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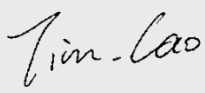
Test report No:
2320054R-RF-US-P06V01

FCC & ISED TEST REPORT

Product Name	Handheld radio
Trademark	Sepura
Model and /or type reference	SC2028
FCC ID	XX6SC2028M
IC	8739A-SC2028M
Applicant´s name / address	Sepura Limited. 9000 Cambridge Research Park, Beach Drive, Waterbeach, Cambridge CB25 9TL, UK
Test method requested, standard	CFR 47, FCC Part 15 Subpart C ANSI C63.10: 2013 RSS-Gen / RSS-247
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Tim Cao/Project Manager 
Approved by (name / position & signature)	Jack Zhang/ Manager 
Date of issue	2023-06-02
Report Version	V1.1
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.

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GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Feb. 02, 2023
Date (start test)	Feb. 05, 2023
Date (finish test)	Feb. 19, 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
2320054R-RF-US-P06V01	V1.0	Initial issue of report.	2023-05-18
2320054R-RF-US-P06V01	V1.1	Page 112: Add note 3. (The test report No.: 2320054R-RF-US-P06V01 V1.1 is to replace the test report No.: 2320054R-RF-US-P06V01 V1.0, and test report 2320054R-RF-US-P06V01 V1.0 is obsoleted.)	2023-06-02

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 Part 15 Subpart C Paragraph 15.247, RSS-Gen Issue 5, RSS-247 Issue 2.
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

AC Power Line Conducted Emission / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100906	2022.09.04	2023.09.03
Two-Line V-Network	R&S	ENV216	101189	2022.07.01	2023.06.30
Two-Line V-Network	R&S	ENV216	101044	2022.03.12	2023.03.11
Artificial Mains Network	SCHWARZBECK	NNLK 8129	8129-294	2022.11.27	2023.11.26
Impedance Stabilization Network	Teseq GmbH	ISN T800	57318	2022.03.21	2023.03.20
Impedance Stabilization Network	Teseq GmbH	ISN T8-Cat6	29680	2022.03.16	2023.03.15
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
Coaxial Cable	Suhner	RG 223	TR1-C1	2022.03.30	2023.03.29
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2022.07.07	2023.07.06

Conducted Test / TR8

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Wireless Connectivity Tester	R&S	CMW 270	102593	2022.05.21	2023.05.20
Coaxial Cable	N/A	N/A	2187	2022.06.09	2023.06.08
High and low temperature and fast temperature change test box	ASTUOD	ASTD-FBT-225K	N/A	2022.07.13	2023.07.12
Temperature/Humidity Meter	RTS	RTS-8S	RF08	2022.07.07	2023.07.06
Test system					
4TX MIMO Power Sensor	Keysight	X8750A	MY59400102	2022.03.16	2023.03.15
MAX Signal Analyzer	Keysight	N9020B	MY59050482	2022.09.17	2023.09.16
Switch Box	Keysight	X8749A	N/A	N/A	N/A
High and low temperature and fast temperature change test box	ASTUOD	ASTD-FBT-225K	N/A	2022.07.13	2023.07.12
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY61252529	2022.07.14	2023.07.13
Frequency extender for EXG or MXG	Keysight	N5182BX07	MY59362500	2022.07.14	2023.07.13
EXG-B MW Analog Signal Generator	Keysight	N5173B	MY61252566	2022.09.28	2023.09.27

Radiated Emission(9kHz-1GHz) / AC3

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2022.07.10	2023.07.09
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2022.08.28	2023.08.27
Coaxial Cable	Huber+Suhner	RG 214	AC2-C	2022.03.30	2023.03.29
Loop Antenna	R&S	HFH2-Z2	833799/003	2022.04.15	2023.04.14
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2022.07.07	2023.07.06

Radiated Emission (1GHz-40GHz) / AC5

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
MXA Signal Analyzer	Keysight	N9020B	MY60112218	2022.12.08	2023.12.07
Preamplifier	SKET	LNPA_0118G-45	SK2021041201	2022.04.15	2023.04.14
Pre-Amplifier	Schwarzbeck	BBV 9721	9721-024	2022.12.08	2023.12.07
DRG Horn	ETS-Lindgren	3117	00123988	2022.08.29	2023.08.28
Broad-Band Horn Antenna	SCHWARZBECK	BBHA 9170	01249	2022.09.22	2023.09.21
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2022.03.30	2023.03.29
Coaxial Cable	ROSENBERGER	LA1-C011-2000/3000	AC5-40G	2022.03.21	2023.03.20
Notch Filter	Micro-mve	MFN-2400.2485.S1	AN0003N	2022.07.18	2023.07.17

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~30MHz: 2.92dB
Peak Power Output	±1.13dB
Radiated Emission(30MHz~1GHz)	30MHz~300MHz: 4.81 dB 300MHz~1GHz: 4.15 dB
Radiated Emission(1GHz~26.5GHz)	1GHz~18GHz: 4.98 dB 18GHz~26.5GHz: 4.72 dB
RF antenna conducted test	±1.27dB
Radiated Emission Band Edge	1GHz~18GHz: 4.98 dB
DTS Bandwidth	±279Hz
Occupied Bandwidth	±279Hz
Power Density	±0.95dB

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name ..... :	Handheld radio
Model No. ..... :	SC2028
Trademark ..... :	Sepura
FCC ID ..... :	XX6SC2028M
IC ..... :	8739A-SC2028M
Hardware Version ..... :	PLX-2516515-01 Mod state 11
Software Version ..... :	1810 002 07367
Manufacturer ..... :	Sepura Limited
Manufacturer address ..... :	9000 Cambridge Research Park, Beach Drive, Waterbeach, Cambridge CB25 9TL, UK
Factory ..... :	Plexus (Oradea) Manufacturing Solutions
Factory address..... :	Strada Eugeniu Carada, nr. 2 – 4, Oradea, Bihor

Wireless specification..... :	802.11b/g/n
Operating frequency range(s) ..... :	802.11b/g/n(20MHz): 2412~2462MHz
Type of Modulation..... :	802.11b: DSSS-DBPSK, DQPSK, CCK 802.11g/n: OFDM-BPSK, QPSK, 16QAM, 64QAM
Number of channels ..... :	802.11b/g/n(20MHz): 11

Rated power supply ..... :	Voltage and Frequency	
	☐	AC: 220 - 240 V, 50/60 Hz
	☐	AC: 100 - 240 V, 50/60 Hz
	☐	DC: 24 V
	☒	Battery: 7.4V_{DC}
	☐	Adapter: ……Input: Output:
Brand of adapter ..... :	N/A	
Adapter model..... :	N/A	
Mounting position ..... :	☐	Table top equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☒	Hand-held/Protable equipment
	☐	Other:

1.2 Antenna Information

Antenna Model ..... :	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 ..... :	2.5 dBi			

1.3 Data Rate

IEEE 802.11b

Modulation	Data Rate(Mb/s)
DSSS	1
DSSS	2
CCK	5.5
CCK	11

IEEE 802.11g

Modulation	R	Data Rate(Mb/s)
BPSK	1/2	6
BPSK	3/4	9
QPSK	1/2	12
QPSK	3/4	18
16-QAM	1/2	24
16-QAM	3/4	36
64-QAM	2/3	48
64-QAM	3/4	54

IEEE 802.11n

Spatial streames	MCS Index	Modulation	R	Data Rate(Mb/s)	
				800ns GI	400ns GI
				20MHz	20MHz
1	0	BPSK	1/2	6.5	7.2
1	1	QPSK	1/2	13.0	14.4
1	2	QPSK	3/4	19.5	21.7
1	3	16-QAM	1/2	26.0	28.9
1	4	16-QAM	3/4	39.0	43.3
1	5	64-QAM	2/3	52.0	57.8
1	6	64-QAM	3/4	58.5	65.0
1	7	64-QAM	5/6	65.0	72.2
Note 1: Support of 400ns GI is optional on transmit and receive.					

Symbol	Explanation
R	Code rate
GI	guard interval

Note: The data rate marks blue are the worst.

1.4 Channel List

IEEE 802.11b/g & IEEE 802.11n(20MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
001	2412 MHz	002	2417 MHz	003	2422 MHz	004	2427 MHz
005	2432 MHz	006	2437 MHz	007	2442 MHz	008	2447 MHz
009	2452 MHz	010	2457 MHz	011	2462 MHz	N/A	N/A

Note: The general description of the Item(s), antenna information, data rate and channel list 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 For Wi-Fi	Mode 1: Transmit by 802.11b
	Mode 2: Transmit by 802.11g
	Mode 3: Transmit by 802.11n(20MHz)

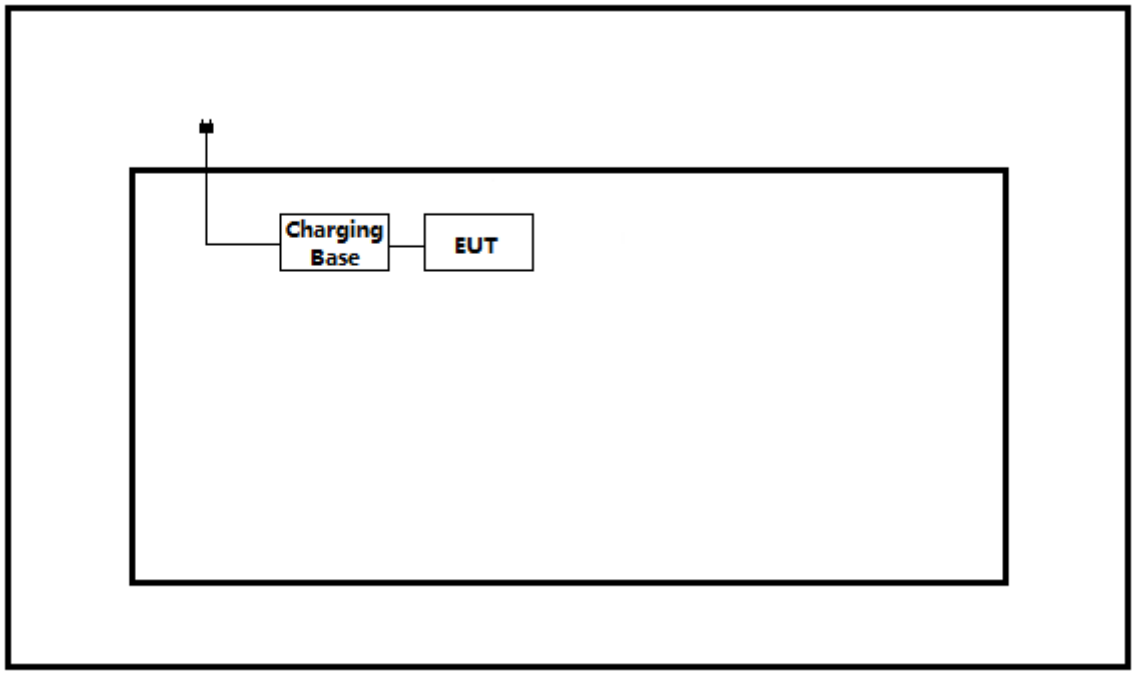
2.2 Auxiliary equipment / Test software for the EUT

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
Putty	0.71	N/A	N/A

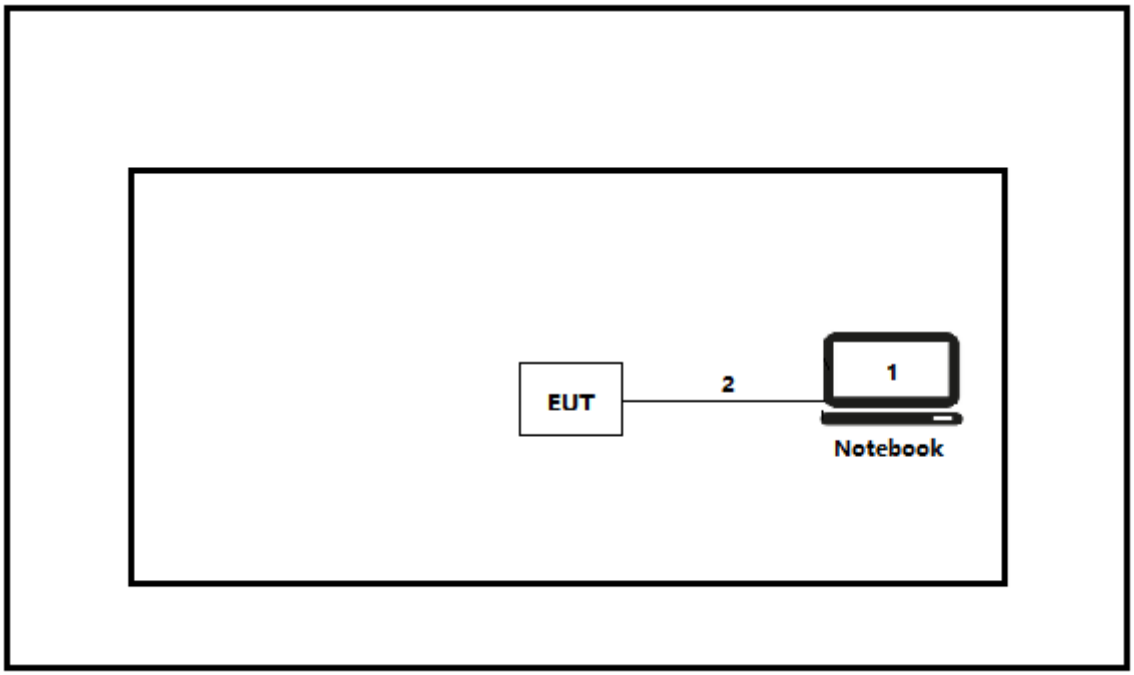
Accessories Information	Cable		
	Length used during test [m]	Attached during test	Shielded
(2)USB Control Cable	2	☒	☒
(3)USB Control Cable	8	☒	☒

2.3 Test Configuration / Block diagram used for tests

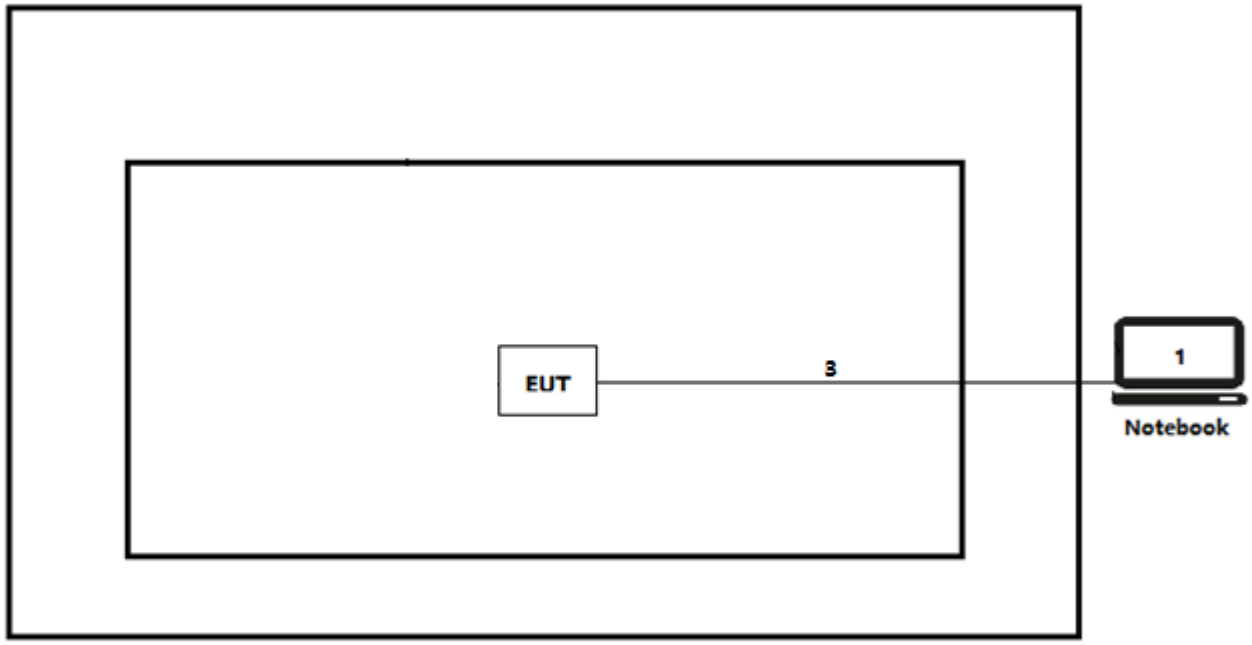
Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Conducted test



Test setup Diagram- Radiated test



2.4 Testing process

1	Setup the EUT shown in Section 2.3.
2	Run the software “PUTTY” and enter the corresponding instructions on the notebook computer.
3	Open the serial port and enter the corresponding commands to configure the test mode, test channel, test power and 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
CFR 47, FCC Part 15 C	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
KDB 558074 D01V05r02	2019	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES
KDB 662911 D01V02r01	2013	Emissions Testing of Transmitters with Multiple Outputs in the Same Band
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
DTS 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	PASS	Test data please refer to **Appendix I**
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	PASS	Test data please refer to **Appendix I**
Antenna Requirement	RSS-Gen Issue 5 Paragraph 6.8	PASS	---

3.4 Power setting in test

Mode	Channel	Frequency (MHz)	Power setting
802.11b	01	2412	62
	06	2437	62
	11	2462	62
802.11g	01	2412	46
	06	2437	46
	11	2462	46
802.11n(20MHz)	01	2412	46
	06	2437	46
	11	2462	46

3.5 Test Matrix

Test item	Model / Type		
	1(#1)	2(#2)	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	☒	☐	☐
AC Power Line Conducted Emission	☐	☒	☐
Antenna Requirement	☐	☒	☐
Note: The only difference between sample #1 and sample #2 is whether to keep the original antenna, sample #1 is a conduction test product that removes the original antanna and is equipped with SMA wires, and sample #2 is a complete product that retains the original antanna.			

3.6 Test Facility

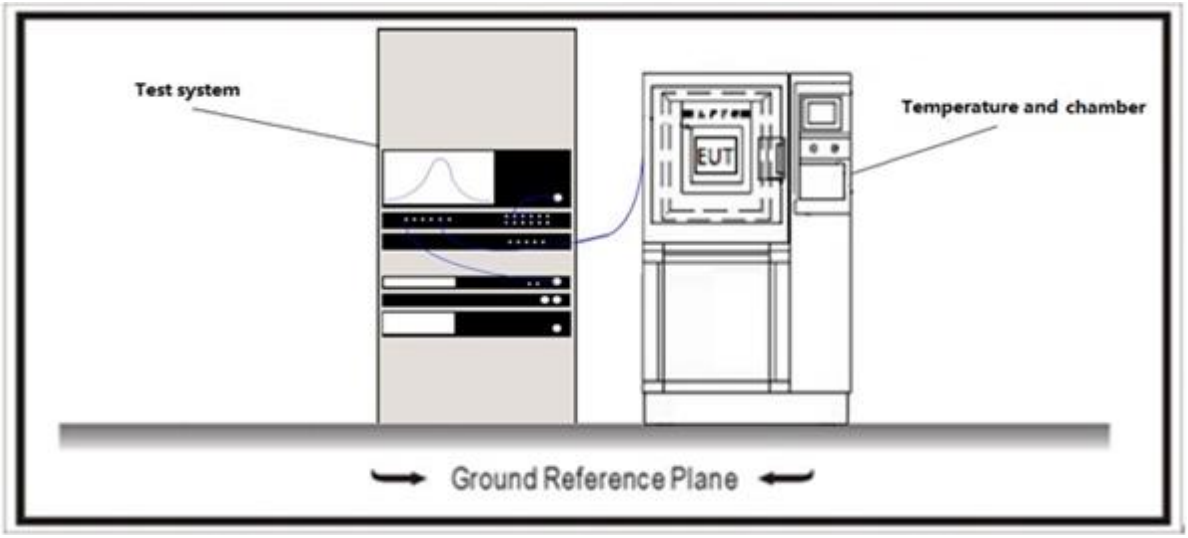
USA	**:**	**FCC Designation Number: CN1199**
CA	**:**	**ISED CAB identifier: CN0040**

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 the2400-2483.5 MHz .The minimum 6 dB bandwidth shall be at least 500 kHz	

4.1.2 Test Setup



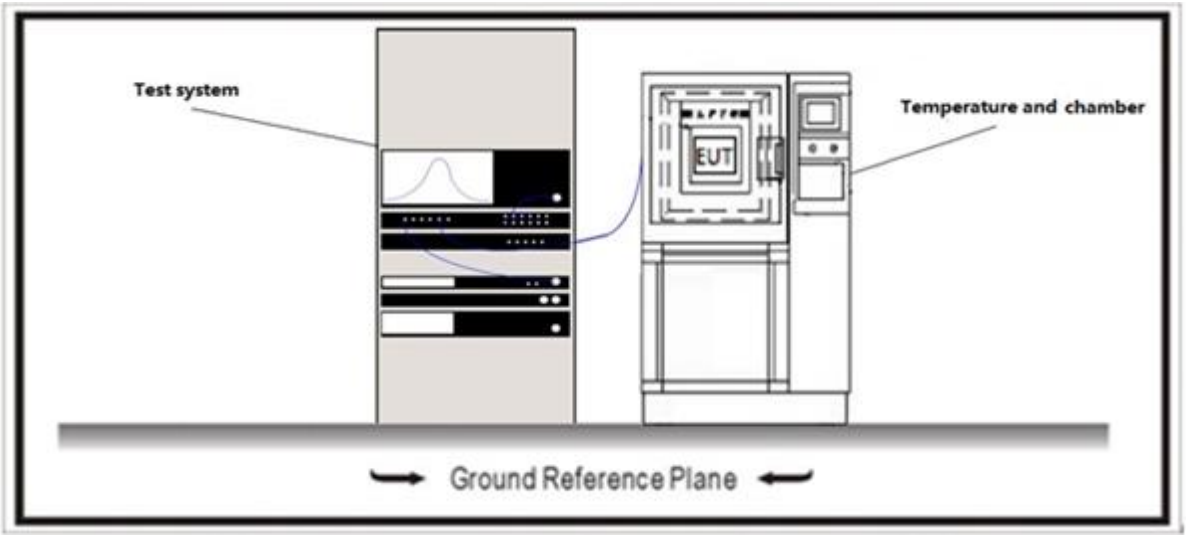
4.1.3 Test Procedure

	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		6.9	Occupied bandwidth tests
	☐	ANSI C63.10	6.9.2	Relative measurement procedure
	☒	ANSI C63.10	6.9.3	Power bandwidth (99%) measurement procedure

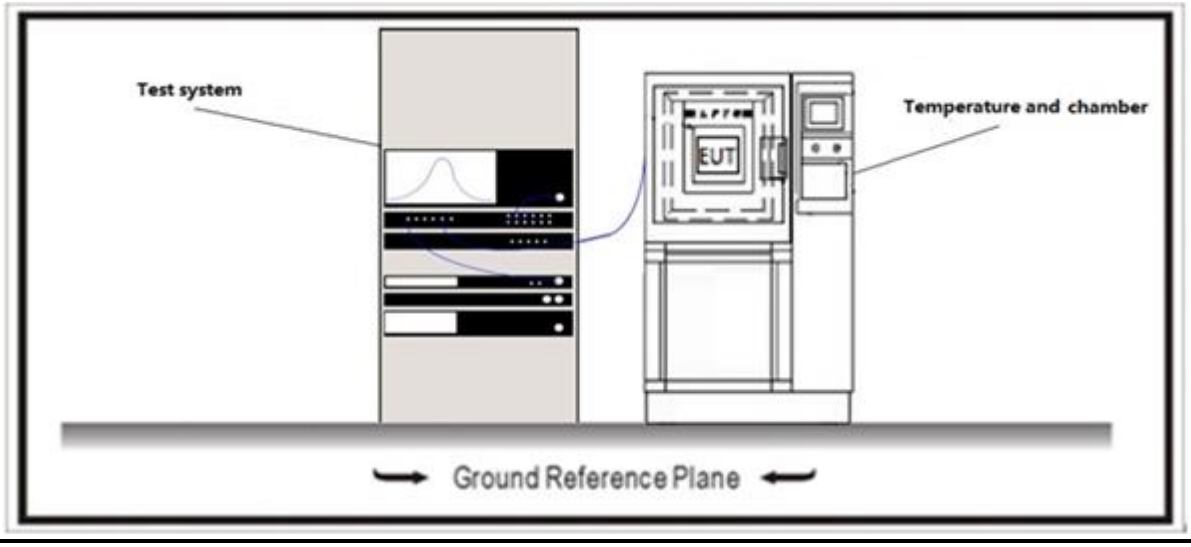
4.3 Maximum Conducted Output Power	VERDICT: PASS

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

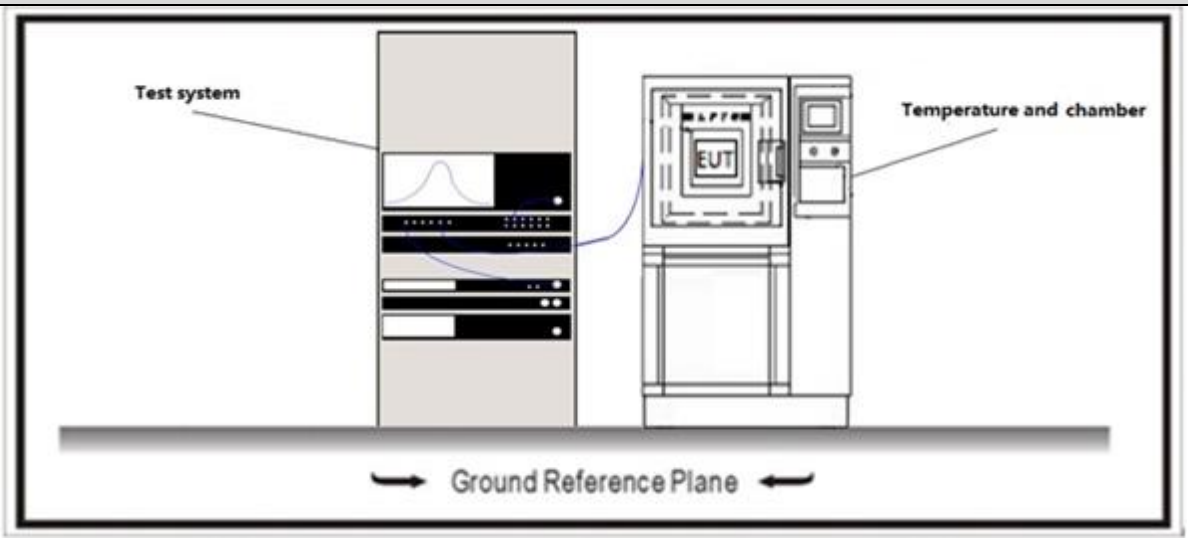


4.3.3 Test Procedure							
	References Rule					Chapter	Description
☒	ANSI C63.10					11.9	Fundamental emission output power
	☒	ANSI C63.10				11.9.1	Maximum peak conducted output power
		☐	ANSI C63.10			11.9.1.1	RBW ≥ DTS bandwidth
		☐	ANSI C63.10			11.9.1.2	Integrated band power method
		☒	ANSI C63.10			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≤8dBm/3kHz	

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≥98%)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle≥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

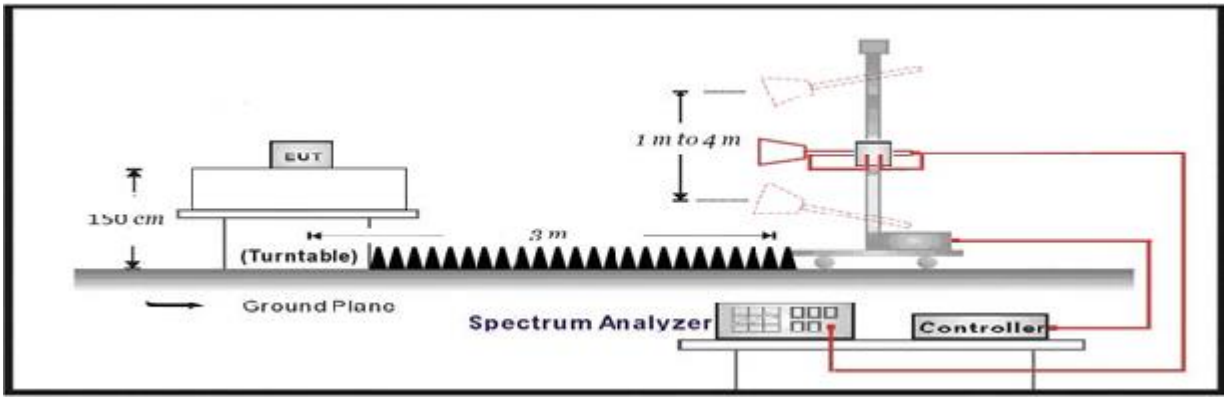
4.5 Band Edge Measurements	VERDICT: PASS

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 (dBμV/m)	RBW (MHz)	Distance (m)
2310-2390 2483.5-2500	PK	74	1	3
	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 rangeof 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

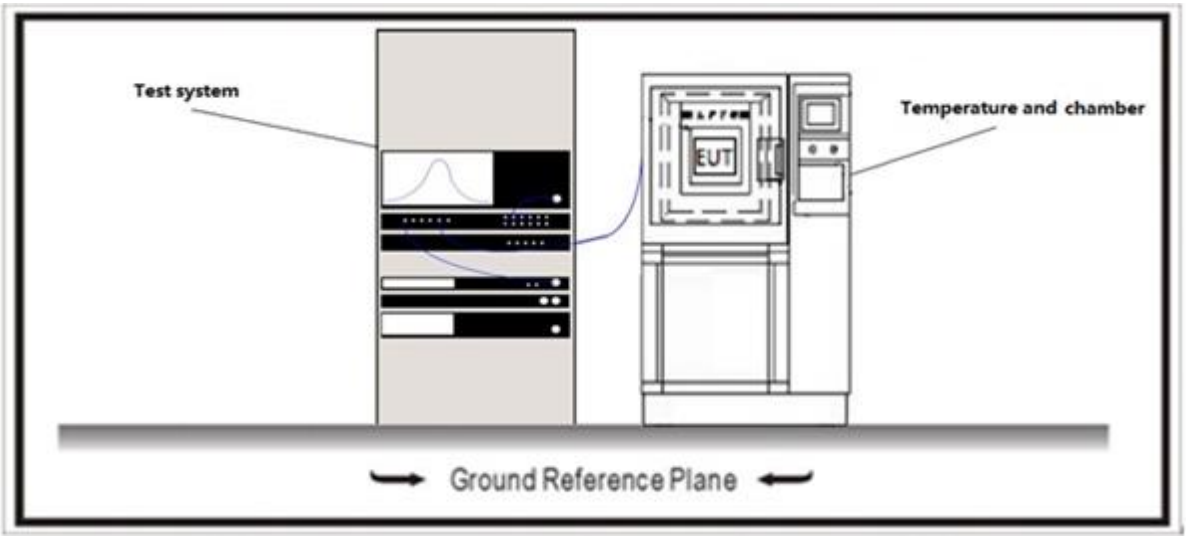
Standard	FCC Part 15 Subpart C Paragraph 15.247(d); RSS-247 Issue 2 Paragraph 5.5.

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

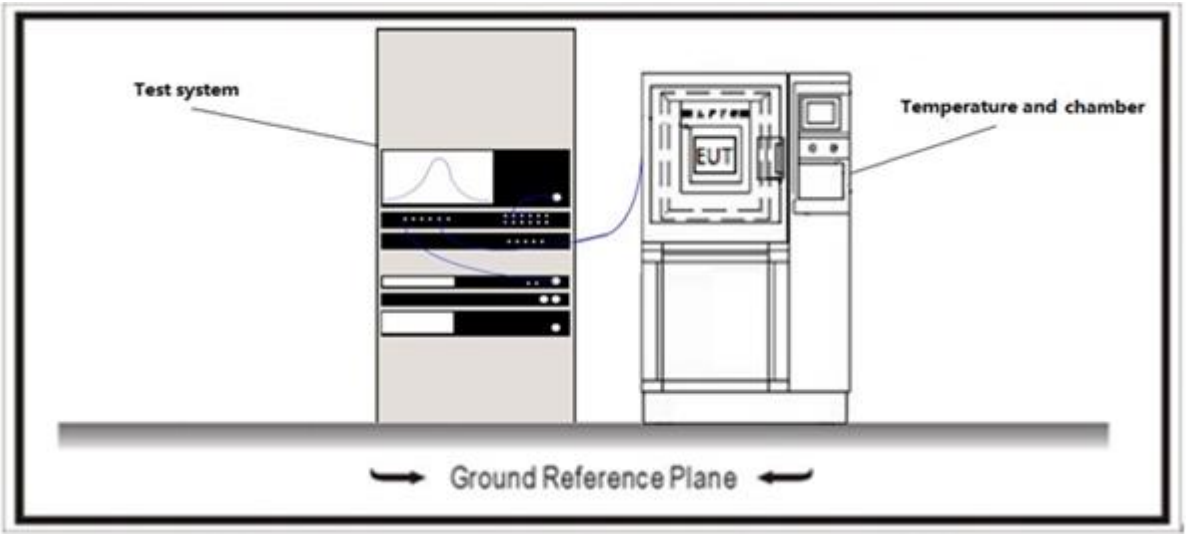
References Rule			Chapter	Description
☒	ANSI C63.10		11.11	Emissions in non-restricted frequency bands
	☒	ANSI C63.10	11.11.1	General
	☒	ANSI C63.10	11.11.2	Reference level measurement
	☒	ANSI C63.10	11.11.3	Emission level measurement

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	--	

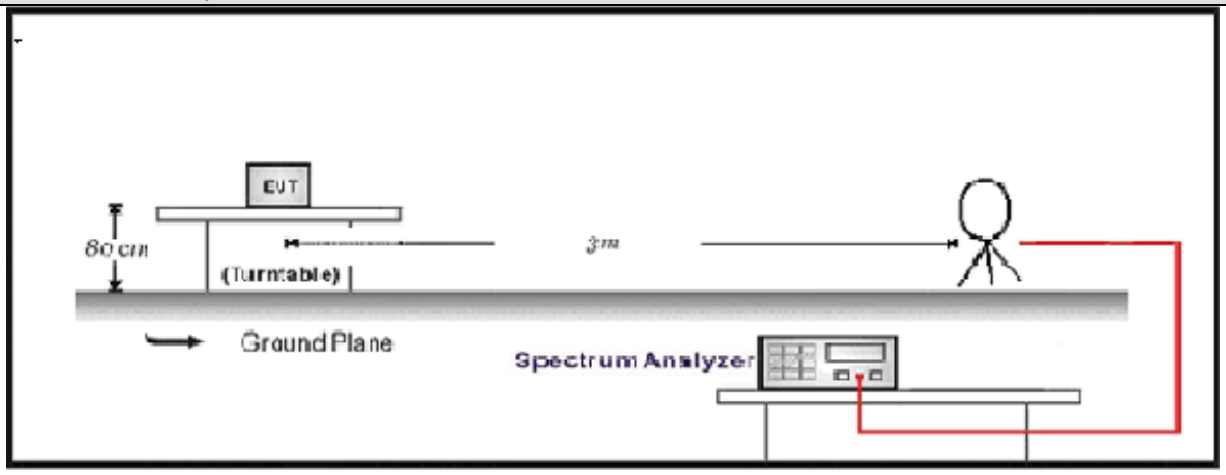
Restricted Band Emissions Limit			
FCC Part 15 Subpart C Paragraph 15.209			
Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30(Note 1)
1.705 - 30	30	29.5	30(Note 1)
30 - 88	100	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 (dBμV/m)	Measurement distance (m)
0.009 - 0.49	6.37/F(kHz) μA/m	48.5 – 13.8	300(Note 1)
0.49 - 1.705	63.7/F(kHz) μA/m	33.8 - 23	30(Note 1)
1.705 - 30	30 μV/m	29.5	30(Note 1)
30 - 88	100 μV/m	40	3(Note 2)
88 - 216	150 μV/m	43.5	3(Note 2)
216 - 960	200 μV/m	46	3(Note 2)
Above 960	500 μV/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).

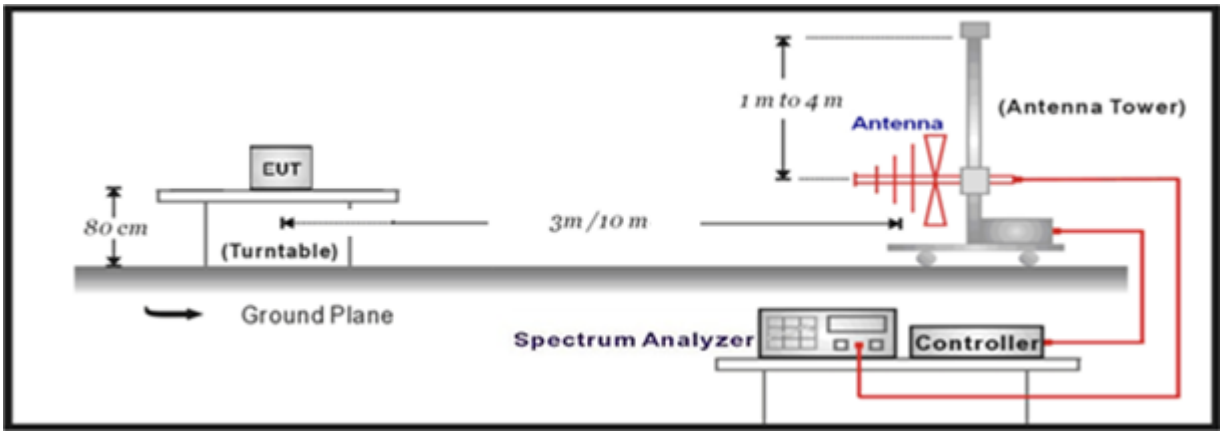
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated 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

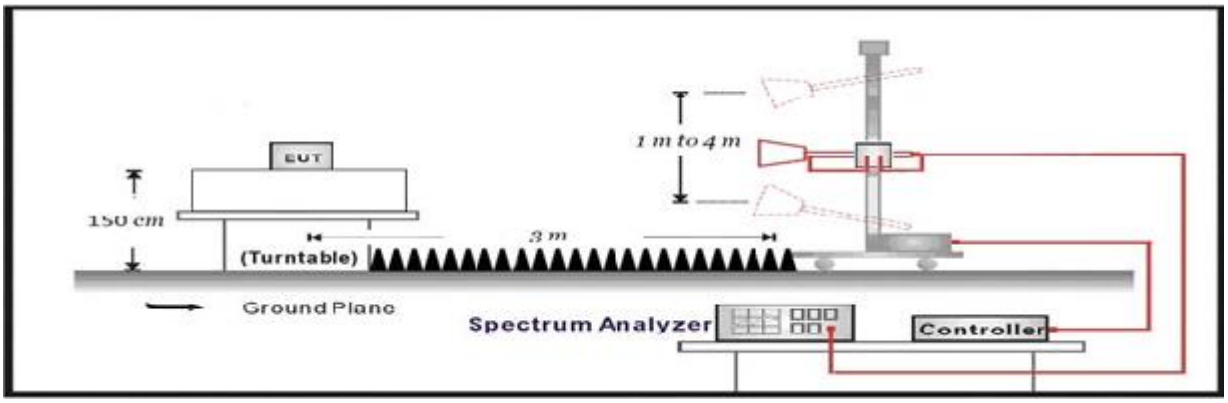
Below 30MHz Test Setup:



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

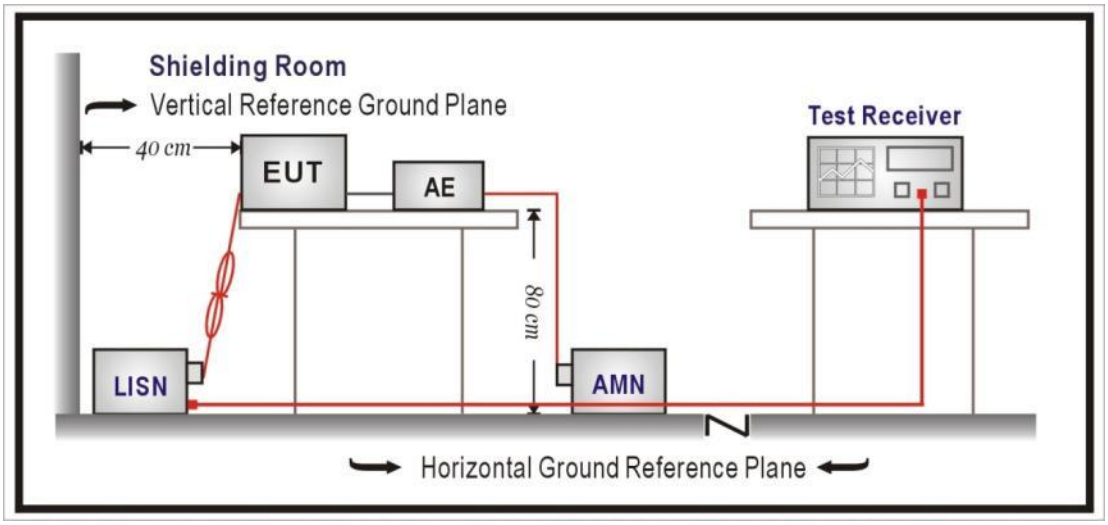
4.9 AC Power Line Conducted Emission	VERDICT: PASS

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.

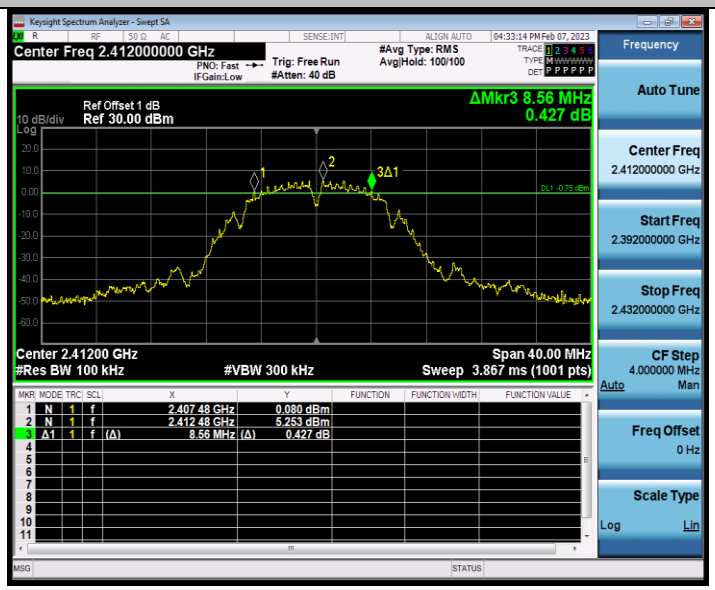
6 TEST RESULT

Appendix A: DTS Bandwidth
Test Result

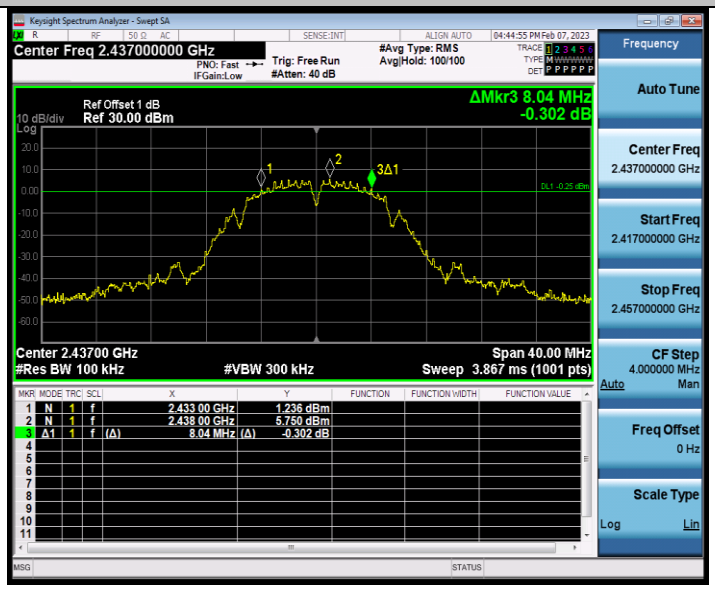
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
Mode1	Ant1	2412	8.560	2407.480	2416.040	≥0.5	PASS
		2437	8.040	2433.000	2441.040	≥0.5	PASS
		2462	8.080	2457.960	2466.040	≥0.5	PASS
Mode2	Ant1	2412	16.400	2403.800	2420.200	≥0.5	PASS
		2437	16.400	2428.800	2445.200	≥0.5	PASS
		2462	16.320	2453.840	2470.160	≥0.5	PASS
Mode3	Ant1	2412	16.400	2403.800	2420.200	≥0.5	PASS
		2437	16.360	2428.800	2445.160	≥0.5	PASS
		2462	16.320	2453.840	2470.160	≥0.5	PASS

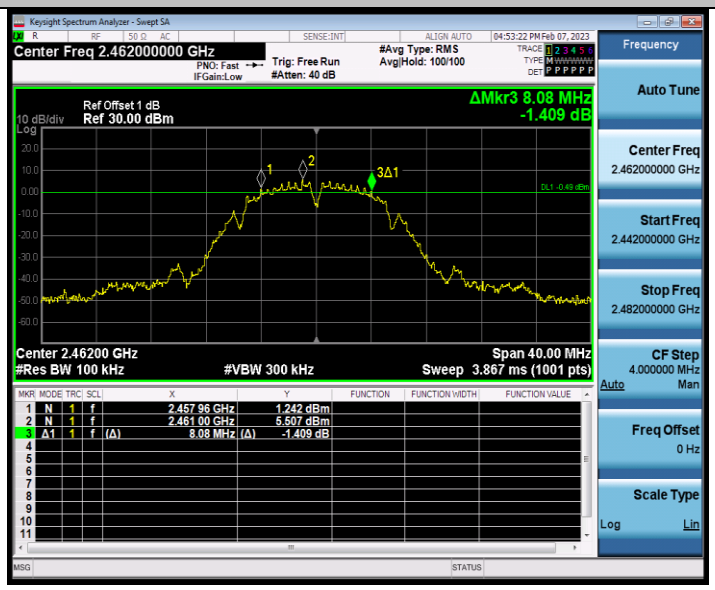
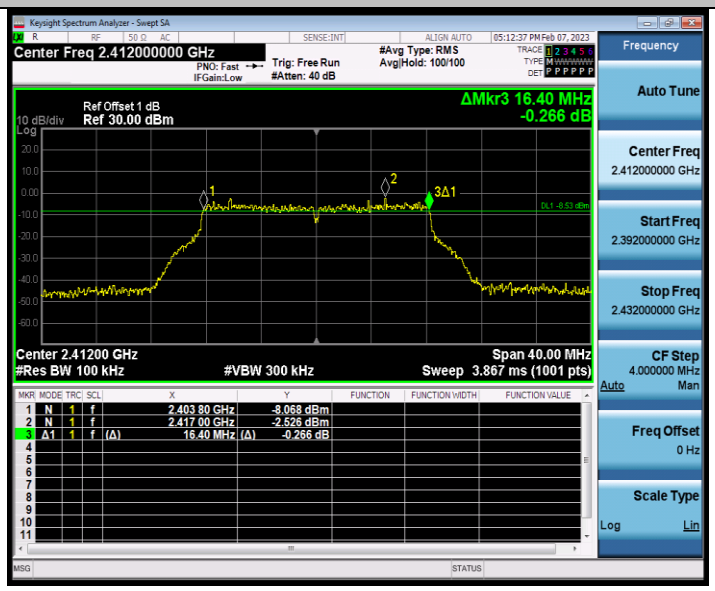
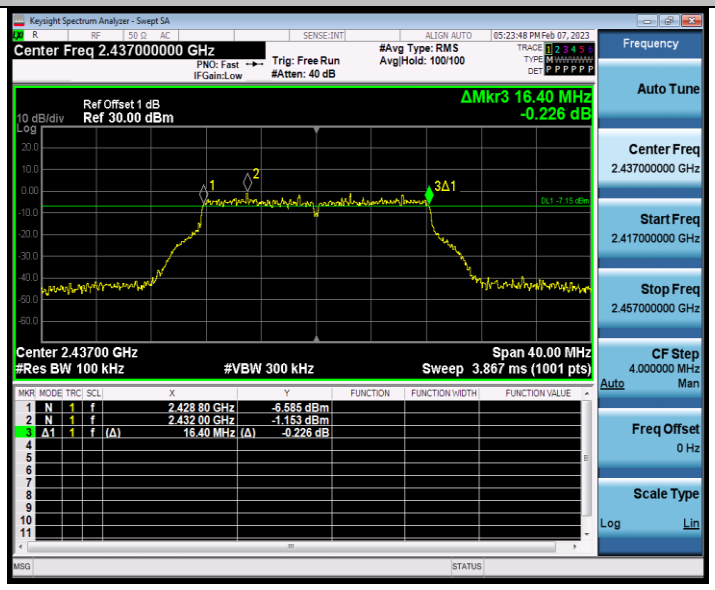
Test Graphs

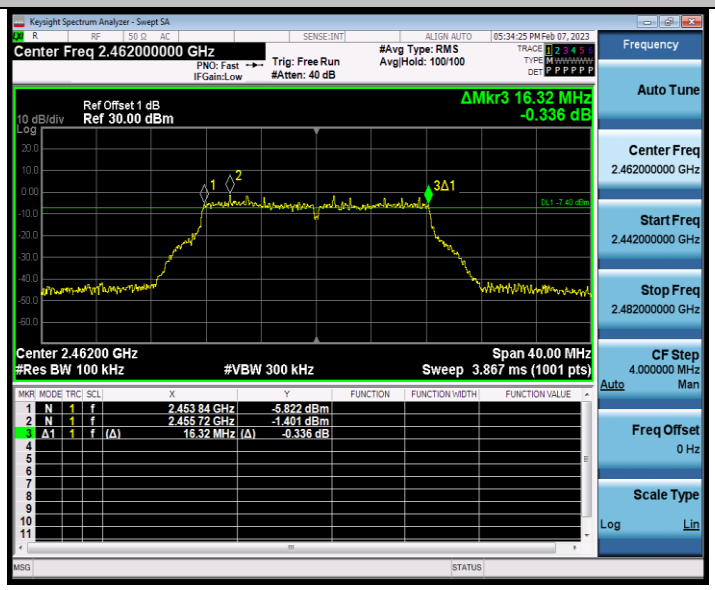
Mode1 _Ant1_2412

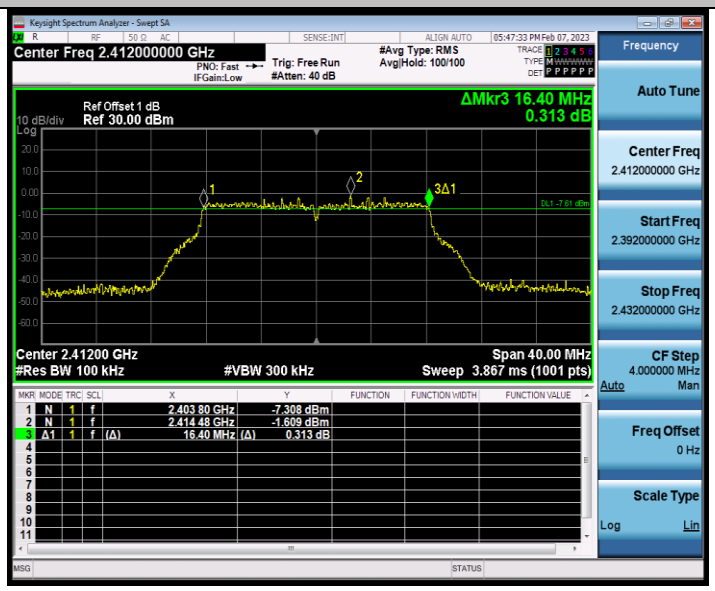


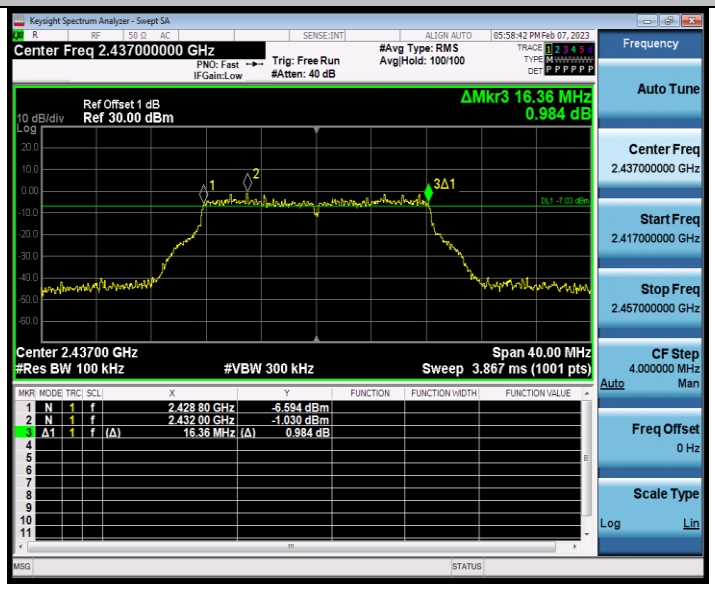
Mode1 _Ant1_2437

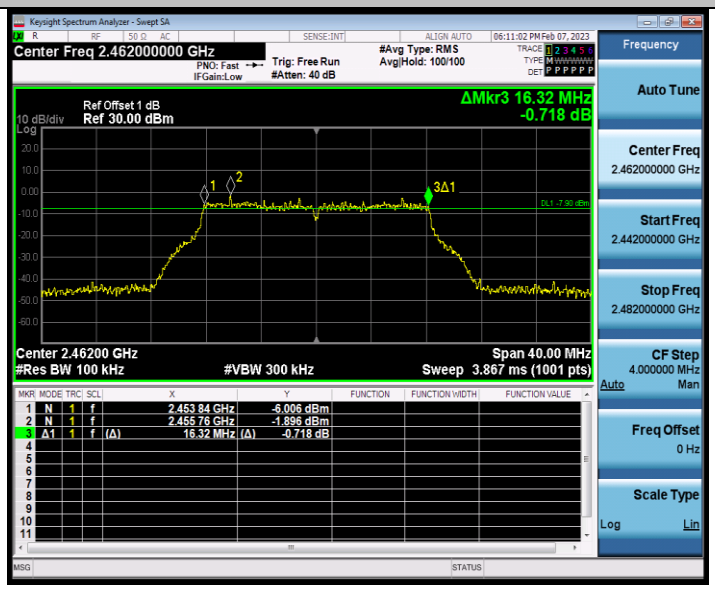


Mode1 _Ant1_2462

Mode2 _Ant1_2412

Mode2 _Ant1_2437


Mode2 _Ant1_2462


Mode3_Ant1_2412


Mode3_Ant1_2437


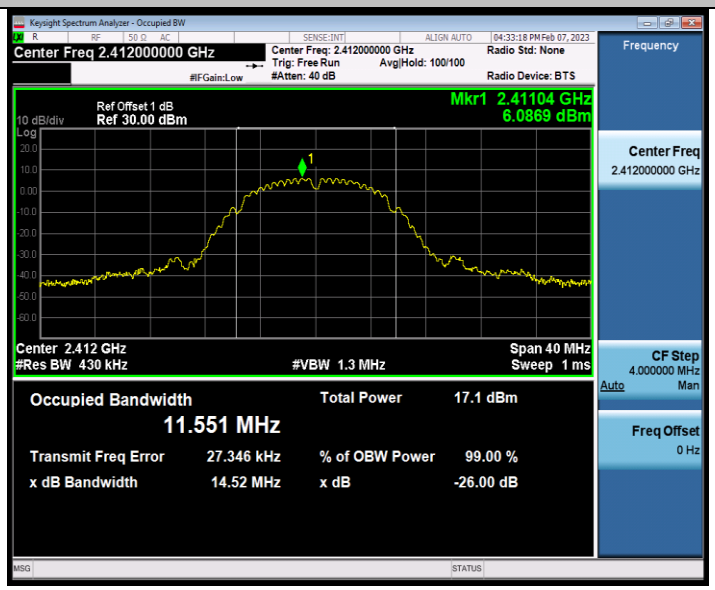
Mode3_Ant1_2462


Appendix B: Occupied Channel Bandwidth
Test Result

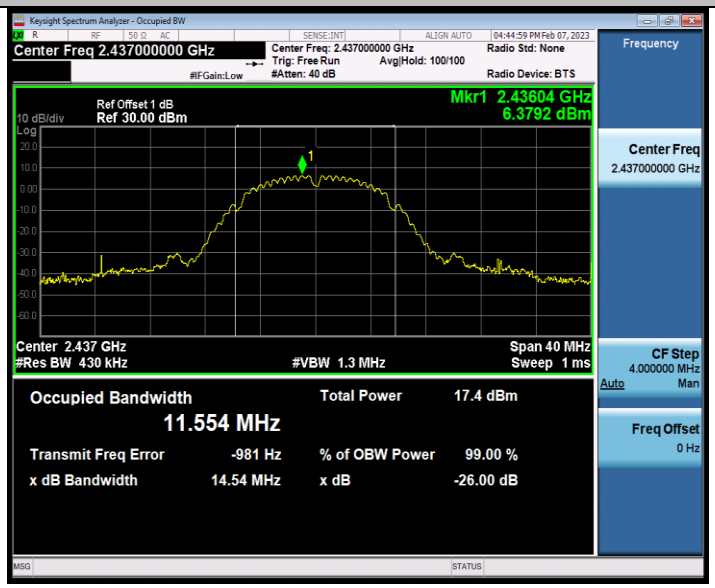
TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
Mode1	Ant1	2412	11.551	2406.2519	2417.8029	Within 2400~2483.5	Pass
		2437	11.554	2431.2220	2442.7760	Within 2400~2483.5	Pass
		2462	11.521	2456.1755	2467.6965	Within 2400~2483.5	Pass
Mode2	Ant1	2412	17.437	2403.2896	2420.7266	Within 2400~2483.5	Pass
		2437	17.480	2428.2484	2445.7284	Within 2400~2483.5	Pass
		2462	17.478	2453.1844	2470.6624	Within 2400~2483.5	Pass
Mode3	Ant1	2412	17.427	2403.3029	2420.7299	Within 2400~2483.5	Pass
		2437	17.463	2428.2358	2445.6988	Within 2400~2483.5	Pass
		2462	17.392	2453.2684	2470.6604	Within 2400~2483.5	Pass

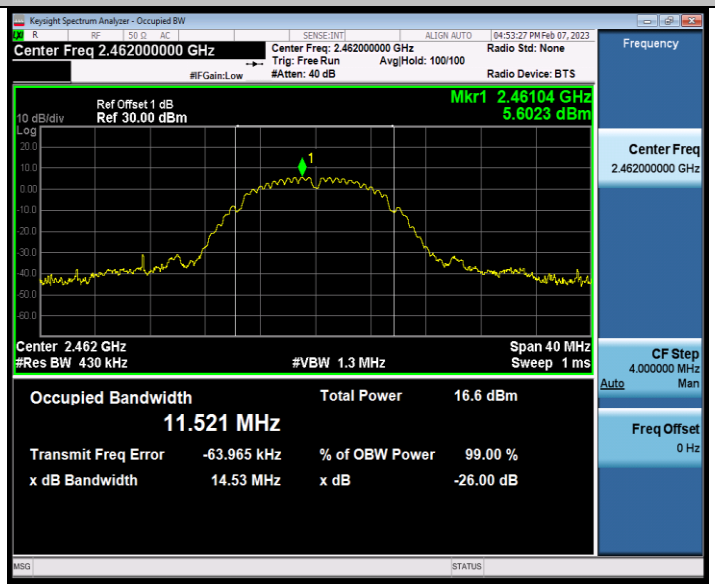
Test Graphs

Mode1 _Ant1_2412



Mode1 _Ant1_2437



Mode1 _Ant1_2462


Mode2 _Ant1_2412


Mode2 _Ant1_2437


Mode2 _Ant1_2462


Mode3_Ant1_2412


Mode3_Ant1_2437


Mode3_Ant1_2462


Appendix C: Maximum conducted output power
Test Result Peak

TestMode	Antenna	Frequency[MHz]	Peak Powert[dBm]	Conducted Limit[dBm]	EIRP [dBm]	EIRP Limit[dBm]	Verdict
Mode1	Ant1	2412	16.79	≤30.00	19.29	≤36.00	PASS
		2437	17.09	≤30.00	19.59	≤36.00	PASS
		2462	16.63	≤30.00	19.13	≤36.00	PASS
Mode2	Ant1	2412	16.87	≤30.00	19.37	≤36.00	PASS
		2437	17.43	≤30.00	19.93	≤36.00	PASS
		2462	16.89	≤30.00	19.39	≤36.00	PASS
Mode3	Ant1	2412	16.93	≤30.00	19.43	≤36.00	PASS
		2437	17.24	≤30.00	19.74	≤36.00	PASS
		2462	16.41	≤30.00	18.91	≤36.00	PASS

Appendix D: Maximum power spectral density
Test Result

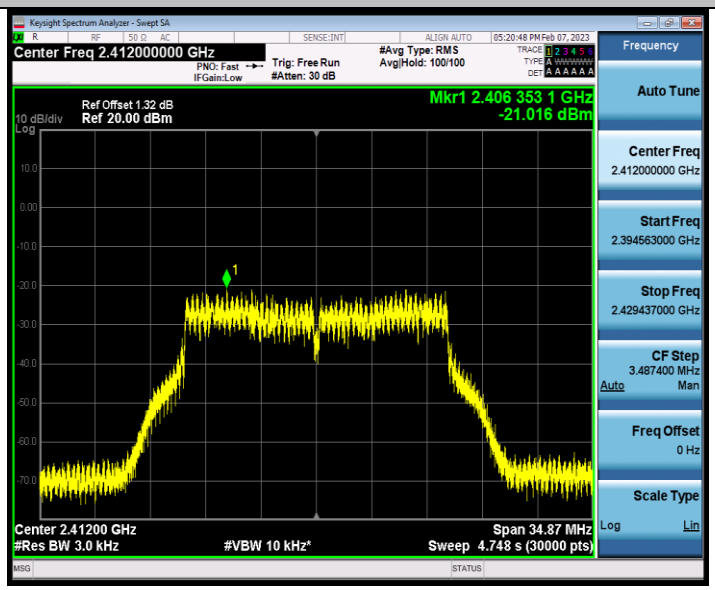
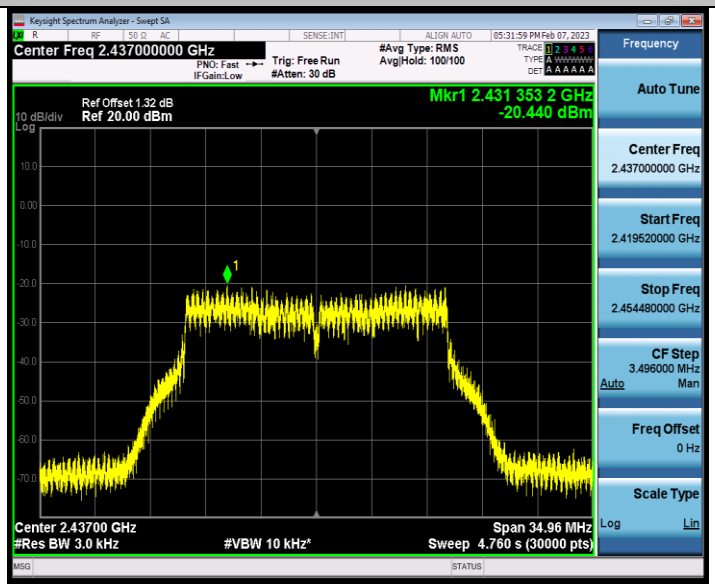
TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
Mode1	Ant1	2412	-16.69	≤8.00	PASS
		2437	-16.54	≤8.00	PASS
		2462	-17.21	≤8.00	PASS
Mode2	Ant1	2412	-21.02	≤8.00	PASS
		2437	-20.44	≤8.00	PASS
		2462	-20.68	≤8.00	PASS
Mode3	Ant1	2412	-20.78	≤8.00	PASS
		2437	-20.46	≤8.00	PASS
		2462	-20.30	≤8.00	PASS

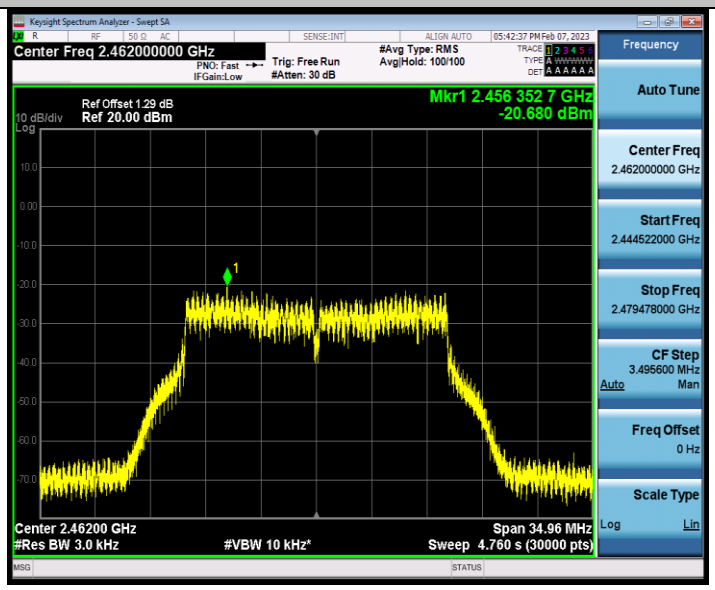
Test Graphs

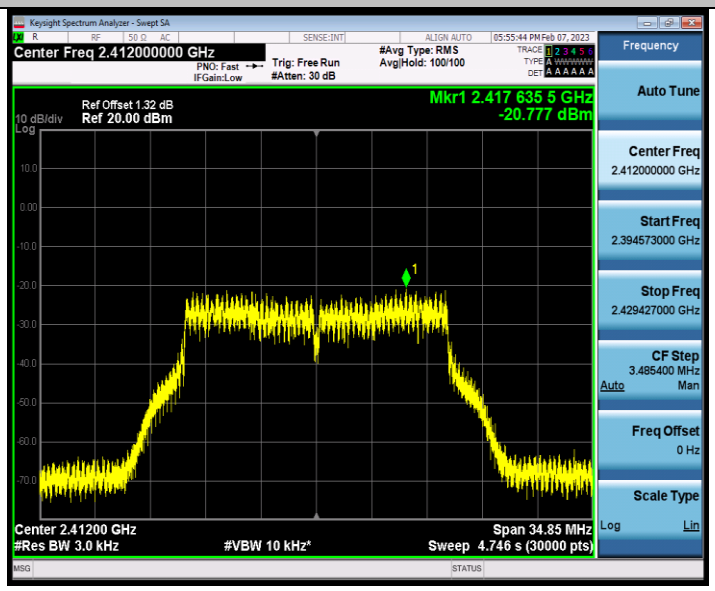
Mode1 _Ant1_2412

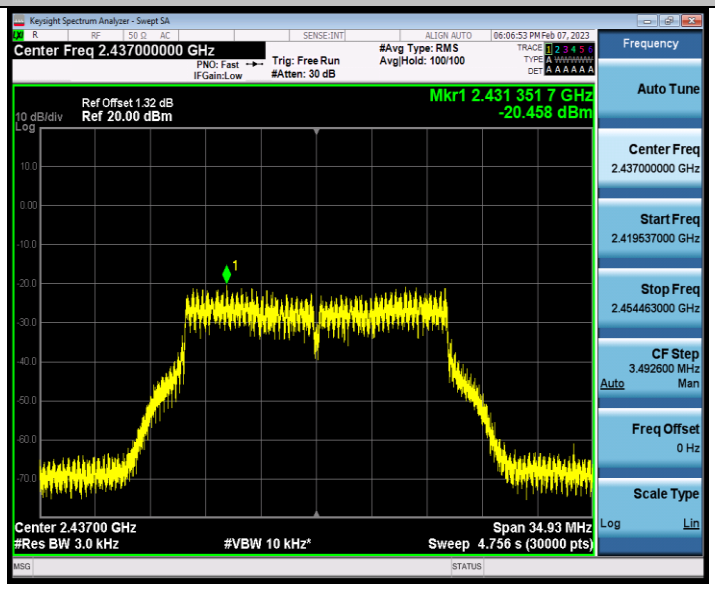
Mode1 _Ant1_2437

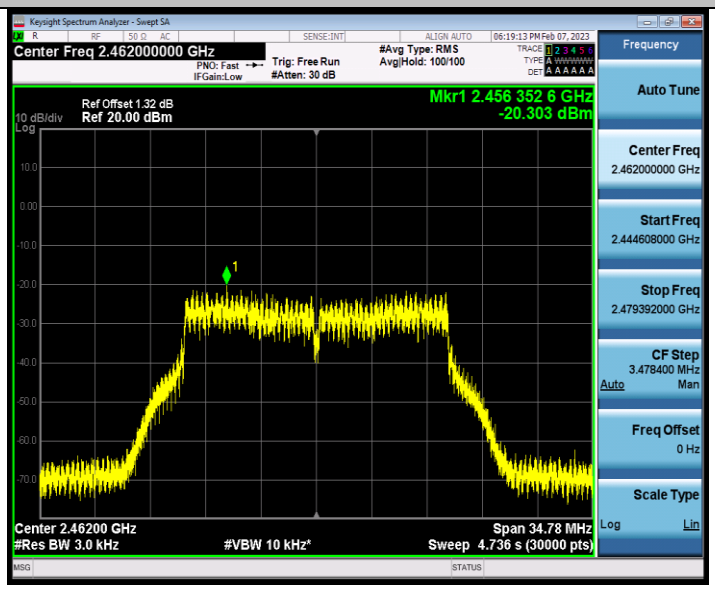

Mode1 _Ant1_2462

Mode2 _Ant1_2412

Mode2 _Ant1_2437


Mode2 _Ant1_2462


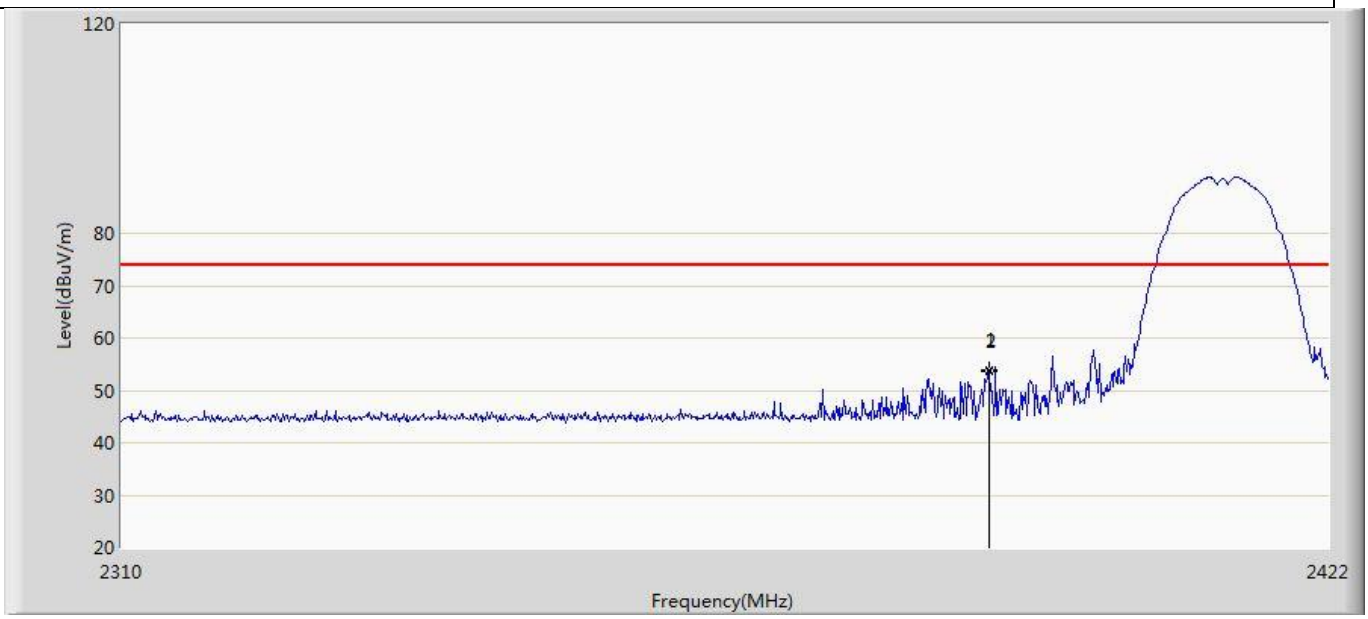
Mode3_Ant1_2412


Mode3_Ant1_2437


Mode3_Ant1_2462


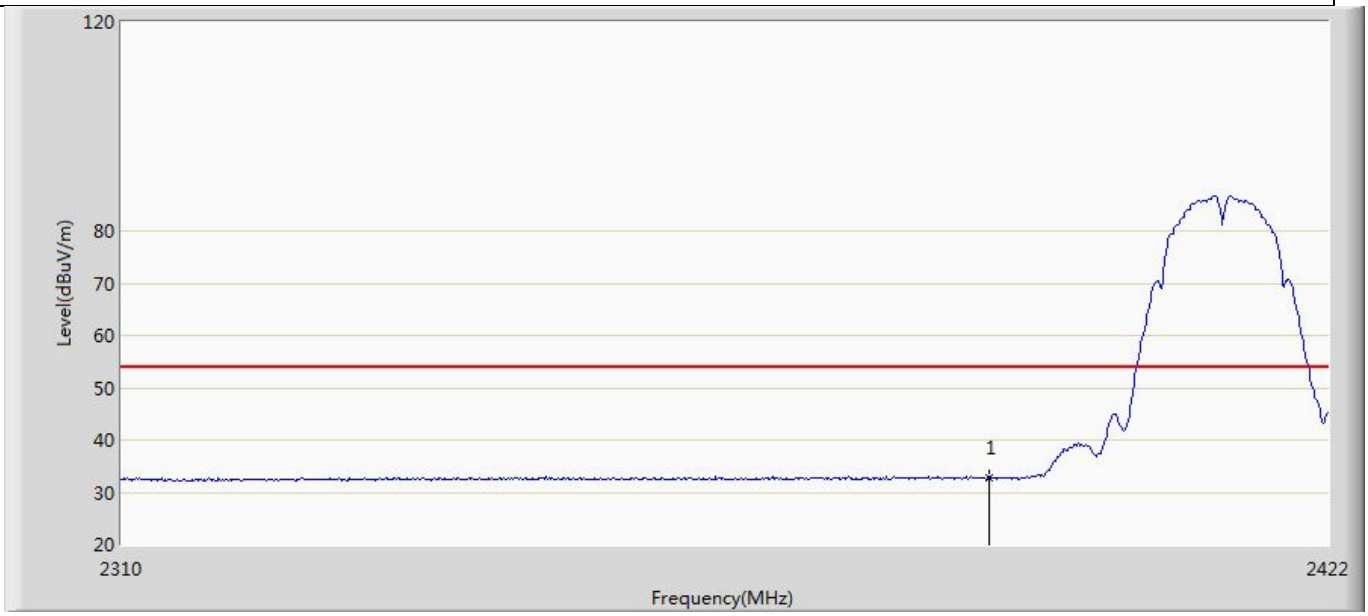
Appendix E: Band edge measurements
Test Result

Profile: 2320054R	Page No.: 1
Engineer: Yu Liu	
Site: AC5	Time: 2022/12/27 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: SC2028	Power: Battery
Note: Mode 1：Transmit at 2412MHz by 802.11b	



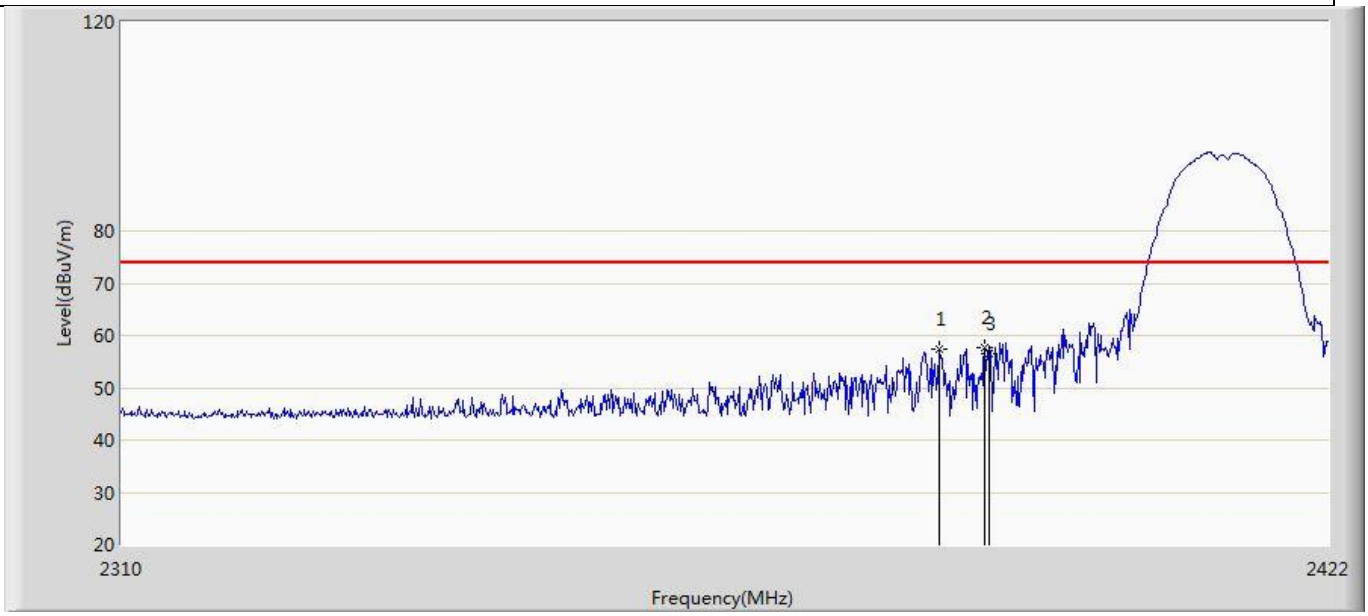
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2389.968	54.030	19.947	-19.970	74.000	34.084	PK
2		2390.000	53.743	19.659	-20.257	74.000	34.084	PK

Profile: 2320054R	Page No.: 2
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: SC2028	Power: Battery
Note: Mode 1：Transmit at 2412MHz by 802.11b	



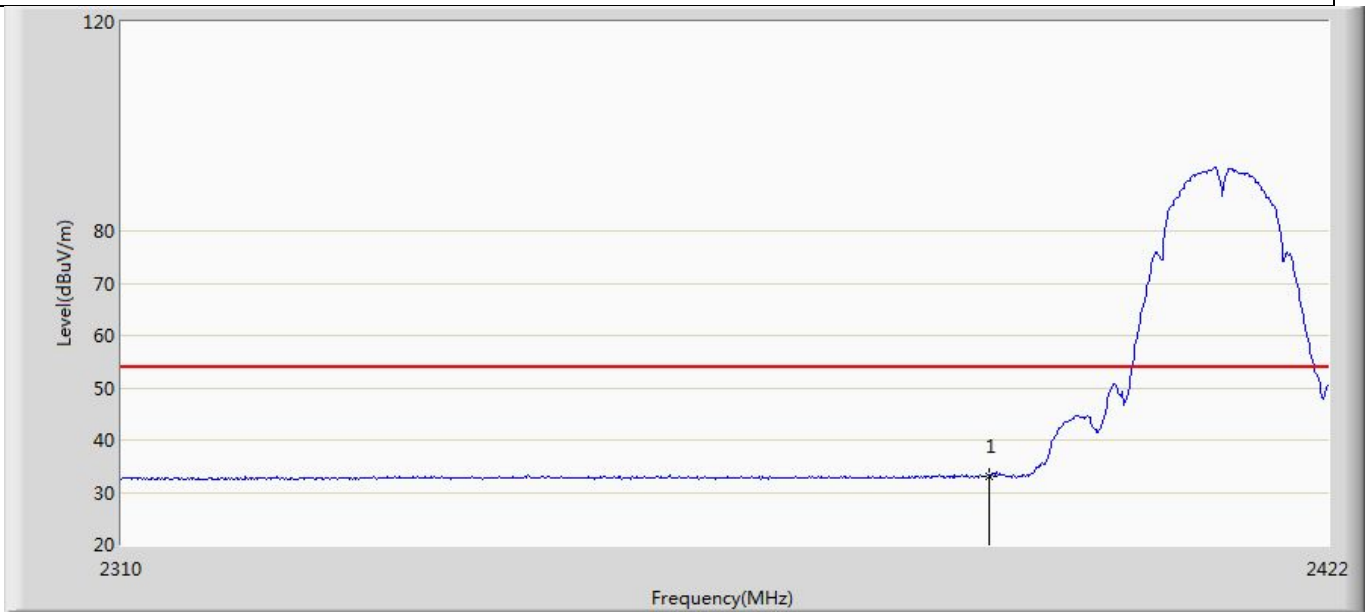
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	32.872	-1.212	-21.128	54.000	34.084	AV

Profile: 2320054R	Page No.: 3
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: SC2028	Power: Battery
Note: Mode 1：Transmit at 2412MHz by 802.11b	



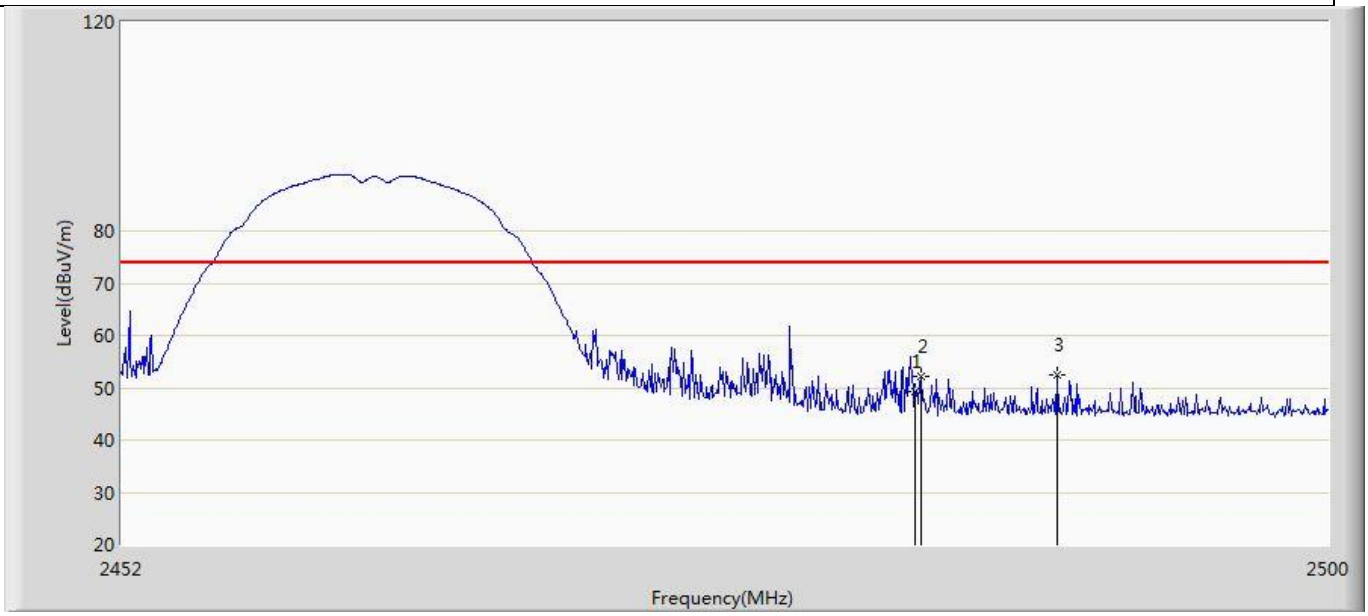
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2385.376	57.505	23.441	-16.495	74.000	34.065	PK
2	*	2389.632	57.796	23.714	-16.204	74.000	34.082	PK
3		2390.000	56.416	22.332	-17.584	74.000	34.084	PK

Profile: 2320054R	Page No.: 4
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: SC2028	Power: Battery
Note: Mode 1：Transmit at 2412MHz by 802.11b	



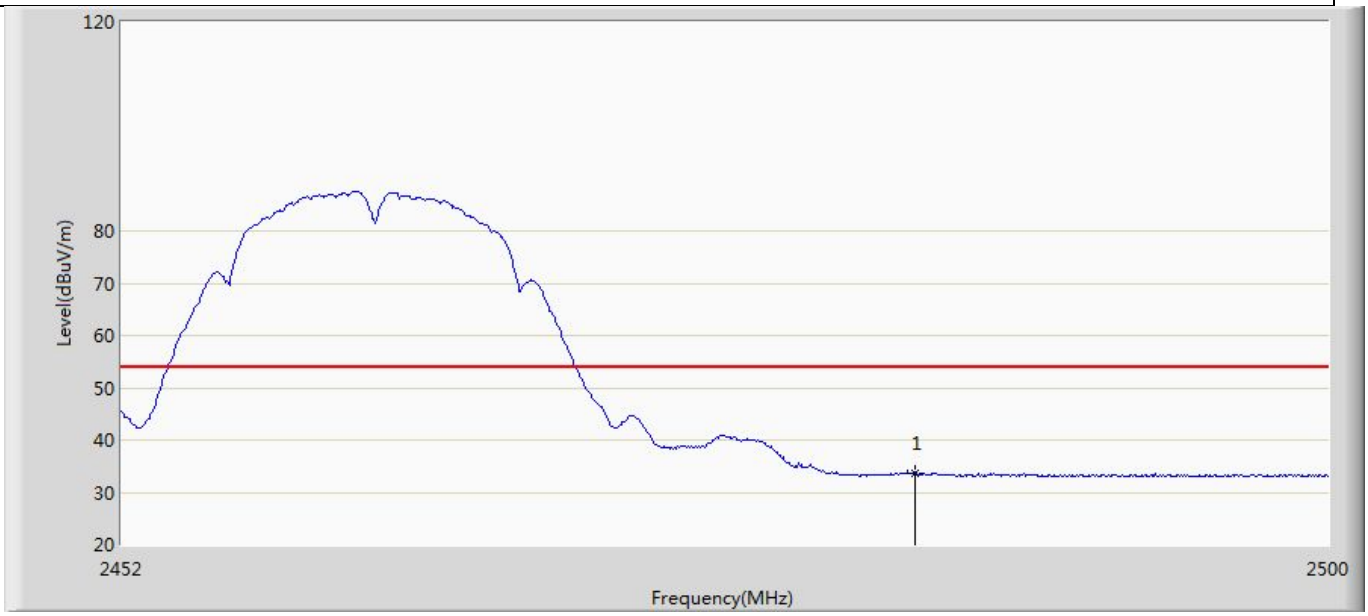
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.170	-0.914	-20.830	54.000	34.084	AV

Profile: 2320054R	Page No.: 5
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: SC2028	Power: Battery
Note: Mode 1：Transmit at 2462MHz by 802.11b	



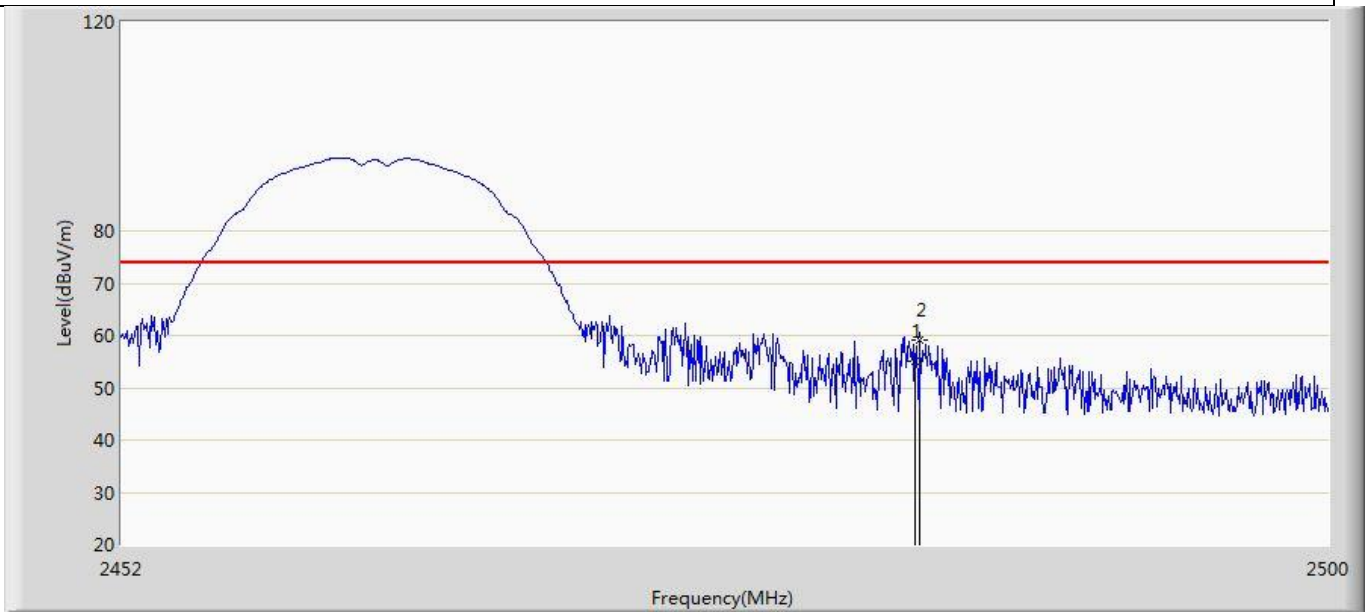
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2483.500	49.378	14.887	-24.622	74.000	34.491	PK
2		2483.728	52.196	17.704	-21.804	74.000	34.493	PK
3	*	2489.152	52.438	17.920	-21.562	74.000	34.518	PK

Profile: 2320054R	Page No.: 6
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: SC2028	Power: Battery
Note: Mode 1：Transmit at 2462MHz by 802.11b	



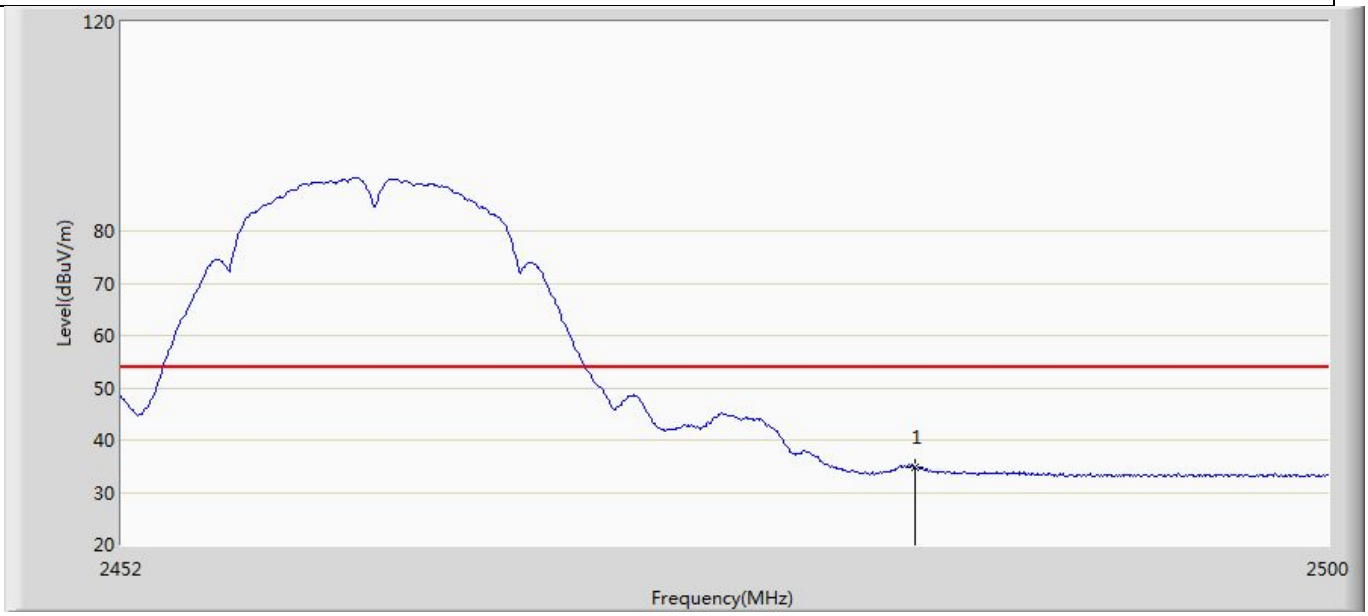
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	33.767	-0.724	-20.233	54.000	34.491	AV

Profile: 2320054R	Page No.: 7
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: SC2028	Power: Battery
Note: Mode 1：Transmit at 2462MHz by 802.11b	



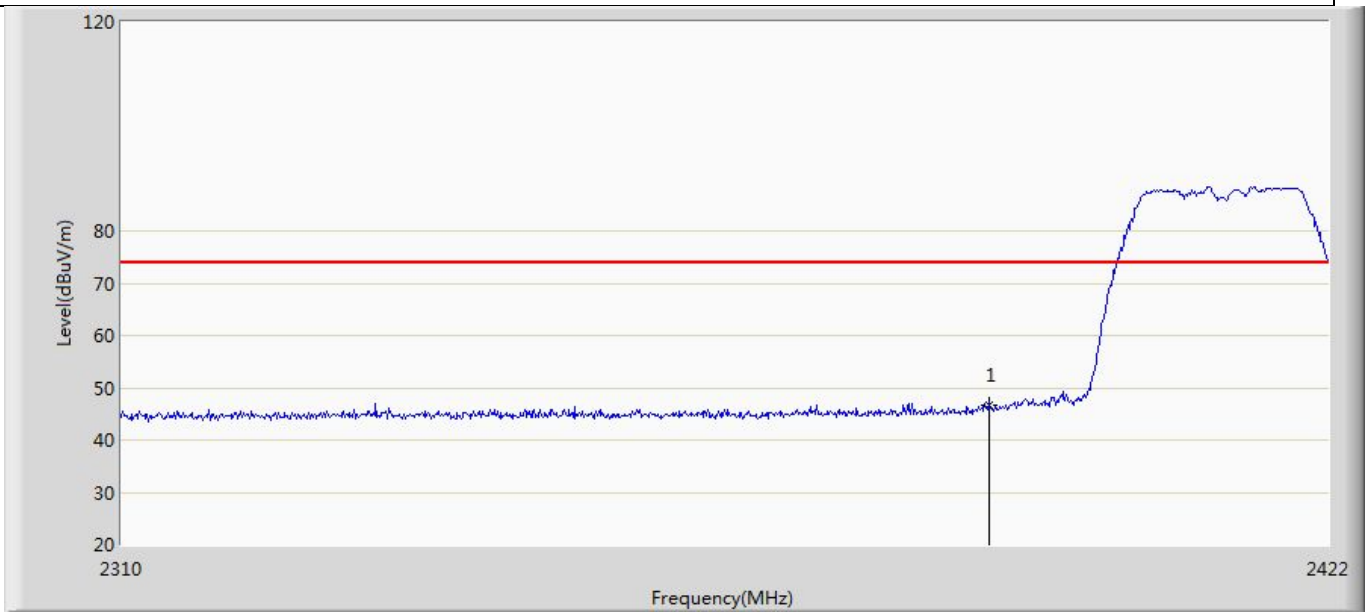
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2483.500	55.203	20.712	-18.797	74.000	34.491	PK
2	*	2483.680	59.035	24.543	-14.965	74.000	34.492	PK

Profile: 2320054R	Page No.: 8
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: SC2028	Power: Battery
Note: Mode 1：Transmit at 2462MHz by 802.11b	



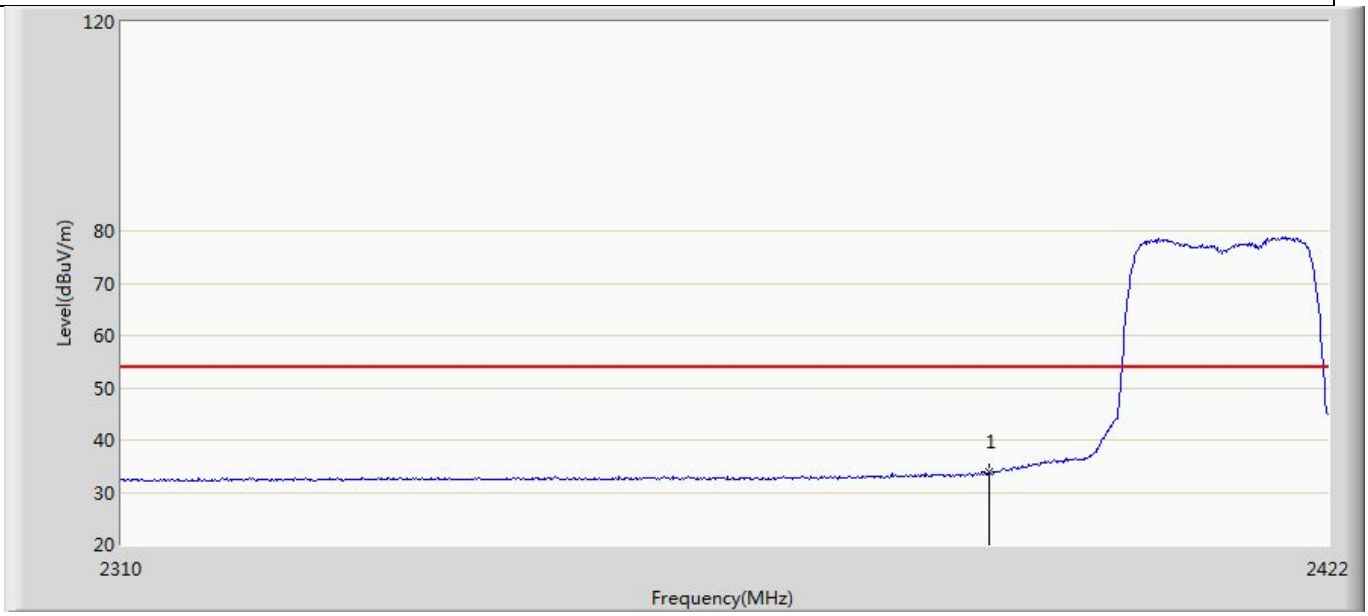
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	34.822	0.331	-19.178	54.000	34.491	AV

Profile: 2320054R	Page No.: 9
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: SC2028	Power: Battery
Note: Mode 2：Transmit at 2412MHz by 802.11g	



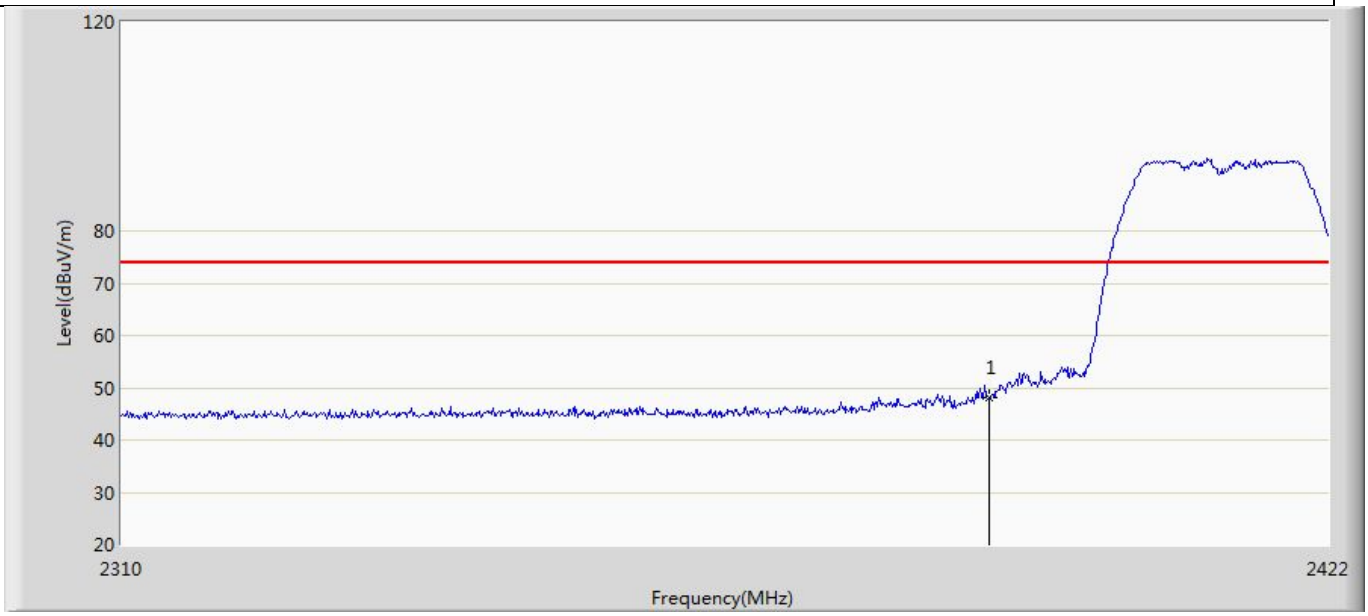
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	46.806	12.722	-27.194	74.000	34.084	PK

Profile: 2320054R	Page No.: 10
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: SC2028	Power: Battery
Note: Mode 2：Transmit at 2412MHz by 802.11g	



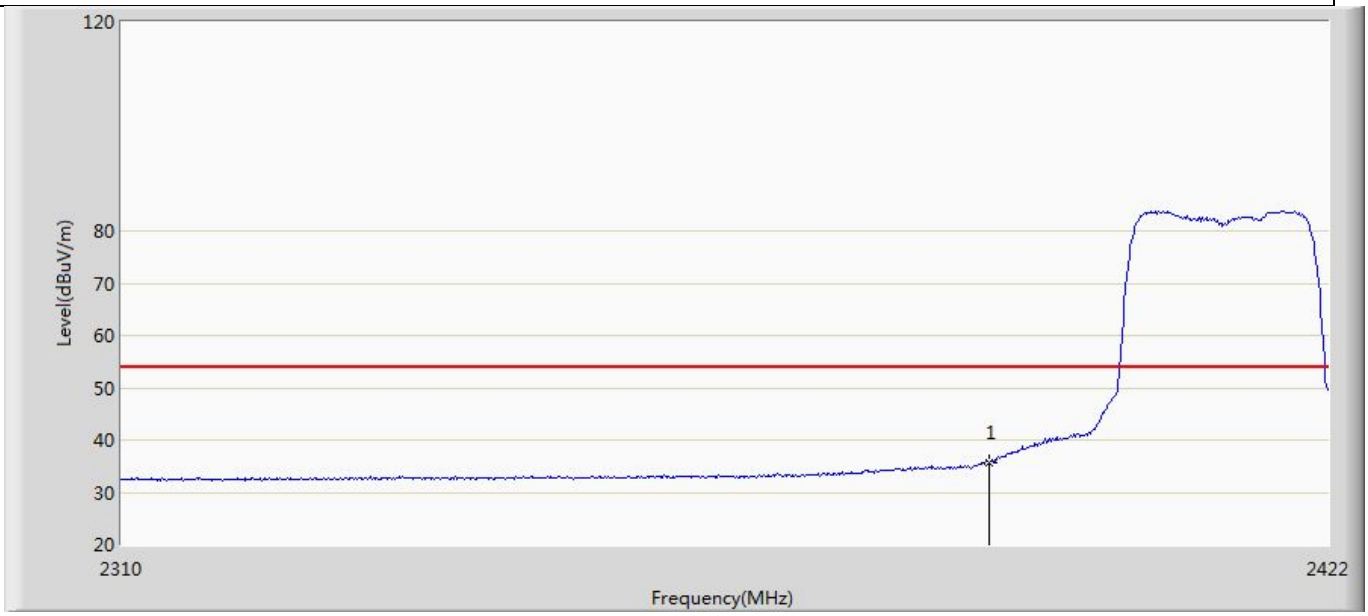
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.855	-0.229	-20.145	54.000	34.084	AV

Profile: 2320054R	Page No.: 11
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: SC2028	Power: Battery
Note: Mode 2：Transmit at 2412MHz by 802.11g	



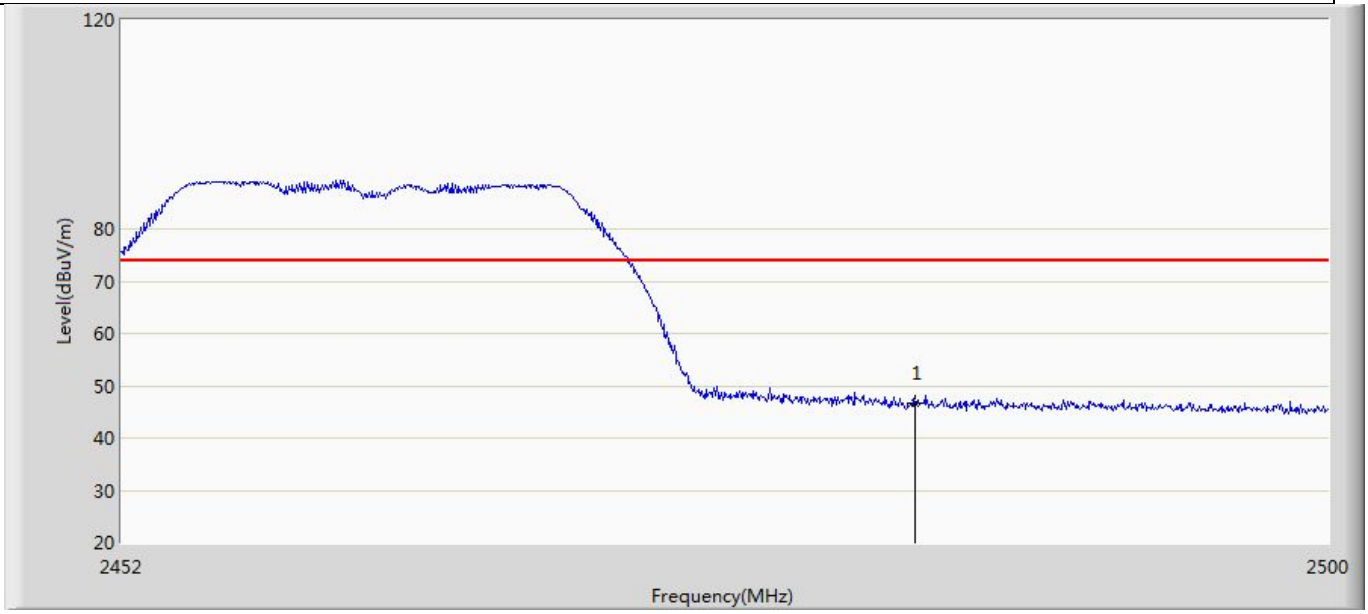
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	48.036	13.952	-25.964	74.000	34.084	PK

Profile: 2320054R	Page No.: 12
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: SC2028	Power: Battery
Note: Mode 2：Transmit at 2412MHz by 802.11g	



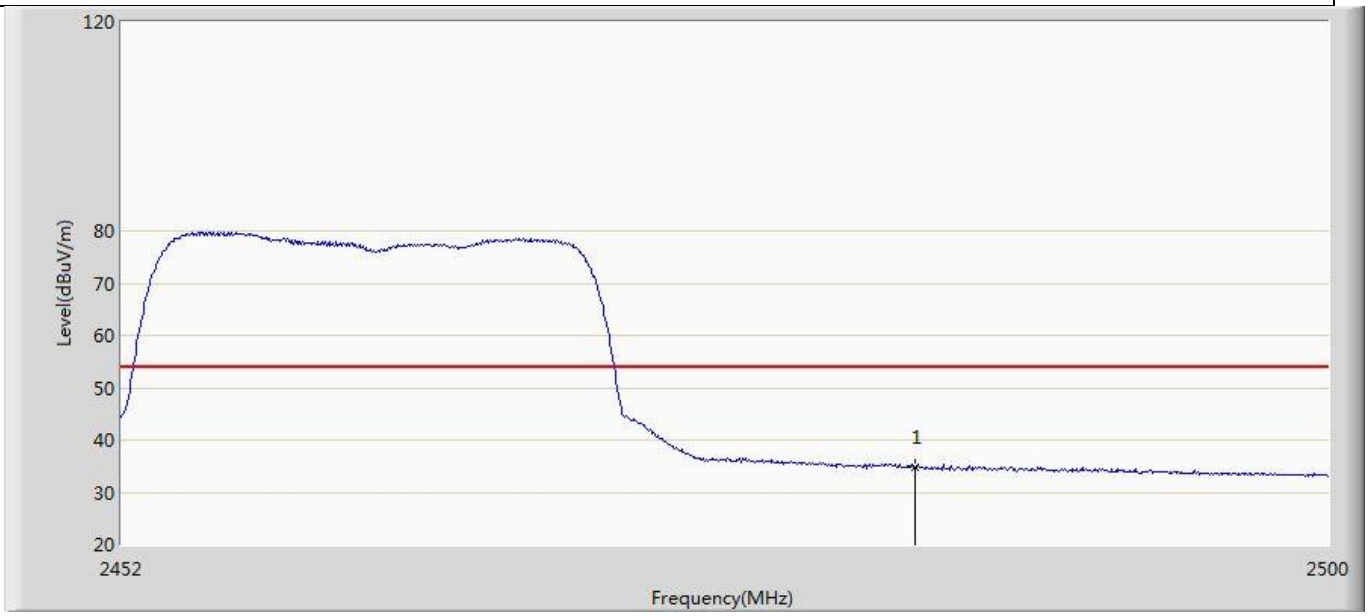
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	35.697	1.613	-18.303	54.000	34.084	AV

Profile: 2320054R	Page No.: 13
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: SC2028	Power: Battery
Note: Mode 2：Transmit at 2462MHz by 802.11g	



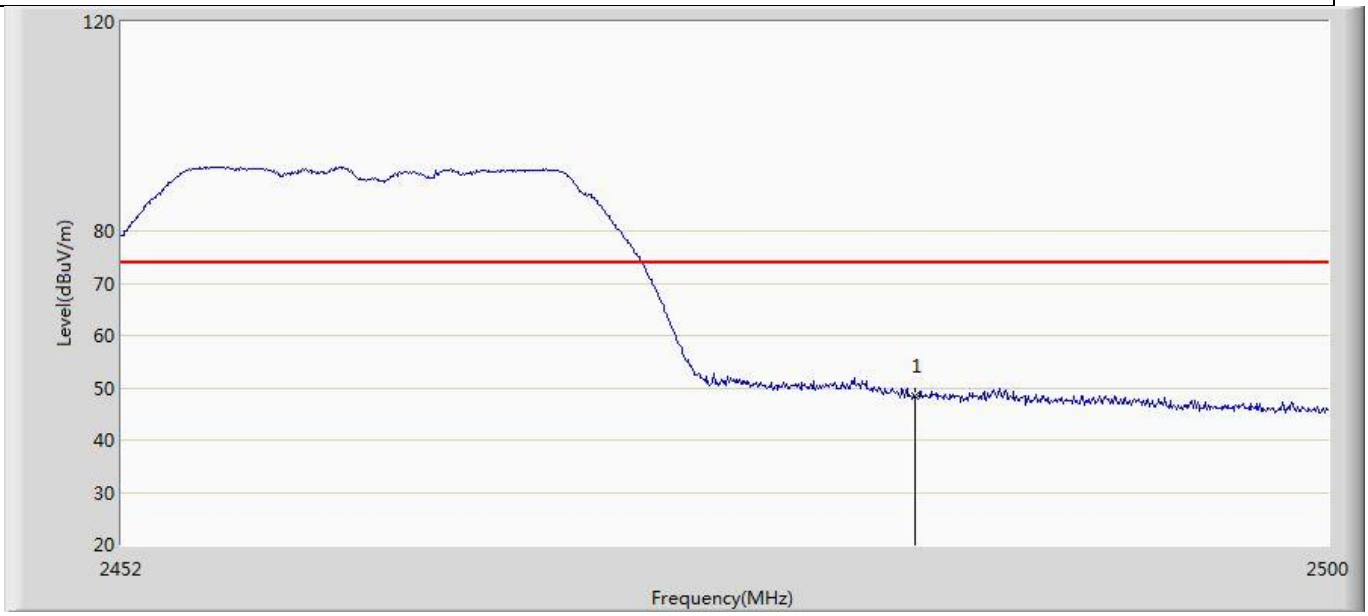
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	46.552	12.061	-27.448	74.000	34.491	PK

Profile: 2320054R	Page No.: 14
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: SC2028	Power: Battery
Note: Mode 2：Transmit at 2462MHz by 802.11g	



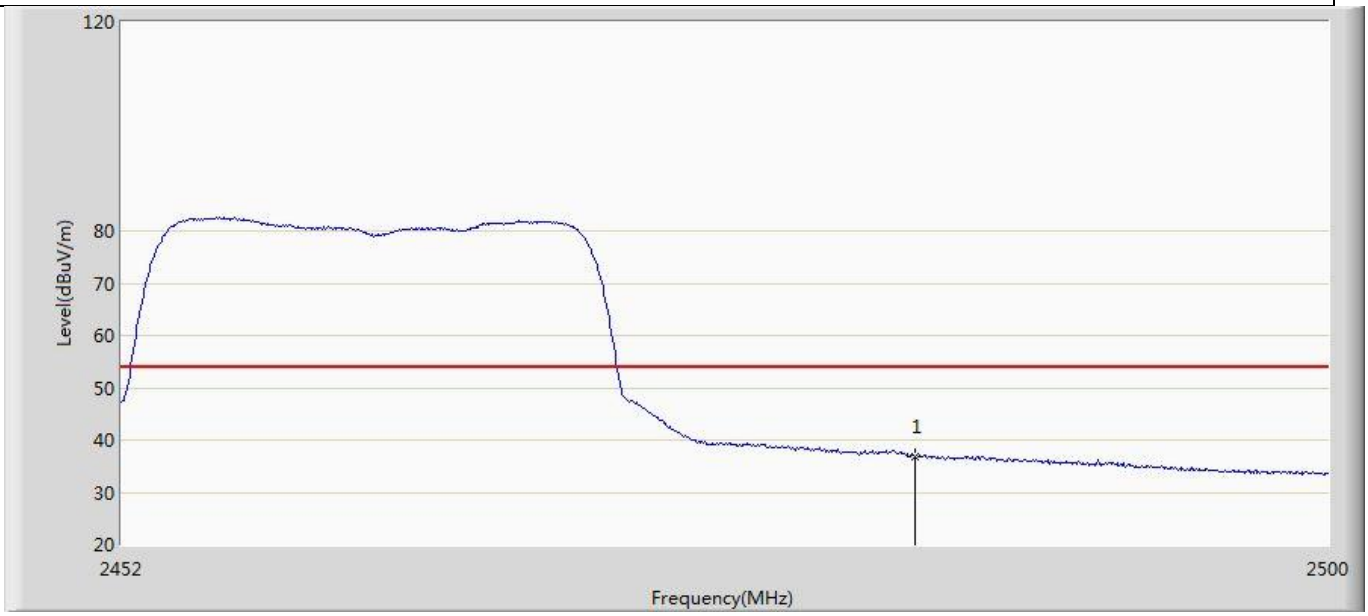
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	34.772	0.281	-19.228	54.000	34.491	AV

Profile: 2320054R	Page No.: 15
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: SC2028	Power: Battery
Note: Mode 2：Transmit at 2462MHz by 802.11g	



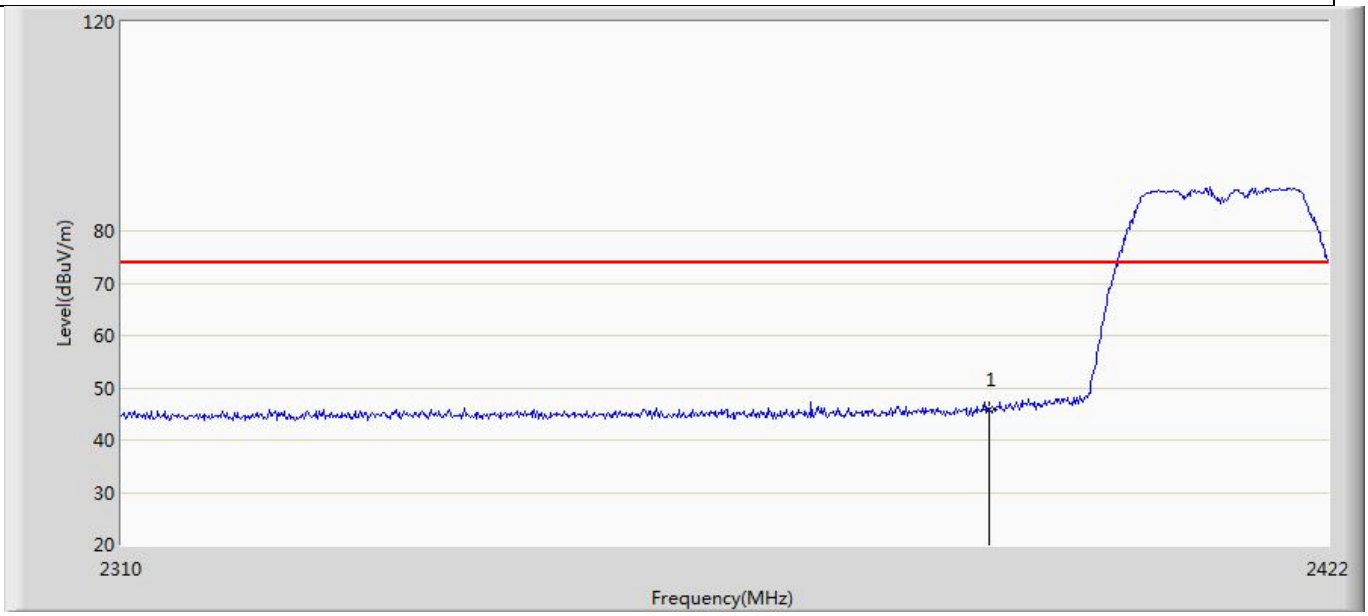
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	48.312	13.821	-25.688	74.000	34.491	PK

Profile: 2320054R	Page No.: 16
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: SC2028	Power: Battery
Note: Mode 2：Transmit at 2462MHz by 802.11g	



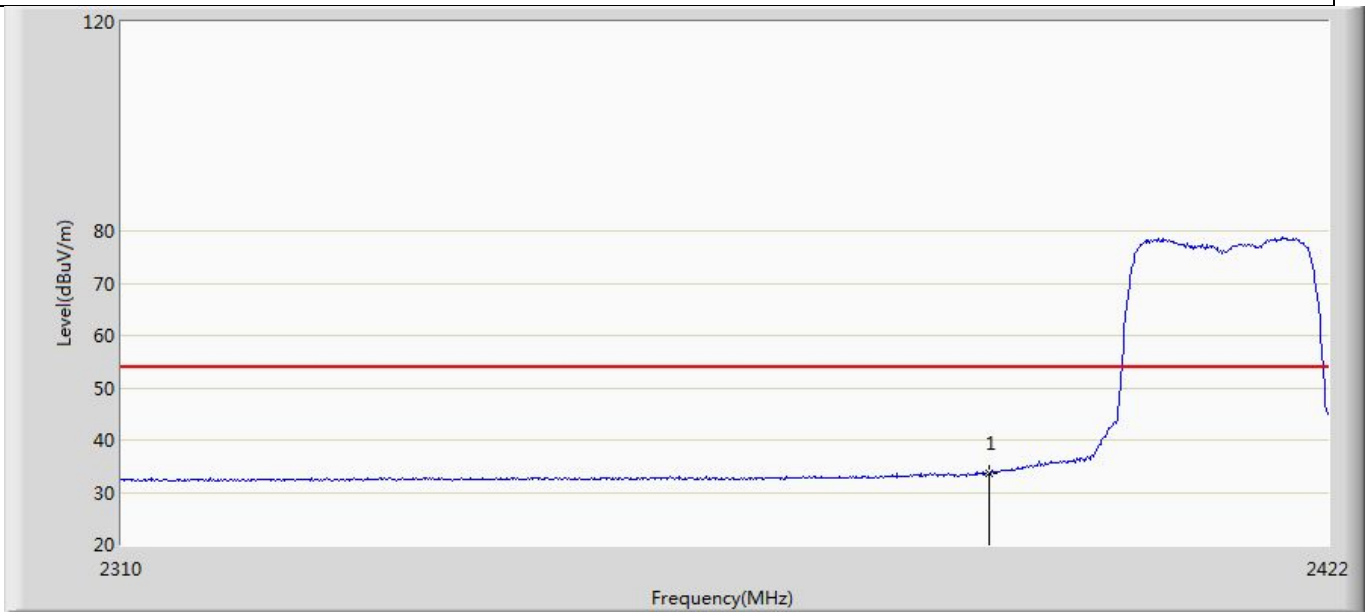
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	36.860	2.369	-17.140	54.000	34.491	AV

Profile: 2320054R	Page No.: 17
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: SC2028	Power: Battery
Note: Mode 3：Transmit at 2412MHz by 802.11n(20MHz)	



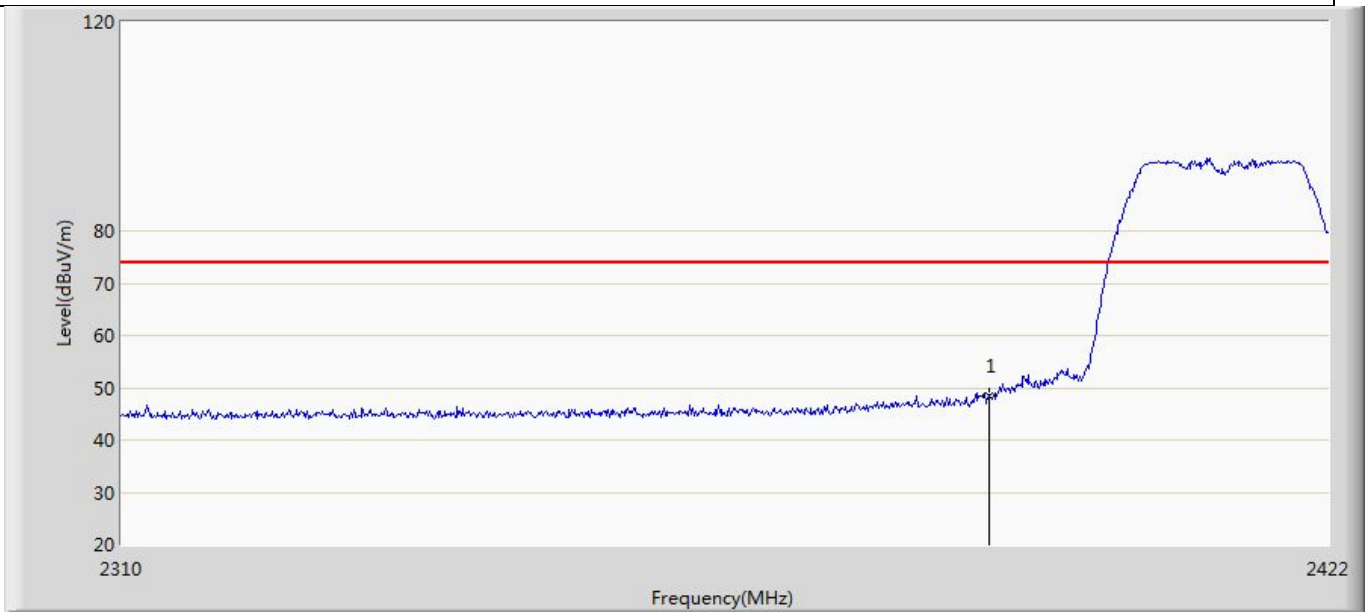
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	45.814	11.730	-28.186	74.000	34.084	PK

Profile: 2320054R	Page No.: 18
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: SC2028	Power: Battery
Note: Mode 3：Transmit at 2412MHz by 802.11n(20MHz)	



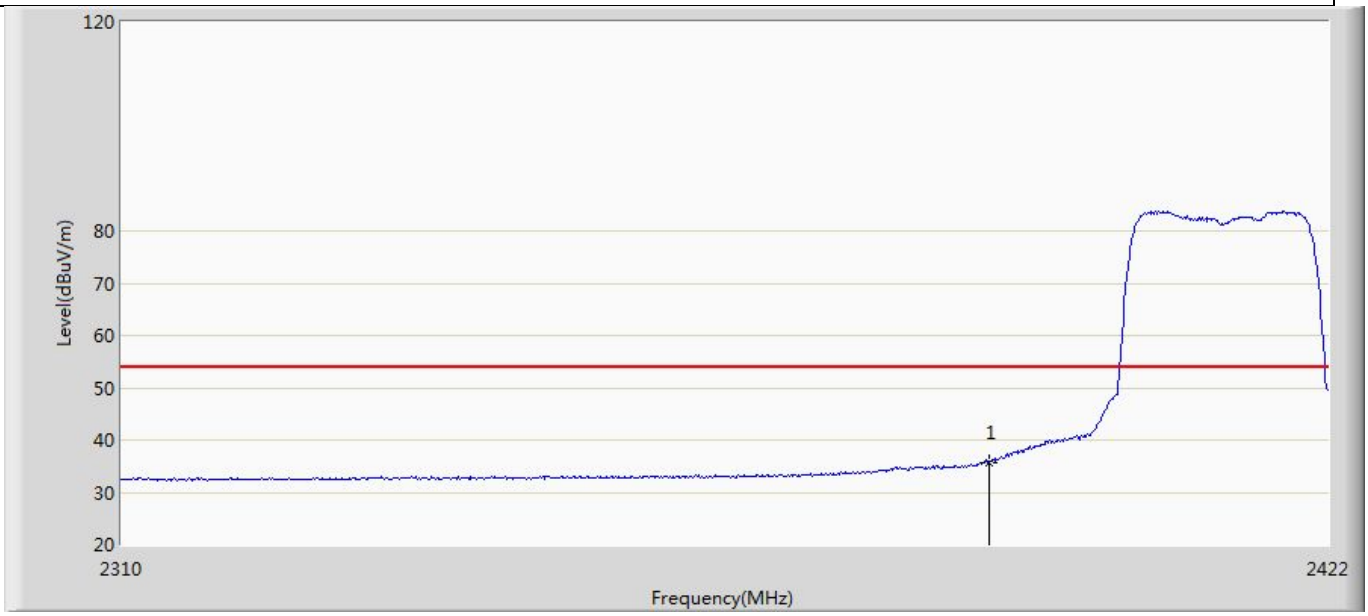
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	33.582	-0.502	-20.418	54.000	34.084	AV

Profile: 2320054R	Page No.: 19
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:55
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: SC2028	Power: Battery
Note: Mode 3：Transmit at 2412MHz by 802.11n(20MHz)	



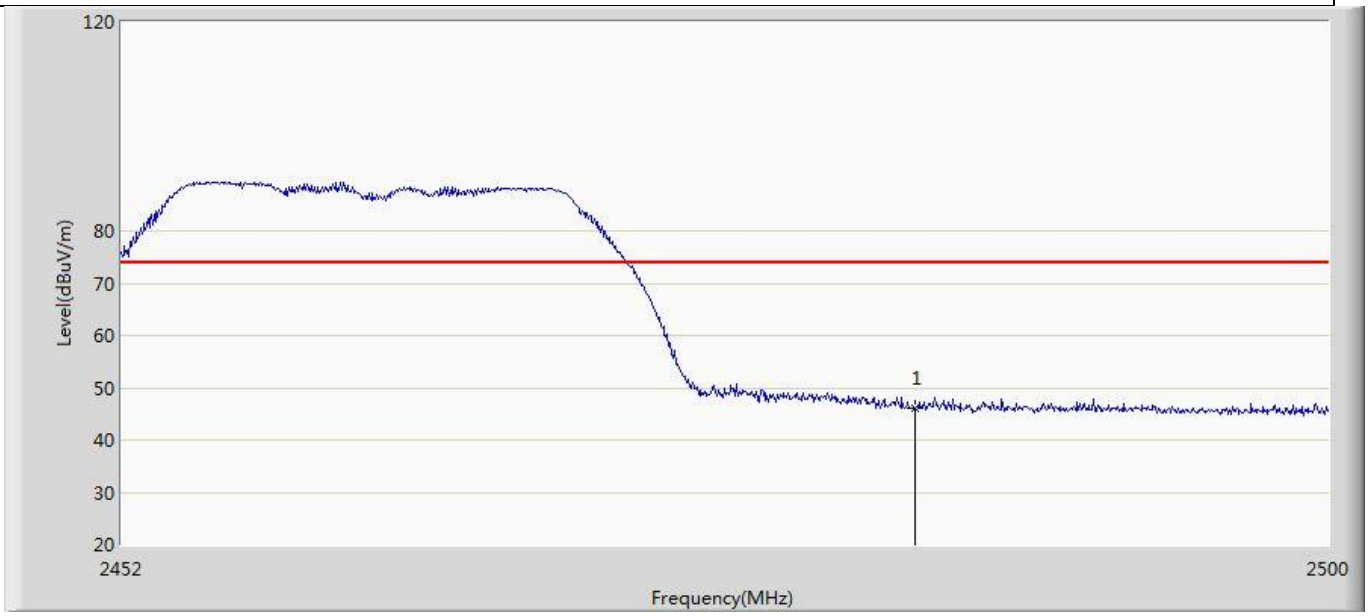
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	48.330	14.246	-25.670	74.000	34.084	PK

Profile: 2320054R	Page No.: 20
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: SC2028	Power: Battery
Note: Mode 3：Transmit at 2412MHz by 802.11n(20MHz)	



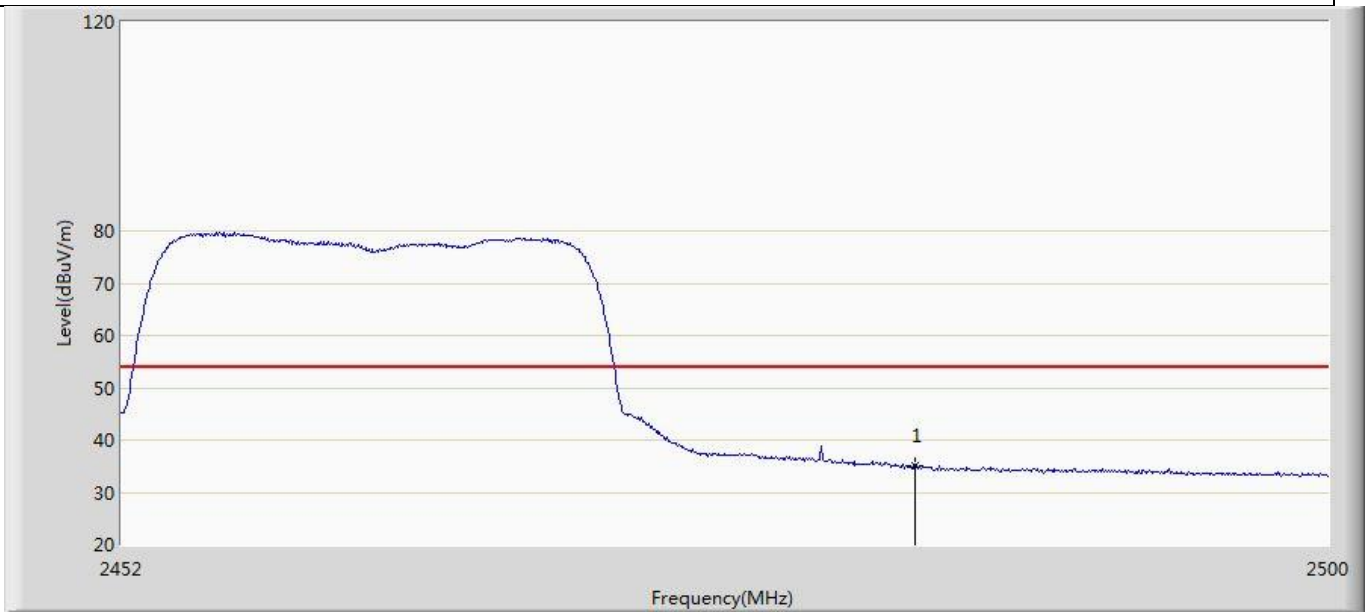
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	35.731	1.647	-18.269	54.000	34.084	AV

Profile: 2320054R	Page No.: 21
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: SC2028	Power: Battery
Note: Mode 3：Transmit at 2462MHz by 802.11n(20MHz)	



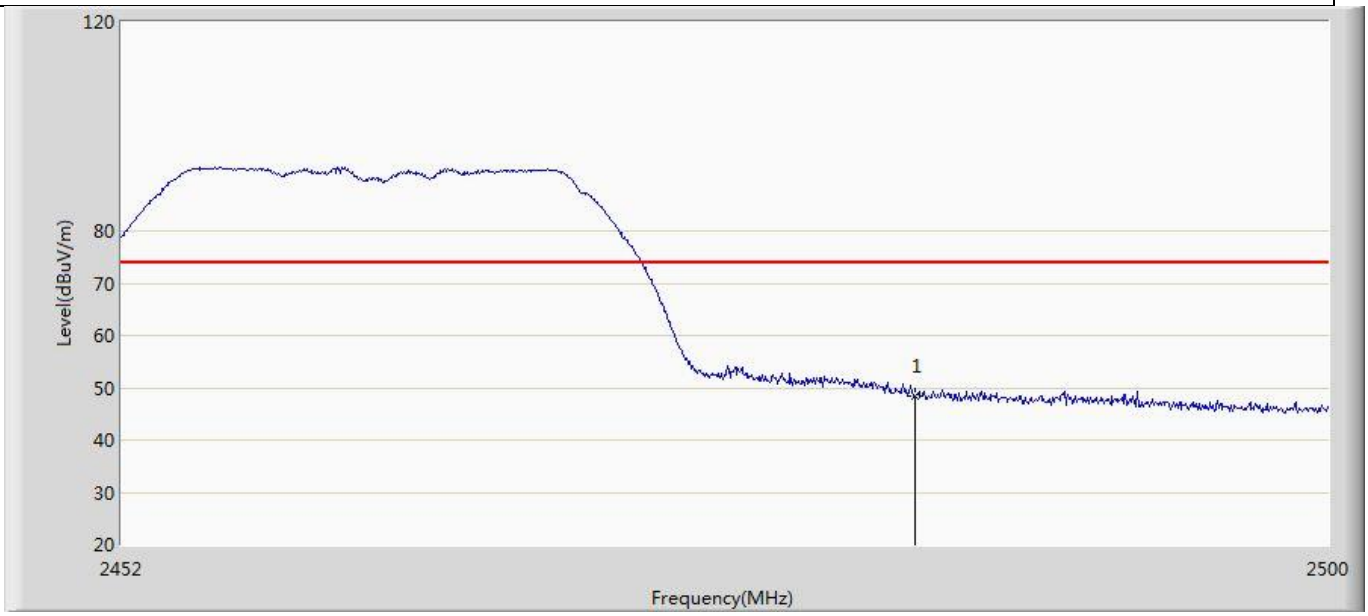
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	46.189	11.698	-27.811	74.000	34.491	PK

Profile: 2320054R	Page No.: 22
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 21:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Horizontal
EUT: SC2028	Power: Battery
Note: Mode 3：Transmit at 2462MHz by 802.11n(20MHz)	



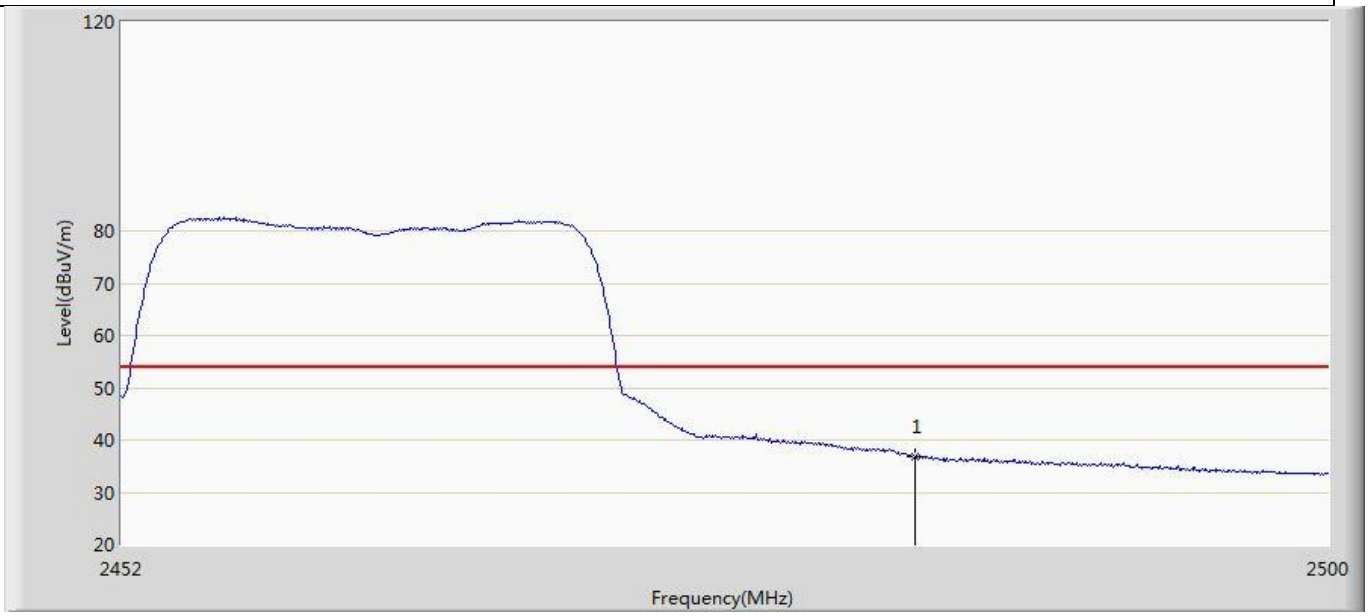
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	35.171	0.680	-18.829	54.000	34.491	AV

Profile: 2320054R	Page No.: 23
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 22:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: SC2028	Power: Battery
Note: Mode 3：Transmit at 2462MHz by 802.11n(20MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	48.291	13.800	-25.709	74.000	34.491	PK

Profile: 2320054R	Page No.: 24
Engineer: Yu Liu	
Site: AC5	Time: 2023/02/13 - 22:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)2022	Polarity: Vertical
EUT: SC2028	Power: Battery
Note: Mode 3：Transmit at 2462MHz by 802.11n(20MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	36.855	2.364	-17.145	54.000	34.491	AV

Note:
1. " * ", means this data is the worst emission level.
2. Measured Level = Reading Level + Factor.

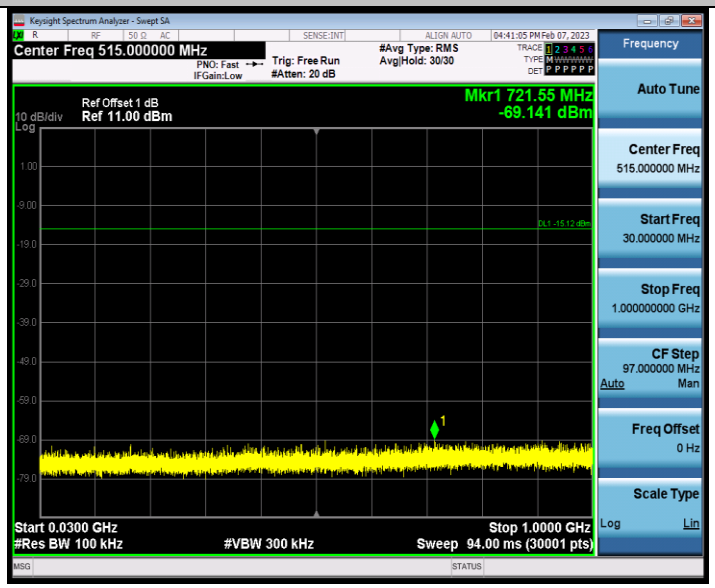
Appendix F: Conducted Spurious Emission
Test Result

Test Mode	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
Mode1	2412	Reference	4.88	4.88	---	PASS
		30~1000	4.88	-69.14	≤-15.12	PASS
		2350~2422	4.88	-43.63	≤-15.12	PASS
		1000~26500	4.88	-46.15	≤-15.12	PASS
	2437	Reference	5.86	5.86	---	PASS
		30~1000	5.86	-68.27	≤-14.14	PASS
		1000~26500	5.86	-45.47	≤-14.14	PASS
	2462	Reference	4.57	4.57	---	PASS
		30~1000	4.57	-68.83	≤-15.43	PASS
		2520~2600	4.57	-41.66	≤-15.43	PASS
		1000~26500	4.57	-45.68	≤-15.43	PASS
Mode2	2412	Reference	-1.67	-1.67	---	PASS
		30~1000	-1.67	-68.59	≤-21.67	PASS
		2350~2422	-1.67	-45.63.	≤-21.67	PASS
		1000~26500	-1.67	-55.87	≤-21.67	PASS
	2437	Reference	-3.71	-3.71	---	PASS
		30~1000	-3.71	-69.13	≤-23.71	PASS
		1000~26500	-3.71	-53.53	≤-23.71	PASS
	2462	Reference	-4.44	-4.44	---	PASS
		30~1000	-4.44	-69.01	≤-24.44	PASS
		2520~2600	-4.44	-44.41	≤-24.44	PASS
		1000~26500	-4.44	-53.3	≤-24.44	PASS
Mode3	2412	Reference	-4.22	-4.22	---	PASS
		30~1000	-4.22	-68.94	≤-24.22	PASS
		2350~2422	-4.22	-46.15	≤-24.22	PASS
		1000~26500	-4.22	-55.49	≤-24.22	PASS
	2437	Reference	-4.18	-4.18	---	PASS
		30~1000	-4.18	-69.05	≤-24.18	PASS
		1000~26500	-4.18	-53.54	≤-24.18	PASS
	2462	Reference	-2.10	-2.10	---	PASS
		30~1000	-2.10	-68.52	≤-22.1	PASS
		2520~2600	-2.10	-45.73	≤-22.1	PASS
		1000~26500	-2.10	-53.35	≤-22.1	PASS

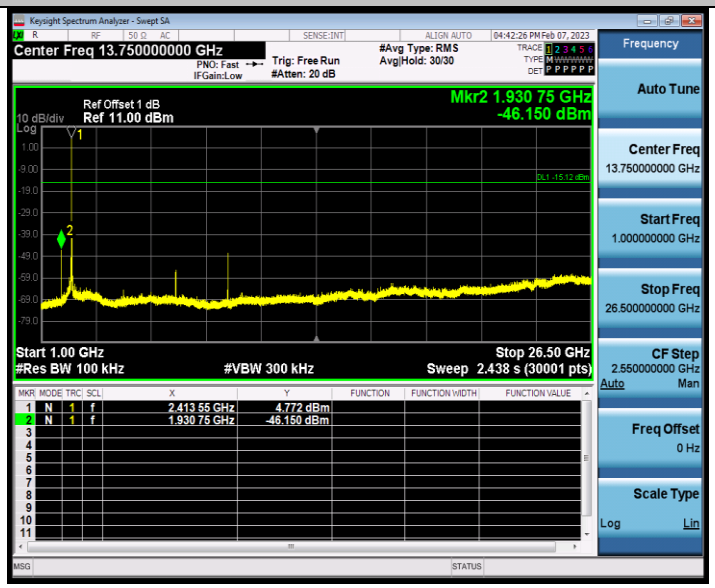
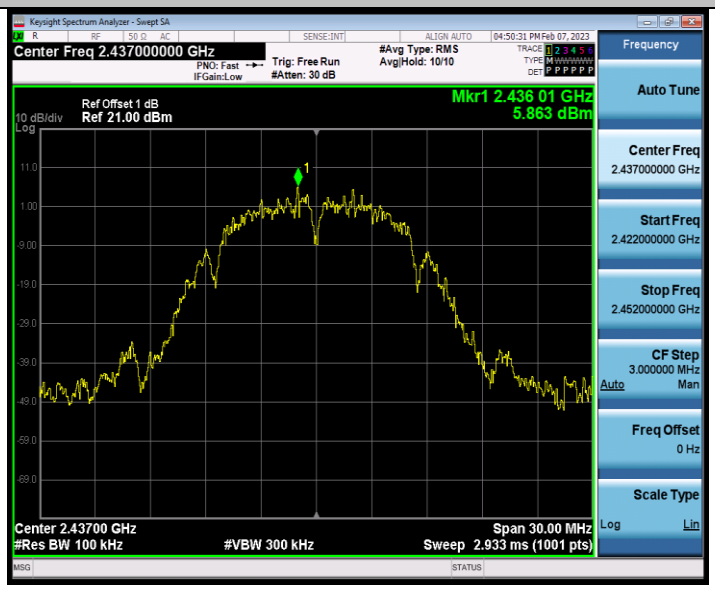
Test Graphs

Mode1_2412_0~Reference

Mode1_2412_30~1000



Mode1_2412_2350~2422

Mode1_2412_1000~26500

Mode1_2437_0~Reference

Mode1_2437_30~1000