

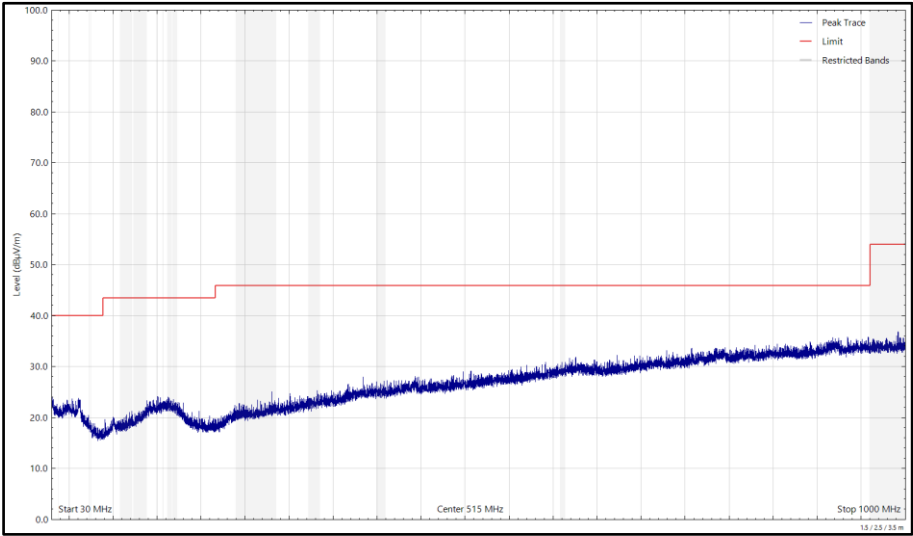


Figure 67 - 2440 MHz (CH18), Thread, iPA, Core 0, 30 MHz to 1 GHz, Vertical (Peak)

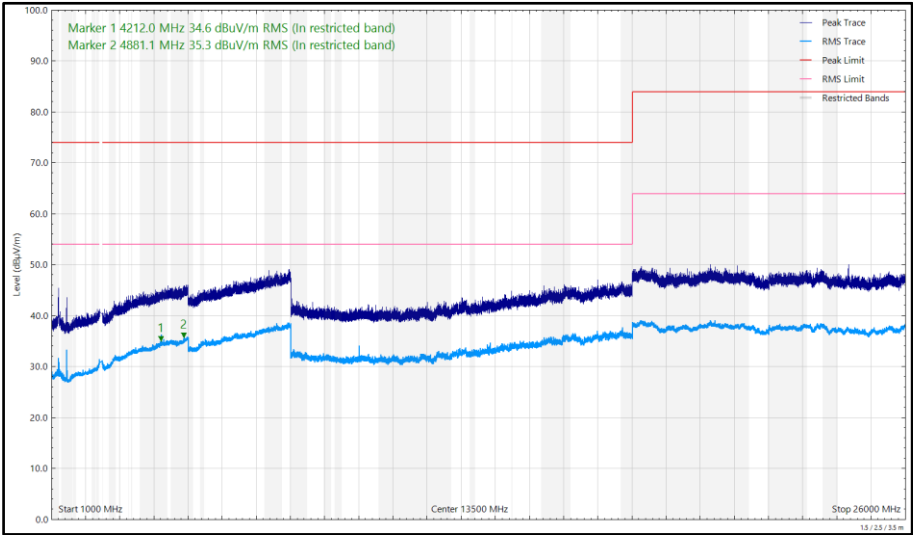


Figure 68 - 2440 MHz (CH18), Thread, iPA, Core 0, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4200.280	33.31	54.00	-20.69	RMS	294	377	Vertical

Table 51 - 2475 MHz (CH25), Thread, iPA, Core 0, 1 GHz to 26 GHz

No other emissions found within 20 dB of the limit.

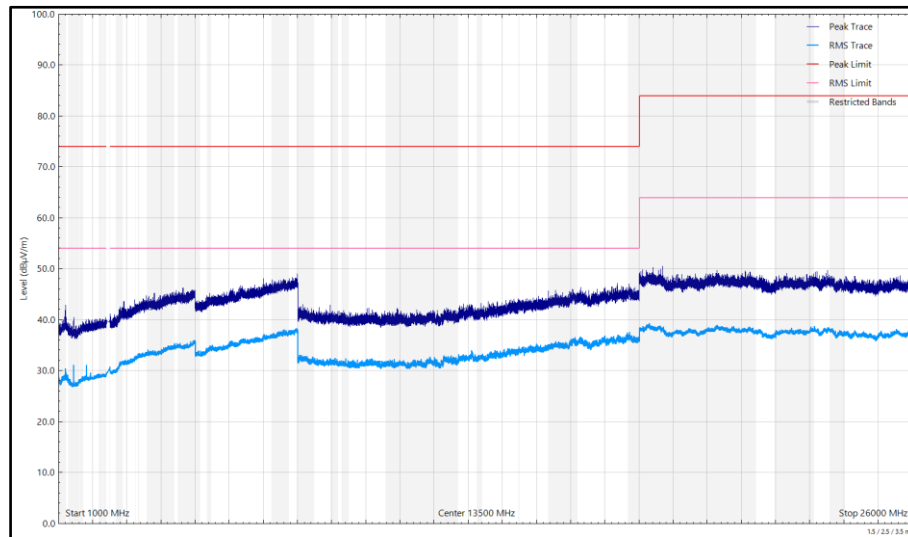


Figure 69 - 2475 MHz (CH25), Thread, iPA, Core 0, 1 GHz to 26 GHz, Horizontal

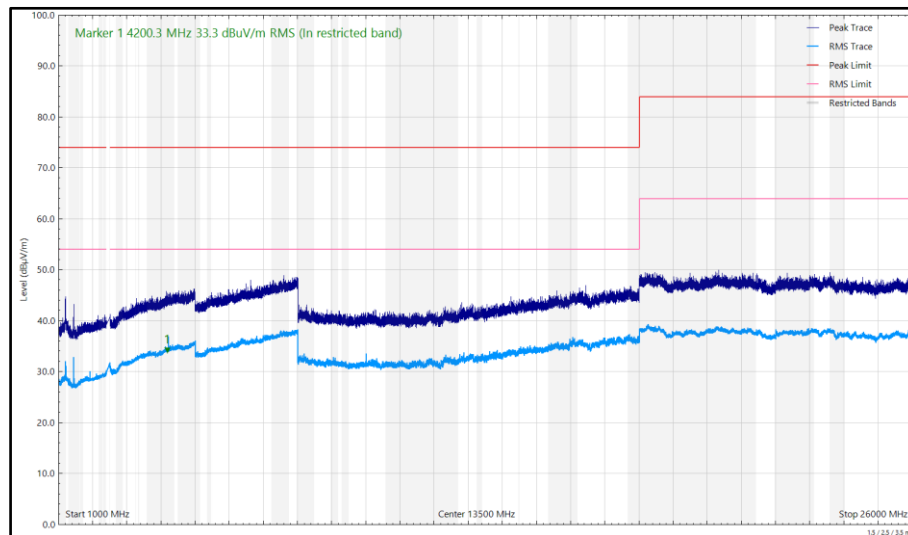


Figure 70 - 2475 MHz (CH25), Thread, iPA, Core 0, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4212.101	34.60	54.00	-19.40	RMS	329	349	Vertical

Table 52 - 2405 MHz (CH11), Thread, iPA, Core 1, 1 GHz to 26 GHz

No other emissions found within 20 dB of the limit.

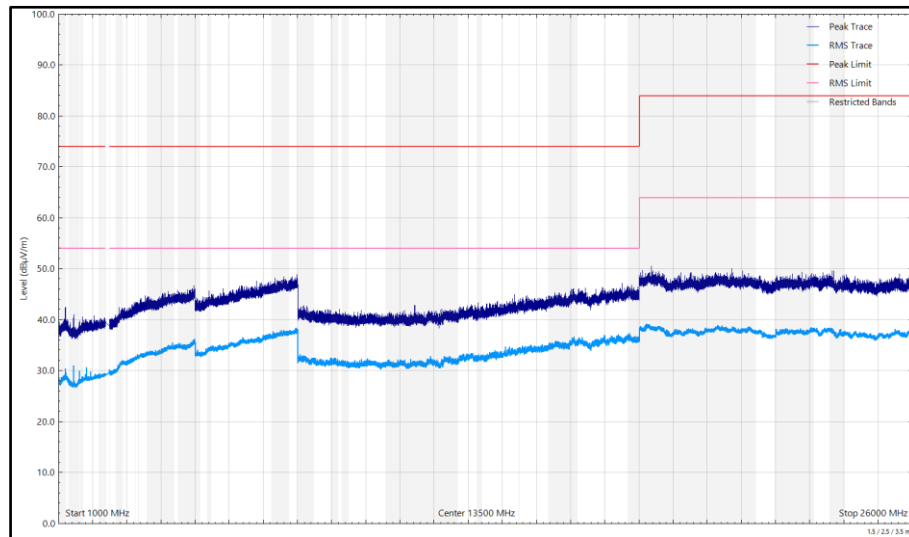


Figure 71 - 2405 MHz (CH11), Thread, iPA, Core 1, 1 GHz to 26 GHz, Horizontal

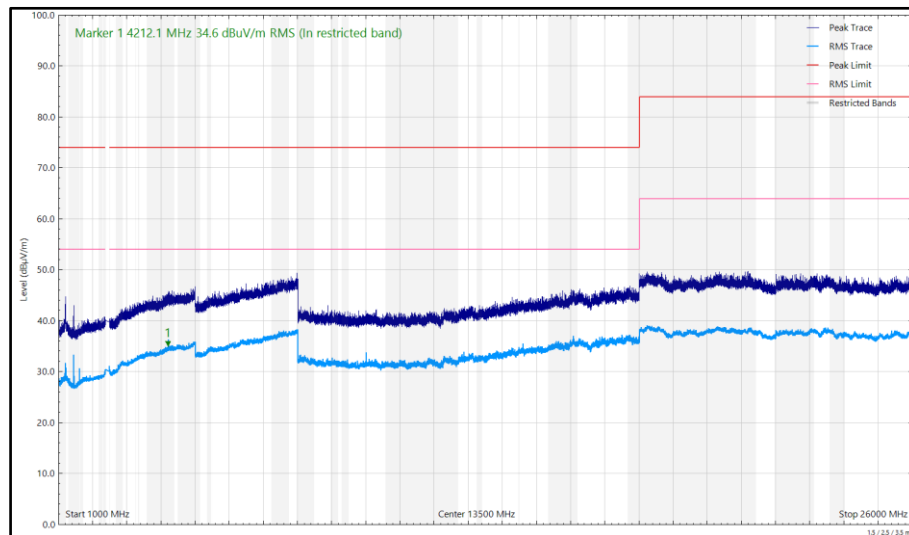


Figure 72 - 2405 MHz (CH11), Thread, iPA, Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
280.005	27.28	46.00	-18.72	Q-Peak	274	119	Horizontal

Table 53 - 2440 MHz (CH18), Thread, iPA, Core 1, 30 MHz to 26 GHz

No other emissions found within 20 dB of the limit.

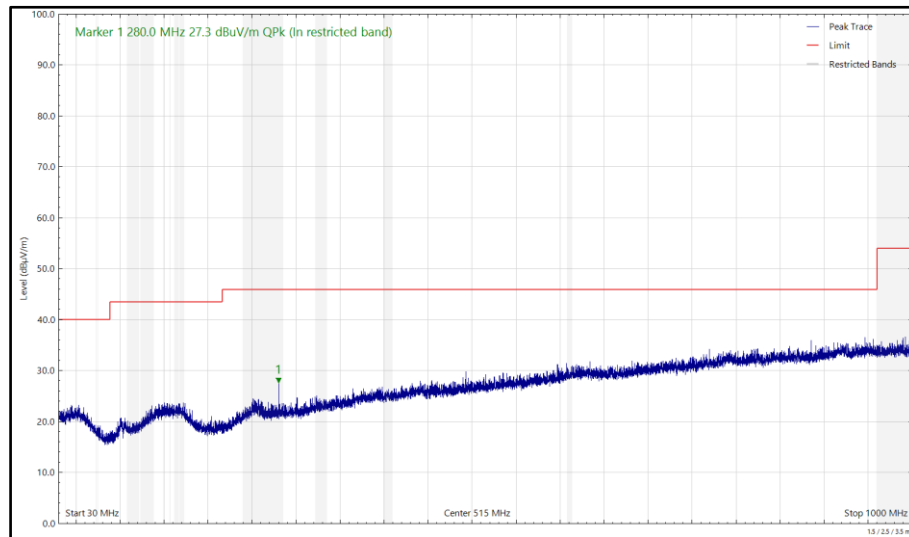


Figure 73 - 2440 MHz (CH18), Thread, iPA, Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

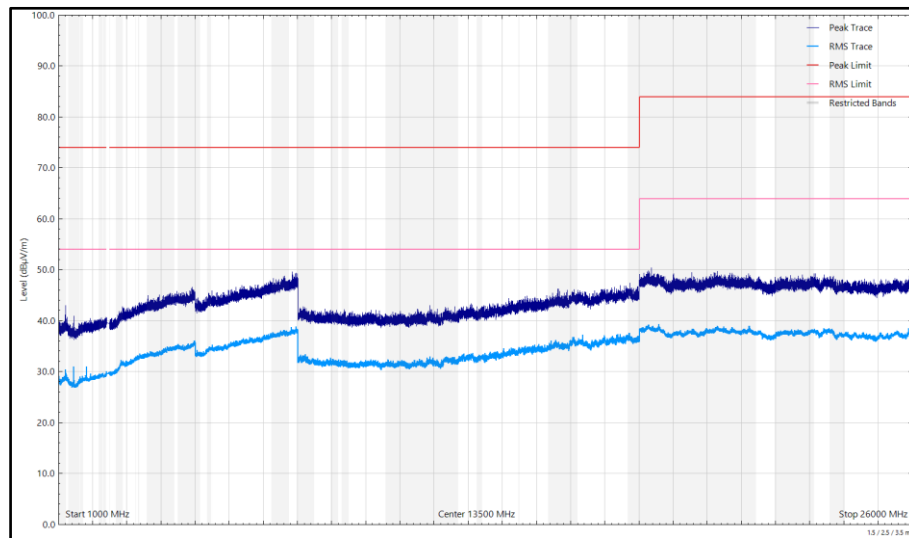


Figure 74 - 2440 MHz (CH18), Thread, iPA, Core 1, 1 GHz to 26 GHz, Horizontal

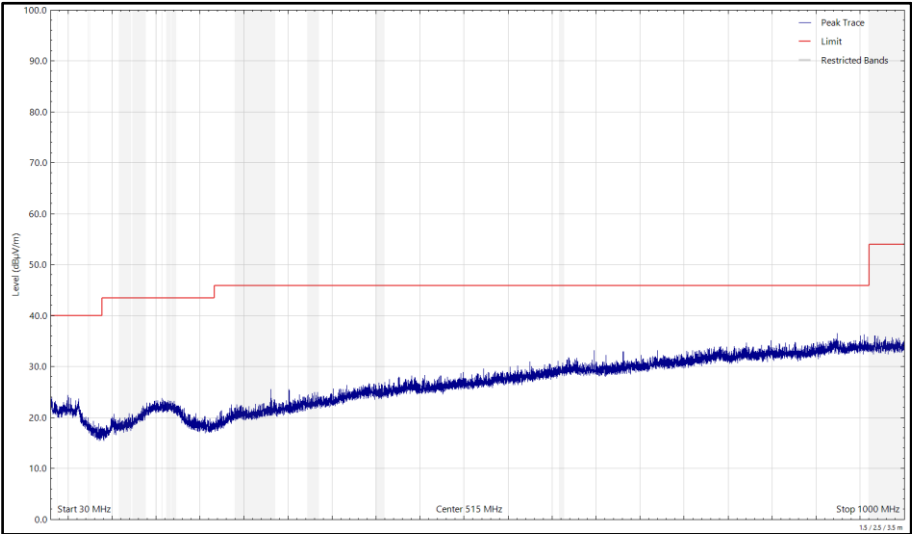


Figure 75 - 2440 MHz (CH18), Thread, iPA, Core 1, 30 MHz to 1 GHz, Vertical (Peak)

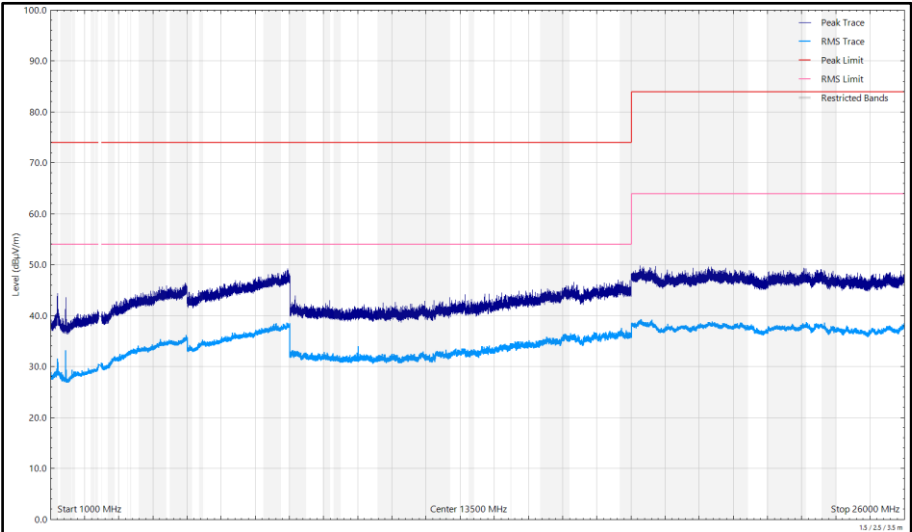


Figure 76 - 2440 MHz (CH18), Thread, iPA, Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4200.680	33.32	54.00	-20.68	RMS	274	234	Vertical

Table 54 - 2475 MHz (CH25), Thread, iPA, Core 1, 1 GHz to 26 GHz

No other emissions found within 20 dB of the limit.

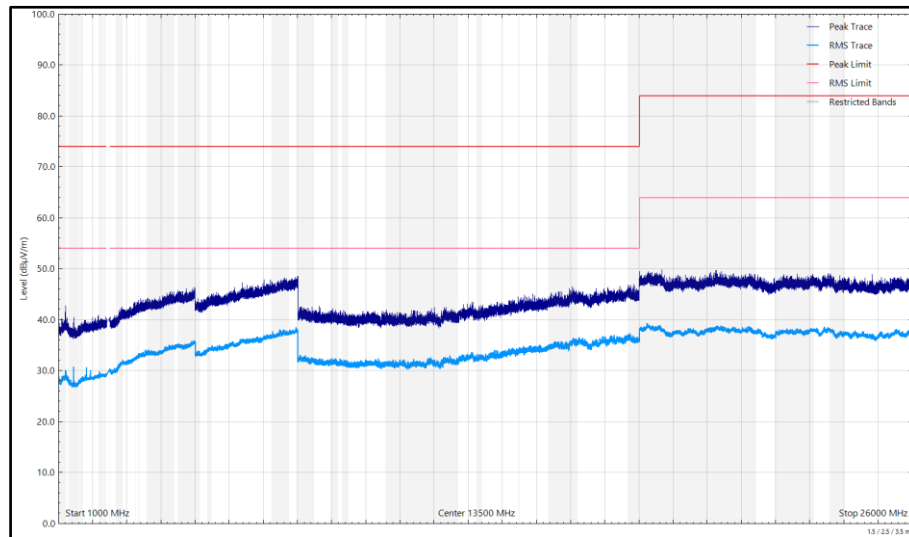


Figure 77 - 2475 MHz (CH25), Thread, iPA, Core 1, 1 GHz to 26 GHz, Horizontal

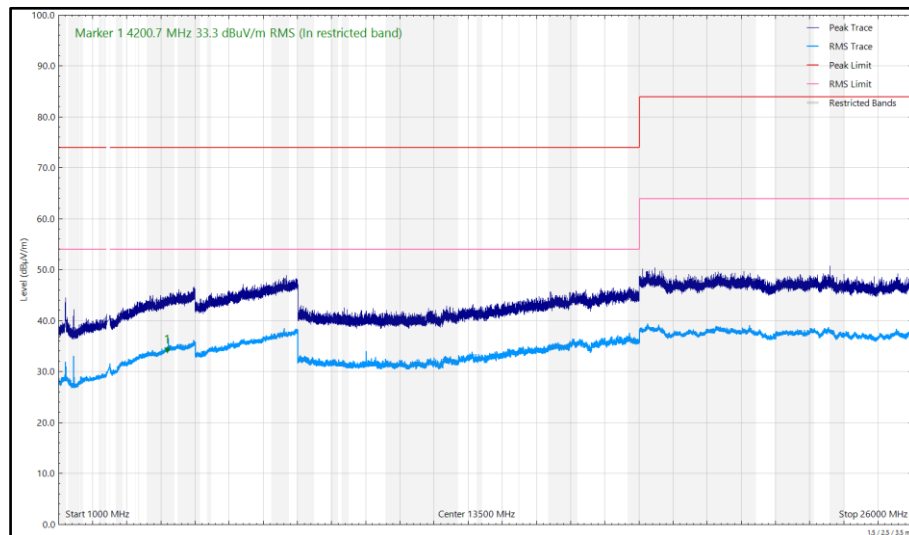


Figure 78 - 2475 MHz (CH25), Thread, iPA, Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4212.051	34.54	54.00	-19.46	RMS	340	347	Vertical

Table 55 - 2405 MHz (CH11), Thread, iPA, Core 2, 1 GHz to 26 GHz

No other emissions found within 20 dB of the limit.

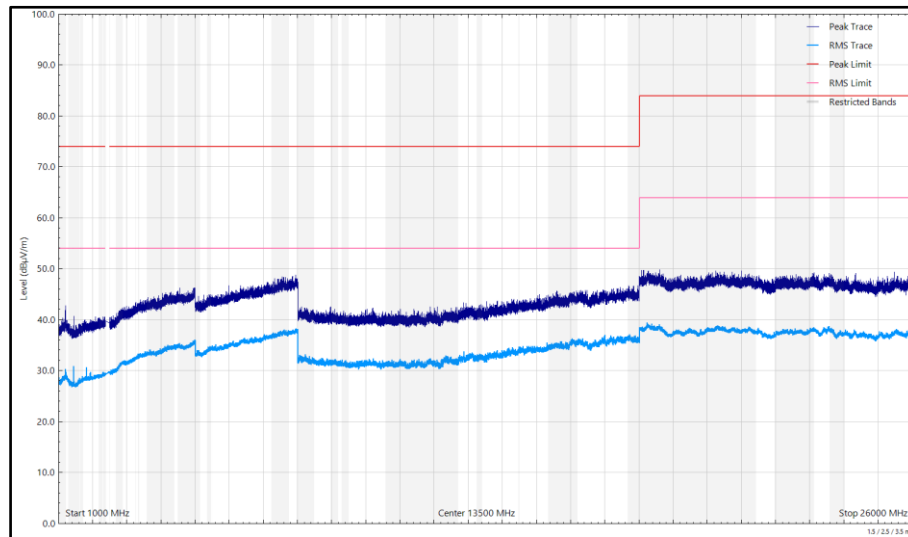


Figure 79 - 2405 MHz (CH11), Thread, iPA, Core 2, 1 GHz to 26 GHz, Horizontal

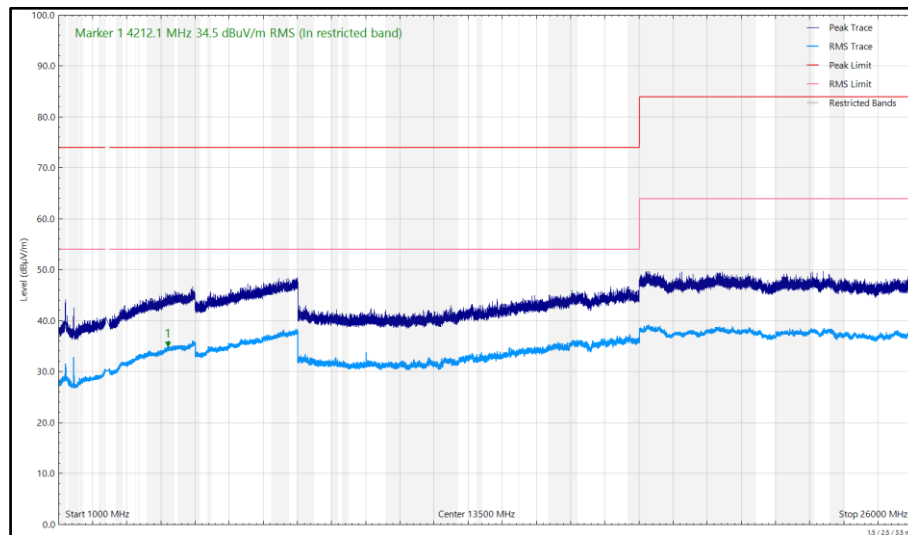


Figure 80 - 2405 MHz (CH11), Thread, iPA, Core 2, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
280.023	26.35	46.00	-19.65	Q-Peak	295	107	Horizontal
4200.185	33.27	54.00	-20.73	RMS	315	301	Vertical

Table 56 - 2440 MHz (CH18), Thread, iPA, Core 2, 30 MHz to 26 GHz

No other emissions found within 20 dB of the limit.

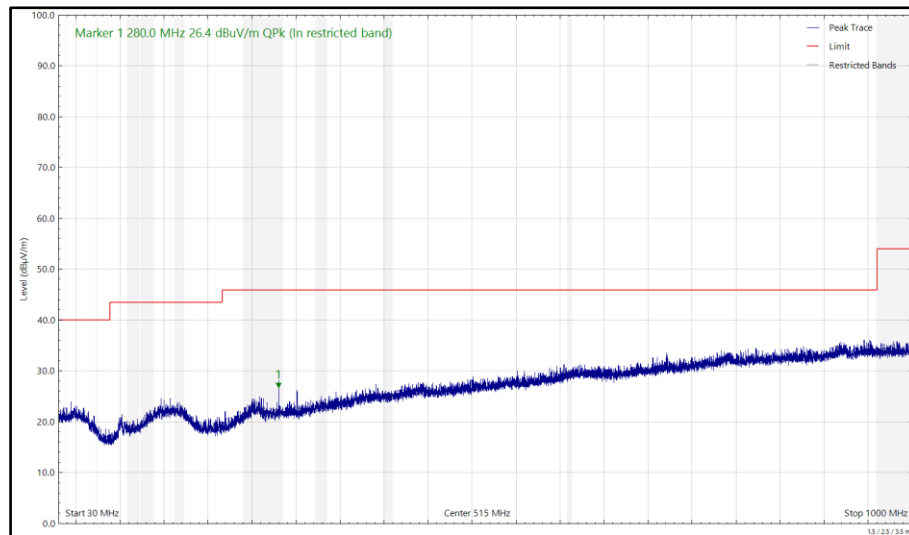


Figure 81 - 2440 MHz (CH18), Thread, iPA, Core 2, 30 MHz to 1 GHz, Horizontal (Peak)

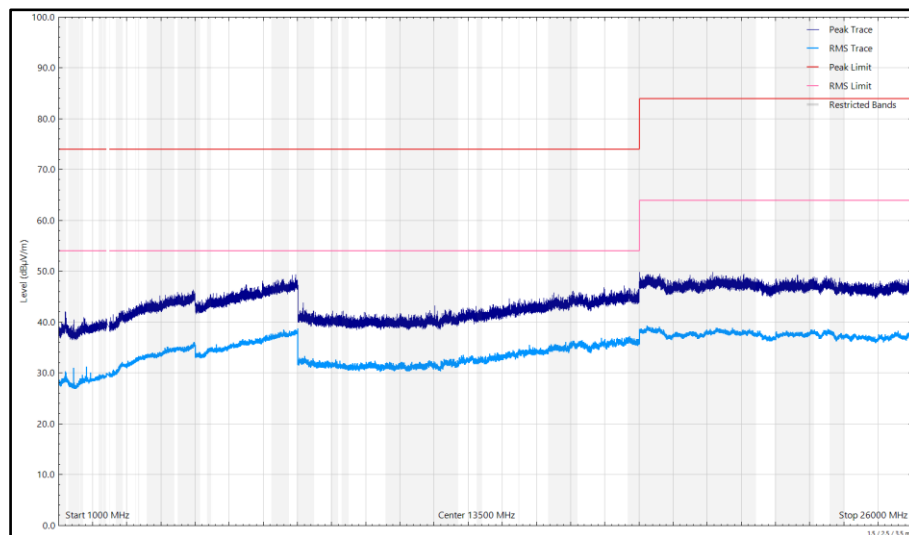


Figure 82 - 2440 MHz (CH18), Thread, iPA, Core 2, 1 GHz to 26 GHz, Horizontal

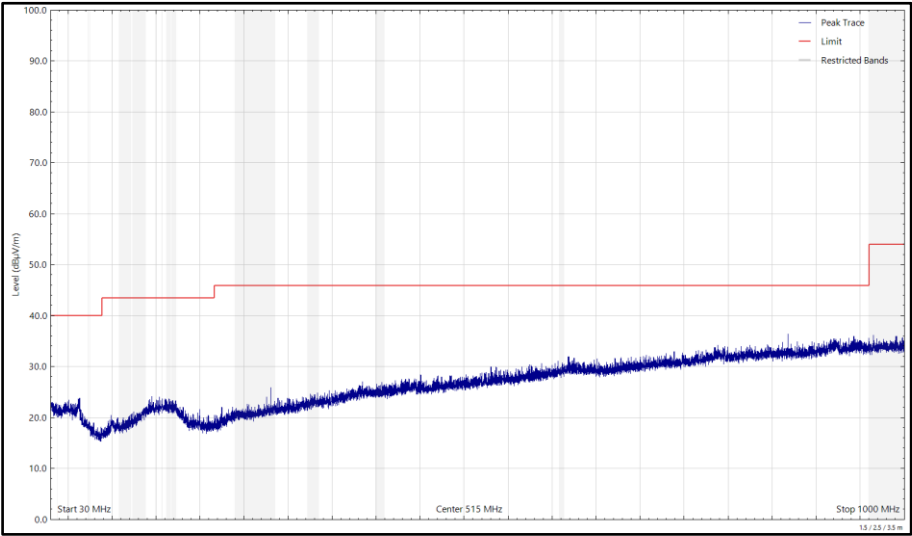


Figure 83 - 2440 MHz (CH18), Thread, iPA, Core 2, 30 MHz to 1 GHz, Vertical (Peak)

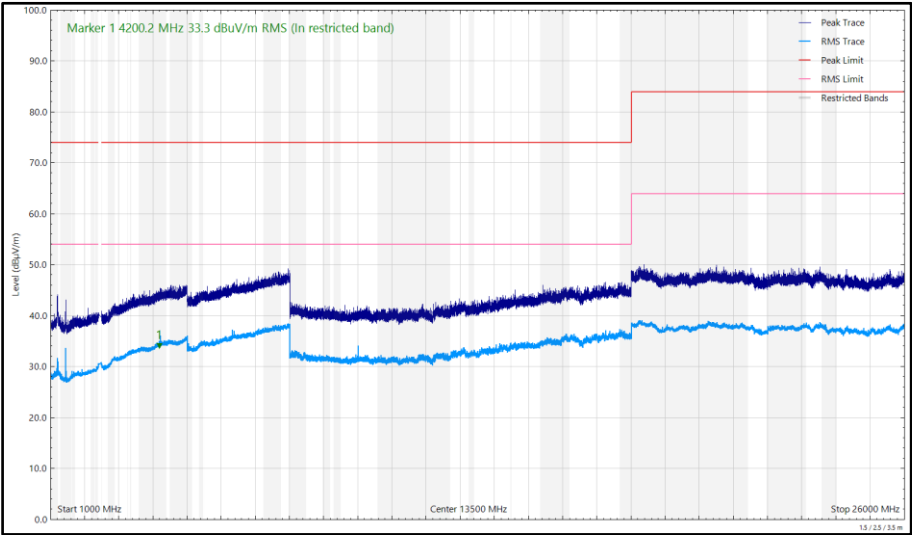


Figure 84 - 2440 MHz (CH18), Thread, iPA, Core 2, 1 GHz to 26 GHz, Vertical



Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 57 - 2475 MHz (CH25), Thread, iPA, Core 2, 1 GHz to 26 GHz

*No emissions found within 20 dB of the limit.

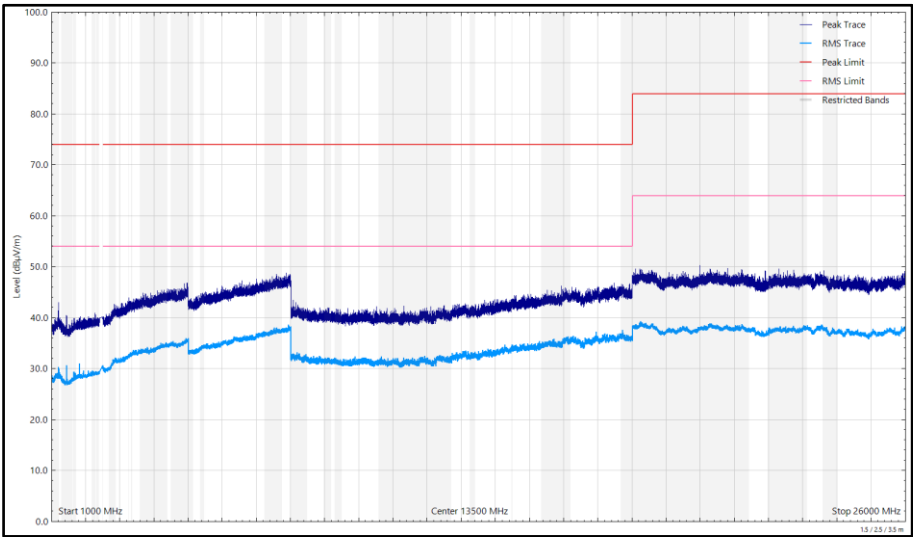


Figure 85 - 2475 MHz (CH25), Thread, iPA, Core 2, 1 GHz to 26 GHz, Horizontal

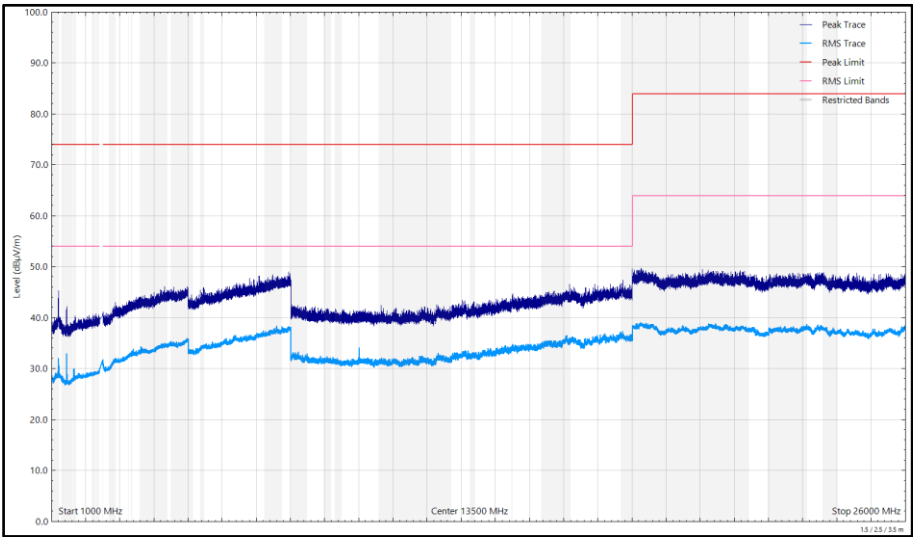


Figure 86 - 2475 MHz (CH25), Thread, iPA, Core 2, 1 GHz to 26 GHz, Vertical



FCC 47 CFR Part 15, Limit Clause 15.247 (d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in 15.209(a)

ISED RSS-247, Limit Clause 5.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section 5.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

In addition, radiated emissions which fall in the restricted bands, as defined in RSS-GEN, clause 8.10, must also comply with the radiated emission limits specified in RSS-GEN clause 8.9.



2.5.8 Test Location and Test Equipment Used

This test was carried out in RF Chamber 14, RF Chamber 15 and RF Chamber 17.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
Test Receiver	Rohde & Schwarz	ESW44	5084	12	13-Dec-2025
Emissions Software	TUV SUD	EmX V3.4.2 V.	5125	-	Software
EMI Test Receiver	Rohde & Schwarz	ESW44	5911	12	19-Sep-2025
Cable (K Type 2m)	Junkosha	MWX241-02000KMSKMS/B	5937	12	10-Jun-2025
DRG Horn Antenna (7.5-18GHz)	Schwarzbeck	HWRD750	5939	12	05-May-2025
TRILOG Super Broadband Test Antenna	Schwarzbeck	VULB 9168	5944	24	03-Jan-2027
1500W (300V 12A) AC Power Supply	iTech	IT7324	5955	-	O/P Mon
1500W (300V 12A) AC Power Supply	iTech	IT7324	5956	-	O/P Mon
5m Semi-Anechoic Chamber (Dual-Axis)	Albatross Projects	RF Chamber 14	5958	36	26-Apr-2025
Compact Antenna Mast	Maturo Gmbh	CAM4.0-P	5959	-	TU
Turntable	Maturo Gmbh	TT1.5SI	5962	-	TU
5m Semi-Anechoic Chamber (Dual-Axis), Chamber 15	Albatross Projects	RF Chamber 15	5963	36	28-Apr-2025
Compact Antenna Mast	Maturo Gmbh	CAM4.0-P	5964	-	TU
Mast & Turntable Controller	Maturo Gmbh	FCU3.0	5966	-	TU
Tilt Antenna Mast	Maturo Gmbh	BAM4.5-P	5967	-	TU
Turntable	Maturo Gmbh	TT1.5SI	5968	-	TU
Cable (N to N 1m)	Junkosha	MWX221-01000NMSNMS/B	5999	12	20-May-2025
Cable (N to N 7m)	Junkosha	MWX221-07000NMSNMS/B	6005	12	20-May-2025
SAC Switch Unit	TUV SUD	TUV_SSU_001	6144	12	11-Dec-2025
Digital Multimeter	Fluke	115	6146	12	06-Jun-2025
Digital Multimeter	Fluke	115	6147	12	06-Jun-2025
Double Ridge Active Horn Antenna (18-40 GHz)	Com-Power	AHA-840	6188	24	31-Jul-2026
Attenuator 4dB	Pasternack	PE7074-4	6203	24	24-May-2026
USB Spectrum Analyser	Signal Hound	SA124B	6296	-	TU
USB Spectrum Analyser	Signal Hound	SA124B	6297	-	TU
USB Spectrum Analyser	Signal Hound	SA124B	6298	-	TU
Digital Multimeter	Fluke	115	6345	12	24-Jul-2025
Humidity and Temperature Meter	R.S Components	1364	6346	12	06-Mar-2025



Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
SAC Switch Unit	TUV SUD	TUV_SSU_004 PLC	6349	12	07-May-2025
8 GHz High Pass Filter	Wainwright	WHKX 7150 8000 18000 50SS	6427	12	23-Apr-2025
Horn Antenna (1–10.5 GHz)	Schwarzbeck	BBHA 9120 B	6457	12	05-May-2025
Humidity and Temperature Meter	R.S Components	1364	6486	12	04-Jun-2025
Coax cable sma to sma with N-Type adapter	TUV SUD	N/A	6637	12	23-Apr-2025
AC Power Supply	iTech	IT7324	6657	-	O/P Mon
3m Semi-Anechoic Chamber	Albatross Projects	RF Chamber 17	6658	36	28-Jan-2026
Mast and Turntable Controller	Maturo Gmbh	FCU3.0	6659	-	TU
Tilt Antenna Mast	Maturo Gmbh	BAM4.5-P	6660	-	TU
Turntable	Maturo Gmbh	TT1.5SI	6661	-	TU
Pre Amp 8 - 18 GHz	Wright Technologies	APS06-0061	6783	12	23-Apr-2025
Mast & Turntable Controller	Maturo Gmbh	FCU3.0	6795	-	TU
Tilt Antenna Mast	Maturo Gmbh	BAM4.5-P	6796	-	TU
EMI Test Receiver	Rohde & Schwarz	ESW44	6805	12	29-May-2025
1M SMA Cable	Junkosha	MWX221-01000AMSAMS/B	6832	12	14-Aug-2025
Handheld Hygrometer	Fluke	971	6838	12	27-Aug-2025
1m SMA-Type Cable	Junkosha	MWX221-01000AMSAMS/B	6844	12	05-Sep-2025
1m SMA-Type Cable	Junkosha	MWX221-01000AMSAMS/B	6845	12	05-Sep-2025
8m SMA-Type Cable	Junkosha	MWX221-08000AMSAMS/B	6846	12	06-Nov-2025
8m SMA-Type Cable	Junkosha	MWX221-08000AMSAMS/B	6850	12	06-Nov-2025
Cable Assembly	SpecTech	PE300-60	6856	-	TU
Cable Assembly	SpecTech	PE300-60	6859	-	TU
Cable Assembly	SpecTech	PE300-60	6860	-	TU
Cable Assembly	SpecTech	PE300-60	6866	-	TU
Cable Assembly	SpecTech	PE300-60	6867	-	TU
Cable Assembly	SpecTech	PE300-60	6868	-	TU

Table 58

TU - Traceability Unscheduled

O/P Mon - Output Monitored using calibrated equipment



2.6 Power Spectral Density

2.6.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (e)
ISED RSS-247, Clause 5.2
ISED RSS-GEN, Clause 6.12

2.6.2 Equipment Under Test and Modification State

A3434, S/N: F5P6RDXMN4 - Modification State 0

2.6.3 Date of Test

01-April-2025 to 08-April-2025

2.6.4 Test Method

This test was performed in accordance with ANSI C63.10, clause 11.10.5.

Where the EUT duty cycle was < 98 % and repeatable within 2 %, the spectrum analyser was set to trace (power) averaging and a duty cycle correction was added as calculated in the result tables below (Method AVGPSD-2).

2.6.5 Environmental Conditions

Ambient Temperature	21.3 - 23.3 °C
Relative Humidity	30.0 - 37.8 %



2.6.6 Test Results

Thread

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (e) RSS-247 5.2 b)	Test Method(s):	C63.10 11.10.5
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	Thread iPA	Duty Cycle (%):	88.6
Data Rate:	-	DCCF (dB):	0.53
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	5.25
Active Port(s):	A (Core 0)	Active Chain(s):	0

Test Frequency (MHz)	RBW (kHz)	PSD (dBm/RBW)					Limit (dBm/3 kHz)	Margin (dB)
		A	B	C	D	Σ		
2405	3.0	-9.92	-	-	-	-9.92	8.00	-17.92
2440	3.0	-9.89	-	-	-	-9.89	8.00	-17.89
2475	3.0	-10.09	-	-	-	-10.09	8.00	-18.09

Table 59 - Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (e) RSS-247 5.2 b)	Test Method(s):	C63.10 11.10.5
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	Thread iPA	Duty Cycle (%):	88.7
Data Rate:	-	DCCF (dB):	0.52
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	4.30
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	RBW (kHz)	PSD (dBm/RBW)					Limit (dBm/3 kHz)	Margin (dB)
		A	B	C	D	Σ		
2405	3.0	-	-9.83	-	-	-9.83	8.00	-17.83
2440	3.0	-	-10.06	-	-	-10.06	8.00	-18.06
2475	3.0	-	-9.69	-	-	-9.69	8.00	-17.69

Table 60 - Maximum Power Spectral Density Results



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (e) RSS-247 5.2 b)	Test Method(s):	C63.10 11.10.5
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	Thread iPA	Duty Cycle (%):	88.9
Data Rate:	-	DCCF (dB):	0.51
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	5.41
Active Port(s):	C (Core 2)	Active Chain(s):	2

Test Frequency (MHz)	RBW (kHz)	PSD (dBm/RBW)					Limit (dBm/3 kHz)	Margin (dB)
		A	B	C	D	Σ		
2405	3.0	-	-	-9.64	-	-9.64	8.00	-17.64
2440	3.0	-	-	-9.97	-	-9.97	8.00	-17.97
2475	3.0	-	-	-10.50	-	-10.50	8.00	-18.50

Table 61 - Maximum Power Spectral Density Results



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (e) RSS-247 5.2 b)	Test Method(s):	C63.10 11.10.5
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	Thread ePA	Duty Cycle (%):	88.6
Data Rate:	-	DCCF (dB):	0.53
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	5.25
Active Port(s):	A (Core 0)	Active Chain(s):	0

Test Frequency (MHz)	RBW (kHz)	PSD (dBm/RBW)					Limit (dBm/3 kHz)	Margin (dB)
		A	B	C	D	Σ		
2405	3.0	-2.15	-	-	-	-2.15	8.00	-10.15
2440	3.0	-2.07	-	-	-	-2.07	8.00	-10.07
2475	3.0	-2.53	-	-	-	-2.53	8.00	-10.53

Table 62 - Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (e) RSS-247 5.2 b)	Test Method(s):	C63.10 11.10.5
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	Thread ePA	Duty Cycle (%):	88.7
Data Rate:	-	DCCF (dB):	0.52
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	4.30
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	RBW (kHz)	PSD (dBm/RBW)					Limit (dBm/3 kHz)	Margin (dB)
		A	B	C	D	Σ		
2405	3.0	-	-1.74	-	-	-1.74	8.00	-9.74
2440	3.0	-	-1.68	-	-	-1.68	8.00	-9.68
2475	3.0	-	-1.90	-	-	-1.90	8.00	-9.90

Table 63 - Maximum Power Spectral Density Results



FCC 47 CFR Part 15, Limit Clause 15.247 (e)

The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

ISED RSS-247, Limit Clause 5.2(b)

The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission

2.6.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 14.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
Hygrometer	Rotronic	I-1000	3068	12	19-Nov-2025
Digital Multimeter	Fluke	115	6145	12	06-Jun-2025
MXA Signal Analyser	Keysight Technologies	N9020B	6417	24	17-Mar-2027
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6518	12	23-Feb-2026
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6529	12	13-Mar-2026
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6530	12	23-Feb-2026
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6531	12	23-Feb-2026
AC Programmable Power Supply	iTech	IT7324	6662	-	O/P Mon

Table 64

O/P Mon - Output Monitored using calibrated equipment

3 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

Test Name	Measurement Uncertainty
Restricted Band Edges	30 MHz to 1 GHz: ± 5.2 dB 1 GHz to 40 GHz: ± 6.3 dB
Emission Bandwidth	± 41.74 kHz
Authorised Band Edges	30 MHz to 1 GHz: ± 5.2 dB 1 GHz to 40 GHz: ± 6.3 dB
Spurious Radiated Emissions	30 MHz to 1 GHz: ± 5.2 dB 1 GHz to 40 GHz: ± 6.3 dB
Power Spectral Density	± 1.00 dB
Maximum Conducted Output Power	Method PM: ± 0.65 dB Method SA: ± 1.05 dB

Table 65

Measurement Uncertainty Decision Rule – Accuracy Method

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115:2021, Clause 4.4.3 (Procedure 2). The measurement results are directly compared with the test limit to determine conformance with the requirements of the standard.

Risk: The uncertainty of measurement about the measured result is negligible with regard to the final pass/fail decision. The measurement result can be directly compared with the test limit to determine conformance with the requirement (compare IEC Guide 115). The level of risk to falsely accept and falsely reject items is further described in ILAC-G8.