TEST REPORT

Report No.	CISRR25041009603
Project No.	CISR250410096
FCC ID	2BFQI-TK940
Applicant	Jiangxi Jichi Technology Co., Ltd.
Address	PlantNo.3,BlockB13-1-2,B14-1,JinggangshanEconomicandDevelopment Zone,Ji'anCity,Jiangxi Province,China
Manufacturer	Jiangxi Jichi Technology Co., Ltd.
Address	PlantNo.3,BlockB13-1-2,B14-1,JinggangshanEconomicandDevelopment Zone,Ji'anCity,Jiangxi Province,China
Product Name	KEYBOARD
Trade Mark	N/A
Model/Type reference	TK940
Listed Model(s)	N/A
Standard	Part 15 Subpart C Section 15.249
Test date	April 10, 2025 to April 15, 2025
Issue date	April 19, 2025
Test result	**Complied**

Rory Huang

Prepared by: Rory Huang

GenryLong

Approved by: Genry Long

The test results relate only to the tested samples.

The test report should not be reproduced except in full without the written approval of Shenzhen Bangce Testing Technology Co., Ltd.

Contents

1. REPORT VERSION

Version No.	Issue date	Description
00	April 19, 2025	Original

2. SUMMARY OF TEST RESULT

Report clause	Test Item	Standard Requirement	Result
5.1	Antenna Requirement	15.203/15.247 (c)	PASS
5.2	AC Conducted Emission	15.207	PASS
5.3	20 dB Bandwidth	15.215 (c)	PASS
5.4	Radiated Band Edge Emission	15.205/15.209	PASS
5.5	Radiated Spurious Emission (below 1GHz)	47 CFR 15.247(d), 15.209, 15.205	Pass
5.6	Radiated Spurious Emission (Above 1GHz)	47 CFR 15.247(d), 15.209, 15.205	Pass

Note:

– The measurement uncertainty is not included in the test result.

3. SUMMARY

3.1. Product Description

Main unit information:	
Product Name:	KEYBOARD
Trade Mark:	N/A
Model No.:	TK940
Listed Model(s):	N/A
Model difference:	N/A
Power supply:	N/A
Hardware version:	V2.0
Software version:	DE8D86
Accessory unit (AU) information:	
Battery:	DC 3.7V

3.2. Radio Specification Description

Technology:	2.4G
Modulation:	GFSK
Operation frequency:	2402MHz~2480MHz
Channel number:	16
Antenna type:	PCB Antenna
Antenna gain:	2.75dBi

Channel list:

1	2	3	4	5	6	7	8
2402	2426	2466	2463	2407	2422	2445	2441
9	10	11	12	13	14	15	16
2414	2436	2459	2473	2419	2439	2453	2480

3.3. Modification of EUT

No modifications are made to the EUT during all test items.

3.4. Testing Site

Laboratory Name	Shenzhen Bangce Testing Technology Co., Ltd.
Laboratory Location	101, building 10, Yunli Intelligent Park, Shutianpu community, Matian Street, Guangming District, Shenzhen, Guangdong, China
FCC registration number	736346

3.5. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS (dBuV/m) = RA (dBuV) + AF (dB/m) + CL (dB) – AG (dB)

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

3.6. DISTURBANCE Calculation

The AC mains conducted disturbance is calculated by adding the 10dB Pulse Limiter and Cable Factor and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

CD (dBuV) = RA (dBuV) + PL (dB) + CL (dB)

Where CD = Conducted Disturbance	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	PL = 10 dB Pulse Limiter Factor

4. TEST CONFIGURATION

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

4.1. Test frequency list

Channel	Frequency (MHz)
CH-L	2402
CH-M	2441
CH-H	2480

4.2. Test mode

No	Test mode	Description
TM1	TX mode	Keep the EUT in continuously transmitting mode with GFSK modulation at lowest, middle and highest channel.
TM2	Link mode	Keep the EUT in Bluetooth linking mode with AE.
TM3	Charging mode	Keep the EUT in charging status

4.3. Support unit used in test configuration and system

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The following peripheral devices and interface cables were connected during the measurement:

Item	Equipment name	Trade Name	Model No.
1	PC	Lenovo	ThinkPad
2	Adapter	Guangdong Sangu Technology Co. ltd	SG-0501000AU

4.4. Test sample information

Type	sample no.
Engineer sample	CISR250410096--S01
Normal sample	CISR250410096--S01

4.5. Testing environmental condition

Type	Requirement	Actual
Temperature:	15~35°C	25°C
Relative Humidity:	25~75%	50%
Air Pressure:	860~1060mbar	1000mbar

4.6. Statement of the measurement uncertainty

No.	Test Items	Measurement Uncertainty

1	AC Conducted Emission	1.63dB
2	20dB Bandwidth	0.002%
3	Radiated Band Edge Emission	3.76dB for 30MHz-1GHz 3.80dB for above 1GHz
4	Radiated Spurious Emission	3.76dB for 30MHz-1GHz 3.80dB for above 1GHz

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

4.7. Equipment Used during the Test

AC Conducted Emission

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESCI7	100853	2025-01-08	2026-01-07
2	Artificial power network	Schwarzbeck	NSLK8127	8127-01096	2025-01-08	2026-01-07
3	8-wire Impedance Stabilization Network	Schwarzbeck	NTFM 8158	8158-00337	2025-01-08	2026-01-07
4	Artificial power network	Schwarzbeck	ENV216	/	2025-01-08	2026-01-07

20 dB Bandwidth

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	MXG RF Signal Generator	Agilent	N5181A	MY50145362	2025-01-08	2026-01-07
2	Spectrum analyzer	R&S	FSV-40N	102130	2025-01-08	2026-01-07
3	Vector Signal Generator	Agilent	N5182A	MY50142364	2025-01-08	2026-01-07
4	Power Meter	WCS	WCS-PM	WCSPM230405A	2025-01-08	2026-01-07

Radiated Band Edge Emission
Radiated Spurious Emission

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESCI7	100853	2025-01-08	2026-01-07
2	Amplifier	Tonscend	TAP9K3G40	AP23A8060270	2025-01-08	2026-01-07
3	Prime amplifier	Tonscend	TAP01018050	AP23A8060280	2025-01-08	2026-01-07
4	9*6*6 anechoic chamber	SKET	9.3*6.3*6	N/A	2024-09-02	2027-09-01
5	Spectrum analyzer	Agilent	N9020A	MY50530263	2025-01-08	2026-01-07
6	Spectrum analyzer	R&S	FSV-40N	102130	2025-01-08	2026-01-07

7	Bilog Antenna	Schwarzbeck	VULB 9163	1463	2023-01-09	2026-01-08
8	Horn Antenna	SCHWARZBECK	BBHA 9120 D	2487	2023-01-09	2026-01-08
9	Active Loop Antenna	SCHWARZBECK	FMZB 1519B	/	2023-01-09	2026-01-08
10	RF Cable	Tonscend	Cable 1	/	2025-01-08	2026-01-07
11	RF Cable	Tonscend	Cable 2	/	2025-01-08	2026-01-07
12	RF Cable	SKET	Cable 3	/	2025-01-08	2026-01-07
13	L.I.S.N.#1	Schwarzbeck	NSLK8127	/	2025-01-08	2026-01-07
14	L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	/	2025-01-08	2026-01-07
15	Horn Antenna	SCHWARZBECK	BBHA9170	1130	2023-01-09	2026-01-08
16	Preamplifier	Tonscend	TAP18040048	AP21C806126	2025-01-08	2026-01-07
17	Variable-frequency power source	Pinhong	PH1110	/	2025-01-08	2026-01-07
18	6dB Attenuator	SKET	DC-6G	/	2025-01-08	2026-01-07
19	Antenna tower	SKT	Bk-4AT-BS	AT2021040101-V1	2025-01-08	2026-01-07

5. TEST CONDITIONS AND RESULTS

5.1. Antenna Requirement

Standard Applicable	**FCC CFR Title 47 Part 15 Subpart C Section 15.203:** An intentional radiator shall be designed to ensure that no antenna other than that furnished by the response-ble party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. **FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1) (I):** (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.
Description	The EUT antenna is PCB antenna (2.75dBi), the directional gain of the antenna less than 6dBi. It comply with the standard requirement. In case of replacement of broken antenna the same antenna type must be used.Antenna structure please refer to the EUT internal photographs antenna photo.

Remark: The antenna gain is provided by the customer , if the data provided by the customer is not accurate, Shenzhen Bangce Testing Technology Co., Ltd. does not assume any responsibility.

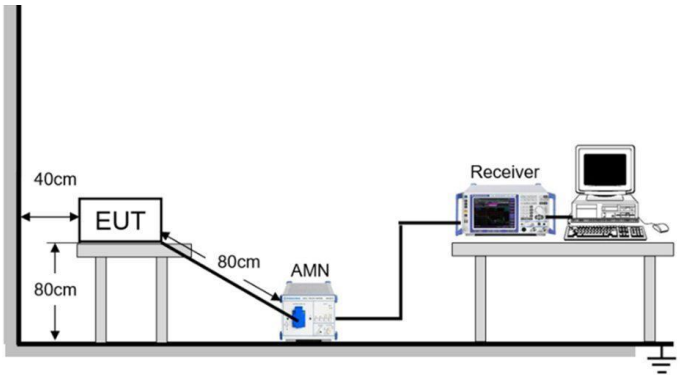
5.2. AC Conducted Emission

Test Requirement:	Refer to 47 CFR 15.207(a), Except as shown in paragraphs (b)and (c)of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN).
Test Limit:	Frequency of emission (MHz) / Conducted limit (dBμV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 *Decreases with the logarithm of the frequency.
Test Method:	ANSI C63.10-2020 section 6.2
Procedure:	1. The EUT was setup according to ANSI C63.10 requirements. 2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. 3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. 4. The peripheral devices are also connected to the main power through a LISN. (Refer to the block diagram of the test setup and photographs) 5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source. 6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length. 7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz. 8. During the above scans, the emissions were maximized by cable manipulation.

Operating Environment:					
Temperature :	22.5 °C	Humidity:	56.7 %	Atmospheric Pressure:	103 kPa

Pre test mode:	TM1, TM2, TM3
Final test mode:	TM1, TM2, TM3

Test Setup Diagram



Test Result

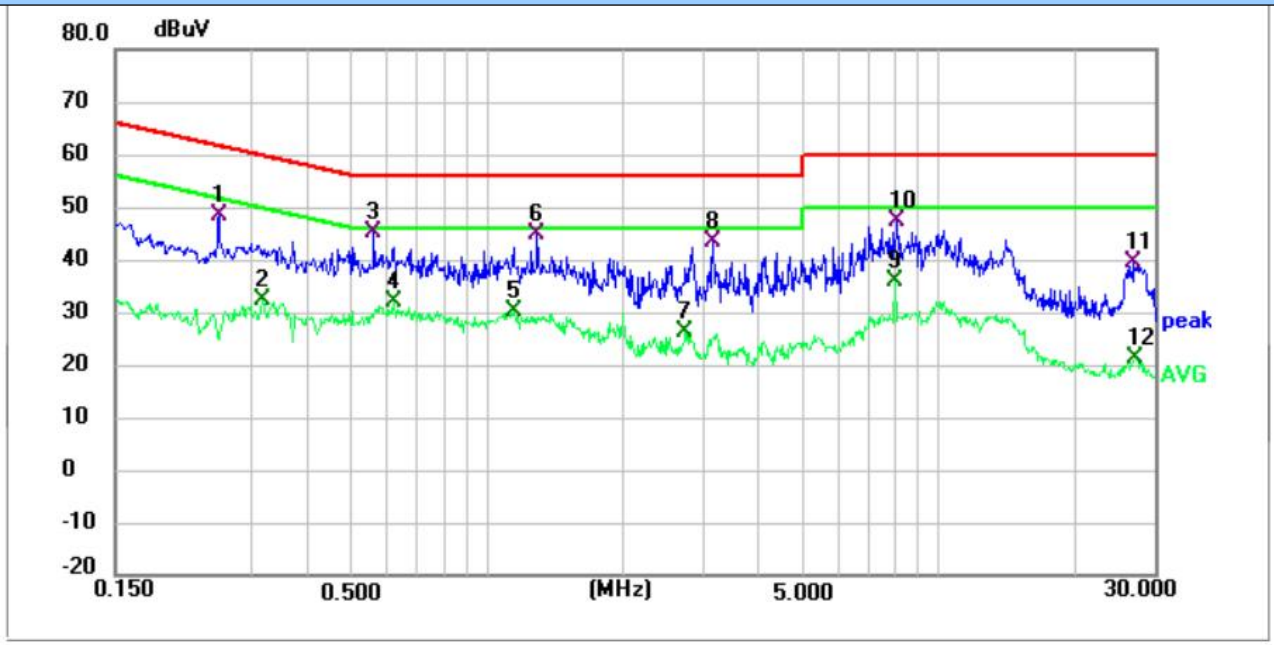
Pass

Test Data

Note:

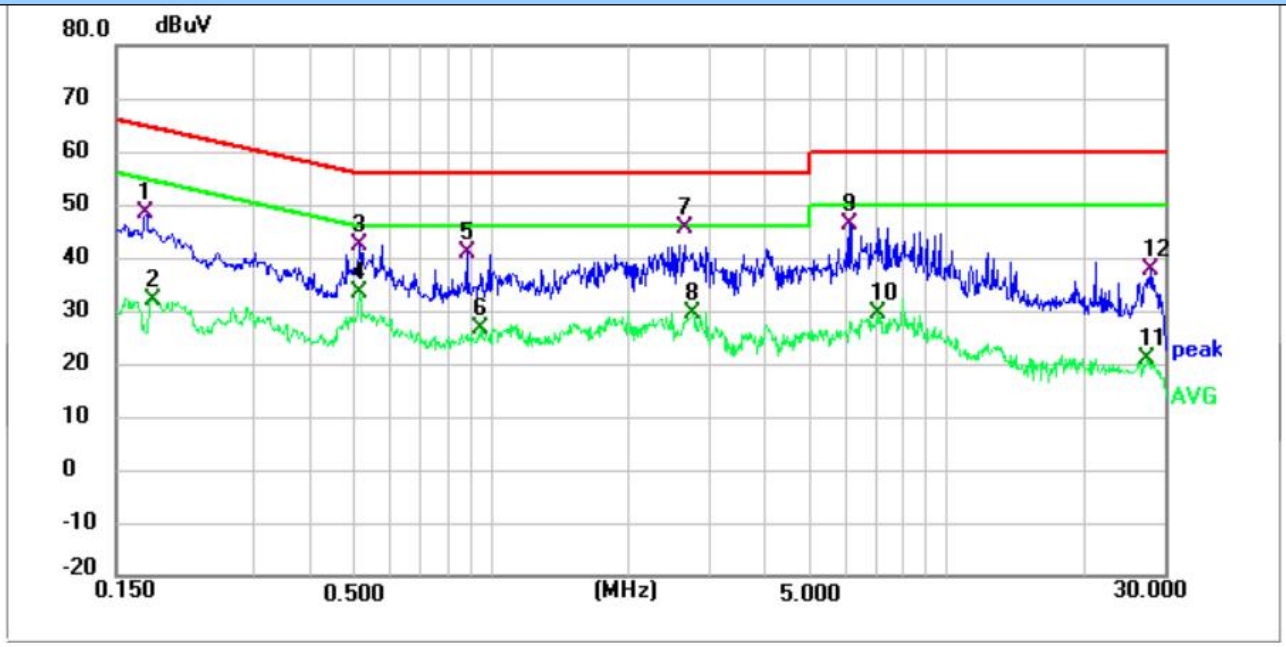
Have pre-scan all test mode, found TM3 mode which it was worst case, so only show the worst case's data on this report.

Mode3 / Line: Line



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.254	38.18	10.33	48.51	61.63	-13.12	QP
2	0.317	21.90	10.33	32.23	49.79	-17.56	AVG
3 *	0.562	34.82	10.39	45.21	56.00	-10.79	QP
4	0.622	21.49	10.40	31.89	46.00	-14.11	AVG
5	1.142	19.84	10.47	30.31	46.00	-15.69	AVG
6	1.294	34.25	10.51	44.76	56.00	-11.24	QP
7	2.746	15.38	10.91	26.29	46.00	-19.71	AVG
8	3.166	32.34	11.04	43.38	56.00	-12.62	QP
9	8.002	22.98	13.04	36.02	50.00	-13.98	AVG
10	8.086	34.19	13.06	47.25	60.00	-12.75	QP
11	27.034	24.34	14.96	39.30	60.00	-20.70	QP
12	27.218	6.19	14.95	21.14	50.00	-28.86	AVG

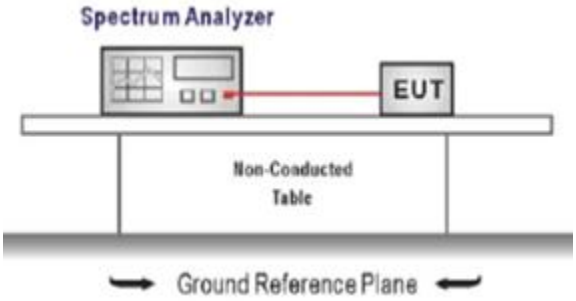
Mode3 / Line: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.174	37.91	10.32	48.23	64.77	-16.54	QP
2	0.181	21.63	10.32	31.95	54.44	-22.49	AVG
3	0.514	32.02	10.38	42.40	56.00	-13.60	QP
4	0.514	23.15	10.38	33.53	46.00	-12.47	AVG
5	0.882	30.36	10.41	40.77	56.00	-15.23	QP
6	0.950	16.23	10.42	26.65	46.00	-19.35	AVG
7 *	2.654	34.57	10.89	45.46	56.00	-10.54	QP
8	2.778	18.69	10.93	29.62	46.00	-16.38	AVG
9	6.150	33.73	12.36	46.09	60.00	-13.91	QP
10	7.090	16.81	12.80	29.61	50.00	-20.39	AVG
11	27.482	5.68	15.07	20.75	50.00	-29.25	AVG
12	27.974	22.49	15.02	37.51	60.00	-22.49	QP

Note:
1). Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor)
2). Margin = Result - Limit

5.3. 20 dB Bandwidth

Limit:	--
Test configuration:	
Test procedure:	1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement. 2. Set to the maximum power setting and enable the EUT transmit continuously 3. Use the following spectrum analyzer settings: Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel RBW ≥ 1% of the 20 dB bandwidth, VBW ≥ RBW Sweep = auto, Detector function = peak, Trace = max hold 4. Measure and record the results in the test report.

Operating Environment:					
Temperature:	22.2 °C	Humidity:	56.3 %	Atmospheric Pressure:	103 kPa
Pre test mode:	TM1				
Final test mode:	TM1				

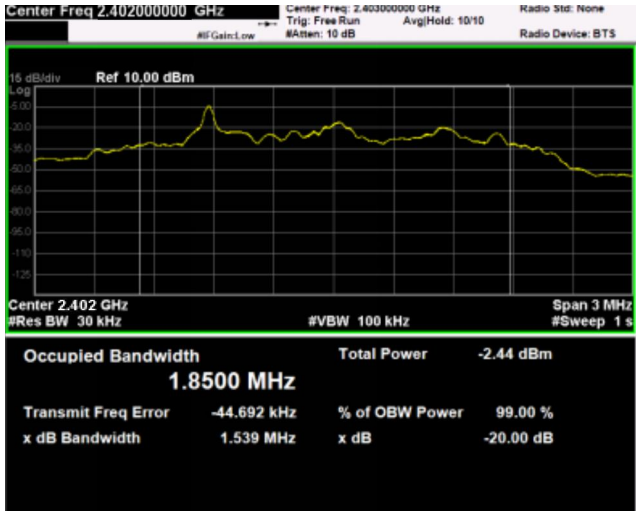
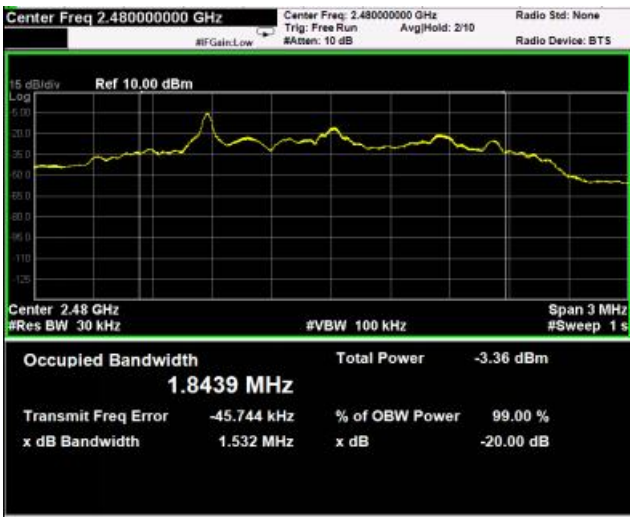
Test Setup Diagram

Test Result

Pass

Test Data

Test Result of 20dB Bandwidth Measurement		
Test Frequency(MHz)	20dB Bandwidth(MHz)	Limit(MHz)
2402	1.539	Non-Specified
2441	1.516	Non-Specified
2480	1.532	Non-Specified

20dB Bandwidth	
	
2402MHz	2441MHz
	
2480MHz	

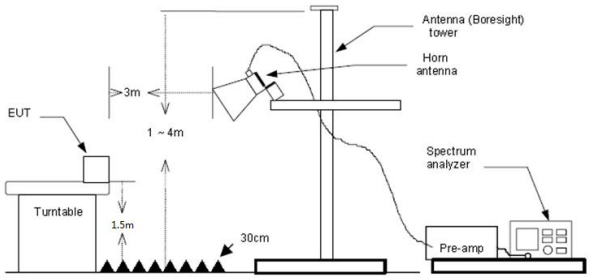
5.4. Radiated Band edge Emission

Limit:

FFCC CFR Title 47 Part 15 Subpart C Section 15.249 (d):

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

Test configuration:

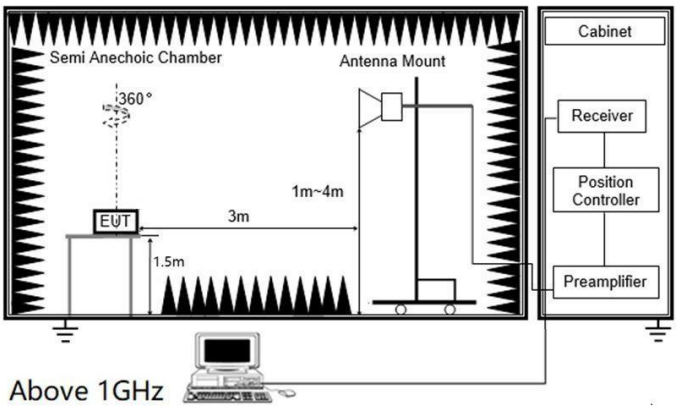


Test procedure:

1. The EUT was setup and tested according to ANSI C63.10 .
2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT waspositioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. Thisis repeated for both horizontal and vertical polarization of the antenna. In order to find themaximum emission, all of the interface cables were manipulated according to ANSI C63.10 on radiated measurement.
5. Use the following spectrum analyzer settings:
   a) Span shall wide enough to fully capture the emission being measured
   b) Set RBW=100kHz for <1GHz, VBW=3*RBW, Sweep time=auto, Detector=peak, Trace=max hold
   c) Set RBW=1MHz, VBW=3MHz for >1GHz, Sweep time=auto, Detector=peak, Trace=max hold for Peak measurement
   d) Set RBW=1MHz, VBW=3MHz for >1GHz, Sweep time=auto, Detector=Average, Trace=RMS for Average measurement

Operating Environment:					
Temperature:	22.2 °C	Humidity:	56.5 %	Atmospheric Pressure:	103 kPa
Pre test mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

Test Setup Diagram



Test Result

Pass

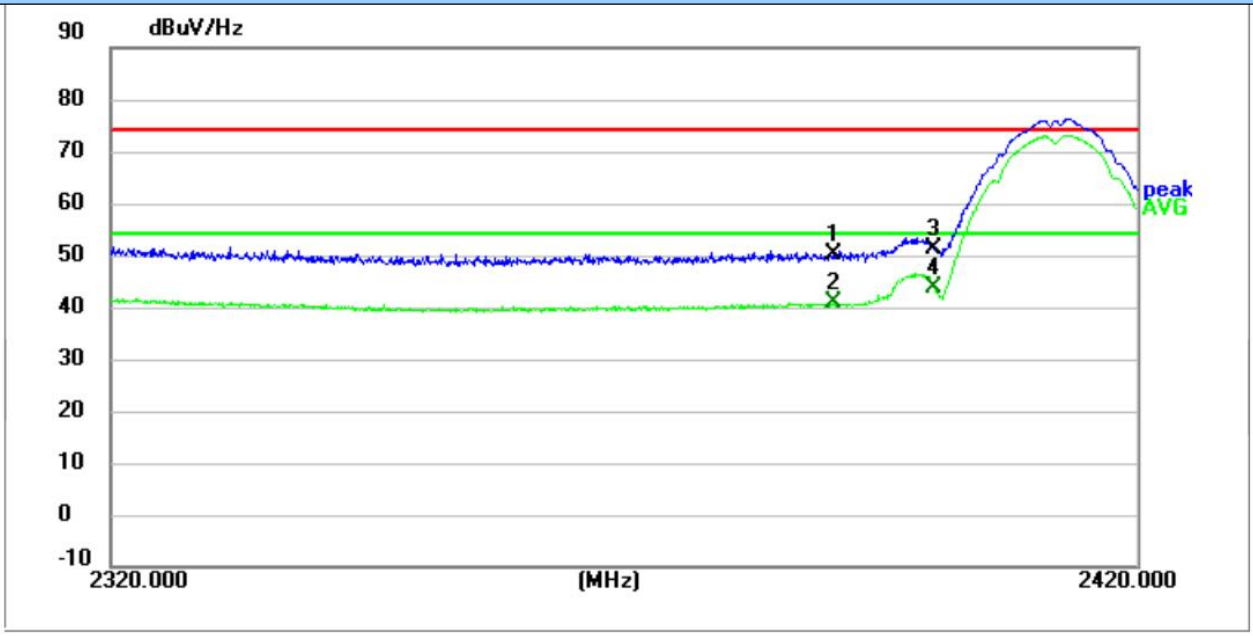
Test Data

Note:

1) Level= Reading + Factor; Factor =Antenna Factor+ Cable Loss- Preamp Factor
2) Margin = Limit - Level
3) Average measurement was not performed if peak level is lower than average limit
4) Have pre-scan all test mode, found TM1 mode which it was worst case, so only show the worst case’s data on this report.
5) The other emission levels were very low against the limit.

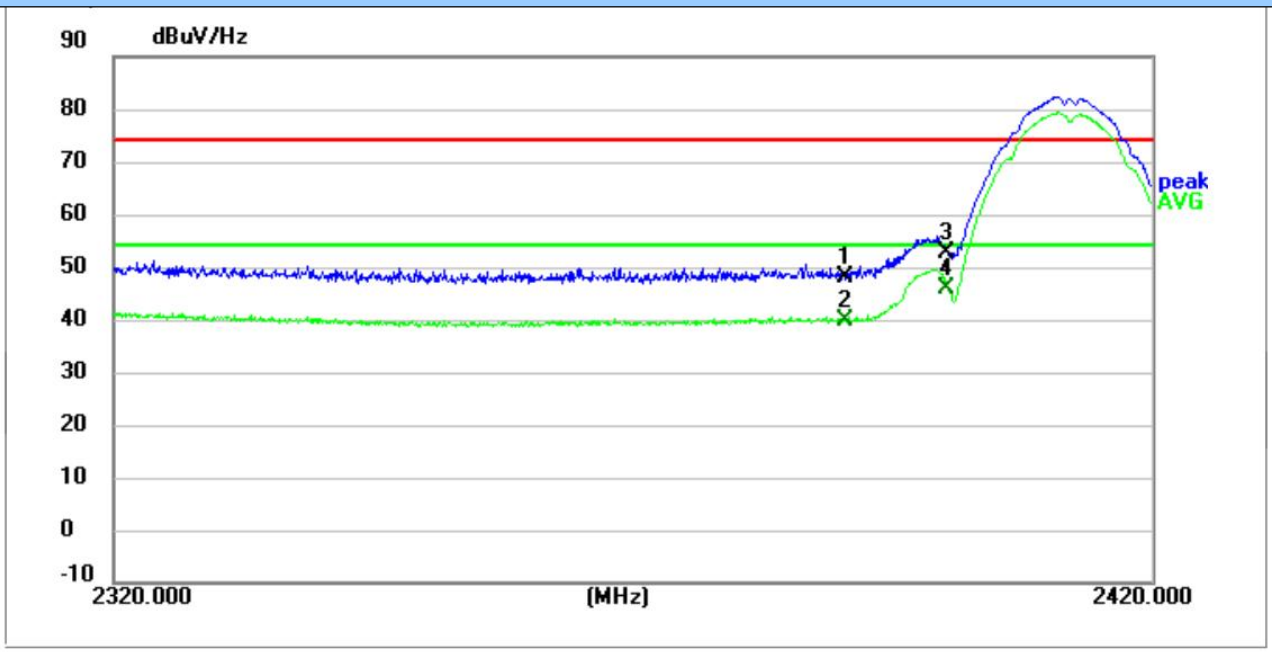
Have pre-scan all test mode, found TM1 mode which it was worst case, so only show the worst case’s data on this report.

Mode1 / Polarization: Horizontal / CH: L



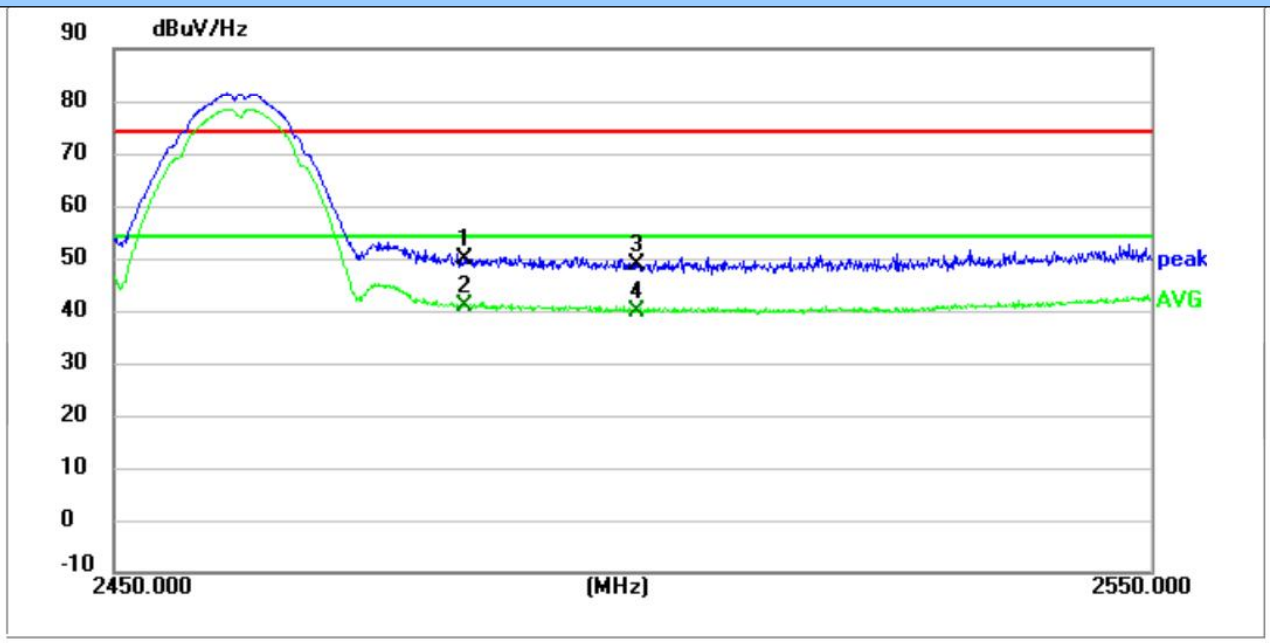
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV/Hz)	Limit (dBuV/Hz)	Margin (dB)	Detector
1	2390.0000	47.71	2.34	50.05	74.00	23.95	peak
2	2390.0000	38.40	2.34	40.74	54.00	13.26	AVG
3	2400.0000	48.83	2.38	51.21	74.00	22.79	peak
4 *	2400.0000	41.22	2.38	43.60	54.00	10.40	AVG

Mode1 / Polarization: Vertical / CH: L



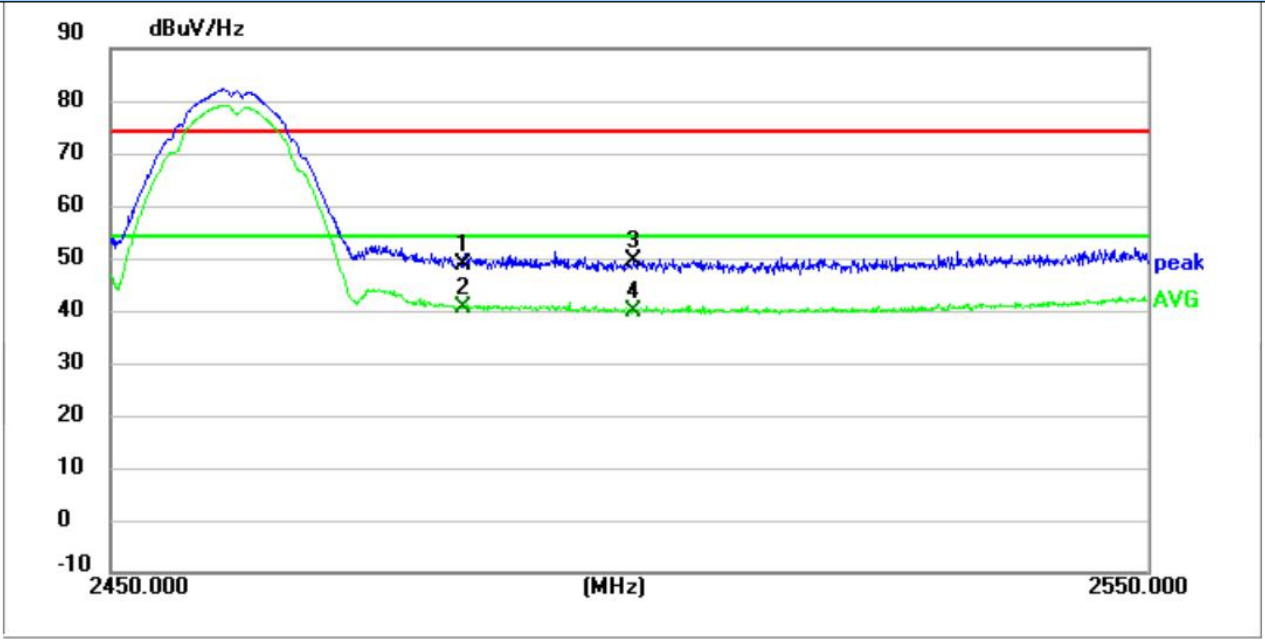
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV/Hz)	Limit (dBuV/Hz)	Margin (dB)	Detector
1	2390.0000	45.79	2.34	48.13	74.00	25.87	peak
2	2390.0000	37.56	2.34	39.90	54.00	14.10	AVG
3	2400.0000	50.30	2.38	52.68	74.00	21.32	peak
4 *	2400.0000	43.52	2.38	45.90	54.00	8.10	AVG

Mode1 / Polarization: Horizontal / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV/Hz)	Limit (dBuV/Hz)	Margin (dB)	Detector
1	2483.5000	47.22	2.66	49.88	74.00	24.12	peak
2 *	2483.5000	38.32	2.66	40.98	54.00	13.02	AVG
3	2500.0000	46.11	2.80	48.91	74.00	25.09	peak
4	2500.0000	37.02	2.80	39.82	54.00	14.18	AVG

Mode1 / Polarization: Vertical / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV/Hz)	Limit (dBuV/Hz)	Margin (dB)	Detector
1	2483.5000	46.07	2.66	48.73	74.00	25.27	peak
2 *	2483.5000	38.00	2.66	40.66	54.00	13.34	AVG
3	2500.0000	46.58	2.80	49.38	74.00	24.62	peak
4	2500.0000	37.20	2.80	40.00	54.00	14.00	AVG

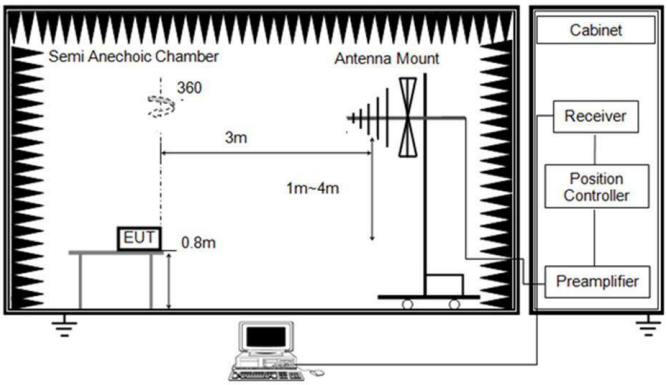
5.5. Radiated Spurious Emission (below 1GHz)

Test Requirement:	Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`
Test Limit:	Frequency (MHz) / Field strength (microvolts/meter) / Measurement distance (meters) 0.009-0.490 / 2400/F(kHz) / 300 0.490-1.705 / 24000/F(kHz) / 30 1.705-30.0 / 30 / 30 30-88 / 100 ** / 3 88-216 / 150 ** / 3 216-960 / 200 ** / 3 Above 960 / 500 / 3 ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
Test Method:	ANSI C63.10-2020 section 6.6.4
Procedure:	1. The EUT was setup and tested according to ANSI C63.10. 2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level. 3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower. 4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines. 5. Set to the maximum power setting and enable the EUT transmit continuously. 6. Use the following spectrum analyzer settings a) Span shall wide enough to fully capture the emission being measured; b) RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold; If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Operating Environment:					
Temperature :	22.2 °C	Humidity:	56.5 %	Atmospheric Pressure:	103 kPa

Pre test mode:	TM1, TM2, TM3
Final test mode:	TM1, TM2, TM3

Test Setup Diagram



Below 1 GHz and above 30 MHz

Test Result

Pass

Test Data

Note:

1) Level= Reading + Factor/Transd; Factor/Transd =Antenna Factor+ Cable Loss- Preamp Factor
2) Margin = Limit – Level
3) Average measurement was not performed if peak level is lower than average limit(54 dBuV/m) for above 1GHz.
4) The other emission levels were very low against the limit.
5) This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in X position.

For 9 kHz ~ 30 MHz

The EUT was pre-scanned this frequency band, found the radiated level 20dB lower than the limit, so don't show data on this report.

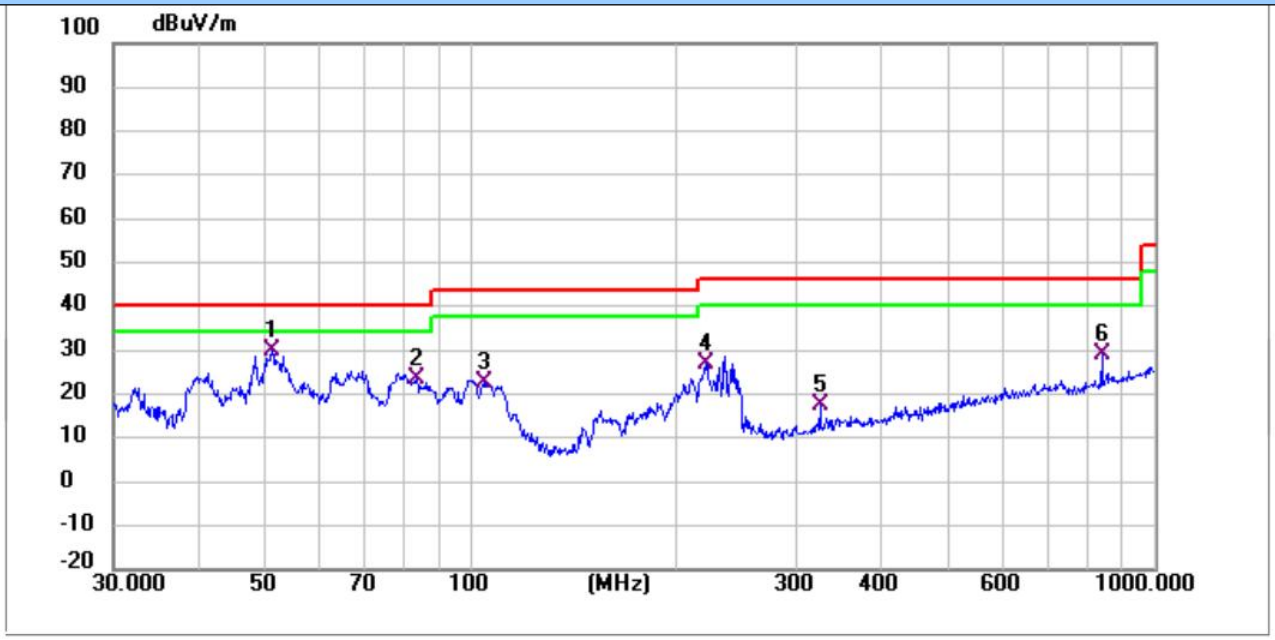
For 30 MHz ~ 1000 MHz

Have pre-scan all test mode, found TM1 mode CH00 which it was worst case, so only show the worst case's data on this report.

Mode1 / Polarization: Horizontal / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	50.7639	46.14	-29.29	16.85	40.00	23.15	QP
2	77.0500	44.85	-34.34	10.51	40.00	29.49	QP
3	111.7380	47.40	-30.84	16.56	43.50	26.94	QP
4	212.2690	53.04	-29.68	23.36	43.50	20.14	QP
5	239.1470	57.55	-28.73	28.82	46.00	17.18	QP
6 *	827.4930	49.00	-16.27	32.73	46.00	13.27	QP

Mode1 / Polarization: Vertical / CH: L



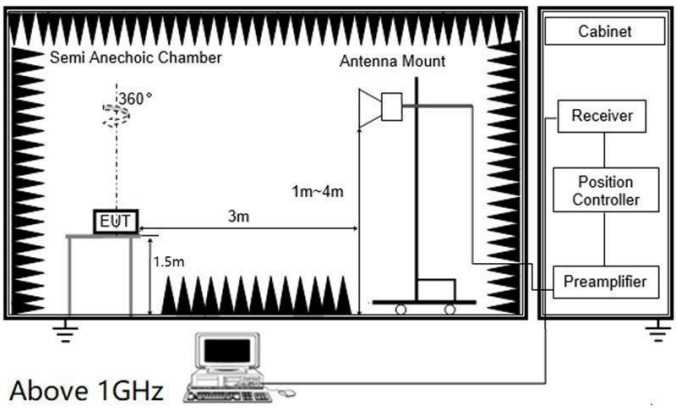
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	51.1210	59.37	-29.37	30.00	40.00	10.00	QP
2	83.5220	57.86	-34.24	23.62	40.00	16.38	QP
3	104.5360	53.50	-30.81	22.69	43.50	20.81	QP
4	220.6170	56.20	-29.40	26.80	46.00	19.20	QP
5	324.4560	43.90	-26.60	17.30	46.00	28.70	QP
6	839.1820	45.14	-16.09	29.05	46.00	16.95	QP

Note:
1) For 9 kHz ~ 30 MHz Measurement
The EUT was pre-scanned this frequency band, found the radiated level 20dB lower than the limit, so don't show data on this report.
2) Level= Reading + Factor; Factor =Antenna Factor+ Cable Loss- Preamp Factor
3) Margin = Limit – Level

5.6. Radiated Spurious Emission (Above 1GHz)

<table>
<tr><td>Test Requirement:</td><td>In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`</td></tr>
<tr><td>Test Limit:</td><td>
<table>
<tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr>
<tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr>
<tr><td>1.705-30.0</td><td>30</td><td>30</td></tr>
<tr><td>30-88</td><td>100 **</td><td>3</td></tr>
<tr><td>88-216</td><td>150 **</td><td>3</td></tr>
<tr><td>216-960</td><td>200 **</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>3</td></tr>
</table>
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.
In the emission table above, the tighter limit applies at the band edges.
The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10-2020 section 6.6.4</td></tr>
<tr><td>Procedure:</td><td>1. The EUT was setup and tested according to ANSI C63.10.
2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5. Set to the maximum power setting and enable the EUT transmit continuously.
6. Use the following spectrum analyzer settings
a) Span shall wide enough to fully capture the emission being measured;
b) Set RBW=1MHz, VBW=3MHz for >1GHz, Sweep time=auto, Detector=peak, Trace=max hold for Peak measurement
For average measurement: use duty cycle correction factor method (DCCF)Averager level = Peak level + DCCF</td></tr>
<tr><td colspan="2">Operating Environment:</td></tr>
<tr><td colspan="2">
<table>
<tr><td>Temperature :</td><td>22.2 °C</td><td>Humidity:</td><td>56.5 %</td><td>Atmospheric Pressure:</td><td>103 kPa</td></tr>
</table>
</td></tr>
<tr><td>Pre test mode:</td><td>TM1, TM2, TM3</td></tr>
<tr><td>Final test mode:</td><td>TM1, TM2, TM3</td></tr>
</table>

Test Setup Diagram



Test Result

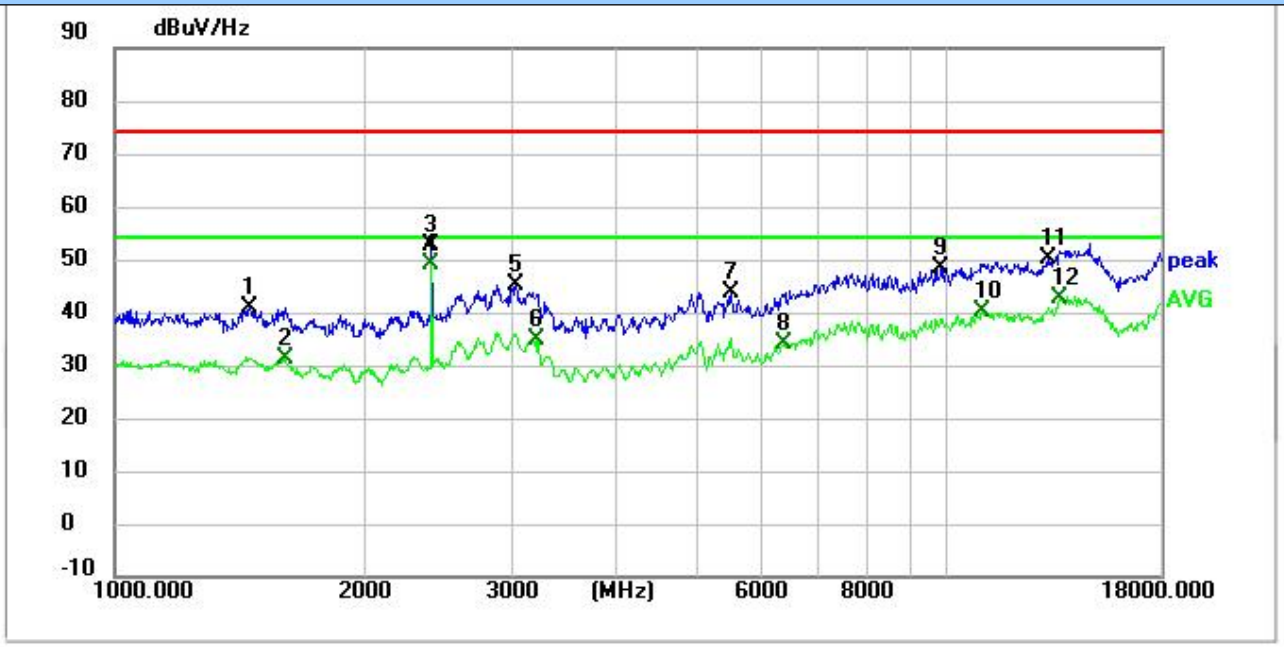
Pass

Test Data

For 1 GHz ~ 18 GHz

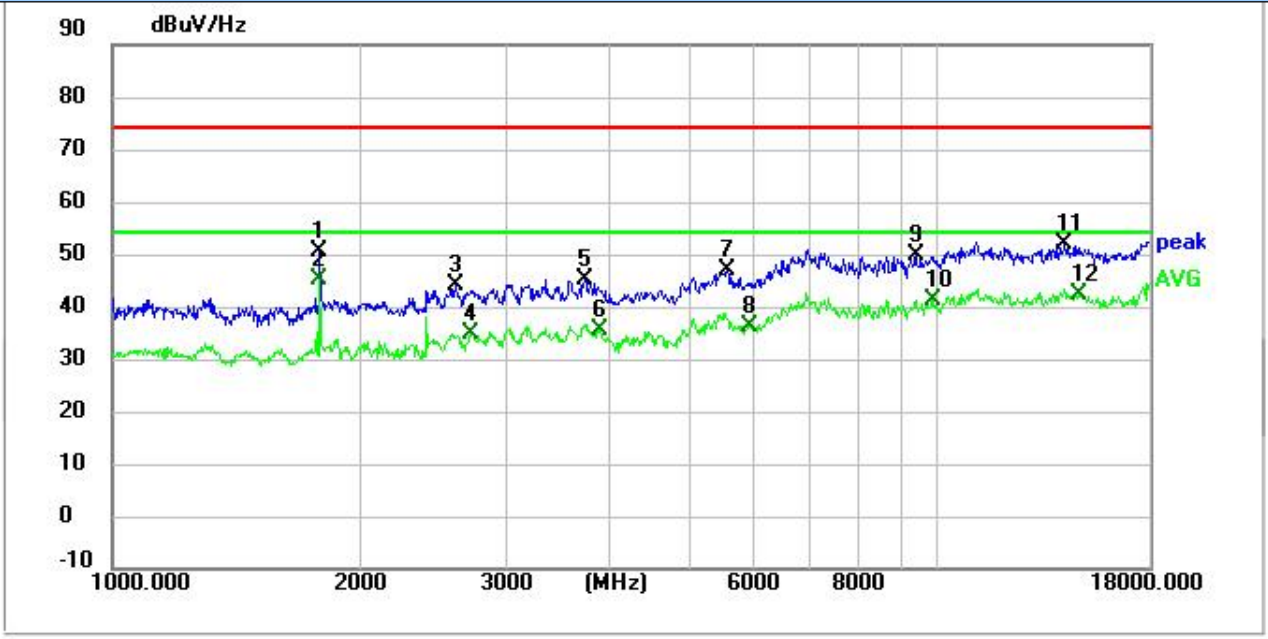
Have pre-scan all test mode, found TM1 mode which it was worst case, so only show the worst case's data on this report.

Mode1 / Polarization: Horizontal / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV/Hz)	Limit (dBuV/Hz)	Margin (dB)	Detector
1	1455.6000	42.35	-1.32	41.03	74.00	32.97	peak
2	1605.2000	32.62	-1.21	31.41	54.00	22.59	AVG
3	2404.2000	50.27	2.38	52.65	74.00	21.35	peak
4 *	2404.2000	46.60	2.38	48.98	54.00	5.02	AVG
5	3034.9000	38.90	6.11	45.01	74.00	28.99	peak
6	3215.1000	28.37	6.59	34.96	54.00	19.04	AVG
7	5501.6000	28.79	14.85	43.64	74.00	30.36	peak
8	6355.0000	16.34	17.65	33.99	54.00	20.01	AVG
9	9836.6000	23.37	25.18	48.55	74.00	25.45	peak
10	10984.1000	12.17	27.99	40.16	54.00	13.84	AVG
11	13204.3000	62.07	-11.93	50.14	74.00	23.86	peak
12	13631.0000	54.01	-11.37	42.64	54.00	11.36	AVG

Mode1 / Polarization: Vertical / CH: L

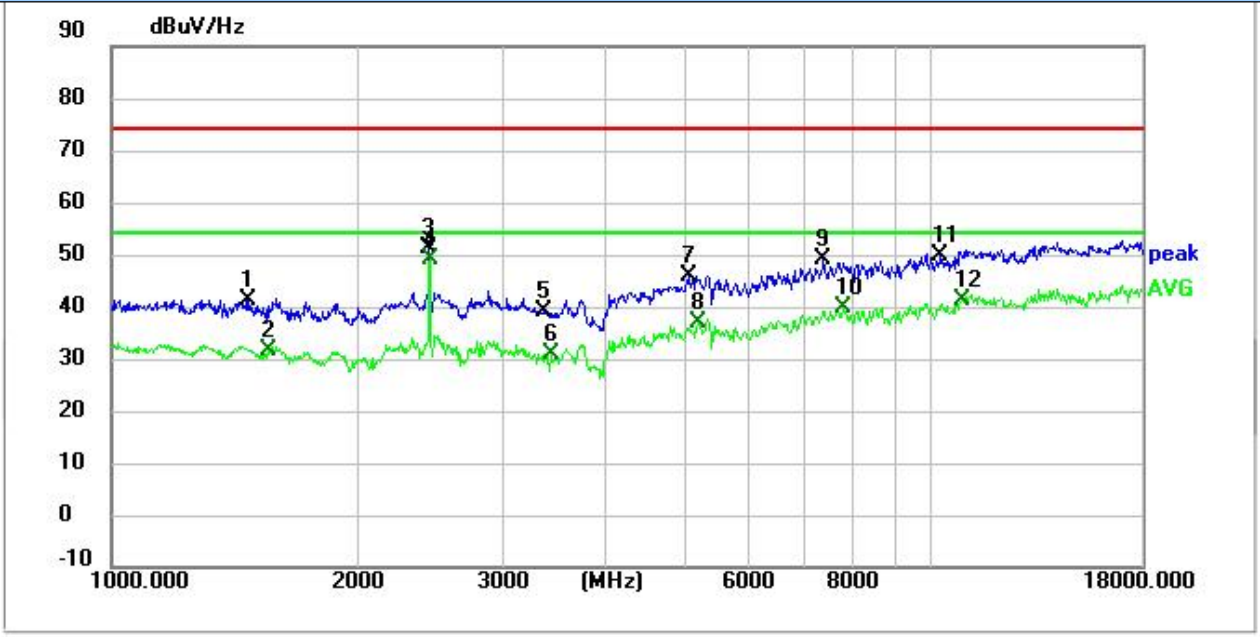


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV/Hz)	Limit (dBuV/Hz)	Margin (dB)	Detector
1	1785.4000	50.89	-0.27	50.62	74.00	23.38	peak
2 *	1785.4000	45.55	-0.27	45.28	54.00	8.72	AVG
3	2604.8000	40.05	4.06	44.11	74.00	29.89	peak
4	2717.0000	30.16	4.64	34.80	54.00	19.20	AVG
5	3735.3000	38.56	6.79	45.35	74.00	28.65	peak
6	3905.3000	28.31	7.07	35.38	54.00	18.62	AVG
7	5552.6000	31.99	14.86	46.85	74.00	27.15	peak
8	5906.2000	21.37	15.03	36.40	54.00	17.60	AVG
9	9399.7000	25.39	24.26	49.65	74.00	24.35	peak
10	9848.5000	16.13	25.17	41.30	54.00	12.70	AVG
11	14234.5000	62.59	-10.55	52.04	74.00	21.96	peak
12	14795.5000	53.09	-10.68	42.41	54.00	11.59	AVG

Test channel:2402MHz

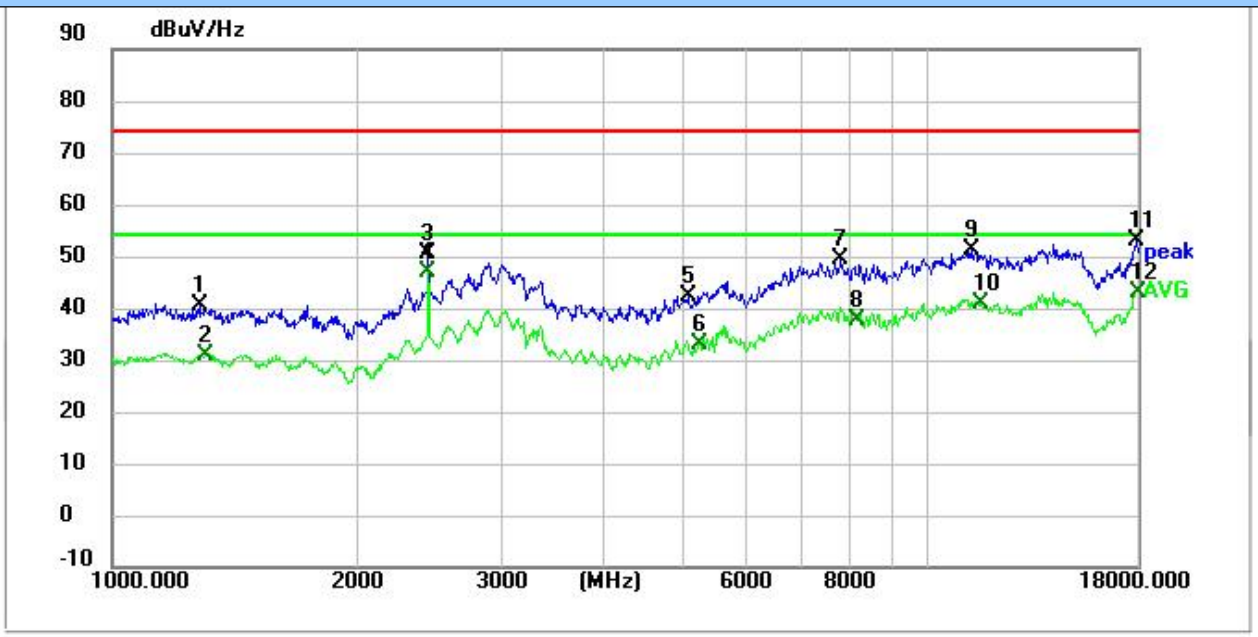
Freq. (MHz)	Reading (dBuv)	Ant. Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)	Level (dBuv)	Limit (dBuV/m)	Margin (dB)	Remark	Polarity
2402.00	91.85	29.18	4.02	38.35	-5.15	86.70	114	27.30	Peak	Horizontal
2402.00	80.28	29.18	4.02	38.35	-5.15	75.13	94	18.87	Average	Horizontal
2402.00	81.06	29.18	4.02	38.35	-5.15	75.91	114	38.09	Peak	Vertical
2402.00	67.80	29.18	4.02	38.35	-5.15	62.65	94	31.35	Average	Vertical

Mode1 / Polarization: Horizontal / CH: M



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV/Hz)	Limit (dBuV/Hz)	Margin (dB)	Detector
1	1470.9000	42.66	-1.33	41.33	74.00	32.67	peak
2	1554.2000	32.90	-1.37	31.53	54.00	22.47	AVG
3	2441.6000	48.74	2.39	51.13	74.00	22.87	peak
4 *	2443.3000	46.58	2.39	48.97	54.00	5.03	AVG
5	3363.0000	32.68	6.45	39.13	74.00	34.87	peak
6	3427.6000	24.60	6.36	30.96	54.00	23.04	AVG
7	5047.7000	32.90	13.00	45.90	74.00	28.10	peak
8	5204.1000	23.80	13.30	37.10	54.00	16.90	AVG
9	7388.6000	26.83	22.12	48.95	74.00	25.05	peak
10	7823.8000	17.58	22.24	39.82	54.00	14.18	AVG
11	10273.5000	23.84	25.99	49.83	74.00	24.17	peak
12	10861.7000	13.94	27.24	41.18	54.00	12.82	AVG

Mode1 / Polarization: Vertical / CH: M

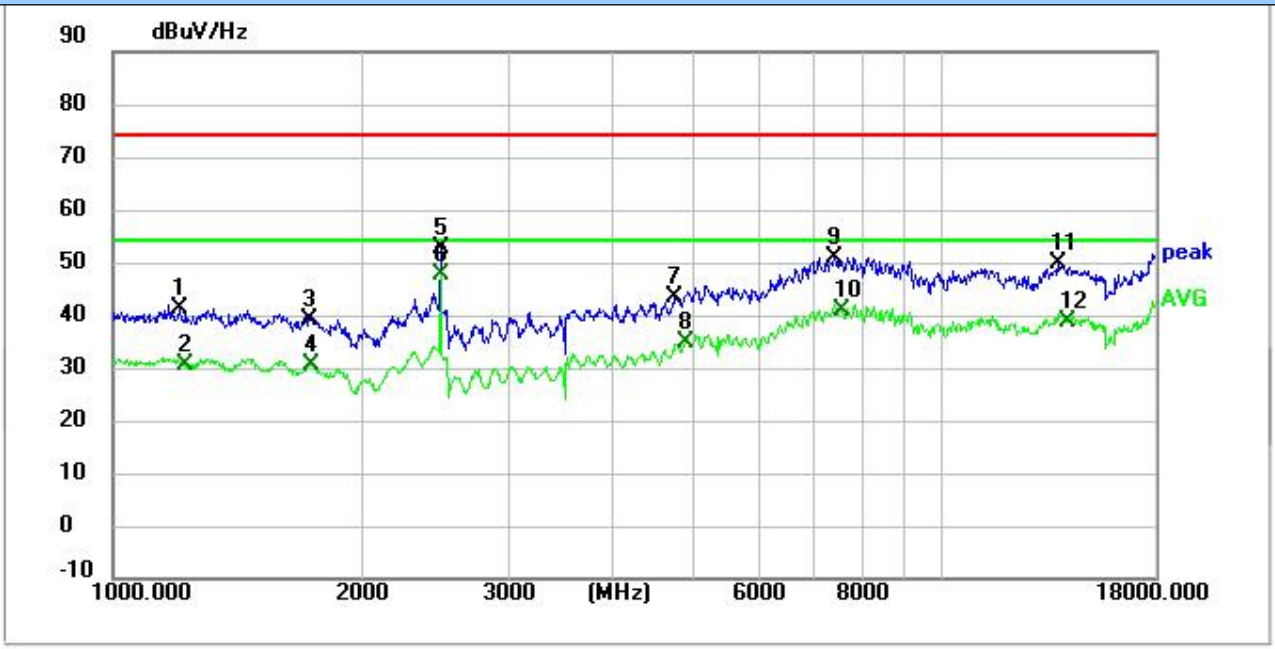


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV/Hz)	Limit (dBuV/Hz)	Margin (dB)	Detector
1	1280.5000	42.07	-1.60	40.47	74.00	33.53	peak
2	1304.3000	32.53	-1.61	30.92	54.00	23.08	AVG
3	2441.6000	48.12	2.39	50.51	74.00	23.49	peak
4 *	2441.6000	44.69	2.39	47.08	54.00	6.92	AVG
5	5080.0000	29.42	13.04	42.46	74.00	31.54	peak
6	5248.3000	19.55	13.32	32.87	54.00	21.13	AVG
7	7811.9000	27.41	22.14	49.55	74.00	24.45	peak
8	8168.9000	15.33	22.50	37.83	54.00	16.17	AVG
9	11271.4000	23.15	28.16	51.31	74.00	22.69	peak
10	11597.8000	13.00	28.00	41.00	54.00	13.00	AVG
11	17989.8000	61.84	-8.95	52.89	74.00	21.11	peak
12	18000.0000	51.96	-8.90	43.06	54.00	10.94	AVG

Test channel:2441MHz

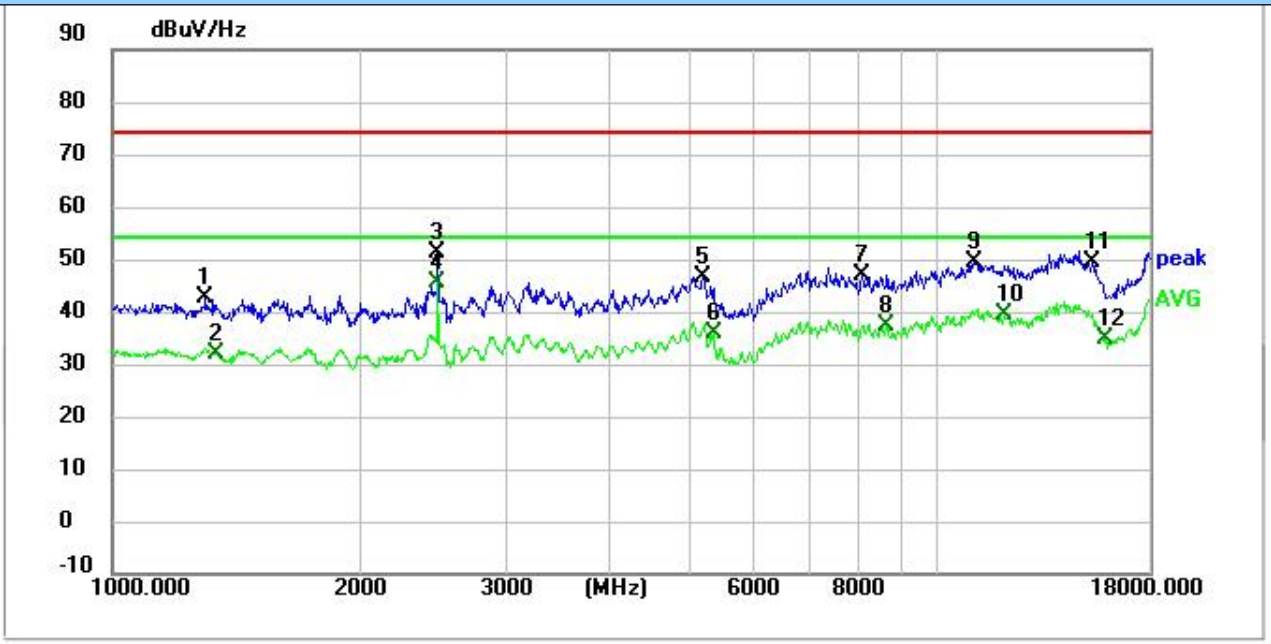
Freq. (MHz)	Reading (dBuv)	Ant. Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)	Level (dBuv)	Limit (dBuV/m)	Margin (dB)	Remark	Polarity
2441.00	91.11	29.23	4.02	38.2	-4.95	86.16	114	27.84	Peak	Horizontal
2441.00	81.17	29.23	4.02	38.2	-4.95	76.22	94	17.78	Average	Horizontal
2441.00	82.65	29.23	4.02	38.2	-4.95	77.70	114	36.30	Peak	Vertical
2441.00	68.77	29.23	4.02	38.2	-4.95	63.82	94	30.18	Average	Vertical

Mode1 / Polarization: Horizontal / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV/Hz)	Limit (dBuV/Hz)	Margin (dB)	Detector
1	1203.4220	42.74	-1.54	41.20	74.00	32.80	peak
2	1224.4950	31.95	-1.56	30.39	54.00	23.61	AVG
3	1722.7710	39.73	-0.73	39.00	74.00	35.00	peak
4	1737.7890	31.17	-0.62	30.55	54.00	23.45	AVG
5	2480.5620	50.04	2.64	52.68	74.00	21.32	peak
6 *	2480.5620	45.15	2.64	47.79	54.00	6.21	AVG
7	4756.2990	33.44	10.06	43.50	74.00	30.50	peak
8	4895.9210	23.37	11.35	34.72	54.00	19.28	AVG
9	7404.8810	28.65	22.14	50.79	74.00	23.21	peak
10	7556.3800	18.13	22.71	40.84	54.00	13.16	AVG
11	13793.4160	60.86	-11.17	49.69	74.00	24.31	peak
12	14116.4040	49.34	-10.68	38.66	54.00	15.34	AVG

Mode1 / Polarization: Vertical / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV/Hz)	Limit (dBuV/Hz)	Margin (dB)	Detector
1	1299.2000	44.39	-1.61	42.78	74.00	31.22	peak
2	1340.0000	33.58	-1.64	31.94	54.00	22.06	AVG
3	2482.4000	48.61	2.66	51.27	74.00	22.73	peak
4 *	2482.4000	42.94	2.66	45.60	54.00	8.40	AVG
5	5185.4000	33.48	13.23	46.71	74.00	27.29	peak
6	5346.9000	22.46	13.59	36.05	54.00	17.95	AVG
7	8106.0000	24.15	22.77	46.92	74.00	27.08	peak
8	8685.7000	14.63	22.67	37.30	54.00	16.70	AVG
9	11070.8000	21.42	28.06	49.48	74.00	24.52	peak
10	12063.6000	11.73	27.73	39.46	54.00	14.54	AVG
11	15354.8000	61.05	-11.56	49.49	74.00	24.51	peak
12	15943.0000	48.63	-13.76	34.87	54.00	19.13	AVG

Test channel:2480MHz

Freq. (MHz)	Reading (dBuv)	Ant. Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)	Level (dBuv)	Limit (dBuV/m)	Margin (dB)	Remark	Polarity
2480.00	94.42	29.2	4.02	38.3	-5.08	89.34	114	24.66	Peak	Horizontal
2480.00	80.56	29.2	4.02	38.3	-5.08	75.48	94	18.52	Average	Horizontal
2480.00	82.66	29.2	4.02	38.3	-5.08	77.58	114	36.42	Peak	Vertical
2480.00	67.57	29.2	4.02	38.3	-5.08	62.49	94	31.51	Average	Vertical

Note:
1) Level= Reading + Factor; Factor =Antenna Factor+ Cable Loss- Preamp Factor
2) Margin = Limit – Level
3) Average measurement was not performed if peak level is lower than average limit (54dBuV/m) for above 1GHz.

6. TEST SETUP PHOTOS

Please refer to report for Test CISRR25041009601 of the EUT.

7. EXTERNAL AND INTERNAL PHOTOS

7.1 External photos

Please refer to report for Test CISRR25041009601 of the EUT.

7.2 Internal photos

Please refer to report for Test CISRR25041009601 of the EUT.

------End of the report------