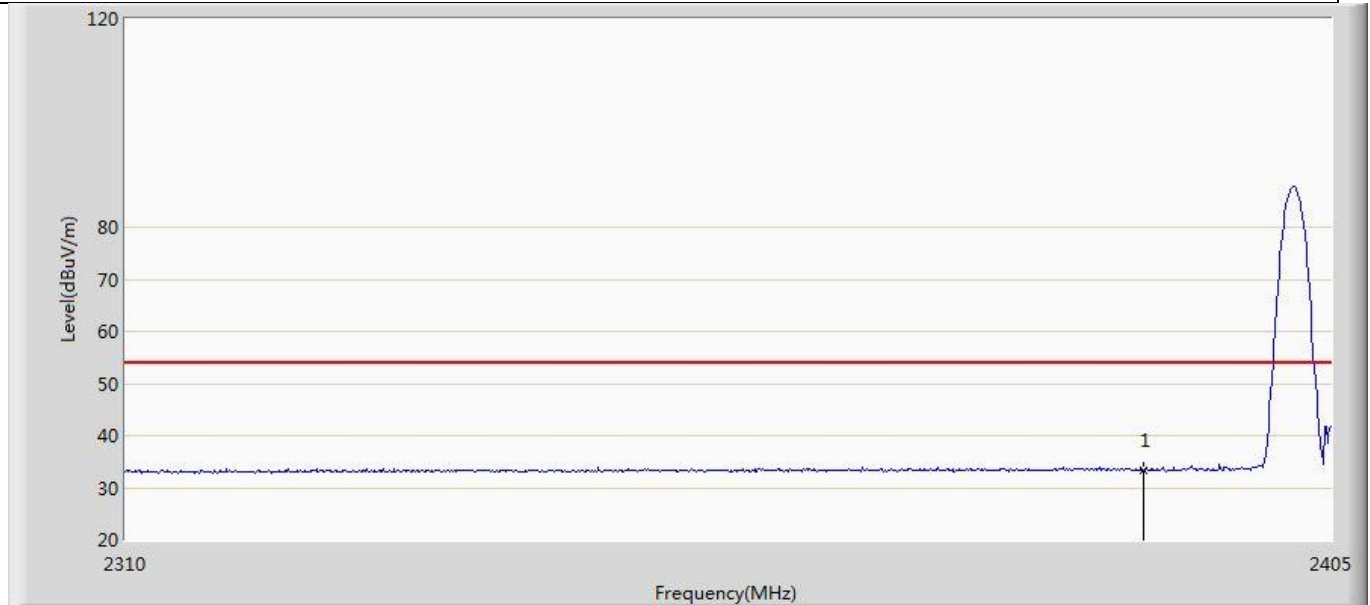
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	41.624	7.108	-12.376	54.000	34.516	AV

Profile: 2370455R	Page No.: 17
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2402MHz by LE_Coded S=8	



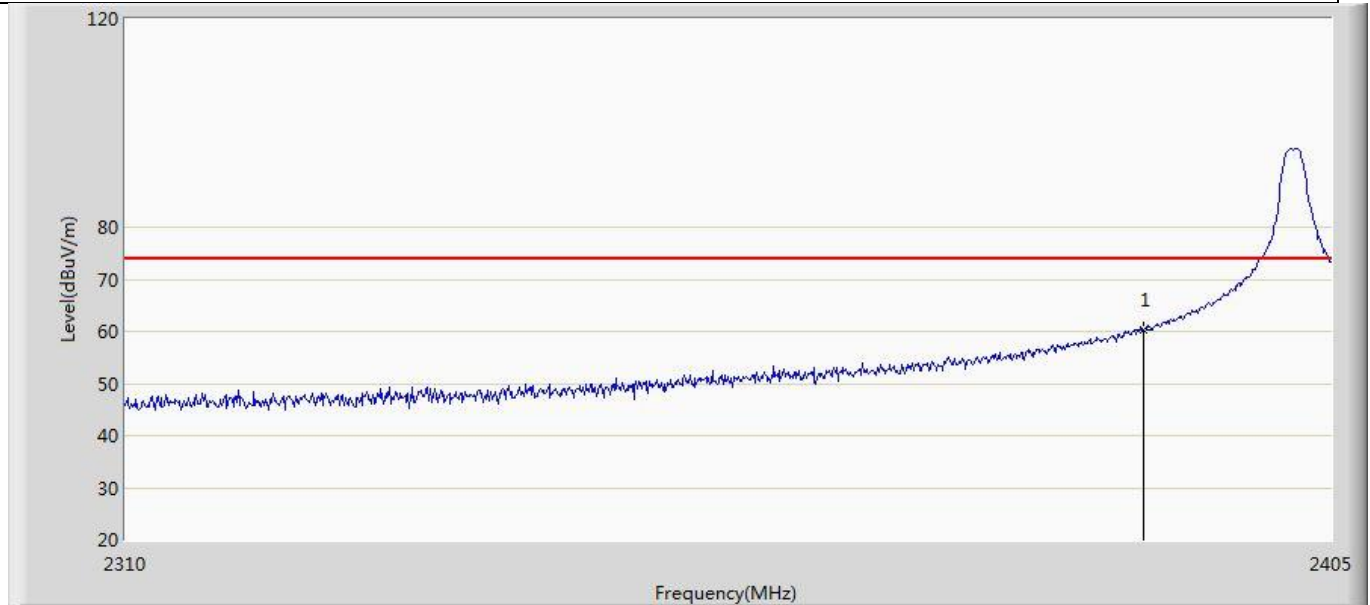
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	52.538	18.425	-21.462	74.000	34.113	PK

Profile: 2370455R	Page No.: 18
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2402MHz by LE_Coded S=8	



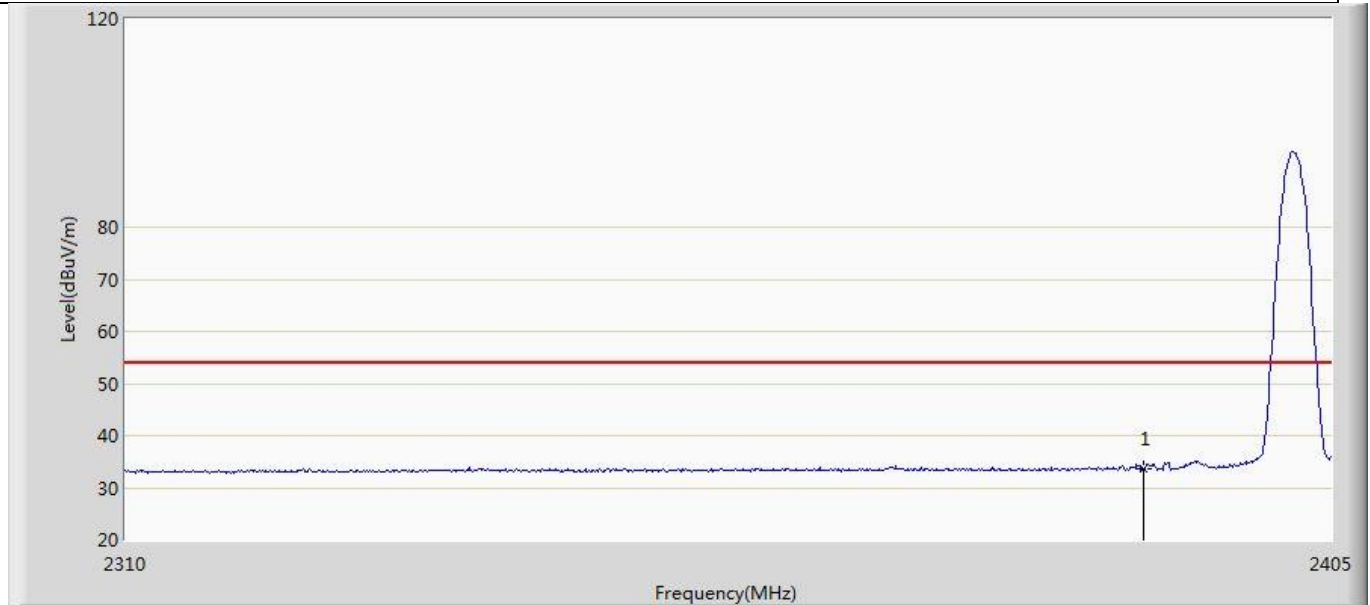
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.419	-0.694	-20.581	54.000	34.113	AV

Profile: 2370455R	Page No.: 19
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2402MHz by LE_Coded S=8	



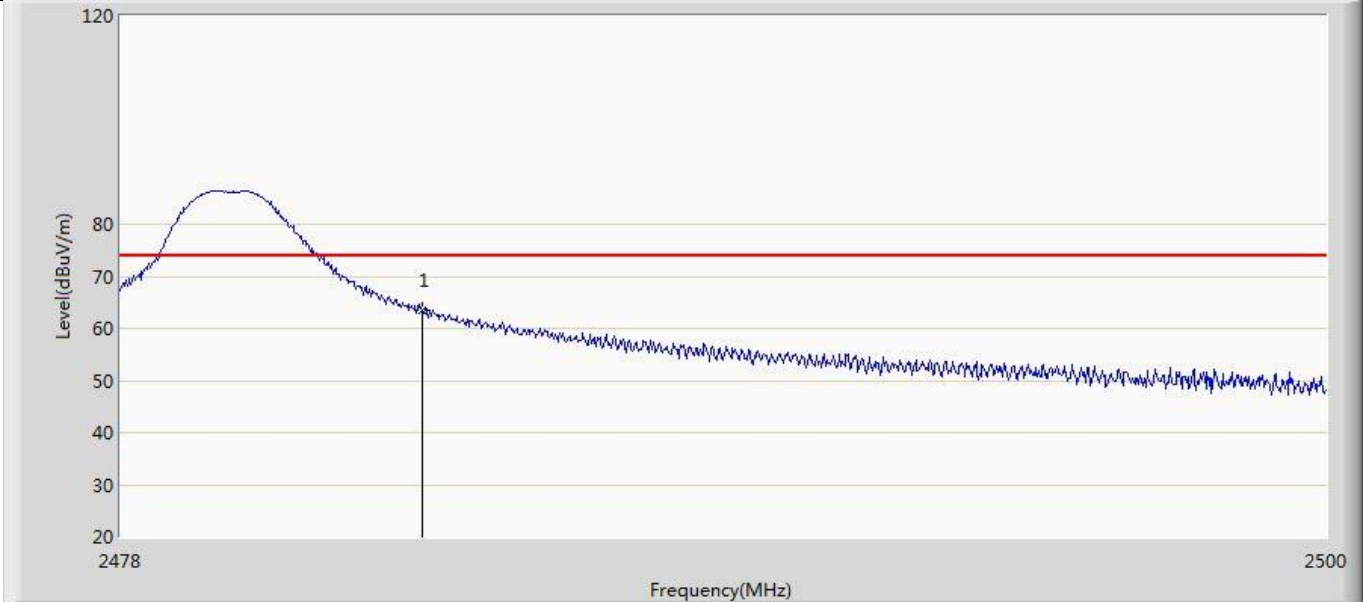
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	60.409	26.296	-13.591	74.000	34.113	PK

Profile: 2370455R	Page No.: 20
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2402MHz by LE_Coded S=8	



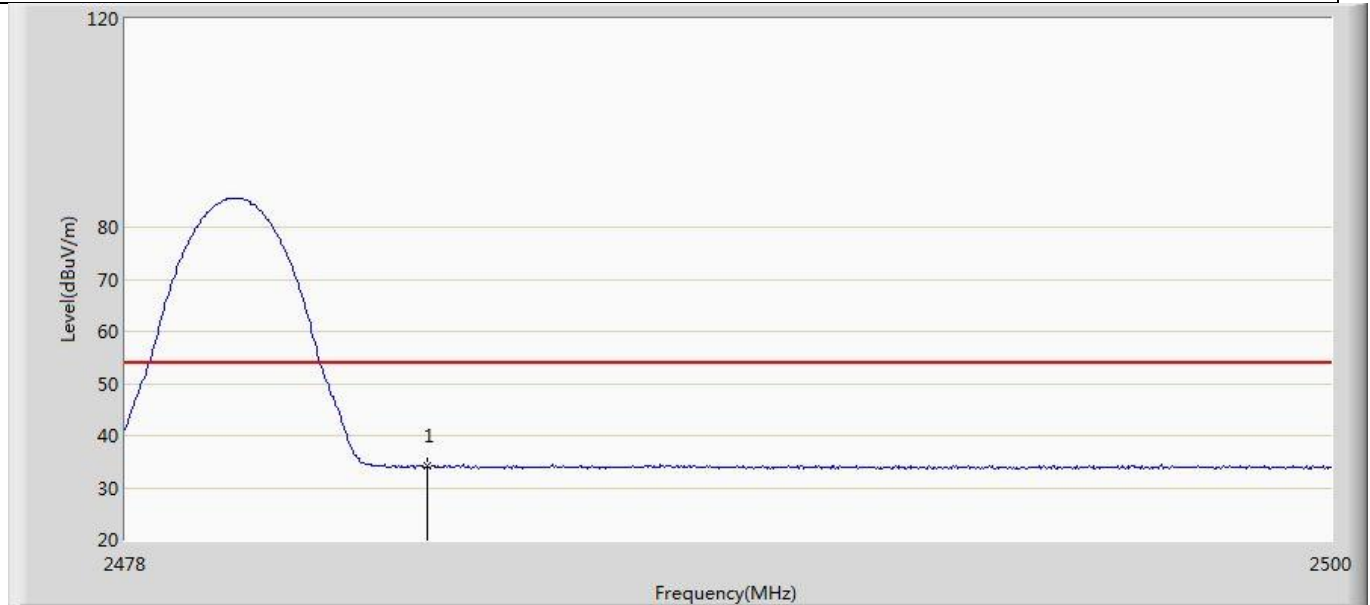
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.550	-0.563	-20.450	54.000	34.113	AV

Profile: 2370455R	Page No.: 21
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2480MHz by LE_Coded S=8	



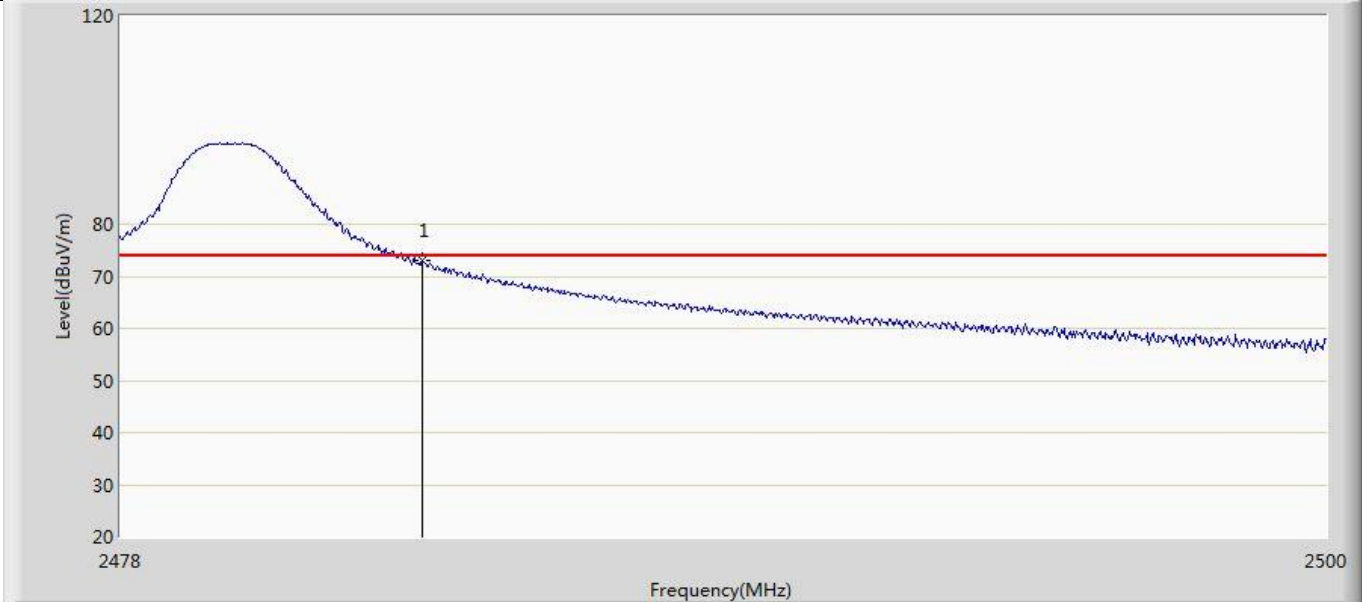
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	63.555	29.039	-10.445	74.000	34.516	PK

Profile: 2370455R	Page No.: 22
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2480MHz by LE_Coded S=8	



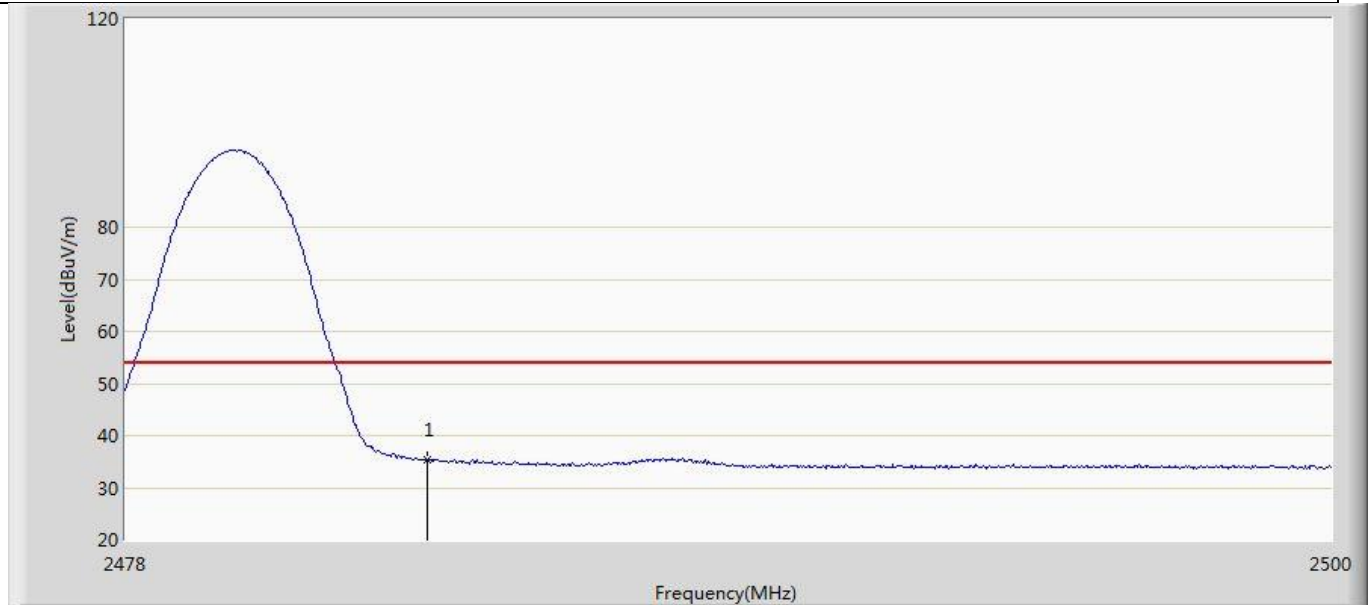
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	34.300	-0.216	-19.700	54.000	34.516	AV

Profile: 2370455R	Page No.: 23
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2480MHz by LE_Coded S=8	



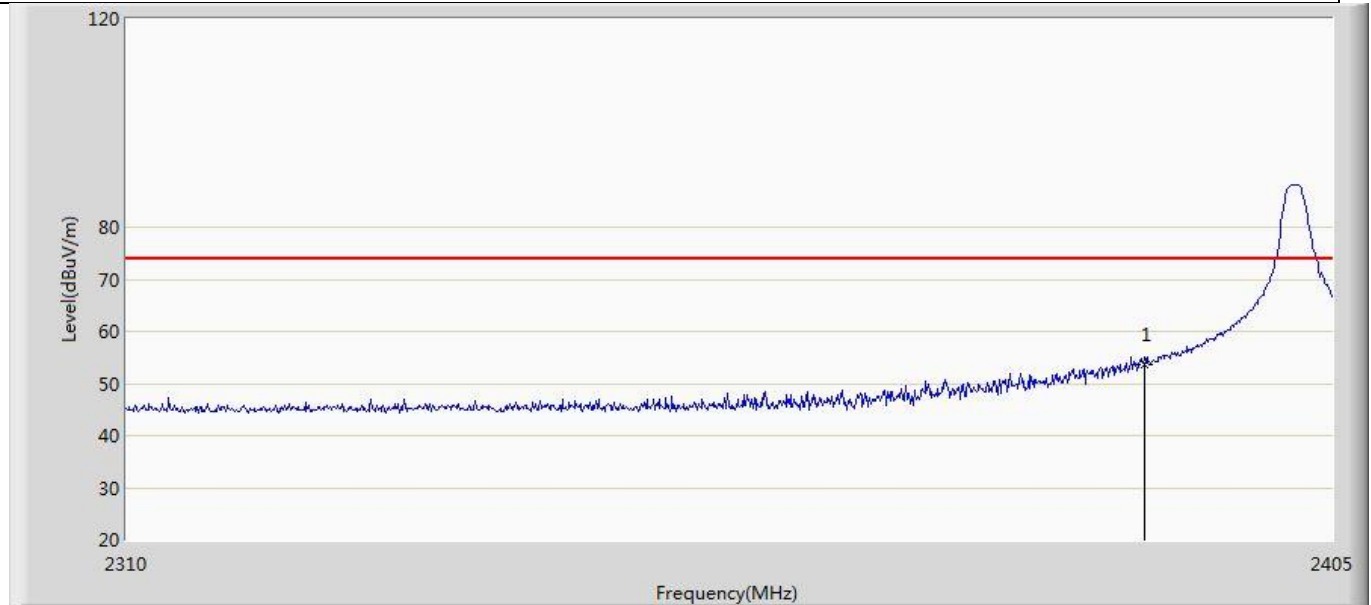
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	73.013	38.497	-0.987	74.000	34.516	PK

Profile: 2370455R	Page No.: 24
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/19 - 23:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 3 : Transmit at 2480MHz by LE_Coded S=8	



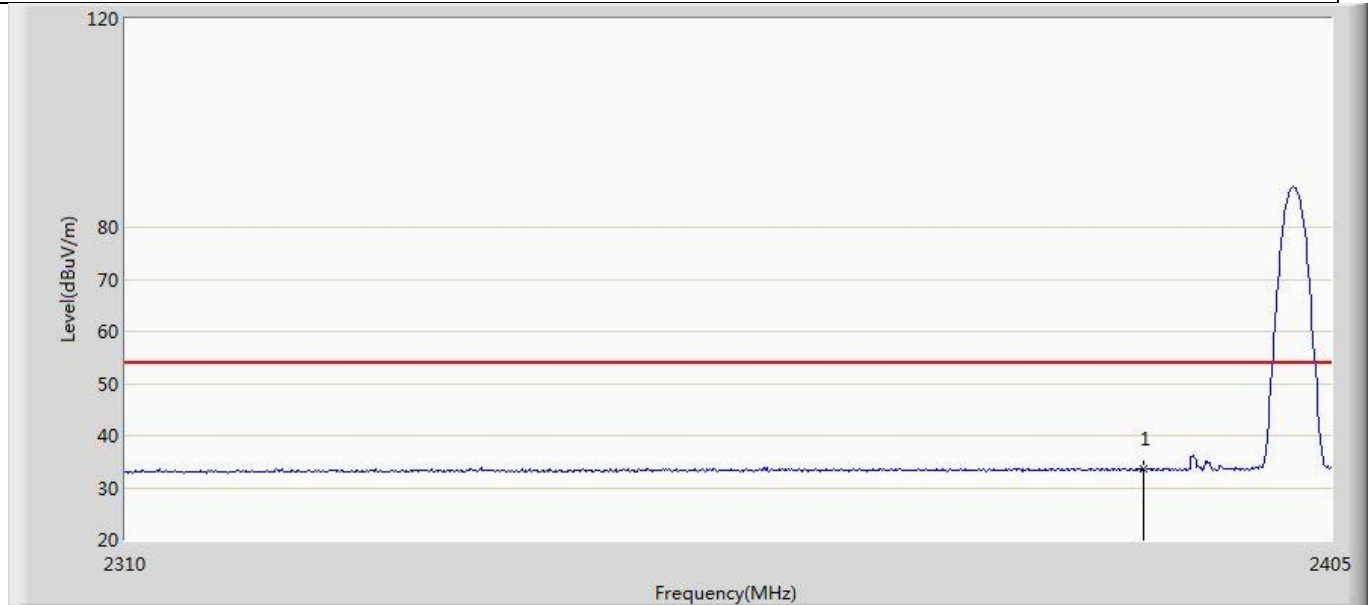
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	35.429	0.913	-18.571	54.000	34.516	AV

Profile: 2370455R	Page No.: 25
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/20 - 00:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2402MHz by LE_Coded S=2	



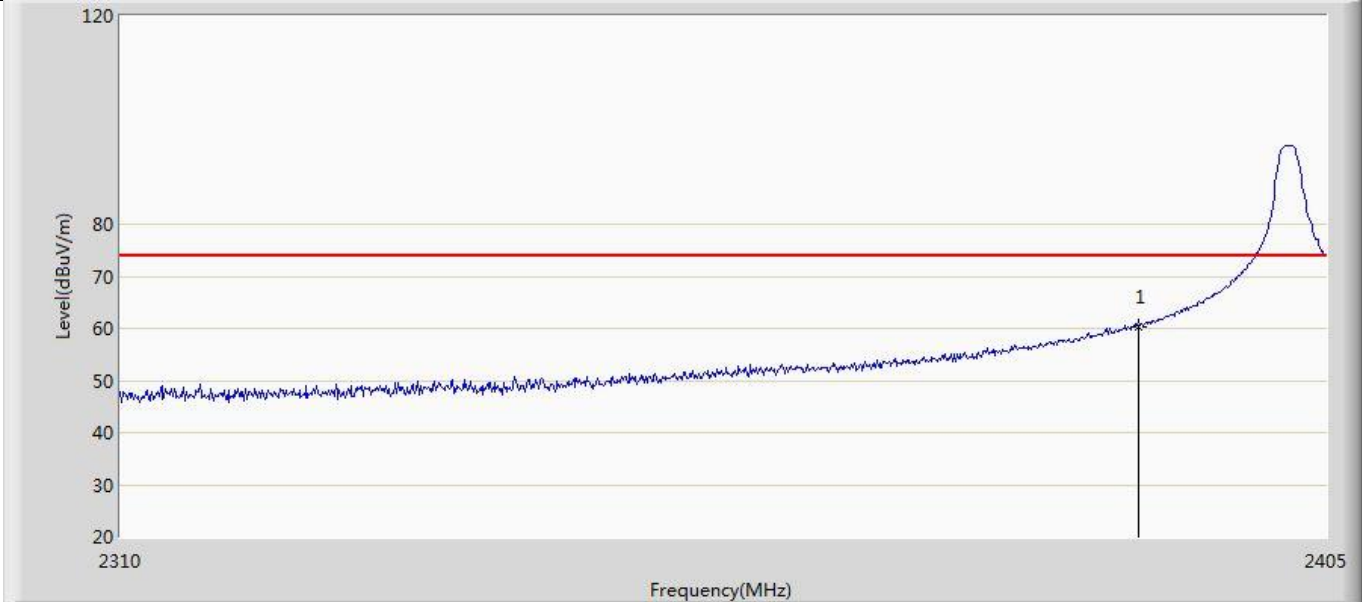
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	53.699	19.586	-20.301	74.000	34.113	PK

Profile: 2370455R	Page No.: 26
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/20 - 00:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2402MHz by LE_Coded S=2	



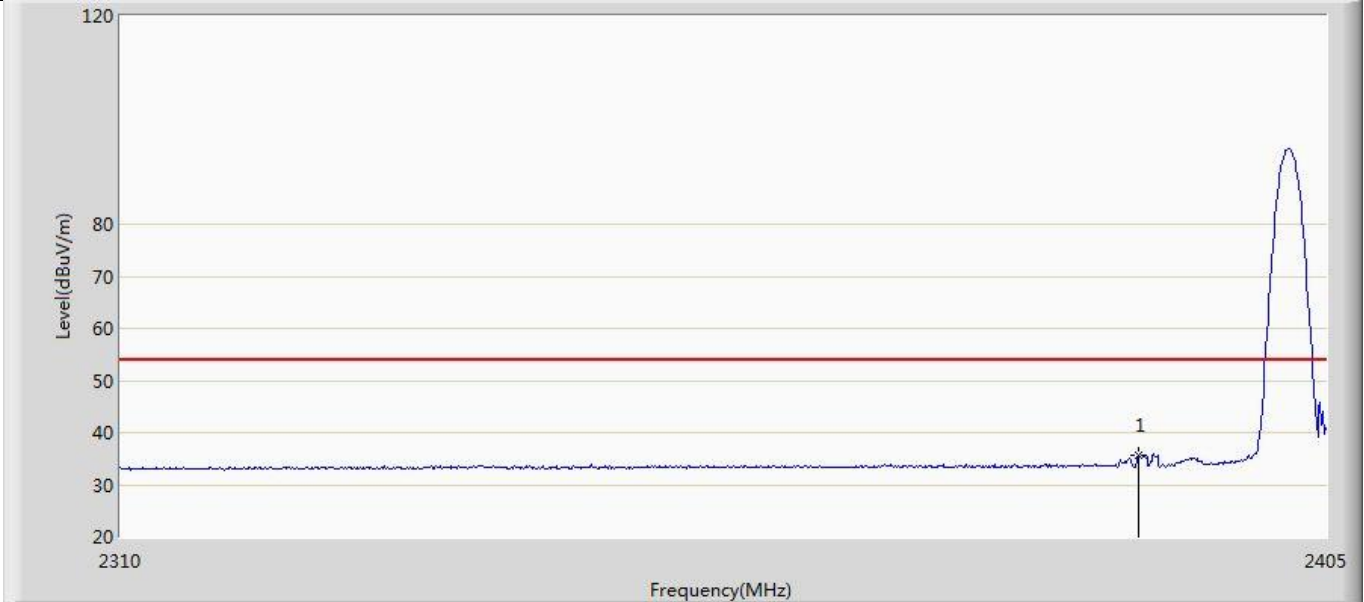
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.539	-0.574	-20.461	54.000	34.113	AV

Profile: 2370455R	Page No.: 27
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/20 - 00:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2402MHz by LE_Coded S=2	



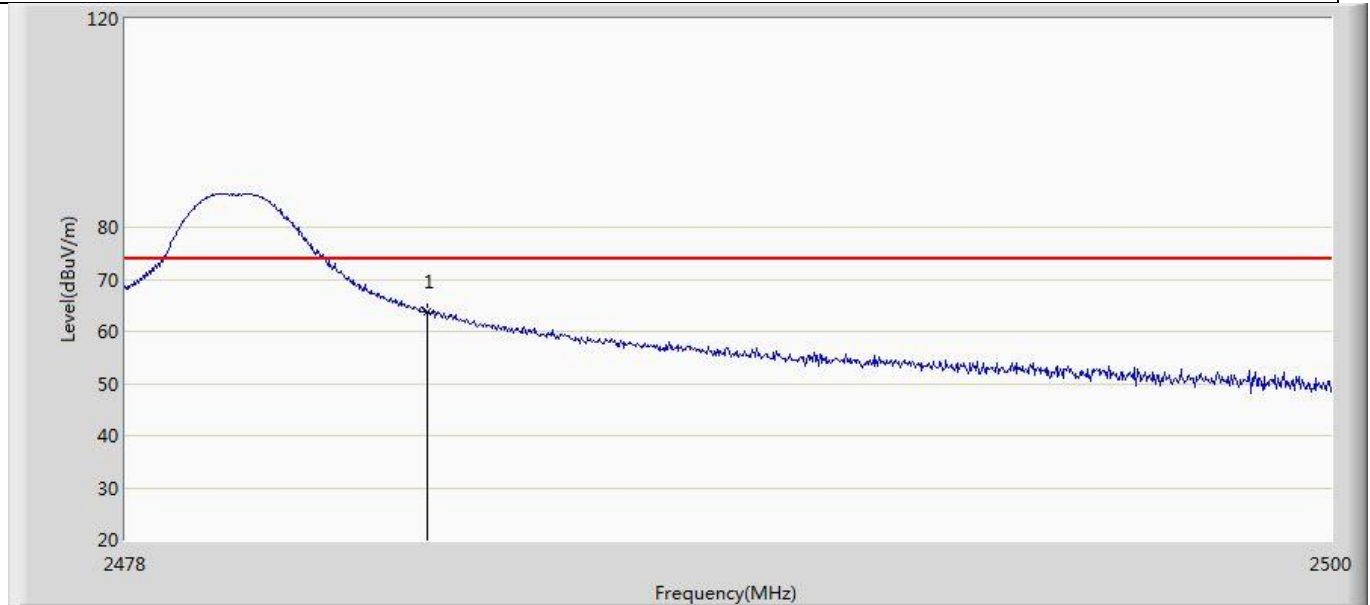
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	60.294	26.181	-13.706	74.000	34.113	PK

Profile: 2370455R	Page No.: 28
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/20 - 00:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2402MHz by LE_Coded S=2	



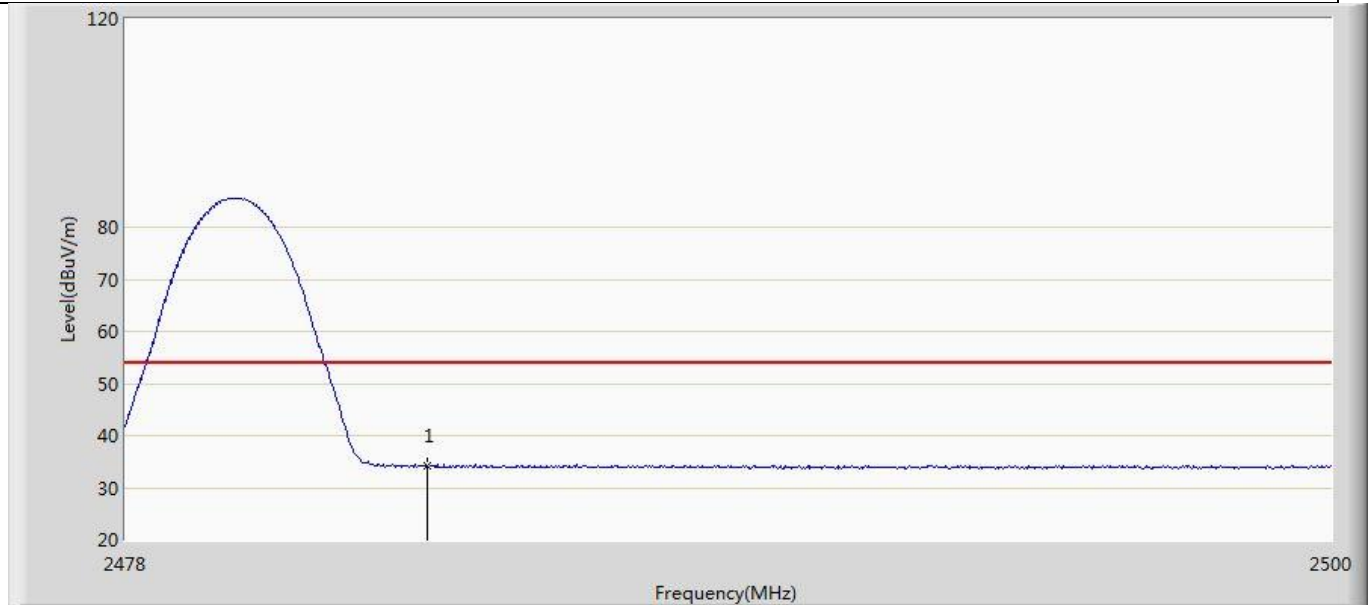
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	35.705	1.592	-18.295	54.000	34.113	AV

Profile: 2370455R	Page No.: 29
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/20 - 00:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2480MHz by LE_Coded S=2	



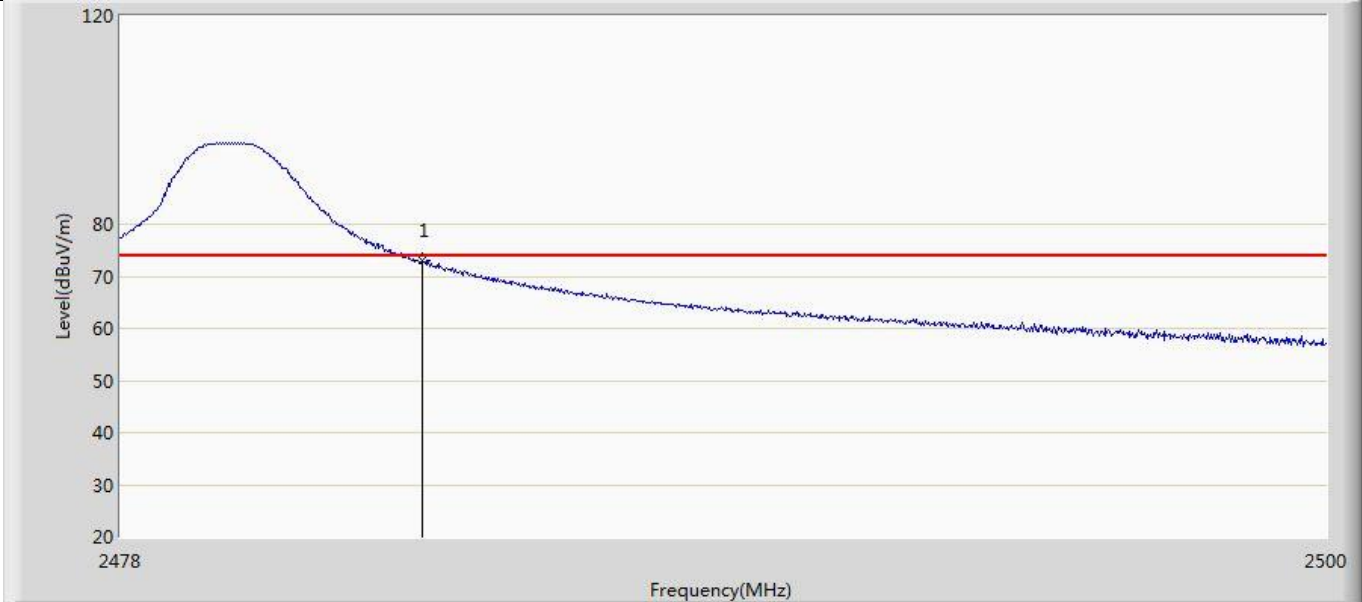
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	63.695	29.179	-10.305	74.000	34.516	PK

Profile: 2370455R	Page No.: 30
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/20 - 00:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2480MHz by LE_Coded S=2	



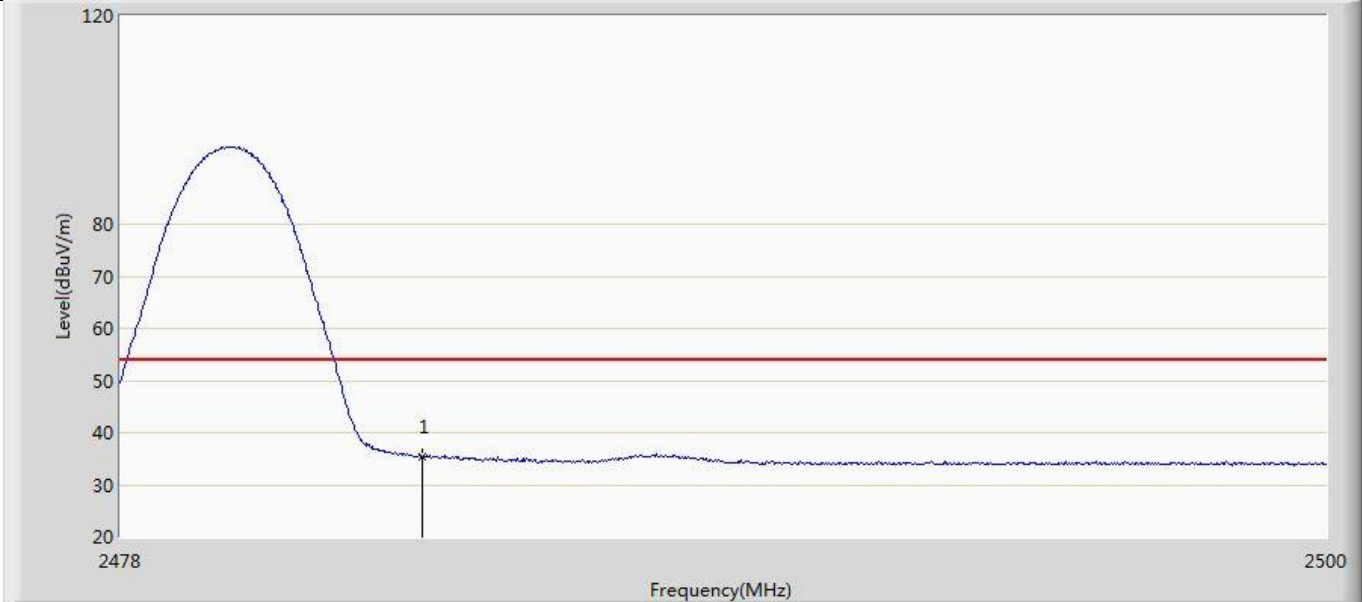
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	34.061	-0.455	-19.939	54.000	34.516	AV

Profile: 2370455R	Page No.: 31
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/20 - 00:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2480MHz by LE_Coded S=2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	73.144	38.628	-0.856	74.000	34.516	PK

Profile: 2370455R	Page No.: 32
Engineer: Pengchengyang	
Site: AC5	Time: 2023/07/20 - 00:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: AIROC Bluetooth Module	Power: 3.3 Vdc
Note: Mode 4 : Transmit at 2480MHz by LE_Coded S=2	

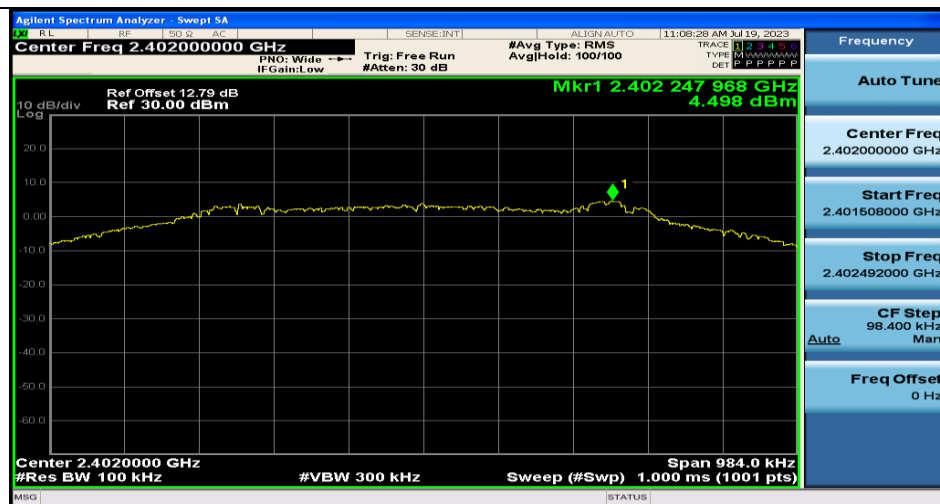


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	35.238	0.722	-18.762	54.000	34.516	AV

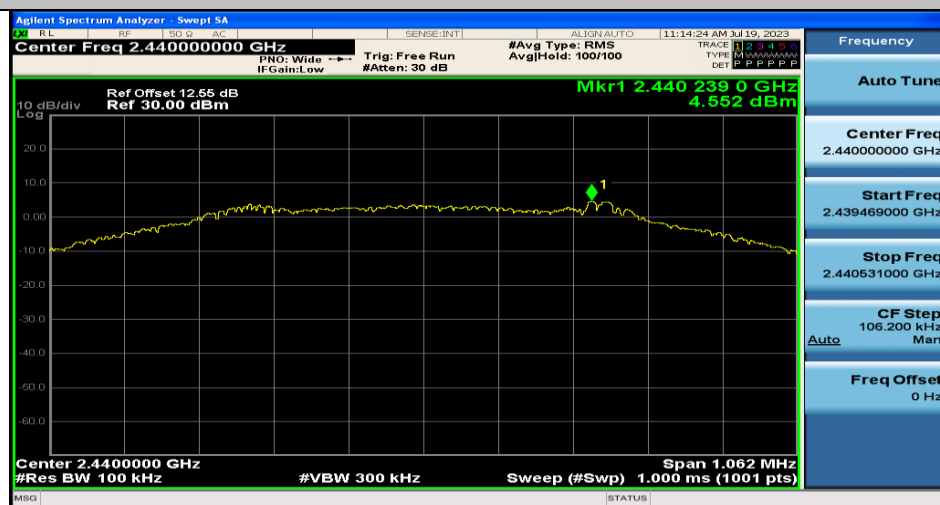
Appendix F: Conducted Spurious Emission

Reference level measurement:

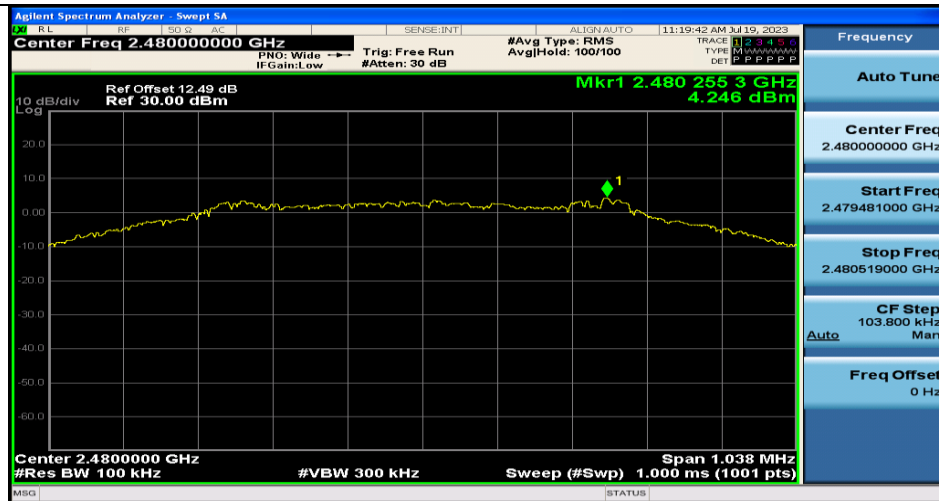
TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2402.25	4.50
BLE_1M	Ant1	2440	2440.24	4.55
BLE_1M	Ant1	2480	2480.26	4.25
BLE_2M	Ant1	2402	2402.01	3.79
BLE_2M	Ant1	2440	2440.02	3.57
BLE_2M	Ant1	2480	2480.49	3.25
BLE_125K	Ant1	2402	2401.94	2.62
BLE_125K	Ant1	2440	2440.00	1.29
BLE_125K	Ant1	2480	2479.91	2.12
BLE_500K	Ant1	2402	2401.73	4.29
BLE_500K	Ant1	2440	2439.76	4.47
BLE_500K	Ant1	2480	2479.75	3.79



BLE_1M-Ant1-2402



BLE_1M-Ant1-2440



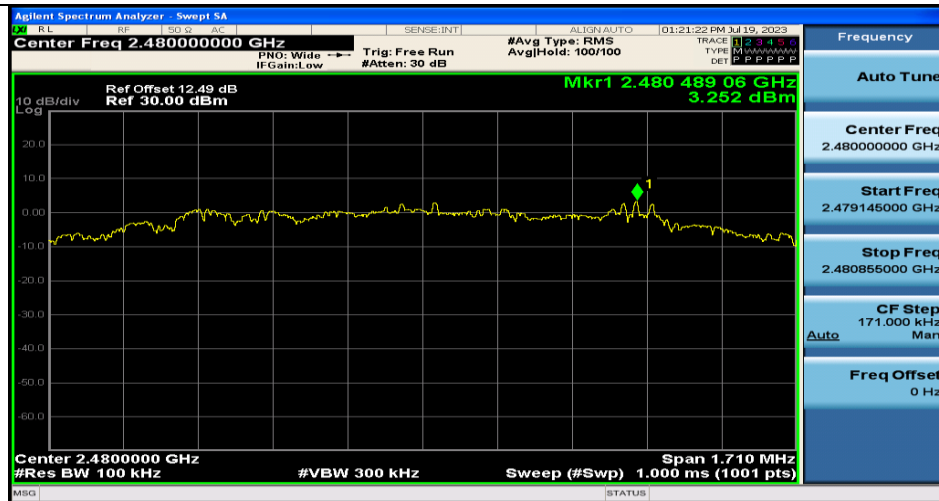
BLE_1M-Ant1-2480



BLE_2M-Ant1-2402



BLE_2M-Ant1-2440



BLE_2M-Ant1-2480



BLE_125K-Ant1-2402



BLE_125K-Ant1-2440



BLE_125K-Ant1-2480



BLE_500K-Ant1-2402



BLE_500K-Ant1-2440