



TEST REPORT

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Applicant : Atlas Aerospace SIA
Address of Applicant : Ulbrokas Street 19A, 1021 Riga, Latvia

Product Name : Atlas Radio Module
Brand Name : ATLAS
Model Name : ATR-200
Sample Acquisition Method : Sent by Client
Sample No. : E23100021-01#02

FCC ID : 2BCPM-ATLATR200

Standards : FCC CFR47 Part 15, Subpart C

Date of Receipt : 2023-10-11
Date of Test : 2023-10-11~ 2023-10-18
Date of Issue : 2023-10-24

Remark:

This report details the results of the testing carried out on one sample, the results contained in this report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

Prepared by:

Erik Yang

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Jennifer Zhou

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Echo Mu

(Authorized signatory: Echo Mu)





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1 General Information

1.1 Testing Laboratory

Company Name	ICAS Testing Technology Service (Shanghai) Co., Ltd.
Address	No.1298 Pingan Road, Minhang District, Shanghai, China
Telephone	0086 21-51682999
Fax	0086 21-54711112
Homepage	www.icasiso.com

1.2 Details of Application

Applicant Company Name	Atlas Aerospace SIA
Address	Ulbrokas Street 19A, 1021 Riga, Latvia
Contact Person	Arturs Neitals
Telephone	+37129778900
Email	certification@atlasdynamics.eu
Manufacturer Company Name	Atlas Aerospace SIA
Address	Ulbrokas Street 19A, 1021 Riga, Latvia

1.3 Details of EUT

Product Name	Atlas Radio Module
Brand Name	ATLAS
Test Model Name	ATR-200
FCC ID	2BCPM-ATLATR200
Frequency Range	2405MHz ~ 2469MHz
Number of Channels	Bandwidth 5M:65(at intervals of 1 MHz); Bandwidth 20M:51(at intervals of 1 MHz)
Modulation Type	OFDM
RF Output Power	Bandwidth 5M: 20.67dBm Bandwidth 20M: 21.28dBm
Antenna Type	External Antenna
Antenna Gain	1.52dBi
Test Voltage	DC 10-18V
Hardware Version	ATR-200-04-FD2
Software Version	r0+13092-74da93979e
RF power setting in TEST SW	ATLAS Radio web interface-Utilities-Test mode_Power level setting_17dBm

Note:

- The above information was declared by the manufacture.
- For more details, please refer to the User's manual of the EUT.



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Channel List

Bandwidth 5MHz		Bandwidth 20MHz	
Channel	Frequency	Channel	Frequency
1	2.405GHz	1	2.412GHz
2	2.406GHz	2	2.413GHz
3	2.407GHz	3	2.414GHz
...	...	...	...
32	2.436GHz	25	2.436GHz
33	2.437GHz	26	2.437GHz
34	2.438GHz	27	2.438GHz
...	...	...	...
63	2.467GHz	49	2.460GHz
64	2.468GHz	50	2.461GHz
65	2.469GHz	51	2.462GHz

Note: Channel interval is 1MHz.

1.4 Test Methodology

47 CFR Part 15, Subpart C	Telecommunication-Radio Frequency Devices-Intentional Radiators
KDB Publication 558074 D01 v05r02	15.247 Meas Guidance.
ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Note(s):

All test items were verified and recorded according to the standards and without any addition/deviation/exclusion during the test.



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1.5 Test Summary

Test Item	FCC Rules	Result
Antenna Requirement	FCC Part 15.247(b)(4), Part 15.203	PASS
Maximum peak conducted output power	FCC Part 15.247(b)(3)	PASS
6dB Bandwidth	FCC Part 15.247(a)(2)	PASS
Maximum conducted output power spectral density	FCC Part 15.247(e)	PASS
Conducted Spurious Emission & Authorized-band band-edge	FCC Part 15.247(d)	PASS
Radiated Emission	FCC Part 15.247(d), 15.205, 15.209	PASS
Band Edge (Restricted-band band-edge)	FCC Part 15.247(d), 15.205, 15.209	PASS
Conducted Emission on AC Mains	FCC Part 15.207(a)	N/A ^{note}

Note(s): The EUT is powered by DC 18V. Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.



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2 Test Condition

2.1 Environmental conditions

Temperature (°C)	18-25
Humidity (%RH)	40-65
Barometric Pressure (mbar)	960-1060

2.2 Equipment List

Name of Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	Keysight	N9020B	MY59260184	2023-07-27	2024-07-26
Spectrum Analyzer	Rohde & Schwarz	FSV40N	101450	2023-06-08	2024-06-07
Signal Generator	Rohde & Schwarz	SMR27	100184	2023-07-27	2024-07-26
EMI Test Receiver	Rohde & Schwarz	ESR 7	101911	2023-06-08	2024-06-07
Broadband Antenna	SCHWARZBECK	VULB9163	9163-1037	2023-03-22	2025-03-21
Horn Antenna-18G	SCHWARZBECK	BBHA9120D	9120D-1775	2023-06-13	2025-06-12
Horn Antenna-40G	YINGLIAN	LB-180400-KF	N/A	2023-06-18	2025-06-17
Loop Antenna	SCHWARZBECK	FMZB 1513	/	2023-06-09	2024-06-08
Broadband Preamplifier	SCHWARZBECK	BBV 9718	346	2023-06-08	2024-06-07
EMC chamber 9*6*6(L*W*H)	CHANGNING	966	N/A	2023-06-09	2025-06-08
Test Software	BL	BL410_E	Version:1.0.0.117	N/A	N/A
Test Software	BL	BL410_R	Version:2.1.1.409	N/A	N/A

2.3 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in measurement" (GUM) published by CISPR and ANSI. The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95.45%.

Parameter	Uncertainty
Antenna Port Conducted Emission	< 1GHz
	> 1GHz
Radiated Emission	9KHz – 30MHz
	30 MHz – 1GHz
	> 1GHz
Occupied Channel Bandwidth	



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3 Test Set-up and Operation Modes

3.1 Details of Test Mode

Using test software was control EUT work in continuous transmitting mode. Select test channel as below:

Bandwidth 5MHz:

Channel	Frequency
The lowest channel(CH01)	2405MHz
The middle channel(CH33)	2437MHz
The Highest channel(CH65)	2469MHz

Bandwidth 20MHz:

Channel	Frequency
The lowest channel(CH01)	2412MHz
The middle channel(CH26)	2437MHz
The Highest channel(CH51)	2462MHz

The basic operation modes are:

- A. On
 - 1. Bandwidth 5MHz/20MHz mode
 - a. Transmitting
 - i. Low Channel
 - ii. Middle Channel
 - iii. High Channel
 - b. Receiving
 - 2. Normal working with transmitter on
- B. Standby
- C. Off

3.2 Special Accessories and Auxiliary Equipment

Description	Manufacturer	Model Name	Serial No.
Laptop	HP	HP ZHAN 66 Pro G1	N/A
Network Cable	N/A	N/A	1.00m Unshielded

3.3 Support Software

Description	Manufacturer	Software Name
Software	N/A	ATLAS Radio web interface-Utilities-Test mode



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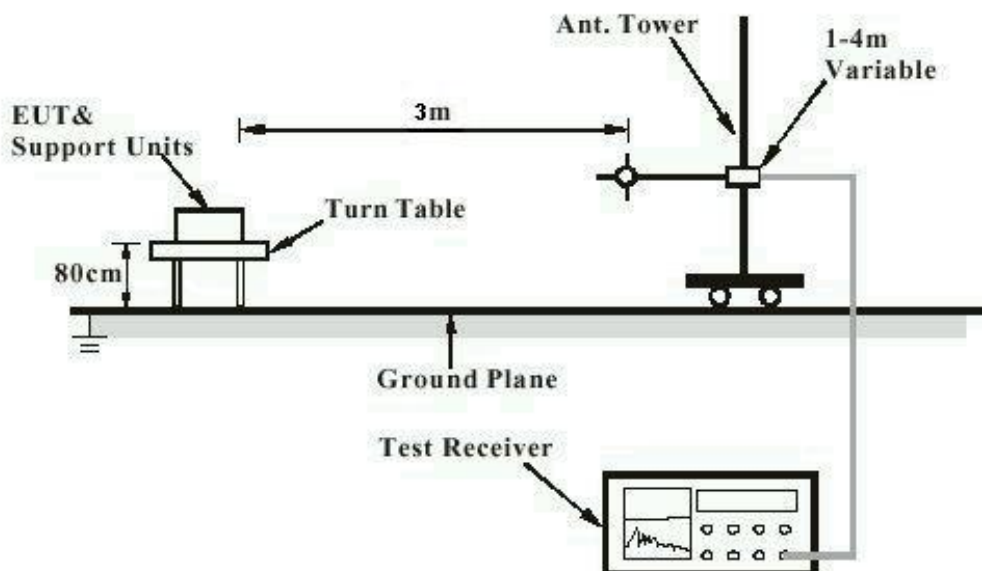
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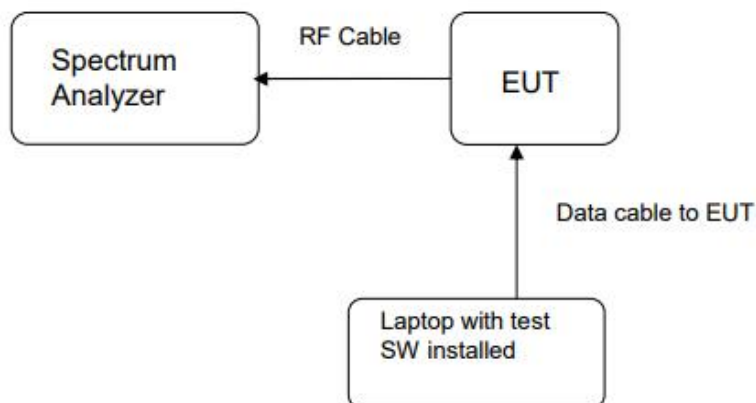
3.4 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test



Note: Measurements above 1GHz are done with a table height of 1.5m. In addition, there is RF absorbing material on the floor of the test site for above 1GHz measurement.

Diagram of Measurement Equipment Configuration for Transmitter Test





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4 Test Results

4.1 Transmitter Requirement & Test Suites

4.1.1 Antenna Requirement

RESULT:

PASS

Test standard : FCC Part 15.247(b)(4), Part 15.203

Requirement : An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator 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. In addition, If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

According to the manufacturer declaration, an antenna with a directional gain of 1.52dBi. The antenna is External Antenna with no possibility of replacement with a non-approved antenna by the end-user.

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.

Therefore, the EUT is considered to comply with this provision.



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4.1.2 Maximum peak conducted output power

RESULT: **PASS**

Test standard : FCC Part 15.247(b)(3)
Requirement : ANSI C63.10-2013 clause 11.9.1,
KDB 558074 D01 v05r02, Clause 8.3.1
Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High
Operation Mode : A.1.a
Ambient temperature : 23.5°C
Relative humidity : 50%

Table 1: Maximum peak conducted output power

Test Mode	Test Channel (MHz)	Maximum peak conducted output power		Limit (W)
		(dBm)	(mW)	
Bandwidth 5MHz	2405	20.67	116.68	< 1
	2437	19.95	98.86	
	2469	19.57	90.57	
Bandwidth 20MHz	2412	20.55	113.50	
	2437	21.28	134.28	
	2462	20.69	117.22	



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4.1.3 6dB Bandwidth

RESULT: **PASS**

Test standard : FCC Part 15.247(a)(2)
Requirement : ANSI C63.10-2013 clause 11.8.1,
KDB 558074 D01 v05r02, Clause 8.2
Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High
Operation Mode : A.1.a
Ambient temperature : 23.5°C
Relative humidity : 50%

Table 2: 6dB Bandwidth

Test Mode	Test Channel (MHz)	6dB Bandwidth (MHz)	Limit
Bandwidth 5MHz	2405	4.26	≥0.5 MHz
	2437	4.11	
	2469	4.32	
Bandwidth 20MHz	2412	15.13	
	2437	12.31	
	2462	11.68	



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Figure 1: 6dB Bandwidth, Bandwidth 5MHz, 2405MHz



Figure 2: 6dB Bandwidth, Bandwidth 5MHz, 2437MHz





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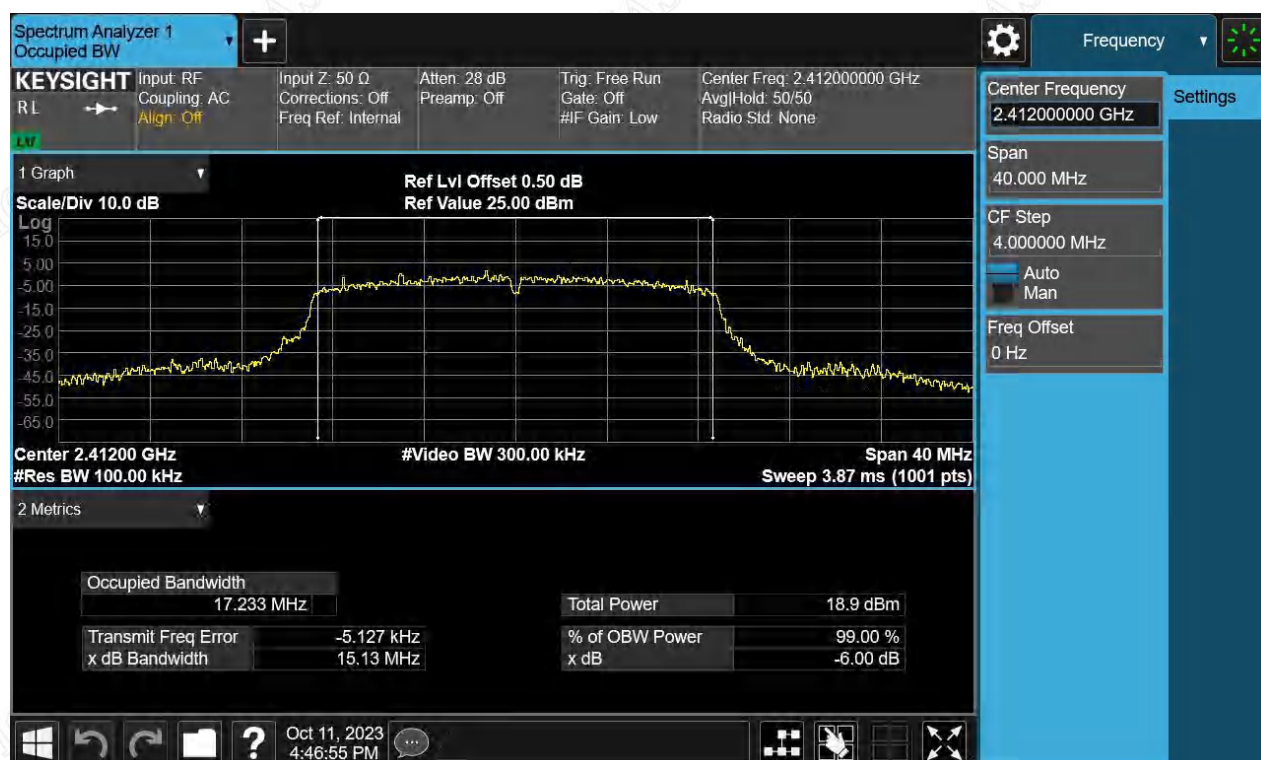
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Figure 3: 6dB Bandwidth, Bandwidth 5MHz, 2469MHz



Figure 4: 6dB Bandwidth, Bandwidth 20MHz, 2412MHz





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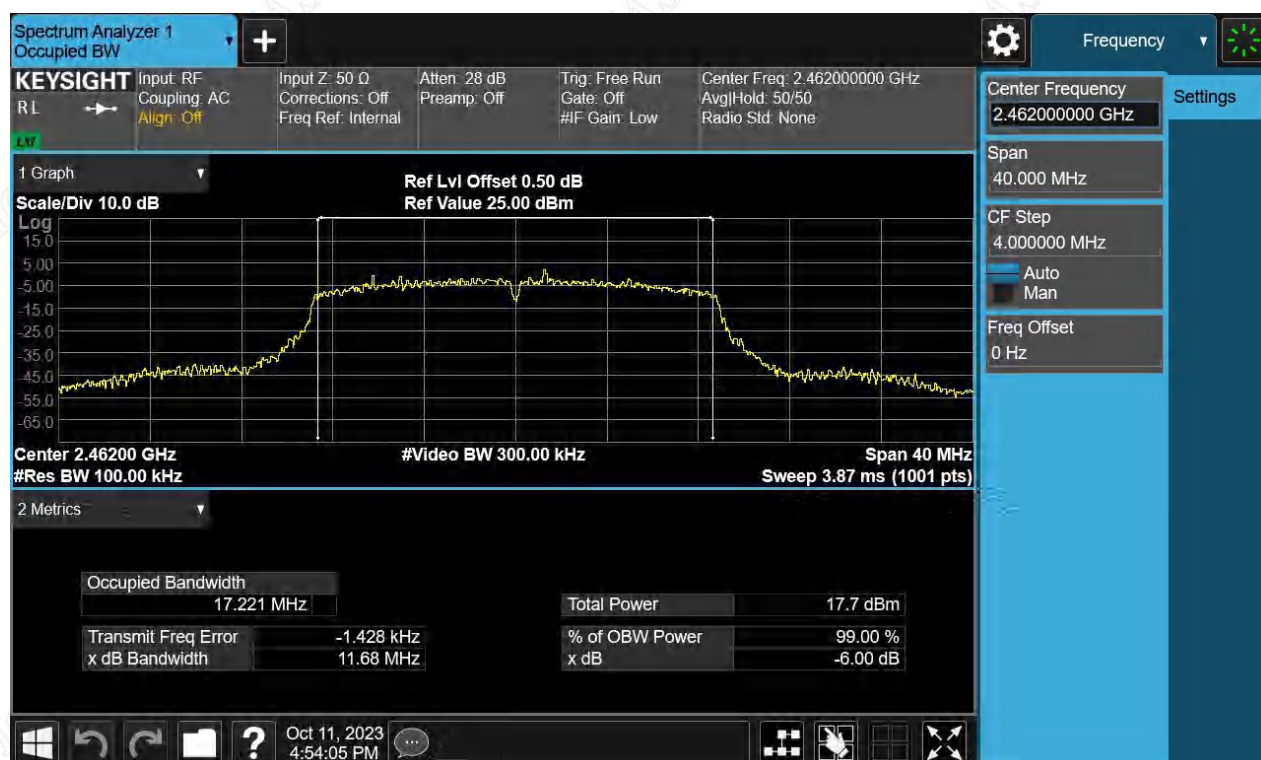
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Figure 5: 6dB Bandwidth, Bandwidth 20MHz, 2437MHz



Figure 6: 6dB Bandwidth, Bandwidth 20MHz, 2462MHz





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4.1.4 Maximum conducted output power spectral density

RESULT: **PASS**

Test standard : FCC Part 15.247(e)
Requirement : ANSI C63.10-2013 clause 11.10.2,
KDB 558074 D01 v05r02, Clause 8.4
Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High
Operation Mode : A.1.a
Ambient temperature : 23.5°C
Relative humidity : 50%

Table 3: Maximum conducted output power spectral density

Test Mode	Test Channel (MHz)	Measured Result (dBm/3kHz)	Limit (dBm/3kHz)
Bandwidth 5MHz	2405	-6.07	8
	2437	-8.16	
	2469	-7.35	
Bandwidth 20MHz	2412	-12.33	
	2437	-12.51	
	2462	-13.11	



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Figure 7: Power Spectral Density, Bandwidth 5MHz, 2405MHz

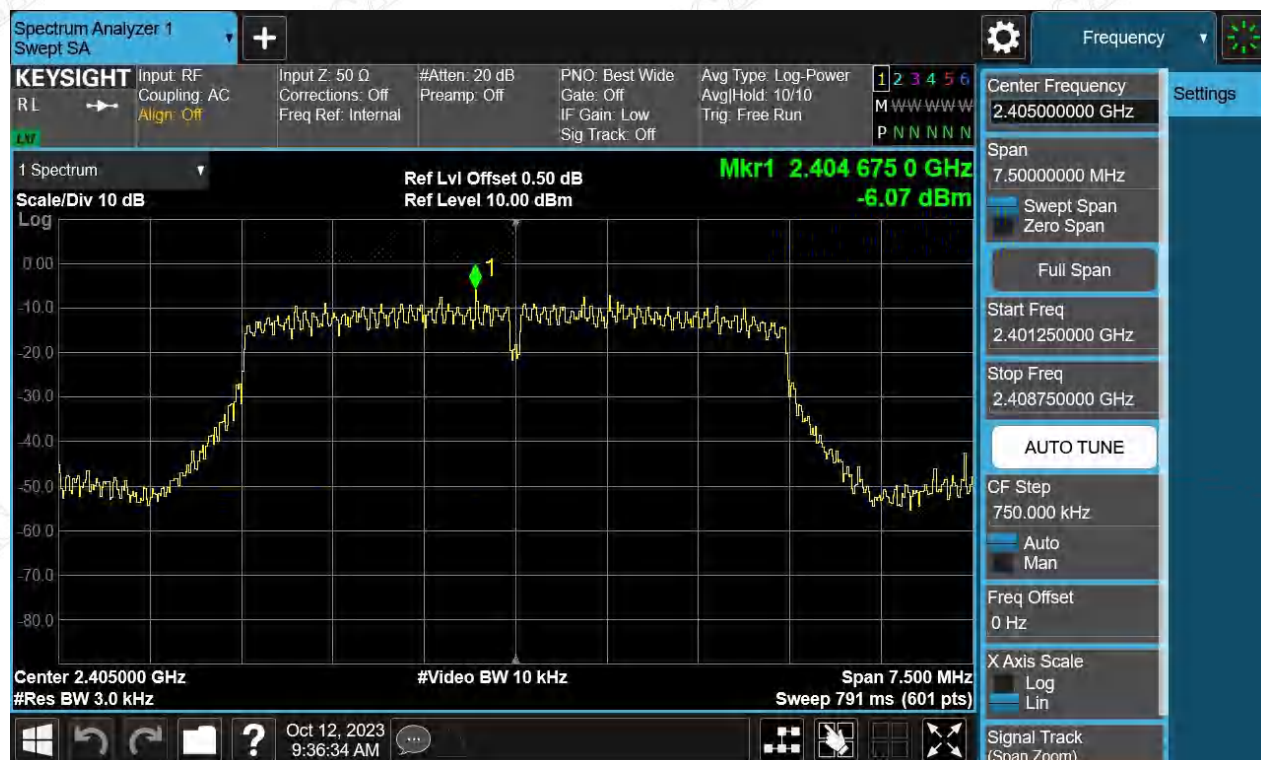


Figure 8: Power Spectral Density, Bandwidth 5MHz, 2437MHz





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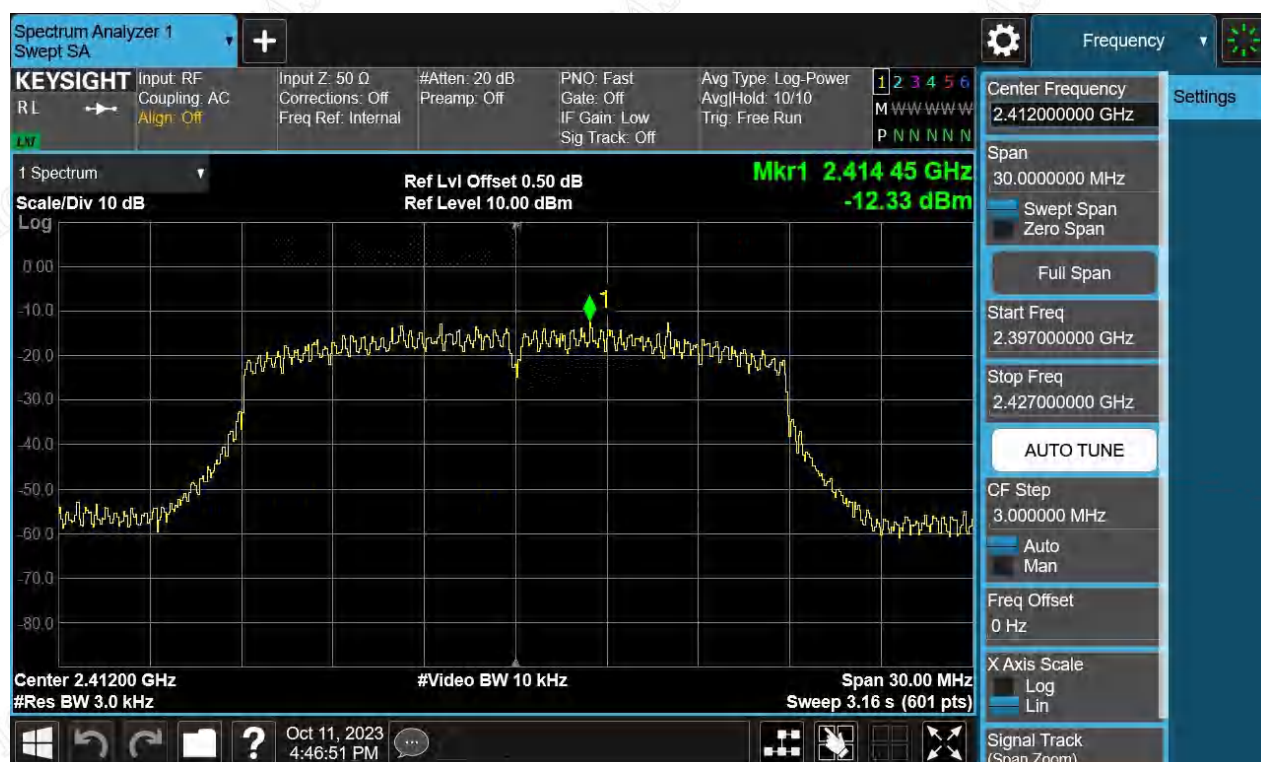
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Figure 9: Power Spectral Density, Bandwidth 5MHz, 2469MHz



Figure 10: Power Spectral Density, Bandwidth 20MHz, 2412MHz





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Figure 11: Power Spectral Density, Bandwidth 20MHz, 2437MHz

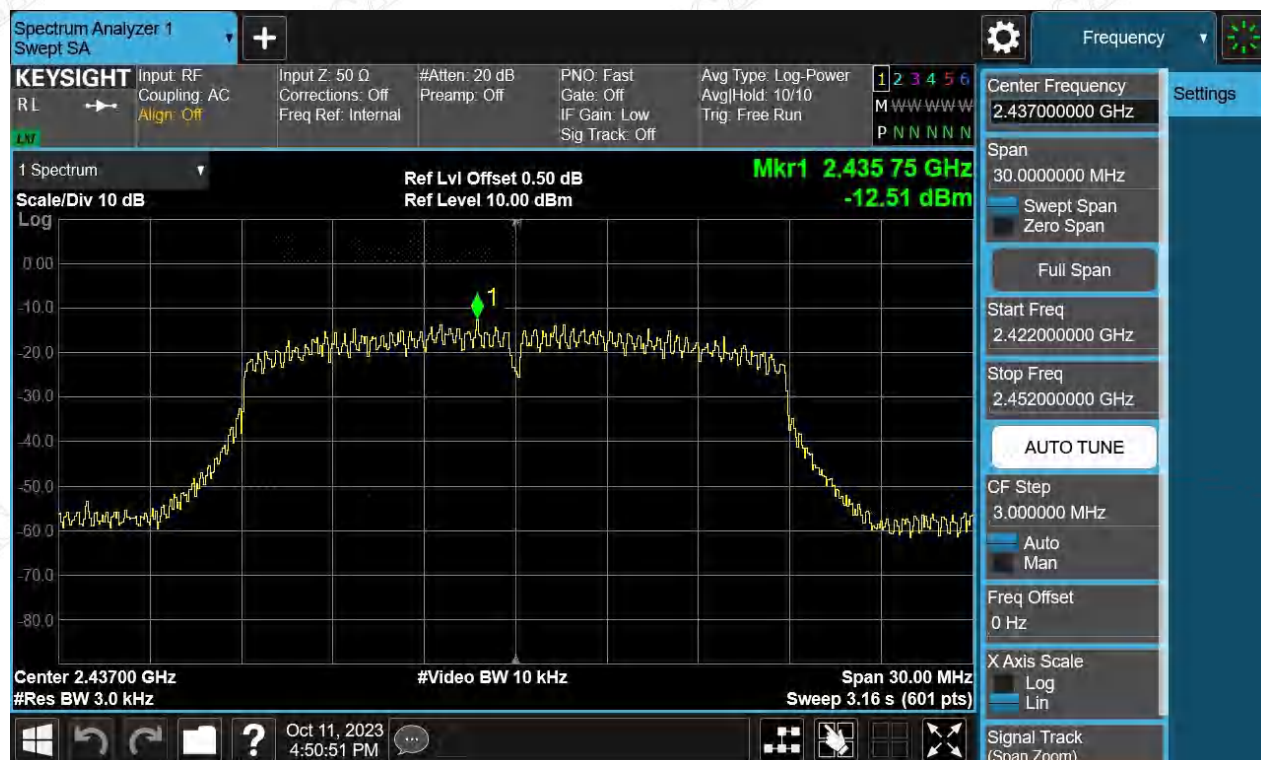
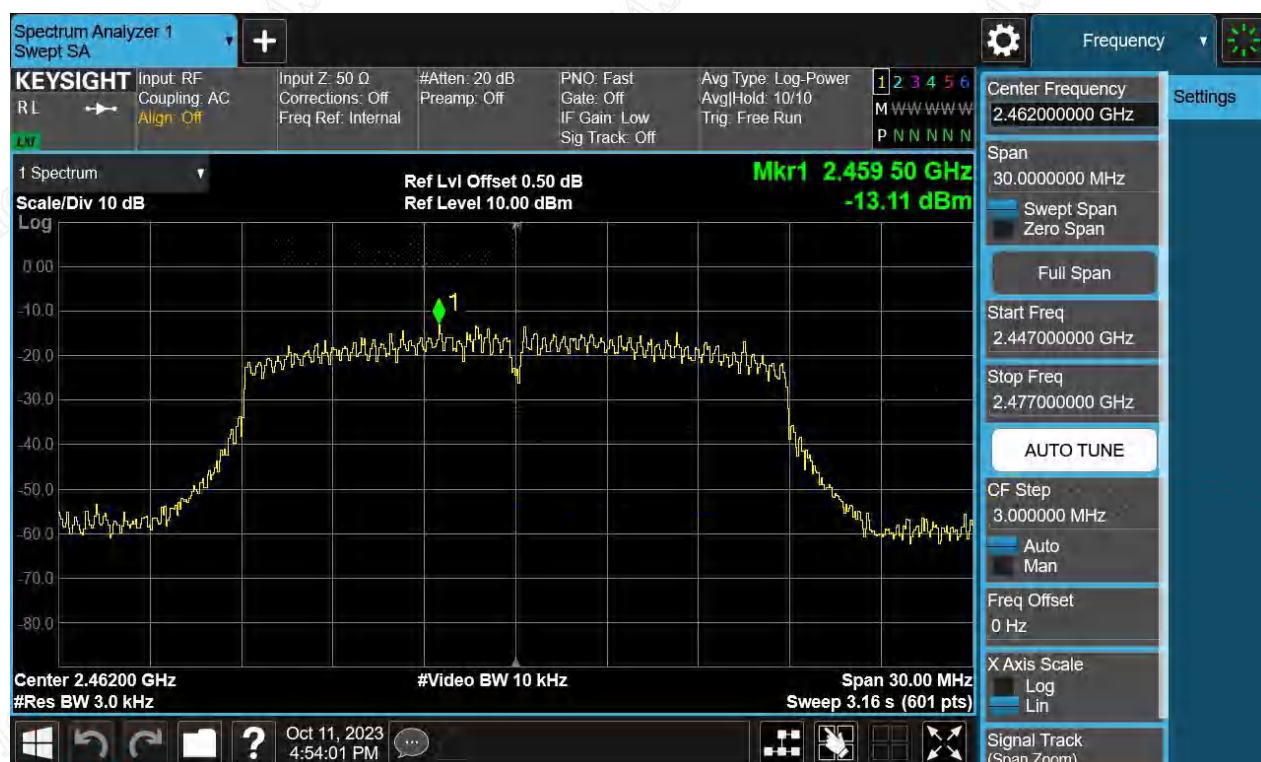


Figure 12: Power Spectral Density, Bandwidth 20MHz, 2462MHz





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4.1.5 Conducted Spurious Emission & Authorized-band band-edge

RESULT:

PASS

Test standard : FCC Part 15.247(d), 15.209
Requirement : ANSI C63.10-2013, Clause 11.11.1(a)
KDB 558074 D01 v05r02, Clause 8.5
Kind of test site : Shielded room

Test setup

Test Channel : Low/Middle/High for spurious, Low/High for Band Edge
Operation Mode : A.1.a
Ambient temperature : 23.5°C
Relative humidity : 50%

For details refer to following test plot.

Figure 13: Conducted Spurious Emission & Authorized-band band-edge, 2405MHz, Bandwidth 5MHz Carrier Level





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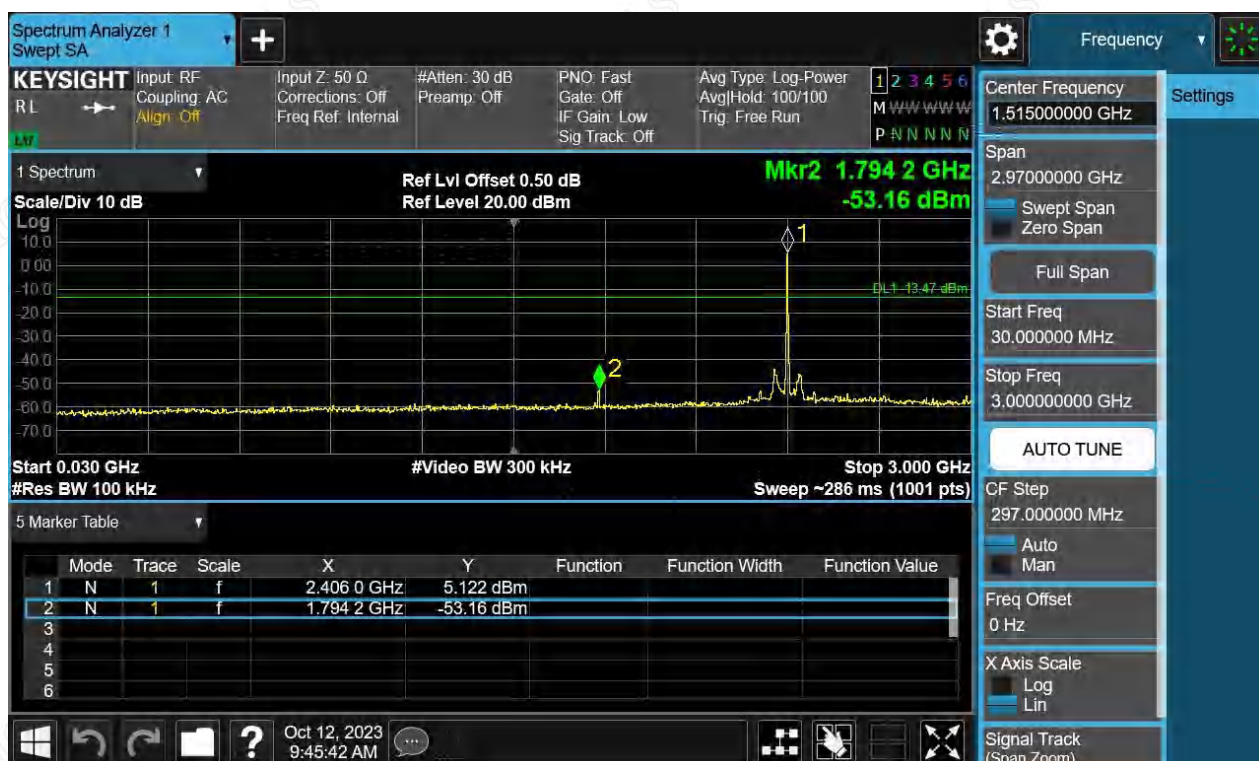
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Band Edge



Conducted spurious emissions 30MHz-25GHz





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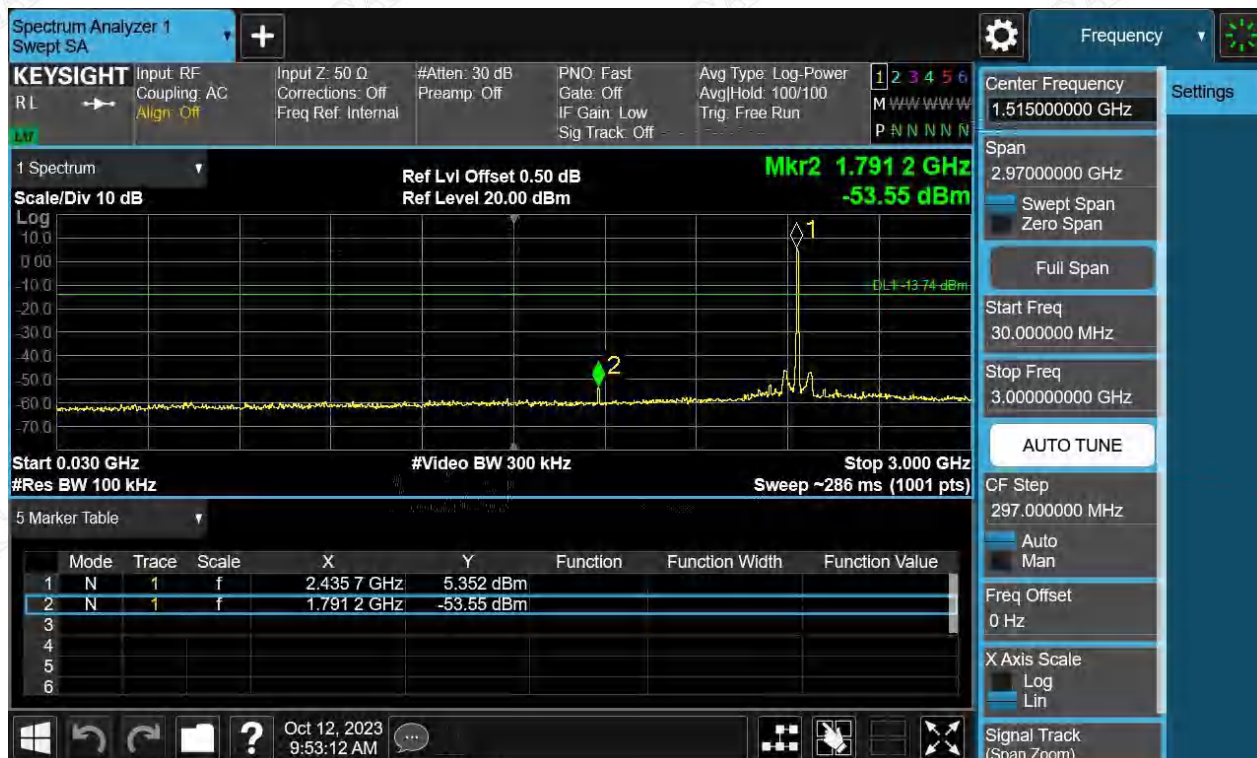
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Conducted spurious emissions 30MHz-25GHz





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Figure 15: Conducted Spurious Emission & Authorized-band band-edge, 2469MHz, Bandwidth 5MHz Carrier Level



Band Edge





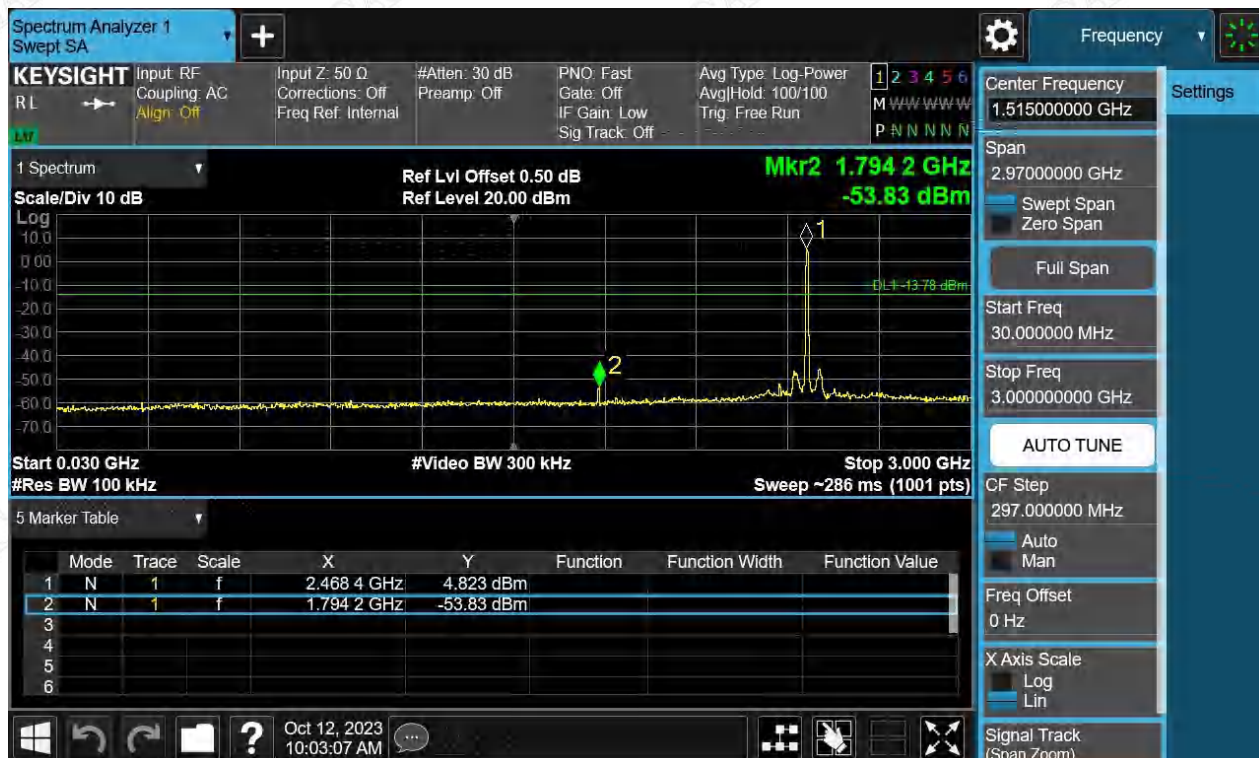
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Conducted spurious emissions 30MHz-25GHz





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Figure 16: Conducted Spurious Emission & Authorized-band band-edge, 2412MHz, Bandwidth 20MHz
Carrier Level



Band Edge





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Conducted spurious emissions 30MHz-25GHz





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Figure 17: Conducted Spurious Emission & Authorized-band band-edge, 2437MHz, Bandwidth 20MHz Carrier Level



Conducted spurious emissions 30MHz-25GHz





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Band Edge



Conducted spurious emissions 30MHz-25GHz





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4.1.6 Radiated Emission

RESULT:

PASS

Test standard : FCC Part 15.247(d), 15.205, 15.209
Requirement : ANSI C63.10-2013 clause 11.12,
KDB 558074 D01 v05r02, Clause 8.6
Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Test Channel : Low/Middle/High
Operation Mode : A
Ambient temperature : 25°C
Relative humidity : 51%

Notes

1. For 9 kHz ~ 30 MHz, the amplitude of spurious emissions that are attenuated by more than 20dB below the permissible. The value has no need to be reported.
2. The spurious above 18GHz is noise only and 20dB below the limit. The value has no need to be reported.
3. All test modes had been pre-tested, but only the Bandwidth 20MHz at Middle channel of below 1 GHz is the worst case and recorded in the report.
4. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement -X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.



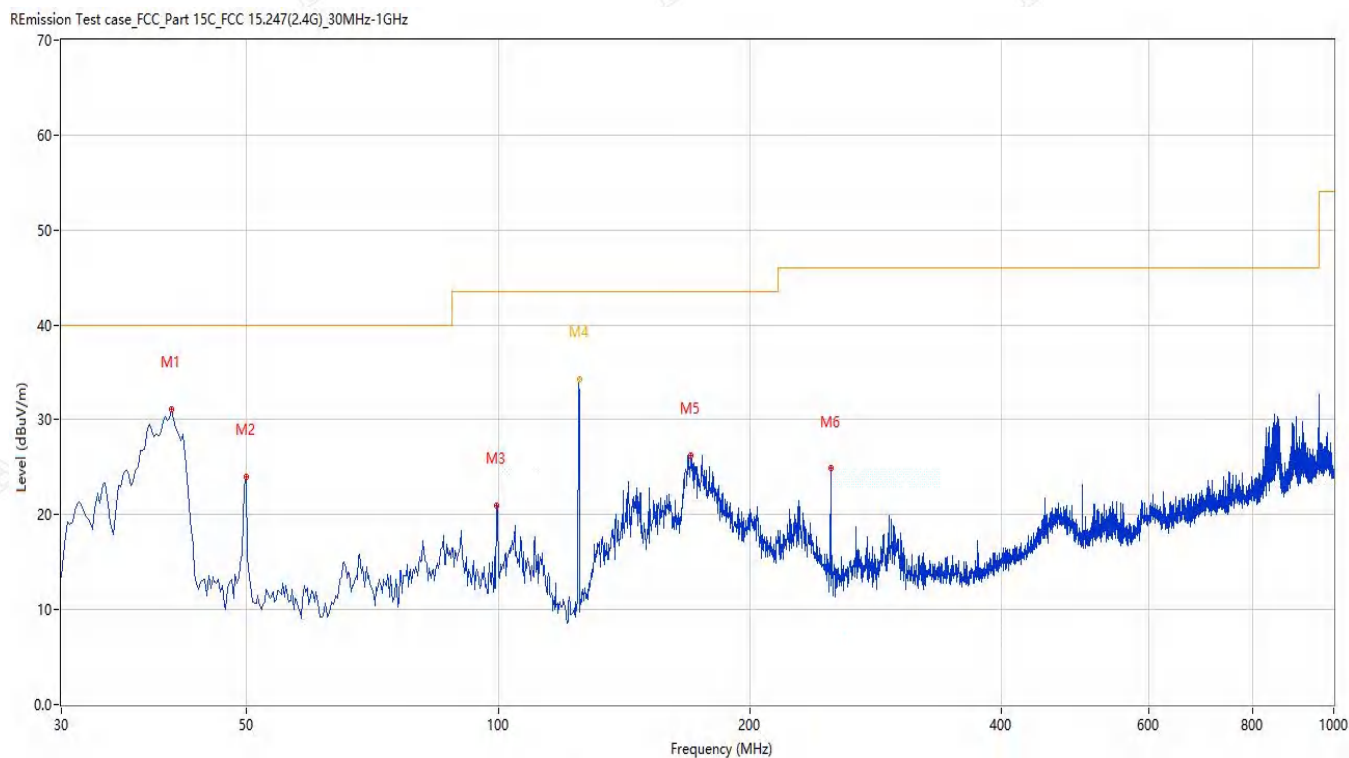
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Figure 19: Radiated Emission_30MHz-1GHz, Bandwidth 20MHz, 2437MHz
Horizontal Polarization



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	40.667	31.13	-25.16	40.0	8.87	Peak	81.40	100	Horizontal	Pass
2	49.880	24.02	-23.98	40.0	15.98	Peak	360.00	200	Horizontal	Pass
3	99.580	21.00	-25.71	43.5	22.50	Peak	321.60	200	Horizontal	Pass
4	125.001	34.88	-28.09	43.5	8.62	Peak	116.70	165	Horizontal	Pass
4*	125.001	34.25	-28.09	43.5	9.25	QP	116.70	165	Horizontal	Pass
5	170.130	26.27	-28.21	43.5	17.23	Peak	105.00	100	Horizontal	Pass
6	249.893	24.86	-23.52	46.0	21.14	Peak	85.50	100	Horizontal	Pass



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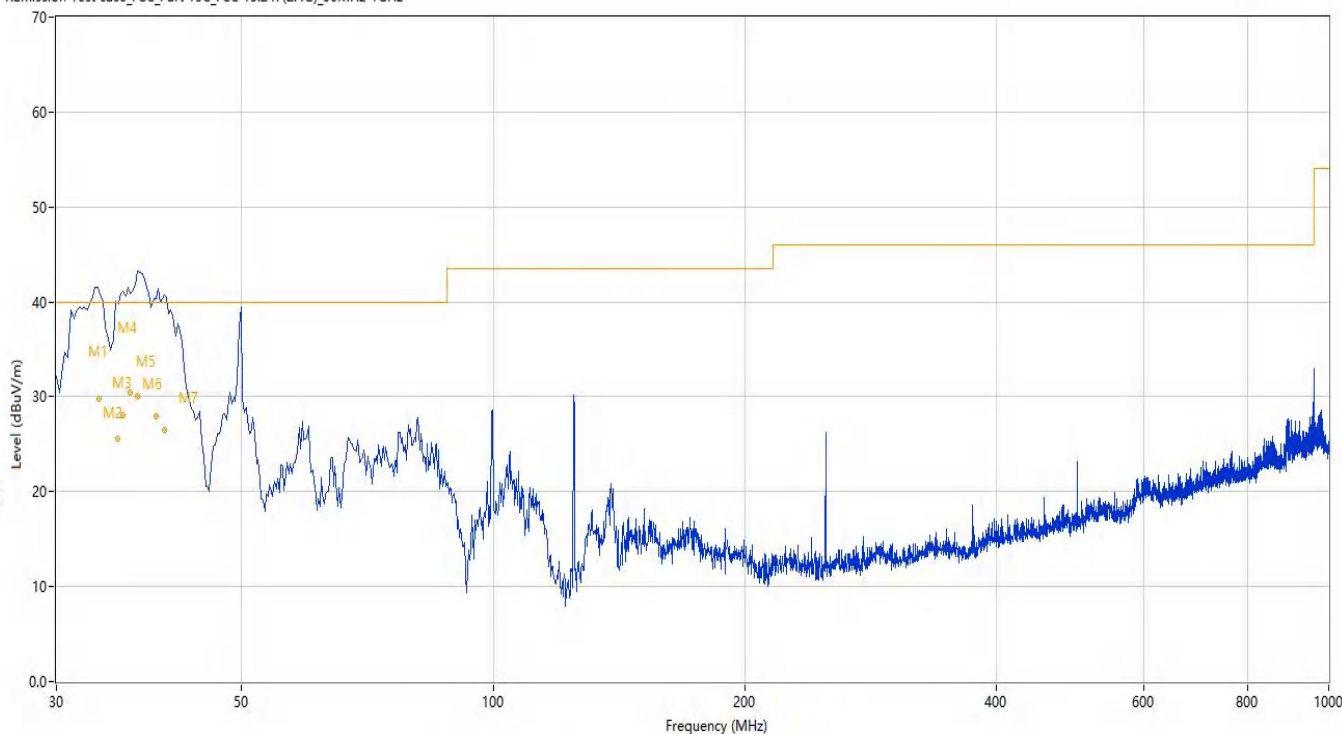
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	33.734	35.23	-27.48	40.0	4.77	Peak	260.30	101	Vertical	Pass
1*	33.734	29.85	-27.48	40.0	10.15	QP	260.30	101	Vertical	Pass
2	35.562	31.46	-26.99	40.0	8.54	Peak	98.30	108	Vertical	Pass
2*	35.562	25.52	-26.99	40.0	14.48	QP	98.30	108	Vertical	Pass
3	36.041	33.49	-26.78	40.0	6.51	Peak	98.30	107	Vertical	Pass
3*	36.041	28.08	-26.78	40.0	11.92	QP	98.30	107	Vertical	Pass
4	36.733	36.66	-26.63	40.0	3.34	Peak	345.00	100	Vertical	Pass
4*	36.733	30.42	-26.63	40.0	9.58	QP	345.00	100	Vertical	Pass
5	37.517	37.48	-26.29	40.0	2.52	Peak	360.00	115	Vertical	Pass
5*	37.517	30.04	-26.29	40.0	9.96	QP	360.00	115	Vertical	Pass
6	39.493	35.71	-25.49	40.0	4.29	Peak	2.10	108	Vertical	Pass
6*	39.493	27.89	-25.49	40.0	12.11	QP	2.10	108	Vertical	Pass
7	40.456	33.48	-25.23	40.0	6.52	Peak	101.00	101	Vertical	Pass
7*	40.456	26.51	-25.23	40.0	13.49	QP	101.00	101	Vertical	Pass



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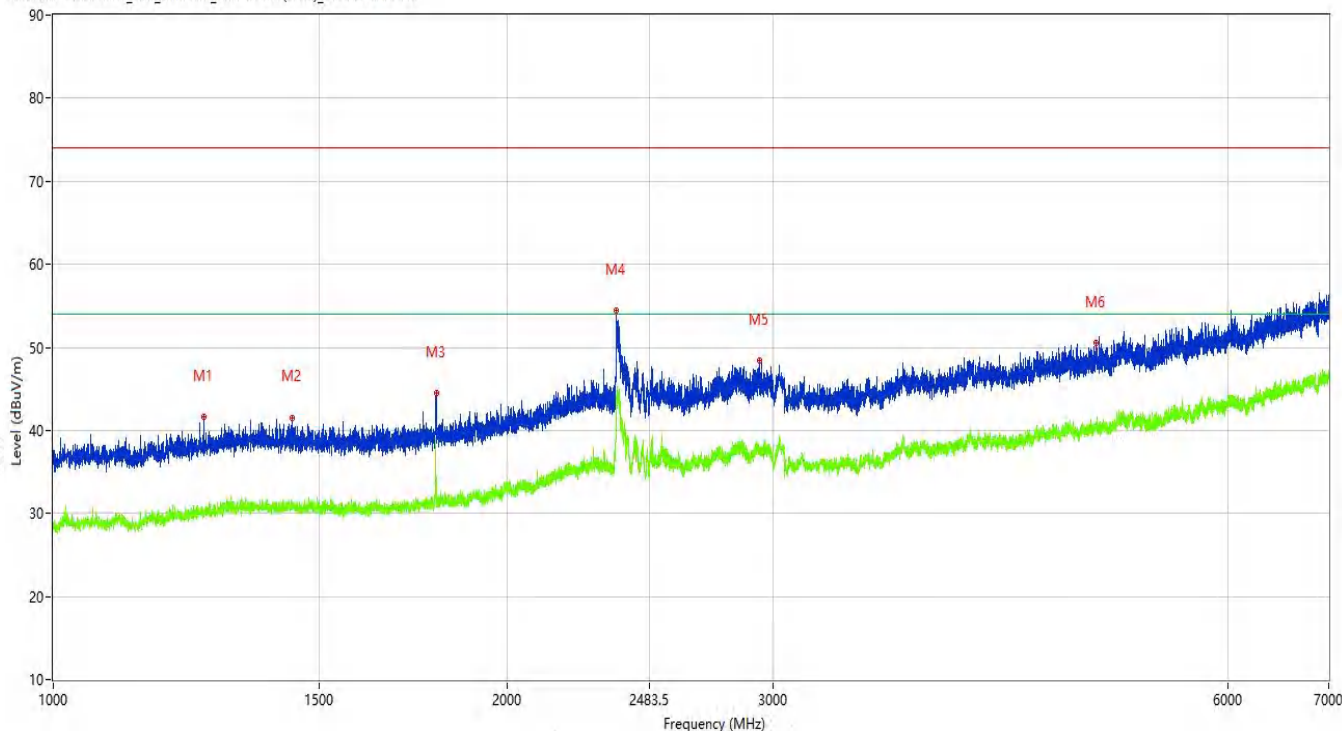
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Figure 20: Radiated Emission_1GHz-7GHz, Bandwidth 5MHz, 2405MHz

Horizontal Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz RSE



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1257.500	41.63	-13.34	74.0	32.37	Peak	285.60	100	Horizontal	Pass
1**	1257.500	30.03	-13.34	54.0	23.97	AV	285.60	100	Horizontal	Pass
2	1438.750	41.56	-12.68	74.0	32.44	Peak	357.70	100	Horizontal	Pass
2**	1438.750	30.45	-12.68	54.0	23.55	AV	357.70	100	Horizontal	Pass
3	1794.000	44.49	-12.43	74.0	29.51	Peak	110.00	100	Horizontal	Pass
3**	1794.000	33.99	-12.43	54.0	20.01	AV	110.00	100	Horizontal	Pass
4	2362.250	54.38	-8.05	74.0	19.62	Peak	186.80	100	Horizontal	Pass
4**	2362.250	43.83	-8.05	54.0	10.17	AV	186.80	100	Horizontal	Pass
5	2937.750	48.36	-4.42	74.0	25.64	Peak	262.40	100	Horizontal	Pass
5**	2937.750	37.15	-4.42	54.0	16.85	AV	262.40	100	Horizontal	Pass
6	4908.500	50.53	-0.78	74.0	23.47	Peak	288.70	100	Horizontal	Pass
6**	4908.500	40.42	-0.78	54.0	13.58	AV	288.70	100	Horizontal	Pass



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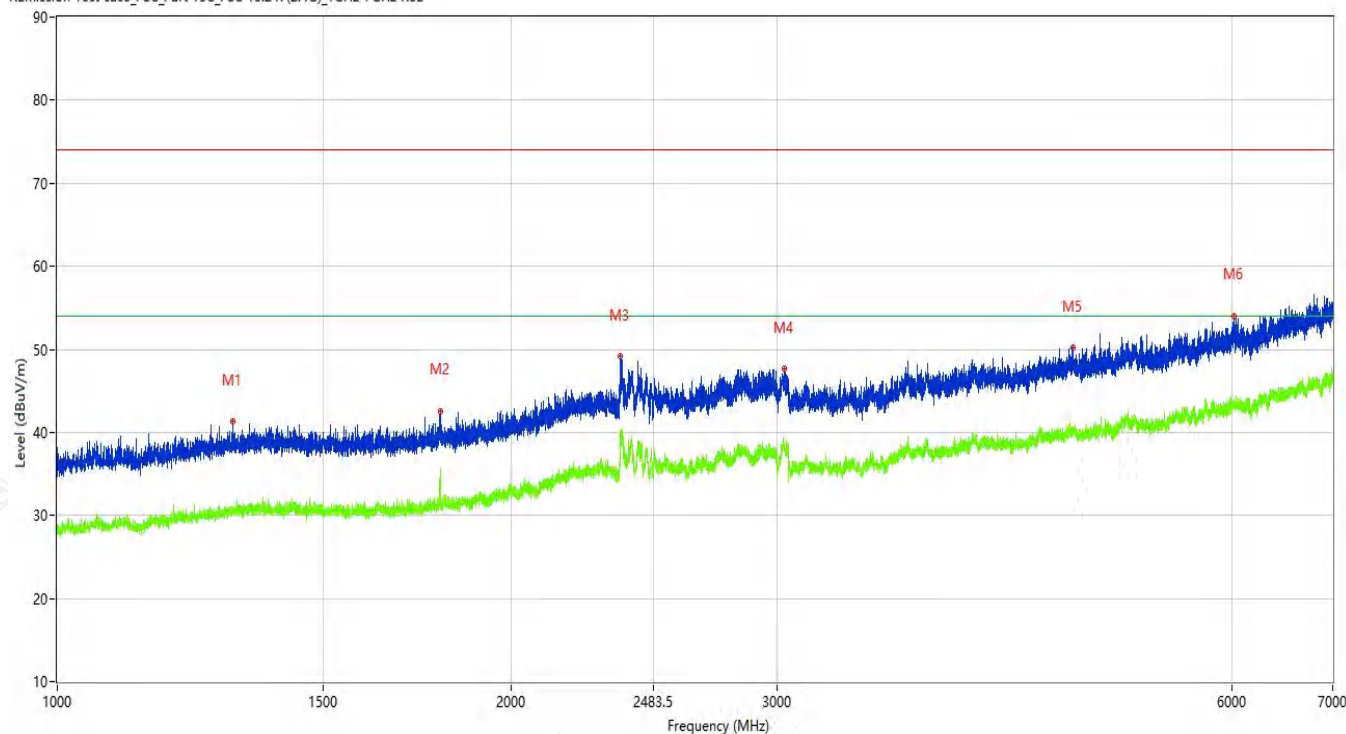
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz RSE



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1307.000	41.29	-12.78	74.0	32.71	Peak	296.20	100	Vertical	Pass
1**	1307.000	30.28	-12.78	54.0	23.72	AV	296.20	100	Vertical	Pass
2	1793.500	42.60	-12.42	74.0	31.40	Peak	76.60	100	Vertical	Pass
2**	1793.500	35.58	-12.42	54.0	18.42	AV	76.60	100	Vertical	Pass
3	2361.000	49.19	-8.07	74.0	24.81	Peak	54.60	100	Vertical	Pass
3**	2361.000	38.55	-8.07	54.0	15.45	AV	54.60	100	Vertical	Pass
4	3030.500	47.70	-1.31	74.0	26.30	Peak	8.30	100	Vertical	Pass
4**	3030.500	38.21	-1.31	54.0	15.79	AV	8.30	100	Vertical	Pass
5	4714.000	50.22	-0.86	74.0	23.78	Peak	289.00	100	Vertical	Pass
5**	4714.000	40.43	-0.86	54.0	13.57	AV	289.00	100	Vertical	Pass
6	6020.500	54.06	1.91	74.0	19.94	Peak	289.00	100	Vertical	Pass
6**	6020.500	43.67	1.91	54.0	10.33	AV	289.00	100	Vertical	Pass



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Figure 21: Radiated Emission_7GHz-18GHz, Bandwidth 5MHz, 2405MHz

Horizontal Polarization

REmission Test case_FCC_Part 15C_FCC 15.247_7GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	8595.000	36.81	3.44	74.0	37.19	Peak	210.70	100	Horizontal	Pass
1**	8595.000	25.61	3.44	54.0	28.39	AV	210.70	100	Horizontal	Pass
2	9351.250	39.33	6.56	74.0	34.67	Peak	59.00	100	Horizontal	Pass
2**	9351.250	28.53	6.56	54.0	25.47	AV	59.00	100	Horizontal	Pass
3	11169.000	44.55	10.14	74.0	29.45	Peak	360.00	100	Horizontal	Pass
3**	11169.000	33.71	10.14	54.0	20.29	AV	360.00	100	Horizontal	Pass
4	12370.750	45.38	11.62	74.0	28.62	Peak	160.00	100	Horizontal	Pass
4**	12370.750	34.68	11.62	54.0	19.32	AV	160.00	100	Horizontal	Pass
5	14188.500	50.73	18.65	74.0	23.27	Peak	327.90	100	Horizontal	Pass
5**	14188.500	41.64	18.65	54.0	12.36	AV	327.90	100	Horizontal	Pass
6	14763.250	51.50	17.97	74.0	22.50	Peak	59.00	100	Horizontal	Pass
6**	14763.250	41.09	17.97	54.0	12.91	AV	59.00	100	Horizontal	Pass



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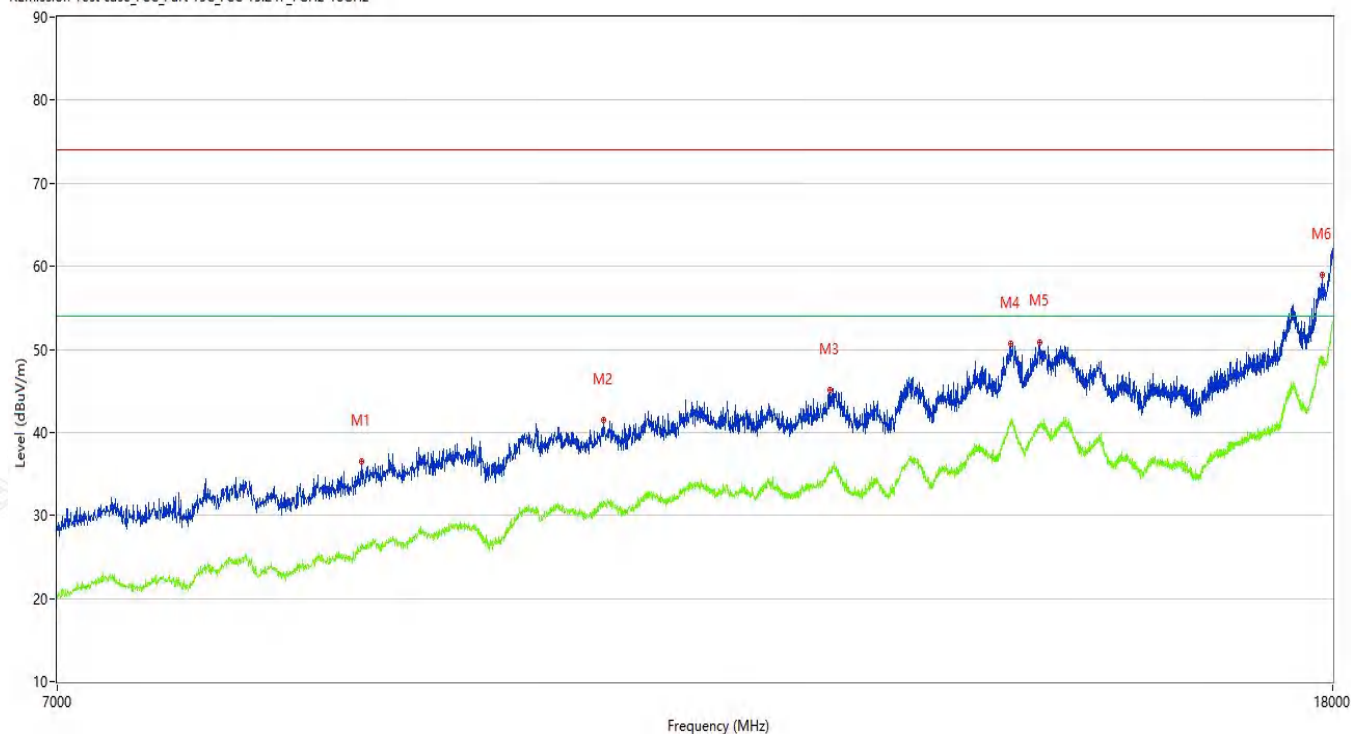
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247_7GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	8771.000	36.46	3.96	74.0	37.54	Peak	274.00	100	Vertical	Pass
1**	8771.000	25.93	3.96	54.0	28.07	AV	274.00	100	Vertical	Pass
2	10489.750	41.43	9.12	74.0	32.57	Peak	68.20	100	Vertical	Pass
2**	10489.750	31.71	9.12	54.0	22.29	AV	68.20	100	Vertical	Pass
3	12401.000	45.14	11.79	74.0	28.86	Peak	360.00	100	Vertical	Pass
3**	12401.000	35.07	11.79	54.0	18.93	AV	360.00	100	Vertical	Pass
4	14180.250	50.61	18.41	74.0	23.39	Peak	189.80	100	Vertical	Pass
4**	14180.250	40.77	18.41	54.0	13.23	AV	189.80	100	Vertical	Pass
5	14485.500	50.90	16.95	74.0	23.10	Peak	68.20	100	Vertical	Pass
5**	14485.500	40.99	16.95	54.0	13.01	AV	68.20	100	Vertical	Pass
6	17865.251	59.01	23.71	74.0	14.99	Peak	325.20	100	Vertical	Pass
6**	17865.251	48.98	23.71	54.0	5.02	AV	325.20	100	Vertical	Pass



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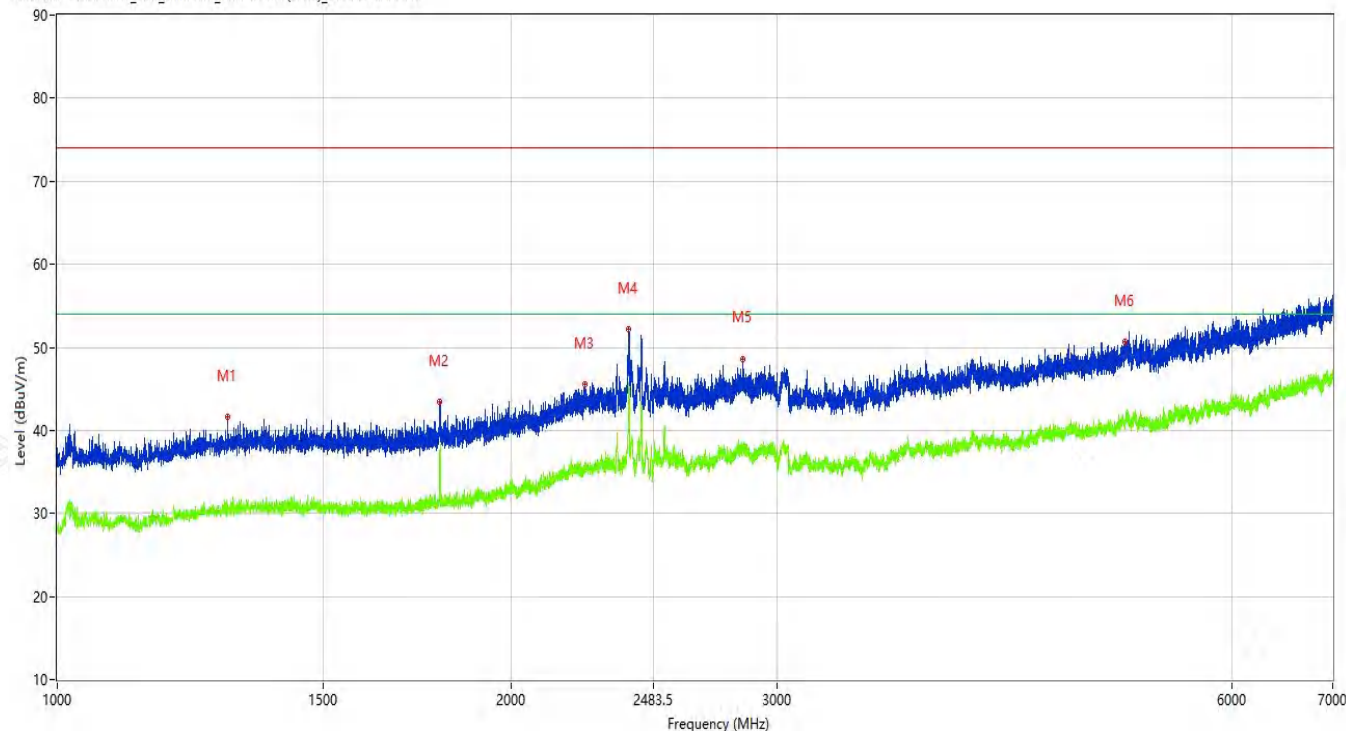
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Figure 22: Radiated Emission_1GHz-7GHz, Bandwidth 5MHz, 2437MHz

Horizontal Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz RSE



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1297.250	41.62	-13.03	74.0	32.38	Peak	308.80	100	Horizontal	Pass
1**	1297.250	30.31	-13.03	54.0	23.69	AV	308.80	100	Horizontal	Pass
2	1792.750	43.48	-12.41	74.0	30.52	Peak	339.50	100	Horizontal	Pass
2**	1792.750	37.55	-12.41	54.0	16.45	AV	339.50	100	Horizontal	Pass
3	2235.000	45.60	-8.19	74.0	28.40	Peak	0.00	100	Horizontal	Pass
3**	2235.000	35.95	-8.19	54.0	18.05	AV	0.00	100	Horizontal	Pass
4	2392.250	52.11	-4.45	74.0	21.89	Peak	182.80	100	Horizontal	Pass
4**	2392.250	45.79	-4.45	54.0	8.21	AV	182.80	100	Horizontal	Pass
5	2847.000	48.62	-4.28	74.0	25.38	Peak	258.50	100	Horizontal	Pass
5**	2847.000	37.64	-4.28	54.0	16.36	AV	258.50	100	Horizontal	Pass
6	5102.000	50.67	0.37	74.0	23.33	Peak	173.90	100	Horizontal	Pass
6**	5102.000	40.70	0.37	54.0	13.30	AV	173.90	100	Horizontal	Pass



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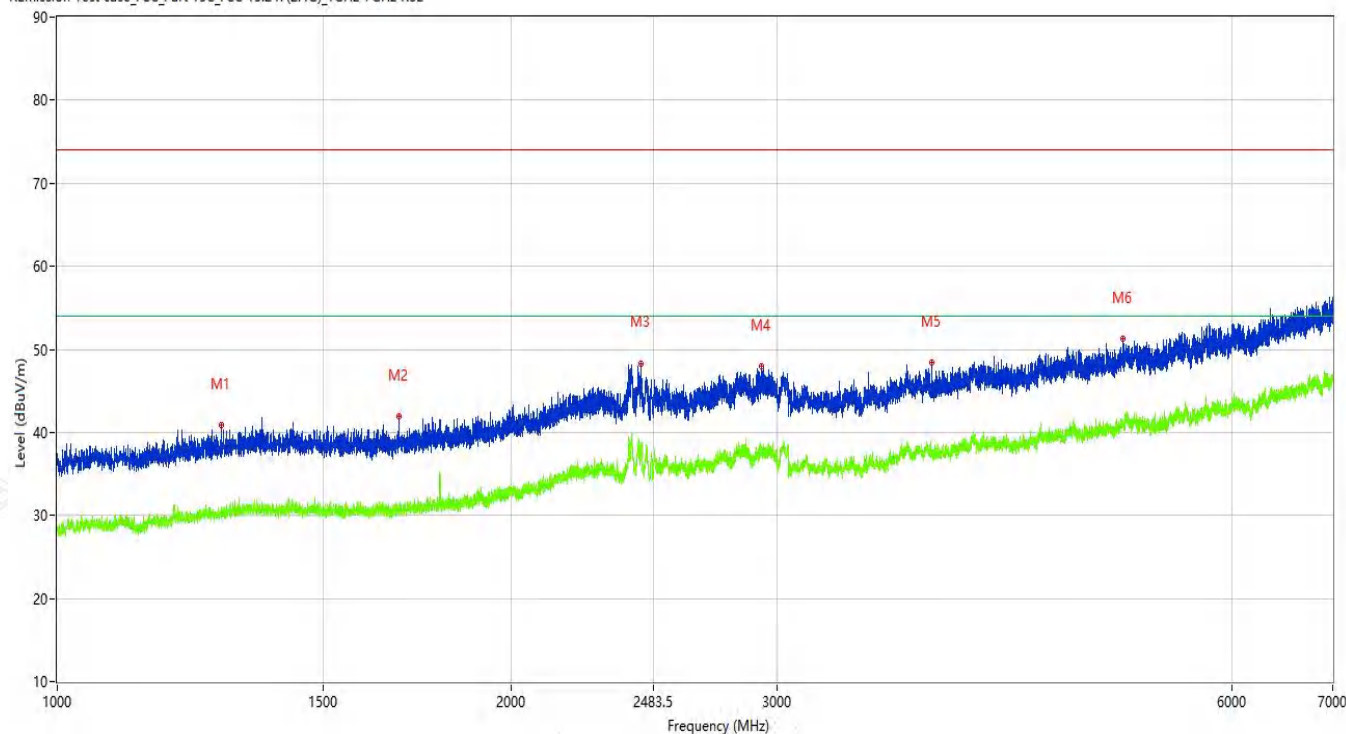
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz RSE



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1285.250	40.86	-13.00	74.0	33.14	Peak	12.10	100	Vertical	Pass
1**	1285.250	30.96	-13.00	54.0	23.04	AV	12.10	100	Vertical	Pass
2	1683.500	41.94	-13.04	74.0	32.06	Peak	86.20	100	Vertical	Pass
2**	1683.500	31.20	-13.04	54.0	22.80	AV	86.20	100	Vertical	Pass
3	2438.000	48.33	-5.43	74.0	25.67	Peak	86.20	100	Vertical	Pass
3**	2438.000	38.84	-5.43	54.0	15.16	AV	86.20	100	Vertical	Pass
4	2930.250	47.99	-4.65	74.0	26.01	Peak	258.90	100	Vertical	Pass
4**	2930.250	37.23	-4.65	54.0	16.77	AV	258.90	100	Vertical	Pass
5	3798.000	48.45	-3.06	74.0	25.55	Peak	161.20	100	Vertical	Pass
5**	3798.000	37.45	-3.06	54.0	16.55	AV	161.20	100	Vertical	Pass
6	5084.000	51.30	0.28	74.0	22.70	Peak	0.00	100	Vertical	Pass
6**	5084.000	40.57	0.28	54.0	13.43	AV	0.00	100	Vertical	Pass



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Figure 23: Radiated Emission_7GHz-18GHz, Bandwidth 5MHz, 2437MHz

Horizontal Polarization

REmission Test case_FCC_Part 15C_FCC 15.247_7GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	7957.000	35.38	2.75	74.0	38.62	Peak	240.20	100	Horizontal	Pass
1**	7957.000	24.31	2.75	54.0	29.69	AV	240.20	100	Horizontal	Pass
2	9087.250	38.85	5.36	74.0	35.15	Peak	199.20	100	Horizontal	Pass
2**	9087.250	27.01	5.36	54.0	26.99	AV	199.20	100	Horizontal	Pass
3	9884.750	42.02	8.51	74.0	31.98	Peak	325.40	100	Horizontal	Pass
3**	9884.750	30.27	8.51	54.0	23.73	AV	325.40	100	Horizontal	Pass
4	11683.250	44.38	10.44	74.0	29.62	Peak	19.80	100	Horizontal	Pass
4**	11683.250	32.61	10.44	54.0	21.39	AV	19.80	100	Horizontal	Pass
5	13198.500	46.55	13.20	74.0	27.45	Peak	251.10	100	Horizontal	Pass
5**	13198.500	36.42	13.20	54.0	17.58	AV	251.10	100	Horizontal	Pass
6	14185.750	52.52	18.59	74.0	21.48	Peak	325.40	100	Horizontal	Pass
6**	14185.750	41.14	18.59	54.0	12.86	AV	325.40	100	Horizontal	Pass



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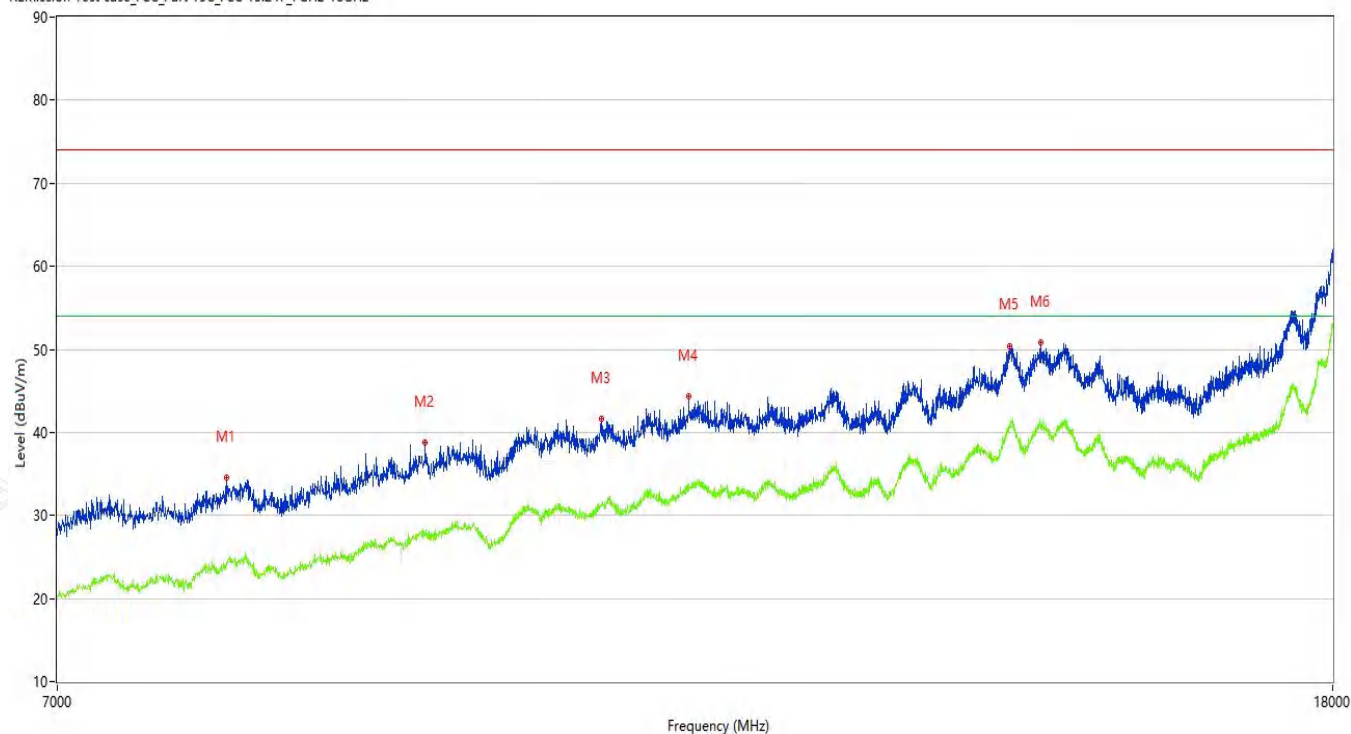
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247_7GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	7937.750	34.50	2.56	74.0	39.50	Peak	26.90	100	Vertical	Pass
1**	7937.750	24.24	2.56	54.0	29.76	AV	26.90	100	Vertical	Pass
2	9191.750	38.77	5.99	74.0	35.23	Peak	26.90	100	Vertical	Pass
2**	9191.750	27.56	5.99	54.0	26.44	AV	26.90	100	Vertical	Pass
3	10473.250	41.61	8.96	74.0	32.39	Peak	214.90	100	Vertical	Pass
3**	10473.250	31.38	8.96	54.0	22.62	AV	214.90	100	Vertical	Pass
4	11171.750	44.28	10.17	74.0	29.72	Peak	214.90	100	Vertical	Pass
4**	11171.750	33.74	10.17	54.0	20.26	AV	214.90	100	Vertical	Pass
5	14169.250	50.34	18.05	74.0	23.66	Peak	67.40	100	Vertical	Pass
5**	14169.250	40.84	18.05	54.0	13.16	AV	67.40	100	Vertical	Pass
6	14499.250	50.76	16.82	74.0	23.24	Peak	326.70	100	Vertical	Pass
6**	14499.250	40.37	16.82	54.0	13.63	AV	326.70	100	Vertical	Pass



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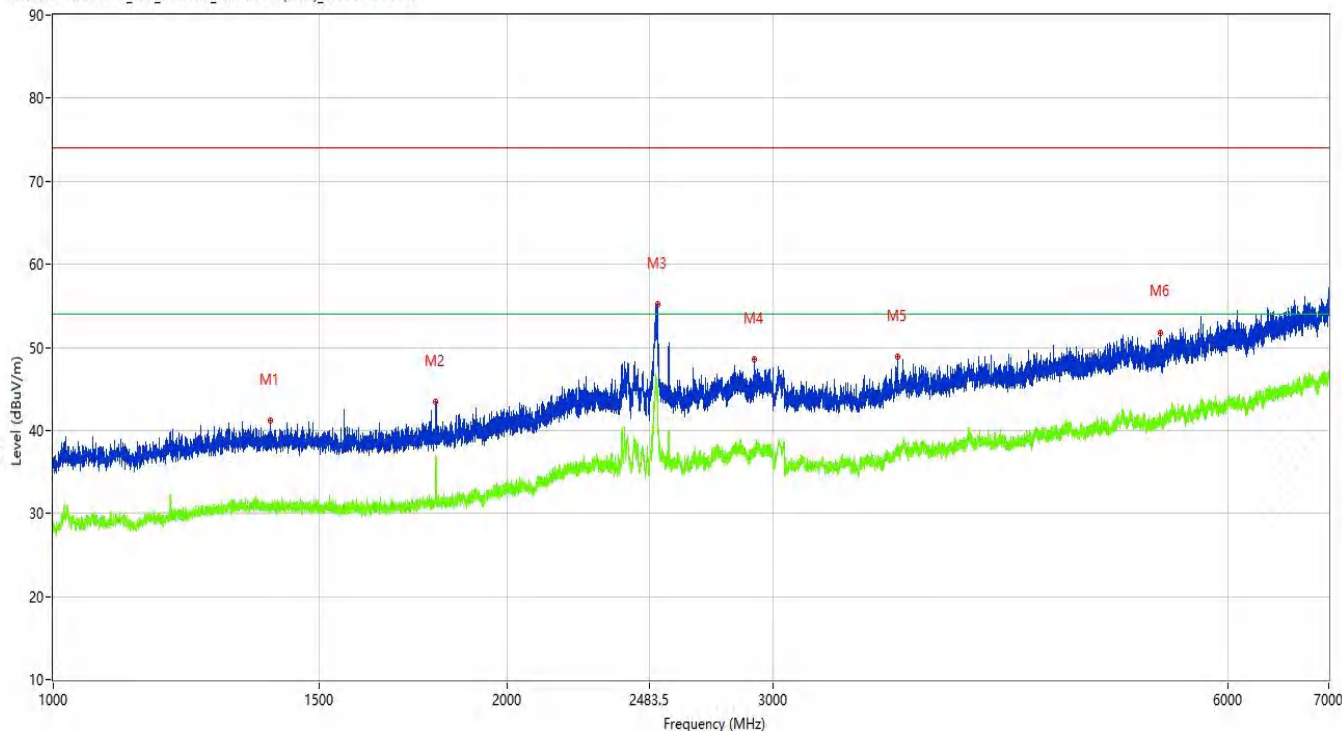
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Figure 24: Radiated Emission_1GHz-7GHz, Bandwidth 5MHz, 2469MHz

Horizontal Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz RSE



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1392.250	41.12	-12.75	74.0	32.88	Peak	209.20	100	Horizontal	Pass
1**	1392.250	30.98	-12.75	54.0	23.02	AV	209.20	100	Horizontal	Pass
2	1792.500	43.40	-12.41	74.0	30.60	Peak	114.60	100	Horizontal	Pass
2**	1792.500	34.02	-12.41	54.0	19.98	AV	114.60	100	Horizontal	Pass
3	2513.500	55.14	-6.82	74.0	18.86	Peak	345.30	100	Horizontal	Pass
3**	2513.500	45.25	-6.82	54.0	8.75	AV	345.30	100	Horizontal	Pass
4	2912.000	48.55	-4.48	74.0	25.45	Peak	0.00	100	Horizontal	Pass
4**	2912.000	37.39	-4.48	54.0	16.61	AV	0.00	100	Horizontal	Pass
5	3624.000	48.86	-2.24	74.0	25.14	Peak	295.40	100	Horizontal	Pass
5**	3624.000	37.79	-2.24	54.0	16.21	AV	295.40	100	Horizontal	Pass
6	5411.500	51.79	-0.36	74.0	22.21	Peak	359.10	100	Horizontal	Pass
6**	5411.500	41.60	-0.36	54.0	12.40	AV	359.10	100	Horizontal	Pass



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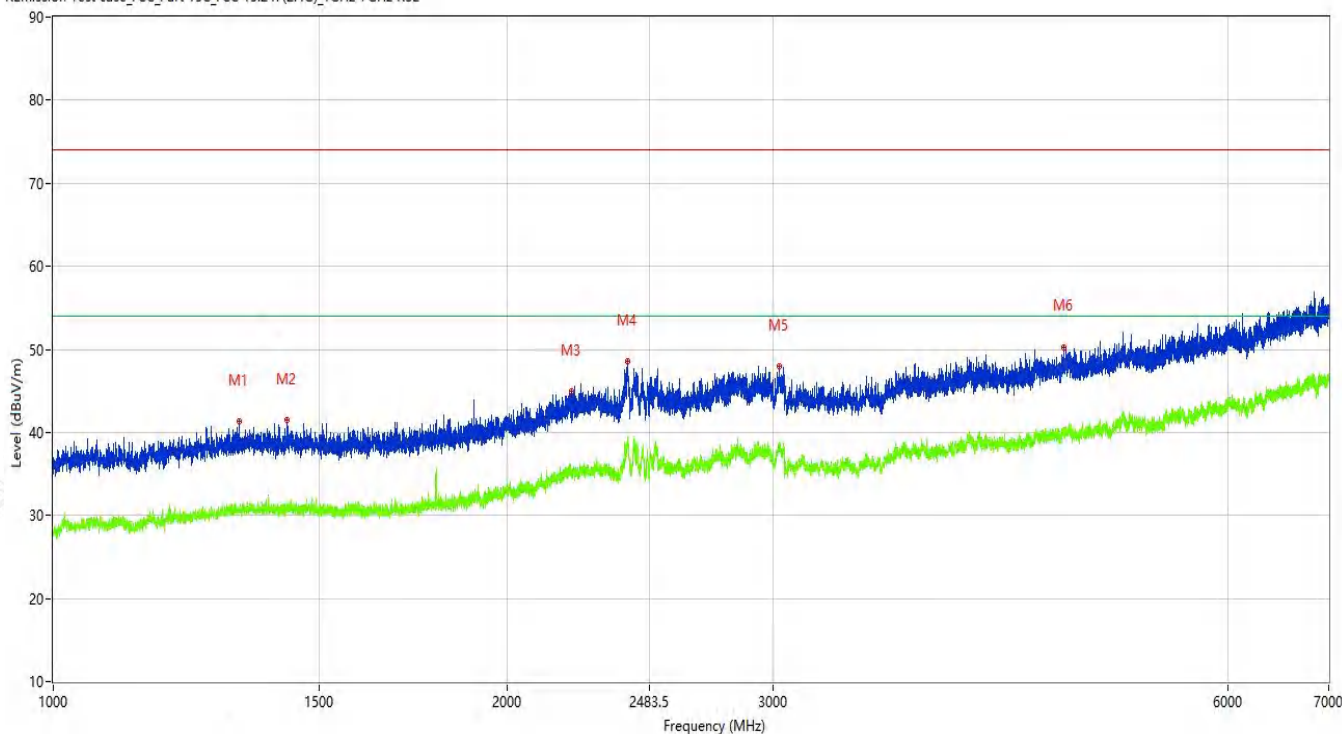
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz RSE



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1328.250	41.31	-12.95	74.0	32.69	Peak	67.50	100	Vertical	Pass
1**	1328.250	30.75	-12.95	54.0	23.25	AV	67.50	100	Vertical	Pass
2	1427.750	41.48	-12.59	74.0	32.52	Peak	67.50	100	Vertical	Pass
2**	1427.750	31.30	-12.59	54.0	22.70	AV	67.50	100	Vertical	Pass
3	2203.750	44.89	-8.06	74.0	29.11	Peak	359.60	100	Vertical	Pass
3**	2203.750	34.61	-8.06	54.0	19.39	AV	359.60	100	Vertical	Pass
4	2400.250	48.57	-4.67	74.0	25.43	Peak	118.40	100	Vertical	Pass
4**	2400.250	38.92	-4.67	54.0	15.08	AV	118.40	100	Vertical	Pass
5	3025.500	47.98	-2.26	74.0	26.02	Peak	4.10	100	Vertical	Pass
5**	3025.500	38.31	-2.26	54.0	15.69	AV	4.10	100	Vertical	Pass
6	4674.500	50.29	-0.92	74.0	23.71	Peak	210.40	100	Vertical	Pass
6**	4674.500	40.63	-0.92	54.0	13.37	AV	210.40	100	Vertical	Pass



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Figure 25: Radiated Emission_7GHz-18GHz, Bandwidth 5MHz, 2469MHz

Horizontal Polarization

REmission Test case_FCC_Part 15C_FCC 15.247_7GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	7990.000	35.06	3.03	74.0	38.94	Peak	33.80	100	Horizontal	Pass
1**	7990.000	24.69	3.03	54.0	29.31	AV	33.80	100	Horizontal	Pass
2	9150.500	37.55	6.32	74.0	36.45	Peak	200.00	100	Horizontal	Pass
2**	9150.500	27.96	6.32	54.0	26.04	AV	200.00	100	Horizontal	Pass
3	10522.750	41.22	9.43	74.0	32.78	Peak	251.90	100	Horizontal	Pass
3**	10522.750	31.26	9.43	54.0	22.74	AV	251.90	100	Horizontal	Pass
4	12455.999	45.08	11.90	74.0	28.92	Peak	115.10	100	Horizontal	Pass
4**	12455.999	35.87	11.90	54.0	18.13	AV	115.10	100	Horizontal	Pass
5	14188.500	51.55	18.65	74.0	22.45	Peak	64.40	100	Horizontal	Pass
5**	14188.500	41.75	18.65	54.0	12.25	AV	64.40	100	Horizontal	Pass
6	17441.749	55.50	20.75	74.0	18.50	Peak	262.30	100	Horizontal	Pass
6**	17441.749	44.81	20.75	54.0	9.19	AV	262.30	100	Horizontal	Pass



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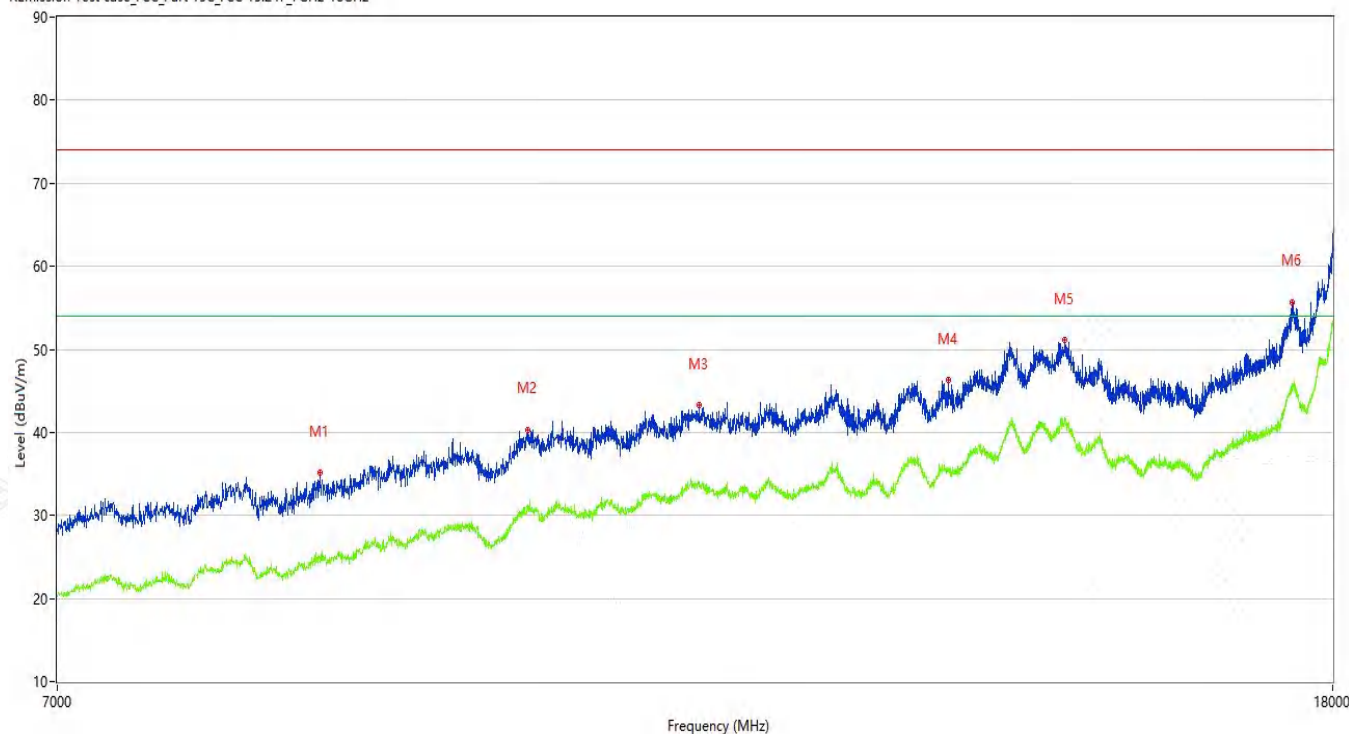
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247_7GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	8501.500	35.13	2.91	74.0	38.87	Peak	173.00	100	Vertical	Pass
1**	8501.500	24.97	2.91	54.0	29.03	AV	173.00	100	Vertical	Pass
2	9920.500	40.35	8.96	74.0	33.65	Peak	0.00	100	Vertical	Pass
2**	9920.500	31.17	8.96	54.0	22.83	AV	0.00	100	Vertical	Pass
3	11257.000	43.30	11.14	74.0	30.70	Peak	268.80	100	Vertical	Pass
3**	11257.000	34.03	11.14	54.0	19.97	AV	268.80	100	Vertical	Pass
4	13539.500	46.29	13.87	74.0	27.71	Peak	173.00	100	Vertical	Pass
4**	13539.500	35.40	13.87	54.0	18.60	AV	173.00	100	Vertical	Pass
5	14757.750	51.13	17.91	74.0	22.87	Peak	142.10	100	Vertical	Pass
5**	14757.750	41.24	17.91	54.0	12.76	AV	142.10	100	Vertical	Pass
6	17474.750	55.59	21.50	74.0	18.41	Peak	0.00	100	Vertical	Pass
6**	17474.750	45.14	21.50	54.0	8.86	AV	0.00	100	Vertical	Pass



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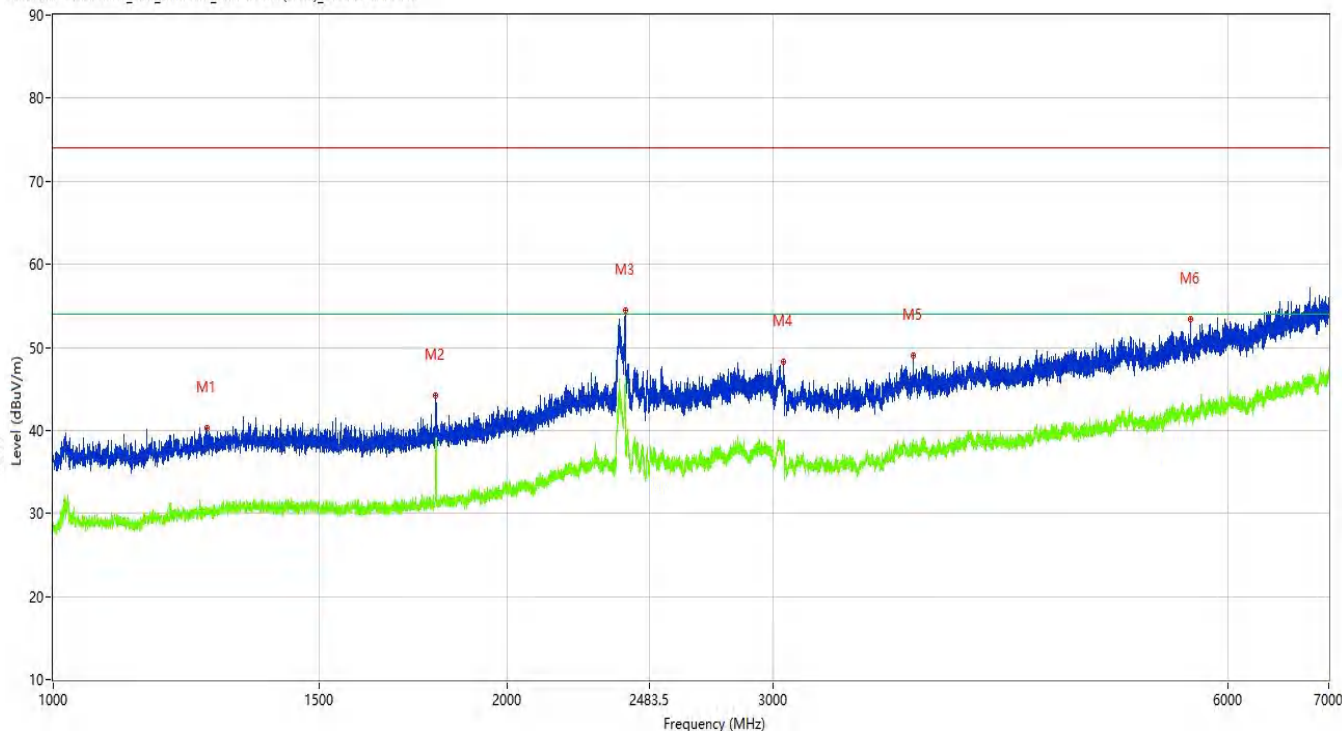
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Figure 26: Radiated Emission_1GHz-7GHz, Bandwidth 20MHz, 2412MHz

Horizontal Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz RSE



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1263.750	40.30	-13.25	74.0	33.70	Peak	32.80	100	Horizontal	Pass
1**	1263.750	30.41	-13.25	54.0	23.59	AV	32.80	100	Horizontal	Pass
2	1792.750	44.17	-12.41	74.0	29.83	Peak	109.20	100	Horizontal	Pass
2**	1792.750	38.01	-12.41	54.0	15.99	AV	109.20	100	Horizontal	Pass
3	2392.500	54.48	-4.46	74.0	19.52	Peak	282.10	100	Horizontal	Pass
3**	2392.500	46.50	-4.46	54.0	7.50	AV	282.10	100	Horizontal	Pass
4	3047.500	48.29	1.90	74.0	25.71	Peak	105.60	100	Horizontal	Pass
4**	3047.500	38.40	1.90	54.0	15.60	AV	105.60	100	Horizontal	Pass
5	3711.500	48.99	-2.72	74.0	25.01	Peak	258.30	100	Horizontal	Pass
5**	3711.500	37.89	-2.72	54.0	16.11	AV	258.30	100	Horizontal	Pass
6	5666.000	53.43	0.54	74.0	20.57	Peak	11.20	100	Horizontal	Pass
6**	5666.000	42.77	0.54	54.0	11.23	AV	11.20	100	Horizontal	Pass



TEST REPORT

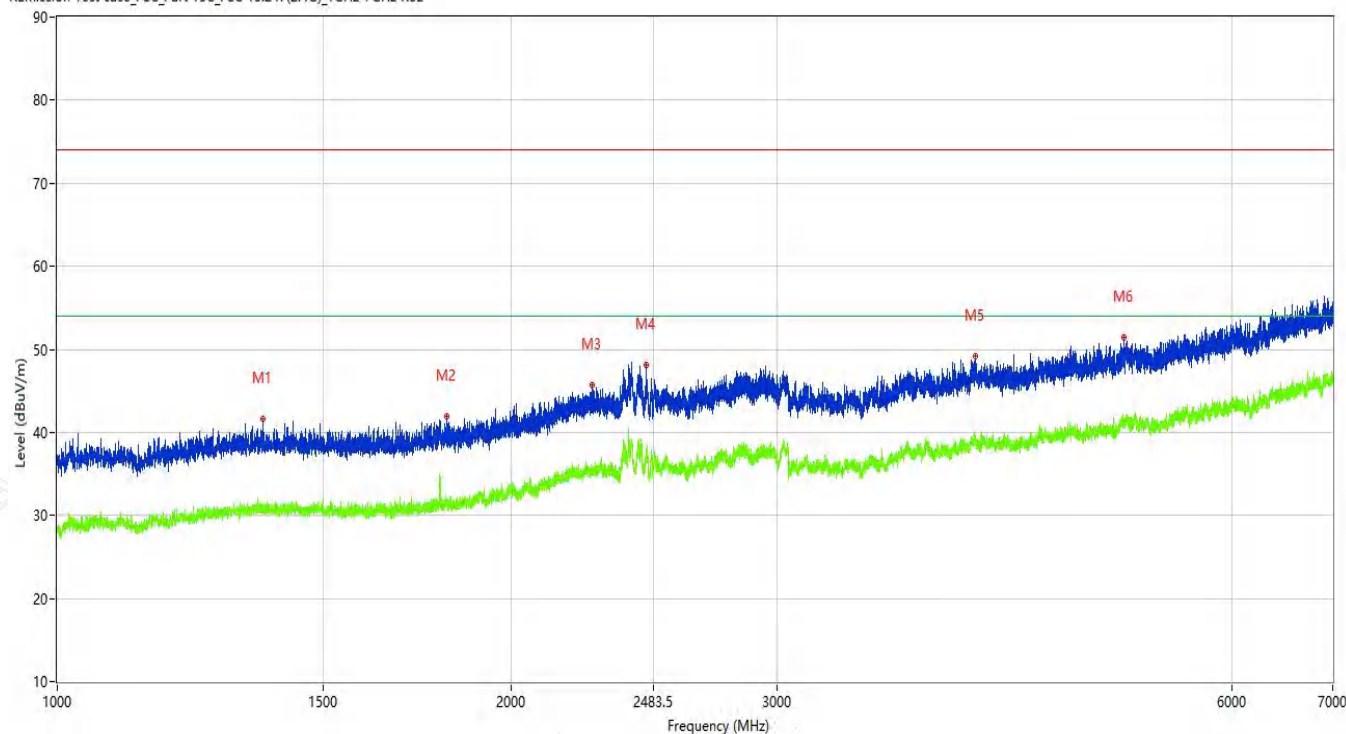
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz RSE



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1367.500	41.61	-12.69	74.0	32.39	Peak	83.90	100	Vertical	Pass
1**	1367.500	31.18	-12.69	54.0	22.82	AV	83.90	100	Vertical	Pass
2	1811.250	41.87	-12.28	74.0	32.13	Peak	274.20	100	Vertical	Pass
2**	1811.250	31.64	-12.28	54.0	22.36	AV	274.20	100	Vertical	Pass
3	2262.500	45.75	-7.26	74.0	28.25	Peak	201.50	100	Vertical	Pass
3**	2262.500	35.26	-7.26	54.0	18.74	AV	201.50	100	Vertical	Pass
4	2456.250	48.15	-5.78	74.0	25.85	Peak	243.30	100	Vertical	Pass
4**	2456.250	37.63	-5.78	54.0	16.37	AV	243.30	100	Vertical	Pass
5	4061.500	49.10	-1.36	74.0	24.90	Peak	40.90	100	Vertical	Pass
5**	4061.500	39.34	-1.36	54.0	14.66	AV	40.90	100	Vertical	Pass
6	5089.000	51.47	0.30	74.0	22.53	Peak	352.00	100	Vertical	Pass
6**	5089.000	41.57	0.30	54.0	12.43	AV	352.00	100	Vertical	Pass



TEST REPORT

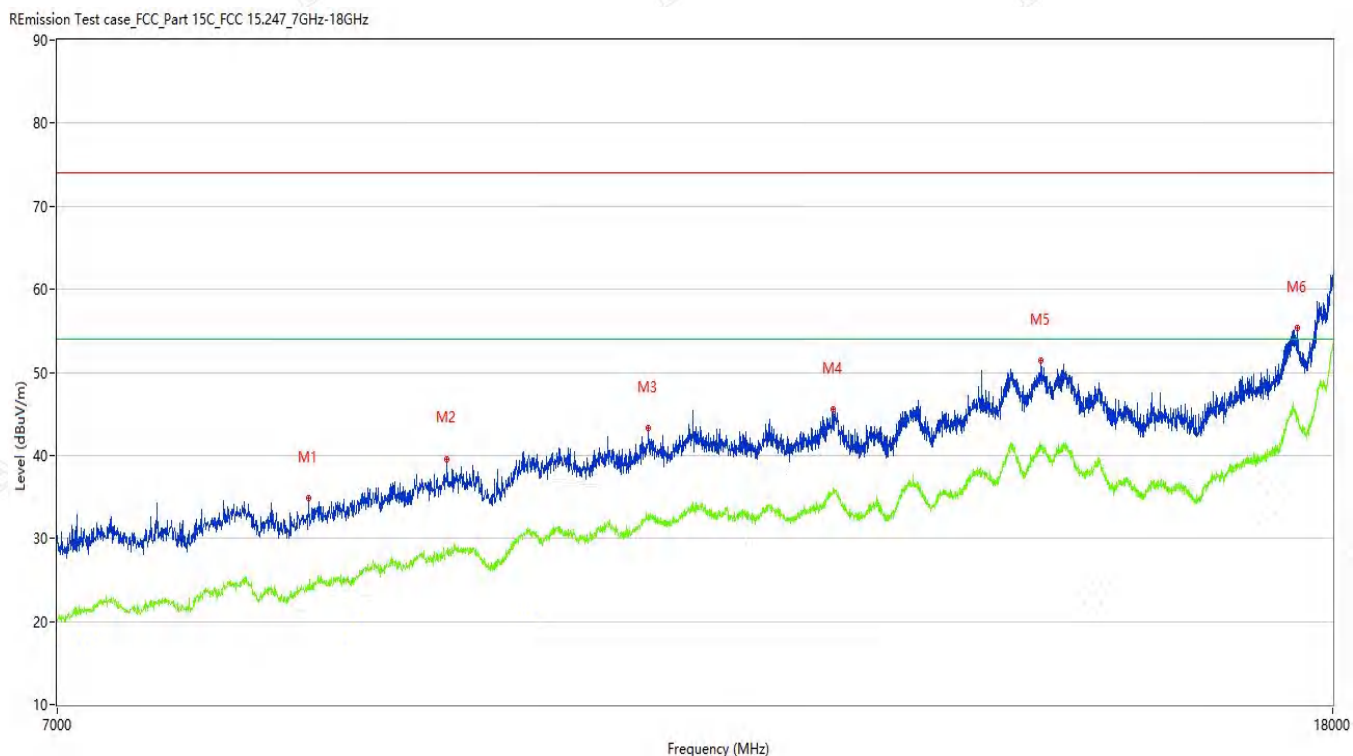
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Figure 27: Radiated Emission_7GHz-18GHz, Bandwidth 20MHz, 2412MHz

Horizontal Polarization



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	8430.000	34.81	2.79	74.0	39.19	Peak	347.80	100	Horizontal	Pass
1**	8430.000	24.17	2.79	54.0	29.83	AV	347.80	100	Horizontal	Pass
2	9343.000	39.58	6.51	74.0	34.42	Peak	241.80	100	Horizontal	Pass
2**	9343.000	28.47	6.51	54.0	25.53	AV	241.80	100	Horizontal	Pass
3	10844.500	43.28	10.18	74.0	30.72	Peak	74.00	100	Horizontal	Pass
3**	10844.500	32.71	10.18	54.0	21.29	AV	74.00	100	Horizontal	Pass
4	12436.750	45.54	11.85	74.0	28.46	Peak	74.00	100	Horizontal	Pass
4**	12436.750	36.11	11.85	54.0	17.89	AV	74.00	100	Horizontal	Pass
5	14496.500	51.37	16.84	74.0	22.63	Peak	74.00	100	Horizontal	Pass
5**	14496.500	41.25	16.84	54.0	12.75	AV	74.00	100	Horizontal	Pass
6	17529.750	55.34	20.87	74.0	18.66	Peak	241.80	100	Horizontal	Pass
6**	17529.750	44.53	20.87	54.0	9.47	AV	241.80	100	Horizontal	Pass



TEST REPORT

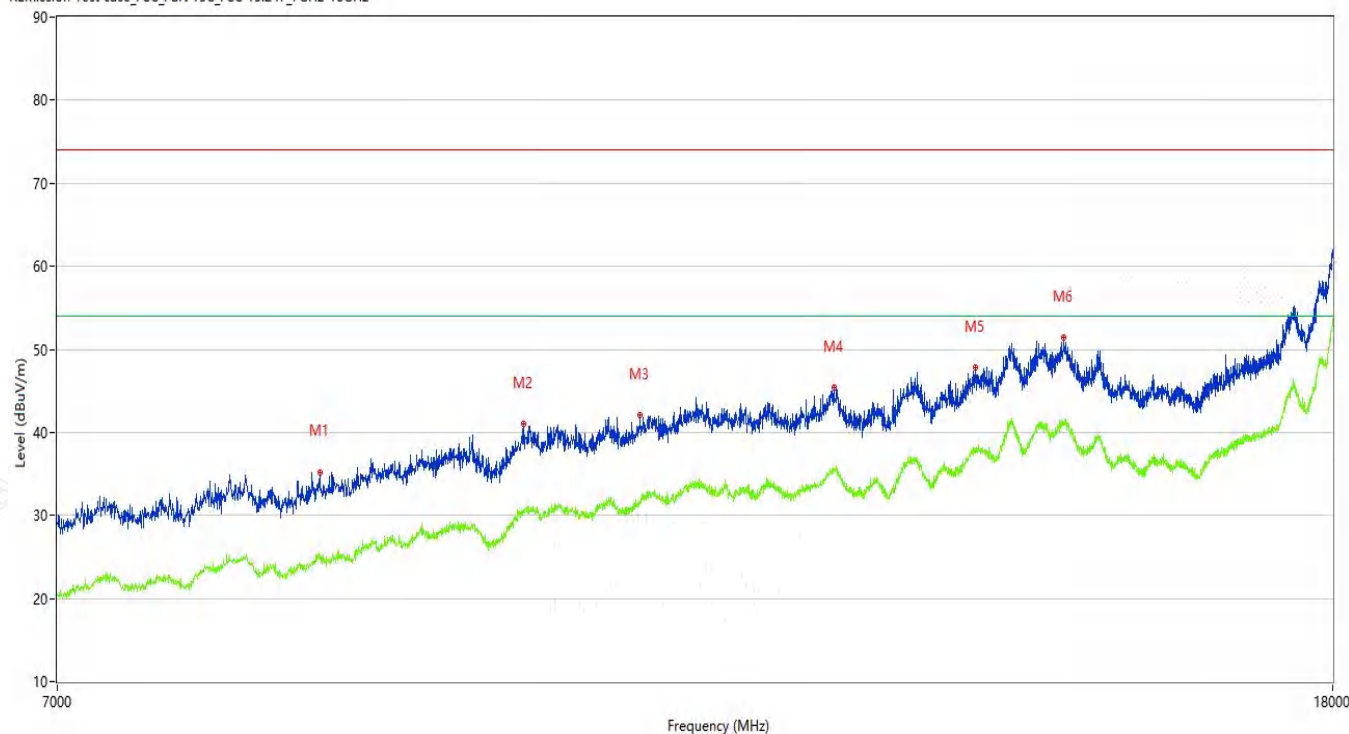
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247_7GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	8501.500	35.21	2.91	74.0	38.79	Peak	171.40	100	Vertical	Pass
1**	8501.500	24.78	2.91	54.0	29.22	AV	171.40	100	Vertical	Pass
2	9884.750	41.07	8.51	74.0	32.93	Peak	343.70	100	Vertical	Pass
2**	9884.750	30.41	8.51	54.0	23.59	AV	343.70	100	Vertical	Pass
3	10778.500	42.13	9.36	74.0	31.87	Peak	310.50	100	Vertical	Pass
3**	10778.500	31.71	9.36	54.0	22.29	AV	310.50	100	Vertical	Pass
4	12442.250	45.40	11.86	74.0	28.60	Peak	77.00	100	Vertical	Pass
4**	12442.250	35.42	11.86	54.0	18.58	AV	77.00	100	Vertical	Pass
5	13814.500	47.82	14.00	74.0	26.18	Peak	257.20	100	Vertical	Pass
5**	13814.500	37.69	14.00	54.0	16.31	AV	257.20	100	Vertical	Pass
6	14746.750	51.38	17.78	74.0	22.62	Peak	343.70	100	Vertical	Pass
6**	14746.750	41.26	17.78	54.0	12.74	AV	343.70	100	Vertical	Pass



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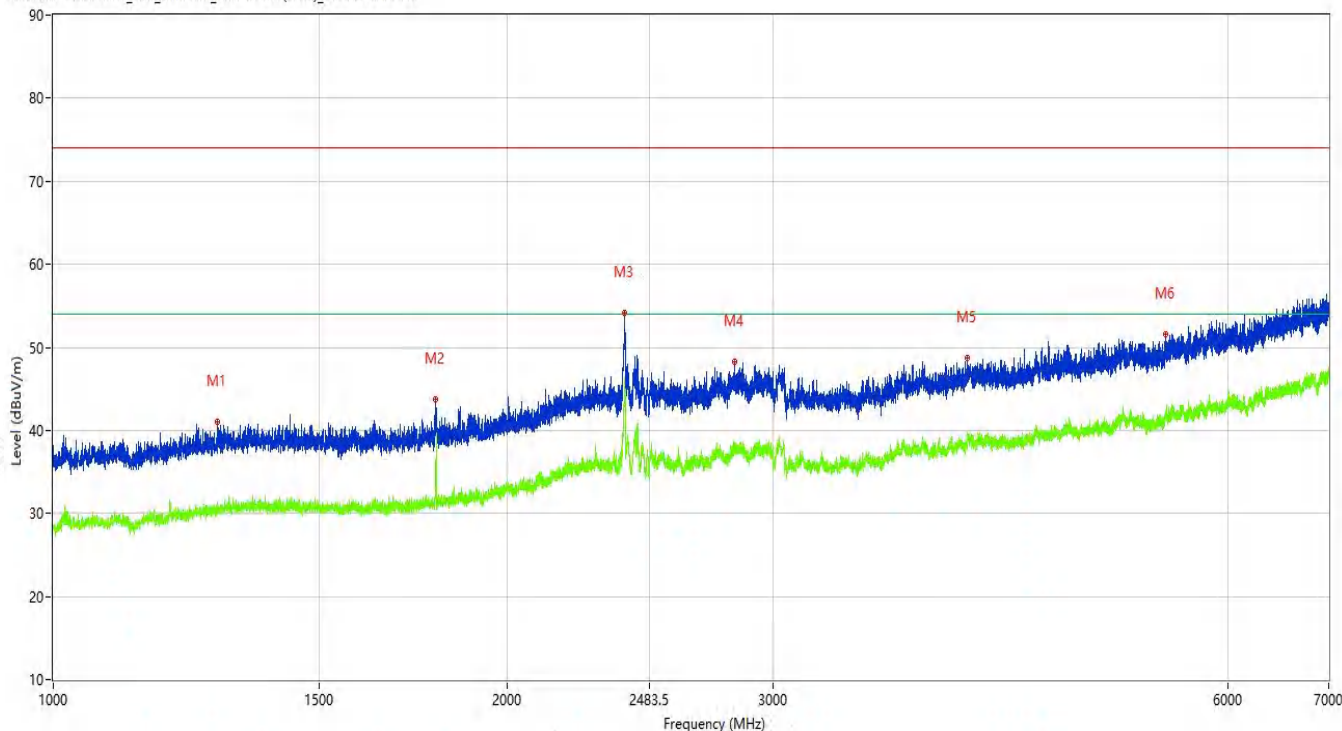
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Figure 28: Radiated Emission_1GHz-7GHz, Bandwidth 20MHz, 2437MHz

Horizontal Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz RSE



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1285.500	41.04	-13.01	74.0	32.96	Peak	279.20	100	Horizontal	Pass
1**	1285.500	30.75	-13.01	54.0	23.25	AV	279.20	100	Horizontal	Pass
2	1793.000	43.72	-12.42	74.0	30.28	Peak	110.00	100	Horizontal	Pass
2**	1793.000	34.68	-12.42	54.0	19.32	AV	110.00	100	Horizontal	Pass
3	2391.250	54.09	-5.61	74.0	19.91	Peak	191.00	100	Horizontal	Pass
3**	2391.250	45.06	-5.61	54.0	8.94	AV	191.00	100	Horizontal	Pass
4	2828.750	48.29	-4.59	74.0	25.71	Peak	201.40	100	Horizontal	Pass
4**	2828.750	37.66	-4.59	54.0	16.34	AV	201.40	100	Horizontal	Pass
5	4035.500	48.73	-1.59	74.0	25.27	Peak	220.30	100	Horizontal	Pass
5**	4035.500	39.13	-1.59	54.0	14.87	AV	220.30	100	Horizontal	Pass
6	5461.500	51.61	-0.01	74.0	22.39	Peak	307.00	100	Horizontal	Pass
6**	5461.500	41.55	-0.01	54.0	12.45	AV	307.00	100	Horizontal	Pass



TEST REPORT

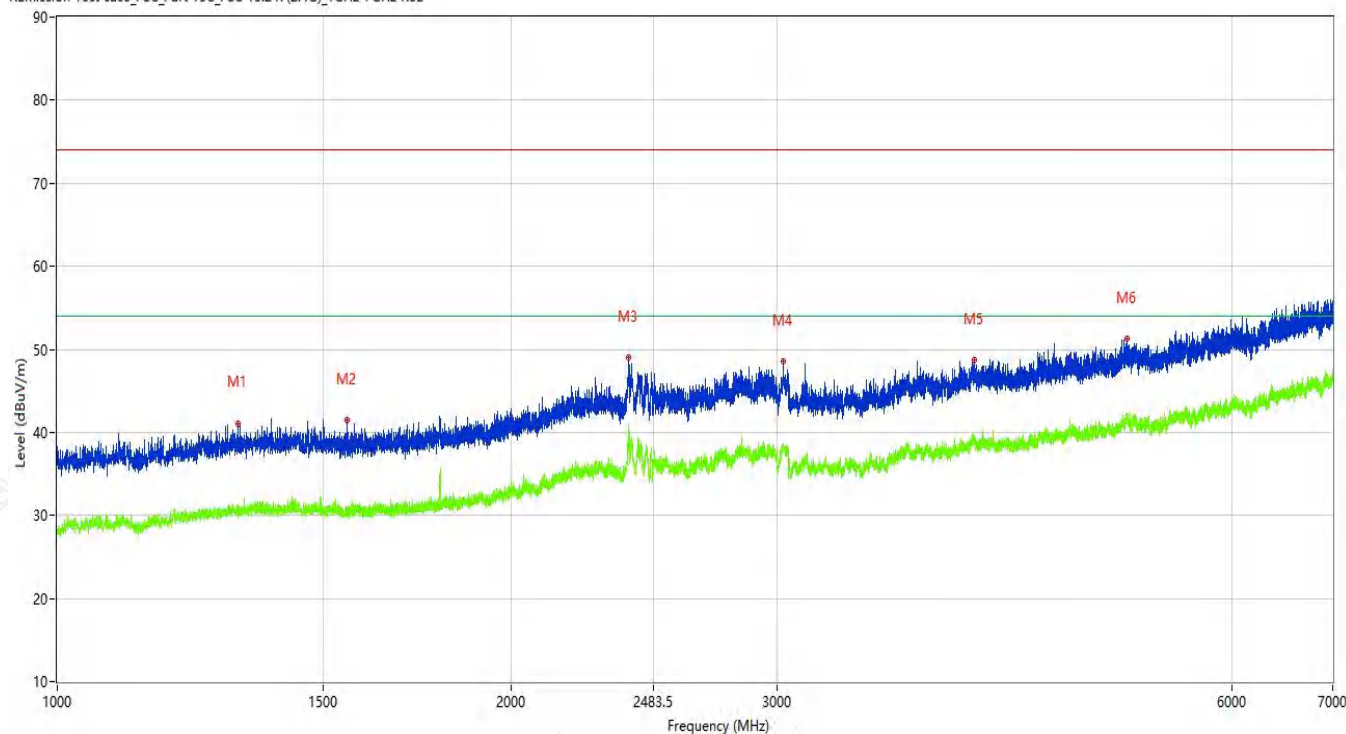
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz RSE



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1317.250	41.10	-12.93	74.0	32.90	Peak	179.60	100	Vertical	Pass
1**	1317.250	30.46	-12.93	54.0	23.54	AV	179.60	100	Vertical	Pass
2	1555.000	41.52	-13.10	74.0	32.48	Peak	333.50	100	Vertical	Pass
2**	1555.000	29.82	-13.10	54.0	24.18	AV	333.50	100	Vertical	Pass
3	2391.750	48.96	-4.84	74.0	25.04	Peak	210.20	100	Vertical	Pass
3**	2391.750	40.00	-4.84	54.0	14.00	AV	210.20	100	Vertical	Pass
4	3026.000	48.59	-2.17	74.0	25.41	Peak	360.00	100	Vertical	Pass
4**	3026.000	38.18	-2.17	54.0	15.82	AV	360.00	100	Vertical	Pass
5	4052.000	48.64	-1.47	74.0	25.36	Peak	121.70	100	Vertical	Pass
5**	4052.000	38.94	-1.47	54.0	15.06	AV	121.70	100	Vertical	Pass
6	5113.000	51.21	0.41	74.0	22.79	Peak	24.10	100	Vertical	Pass
6**	5113.000	42.29	0.41	54.0	11.71	AV	24.10	100	Vertical	Pass



TEST REPORT

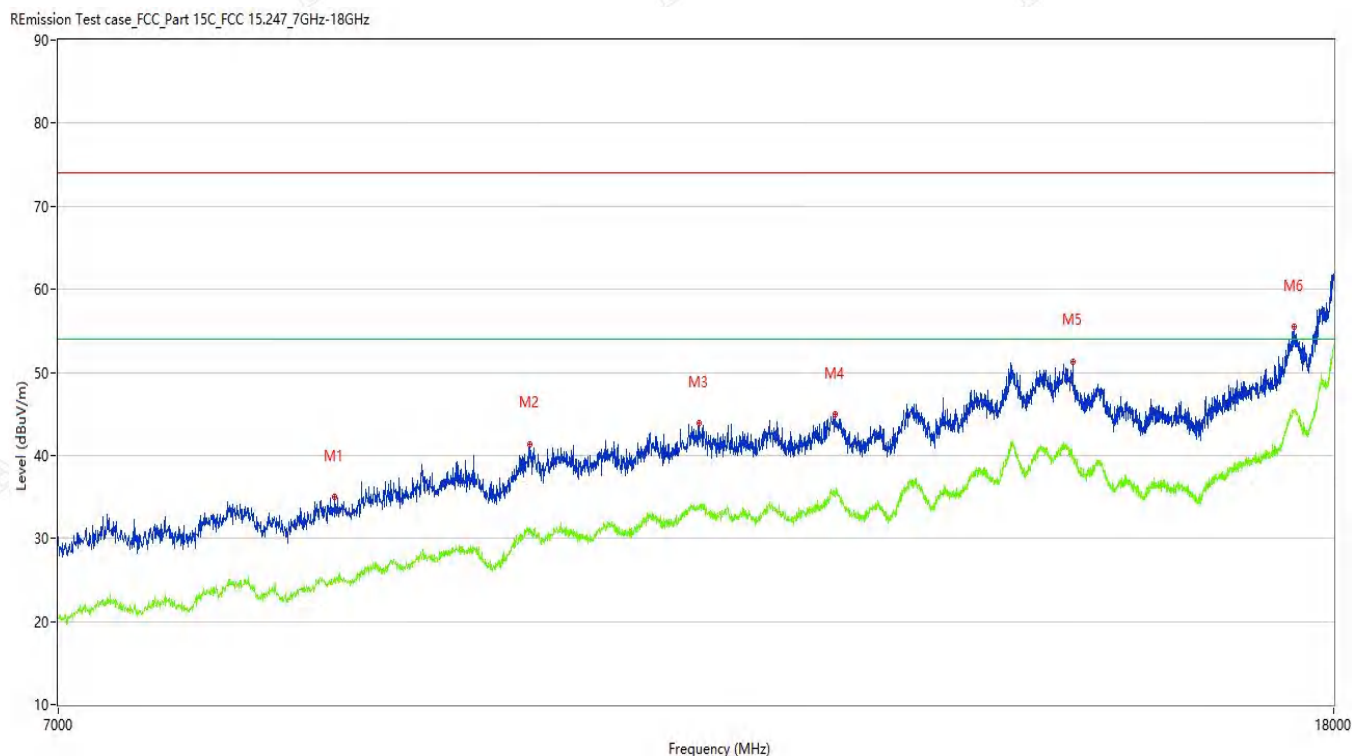
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Figure 29: Radiated Emission_7GHz-18GHz, Bandwidth 20MHz, 2437MHz

Horizontal Polarization



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	8592.250	34.98	3.41	74.0	39.02	Peak	34.50	100	Horizontal	Pass
1**	8592.250	24.92	3.41	54.0	29.08	AV	34.50	100	Horizontal	Pass
2	9923.250	41.40	8.94	74.0	32.60	Peak	193.90	100	Horizontal	Pass
2**	9923.250	31.07	8.94	54.0	22.93	AV	193.90	100	Horizontal	Pass
3	11248.750	43.84	11.03	74.0	30.16	Peak	78.00	100	Horizontal	Pass
3**	11248.750	33.49	11.03	54.0	20.51	AV	78.00	100	Horizontal	Pass
4	12442.250	44.93	11.86	74.0	29.07	Peak	34.50	100	Horizontal	Pass
4**	12442.250	35.02	11.86	54.0	18.98	AV	34.50	100	Horizontal	Pass
5	14834.750	51.35	17.00	74.0	22.65	Peak	238.60	100	Horizontal	Pass
5**	14834.750	40.04	17.00	54.0	13.96	AV	238.60	100	Horizontal	Pass
6	17485.750	55.46	21.73	74.0	18.54	Peak	313.90	100	Horizontal	Pass
6**	17485.750	45.59	21.73	54.0	8.41	AV	313.90	100	Horizontal	Pass



TEST REPORT

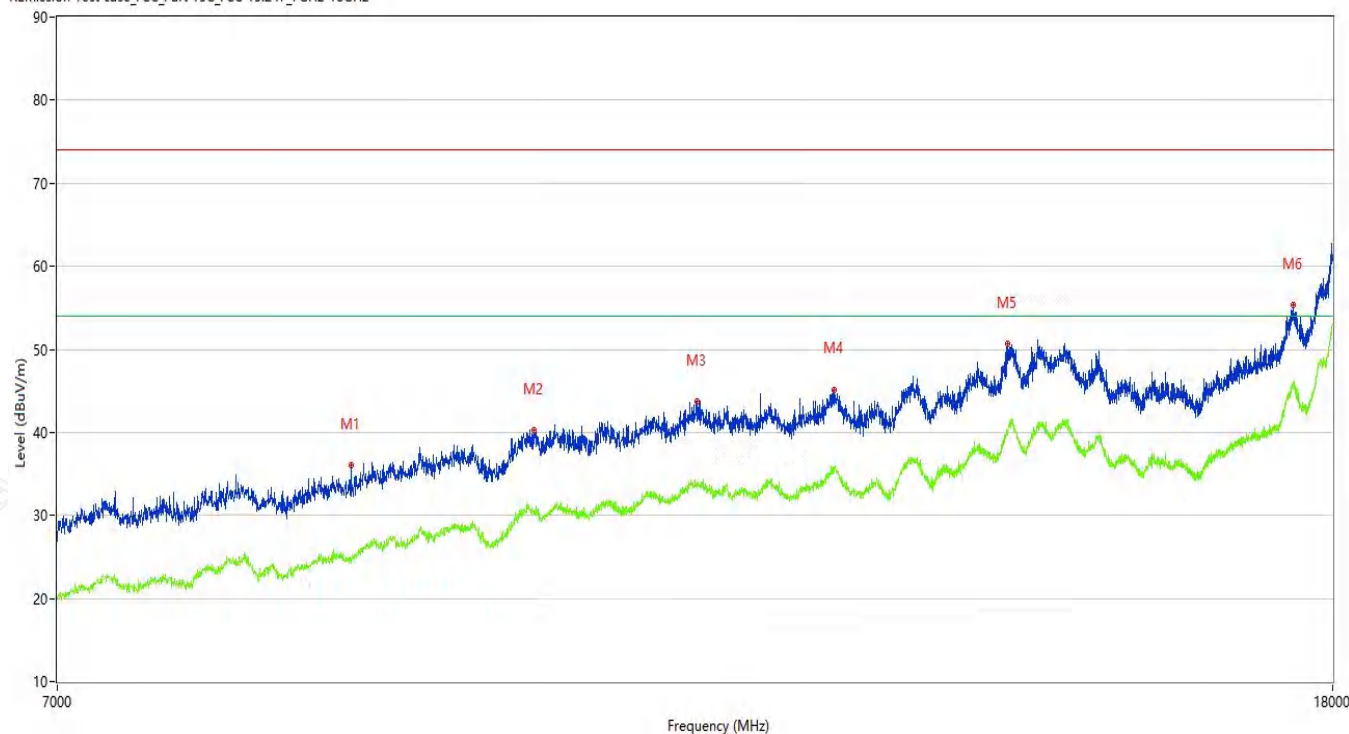
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247_7GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	8699.500	36.06	3.70	74.0	37.94	Peak	285.30	100	Vertical	Pass
1**	8699.500	24.29	3.70	54.0	29.71	AV	285.30	100	Vertical	Pass
2	9967.250	40.32	8.63	74.0	33.68	Peak	357.60	100	Vertical	Pass
2**	9967.250	30.55	8.63	54.0	23.45	AV	357.60	100	Vertical	Pass
3	11246.000	43.72	10.99	74.0	30.28	Peak	0.00	100	Vertical	Pass
3**	11246.000	33.37	10.99	54.0	20.63	AV	0.00	100	Vertical	Pass
4	12447.750	45.16	11.87	74.0	28.84	Peak	3.50	100	Vertical	Pass
4**	12447.750	35.79	11.87	54.0	18.21	AV	3.50	100	Vertical	Pass
5	14152.750	50.73	17.51	74.0	23.27	Peak	0.00	100	Vertical	Pass
5**	14152.750	40.27	17.51	54.0	13.73	AV	0.00	100	Vertical	Pass
6	17485.750	55.38	21.73	74.0	18.62	Peak	148.40	100	Vertical	Pass
6**	17485.750	45.51	21.73	54.0	8.49	AV	148.40	100	Vertical	Pass



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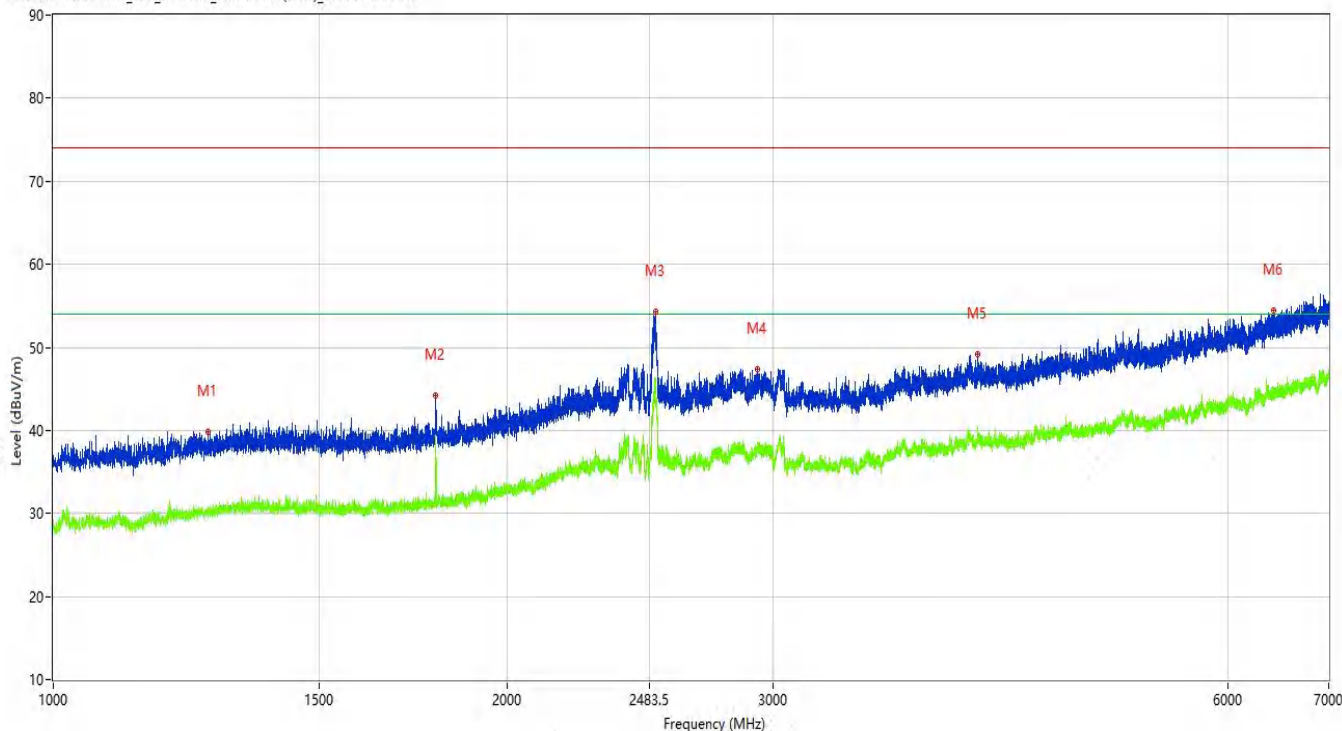
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Figure 30: Radiated Emission_1GHz-7GHz, Bandwidth 20MHz, 2462MHz

Horizontal Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz RSE



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1265.750	39.81	-13.23	74.0	34.19	Peak	344.40	100	Horizontal	Pass
1**	1265.750	29.88	-13.23	54.0	24.12	AV	344.40	100	Horizontal	Pass
2	1792.250	44.21	-12.41	74.0	29.79	Peak	118.60	100	Horizontal	Pass
2**	1792.250	39.37	-12.41	54.0	14.63	AV	118.60	100	Horizontal	Pass
3	2508.000	54.24	-6.73	74.0	19.76	Peak	344.40	100	Horizontal	Pass
3**	2508.000	44.05	-6.73	54.0	9.95	AV	344.40	100	Horizontal	Pass
4	2926.750	47.40	-4.66	74.0	26.60	Peak	259.10	100	Horizontal	Pass
4**	2926.750	37.66	-4.66	54.0	16.34	AV	259.10	100	Horizontal	Pass
5	4095.000	49.20	-1.42	74.0	24.80	Peak	219.30	100	Horizontal	Pass
5**	4095.000	39.22	-1.42	54.0	14.78	AV	219.30	100	Horizontal	Pass
6	6431.500	54.48	2.84	74.0	19.52	Peak	91.30	100	Horizontal	Pass
6**	6431.500	44.49	2.84	54.0	9.51	AV	91.30	100	Horizontal	Pass



TEST REPORT

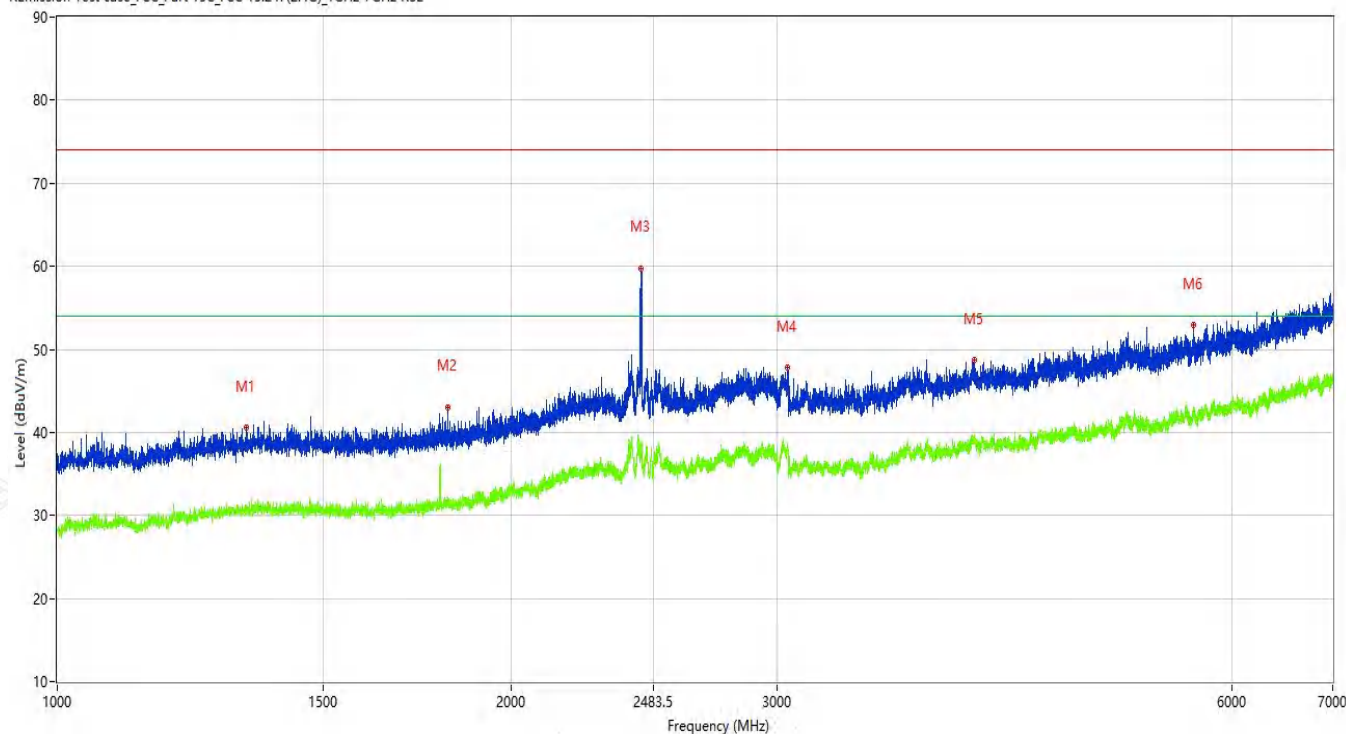
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_1GHz-7GHz RSE



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1333.250	40.53	-12.92	74.0	33.47	Peak	53.10	100	Vertical	Pass
1**	1333.250	30.83	-12.92	54.0	23.17	AV	53.10	100	Vertical	Pass
2	1813.750	43.07	-12.24	74.0	30.93	Peak	274.60	100	Vertical	Pass
2**	1813.750	31.36	-12.24	54.0	22.64	AV	274.60	100	Vertical	Pass
3	2438.000	59.78	-5.43	74.0	14.22	Peak	74.00	100	Vertical	Pass
3**	2438.000	38.51	-5.43	54.0	15.49	AV	74.00	100	Vertical	Pass
4	3048.500	47.81	2.09	74.0	26.19	Peak	11.20	100	Vertical	Pass
4**	3048.500	37.67	2.09	54.0	16.33	AV	11.20	100	Vertical	Pass
5	4049.500	48.74	-1.50	74.0	25.26	Peak	295.90	100	Vertical	Pass
5**	4049.500	38.81	-1.50	54.0	15.19	AV	295.90	100	Vertical	Pass
6	5665.000	52.94	0.55	74.0	21.06	Peak	42.90	100	Vertical	Pass
6**	5665.000	42.14	0.55	54.0	11.86	AV	42.90	100	Vertical	Pass



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Figure 31: Radiated Emission_7GHz-18GHz, Bandwidth 20MHz, 2462MHz

Horizontal Polarization

REmission Test case_FCC_Part 15C_FCC 15.247_7GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	8031.250	34.75	3.63	74.0	39.25	Peak	360.00	100	Horizontal	Pass
1**	8031.250	25.26	3.63	54.0	28.74	AV	360.00	100	Horizontal	Pass
2	10140.500	40.66	8.45	74.0	33.34	Peak	328.40	100	Horizontal	Pass
2**	10140.500	31.08	8.45	54.0	22.92	AV	328.40	100	Horizontal	Pass
3	11210.250	44.12	10.55	74.0	29.88	Peak	182.40	100	Horizontal	Pass
3**	11210.250	33.53	10.55	54.0	20.47	AV	182.40	100	Horizontal	Pass
4	13820.000	47.96	14.01	74.0	26.04	Peak	328.40	100	Horizontal	Pass
4**	13820.000	38.12	14.01	54.0	15.88	AV	328.40	100	Horizontal	Pass
5	14510.250	50.96	16.73	74.0	23.04	Peak	360.00	100	Horizontal	Pass
5**	14510.250	41.00	16.73	54.0	13.00	AV	360.00	100	Horizontal	Pass
6	17504.999	55.39	21.37	74.0	18.61	Peak	68.70	100	Horizontal	Pass
6**	17504.999	45.67	21.37	54.0	8.33	AV	68.70	100	Horizontal	Pass



TEST REPORT

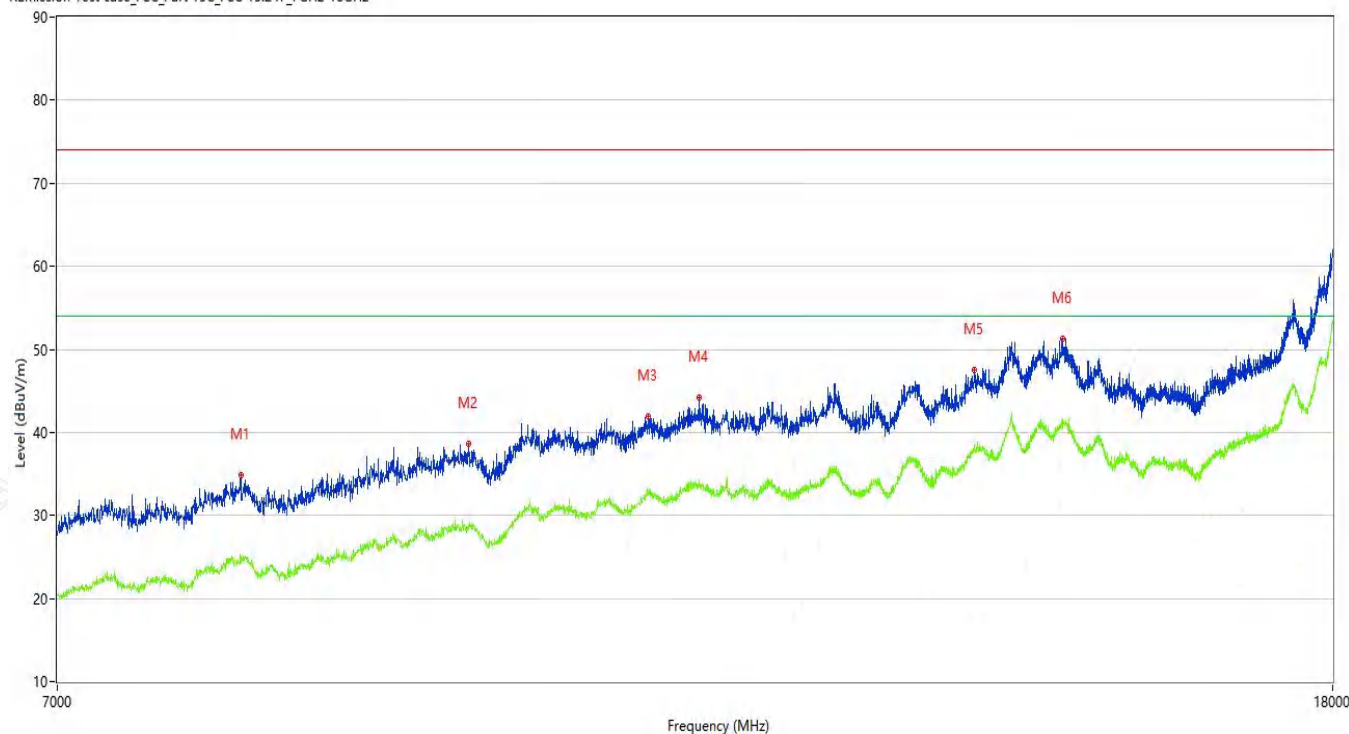
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247_7GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	8020.250	34.89	3.45	74.0	39.11	Peak	246.10	100	Vertical	Pass
1**	8020.250	24.31	3.45	54.0	29.69	AV	246.10	100	Vertical	Pass
2	9494.250	38.63	6.99	74.0	35.37	Peak	360.00	100	Vertical	Pass
2**	9494.250	28.71	6.99	54.0	25.29	AV	360.00	100	Vertical	Pass
3	10841.750	41.97	10.15	74.0	32.03	Peak	360.00	100	Vertical	Pass
3**	10841.750	32.96	10.15	54.0	21.04	AV	360.00	100	Vertical	Pass
4	11262.500	44.15	11.22	74.0	29.85	Peak	329.10	100	Vertical	Pass
4**	11262.500	34.27	11.22	54.0	19.73	AV	329.10	100	Vertical	Pass
5	13803.500	47.50	13.98	74.0	26.50	Peak	205.00	100	Vertical	Pass
5**	13803.500	37.77	13.98	54.0	16.23	AV	205.00	100	Vertical	Pass
6	14733.000	51.30	17.62	74.0	22.70	Peak	14.00	100	Vertical	Pass
6**	14733.000	41.59	17.62	54.0	12.41	AV	14.00	100	Vertical	Pass



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4.1.7 Band Edge (Restricted-band band-edge)

RESULT:

PASS

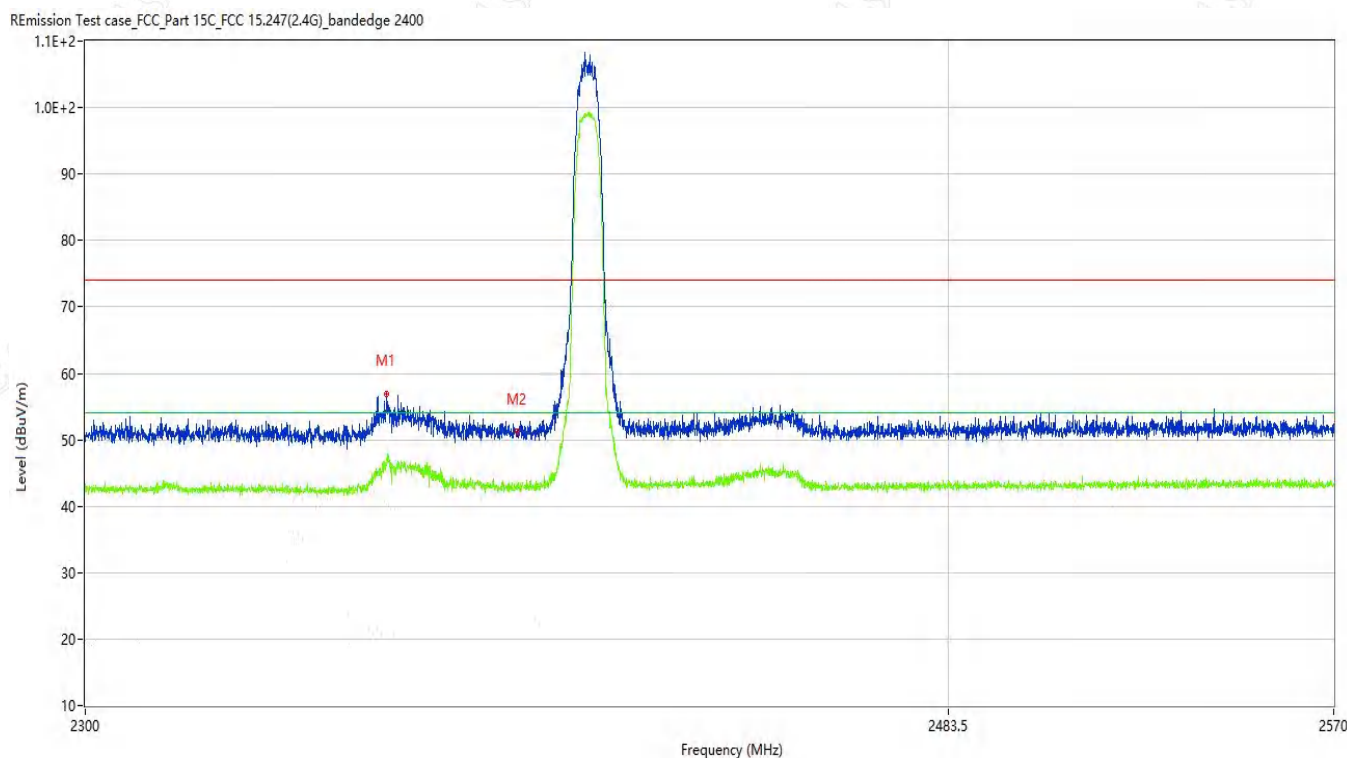
Test standard : FCC Part 15.247(d), 15.205, 15.209
Requirement : ANSI C63.10-2013 clause 11.13,
KDB 558074 D01 v05r02, Clause 8.7
Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Test Channel : Low/Middle/High
Operation Mode : A.1
Ambient temperature : 24.5°C
Relative humidity : 53%

Figure 32: Band Edge(Restricted-band band-edge), Bandwidth 5MHz, 2405MHz

Horizontal Polarization



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2362.437	56.97	-10.54	74.0	17.03	Peak	0.20	100	Horizontal	Pass
1**	2362.437	47.31	-10.54	54.0	6.69	AV	0.20	100	Horizontal	Pass
2	2390.000	51.37	-10.27	74.0	22.63	Peak	62.15	100	Horizontal	Pass
2**	2390.000	43.02	-10.27	54.0	10.98	AV	62.15	100	Horizontal	Pass



TEST REPORT

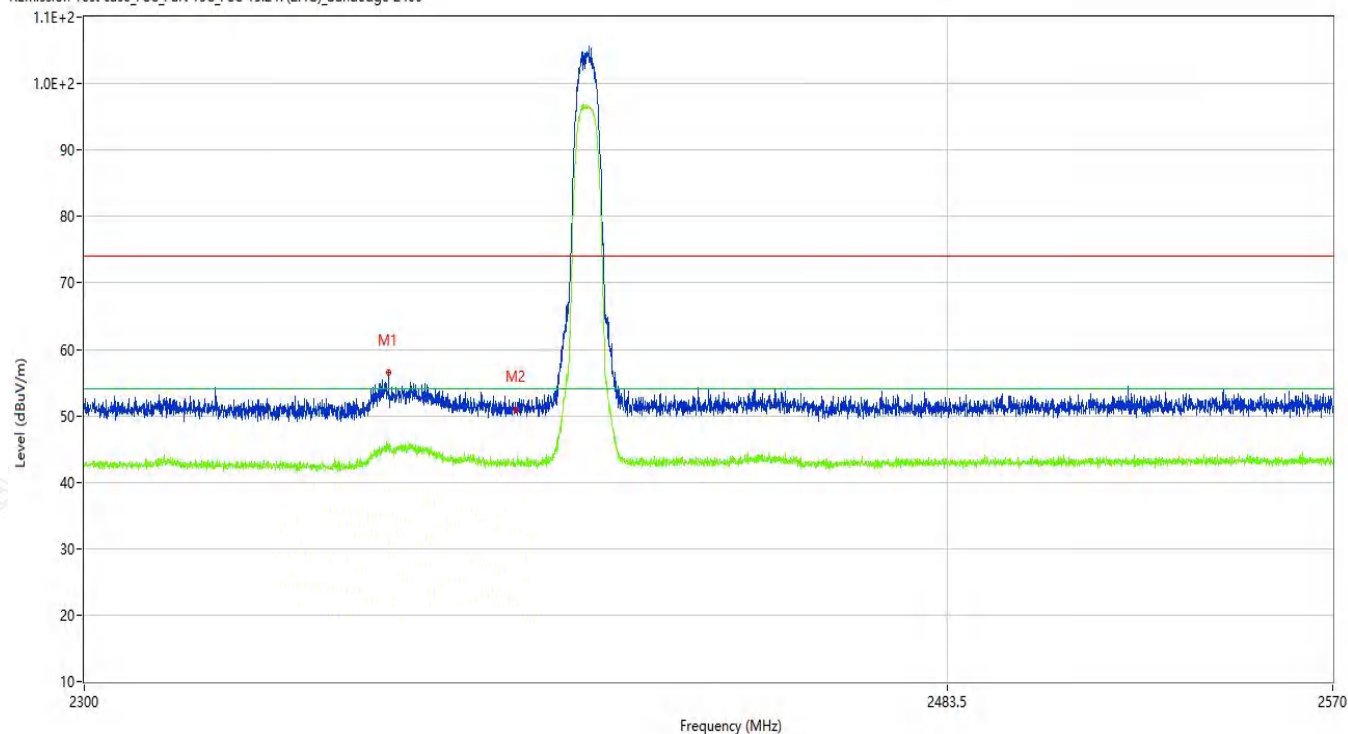
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_bandedge 2400



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2363.045	56.51	-10.53	74.0	17.49	Peak	52.90	100	Vertical	Pass
1**	2363.045	45.46	-10.53	54.0	8.54	AV	52.90	100	Vertical	Pass
2	2390.000	50.92	-10.27	74.0	23.08	Peak	158.59	100	Vertical	Pass
2**	2390.000	42.95	-10.27	54.0	11.05	AV	158.59	100	Vertical	Pass



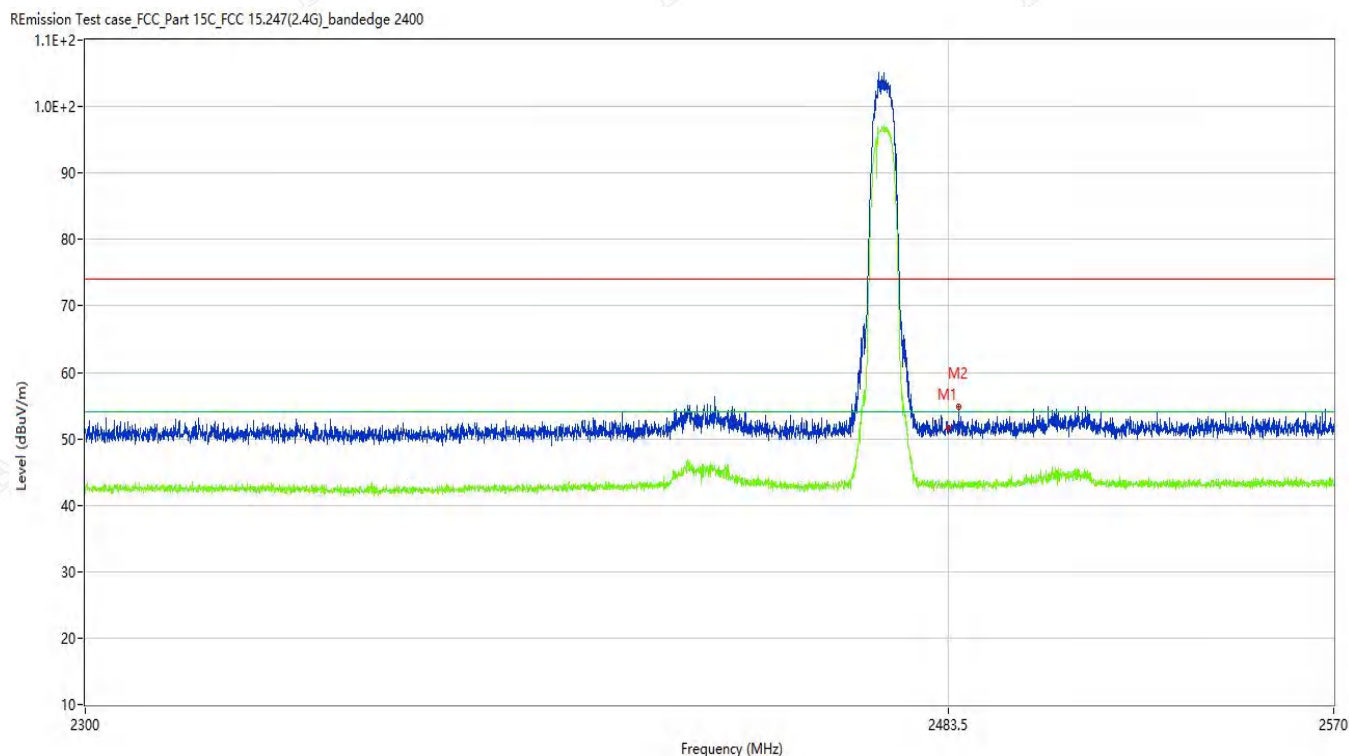
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Figure 33: Band Edge(Restricted-band band-edge), Bandwidth 5MHz, 2469MHz
Horizontal Polarization



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	51.45	-9.82	74.0	22.55	Peak	178.54	100	Horizontal	Pass
1**	2483.500	43.26	-9.82	54.0	10.74	AV	178.54	100	Horizontal	Pass
2	2485.625	54.79	-9.82	74.0	19.21	Peak	250.80	100	Horizontal	Pass
2**	2485.625	43.46	-9.82	54.0	10.54	AV	250.80	100	Horizontal	Pass



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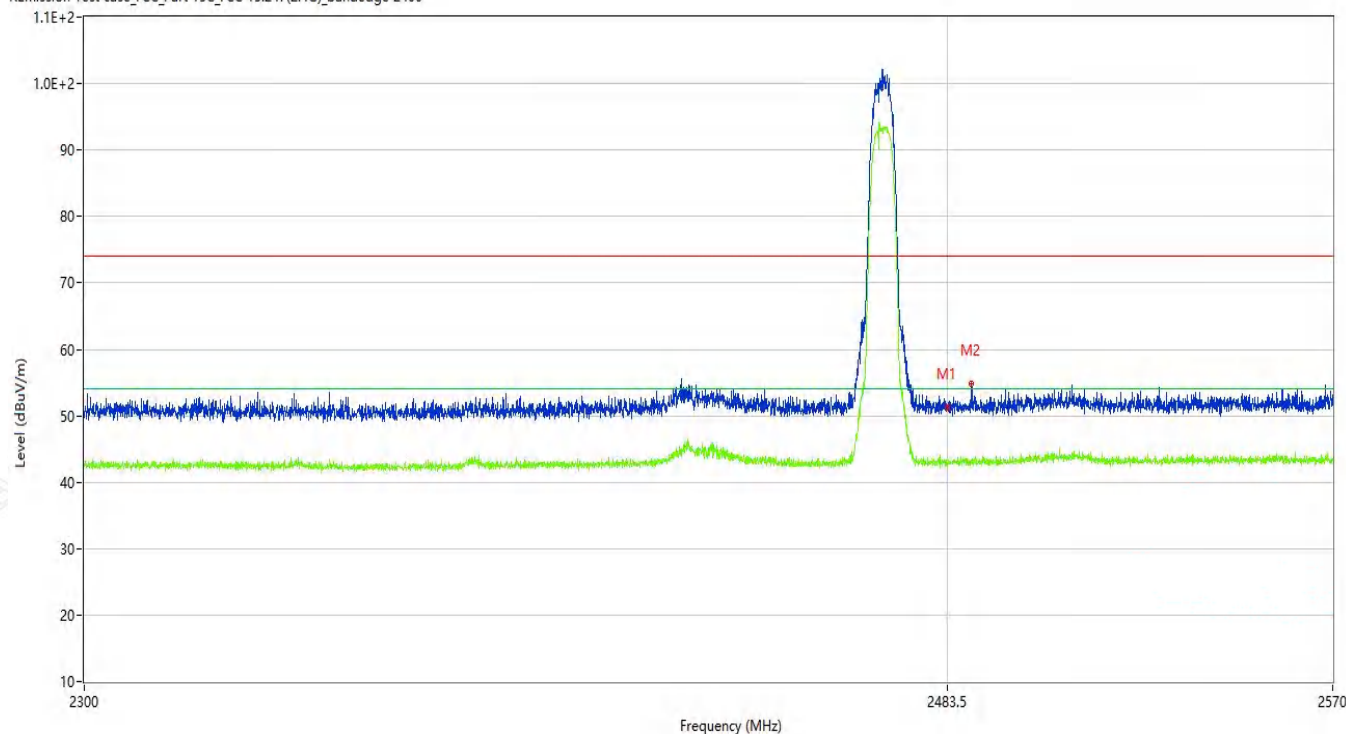
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Vertical Polarization

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No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	51.32	-9.82	74.0	22.68	Peak	303.64	100	Vertical	Pass
1**	2483.500	42.55	-9.82	54.0	11.45	AV	303.64	100	Vertical	Pass
2	2488.798	54.88	-9.82	74.0	19.12	Peak	252.50	100	Vertical	Pass
2**	2488.798	43.31	-9.82	54.0	10.69	AV	252.50	100	Vertical	Pass



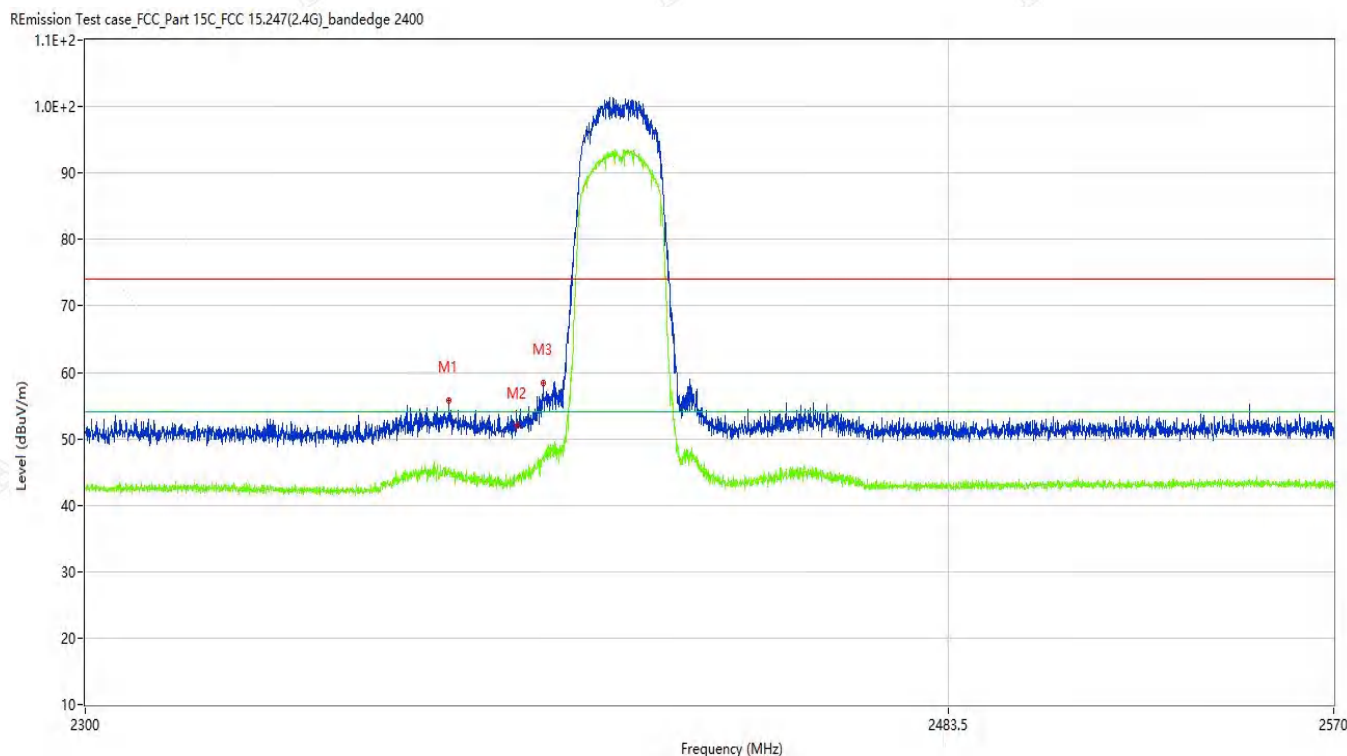
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Figure 34: Band Edge(Restricted-band band-edge), Bandwidth 20MHz, 2412MHz
Horizontal Polarization



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2375.600	55.78	-10.47	74.0	18.22	Peak	79.40	100	Horizontal	Pass
1**	2375.600	45.50	-10.47	54.0	8.50	AV	79.40	100	Horizontal	Pass
2	2390.000	51.97	-10.27	74.0	22.03	Peak	202.65	100	Horizontal	Pass
2**	2390.000	43.97	-10.27	54.0	10.03	AV	202.65	100	Horizontal	Pass



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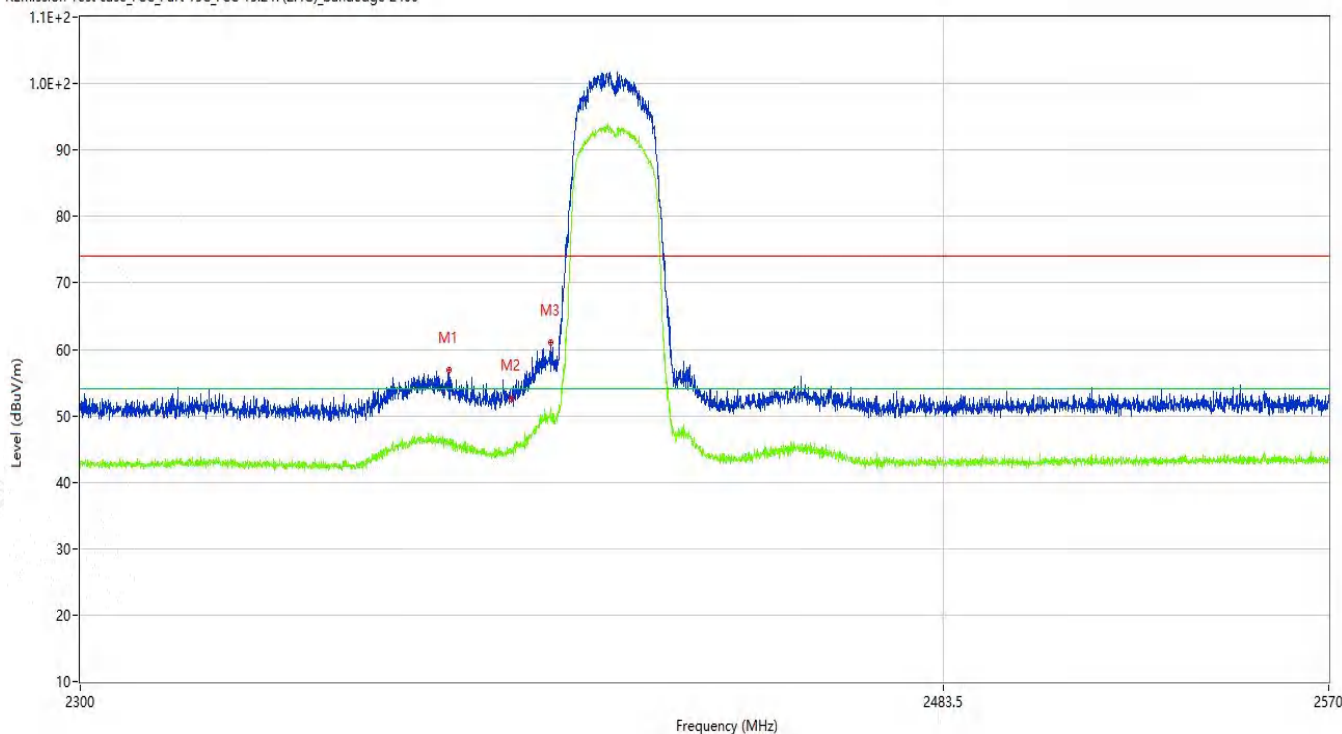
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Vertical Polarization

REmission Test case_FCC_Part 15C_FCC 15.247(2.4G)_bandedge 2400



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2376.748	56.91	-10.46	74.0	17.09	Peak	14.30	100	Vertical	Pass
1**	2376.748	46.03	-10.46	54.0	7.97	AV	14.30	100	Vertical	Pass
2	2390.000	52.76	-10.27	74.0	21.24	Peak	243.89	100	Vertical	Pass
2**	2390.000	44.65	-10.27	54.0	9.35	AV	243.89	100	Vertical	Pass



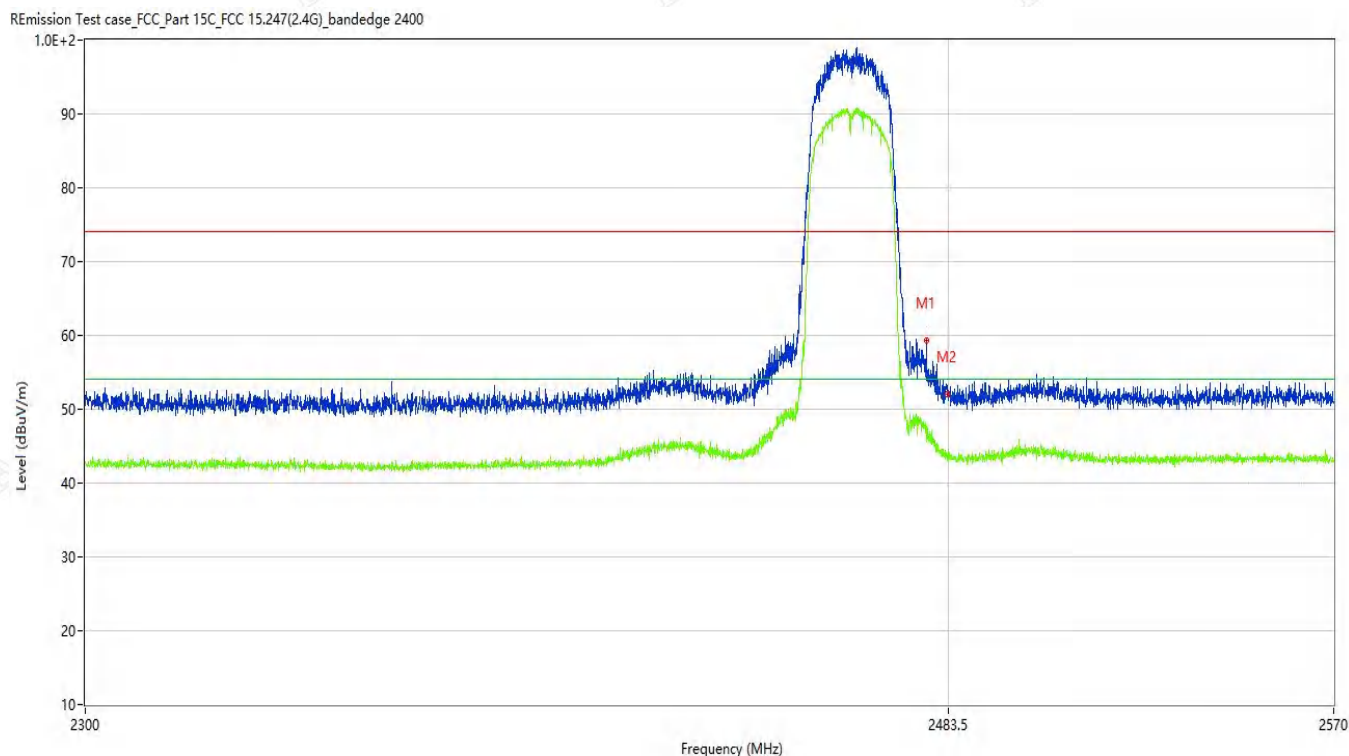
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Figure 35: Band Edge(Restricted-band band-edge), Bandwidth 20MHz, 2462MHz
Horizontal Polarization



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2478.605	59.25	-9.82	74.0	14.75	Peak	127.60	100	Horizontal	Pass
1**	2478.605	47.66	-9.82	54.0	6.34	AV	127.60	100	Horizontal	Pass
2	2483.500	52.08	-9.82	74.0	21.92	Peak	127.60	100	Horizontal	Pass
2**	2483.500	44.10	-9.82	54.0	9.90	AV	127.60	100	Horizontal	Pass



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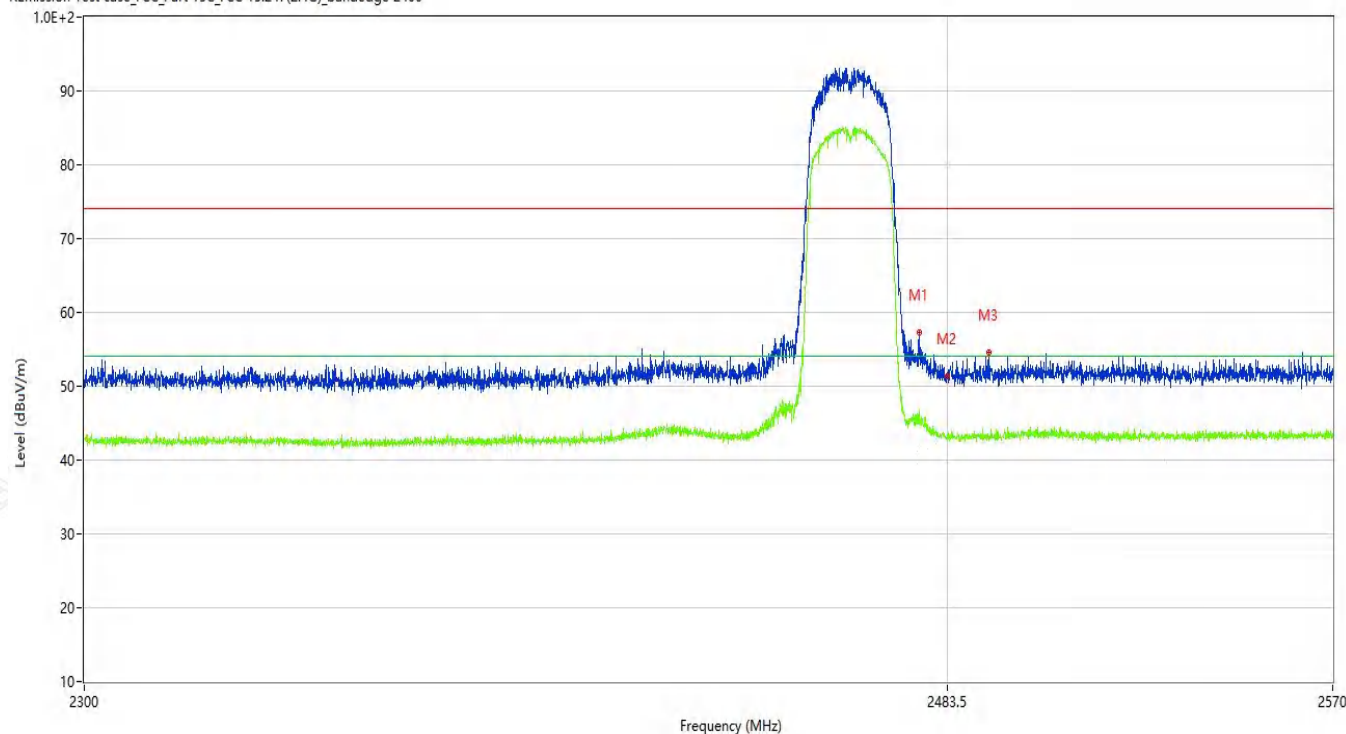
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Vertical Polarization

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No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
2	2483.500	51.54	-9.82	74.0	22.46	Peak	171.96	100	Vertical	Pass
2**	2483.500	43.11	-9.82	54.0	10.89	AV	171.96	100	Vertical	Pass
3	2492.577	54.54	-9.81	74.0	19.46	Peak	228.50	100	Vertical	Pass
3**	2492.577	43.24	-9.81	54.0	10.76	AV	228.50	100	Vertical	Pass



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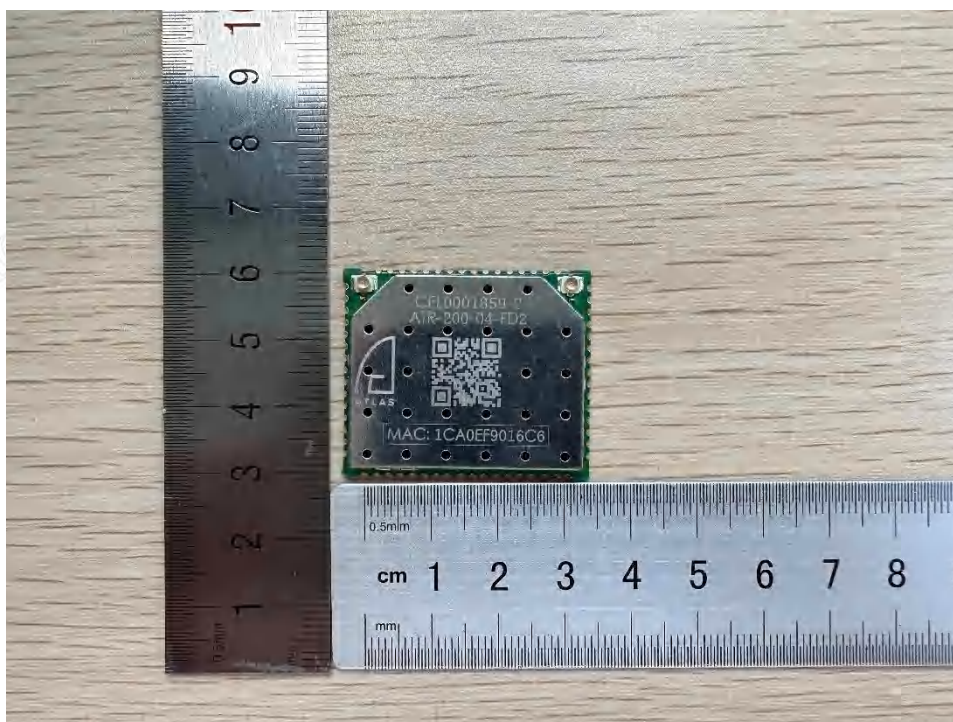
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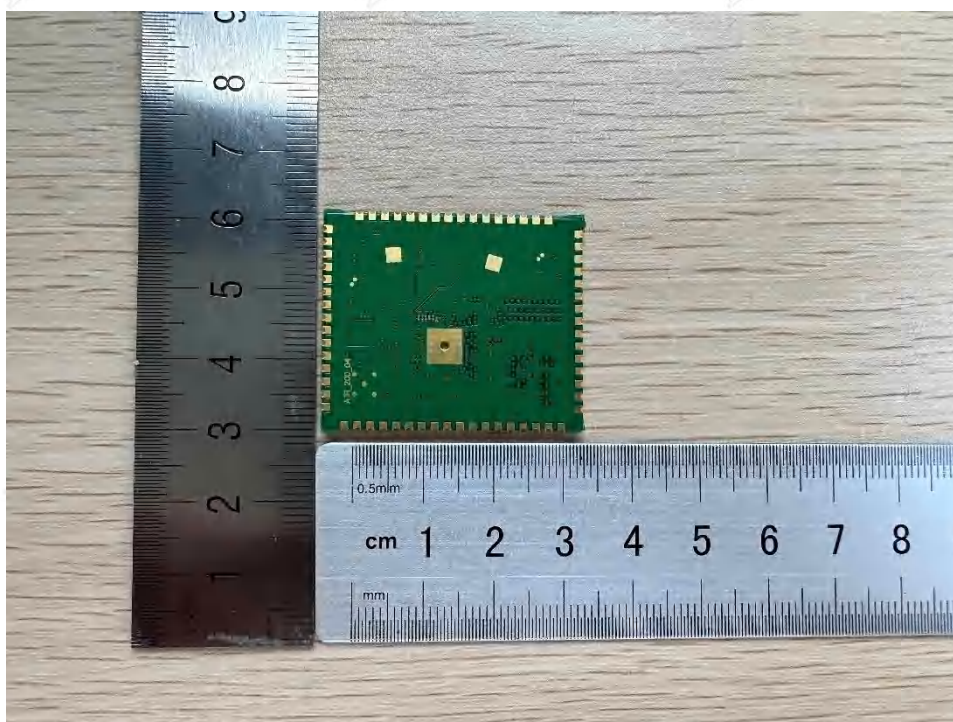
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5 Appendixes

5.1 Photographs of the Sample



Front of the sample



Rear of the sample



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5.2 Set-up for Conducted RF test at Antenna Port



5.3 Set-up for Spurious Emissions below 1GHz





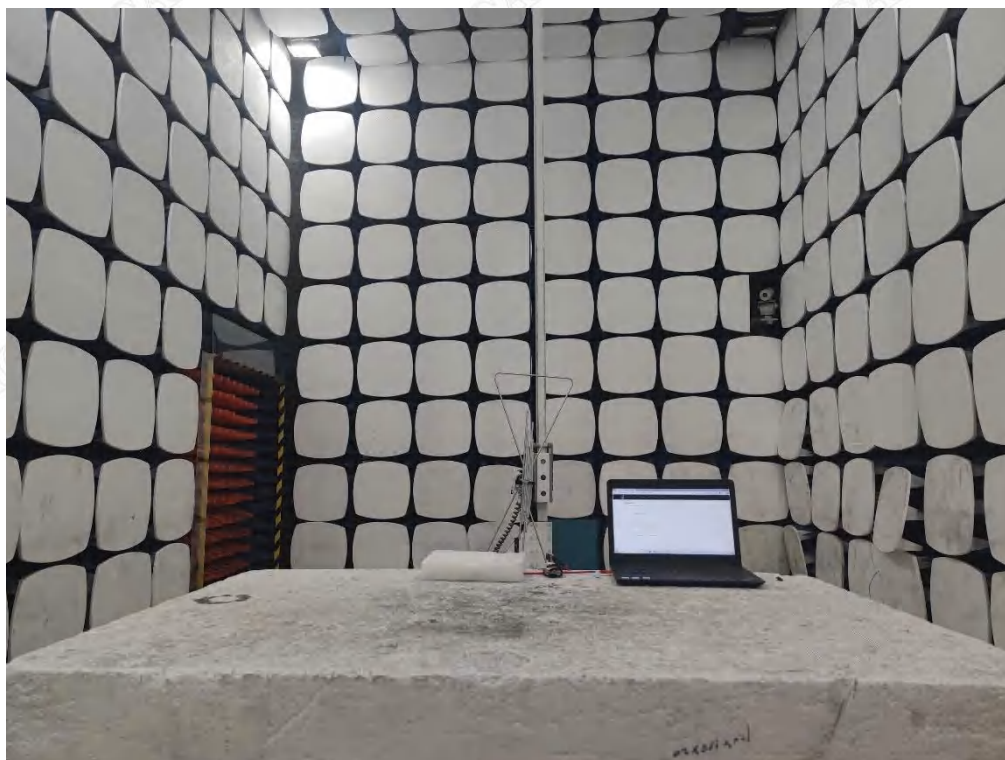
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5.4 Set-up for Spurious Emissions above 1GHz



End of the report

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