

Prüfbericht-Nr.: <i>Test report no.:</i>	CN25C3MM 001	Auftrags-Nr.: <i>Order no.:</i>	326122771	Seite 1 von 43 Page 1 of 43
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	1288983	Auftragsdatum: <i>Order date:</i>	2025-07-30	
Auftraggeber: <i>Client:</i>	IKEA of Sweden AB Box 702, SE-343 81 Älmhult, Sweden			
Prüfgegenstand: <i>Test item:</i>	BADKRUKA			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	E2610			
Auftrags-Inhalt: <i>Order content:</i>	Test Report			
Prüfgrundlage: <i>Test specification:</i>	FCC CFR47 Part 15, Subpart C Section 15.247 RSS-Gen Issue 5, Amendment 2, February 2021 RSS-247 Issue 4, July 24, 2025			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2025-08-04	Refer to photo document.		
Prüfmuster-Nr.: <i>Test sample no:</i>	A004059301-003, 009~010			
Prüfzeitraum: <i>Testing period:</i>	2025-09-08 ~ 2025-10-10			
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland (Shanghai) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shanghai) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von: <i>tested by:</i>	☒ <u>Hongfei Wu</u>		genehmigt von: <i>authorized by:</i>	☒ <u>Elliot Zhang</u>
Datum: <i>Date:</i> 2025-12-24	Signed by: Hongfei Wu		Datum: <i>Date:</i> 2025-12-24	Signed by: Elliot Zhang
Stellung / Position:	Sachverständige(r)/Expert		Stellung / Position:	Sachverständige(r)/Expert
Sonstiges / Other:	FCC ID: FHO-E2610 IC: 10912A-E2610 HVIN: E2610 PMN: BADKRUKA			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* 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 115:2023, 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 115:2023, 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.

Workshop 14, 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
EMC-C-196	Wireless connectivity tester	CMW270	Rohde & Schwarz	2027-08-09
EMC-C-302	Signal generator	SMB100B (6 GHz)	Rohde & Schwarz	2025-12-10
EMC-C-303	Vector Signal generator	SMW200A	Rohde & Schwarz	2025-12-10
EMC-C-304	OSP	OSP-B157W8	Rohde & Schwarz	2025-12-10
EMC-C-161	Spectrum analyser	FSV40	Rohde&Schwarz	2026-07-11
EMC-C-018	Double ridged horn antenna	BBHA 9120 D	Schwarzbeck	2026-03-24
EMC-C-066	EMI test receiver	ESCI	Rohde&Schwarz	2026-09-28
EMC-C-068	Broadband horn antenna	BBHA 9170	Schwarzbeck	2028-06-18
EMC-C-155	BiLog antenna	CBL 6112D	Teseq	2026-09-24
EMC-C-175	Preamplifier	EMC051845SE	EMCI Taiwan	2026-07-11
EMC-C-176	Preamplifier	EMC184045SE	EMCI Taiwan	2026-07-11
EMC-C-001	3 m semi-anechoic chamber	SAC3	Frankonia	2026-12-03
EMC-C-141	Shielded enclosure	10.055x3.605x3.000	Frankonia	2028-11-08
EMC-C-195	EMI test receiver	ESR3	Rohde&Schwarz	2026-08-02
EMC-C-190	Artificial mains network	ENV432	Rohde&Schwarz	2026-08-02
software				
EMC-S-036	RF measurement software	WMS32-WB (11.40.00)	Rohde&Schwarz	NA
EMC-S-032	EMI measurement software	EMC32-E+ (10.60.20)	Rohde&Schwarz	NA
EMC-S-028	EMI measurement software	EMC32-MEB (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	±2.33dB
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:	BADKRUKA
Model No.:	E2610
Operation Voltage:	AC100~240V, 50-60Hz
Test Voltage:	DC 3.3V
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:	1Mbps
Equipment Type:	Non-FHSS
Antenna Type:	PCB Antenna
Antenna Gain:	2.51 dBi (declared by client)

Note:

The main board of the product is used for RF conducted test.

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. 2.4 GHz proprietary transmitting mode
- B. Radio operating mode

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 C63.10:2020 and ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024.

Test Software: Telink BDT, V5.7.4

Table 5: Power parameter value

Mode	Frequency [MHz]	Power Parameter Setting Value
2.4 GHz proprietary	2402	8.2
	2440	8.2
	2480	8.2

4.3 Special Accessories and Auxiliary Equipment

Table 6: Special Accessories

Accessories	Parameter
RF Cable between the antenna port and test system	Cable loss: 0.5dB

Note: The RF cable used in the test was provided by

☒ Client

☐ Test Lab

And the cable loss has been factored in the related test.

Table 7: Auxiliary Equipment

Equipment	Manufacturer	Model
Laptop	Lenovo	21AJ-S57N0J

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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 2.51 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 8: 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 14 of 43***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:	2.51 dBi

Verdict: PASS

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

Date of testing	:	2025-10-10
Ambient temperature	:	21.6°C
Relative humidity	:	53.1%
Atmospheric pressure	:	101kPa
Test requirement	:	FCC Part 15.247(a)(2) RSS-247 Issue 4, July 24, 2025, Clause 6.3.1(a) RSS-Gen Issue 5, Amendment 2, February 2021, Clause 6.7
Test procedure	:	ANSI C63.10:2020 ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024
Test voltage	:	DC 3.3V
Test modes applied	:	A

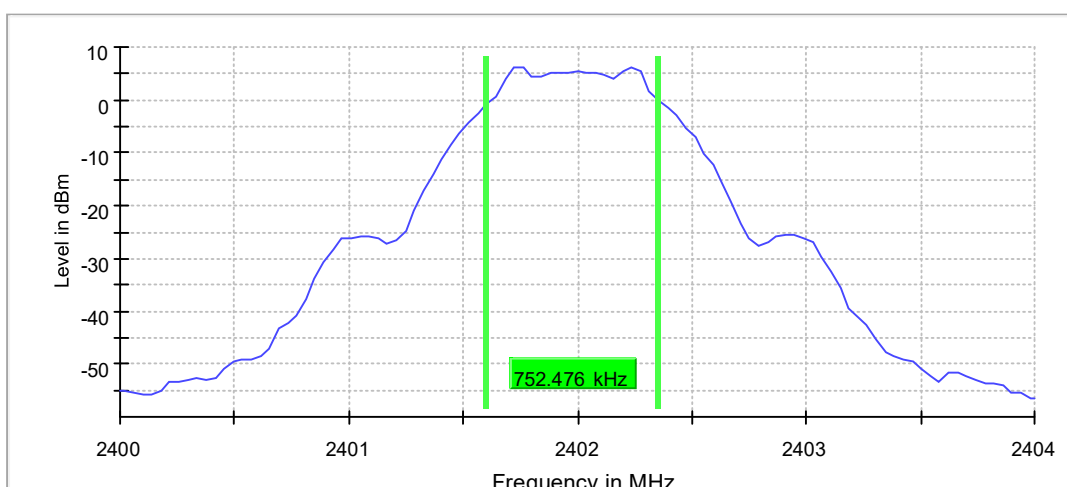
6dB Bandwidth (1Mbps, 2402MHz)

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	0.752476	0.500000	---	2401.603960	2402.356436

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

DUT Frequency (MHz)	Max Level (dBm)	Result
2402.000000	6.2	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	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	13 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.20 dB	0.50 dB

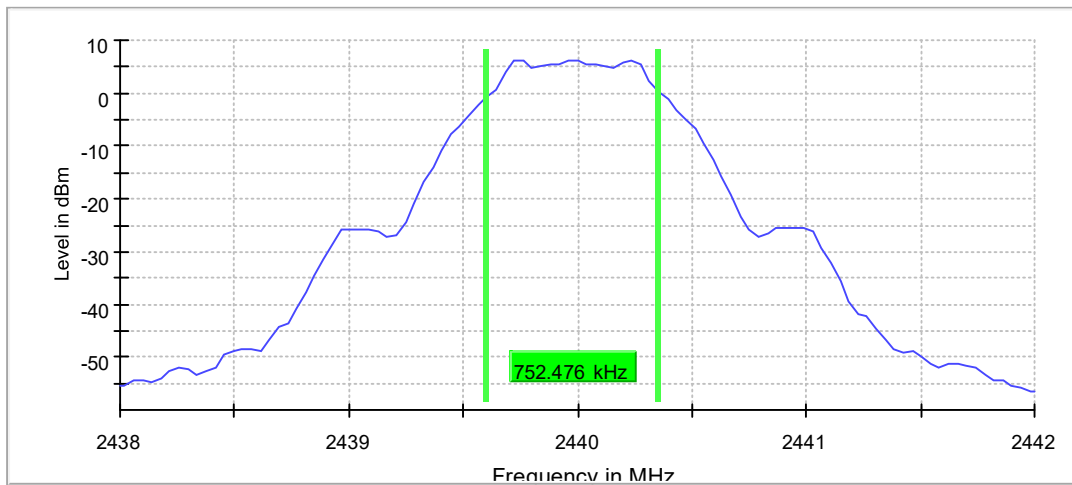
6dB Bandwidth(1Mbps, 2440MHz)

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2440.000000	0.752476	0.500000	---	2439.603960	2440.356436

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

DUT Frequency (MHz)	Max Level (dBm)	Result
2440.000000	6.3	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	9 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.37 dB	0.50 dB

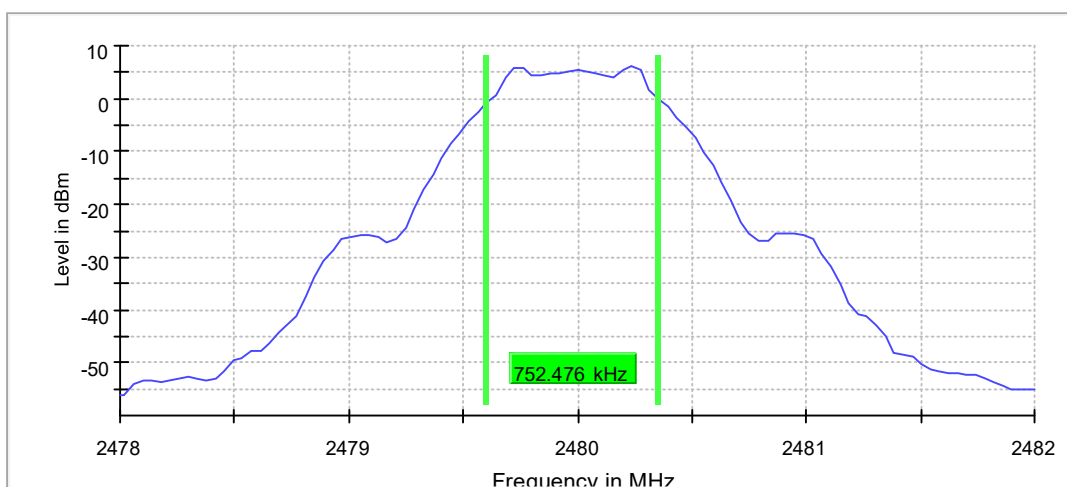
6dB Bandwidth(1Mbps, 2480MHz)

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	0.752476	0.500000	---	2479.603960	2480.356436

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

DUT Frequency (MHz)	Max Level (dBm)	Result
2480.000000	6.2	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
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	13 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.00 dB	0.50 dB

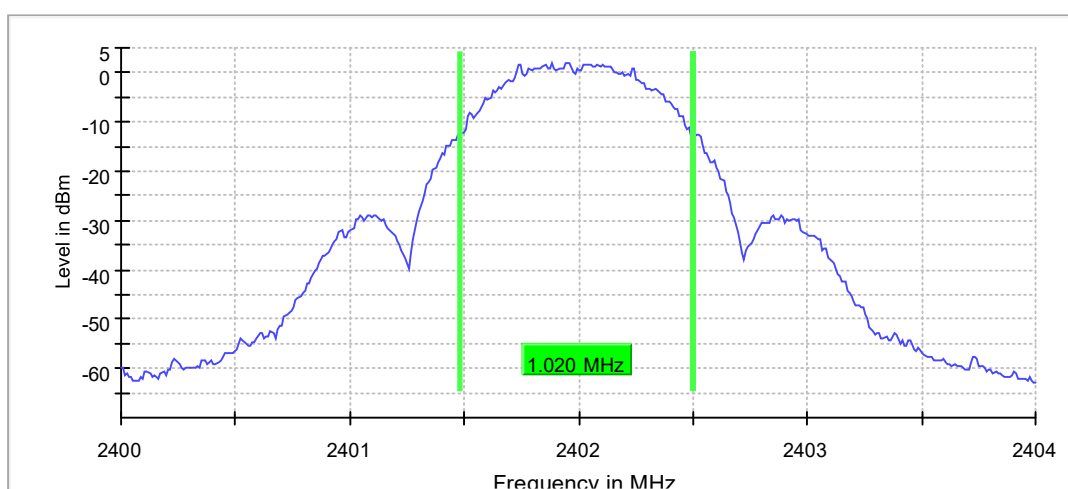
99% Occupied Channel Bandwidth (2402MHz)

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	1.020000	---	---	2401.485000	2402.505000

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2402.000000	PASS

99 % 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	20.000 kHz	>= 20.000 kHz
VBW	100.000 kHz	>= 60.000 kHz
SweepPoints	400	~ 400
Sweeptime	94.824 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	0.30 dB	0.30 dB
Run	31 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.30 dB

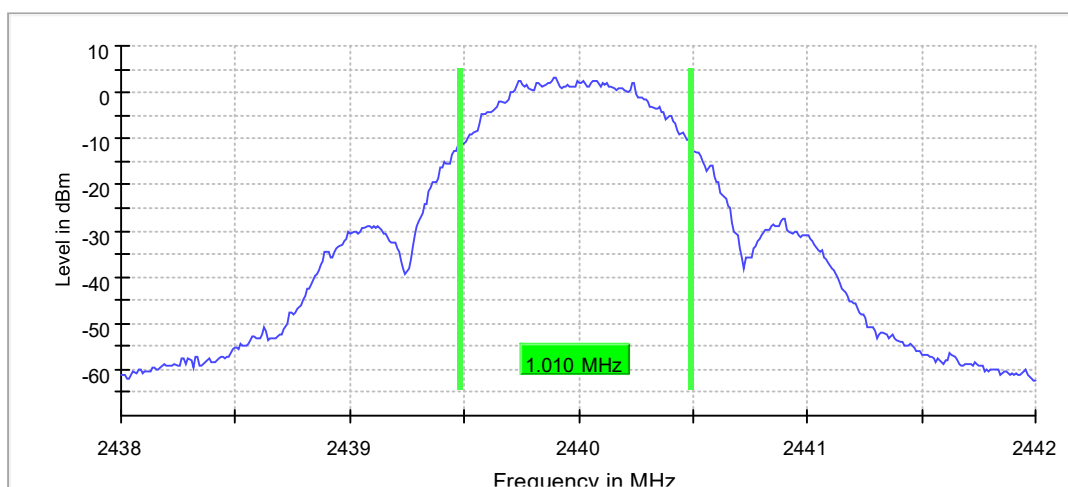
99% Occupied Channel Bandwidth (2440MHz)

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2440.000000	1.010000	---	---	2439.485000	2440.495000

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2440.000000	PASS

99 % 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	20.000 kHz	>= 20.000 kHz
VBW	100.000 kHz	>= 60.000 kHz
SweepPoints	400	~ 400
SweepTime	94.824 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	0.30 dB	0.30 dB
Run	39 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.30 dB

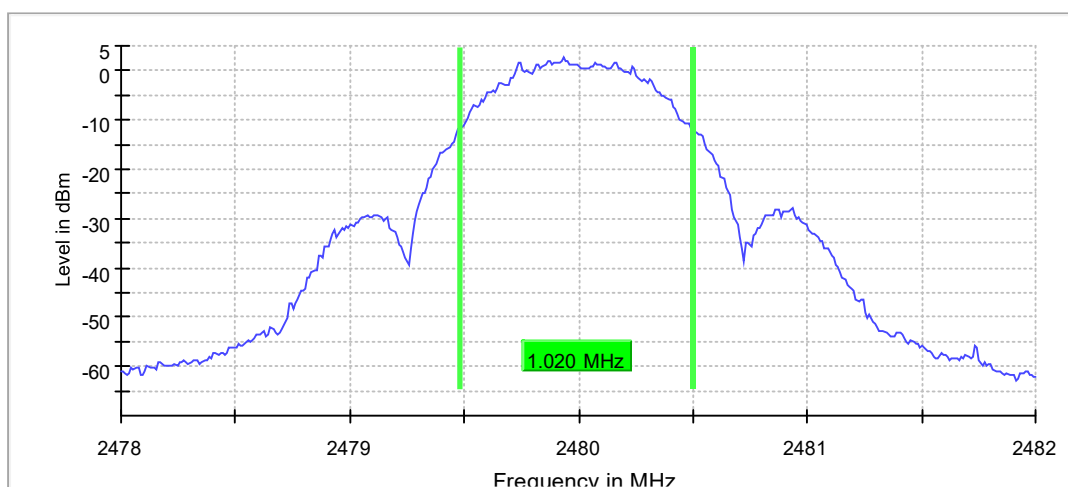
99% Occupied Channel Bandwidth (2480MHz)

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	1.020000	---	---	2479.485000	2480.505000

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2480.000000	PASS

99 % 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	20.000 kHz	>= 20.000 kHz
VBW	100.000 kHz	>= 60.000 kHz
SweepPoints	400	~ 400
Sweptime	94.824 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	0.30 dB	0.30 dB
Run	36 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.30 dB

5.1.3 Output Power

RESULT:**Pass**

Date of testing : 2025-10-10
Ambient temperature : 21.1°C
Relative humidity : 53.3%
Atmospheric pressure : 101kPa
Test requirement : FCC Part 15.247(b)(3)
RSS-247 Issue 4, July 24, 2025, Clause 6.3.2
Test procedure : ANSI C63.10:2020
ANSI C63.10-2020+Cor. 1-2023+C63.10a-
2024+Errata to C63.10a-2024
Test voltage : DC 3.3V
Test modes applied : A

Table 9: Peak Output Power

Frequency [MHz]	Peak Conducted Output Power [dBm]	Limit [dBm]
2402	6.9	30
2440	7.3	30
2480	6.9	30

Note:

1. The cable loss is taken into account in results.
2. EIRP=Conducted Output Power + Antenna Gain (2.51dBi), which is far below the 4 W (36dBm).

5.1.4 Power Spectral Density

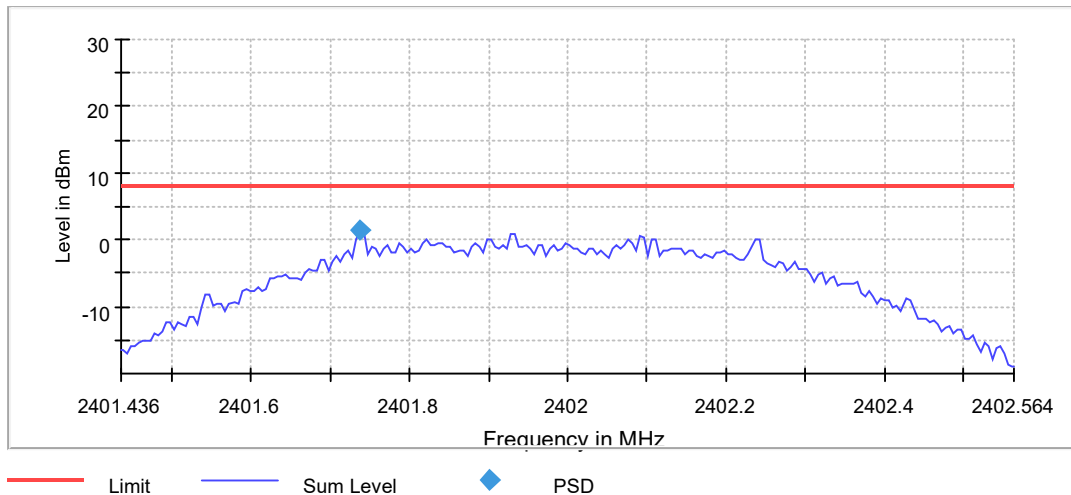
RESULT:**Pass**

Date of testing	:	2025-10-10
Ambient temperature	:	21.5°C
Relative humidity	:	53.4%
Atmospheric pressure	:	101kPa
Test requirement	:	FCC Part 15.247(e) RSS-247 Issue 4, July 24, 2025, Clause 6.3.1(b)
Test procedure	:	ANSI C63.10:2020 ANSI C63.10-2020+Cor. 1-2023+C63.10a- 2024+Errata to C63.10a-2024
Test voltage	:	DC 3.3V
Test modes applied	:	A

Power Spectral Density (2402MHz)

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2402.000000	2401.737799	1.486	8.0	PASS

Peak Power Spectral Density

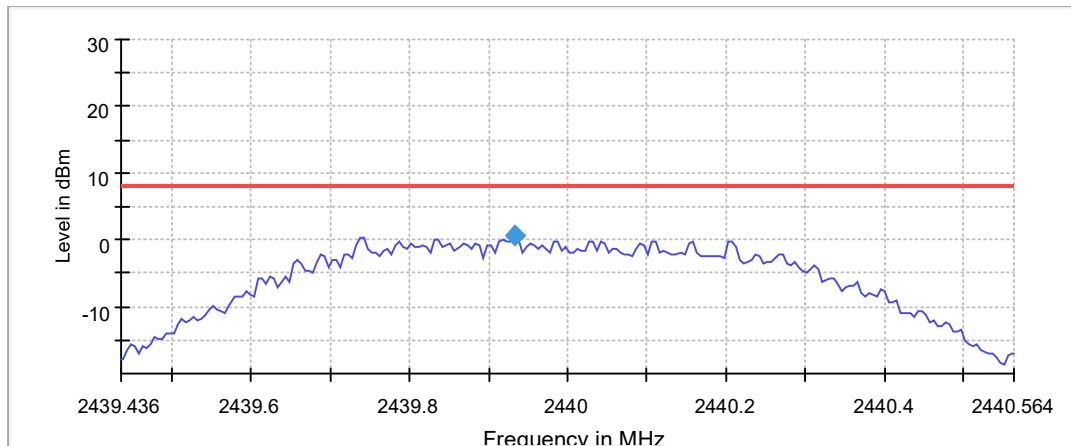

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40144 GHz	2.40144 GHz
Stop Frequency	2.40256 GHz	2.40256 GHz
Span	1.129 MHz	1.129 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	226	~ 226
Sweeptime	1.130 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	26 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.12 dB	0.50 dB

Power Spectral Density (2440MHz)

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2440.000000	2439.932577	0.557	8.0	PASS

Peak Power Spectral Density



— Limit
 — Sum Level
 ◆ PSD

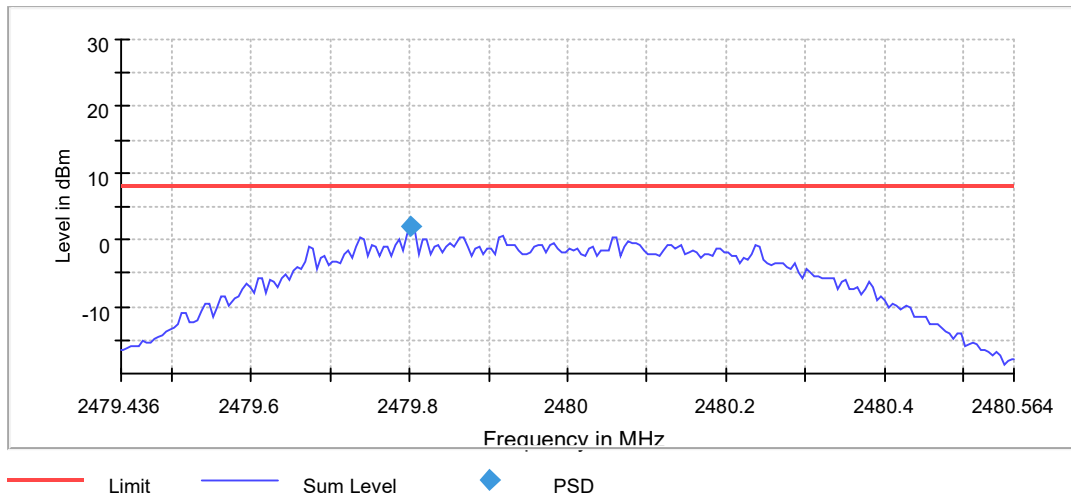
Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.43944 GHz	2.43944 GHz
Stop Frequency	2.44056 GHz	2.44056 GHz
Span	1.129 MHz	1.129 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	226	~ 226
SweepTime	1.130 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	14 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.32 dB	0.50 dB

Power Spectral Density, 2480MHz (2480MHz)

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2480.000000	2479.802725	2.003	8.0	PASS

Peak Power Spectral Density


Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47944 GHz	2.47944 GHz
Stop Frequency	2.48056 GHz	2.48056 GHz
Span	1.129 MHz	1.129 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	226	~ 226
Sweeptime	1.130 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	31 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.02 dB	0.50 dB

5.1.5 Conducted Band Edge and out-of Band Emissions

RESULT:**Pass**

Date of testing	:	2025-09-24
Ambient temperature	:	21.2°C
Relative humidity	:	53.6%
Atmospheric pressure	:	101kPa
Test requirement	:	FCC Part 15.247(d) RSS-247 Issue 4, July 24, 2025, Clause 6.6
Test procedure	:	ANSI C63.10:2020 ANSI C63.10-2020+Cor. 1-2023+C63.10a- 2024+Errata to C63.10a-2024
Test voltage	:	DC 3.3V
Test modes applied	:	A

Figure 1: Reference level

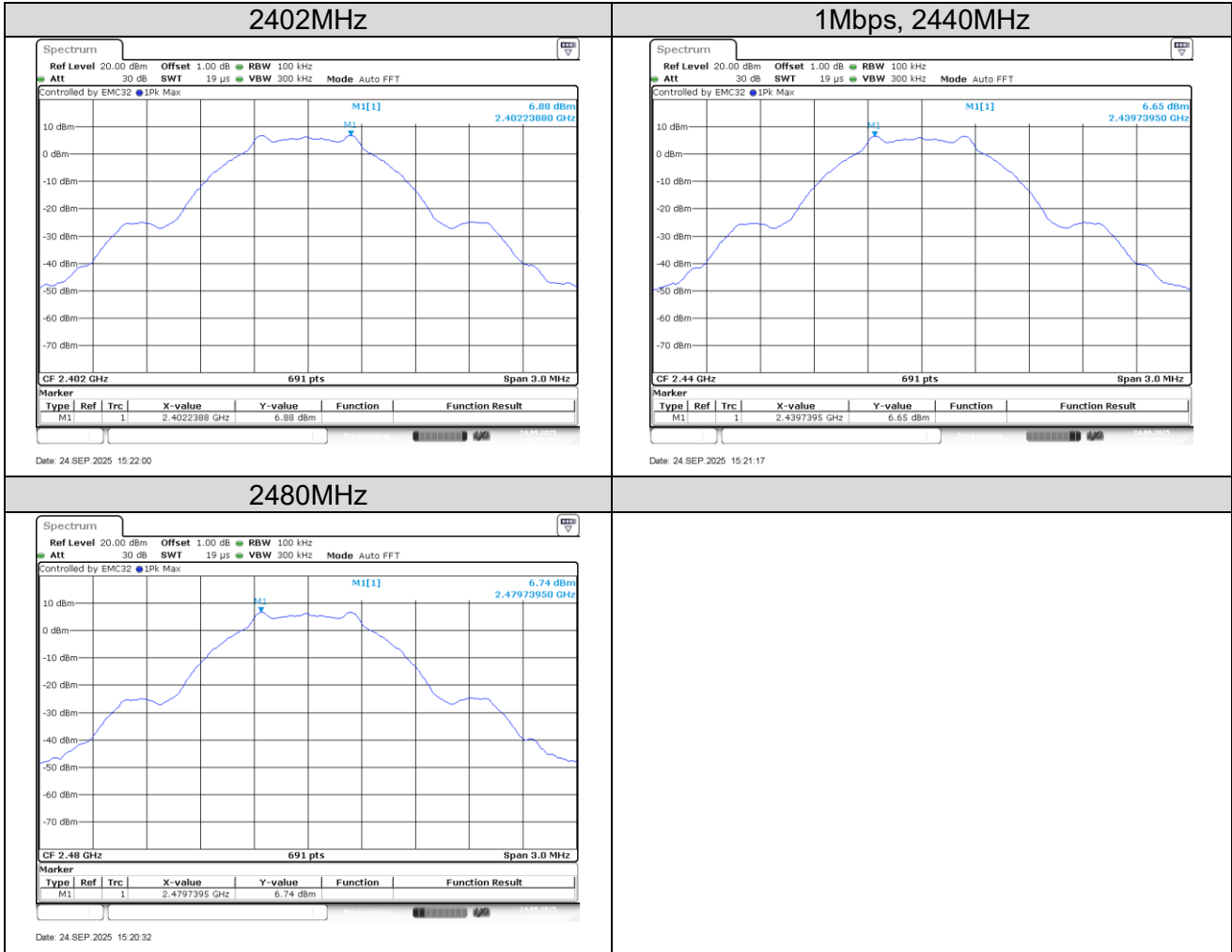
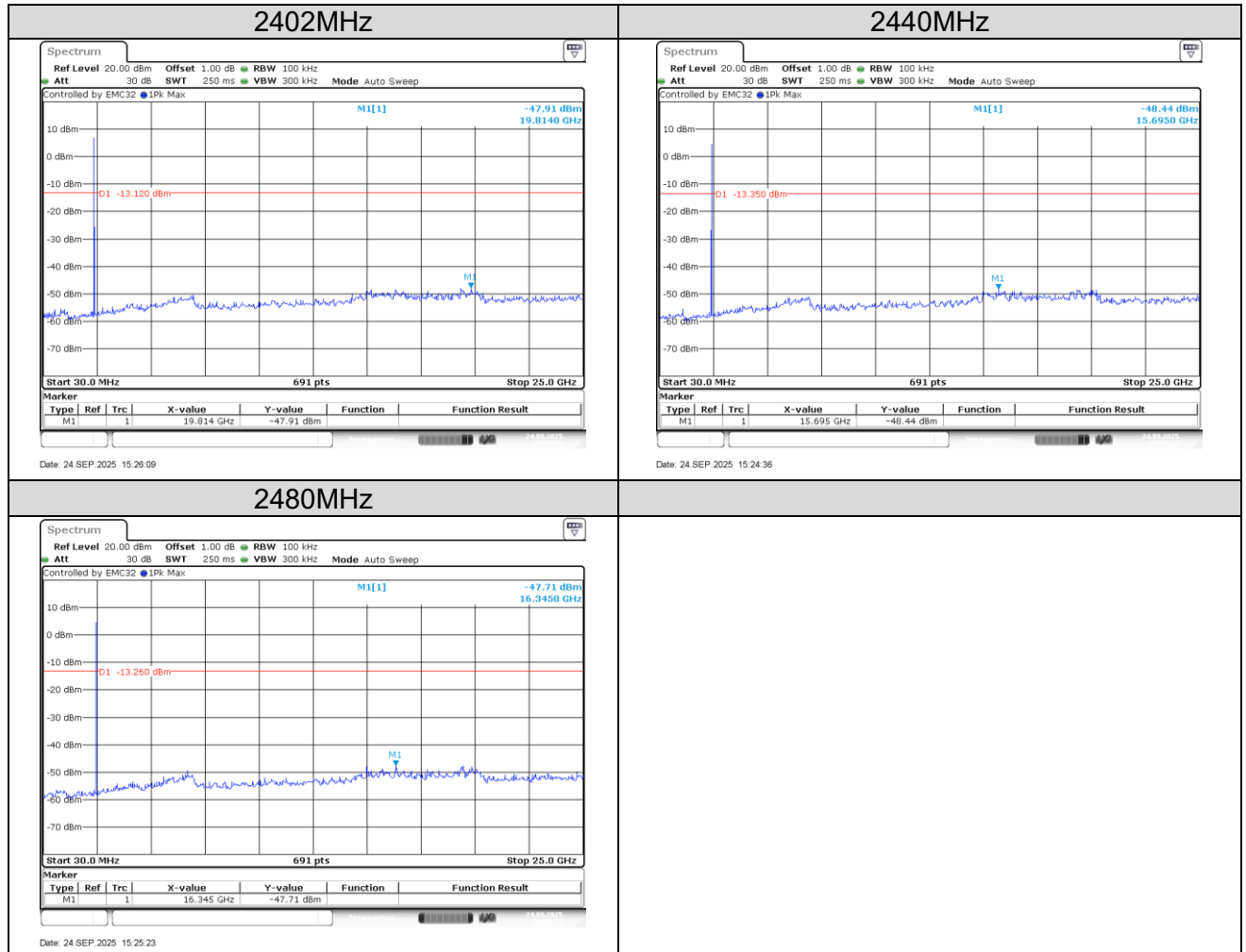
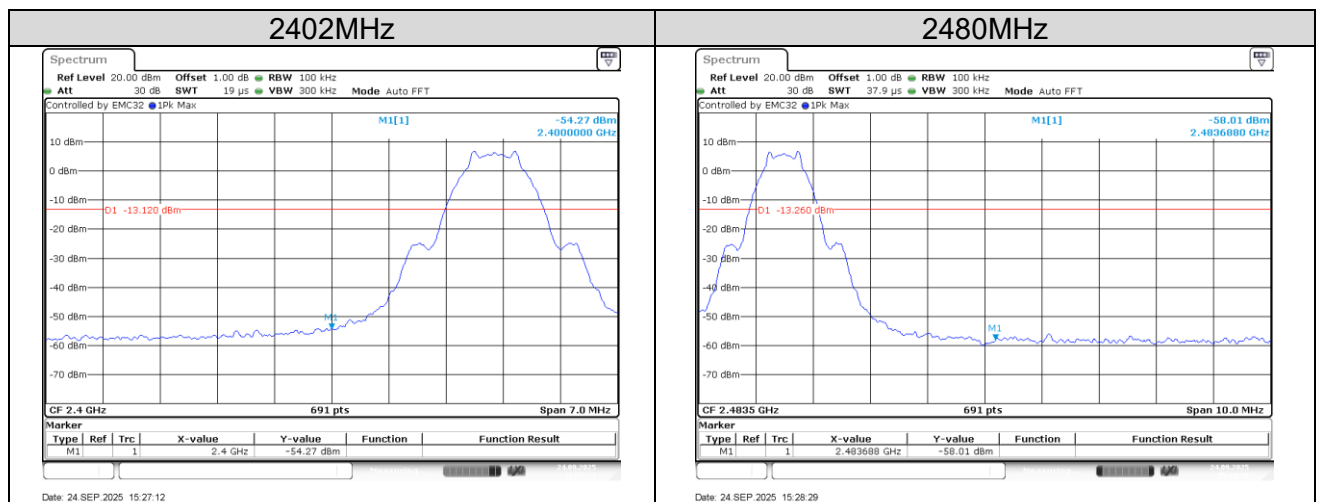


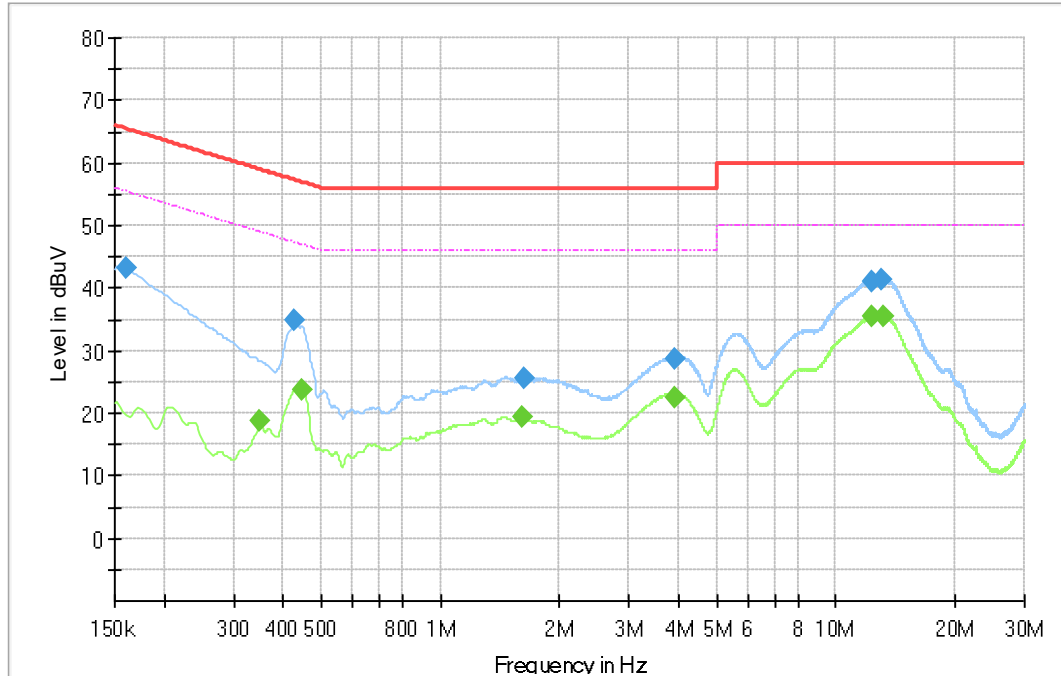
Figure 2: Conducted Spurious Emission

Figure 3: Conducted Band Edge


5.2 Emission in the Frequency Range up to 30MHz

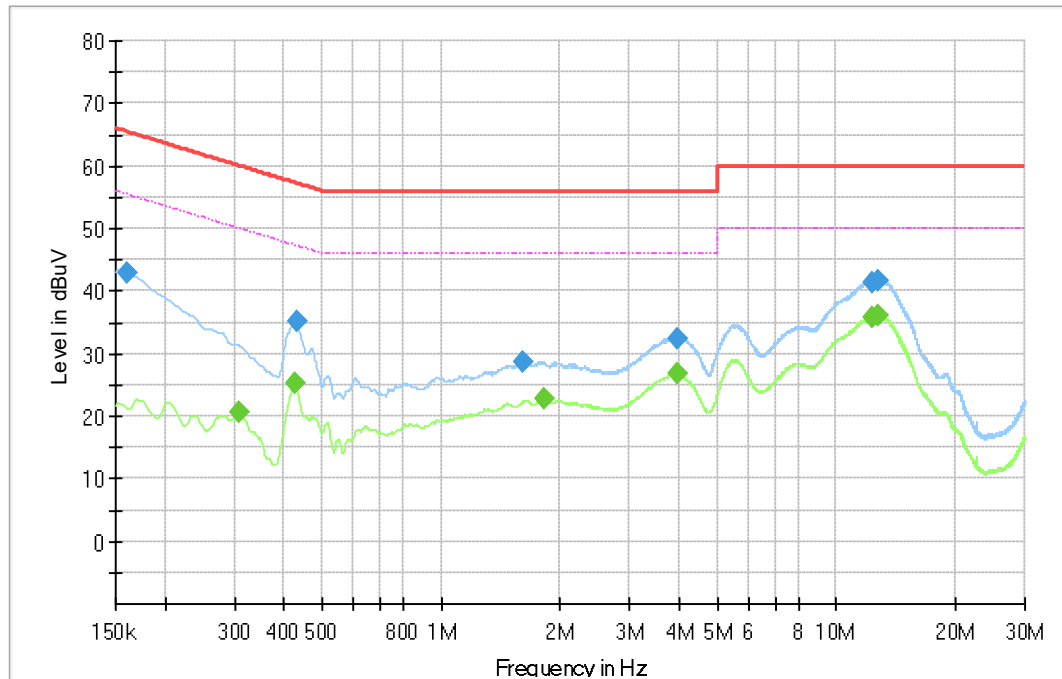
5.2.1 Conducted Emission

RESULT:**Pass**

Date of testing	:	2025-09-08
Ambient temperature	:	23.5°C
Relative humidity	:	57.8%
Atmospheric pressure	:	101kPa
Test requirement	:	FCC Part 15.207 (a) RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.8
Test procedure	:	ANSI C63.10:2020 ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024
Test voltage	:	AC 120V, 60Hz
Test modes applied	:	B

Figure 4: Conducted Emission, L

Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line
0.161250	43.12	---	65.40	22.28	L1
0.350250	---	18.89	48.96	30.07	L1
0.429000	34.72	---	57.27	22.56	L1
0.444750	---	23.73	46.97	23.24	L1
1.614750	---	19.45	46.00	26.55	L1
1.628250	25.55	---	56.00	30.45	L1
3.921000	---	22.39	46.00	23.61	L1
3.923250	28.70	---	56.00	27.30	L1
12.399000	41.01	---	60.00	18.99	L1
12.401250	---	35.35	50.00	14.65	L1
13.013250	41.25	---	60.00	18.75	L1
13.143750	---	35.44	50.00	14.56	L1

Figure 5: Conducted Emission, N

Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line
0.161250	42.97	---	65.40	22.43	N
0.309750	---	20.51	49.98	29.46	N
0.426750	---	25.34	47.32	21.98	N
0.431250	35.24	---	57.23	21.99	N
1.612500	28.65	---	56.00	27.35	N
1.828500	---	22.75	46.00	23.25	N
3.959250	32.40	---	56.00	23.60	N
3.961500	---	26.69	46.00	19.31	N
12.300000	41.40	---	60.00	18.60	N
12.333750	---	35.64	50.00	14.36	N
12.763500	---	35.94	50.00	14.06	N
12.810750	41.58	---	60.00	18.42	N

5.3 Emission in the Frequency Range above 30MHz

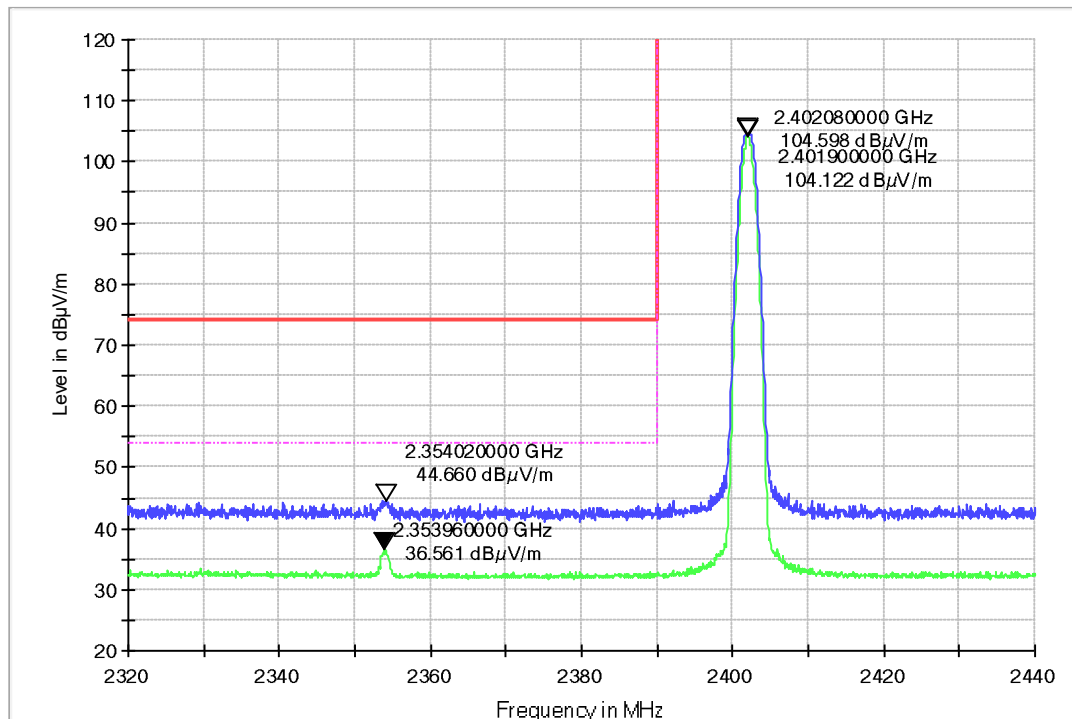
5.3.1 Radiated Band-Edge

RESULT:**Pass**

Date of testing	:	2025-09-23
Ambient temperature	:	22.5°C
Relative humidity	:	55.7%
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 4, July 24, 2025, Clause 6.6
Test procedure	:	ANSI C63.10:2020 ANSI C63.10-2020+Cor. 1-2023+C63.10a- 2024+Errata to C63.10a-2024
Test voltage	:	DC 3.3V
Test modes applied	:	A

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

XXY- 2310~ 2410 BE 1-18GHz_HL050_FSV40_Pre-10-YUNFANG


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

XXY- 2310~ 2410 BE 1-18GHz_HL050_FSV40_Pre-10-YUNFANG

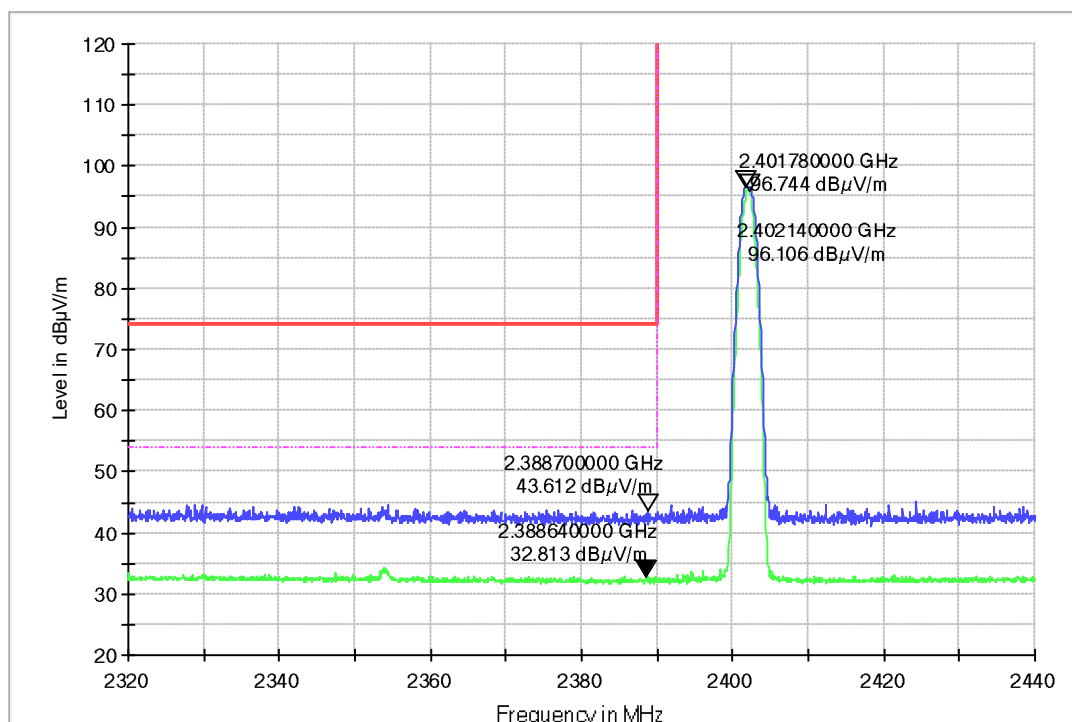
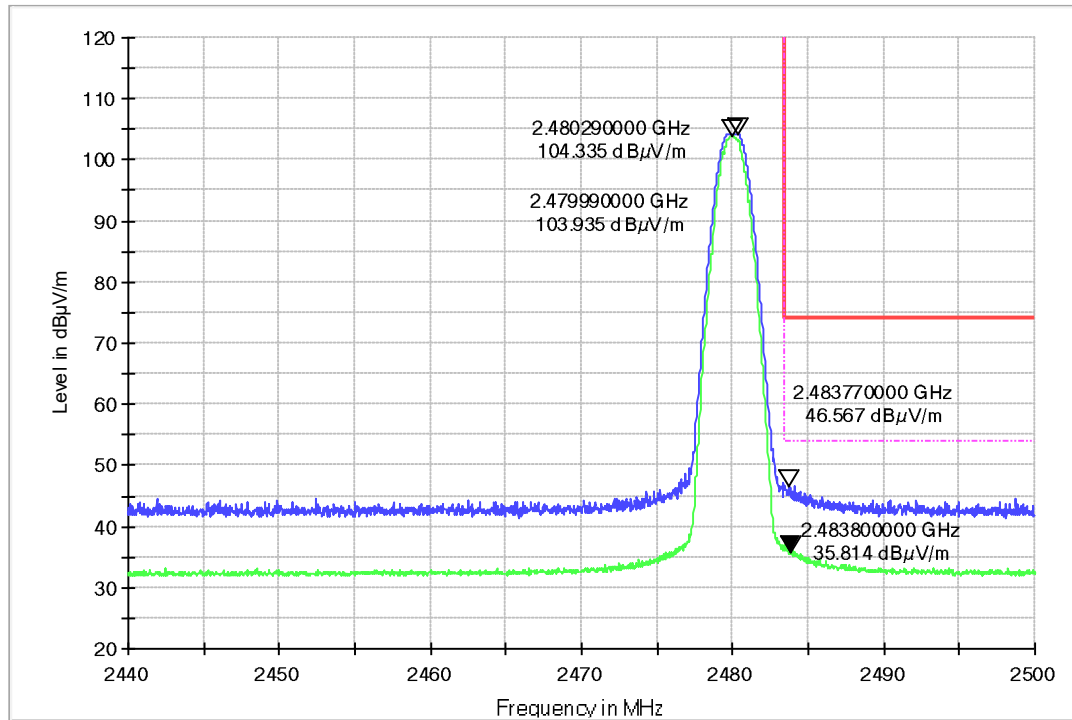
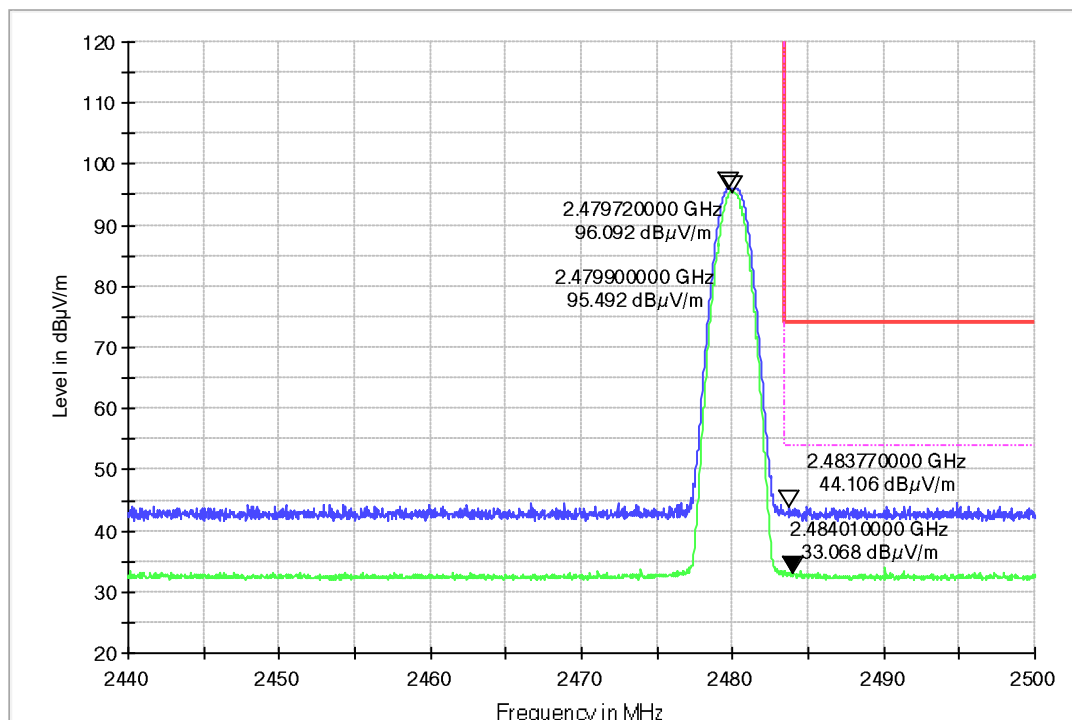


Figure 8: Radiated Band-Edge, 2480MHz, H

XXY-2470° 2500 BE_1-18GHz_HL050_FSV40_Pre-10-YUNFANG


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

XXY-2470° 2500 BE_1-18GHz_HL050_FSV40_Pre-10-YUNFANG



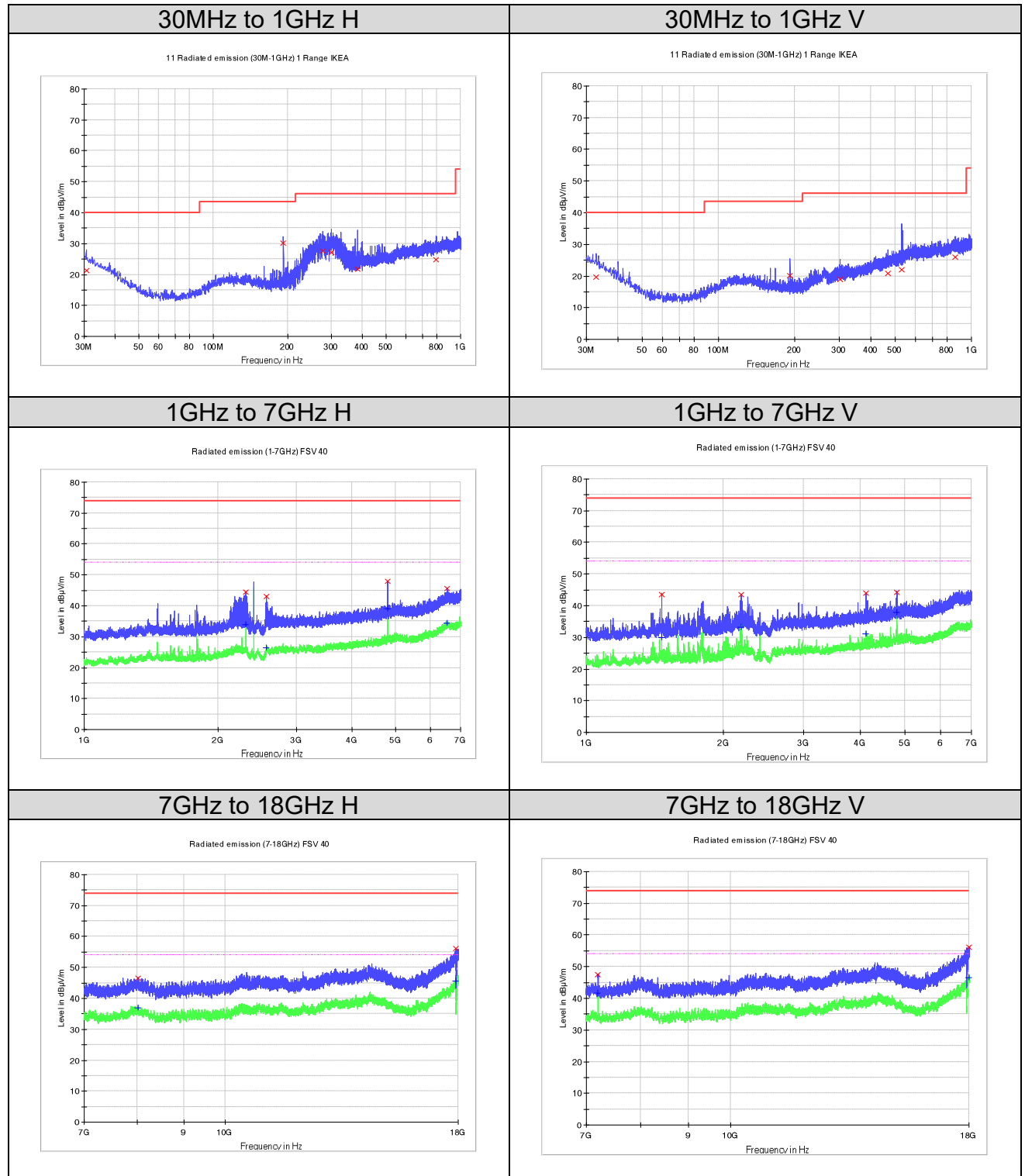
5.3.2 Radiated Spurious Emission

RESULT:**Pass**

Date of testing	:	2025-09-23
Ambient temperature	:	22.2°C
Relative humidity	:	55.4%
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 4, July 24, 2025, Clause 6.6
Test procedure	:	ANSI C63.10:2020 ANSI C63.10-2020+Cor. 1-2023+C63.10a- 2024+Errata to C63.10a-2024
Test voltage	:	DC 3.3V
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

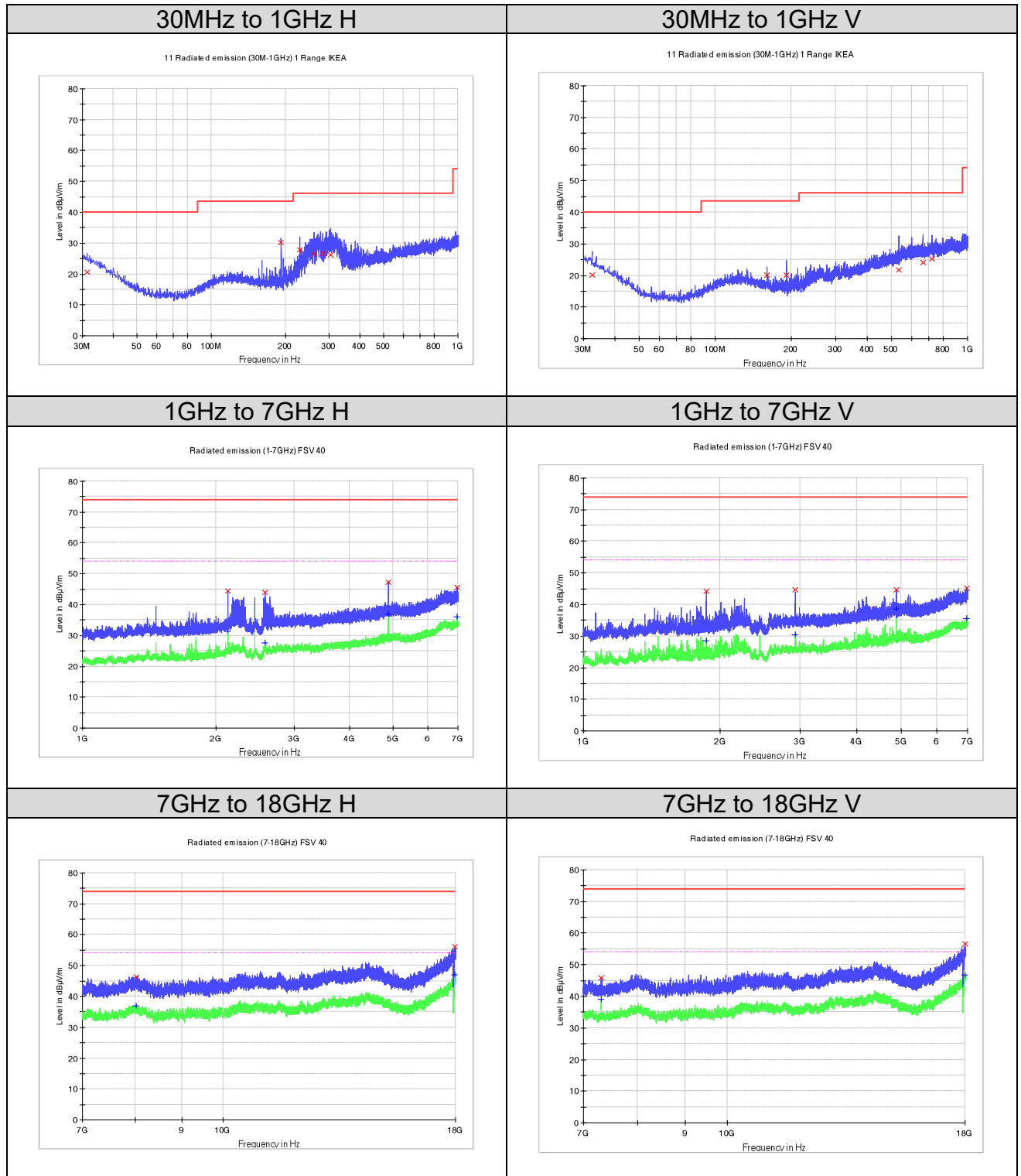
Frequency (MHz)	QuasiPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
30.606250	21.2	H	25.1	18.8	40.0
191.990000	30.1	H	15.8	13.4	43.5
276.986250	27.6	H	19.8	18.5	46.0
299.781250	27.1	H	20.8	18.9	46.0
384.050000	21.8	H	22.4	24.2	46.0
797.633750	24.8	H	28.0	21.2	46.0
32.788750	19.7	V	23.8	20.3	40.0
191.990000	20.2	V	15.8	23.3	43.5
302.327500	18.9	V	20.8	27.1	46.0
466.015000	20.9	V	24.7	25.1	46.0
531.126250	21.9	V	25.1	24.1	46.0
864.442500	26.0	V	29.1	20.0	46.0

PK

Frequency (MHz)	MaxPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
2306.090909	44.4	H	-15.8	29.6	74.0
2561.363636	43.0	H	-15.9	31.0	74.0
4804.000000	48.0	H	-11.2	26.0	74.0
6525.727273	45.6	H	-7.3	28.4	74.0
8023.000000	46.7	H	-3.4	27.3	74.0
17877.625000	56.2	H	9.9	17.8	74.0
1463.090909	43.5	V	-18.6	30.5	74.0
2191.000000	43.5	V	-15.8	30.5	74.0
4117.818182	44.0	V	-13.0	30.1	74.0
4804.545455	44.2	V	-11.2	29.8	74.0
7205.218750	47.5	V	-5.9	26.5	74.0
17985.906250	56.2	V	11.9	17.8	74.0

AV

Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
2306.090909	33.9	H	-15.8	20.1	54.0
2561.363636	26.4	H	-15.9	27.7	54.0
4804.000000	39.0	H	-11.2	15.0	54.0
6525.727273	34.3	H	-7.3	19.7	54.0
8023.000000	37.0	H	-3.4	17.0	54.0
17877.625000	45.7	H	9.9	8.3	54.0
1463.090909	29.9	V	-18.6	24.1	54.0
2191.000000	33.3	V	-15.8	20.7	54.0
4117.818182	31.1	V	-13.0	22.9	54.0
4804.545455	37.9	V	-11.2	16.1	54.0
7205.218750	41.6	V	-5.9	12.4	54.0
17985.906250	46.5	V	11.9	7.5	54.0

Figure 11: Radiated Spurious Emission, 2440MHz


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Limit and Margin
QP

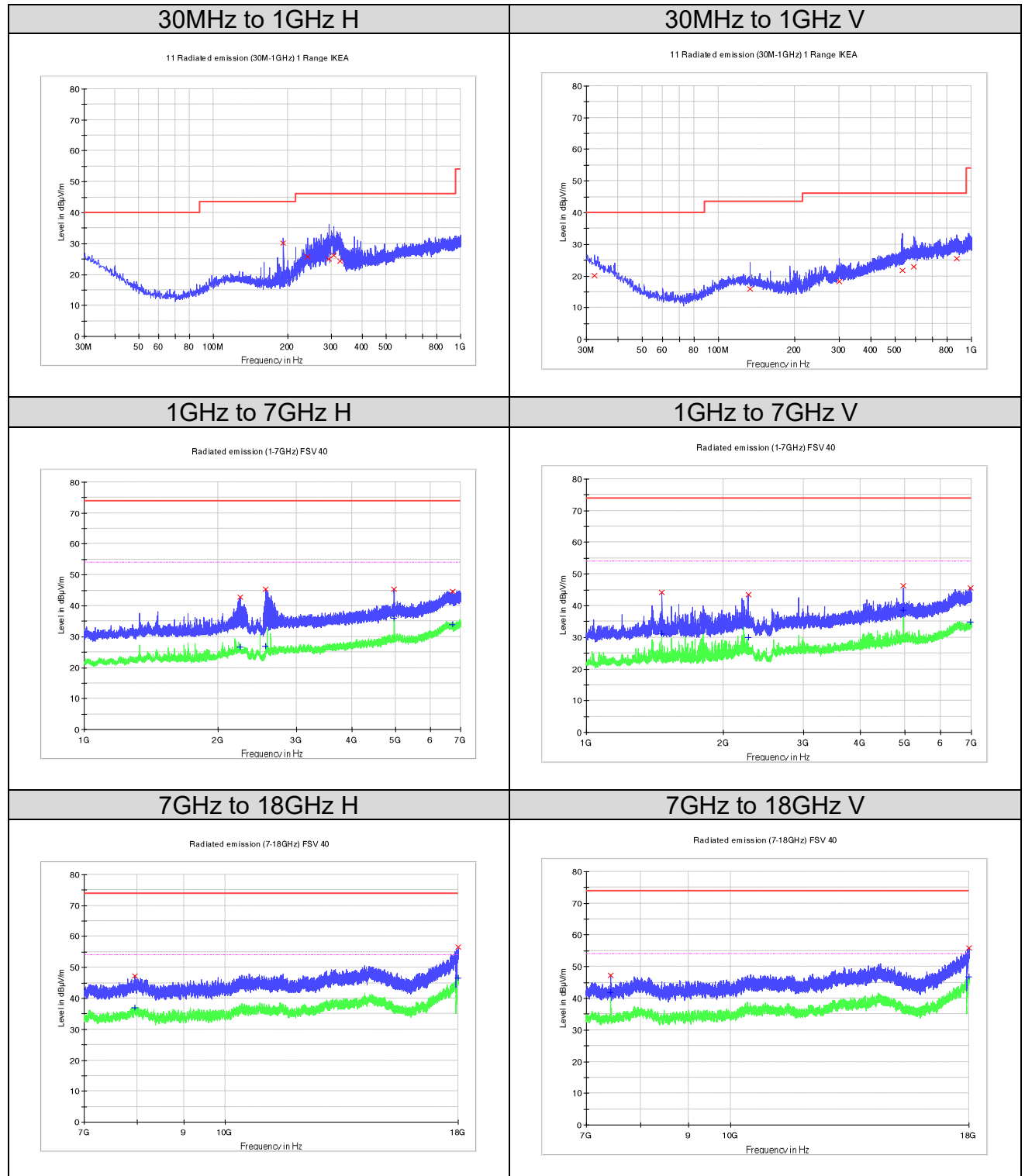
Frequency (MHz)	QuasiPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
31.333750	20.7	H	24.7	19.3	40.0
191.990000	30.1	H	15.8	13.4	43.5
228.001250	27.8	H	17.0	18.2	46.0
260.253750	26.4	H	21.5	19.6	46.0
282.685000	26.8	H	19.7	19.3	46.0
304.267500	26.3	H	20.6	19.7	46.0
32.425000	20.1	V	24.0	20.0	40.0
159.980000	20.1	V	17.0	23.4	43.5
191.990000	20.2	V	15.8	23.3	43.5
532.338750	21.7	V	25.0	24.3	46.0
666.320000	24.0	V	26.6	22.0	46.0
721.731250	25.3	V	28.4	20.7	46.0

PK

Frequency (MHz)	MaxPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
2126.090909	44.5	H	-16.5	29.5	74.0
2576.090909	43.9	H	-15.8	30.1	74.0
4880.363636	47.2	H	-11.1	26.9	74.0
6977.363636	45.6	H	-6.4	28.4	74.0
8015.781250	46.2	H	-3.4	27.8	74.0
17975.250000	56.1	H	11.7	17.9	74.0
1861.545455	44.3	V	-18.5	29.7	74.0
2927.363636	44.6	V	-15.1	29.4	74.0
4880.363636	44.7	V	-11.1	29.3	74.0
6979.545455	45.2	V	-6.4	28.8	74.0
7319.000000	45.9	V	-6.3	28.1	74.0
17991.062500	56.6	V	12.0	17.4	74.0

AV

Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
2126.090909	31.3	H	-16.5	22.7	54.0
2576.090909	27.7	H	-15.8	26.3	54.0
4880.363636	36.9	H	-11.1	17.1	54.0
6977.363636	36.0	H	-6.4	18.0	54.0
8015.781250	36.9	H	-3.4	17.1	54.0
17975.250000	46.9	H	11.7	7.1	54.0
1861.545455	28.5	V	-18.5	25.5	54.0
2927.363636	30.5	V	-15.1	23.6	54.0
4880.363636	38.6	V	-11.1	15.4	54.0
6979.545455	35.5	V	-6.4	18.5	54.0
7319.000000	39.0	V	-6.3	15.0	54.0
17991.062500	46.8	V	12.0	7.2	54.0

Figure 12: Radiated Spurious Emission, 2480MHz


Limit and Margin
QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
191.990000	30.1	H	15.8	13.4	43.5
240.005000	25.8	H	18.9	20.2	46.0
292.991250	25.1	H	20.2	20.9	46.0
306.571250	26.2	H	20.4	19.8	46.0
325.971250	24.3	H	21.3	21.7	46.0
32.303750	20.0	V	24.1	20.0	40.0
133.062500	15.9	V	18.4	27.6	43.5
300.023750	18.4	V	20.8	27.6	46.0
532.217500	21.8	V	25.0	24.2	46.0
592.357500	23.0	V	26.3	23.0	46.0
875.355000	25.6	V	28.5	20.4	46.0

PK

Frequency (MHz)	MaxPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
2242.545455	42.8	H	-15.6	31.2	74.0
2555.909091	45.4	H	-15.9	28.7	74.0
4959.727273	45.5	H	-11.0	28.5	74.0
6709.000000	44.7	H	-7.7	29.3	74.0
7951.500000	47.3	H	-3.5	26.7	74.0
17994.843750	56.7	H	12.0	17.3	74.0
1464.727273	44.1	V	-18.6	29.9	74.0
2267.090909	43.5	V	-15.6	30.5	74.0
4959.454546	46.3	V	-11.0	27.7	74.0
6977.909091	45.6	V	-6.4	28.4	74.0
7438.968750	47.1	V	-5.8	26.9	74.0
17987.968750	55.8	V	11.9	18.2	74.0

AV

Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
2242.545455	26.7	H	-15.6	27.4	54.0
2555.909091	27.0	H	-15.9	27.0	54.0
4959.727273	36.1	H	-11.0	17.9	54.0
6709.000000	33.9	H	-7.7	20.1	54.0
7951.500000	36.9	H	-3.5	17.2	54.0
17994.843750	46.5	H	12.0	7.6	54.0
1464.727273	31.1	V	-18.6	22.9	54.0
2267.090909	30.0	V	-15.6	24.1	54.0
4959.454546	38.6	V	-11.0	15.4	54.0
6977.909091	34.8	V	-6.4	19.2	54.0
7438.968750	41.8	V	-5.8	12.2	54.0
17987.968750	46.7	V	11.9	7.3	54.0

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