

Prüfbericht-Nr.: Test report no.:	CN24F3D4 001	Auftrags-Nr.: Order no.:	326049917	Seite 1 von 39 Page 1 of 39			
Kunden-Referenz-Nr.: Client reference no.:	1288983	Auftragsdatum: Order date:	2024-09-02				
Auftraggeber: Client:	IKEA of Sweden AB Box 702, Almhult, Sweden						
Prüfgegenstand: Test item:	BLOMPRAKT						
Bezeichnung / Typ-Nr.: Identification / Type no.:	E2503						
Auftrags-Inhalt: Order content:	Test Report						
Prüfgrundlage: Test specification:	FCC CFR47 Part 15, Subpart C Section 15.247 RSS-Gen Issue 5, Amendment 2, February 2021 RSS-247 Issue 3, August 2023 ANSI C63.10: 2013						
Wareneingangsdatum: Date of sample receipt:	2024-09-26	Refer to photo document.					
Prüfmuster-Nr.: Test sample no:	A003826921-001~002						
Prüfzeitraum: Testing period:	Refer to test report						
Ort der Prüfung: Place of testing:	TÜV Rheinland (Shanghai) Co., Ltd.						
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shanghai) Co., Ltd.						
Prüfergebnis*: Test result*:	Pass						
geprüft von: tested by:	☒ <u>Hongfei Wu</u>		genehmigt von: authorized by:	☒ <u>Elliot Zhang</u>			
Datum: Date:	2025-04-17	Signed by: Hongfei Wu		Datum: Date:	2025-04-17	Signed by: Elliot Zhang	
Stellung / Position:	Sachverständige(r)/Expert		Stellung / Position:	Sachverständige(r)/Expert			
Sonstiges / Other:	FCC ID: FHO-E2503 IC: 10912A-E2503 HVIN: E2503 PMN: BLOMPRAKT						
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:		Prüfmuster vollständig und unbeschädigt Test item complete and undamaged					
* Legende: P(ass) = entspricht o.g. Prüfgrundlage(n) * Legend: P(ass) = passed a.m. test specification(s)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n) F(ail) = failed a.m. test specification(s)		N/A = nicht anwendbar N/A = not applicable		N/T = nicht getestet N/T = not tested	
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Anmerkungen Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. <i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i>
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4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. <i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i>

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 6dB & 99% BANDWIDTH

RESULT: Pass

5.1.3 OUTPUT POWER

RESULT: Pass

5.1.4 POWER SPECTRAL DENSITY

RESULT: Pass

5.1.5 CONDUCTED BAND EDGE AND OUT-OF BAND EMISSIONS

RESULT: Pass

5.2.1 CONDUCTED EMISSION

RESULT: Pass

5.3.1 RADIATED BAND-EDGE

RESULT: Pass

5.3.2 RADIATED SPURIOUS EMISSION

RESULT: Pass

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1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

2. Test Sites

2.1 Test Facilities

TÜV Rheinland (Shanghai) Co., Ltd.

Workshop14, North Half of Workshop 10 and Workshop 16, Pingqian (Taicang) Modern Industrial Park, No.525, Yuewang Lingang South Road, Shaxi, Taicang, Jiangsu, China

The used test equipment is in accordance with CISPR 16 for measurement of radio interference.

The Federal Communications Commission has reviewed the technical characteristics of the radiated and conducted emission facility, and has found these test facilities to be in compliance with the requirements of section 2.948 of the FCC rules. The description of the test facility is listed under FCC registration number 930979.

The Innovation, Science and Economic Development Canada has reviewed the technical characteristics of the radiated and conducted emission facility, and has found these test facilities to be in compliance. The description of the test facility is listed under chambers filing number 33038.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Equip.	Description	Model	Manufacturer	Due Date DD.MM.YYYY
G1811378	3m semi-anechoic chamber	SAC3	Frankonia	03.12.2028
G1811425	Bilog antenna	CBL 6112D	Teseq	20.04.2026
G1825371	Preamplifier	EMC051845SE	Taiwan EMCI	24.07.2025
G1825372	Preamplifier	EMC184045SE	Taiwan EMCI	24.07.2025
9059157	Double ridged broadband horn antenna	BBHA 9120 D	Schwarzbeck	28.02.2026
G1831065	Broadband horn antenna	BBHA 9170	Schwarzbeck	18.06.2028
G1822702	Spectrum analyser	FSV40	Rohde&Schwarz	15.07.2025
9053474	Signal generator	SMB100B (6 GHz)	Rohde & Schwarz	10.12.2025
9053476	Vector Signal generator	SMW200A	Rohde & Schwarz	10.12.2025
9053477	OSP	OSP-B157W8	Rohde & Schwarz	10.12.2025
9047770	Wireless connectivity tester	CMW270	Rohde & Schwarz	23.08.2025
G1811391	EMI test receiver	ESCI	Rohde&Schwarz	27.10.2025
9061503	Shielded enclosure	10.055x3.605x3.000	Frankonia	08.11.2028
9023229	EMI test receiver	ESR3	Rohde&Schwarz	03.08.2025
G1830003	Artificial mains network	ENV432	Rohde&Schwarz	11.10.2025
G1824248	Dual display multimeter	F45	Fluke	28.06.2025
software				
	EMC measurement software	EMC32 (Ver 10.20.01)	Rohde&Schwarz	NA
	EMC measurement software	EMC32 (Ver 11.40.00)	Rohde&Schwarz	NA
	EMI measurement software	EMC32-E+(10.60.20)	Rohde&Schwarz	NA

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

Measurement Type	Frequency	Uncertainty
Antenna Port Conducted Emission	< 1GHz	±0.39dB
	> 1GHz	±0.68dB
Conducted Emission	150kHz - 30MHz	±3.39dB
Radiated Emission	9kHz - 30MHz	±2.93dB
	30MHz - 1GHz	±5.34dB
	> 1GHz	±5.40dB

3. General Product Information

3.1 Product Function and Intended Use

The EUT (Equipment Under Test) is a speaker and which support Bluetooth and 2.4GHz proprietary function.

The aim of this report is to evaluate RF character of 2.4 GHz proprietary of the EUT.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

General Description of EUT	
Product Name:	BLOMPRAKT
Model No.:	E2503
Operation Voltage:	AC 100~240V, 50-60Hz
RF Technical:	1) Bluetooth Classic 2) 2.4 GHz proprietary
Technical Specification of 2.4 GHz proprietary	
Frequency Range:	2402~2480MHz
Modulation Type:	GFSK
Data Rate:	2Mbps
Equipment Type:	Non-FHSS
Antenna Type:	PCB Antenna
Antenna Gain:	1.5 dBi (declared by client)

Table 4: Operation Channel List

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

3.3 Independent Operation Modes

Test frequencies are lowest channel: 2402 MHz, middle channel: 2440 MHz and highest channel: 2480 MHz

The basic operation modes are:

- A. On, 2.4 GHz proprietary transmitting mode
- B. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.10: 2013.

Test Software: Telink BDT, V5.7.4

Table 5: Power parameter value

Mode	Power Parameter Setting Value
2.4 GHz proprietary	8.2

4.3 Special Accessories and Auxiliary Equipment

Table 6: Auxiliary Equipment

Equipment	Manufacturer	Model
Laptop	Lenovo	21AJ-S57N0J

4.4 Countermeasures to achieve EMC Compliance

Null.

5. Test Results

5.1 Conducted Testing at Antenna Port

5.1.1 Antenna Requirement

RESULT:**Pass**

According to the manufacturer declared, the EUT has one PCB antenna, the directional gain of antenna is 1.5 dBi and the antenna is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Table 7: Antenna Requirement

FCC 15.203 – Antenna Requirement 1		
Requirement:	No antenna other than that furnished by the responsible party shall be used with the device	
Results:	Antenna type:	PCB antenna
Verdict:	Pass	

FCC 15.204 – Antenna Requirement 2		
Requirement:	An intentional radiator may be operated only with the antenna with which it is authorized. If an antenna is marketed with the intentional radiator, it shall be of a type which is authorized with the intentional radiator.	
Results:	Only one PCB antenna can be used	
Verdict:	Pass	

RSS-Gen 6.4 – External Control		
Requirement:	The device shall not have any external controls accessible to the user that enable it to be adjusted, selected or programmed to operate in violation of the regulatory requirements, including RSS-Gen and the applicable RSSs	
Results:	The device does not have any transmitter external controls accessible to the user that can be adjusted and operated in violation of the limits of this standard.	
Verdict:	PASS	

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Page 13 of 39**RSS-Gen 6.8 – Antenna Requirement**

Requirement: When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer.

Results:

a) Antenna Type:	PCB Antenna
b) Manufacture:	N/A
c) Model No.:	N/A
d) Gain with reference to an isotropic radiator:	1.5 dBi

Verdict: PASS

5.1.2 6dB & 99% Bandwidth**RESULT:****Pass**

Date of testing	:	2024-10-24, 2025-04-15
Ambient temperature	:	22.8, 23.6°C
Relative humidity	:	53.2, 59.3%
Atmospheric pressure	:	101kPa
Test requirement	:	FCC Part 15.247(a)(2) RSS-247 Issue 3, August 2023, Clause 5.2(a)
Test procedure	:	ANSI C63.10: 2013
Test voltage	:	AC 120V, 60Hz
Test modes applied	:	A

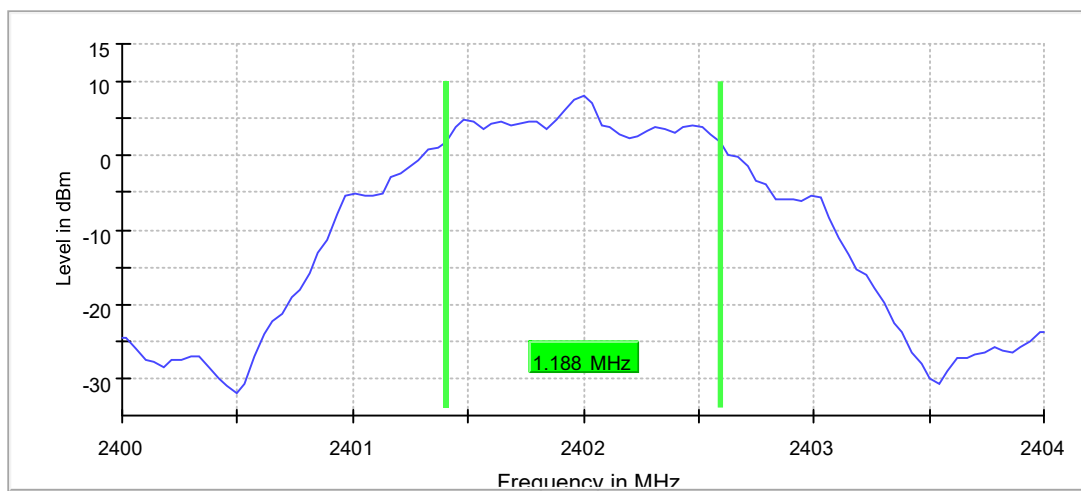
6dB Bandwidth, 2402MHz

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	1.188118	0.500000	---	2401.405941	2402.594059

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2402.000000	8.0	PASS

6 dB Bandwidth


Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.40400 GHz	2.40400 GHz
Span	4.000 MHz	4.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 80
SweepTime	18.938 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	31 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.00 dB	0.50 dB

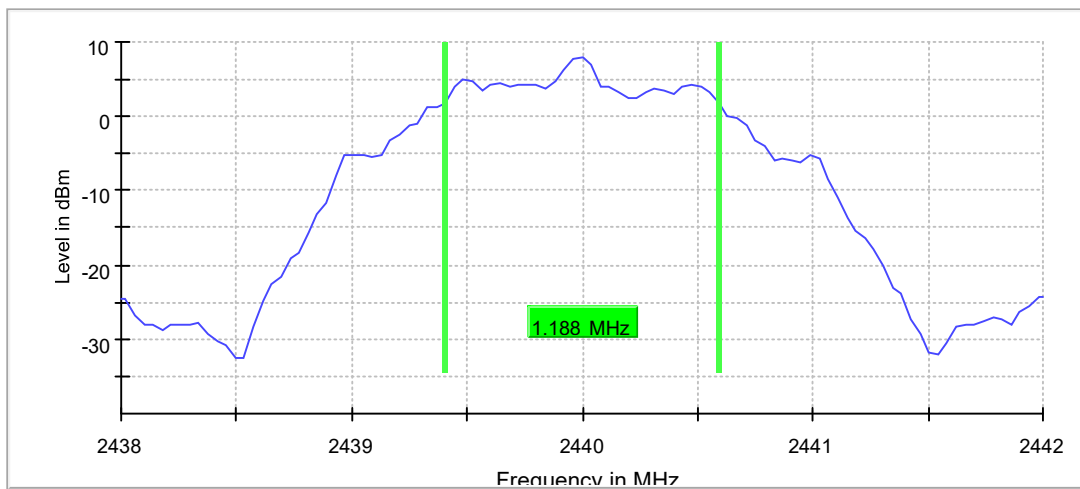
6dB Bandwidth, 2440MHz

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2440.000000	1.188118	0.500000	---	2439.405941	2440.594059

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2440.000000	8.0	PASS

6 dB Bandwidth


Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.43800 GHz	2.43800 GHz
Stop Frequency	2.44200 GHz	2.44200 GHz
Span	4.000 MHz	4.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 80
Sweeptime	18.938 µs	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	19 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.27 dB	0.50 dB

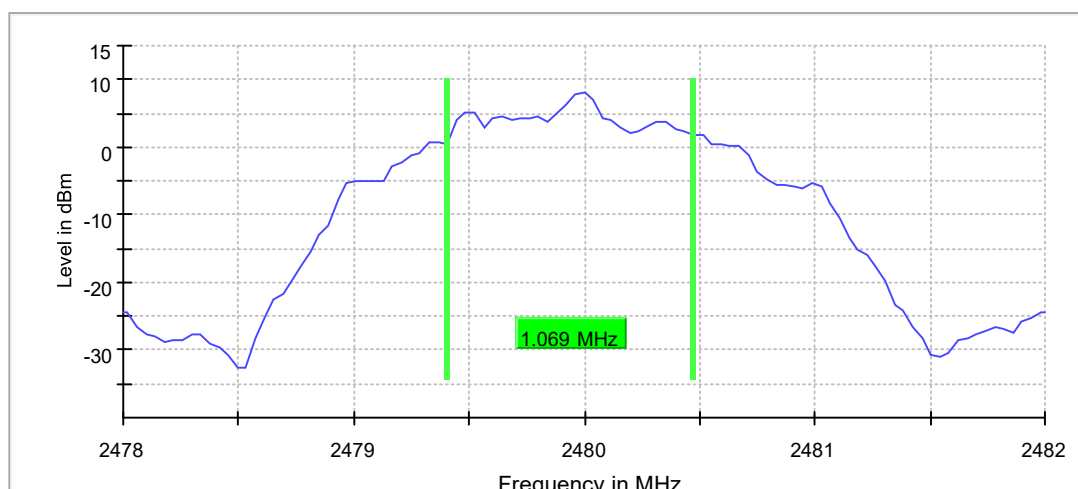
6dB Bandwidth, 2480MHz

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	1.069307	0.500000	---	2479.405941	2480.475248

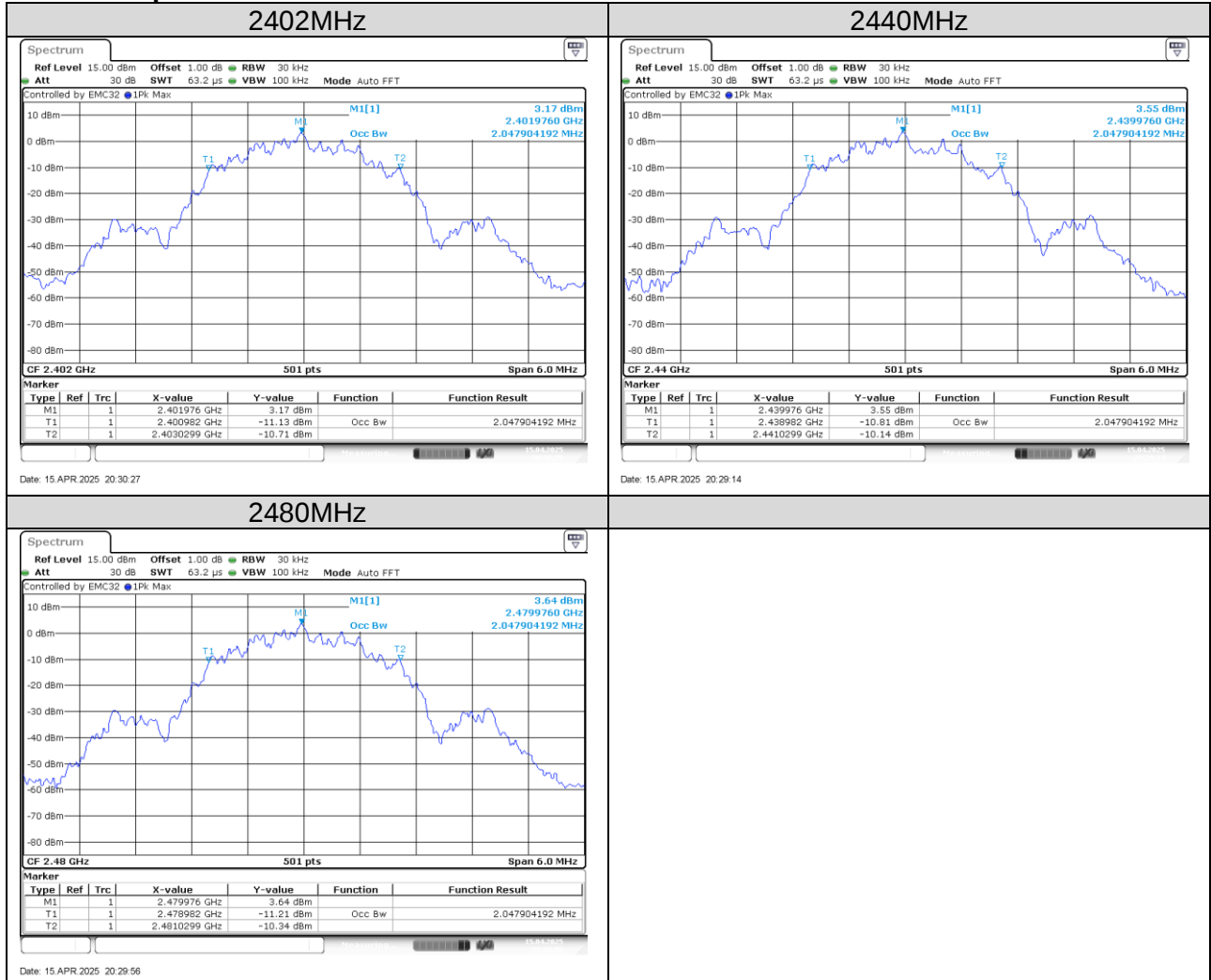
(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2480.000000	8.1	PASS

6 dB Bandwidth


Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47800 GHz	2.47800 GHz
Stop Frequency	2.48200 GHz	2.48200 GHz
Span	4.000 MHz	4.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 80
Sweptime	18.938 µs	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	17 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.00 dB	0.50 dB

99% Occupied Channel Bandwidth


5.1.3 Output Power

RESULT:**Pass**

Date of testing : 2024-10-24
Ambient temperature : 22.8°C
Relative humidity : 53.2%
Atmospheric pressure : 101kPa
Test requirement : FCC Part 15.247(b)(3)
RSS-247 Issue 3, August 2023, Clause 5.4(d)
Test procedure : ANSI C63.10: 2013
Test voltage : AC 120V, 60Hz
Test modes applied : A

Table 8: Peak Output Power

Frequency [MHz]	Peak Conducted Output Power [dBm]	Limit [dBm]
2402	9.0	30
2440	8.9	30
2480	9.2	30

Note:

1. The cable loss is taken into account in results.
2. EIRP=Conducted Output Power + Antenna Gain (1.5dBi), which is far below the 4 W (36dBm).

5.1.4 Power Spectral Density

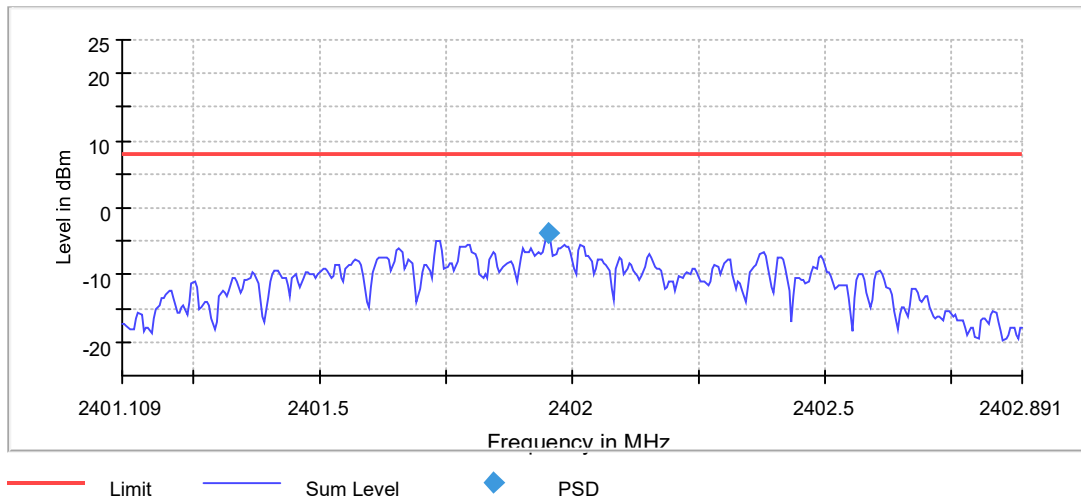
RESULT:**Pass**

Date of testing	:	2024-10-24
Ambient temperature	:	22.8°C
Relative humidity	:	53.2%
Atmospheric pressure	:	101kPa
Test requirement	:	FCC Part 15.247(e) RSS-247 Issue 3, August 2023, Clause 5.2(b)
Test procedure	:	ANSI C63.10: 2013
Test voltage	:	AC 120V, 60Hz
Test modes applied	:	A

Power Spectral Density, 2402MHz

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2402.000000	2401.952442	-3.805	8.0	PASS

Peak Power Spectral Density

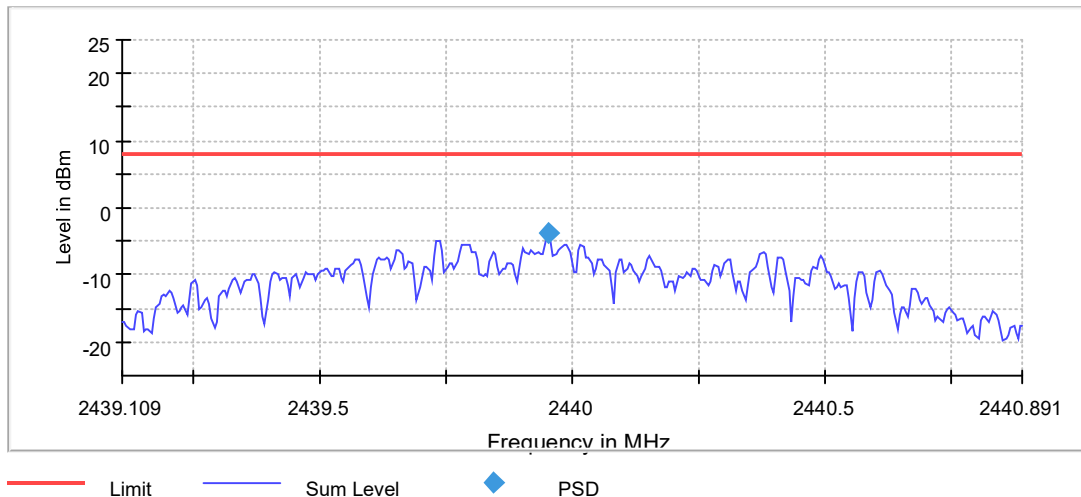

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40111 GHz	2.40111 GHz
Stop Frequency	2.40289 GHz	2.40289 GHz
Span	1.782 MHz	1.782 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	356	~ 356
Sweeptime	1.790 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	8 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.26 dB	0.50 dB

Power Spectral Density, 2440MHz

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2440.000000	2439.952442	-3.913	8.0	PASS

Peak Power Spectral Density

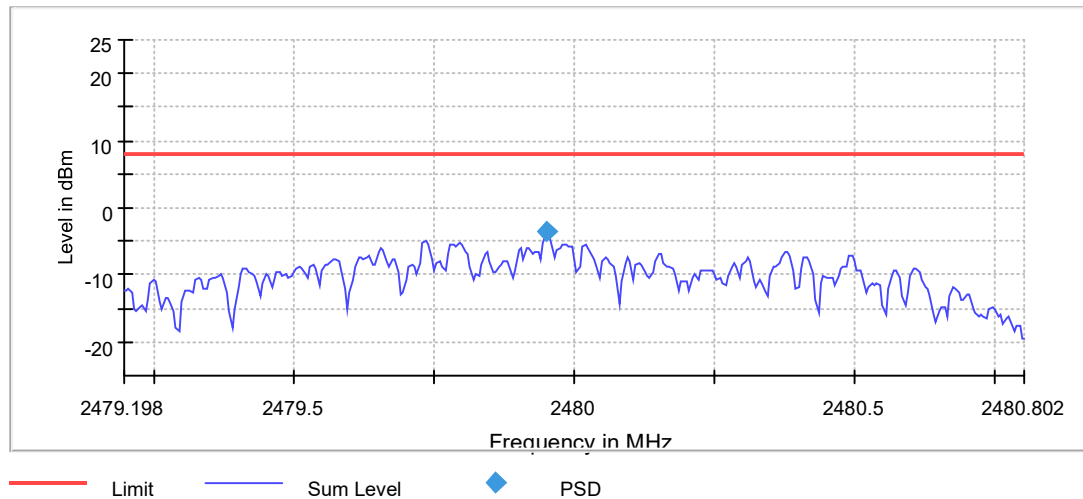

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.43911 GHz	2.43911 GHz
Stop Frequency	2.44089 GHz	2.44089 GHz
Span	1.782 MHz	1.782 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	356	~ 356
SweepTime	1.790 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	7 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.18 dB	0.50 dB

Power Spectral Density, 2480MHz

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2480.000000	2479.950032	-3.701	8.0	PASS

Peak Power Spectral Density


Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47920 GHz	2.47920 GHz
Stop Frequency	2.48080 GHz	2.48080 GHz
Span	1.604 MHz	1.604 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	321	~ 321
Sweeptime	1.610 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.33 dB	0.50 dB

5.1.5 Conducted Band Edge and out-of Band Emissions

RESULT:

Pass

Date of testing	: 2024-10-24
Ambient temperature	: 22.8°C
Relative humidity	: 53.2%
Atmospheric pressure	: 101kPa
Test requirement	: FCC Part 15.247(d) RSS-247 Issue 3, August 2023, Clause 5.5
Test procedure	: ANSI C63.10: 2013
Test voltage	: AC 120V, 60Hz
Test modes applied	: A

Figure 1: Reference level

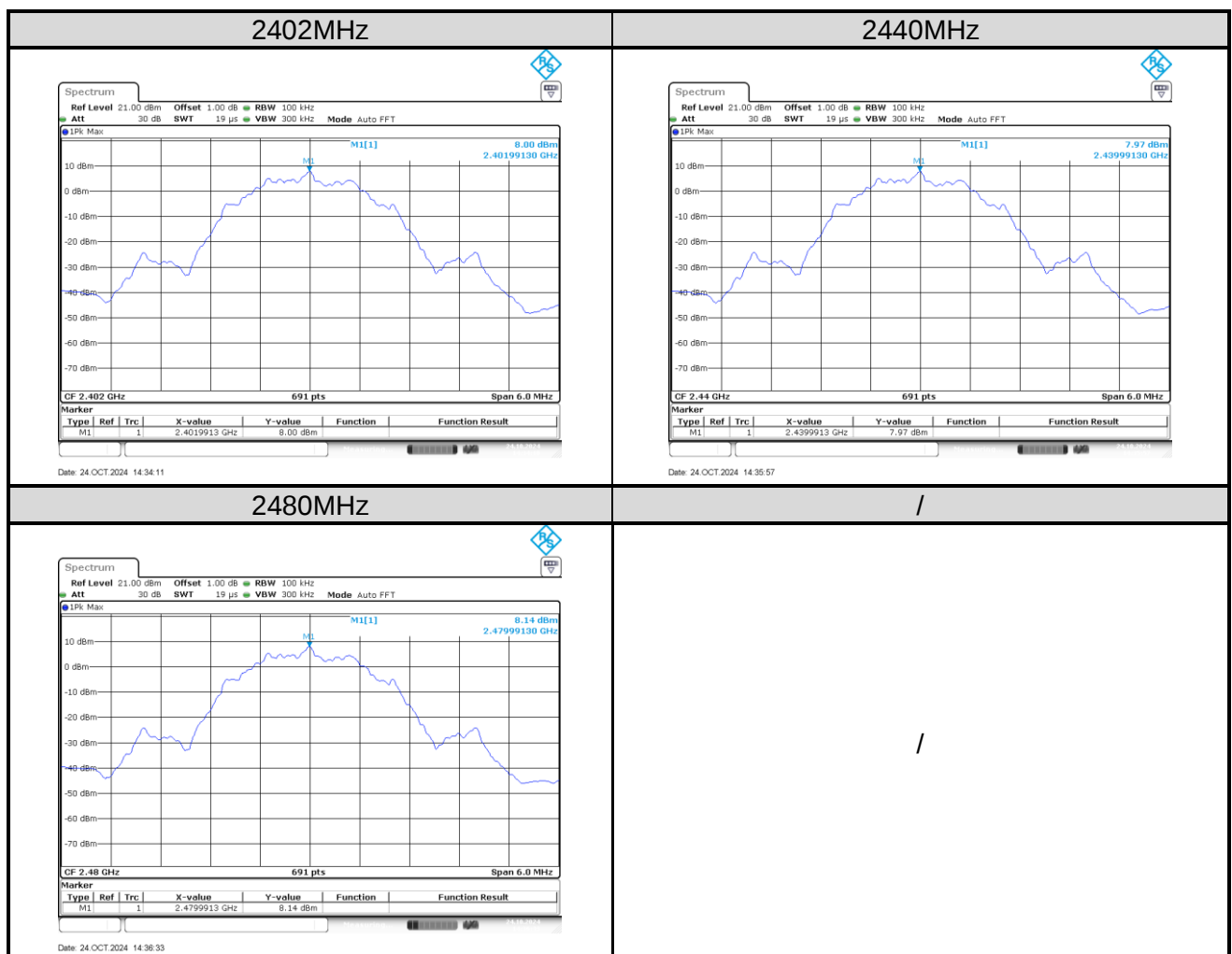
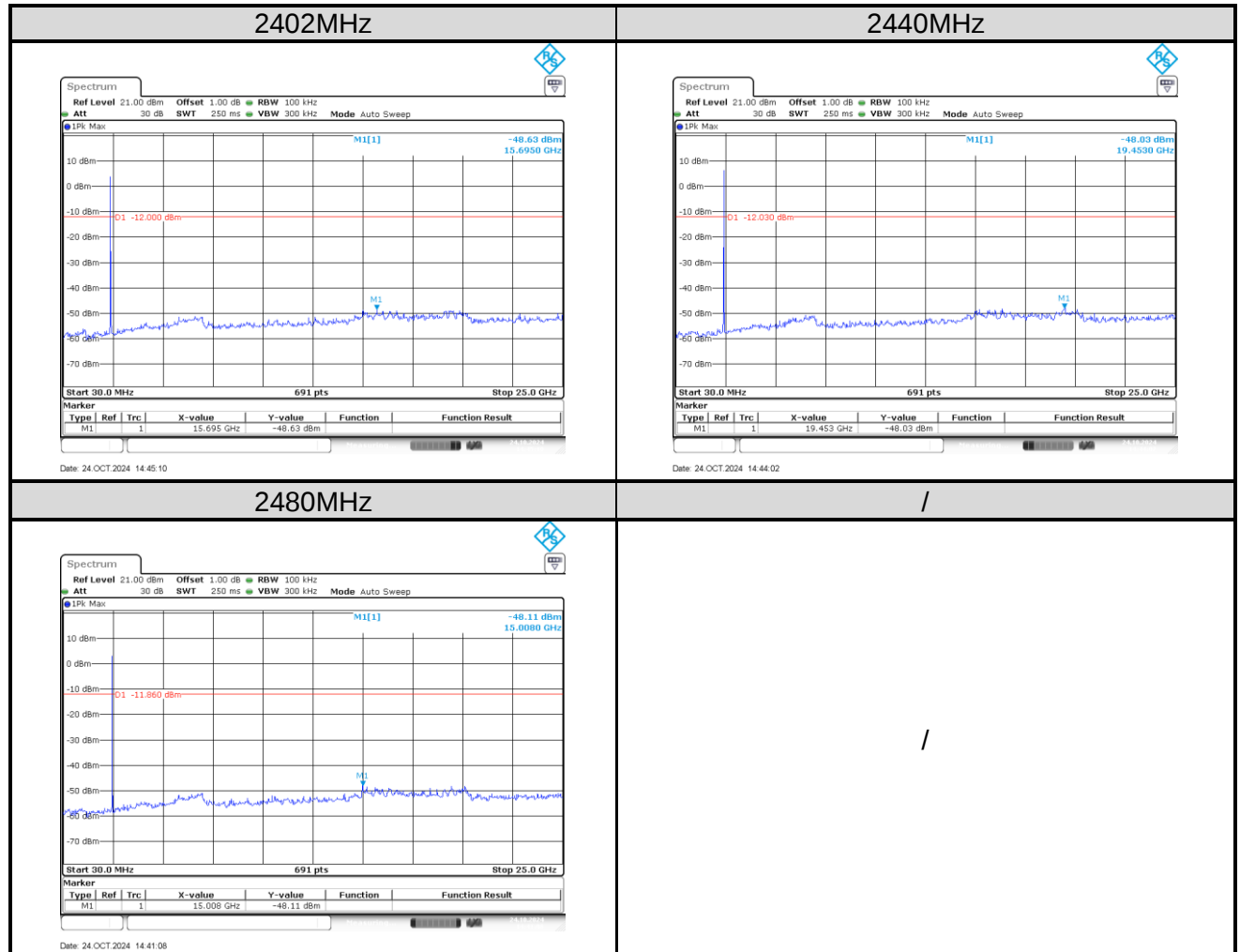
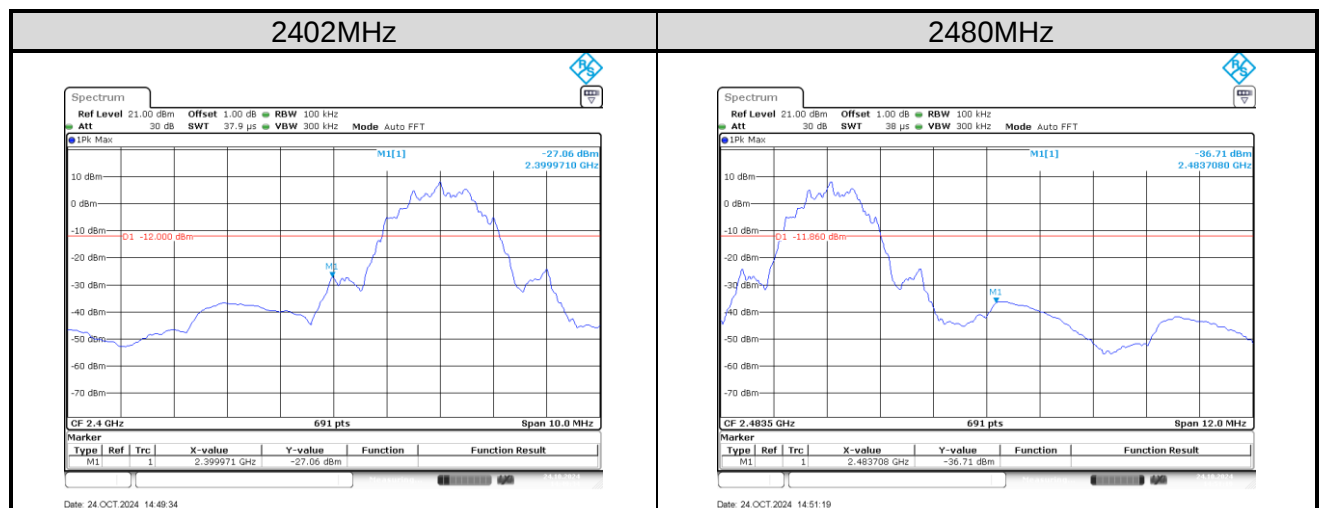


Figure 2: Conducted Spurious Emission

Figure 3: Conducted Band Edge


5.2 Emission in the Frequency Range up to 30MHz

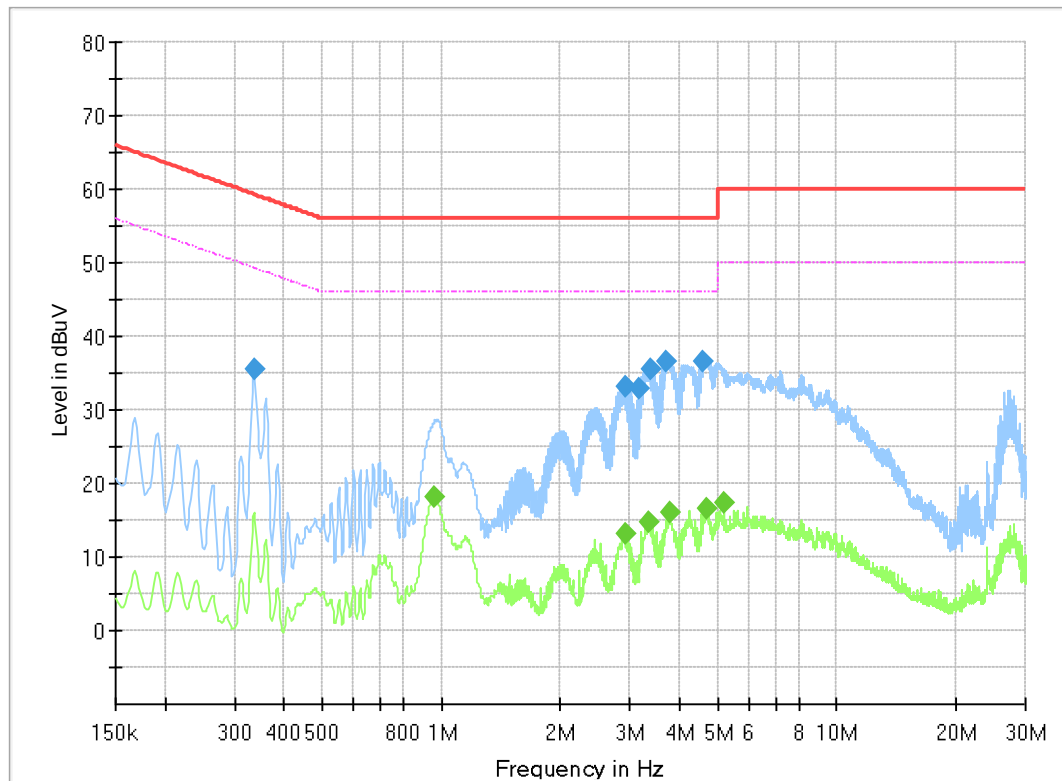
5.2.1 Conducted Emission

RESULT:**Pass**

Date of testing	:	2024-10-25
Ambient temperature	:	22.2°C
Relative humidity	:	54.6%
Atmospheric pressure	:	101kPa
Test requirement	:	FCC Part 15.207 (a) RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.8
Test procedure	:	KDB 558074 D01v05r02 ANSI C63.10: 2013
Test voltage	:	AC 120V, 60Hz
Test modes applied	:	A

Figure 4: Conducted Emission, L

Full Spectrum


Final_Result_QPK

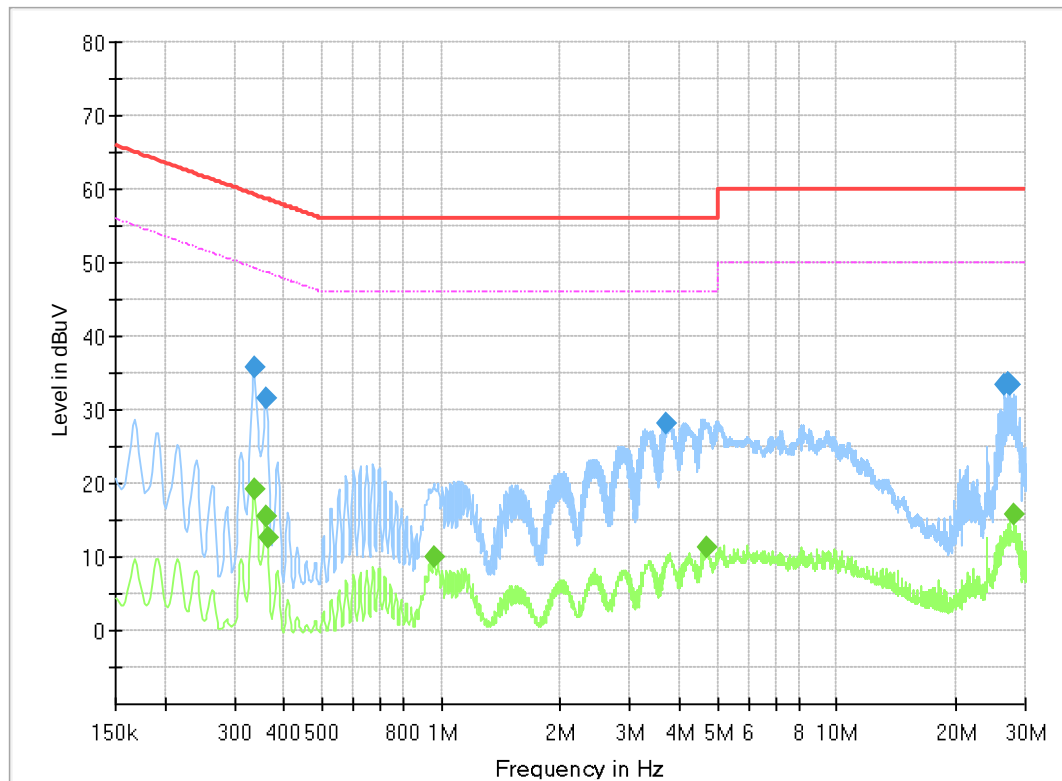
Frequency (MHz)	QuasiPeak (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.336750	35.57	59.28	23.71	1000.0	9.000	L1	10.3
2.935500	33.19	56.00	22.81	1000.0	9.000	L1	10.2
3.160500	32.94	56.00	23.06	1000.0	9.000	L1	10.2
3.365250	35.42	56.00	20.58	1000.0	9.000	L1	10.2
3.687000	36.70	56.00	19.30	1000.0	9.000	L1	10.2
4.598250	36.66	56.00	19.34	1000.0	9.000	L1	10.3

Final_Result_CAV

Frequency (MHz)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.960000	18.29	46.00	27.71	1000.0	9.000	L1	10.7
2.908500	13.04	46.00	32.96	1000.0	9.000	L1	10.2
3.338250	14.78	46.00	31.22	1000.0	9.000	L1	10.2
3.783750	16.06	46.00	29.94	1000.0	9.000	L1	10.2
4.672500	16.64	46.00	29.36	1000.0	9.000	L1	10.3
5.192250	17.29	50.00	32.71	1000.0	9.000	L1	10.4

Figure 5: Conducted Emission, N

Full Spectrum


Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.336750	35.72	59.28	23.57	1000.0	9.000	N	10.5
0.359250	31.68	58.75	27.07	1000.0	9.000	N	10.4
3.687000	28.26	56.00	27.74	1000.0	9.000	N	10.7
26.625750	33.37	60.00	26.63	1000.0	9.000	N	11.6
27.219750	33.61	60.00	26.39	1000.0	9.000	N	11.6
27.548250	33.50	60.00	26.50	1000.0	9.000	N	11.6

Final_Result_CAV

Frequency (MHz)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.336750	19.33	49.28	29.95	1000.0	9.000	N	10.5
0.359250	15.46	48.75	33.29	1000.0	9.000	N	10.4
0.363750	12.71	48.64	35.94	1000.0	9.000	N	10.4
0.960000	10.06	46.00	35.94	1000.0	9.000	N	10.4
4.672500	11.23	46.00	34.77	1000.0	9.000	N	10.7
28.000500	15.76	50.00	34.24	1000.0	9.000	N	11.6

5.3 Emission in the Frequency Range above 30MHz

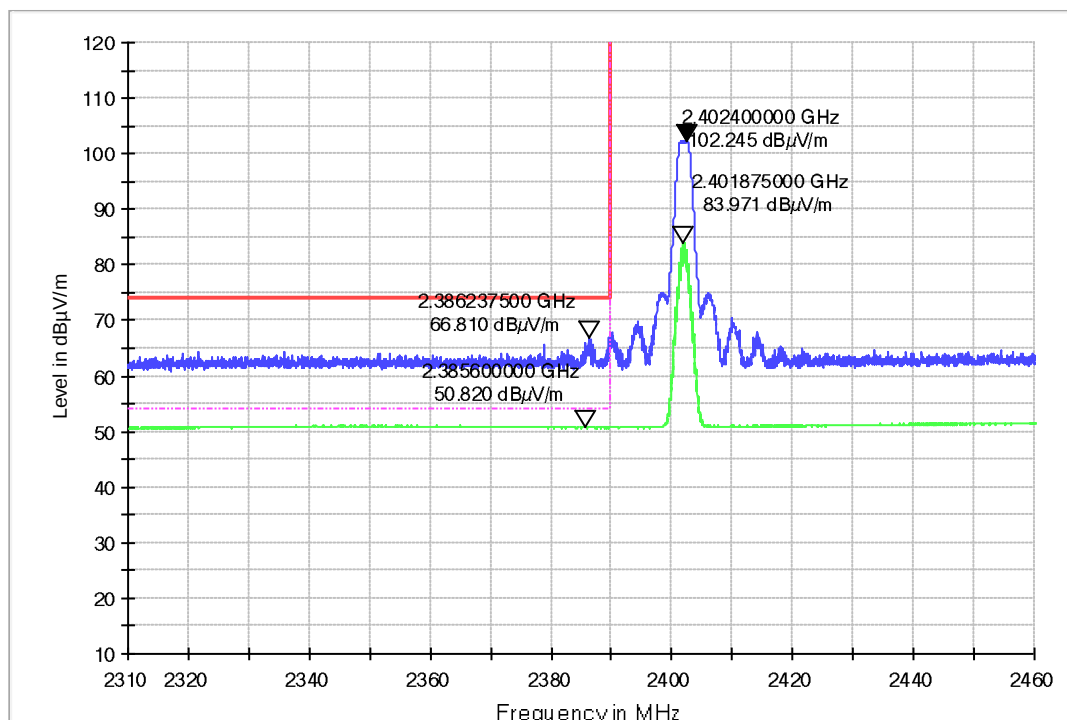
5.3.1 Radiated Band-Edge

RESULT:**Pass**

Date of testing	:	2024-10-31
Ambient temperature	:	21.7°C
Relative humidity	:	49.8%
Atmospheric pressure	:	101kPa
Test requirement	:	FCC Part 15.247(d) FCC Part 15.205(a) FCC Part 15.209(a) RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.9 RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.10 RSS-247 Issue 3, August 2023, Clause 5.5
Test procedure	:	ANSI C63.10: 2013
Test voltage	:	AC 120V, 60Hz
Test modes applied	:	A

Figure 6: Radiated Band-Edge, 2402MHz, H

Copy of 2310° 2410 BE 1-18GHz_HL050_FSV40_Pre


Figure 7: Radiated Band-Edge, 2402MHz, V

Copy of 2310° 2410 BE 1-18GHz_HL050_FSV40_Pre

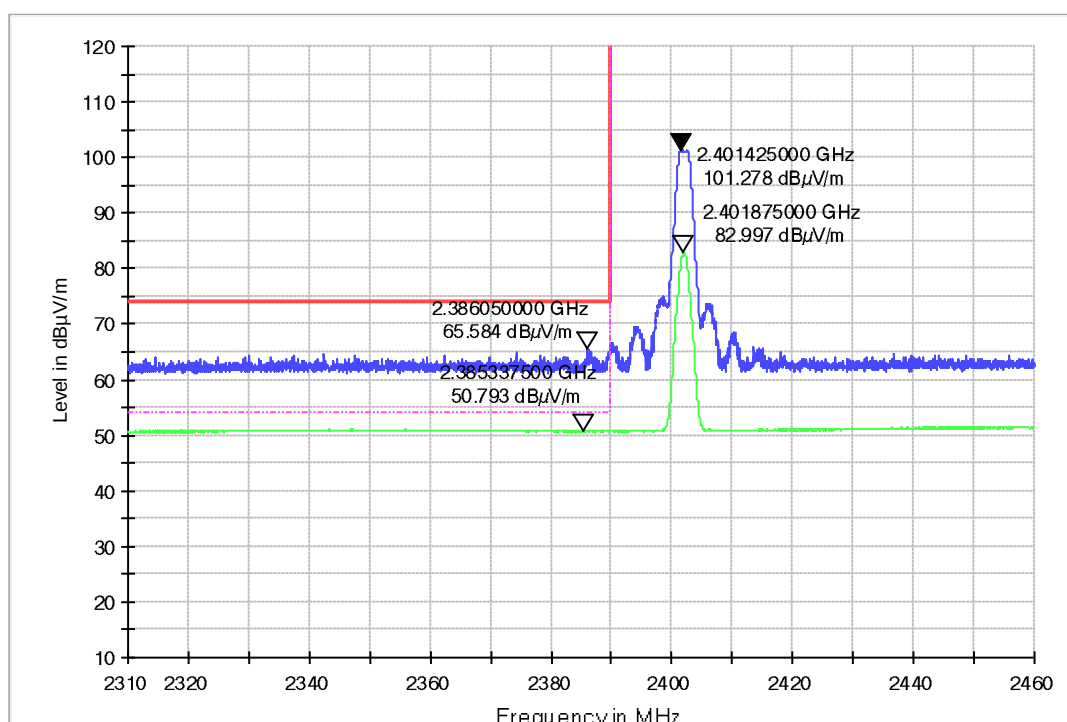
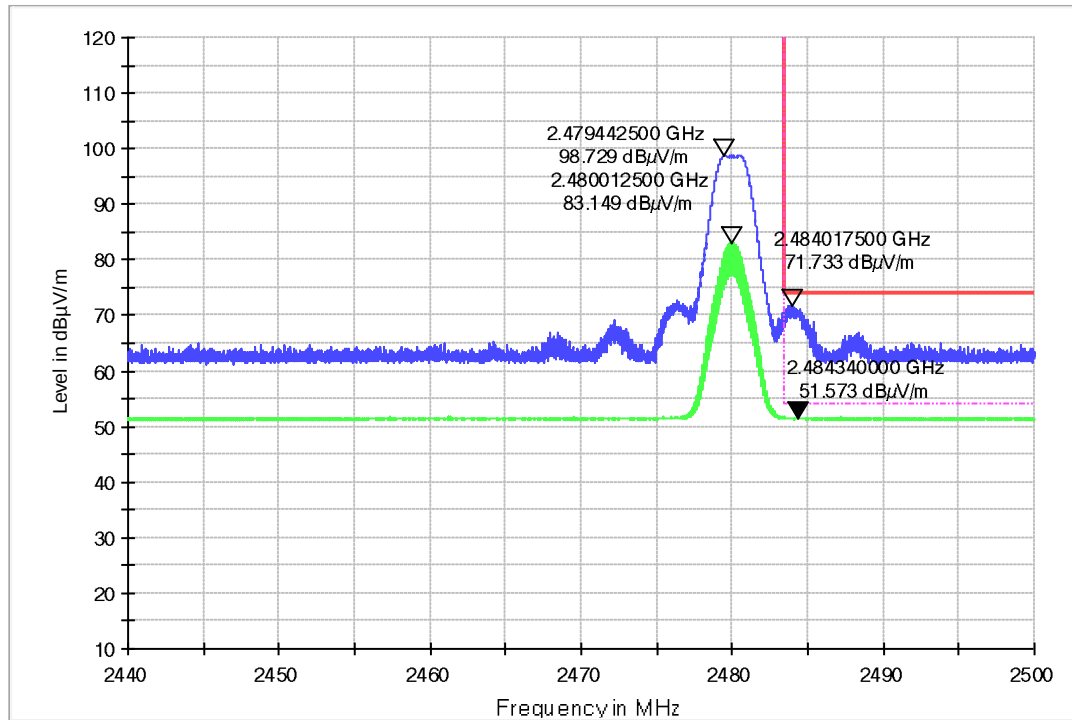
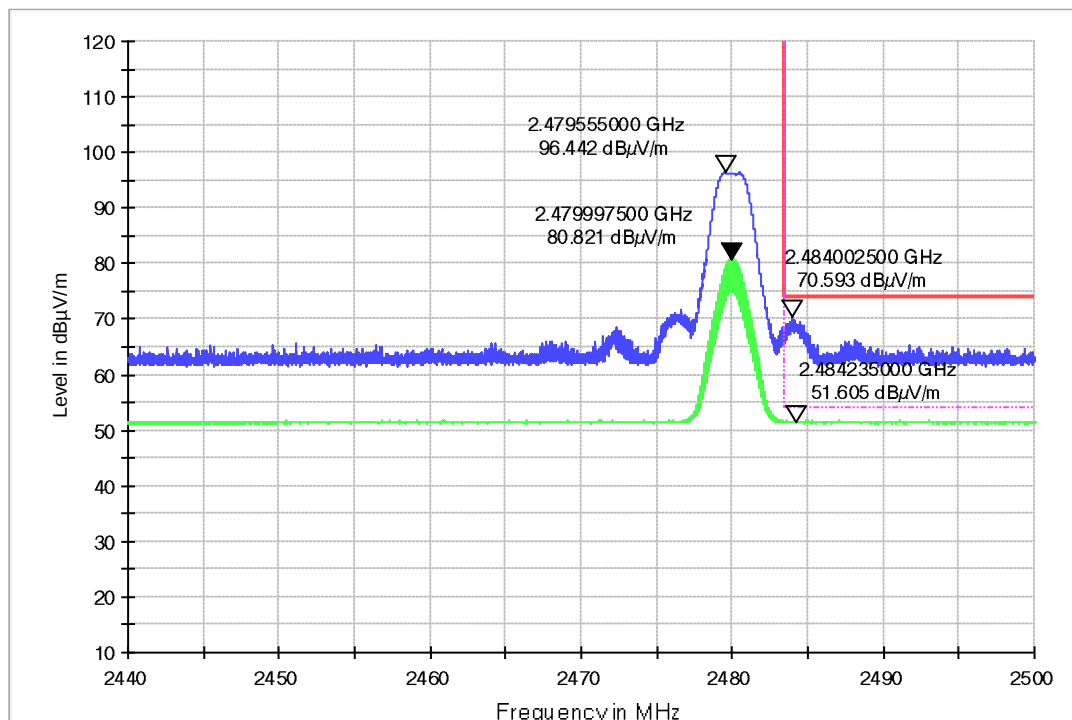


Figure 8: Radiated Band-Edge, 2480MHz, H

Copy of 2470° 2500 BE_1-18GHz_HL050_FSV40_Pre


Figure 9: Radiated Band-Edge, 2480MHz, V

Copy of 2470° 2500 BE_1-18GHz_HL050_FSV40_Pre



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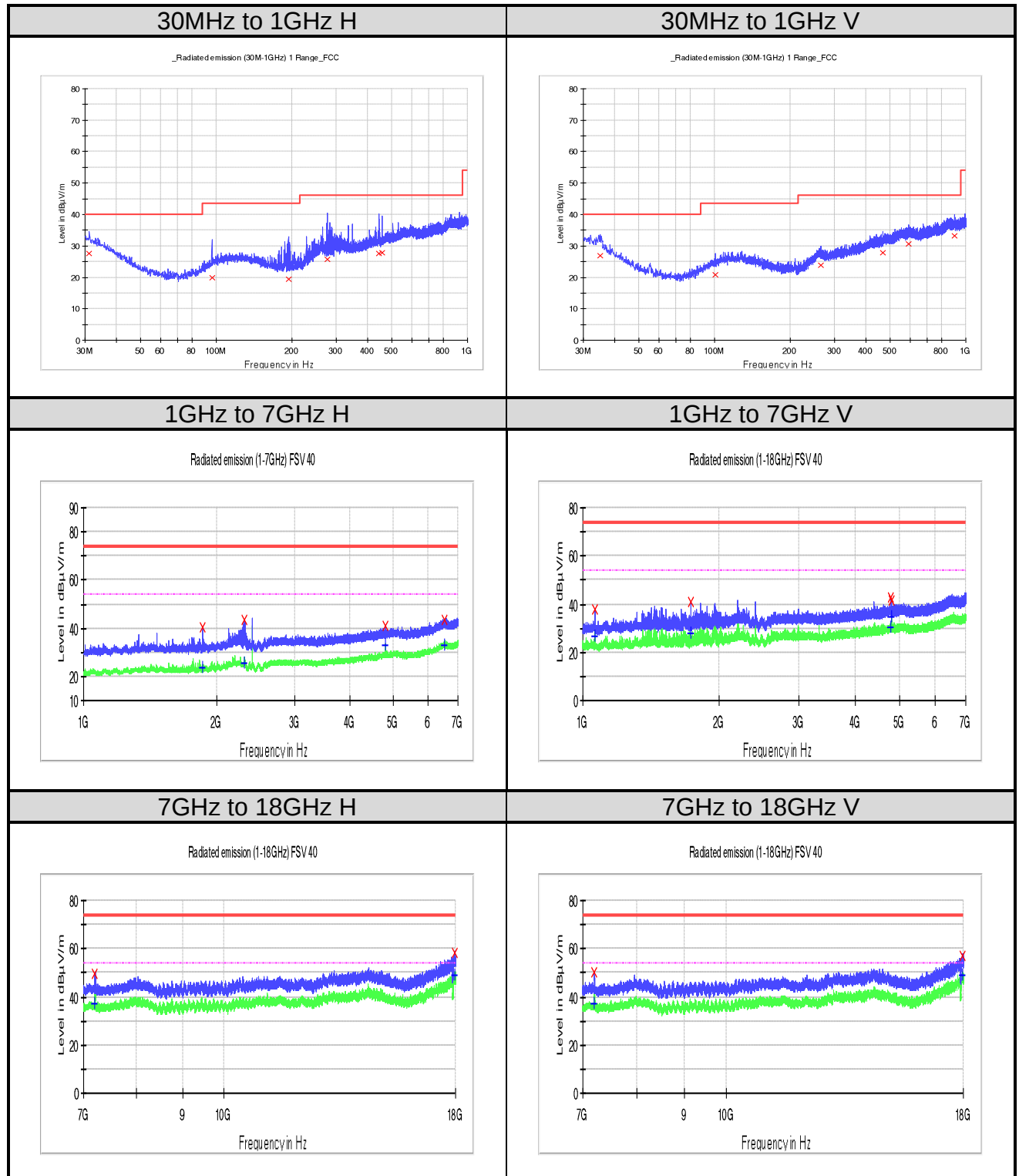
5.3.2 Radiated Spurious Emission

RESULT:**Pass**

Date of testing	:	2024-10-31
Ambient temperature	:	21.7°C
Relative humidity	:	49.8%
Atmospheric pressure	:	101kPa
Test requirement	:	FCC Part 15.247(d) FCC Part 15.209(a) RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.9 RSS-247 Issue 3, August 2023, Clause 5.5
Test procedure	:	ANSI C63.10: 2013
Test voltage	:	AC 120V, 60Hz
Test modes applied	:	A

Note:

For the frequency range from 18GHz to 25GHz, no emission was found.

Figure 10: Radiated Spurious Emission, 2402MHz


Limit and Margin
QP

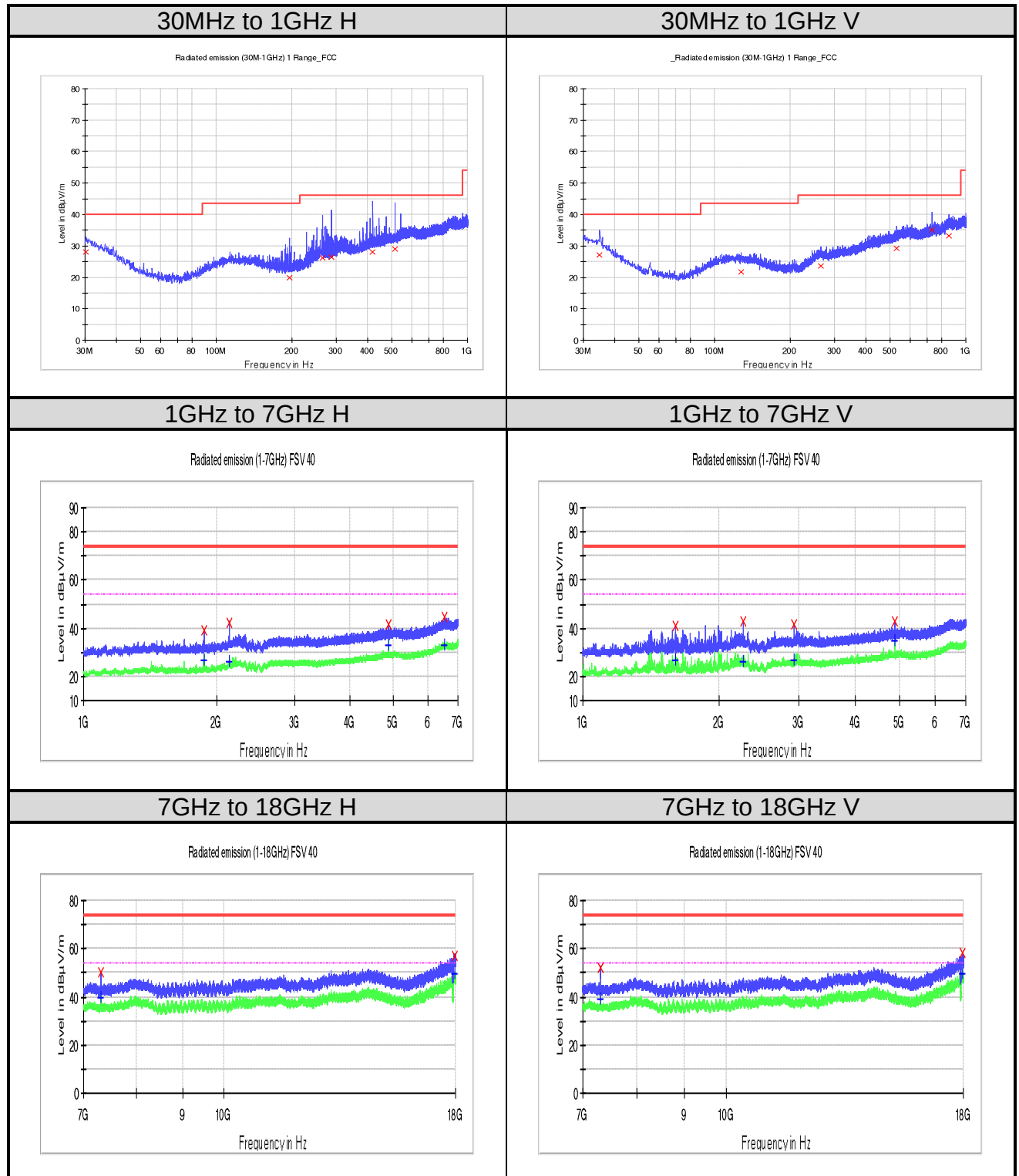
Frequency (MHz)	QuasiPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
31.212500	27.5	H	24.3	12.5	40.0
95.960000	20.0	H	17.0	23.5	43.5
193.566250	19.5	H	15.9	24.0	43.5
276.501250	25.8	H	19.9	20.3	46.0
443.462500	27.5	H	24.2	18.5	46.0
455.951250	27.9	H	24.4	18.1	46.0
34.971250	26.9	V	22.5	13.1	40.0
100.810000	20.7	V	17.7	22.8	43.5
264.133750	23.8	V	20.8	22.2	46.0
466.863750	27.9	V	24.7	18.1	46.0
591.508750	30.6	V	26.8	15.4	46.0
901.545000	33.3	V	28.9	12.7	46.0

PK

Frequency (MHz)	MaxPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
1857.700000	40.2	H	-18.1	33.8	74.0
2309.800000	43.4	H	-15.5	30.7	74.0
4802.800000	41.1	H	-10.8	32.9	74.0
6523.300000	43.3	H	-7.0	30.7	74.0
7204.531250	49.4	H	-5.4	24.6	74.0
17973.187500	58.2	H	12.9	15.8	74.0
1064.875000	37.7	V	-19.9	36.3	74.0
1732.937500	40.8	V	-18.5	33.2	74.0
4780.000000	43.1	V	-10.9	30.9	74.0
4802.875000	41.8	V	-10.8	32.2	74.0
7204.531250	50.4	V	-5.4	23.7	74.0
17967.000000	57.3	V	12.8	16.7	74.0

AV

Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
1857.700000	23.8	H	-18.1	30.2	54.0
2309.800000	25.7	H	-15.5	28.3	54.0
4802.800000	32.9	H	-10.8	21.1	54.0
6523.300000	33.1	H	-7.0	21.0	54.0
7204.531250	37.1	H	-5.4	17.0	54.0
17973.187500	49.2	H	12.9	4.8	54.0
1064.875000	26.9	V	-19.9	27.1	54.0
1732.937500	27.8	V	-18.5	26.2	54.0
4780.000000	30.6	V	-10.9	23.4	54.0
4802.875000	34.9	V	-10.8	19.1	54.0
7204.531250	37.4	V	-5.4	16.6	54.0
17967.000000	49.0	V	12.8	5.0	54.0

Figure 11: Radiated Spurious Emission, 2440MHz


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QP

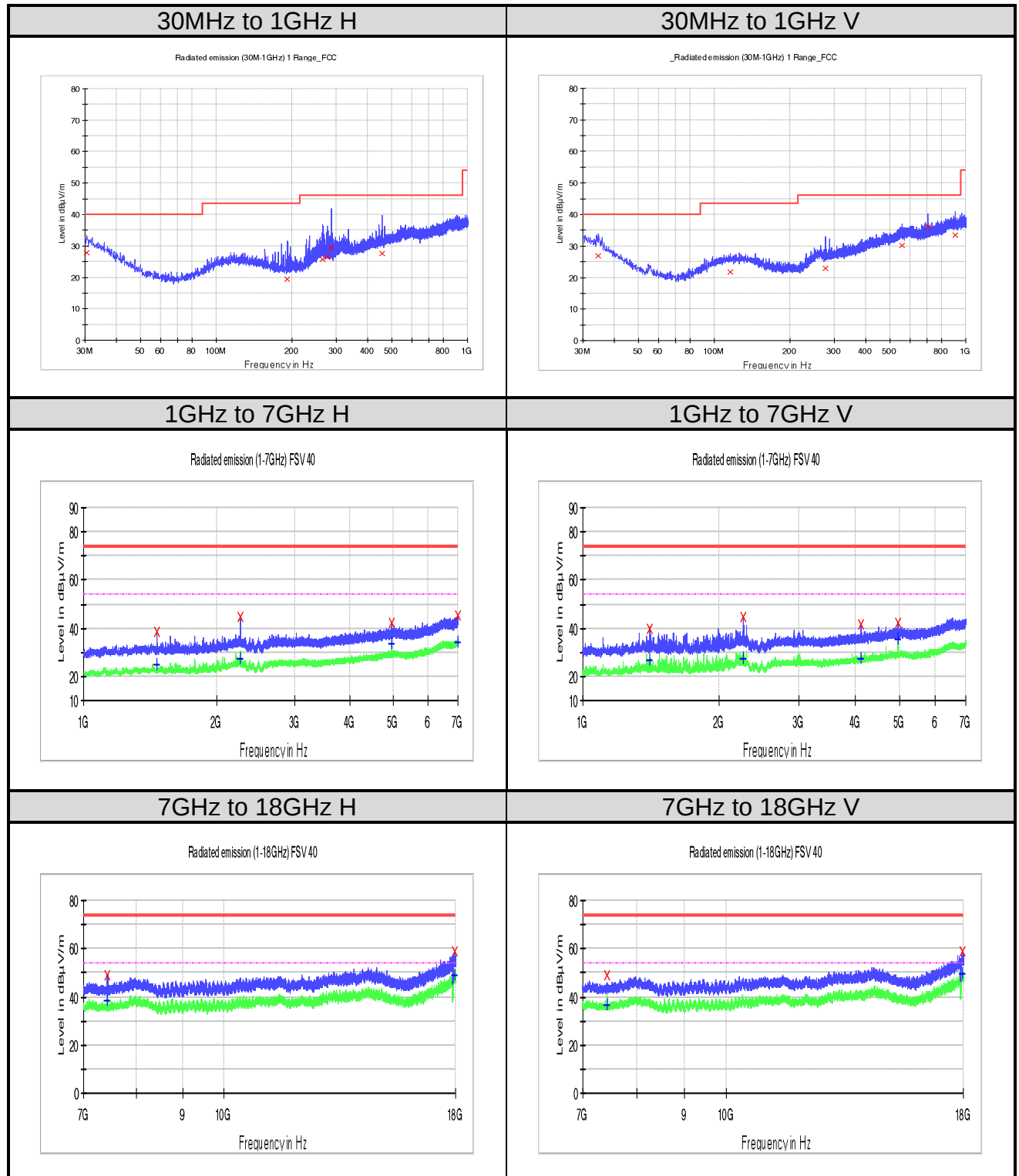
Frequency (MHz)	QuasiPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
30.121250	28.0	H	24.7	12.0	40.0
195.021250	19.8	H	15.9	23.7	43.5
264.133750	26.2	H	20.8	19.8	46.0
287.898750	26.5	H	20.1	19.5	46.0
419.940000	28.1	H	23.9	17.9	46.0
516.091250	28.9	H	25.5	17.1	46.0
34.850000	27.2	V	22.6	12.9	40.0
127.606250	21.8	V	18.7	21.7	43.5
264.740000	23.7	V	20.7	22.3	46.0
531.490000	29.3	V	25.8	16.7	46.0
732.158750	35.0	V	27.5	11.0	46.0
856.440000	33.3	V	28.9	12.7	46.0

PK

Frequency (MHz)	MaxPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
1870.000000	39.0	H	-18.1	35.0	74.0
2131.300000	42.4	H	-16.2	31.6	74.0
4879.600000	41.5	H	-10.7	32.5	74.0
6534.700000	44.7	H	-7.0	29.3	74.0
7321.406250	50.0	H	-5.9	24.0	74.0
17980.750000	57.0	H	13.0	17.0	74.0
1599.400000	40.9	V	-18.6	33.1	74.0
2260.600000	42.6	V	-15.3	31.4	74.0
2925.100000	41.3	V	-14.7	32.7	74.0
4879.300000	42.7	V	-10.7	31.4	74.0
7318.312500	52.1	V	-5.9	21.9	74.0
17976.968750	58.1	V	13.0	15.9	74.0

AV

Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
1870.000000	26.9	H	-18.1	27.1	54.0
2131.300000	25.9	H	-16.2	28.1	54.0
4879.600000	32.7	H	-10.7	21.3	54.0
6534.700000	33.2	H	-7.0	20.8	54.0
7321.406250	40.0	H	-5.9	14.0	54.0
17980.750000	49.5	H	13.0	4.5	54.0
1599.400000	26.7	V	-18.6	27.3	54.0
2260.600000	26.4	V	-15.3	27.6	54.0
2925.100000	27.0	V	-14.7	27.0	54.0
4879.300000	35.1	V	-10.7	18.9	54.0
7318.312500	39.2	V	-5.9	14.8	54.0
17976.968750	49.5	V	13.0	4.5	54.0

Figure 12: Radiated Spurious Emission, 2480MHz


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Frequency (MHz)	QuasiPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
30.485000	27.8	H	24.6	12.2	40.0
191.626250	19.4	H	15.9	24.1	43.5
264.255000	25.8	H	20.8	20.2	46.0
276.258750	26.5	H	19.9	19.5	46.0
288.020000	29.5	H	20.1	16.5	46.0
455.830000	27.7	H	24.4	18.3	46.0
34.607500	26.9	V	22.7	13.1	40.0
116.087500	21.9	V	18.8	21.6	43.5
276.016250	23.0	V	19.9	23.0	46.0
558.165000	30.2	V	26.6	15.8	46.0
709.121250	36.1	V	26.9	9.9	46.0
906.880000	33.4	V	28.9	12.6	46.0

PK

Frequency (MHz)	MaxPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
1465.600000	38.8	H	-18.4	35.2	74.0
2259.700000	44.5	H	-15.3	29.5	74.0
4959.400000	41.9	H	-10.6	32.1	74.0
6992.200000	45.4	H	-5.9	28.6	74.0
7438.281250	49.0	H	-5.4	25.0	74.0
17965.281250	58.7	H	12.8	15.3	74.0
1403.500000	40.0	V	-18.4	34.1	74.0
2261.200000	44.6	V	-15.3	29.4	74.0
4115.800000	41.8	V	-12.6	32.2	74.0
4959.100000	42.2	V	-10.6	31.8	74.0
7438.625000	48.7	V	-5.4	25.3	74.0
17974.218750	58.7	V	12.9	15.3	74.0

AV

Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
1465.600000	24.7	H	-18.4	29.3	54.0
2259.700000	27.3	H	-15.3	26.7	54.0
4959.400000	33.8	H	-10.6	20.2	54.0
6992.200000	33.9	H	-5.9	20.1	54.0
7438.281250	38.2	H	-5.4	15.8	54.0
17965.281250	49.1	H	12.8	5.0	54.0
1403.500000	26.7	V	-18.4	27.3	54.0
2261.200000	27.6	V	-15.3	26.5	54.0
4115.800000	27.3	V	-12.6	26.7	54.0
4959.100000	35.5	V	-10.6	18.5	54.0
7438.625000	36.7	V	-5.4	17.3	54.0
17974.218750	49.5	V	12.9	4.6	54.0

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