



FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted TX Power	30 dBm (1W) for master device 24 dBm (250 mW) for client device	24 dBm (250 mW) or 11 dBm + 10 Log B, whichever is lower (B = 26 dB emission BW)		30 dBm (1 W)
Max EIRP	4W (36 dBm) with 6 dBi antenna 200 W (53 dBm) for fixed P-t-P application with 23 dBi antenna Additional rule for outdoor operation: Max_EIRP < 125 mW (21 dBm) at any elevation angle > 30° from horizon.	1 W (30 dBm) with 6 dBi antenna		4 W (36 dBm) with 6 dBi antenna. No EIRP limit for fixed P-t-P application (i.e. no antenna gain limit)

Table 74

ISED RSS-247, Limit Clause 6.2.1.1, 6.2.2.1, 6.2.3.1 and 6.2.4.1

Device	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
OEM installed in vehicles	30 mW or $1.76 + 10 \log_{10} B$, dBm (EIRP); whichever is less	30 mW or $1.76 + 10 \log_{10} B$, dBm (EIRP); whichever is less	-	-
Other	200 mW or $10 + 10 \log_{10} B$ dBm (EIRP); whichever is less	250 mW or $11 + 10 \log_{10} B$; whichever is less 1.0 W or $17 + 10 \log_{10} B$ dBm EIRP; whichever is less	250 mW or $11 + 10 \log_{10} B$; whichever is less 1.0 W or $17 + 10 \log_{10} B$ dBm EIRP; whichever is less	1W 4W EIRP

Table 75



2.3.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Multimeter	Fluke	79 Series III	611	12	21-Dec-2022
Hygrometer	Rotronic	I-1000	3068	12	21-Sep-2023
Hygrometer	Rotronic	I-1000	3220	12	05-Nov-2022
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	24-Feb-2023
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	24-Feb-2023
Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	01-Feb-2023
AC Programmable Power Supply	iTech	IT7324	5225	-	O/P Mon
AC Programmable Power Supply	iTech	IT7324	5226	-	O/P Mon
Attenuator 5W 20dB DC-18GHz	Aaren	AT40A-4041-D18-20	5498	12	16-May-2023
MXA Signal Analyser	Keysight Technologies	N9020B	5528	24	21-Mar-2024
MXA Signal Analyser	Keysight Technologies	N9020B	5529	24	13-Sep-2024
Signal Conditioning Unit	TUV SUD	SPECTRUM SCU001	5546	12	06-Apr-2023
2-Way Power Divider (2 to 8 GHz)	Aaren	AT30A-TE0208-2-AF	5684	12	20-Dec-2022
2-Way Power Divider (2-8 GHz)	Aaren	AT30A-TE0208-2-AF	5685	12	20-Dec-2022
Signal Conditioning Unit	TUV SUD	SPECTRUM SCU002	5759	12	05-Jul-2023
Directional Coupler 2-8GHz	RF-Lambda	RFDC2G8G10	5765	-	O/P Mon
Directional Coupler 2-8GHz	RF-Lambda	RFDC2G8G10	5766	-	O/P Mon
USB Power Sensor	Boonton	RTP5008	5820	12	06-Apr-2023
USB Power Sensor	Boonton	RTP5008	5830	12	07-Jul-2023
USB Power Sensor	Boonton	RTP5008	5831	12	06-Apr-2023
USB Power Sensor	Boonton	RTP5008	5832	12	07-Jul-2023

Table 76

O/P Mon – Output Monitored using calibrated equipment



2.4 Maximum Conducted Power Spectral Density

2.4.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.407 (a)
ISED RSS-247, Clause 6.2

2.4.2 Equipment Under Test and Modification State

A2816, S/N: H12J4GXMVX - Modification State 0

2.4.3 Date of Test

25-October-2022 to 10-November-2022

2.4.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 12.6.

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 SA-2). Where the duty cycle was $= 98\%$ the spectrum analyser was set to trace (power) averaging and no duty cycle correction made (Method SA-1). In all other cases the spectrum analyser trace was set to max hold (Method SA-3).

Results for the U-NII-3 band were measured in a narrower bandwidth and integrated over 500 kHz using the spectrum analyzers channel power integration function.

The output power was verified as being the same from each transmit core (within negligible tolerances), but the antenna gains were not identical. Therefore, the modes reported for SISO operation are those giving the highest EIRP and/or lowest conducted limit based on the antenna giving highest total directional gain.

MIMO output port summing was performed in accordance with KDB 662911 D01:

For transmit beamforming (TxBF) mode Directional Gain was calculated in accordance with clause F)2)d)(i).

2.4.5 Environmental Conditions

Ambient Temperature	22.8 - 23.3 °C
Relative Humidity	44.7 - 49.8 %



2.4.6 Test Results

Narrow Band

Test Configuration			
Frequency Range:	5.150-5.250 GHz	Band:	U-NII-1
Limit Clause(s):	15.407 (a)(1)(iv)	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	ePA $\pi/4$ DQPSK (4-DH5)	Duty Cycle (%):	78.4
Antenna Configuration:	SISO	DCCF (dB):	1.06
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.25

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-	9.18	-	-	-	10.75	-1.57
5204	-	9.14	-	-	-	10.75	-1.61
5245	-	8.46	-	-	-	10.75	-2.29

Table 77 - FCC Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	5.150-5.250 GHz	Band:	U-NII-1
Limit Clause(s):	15.407 (a)(1)(iv)	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	ePA $\pi/4$ DQPSK (8-DH5)	Duty Cycle (%):	78.2
Antenna Configuration:	SISO	DCCF (dB):	1.07
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.25

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-	6.55	-	-	-	10.75	-4.20
5204	-	7.24	-	-	-	10.75	-3.51
5245	-	6.52	-	-	-	10.75	-4.23

Table 78 - FCC Maximum Power Spectral Density Results



Test Configuration			
Frequency Range:	5.150-5.250 GHz	Band:	U-NII-1
Limit Clause(s):	15.407 (a)(1)(iv)	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	662911 D01 v02r01 E)2)b)		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	ePA $\pi/4$ DQPSK (4-DH5)	Duty Cycle (%):	78.1
Antenna Configuration:	Beamforming	DCCF (dB):	1.07
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	6.74

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	6.49	6.54	-	-	9.52	10.26	-0.74
5204	6.26	6.06	-	-	9.17	10.26	-1.10
5245	6.20	6.22	-	-	9.22	10.26	-1.04

Table 79 - FCC Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	5.150-5.250 GHz	Band:	U-NII-1
Limit Clause(s):	15.407 (a)(1)(iv)	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	662911 D01 v02r01 E)2)b)		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	ePA $\pi/4$ DQPSK (8-DH5)	Duty Cycle (%):	78.2
Antenna Configuration:	Beamforming	DCCF (dB):	1.07
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	6.74

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	4.38	4.28	-	-	7.34	10.26	-2.93
5204	3.72	3.71	-	-	6.73	10.26	-3.54
5245	4.54	3.67	-	-	7.14	10.26	-3.13

Table 80 - FCC Maximum Power Spectral Density Results



Test Configuration			
Frequency Range:	5.725-5.850 GHz	Band:	U-NII-3
Limit Clause(s):	15.407 (a)(3) RSS-247 6.2.4.1	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	ePA $\pi/4$ DQPSK (4-DH5)	Duty Cycle (%):	78.1
Antenna Configuration:	SISO	DCCF (dB):	1.07
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.66

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-	9.92	-	-	-	29.34	-19.42
5789	-	10.32	-	-	-	29.34	-19.02
5844	-	10.56	-	-	-	29.34	-18.78

Table 81 - Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	5.725-5.850 GHz	Band:	U-NII-3
Limit Clause(s):	15.407 (a)(3) RSS-247 6.2.4.1	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	ePA $\pi/4$ DQPSK (8-DH5)	Duty Cycle (%):	78.2
Antenna Configuration:	SISO	DCCF (dB):	1.07
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.66

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-	6.32	-	-	-	29.34	-23.02
5789	-	5.29	-	-	-	29.34	-24.05
5844	-	5.90	-	-	-	29.34	-23.44

Table 82 - Maximum Power Spectral Density Results



Test Configuration			
Frequency Range:	5.725-5.850 GHz	Band:	U-NII-3
Limit Clause(s):	15.407 (a)(3) RSS-247 6.2.4.1	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	662911 D01 v02r01 E)2)b)		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	ePA $\pi/4$ DQPSK (4-DH5)	Duty Cycle (%):	78.1
Antenna Configuration:	Beamforming	DCCF (dB):	1.07
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.25

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	9.79	10.40	-	-	13.11	28.75	-15.63
5789	10.14	10.19	-	-	13.18	28.75	-15.57
5844	9.84	10.06	-	-	12.96	28.75	-15.79

Table 83 - Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	5.725-5.850 GHz	Band:	U-NII-3
Limit Clause(s):	15.407 (a)(3) RSS-247 6.2.4.1	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	662911 D01 v02r01 E)2)b)		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	ePA $\pi/4$ DQPSK (8-DH5)	Duty Cycle (%):	78.2
Antenna Configuration:	Beamforming	DCCF (dB):	1.07
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.25

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	6.16	6.49	-	-	9.34	28.75	-19.41
5789	5.22	5.80	-	-	8.53	28.75	-20.22
5844	5.93	6.21	-	-	9.08	28.75	-19.66

Table 84 - Maximum Power Spectral Density Results



Test Configuration			
Frequency Range:	5.150-5.250 GHz	Band:	U-NII-1
Limit Clause(s):	15.407 (a)(1)(iv)	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	iPA GFSK (DH5)	Duty Cycle (%):	76.7
Antenna Configuration:	SISO	DCCF (dB):	1.15
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.25

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-	8.76	-	-	-	10.75	-1.99
5204	-	8.65	-	-	-	10.75	-2.10
5245	-	8.98	-	-	-	10.75	-1.77

Table 85 - FCC Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	5.150-5.250 GHz	Band:	U-NII-1
Limit Clause(s):	15.407 (a)(1)(iv)	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	662911 D01 v02r01 E)2)b)		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	iPA GFSK (DH5)	Duty Cycle (%):	76.7
Antenna Configuration:	Beamforming	DCCF (dB):	1.15
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	6.74

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	7.15	6.51	-	-	9.85	10.26	-0.41
5204	6.30	6.20	-	-	9.26	10.26	-1.00
5245	5.83	6.68	-	-	9.29	10.26	-0.98

Table 86 - FCC Maximum Power Spectral Density Results



Test Configuration			
Frequency Range:	5.150-5.250 GHz	Band:	U-NII-1
Limit Clause(s):	15.407 (a)(1)(iv)	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	iPA $\pi/4$ DQPSK (4-DH5)	Duty Cycle (%):	78.4
Antenna Configuration:	SISO	DCCF (dB):	1.06
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.25

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-	1.64	-	-	-	10.75	-9.11
5204	-	2.31	-	-	-	10.75	-8.44
5245	-	2.05	-	-	-	10.75	-8.70

Table 87 - FCC Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	5.150-5.250 GHz	Band:	U-NII-1
Limit Clause(s):	15.407 (a)(1)(iv)	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	iPA $\pi/4$ DQPSK (8-DH5)	Duty Cycle (%):	78.2
Antenna Configuration:	SISO	DCCF (dB):	1.07
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.25

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-	-0.80	-	-	-	10.75	-11.55
5204	-	-0.85	-	-	-	10.75	-11.60
5245	-	-0.56	-	-	-	10.75	-11.31

Table 88 - FCC Maximum Power Spectral Density Results



Test Configuration			
Frequency Range:	5.150-5.250 GHz	Band:	U-NII-1
Limit Clause(s):	15.407 (a)(1)(iv)	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	662911 D01 v02r01 E)2)b)		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	iPA $\pi/4$ DQPSK (4-DH5)	Duty Cycle (%):	78.1
Antenna Configuration:	Beamforming	DCCF (dB):	1.07
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	6.74

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	0.57	1.39	-	-	4.01	10.26	-6.25
5204	1.19	1.97	-	-	4.61	10.26	-5.65
5245	2.00	1.81	-	-	4.92	10.26	-5.35

Table 89 - FCC Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	5.150-5.250 GHz	Band:	U-NII-1
Limit Clause(s):	15.407 (a)(1)(iv)	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	662911 D01 v02r01 E)2)b)		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	iPA $\pi/4$ DQPSK (8-DH5)	Duty Cycle (%):	78.2
Antenna Configuration:	Beamforming	DCCF (dB):	1.07
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	6.74

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-2.02	-0.65	-	-	1.73	10.26	-8.54
5204	-1.43	-0.87	-	-	1.87	10.26	-8.39
5245	0.21	-0.38	-	-	2.94	10.26	-7.33

Table 90 - FCC Maximum Power Spectral Density Results



Test Configuration			
Frequency Range:	5.725-5.850 GHz	Band:	U-NII-3
Limit Clause(s):	15.407 (a)(3) RSS-247 6.2.4.1	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	iPA GFSK (DH5)	Duty Cycle (%):	76.7
Antenna Configuration:	SISO	DCCF (dB):	1.15
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.66

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-	9.90	-	-	-	29.34	-19.44
5789	-	9.93	-	-	-	29.34	-19.41
5844	-	10.39	-	-	-	29.34	-18.95

Table 91 - Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	5.725-5.850 GHz	Band:	U-NII-3
Limit Clause(s):	15.407 (a)(3) RSS-247 6.2.4.1	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	662911 D01 v02r01 E)2)b)		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	iPA GFSK (DH5)	Duty Cycle (%):	76.7
Antenna Configuration:	Beamforming	DCCF (dB):	1.15
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.25

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	10.20	9.29	-	-	12.78	28.75	-15.97
5789	9.56	10.18	-	-	12.89	28.75	-15.86
5844	9.94	9.98	-	-	12.97	28.75	-15.78

Table 92 - Maximum Power Spectral Density Results



Test Configuration			
Frequency Range:	5.725-5.850 GHz	Band:	U-NII-3
Limit Clause(s):	15.407 (a)(3) RSS-247 6.2.4.1	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	iPA $\pi/4$ DQPSK (4-DH5)	Duty Cycle (%):	78.1
Antenna Configuration:	SISO	DCCF (dB):	1.07
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.66

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-	-0.53	-	-	-	29.34	-29.87
5789	-	-0.77	-	-	-	29.34	-30.11
5844	-	-0.42	-	-	-	29.34	-29.76

Table 93 - Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	5.725-5.850 GHz	Band:	U-NII-3
Limit Clause(s):	15.407 (a)(3) RSS-247 6.2.4.1	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	-		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	iPA $\pi/4$ DQPSK (8-DH5)	Duty Cycle (%):	78.5
Antenna Configuration:	SISO	DCCF (dB):	1.05
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.66

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-	-2.82	-	-	-	29.34	-32.16
5789	-	-3.06	-	-	-	29.34	-32.40
5844	-	-2.77	-	-	-	29.34	-32.11

Table 94 - Maximum Power Spectral Density Results



Test Configuration			
Frequency Range:	5.725-5.850 GHz	Band:	U-NII-3
Limit Clause(s):	15.407 (a)(3) RSS-247 6.2.4.1	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	662911 D01 v02r01 E)2)b)		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	iPA $\pi/4$ DQPSK (4-DH5)	Duty Cycle (%):	78.1
Antenna Configuration:	Beamforming	DCCF (dB):	1.07
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.25

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-0.79	-1.04	-	-	2.10	28.75	-26.65
5789	-0.62	-0.92	-	-	2.24	28.75	-26.51
5844	-0.34	-0.48	-	-	2.60	28.75	-26.15

Table 95 - Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	5.725-5.850 GHz	Band:	U-NII-3
Limit Clause(s):	15.407 (a)(3) RSS-247 6.2.4.1	Test Method(s):	C63.10 12.4.2.4 C63.10 12.6
Additional Reference(s):	662911 D01 v02r01 E)2)b)		
Note(s):	DCCF was added to the spectrum analyser reference level offset.		

DUT Configuration			
Mode:	iPA $\pi/4$ DQPSK (8-DH5)	Duty Cycle (%):	78.2
Antenna Configuration:	Beamforming	DCCF (dB):	1.07
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.25

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-2.81	-3.40	-	-	-0.08	28.75	-28.83
5789	-1.66	-3.19	-	-	0.65	28.75	-28.09
5844	-3.01	-2.53	-	-	0.25	28.75	-28.50

Table 96 - Maximum Power Spectral Density Results



FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted Power Spectral Density	17 dBm/MHz for master device 11 dBm/MHz for mobile/portable client device	11 dBm/MHz		30 dBm/500 kHz

Table 97

ISED RSS-247, Limit Clause 6.2.1.1, 6.2.2.1, 6.2.3.1 and 6.2.4.1

Device	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
OEM installed in vehicles	-	-	-	-
Other	≤10 dBm/MHz EIRP	≤11 dBm/MHz	≤11 dBm/MHz	≤30 dBm/500kHz

Table 98



2.4.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Multimeter	Fluke	79 Series III	611	12	21-Dec-2022
Hygrometer	Rotronic	I-1000	3068	12	21-Sep-2023
Hygrometer	Rotronic	I-1000	3220	12	05-Nov-2022
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	24-Feb-2023
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	24-Feb-2023
Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	01-Feb-2023
AC Programmable Power Supply	iTech	IT7324	5225	-	O/P Mon
AC Programmable Power Supply	iTech	IT7324	5226	-	O/P Mon
Attenuator 5W 20dB DC-18GHz	Aaren	AT40A-4041-D18-20	5498	12	16-May-2023
MXA Signal Analyser	Keysight Technologies	N9020B	5528	24	21-Mar-2024
MXA Signal Analyser	Keysight Technologies	N9020B	5529	24	13-Sep-2024
Signal Conditioning Unit	TUV SUD	SPECTRUM SCU001	5546	12	06-Apr-2023
2-Way Power Divider (2 to 8 GHz)	Aaren	AT30A-TE0208-2-AF	5684	12	20-Dec-2022
2-Way Power Divider (2-8 GHz)	Aaren	AT30A-TE0208-2-AF	5685	12	20-Dec-2022
Signal Conditioning Unit	TUV SUD	SPECTRUM SCU002	5759	12	05-Jul-2023
Directional Coupler 2-8GHz	RF-Lambda	RFDC2G8G10	5765	-	O/P Mon
Directional Coupler 2-8GHz	RF-Lambda	RFDC2G8G10	5766	-	O/P Mon

Table 99

O/P Mon – Output Monitored using calibrated equipment



2.5 Authorised Band Edges

2.5.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.407 (b)
ISED RSS-247, Clause 6.2

2.5.2 Equipment Under Test and Modification State

A2816, S/N: Q64HTFJ22X - Modification State 0
A2816, S/N: V712HT2WFF - Modification State 0

2.5.3 Date of Test

26-June-2022 to 26-October-2022

2.5.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 6.6.

For U-NII-2C channels, the limit line on the following plots equated to -27 dBm/MHz. EIRP and was converted to field strength at 3 m using the following formula:

Field Strength (dBμV/m at 3 m) = EIRP (dBm) + 95.2 dB

Authorised band edge measurements were performed, with the device operating in SISO and TXBF configurations, across the various modes supported by the device.

The measurements displayed within this report, have been limited to those modes which have been shown to be worst case.

Further measurements are held on file by TÜV SÜD and are available if required.

2.5.5 Environmental Conditions

Ambient Temperature	21.5 - 25.0 °C
Relative Humidity	39.5 - 58.8 %

2.5.6 Test Results

NarrowBand

iPA - SISO

Mode	Modulation	Core	Packet Type	Tx Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBμV/m)
Static	GFSK	1	DH5	5733	5725	56.13
Static	$\pi/4$ DQPSK	1	4-DH5	5733	5725	56.03
Static	$\pi/4$ DQPSK	1	8-DH5	5733	5725	56.07
Hopping	GFSK	1	DH5	-	5725	56.13
Hopping	$\pi/4$ DQPSK	1	4-DH5	-	5725	56.04
Hopping	$\pi/4$ DQPSK	1	8-DH5	-	5725	56.09
Static	GFSK	1	DH5	5844	5850	56.53
Static	$\pi/4$ DQPSK	1	4-DH5	5844	5850	57.19
Static	$\pi/4$ DQPSK	1	8-DH5	5844	5850	56.92
Hopping	GFSK	1	DH5	-	5850	56.61
Hopping	$\pi/4$ DQPSK	1	4-DH5	-	5850	56.85
Hopping	$\pi/4$ DQPSK	1	8-DH5	-	5850	56.81

Table 100 - Authorised Band Edge Results

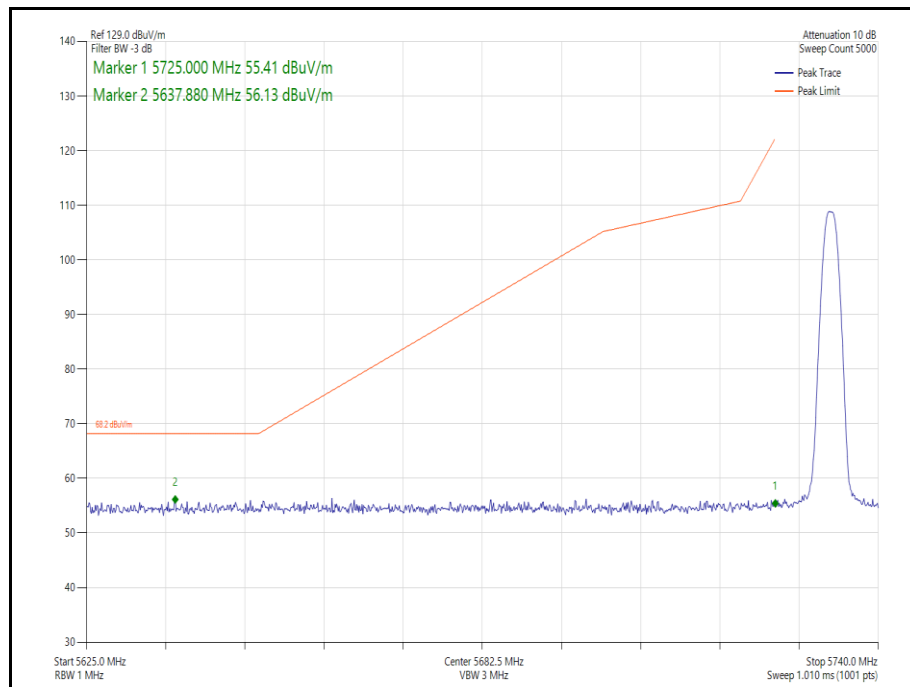


Figure 156 - Static - GFSK/DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

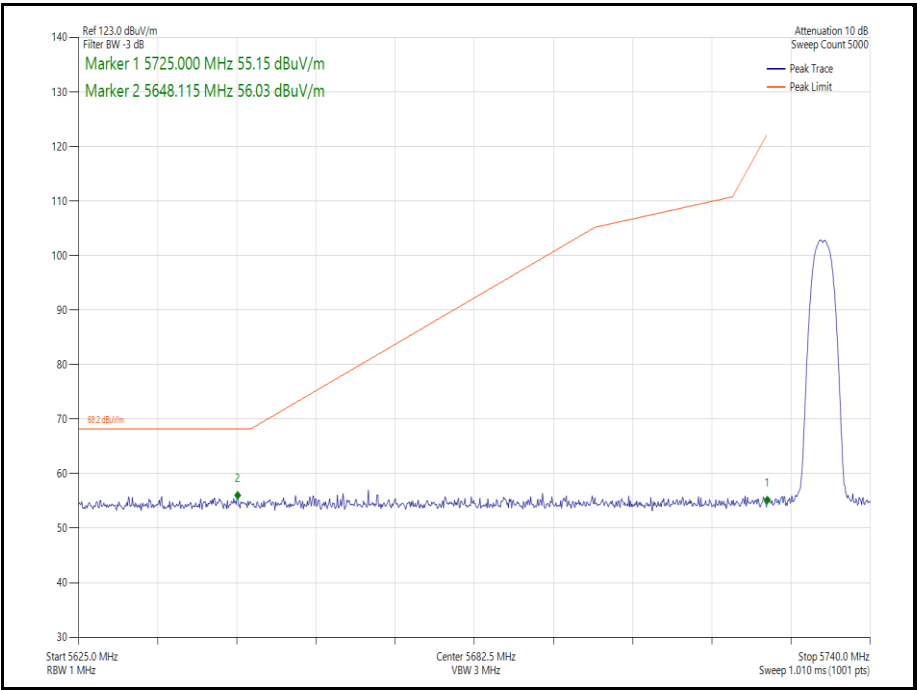


Figure 157 - Static - $\pi/4$ DQPSK/4-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

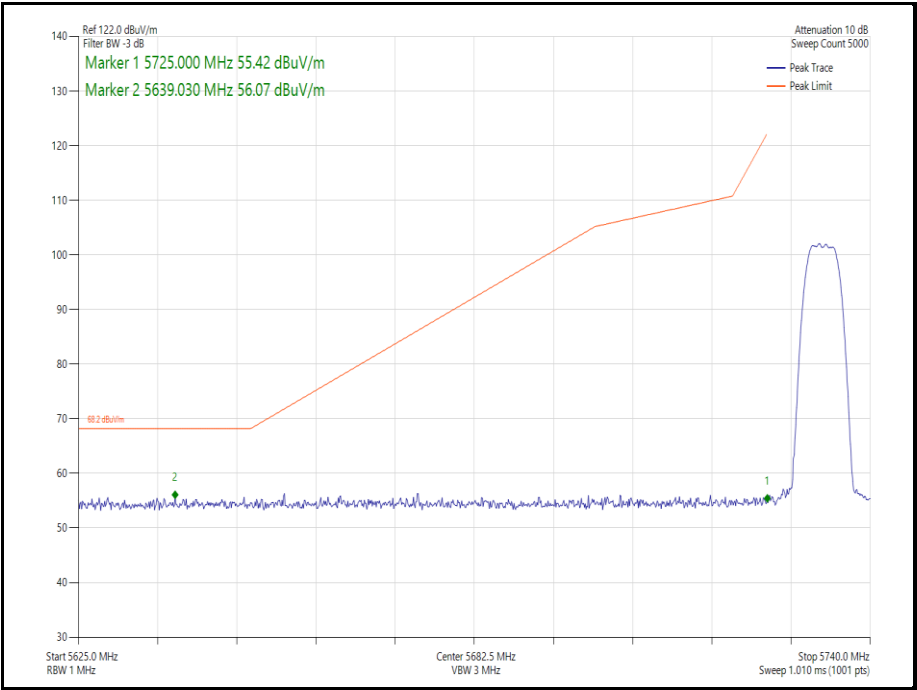


Figure 158 - Static - $\pi/4$ DQPSK/8-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

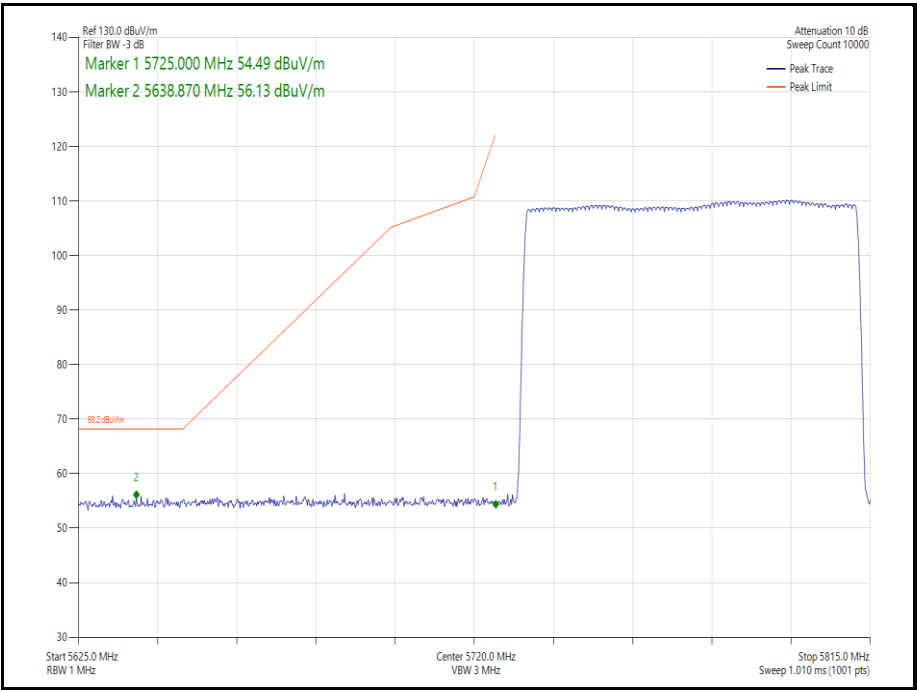


Figure 159 - Hopping - GFSK/DH5 - Band Edge Frequency 5725 MHz

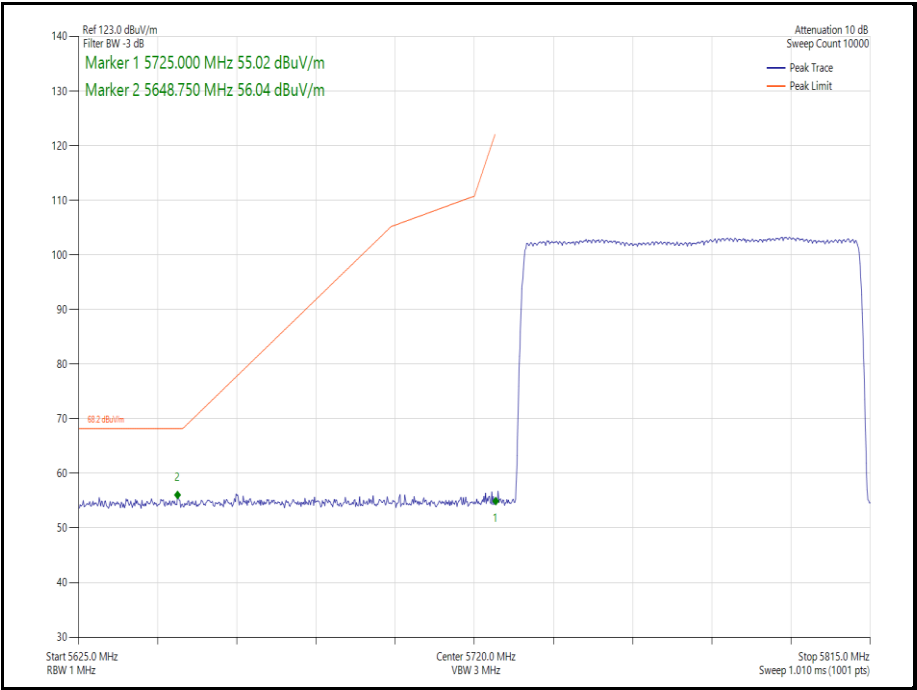


Figure 160 - Hopping - $\pi/4$ DQPSK/4-DH5 - Band Edge Frequency 5725 MHz

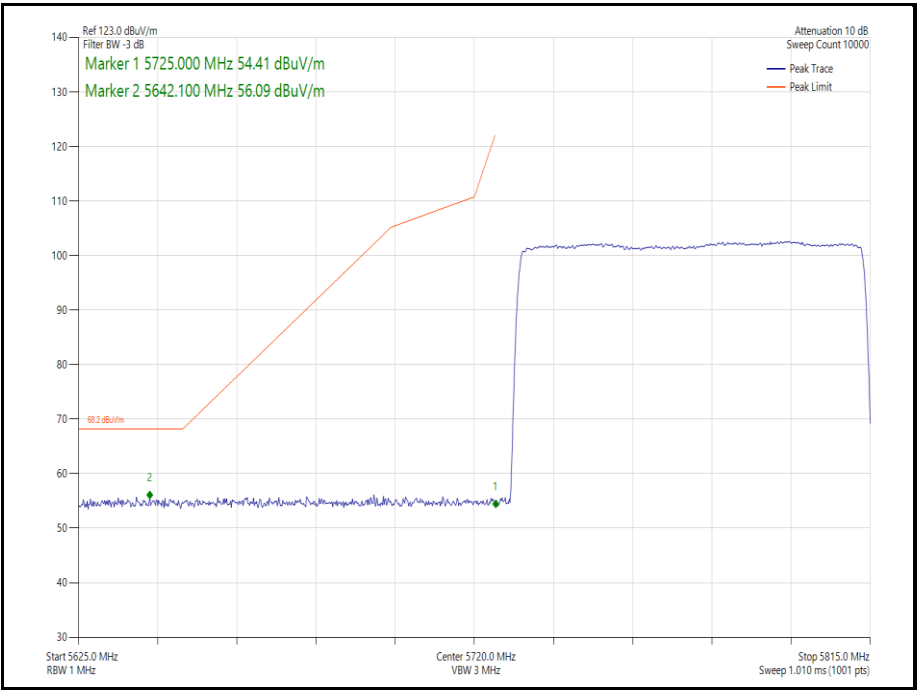


Figure 161 - Hopping - $\pi/4$ DQPSK/8-DH5 - Band Edge Frequency 5725 MHz

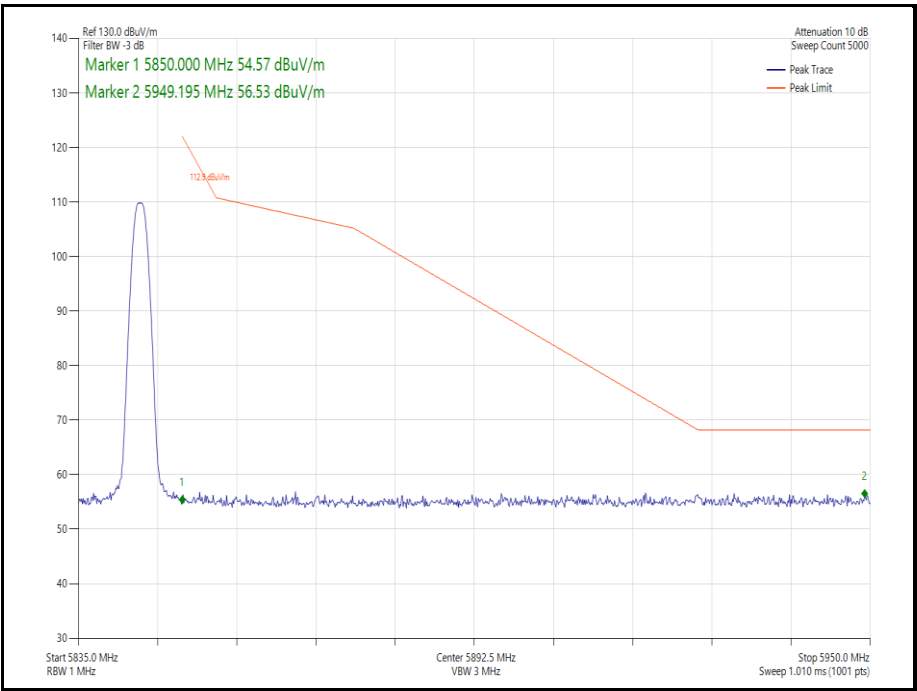


Figure 162 - Static - GFSK/DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

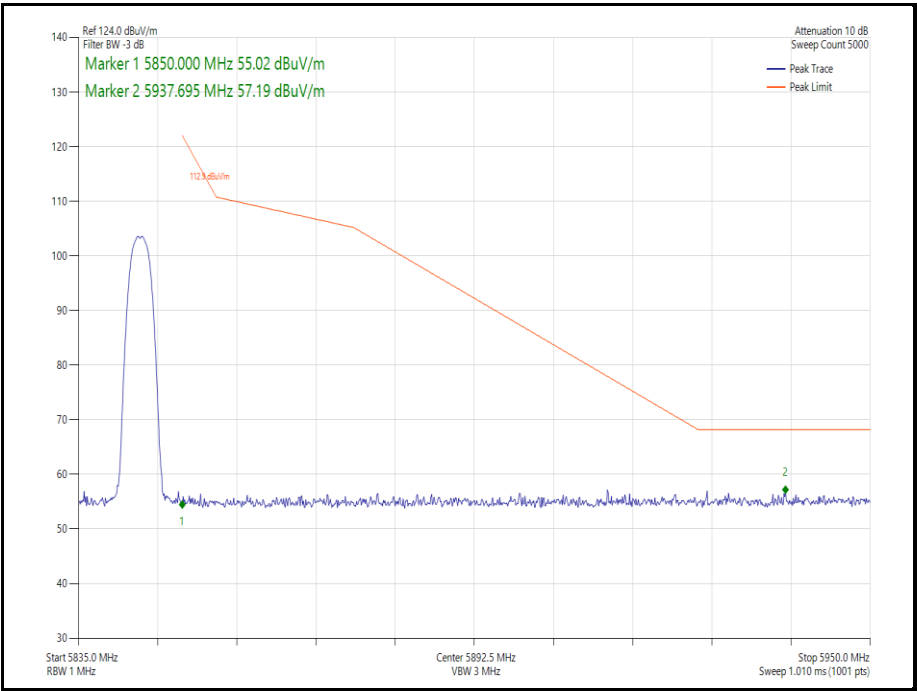


Figure 163 - Static - $\pi/4$ DQPSK/4-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

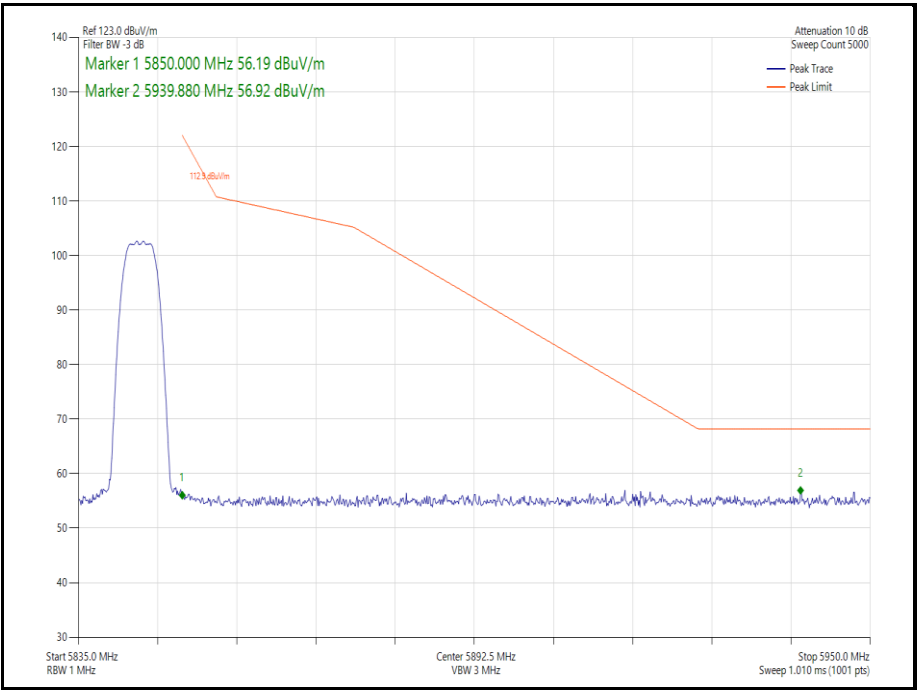


Figure 164 - Static - $\pi/4$ DQPSK/8-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

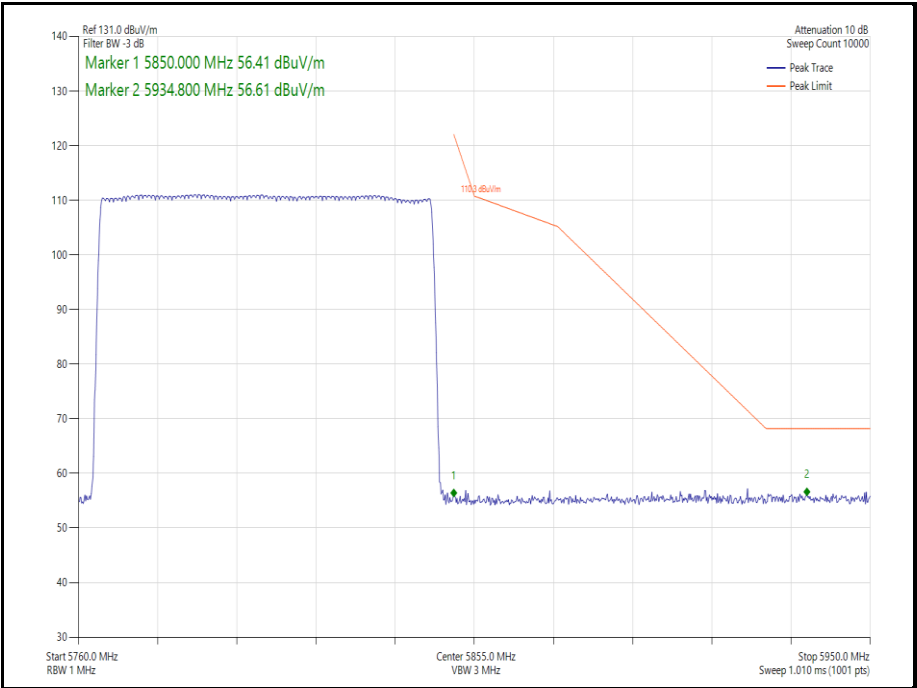


Figure 165 - Hopping - GFSK/DH5 - Band Edge Frequency 5850 MHz

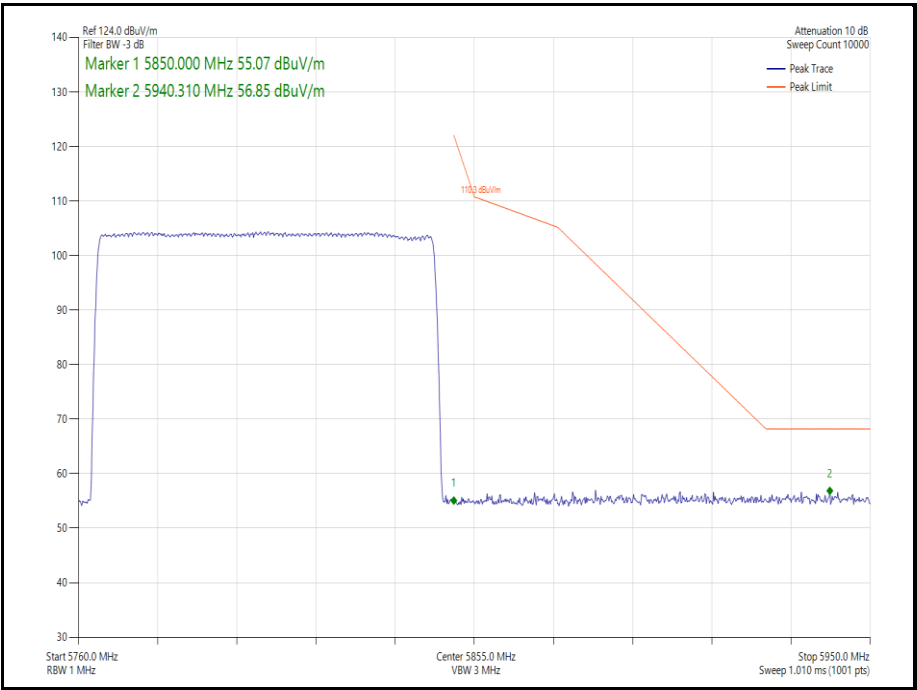


Figure 166 - Hopping - $\pi/4$ DQPSK/4-DH5 - Band Edge Frequency 5850 MHz

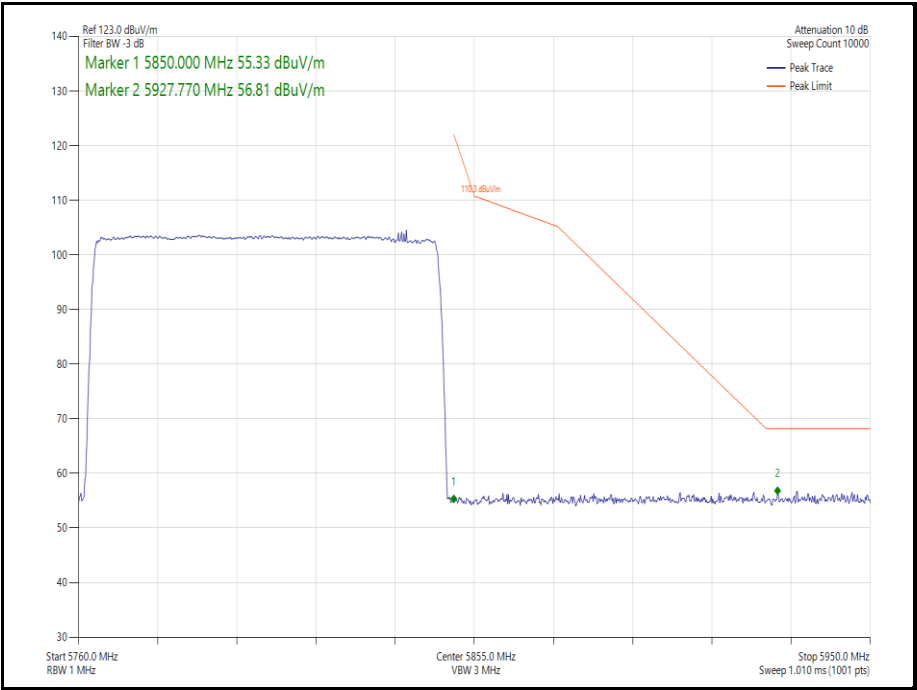


Figure 167 - Hopping - $\pi/4$ DQPSK/8-DH5 - Band Edge Frequency 5850 MHz

iPA - TXBF

Mode	Modulation	Core	Packet Type	Tx Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBμV/m)
Static	GFSK	0-1	DH5	5733	5725	53.43
Static	$\pi/4$ DQPSK	0-1	4-DH5	5733	5725	52.18
Static	$\pi/4$ DQPSK	0-1	8-DH5	5733	5725	52.60
Hopping	GFSK	0-1	DH5	-	5725	53.65
Hopping	$\pi/4$ DQPSK	0-1	4-DH5	-	5725	52.39
Hopping	$\pi/4$ DQPSK	0-1	8-DH5	-	5725	52.47
Static	GFSK	0-1	DH5	5844	5850	54.15
Static	$\pi/4$ DQPSK	0-1	4-DH5	5844	5850	52.50
Static	$\pi/4$ DQPSK	0-1	8-DH5	5844	5850	52.25
Hopping	GFSK	0-1	DH5	-	5850	54.25
Hopping	$\pi/4$ DQPSK	0-1	4-DH5	-	5850	52.27
Hopping	$\pi/4$ DQPSK	0-1	8-DH5	-	5850	53.15

Table 101 - Authorised Band Edge Results

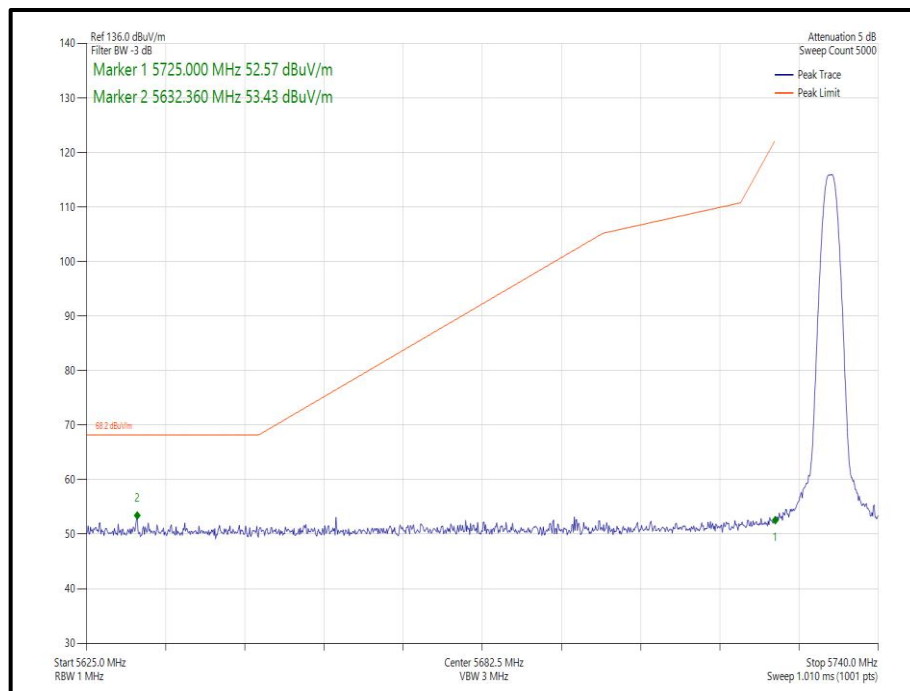


Figure 168 - Static - GFSK/DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

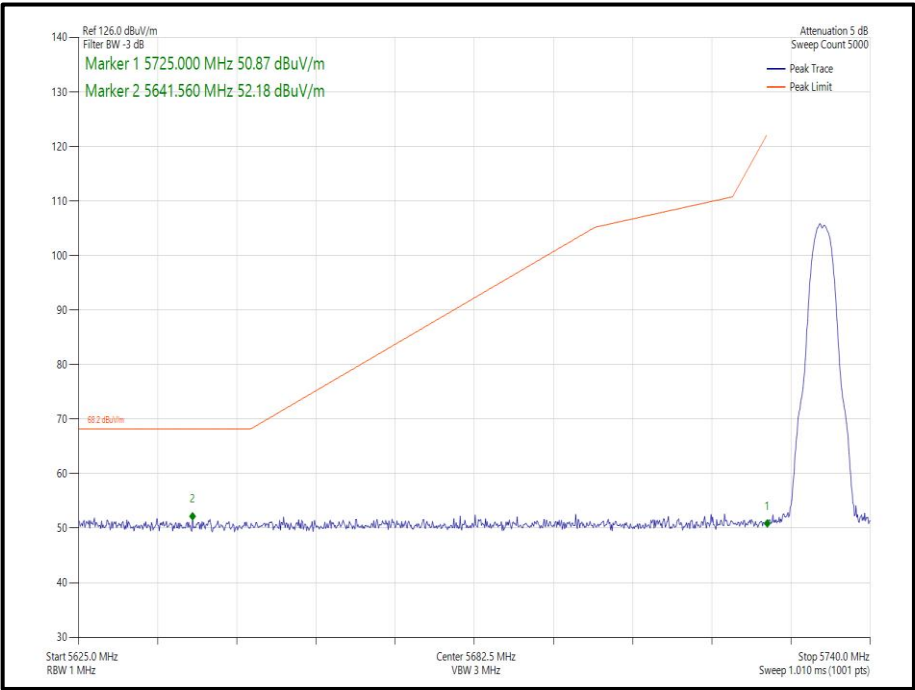


Figure 169 - Static - $\pi/4$ DQPSK/4-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

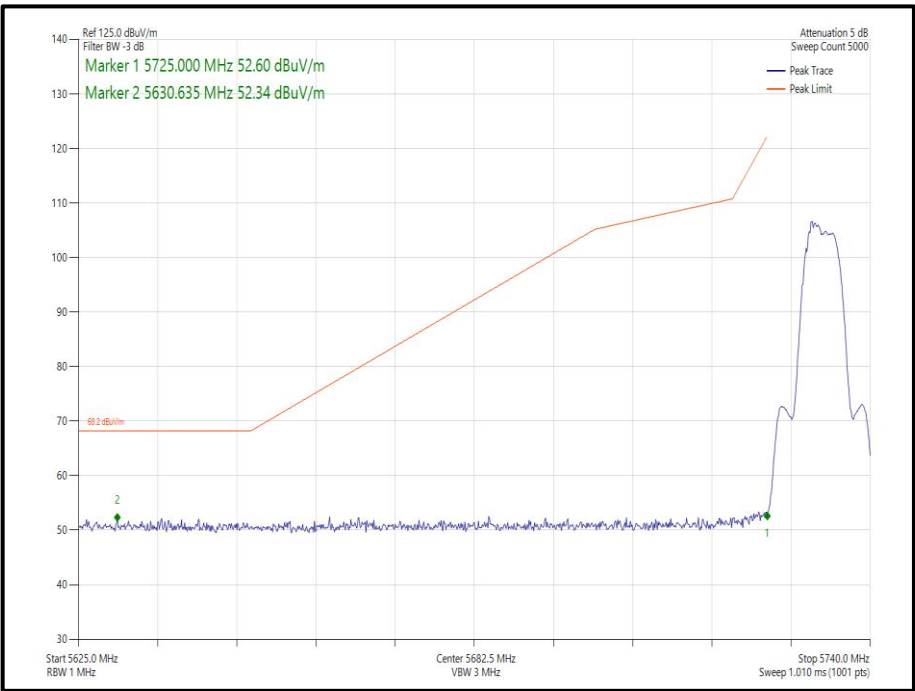


Figure 170 - Static - $\pi/4$ DQPSK/8-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

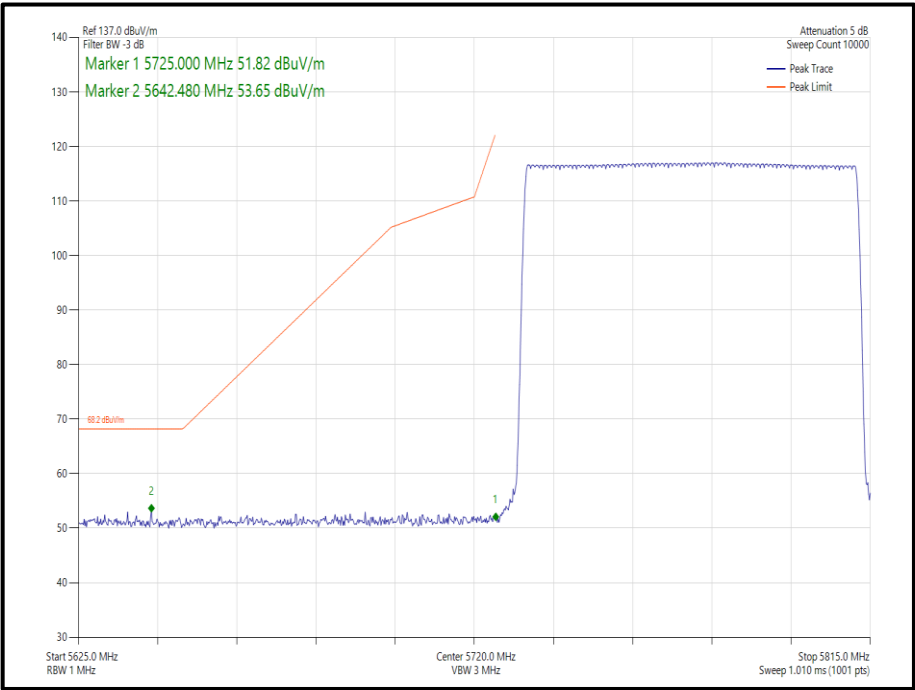


Figure 171 - Hopping - GFSK/DH5 - Band Edge Frequency 5725 MHz

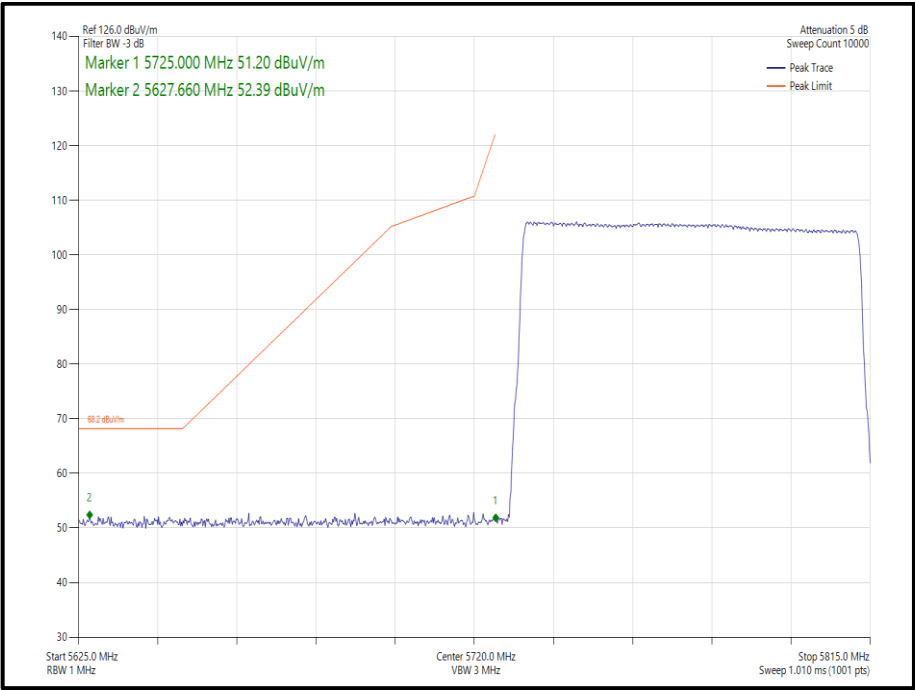


Figure 172 - Hopping - $\pi/4$ DQPSK/4-DH5 - Band Edge Frequency 5725 MHz

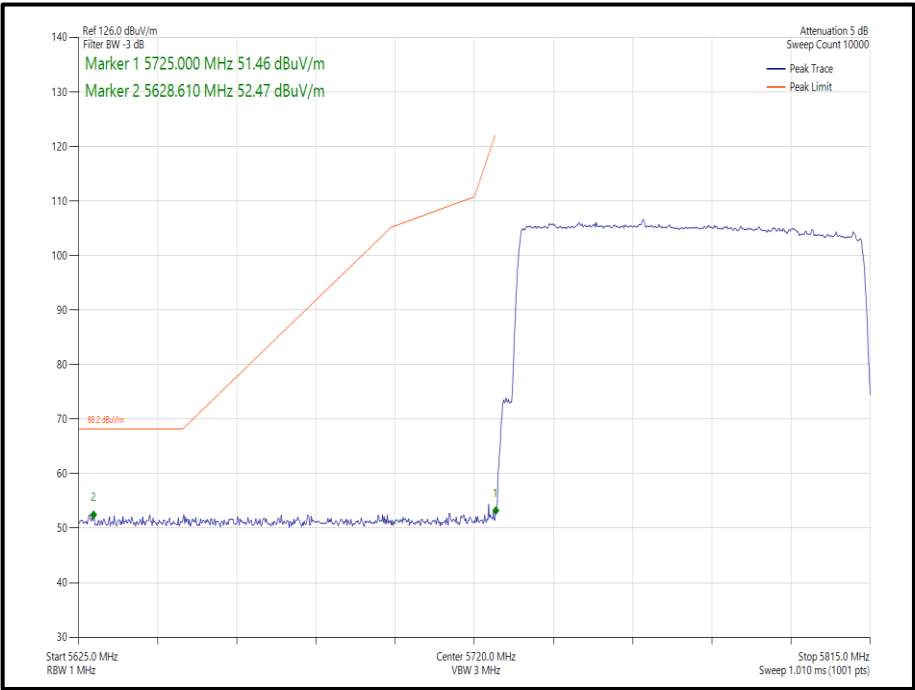


Figure 173 - Hopping - $\pi/4$ DQPSK/8-DH5 - Band Edge Frequency 5725 MHz

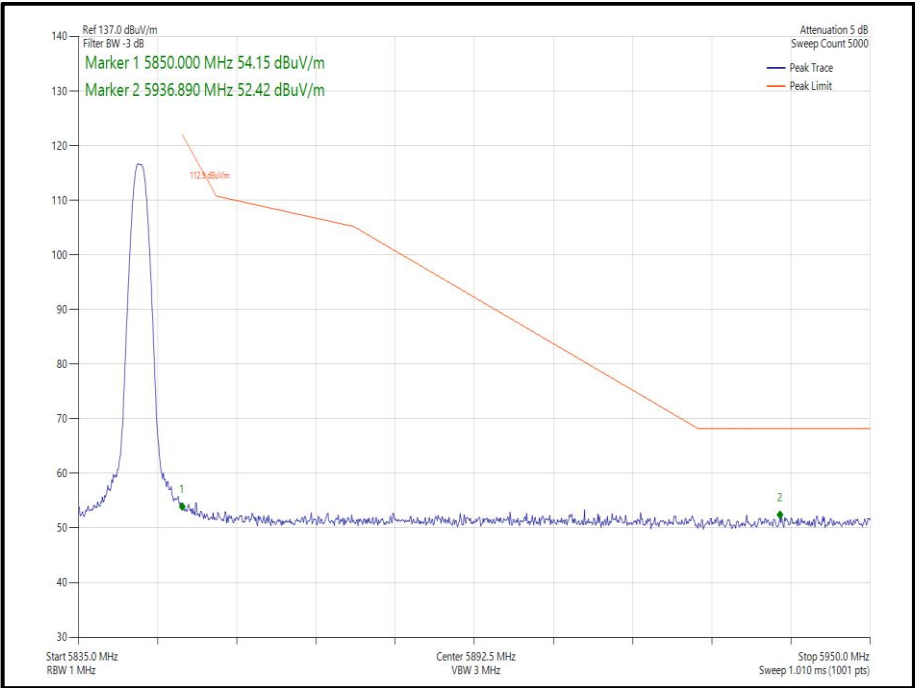


Figure 174 - Static - GFSK/DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

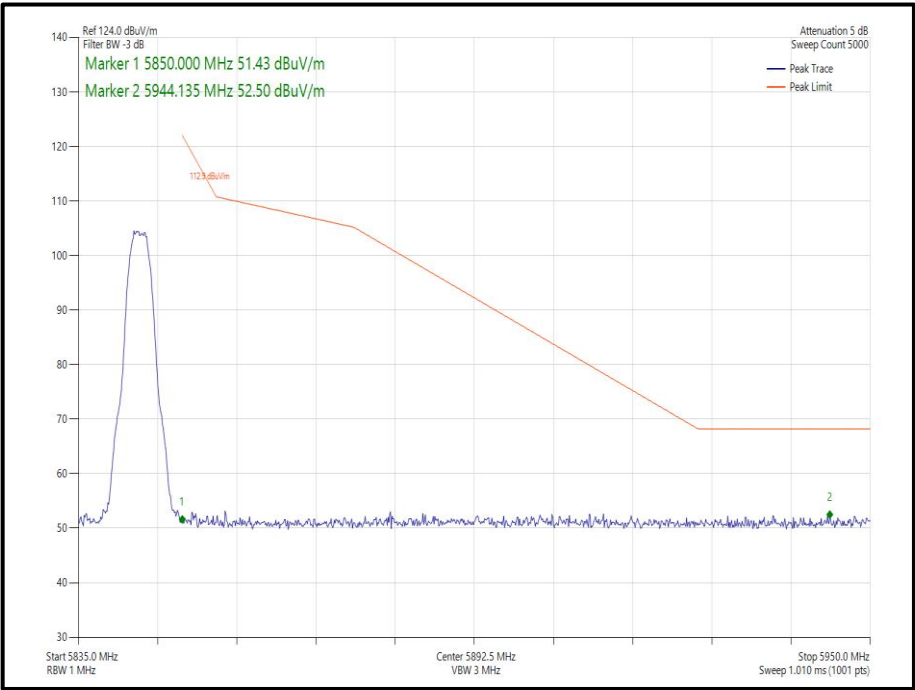


Figure 175 - Static - $\pi/4$ DQPSK/4-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

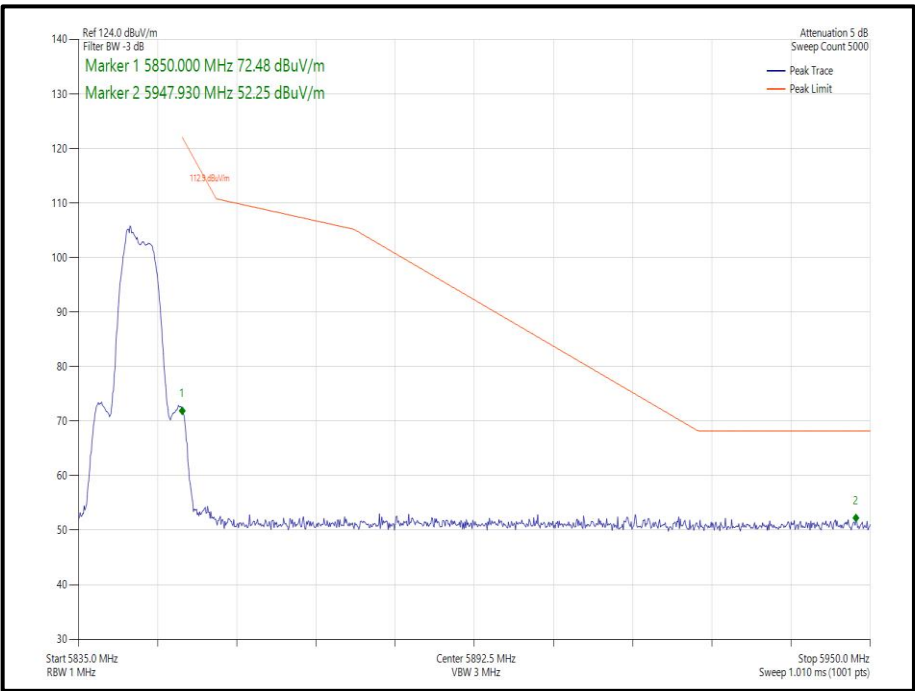


Figure 176 - Static - $\pi/4$ DQPSK/8-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

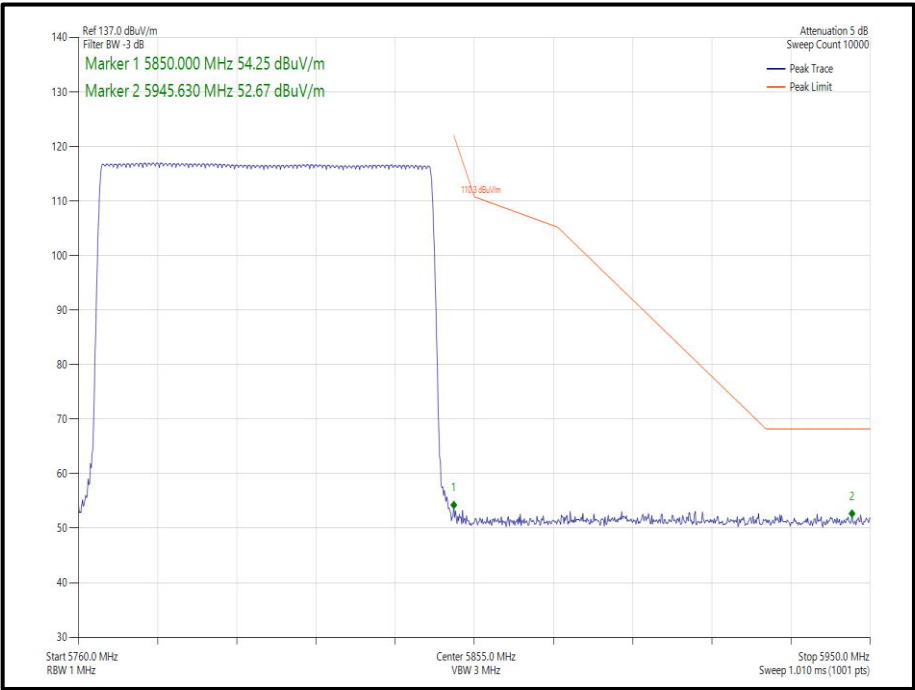


Figure 177 - Hopping - GFSK/DH5 - Band Edge Frequency 5850 MHz

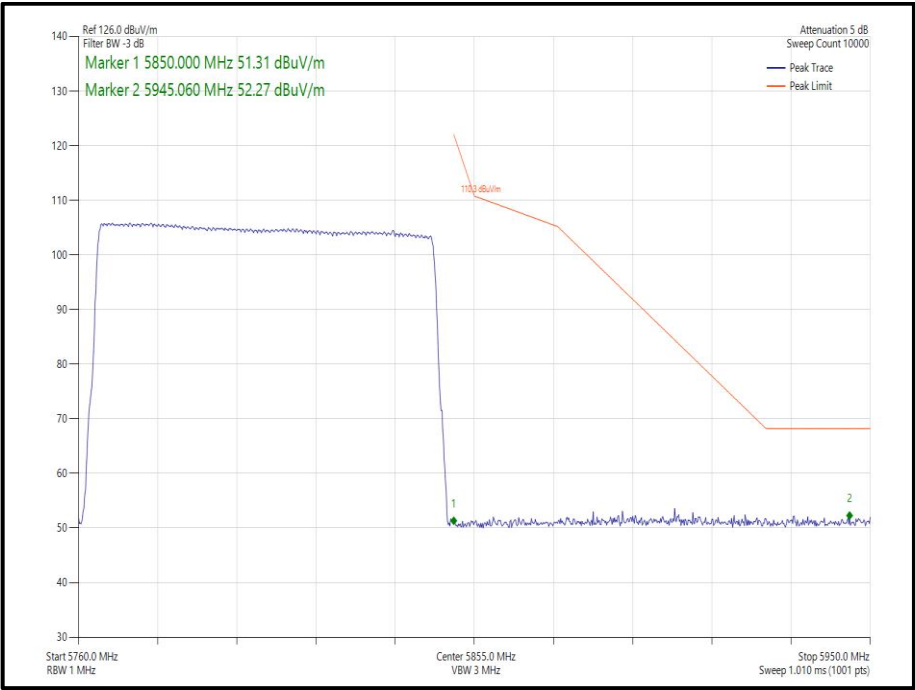


Figure 178 - Hopping - $\pi/4$ DQPSK/4-DH5 - Band Edge Frequency 5850 MHz

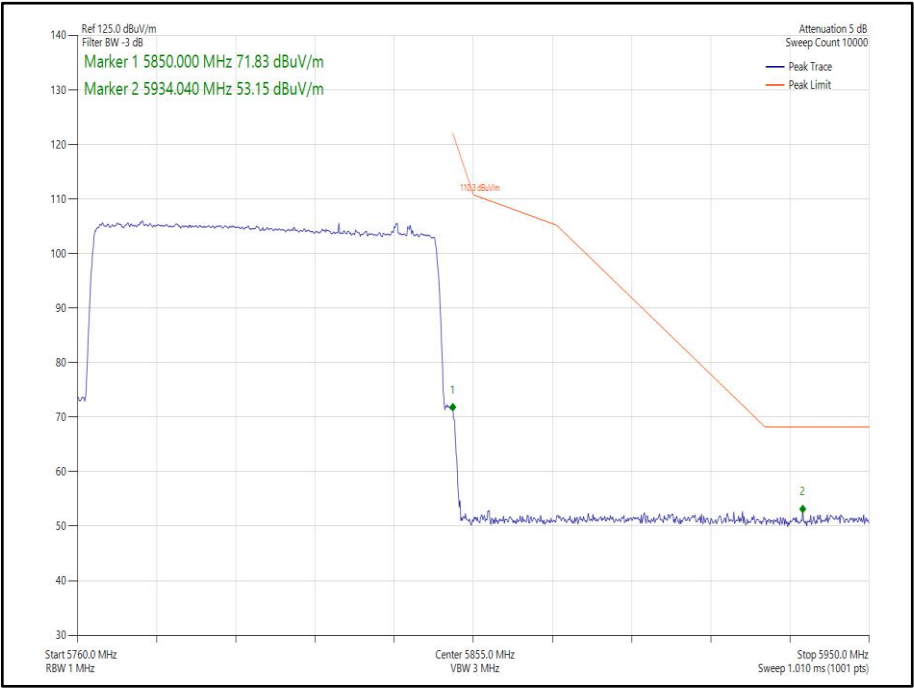


Figure 179 - Hopping - $\pi/4$ DQPSK/8-DH5 - Band Edge Frequency 5850 MHz

ePA - SISO

Mode	Modulation	Core	Packet Type	Tx Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBμV/m)
Static	$\pi/4$ DQPSK	1	4-DH5	5733	5725	56.41
Static	$\pi/4$ DQPSK	1	8-DH5	5733	5725	57.17
Hopping	$\pi/4$ DQPSK	1	4-DH5	-	5725	56.75
Hopping	$\pi/4$ DQPSK	1	8-DH5	-	5725	57.29
Static	$\pi/4$ DQPSK	1	4-DH5	5844	5850	56.63
Static	$\pi/4$ DQPSK	1	8-DH5	5844	5850	56.96
Hopping	$\pi/4$ DQPSK	1	4-DH5	-	5850	56.50
Hopping	$\pi/4$ DQPSK	1	8-DH5	-	5850	57.13

Table 102 - Authorised Band Edge Results

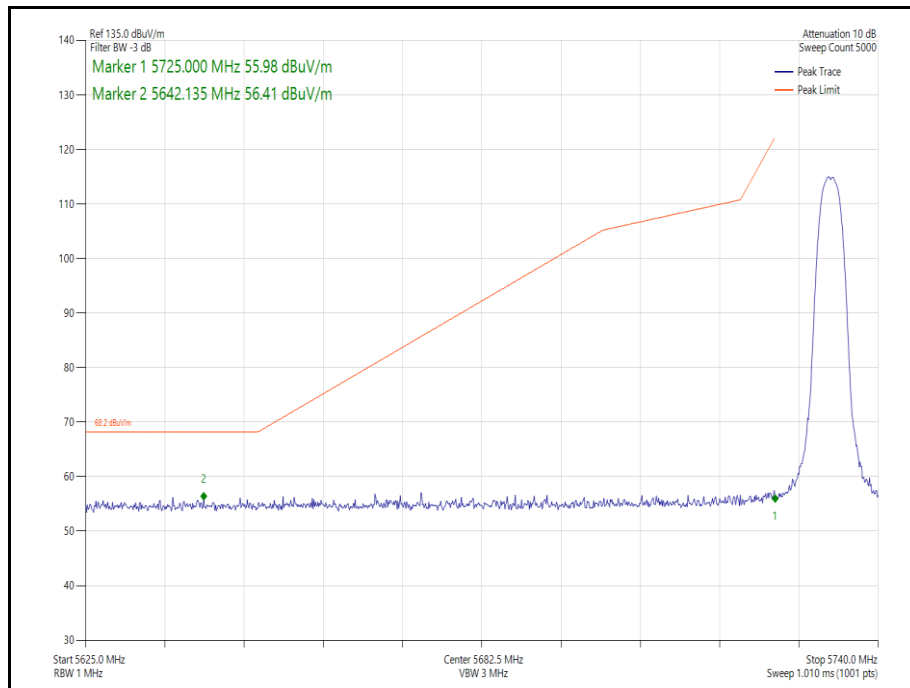


Figure 180 - Static - $\pi/4$ DQPSK/4-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

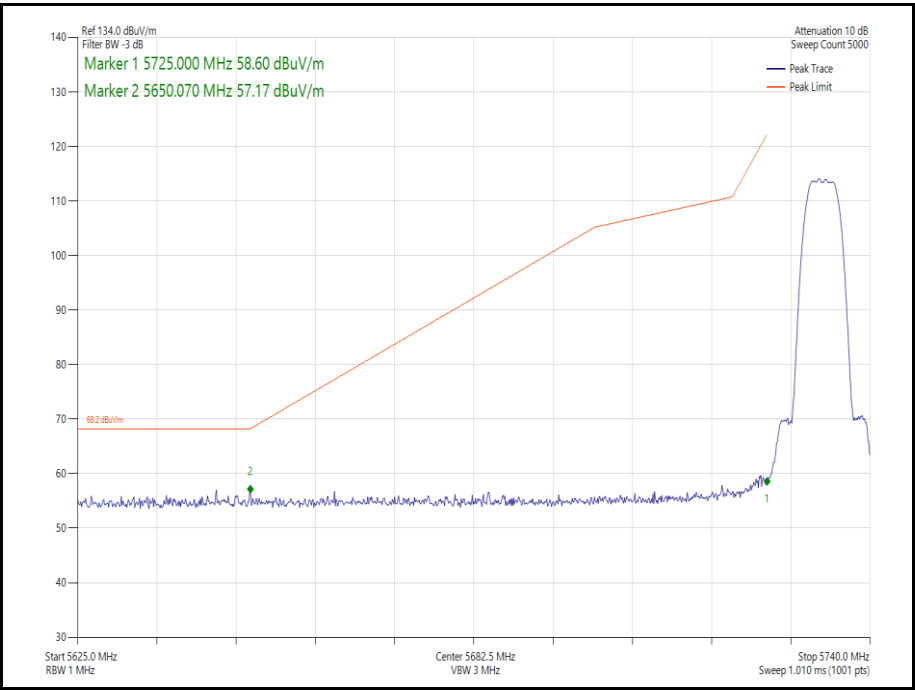


Figure 181 - Static - $\pi/4$ DQPSK/8-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

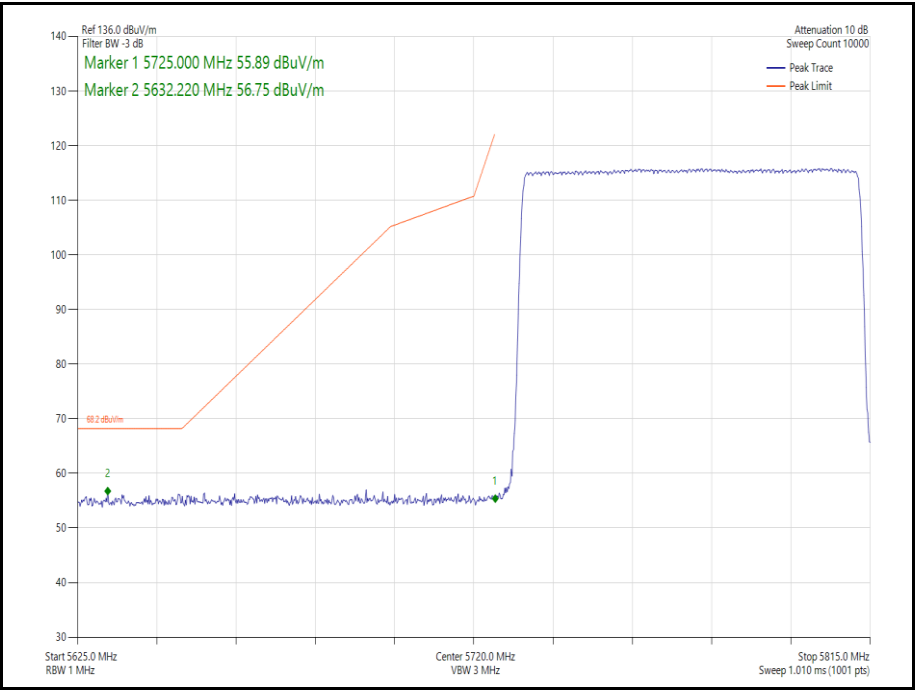


Figure 182 - Hopping - $\pi/4$ DQPSK/4-DH5 - Band Edge Frequency 5725 MHz

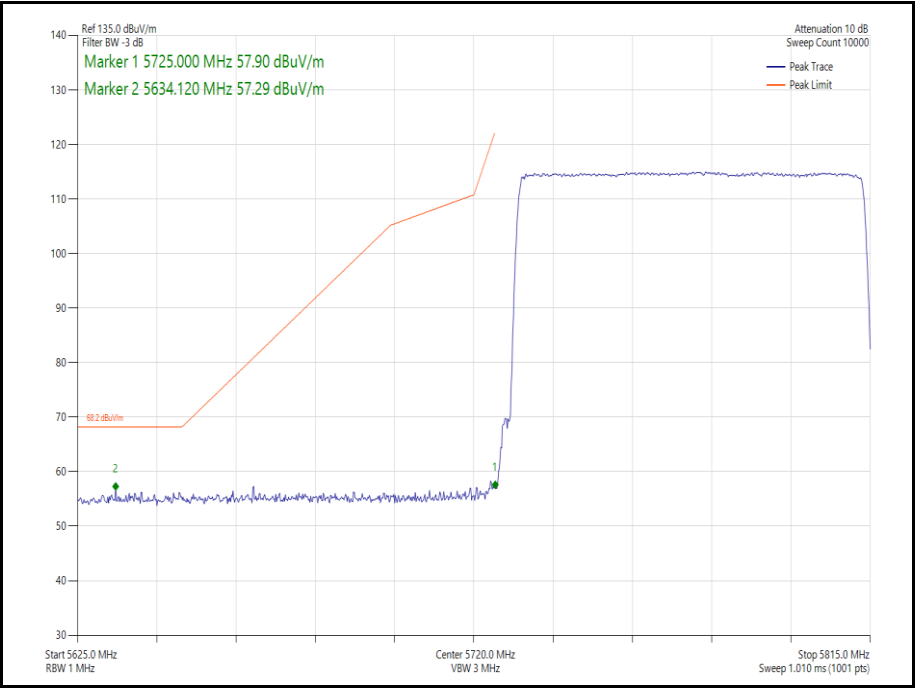


Figure 183 - Hopping - $\pi/4$ DQPSK/8-DH5 - Band Edge Frequency 5725 MHz

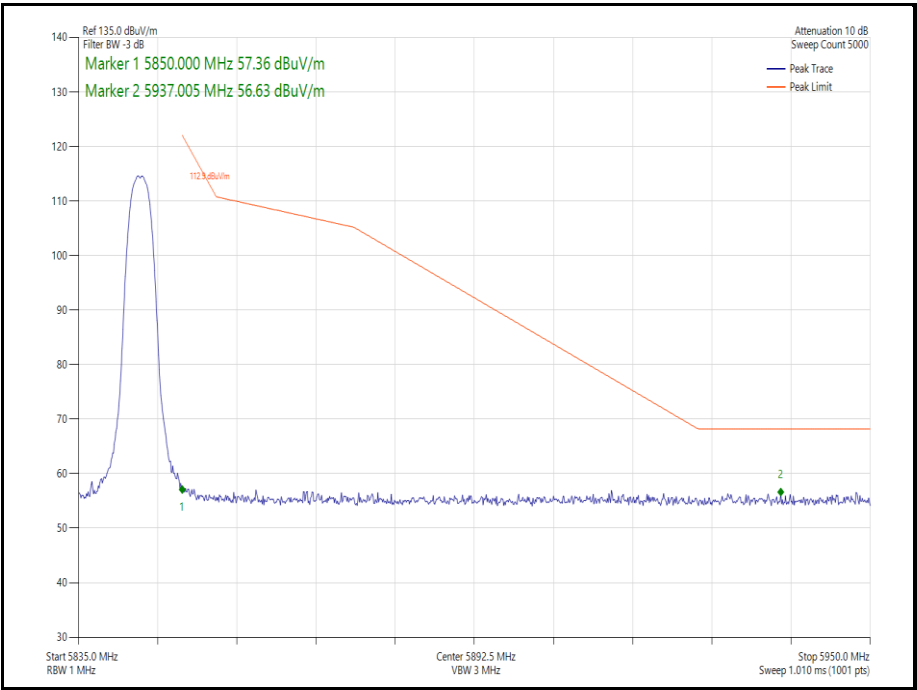


Figure 184 - Static - $\pi/4$ DQPSK/4-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

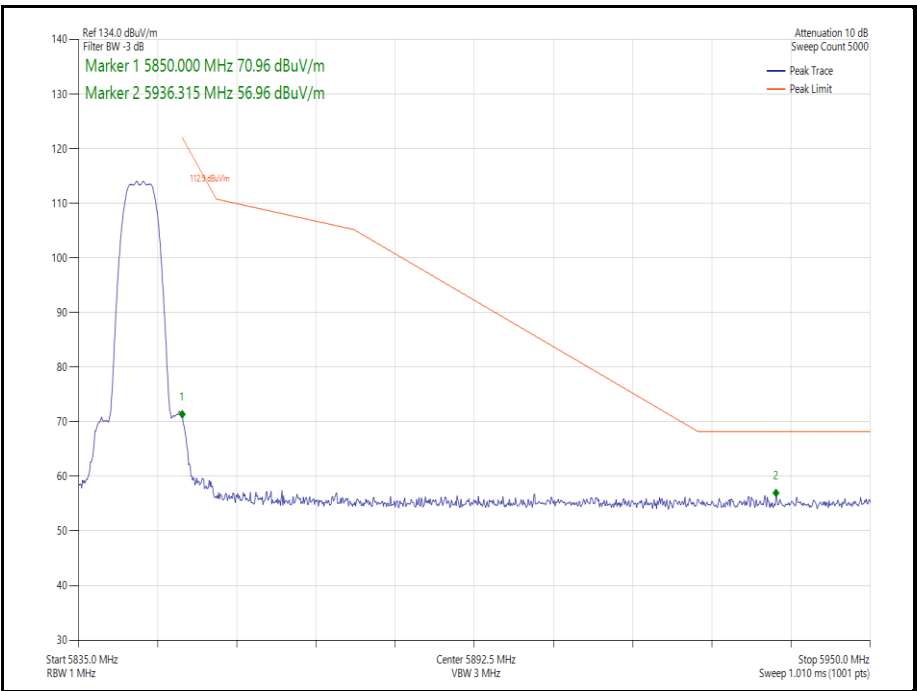


Figure 185 - Static - $\pi/4$ DQPSK/8-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

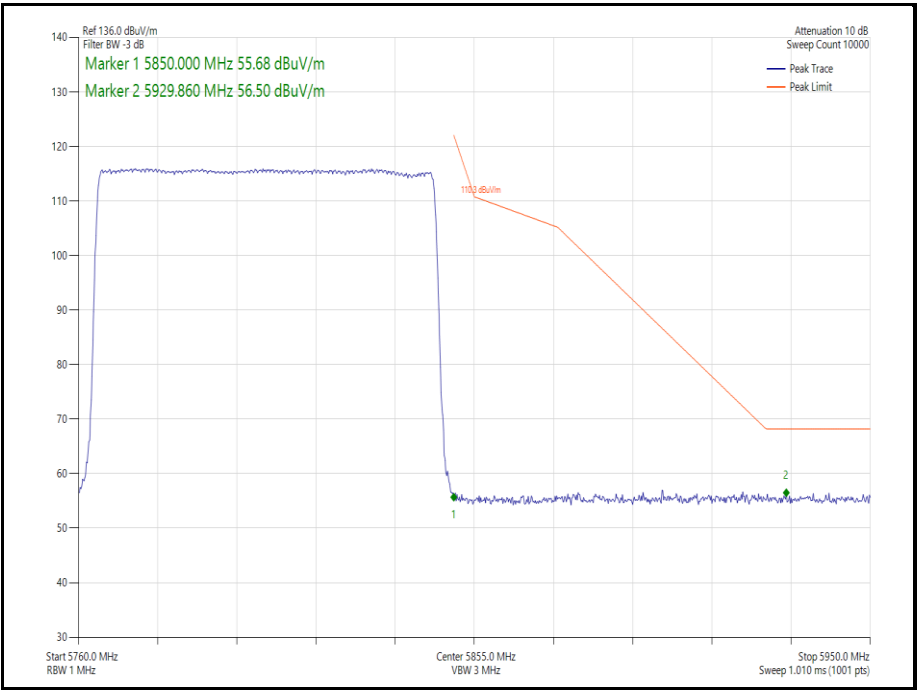


Figure 186 - Hopping - $\pi/4$ DQPSK/4-DH5 - Band Edge Frequency 5850 MHz

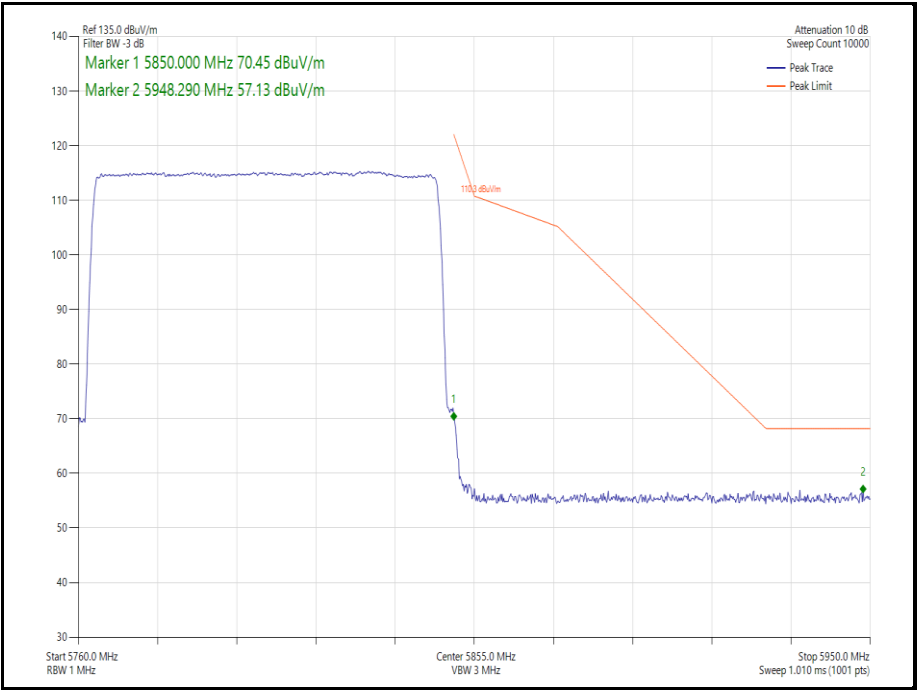


Figure 187 - Hopping - $\pi/4$ DQPSK/8-DH5 - Band Edge Frequency 5850 MHz

ePA - TXBF

Mode	Modulation	Core	Packet Type	Tx Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBμV/m)
Static	$\pi/4$ DQPSK	0-1	4-DH5	5733	5725	53.58
Static	$\pi/4$ DQPSK	0-1	8-DH5	5733	5725	52.69
Hopping	$\pi/4$ DQPSK	0-1	4-DH5	-	5725	53.16
Hopping	$\pi/4$ DQPSK	0-1	8-DH5	-	5725	56.36
Static	$\pi/4$ DQPSK	0-1	4-DH5	5844	5850	54.06
Static	$\pi/4$ DQPSK	0-1	8-DH5	5844	5850	54.32
Hopping	$\pi/4$ DQPSK	0-1	4-DH5	-	5850	53.90
Hopping	$\pi/4$ DQPSK	0-1	8-DH5	-	5850	53.08

Table 103 - Authorised Band Edge Results

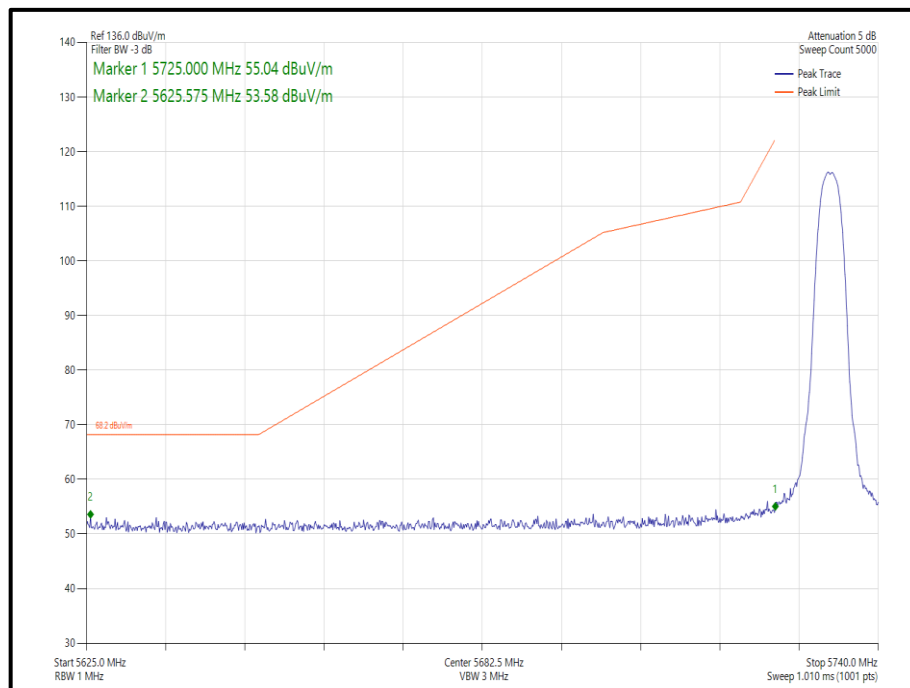


Figure 188 - Static - $\pi/4$ DQPSK/4-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

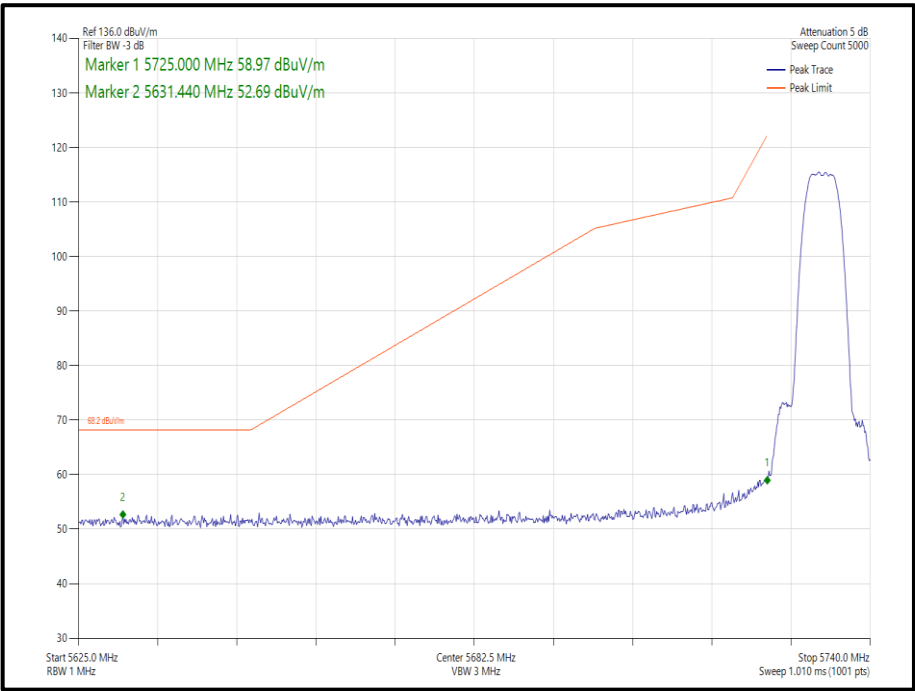


Figure 189 - Static - $\pi/4$ DQPSK/8-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

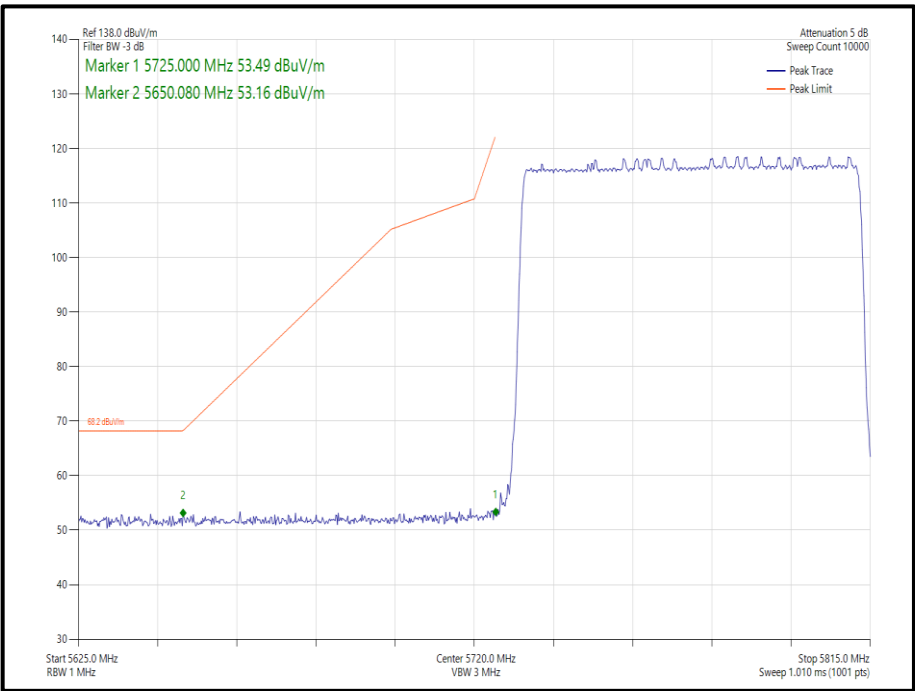


Figure 190 - Hopping - $\pi/4$ DQPSK/4-DH5 - Band Edge Frequency 5725 MHz

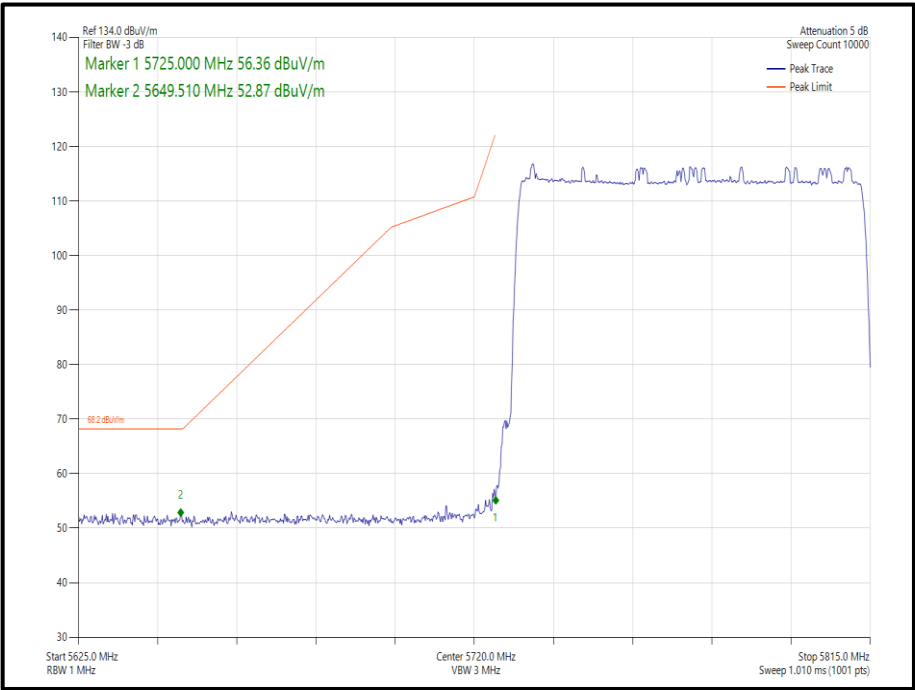


Figure 191 - Hopping - $\pi/4$ DQPSK/8-DH5 - Band Edge Frequency 5725 MHz

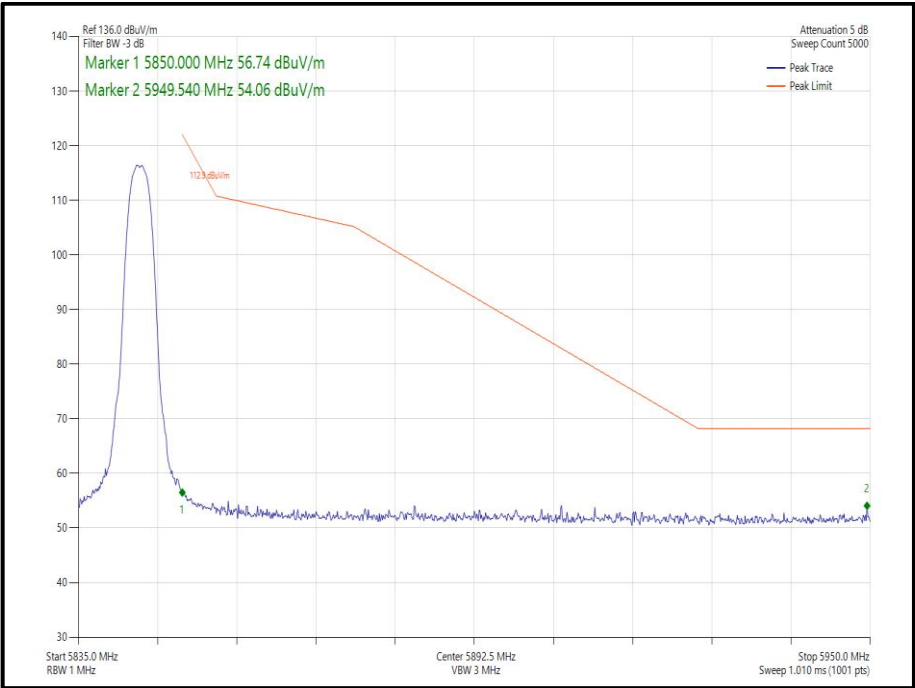


Figure 192 - Static - $\pi/4$ DQPSK/4-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

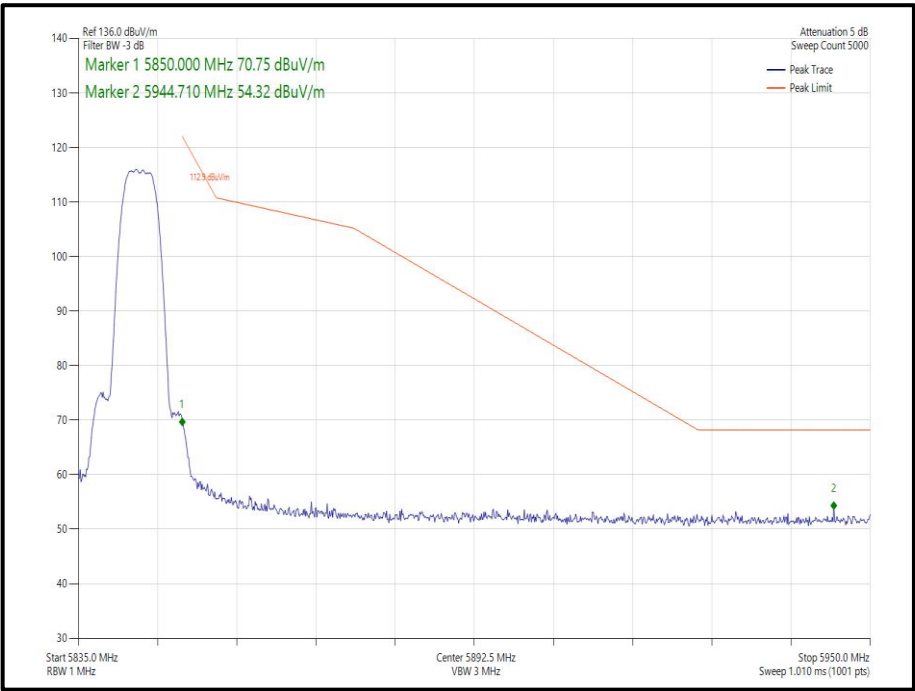


Figure 193 - Static - $\pi/4$ DQPSK/8-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

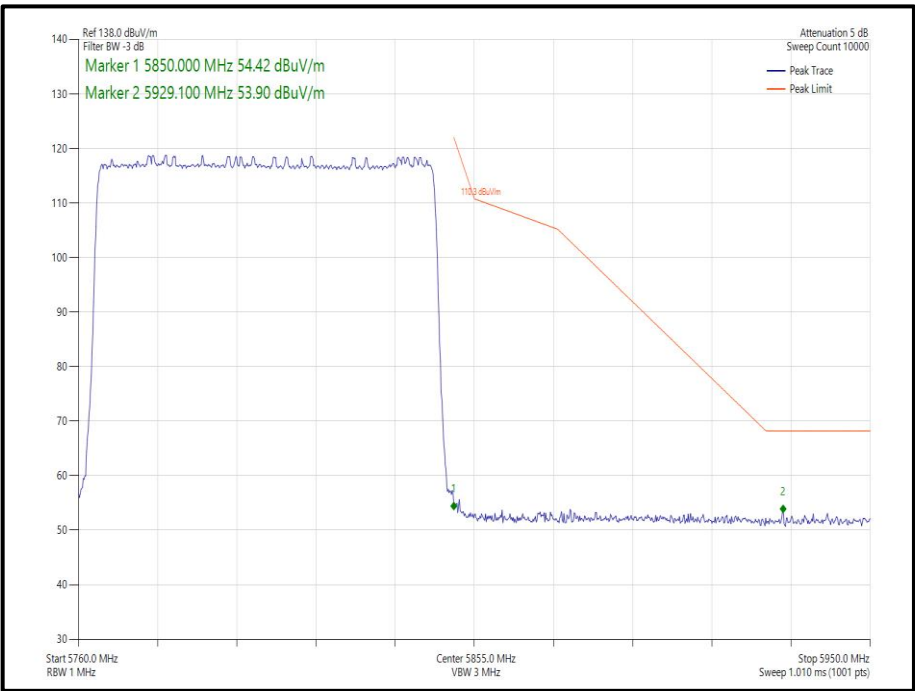


Figure 194 - Hopping - $\pi/4$ DQPSK/4-DH5 - Band Edge Frequency 5850 MHz

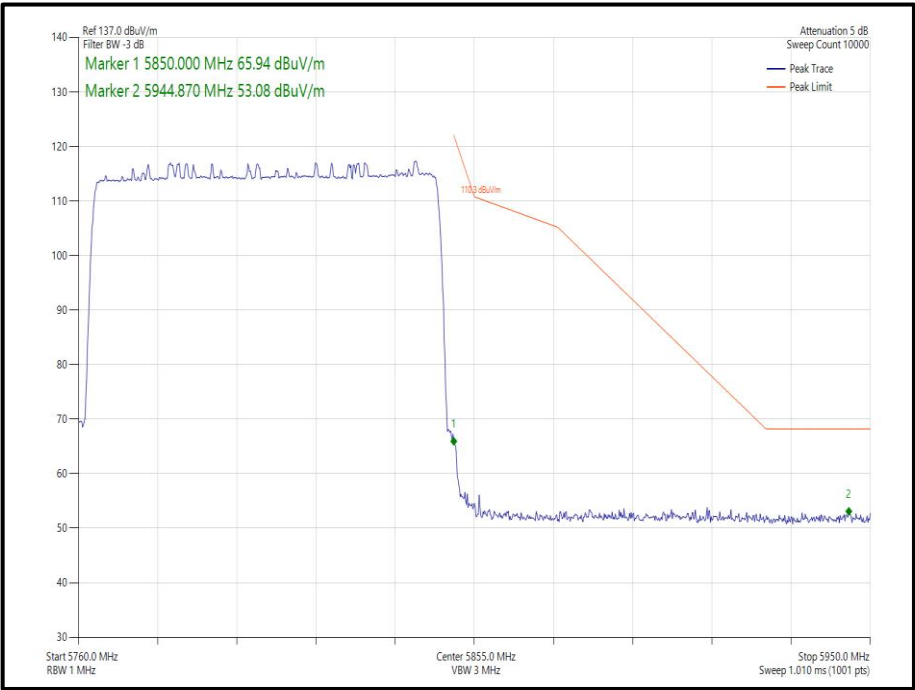


Figure 195 - Hopping - $\pi/4$ DQPSK/8-DH5 - Band Edge Frequency 5850 MHz



FCC 47 CFR Part 15E, Limit Clause 15.407(b)(1)(2)(3)(4)

For transmitters operating in the 5.15-5.25 GHz band: ≤ -27 dBm/MHz outside 5150-5350 MHz.

For transmitters operating in the 5.25-5.35 GHz band: ≤ -27 dBm/MHz outside 5150-5350 MHz.

For transmitters operating in the 5.47-5.725 GHz band: ≤ -27 dBm/MHz outside 5470-5725 MHz

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

ISED RSS-247, Limit Clause 6.2.1.2, 6.2.2.2, 6.2.3.2 and 6.2.4.2

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB.

For transmitters with operating frequencies in the bands 5250-5350 MHz and 5470-5725 MHz, all emissions outside the band 5250-5350 MHz and 5470-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p.

Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

- a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;
- b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;
- c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and

-27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.



2.5.7 Test Location and Test Equipment Used

This test was carried out in EMC Chamber 5 and RF Chamber 15,

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Screened Room (5)	Rainford	Rainford	1545	36	15-Apr-2024
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Mast Controller	Maturo GmbH	NCD	4810	-	TU
Tilt Antenna Mast	Maturo GmbH	TAM 4.0-P	4811	-	TU
Antenna (DRG 1-10.5GHz)	Schwarzbeck	BBHA9120B	4848	12	28-May-2023
Preamplifier (30dB 1GHz to 18GHz)	Schwarzbeck	BBV 9718 C	5261	12	08-Apr-2023
Attenuator 5W 10dB DC-18GHz	Aaren	AT40A-4041-D18-10	5492	12	11-Apr-2023
Cable (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	5513	12	12-Apr-2023
Cable (SMA to SMA, 2 m)	Junkosha	MWX221-02000AMSAMS/A	5517	12	12-Apr-2023
EMI Test Receiver	Rohde & Schwarz	ESW44	5911	12	24-Feb-2023
1500W (300V 12A) AC Power Supply	iTech	IT7324	5956	-	O/P Mon
5m Semi-Anechoic Chamber (Dual-Axis)	Albatross Projects	RF Chamber 15	5963	36	28-Apr-2025
Compact Antenna Mast	Maturo GmbH	CAM4.0-P	5964	-	TU
Tilt Antenna Mast	Maturo GmbH	BAM4.5-P	5967	-	TU
Cable (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	5996	12	06-Jun-2023
Cable (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	6007	12	06-Jun-2023
Cable (SMA to SMA 6.5m)	Junkosha	MWX221-06500AMSAMS/B	6014	12	07-Jun-2023
Horn Antenna (1-10 GHz)	Schwarzbeck	BBHA9120B	6140	12	21-Jun-2023
Digital Multimeter	Fluke	115	6147	12	16-Jun-2023
Humidity & Temperature meter	R.S Components	1364	6150	12	17-Jun-2023
SAC Switch Unit	TUV SUD	SSU003	6191	12	15-Jul-2023

Table 104

TU – Traceability Unscheduled

O/P Mon – Output Monitored using calibrated equipment



2.6 Spurious Radiated Emissions

2.6.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.209 and 15.407 (b)
ISED RSS-247, Clause 6.2
ISED RSS-GEN, 6.13 and 8.9

2.6.2 Equipment Under Test and Modification State

A2816, S/N: Q64HTFJ22X - Modification State 0

2.6.3 Date of Test

13-October-2022 to 16-October-2022

2.6.4 Test Method

Testing was performed in accordance with ANSI C63.10, clause 6.3, 6.5 and 6.6.

Tests were performed in BDR and HDR4 2TX MIMO mode on the Main Radio, with measurements undertaken from 30 MHz to 40 GHz, on frequencies 5162 MHz, 5203 MHz, 5245 MHz, 5733 MHz, 5788 MHz and 5844 MHz.

All testing was performed using the lowest data rate/modulation scheme for the applicable mode since this was declared worst case by the customer.

For the purpose of this testing, spurious emissions were limited to 1 GHz to 40 GHz on all other test channels.

Tests on the AUX radio were limited to 1 GHz to 40 GHz, as measurement's below 1 GHz on the main radio were considered to be worst case.

Plots for average measurements were taken in accordance with ANSI C63.10, clause 12.7.7.2 with max-hold trace to characterize the EUT. Where emissions were detected, final average measurements were taken using trace averaging.

The plots shown are the characterization of the EUT. The limits on the plots represent the most stringent case for restricted bands, (54/74 dBuV/m @ 3 m and 64/84 dBuV/m @ 1m) when compared to -27 dBm/MHz EIRP outside restricted bands. The limits shown have been used as a threshold to determine where further measurements are necessary. Where results are within 10dB of the limits shown on the plots, further investigation was carried out and reported in results tables.

The following conversion can be applied to convert from dBuV/m to uV/m:
 $10^{(\text{Field Strength in dBuV/m}/20)}$

EIRP was converted to field strength at 3m using the following formula:

Field Strength (dBuV/m at 3 m) = EIRP (dBm) + 95.2 dB



2.6.7 Test Results

NarrowBand

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

Table 105 - U-NII-1 - 5162 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz

*No emissions found within 10 dB of the limit.

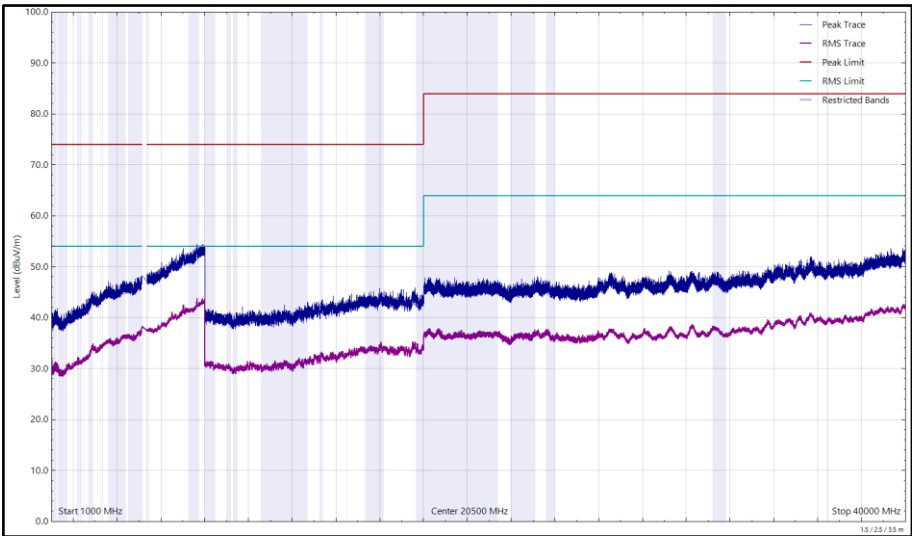


Figure 197 - U-NII-1 - 5162 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

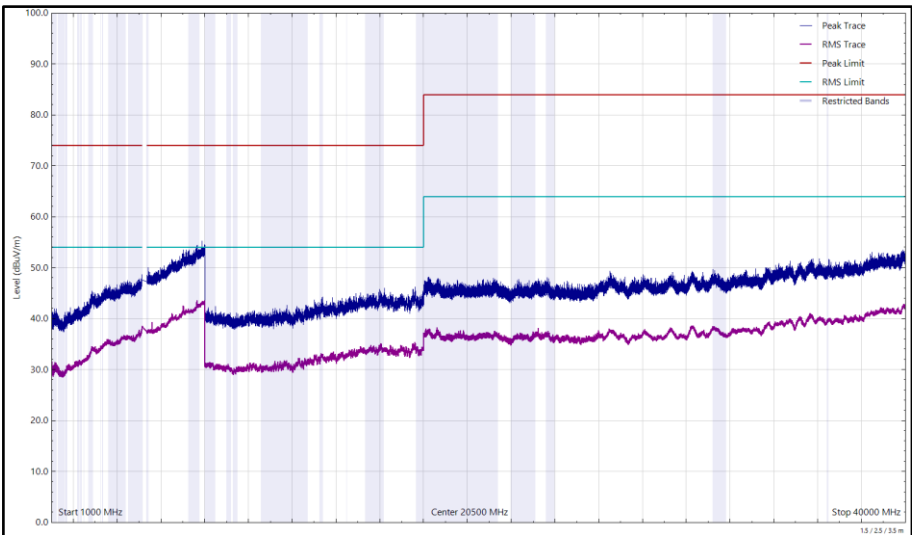


Figure 198 - U-NII-1 - 5162 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4769.362	36.96	54.00	-17.04	RMS	267	105	Horizontal

Table 106 - U-NII-1 - 5203 MHz, DH5, iPA, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

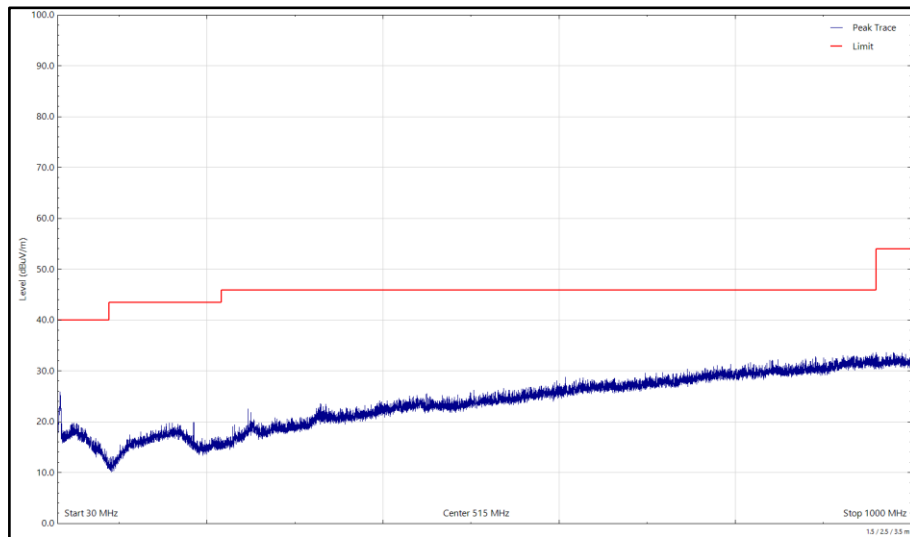


Figure 199 - U-NII-1 - 5203 MHz, DH5, iPA, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

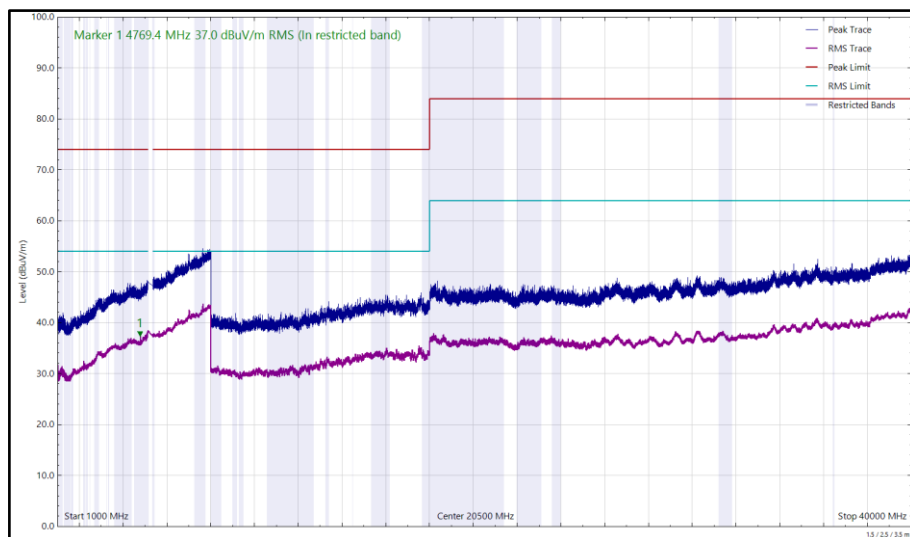


Figure 200 - U-NII-1 - 5203 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

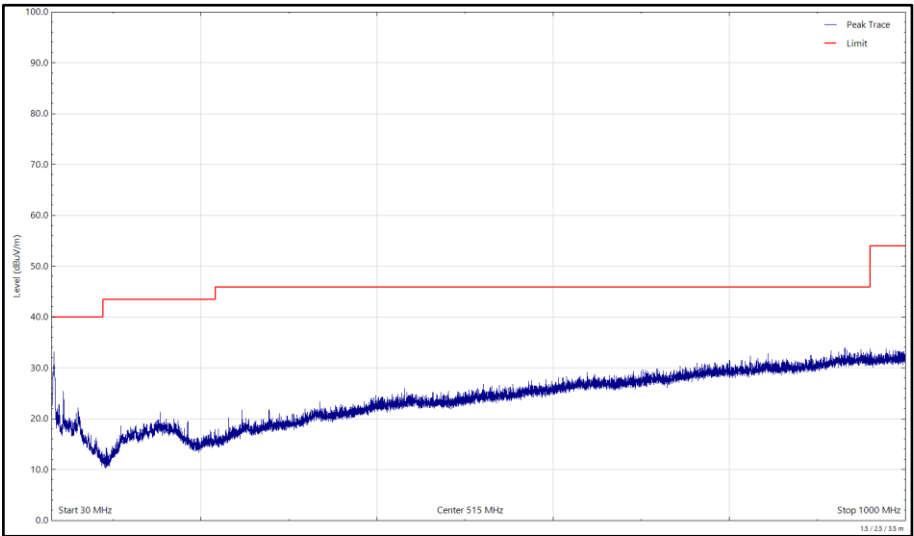


Figure 201 - U-NII-1 - 5203 MHz, DH5, iPA, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

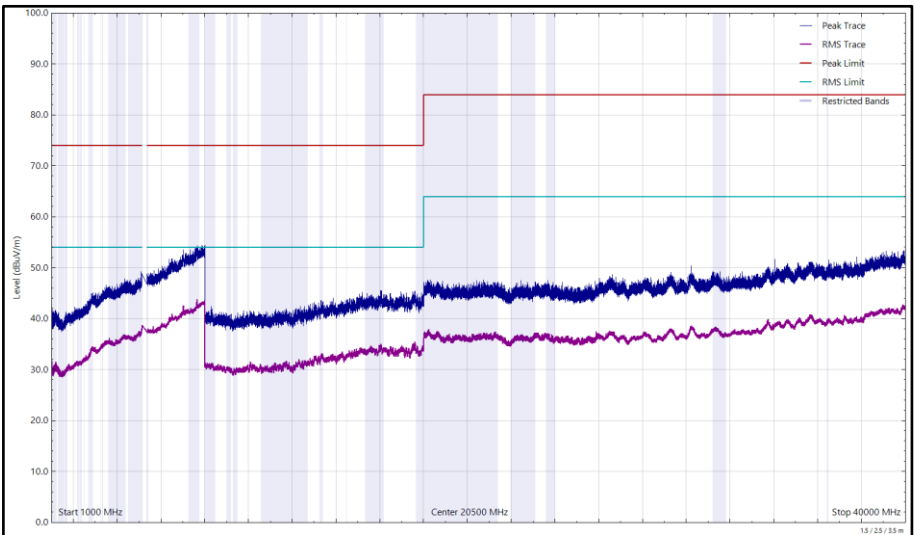


Figure 202 - U-NII-1 - 5203 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4807.951	37.35	54.00	-16.65	RMS	262	199	Horizontal
4807.968	36.20	54.00	-17.80	RMS	272	110	Vertical

Table 107 - U-NII-1 - 5245 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz

No other emissions found within 10 dB of the limit.

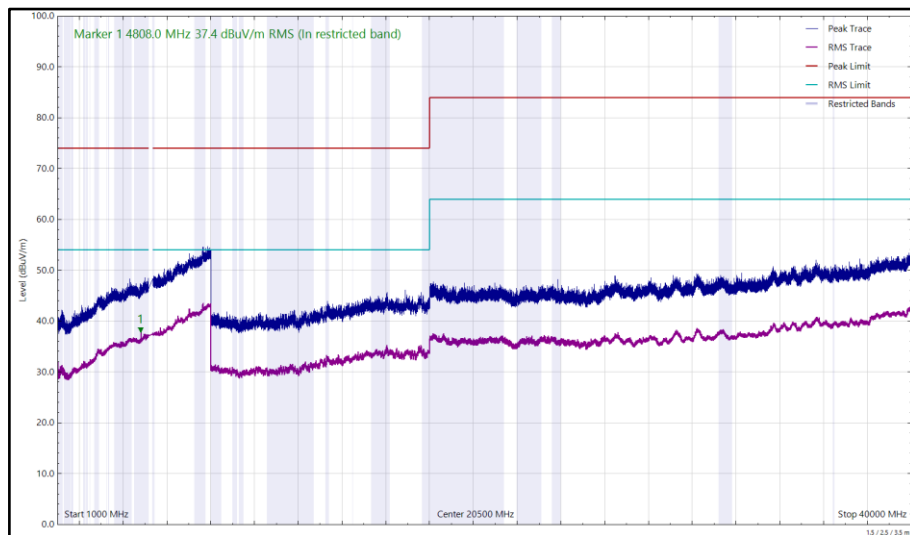


Figure 203 - U-NII-1 - 5245 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

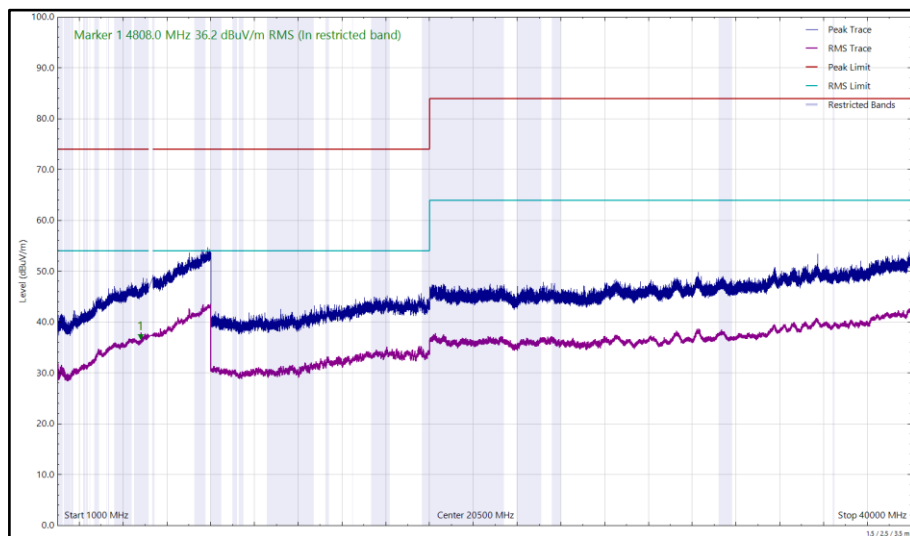


Figure 204 - U-NII-1 - 5245 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical



Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
5323.220	50.83	74.00	-23.17	Peak	354	124	Vertical

Table 108 - U-NII-3 - 5733 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz

No other emissions found within 10 dB of the limit.

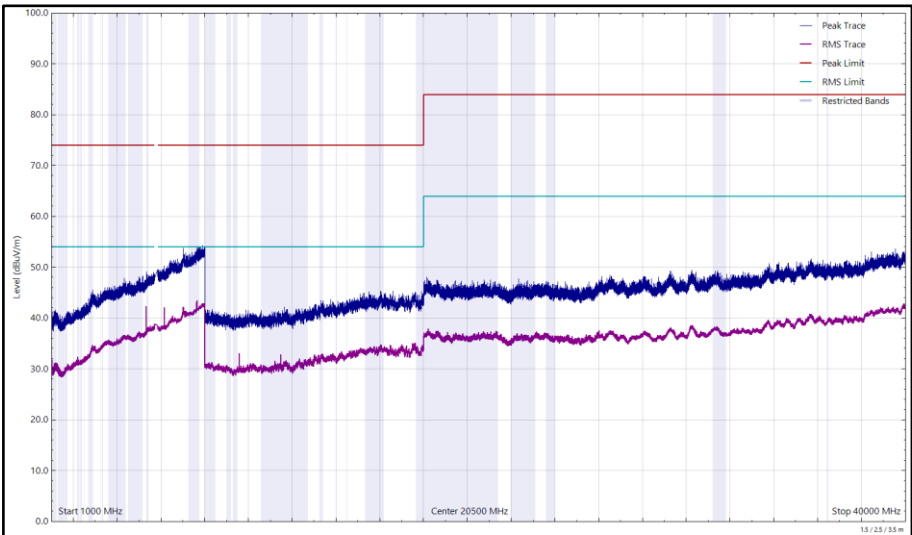


Figure 205 - U-NII-3 - 5733 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

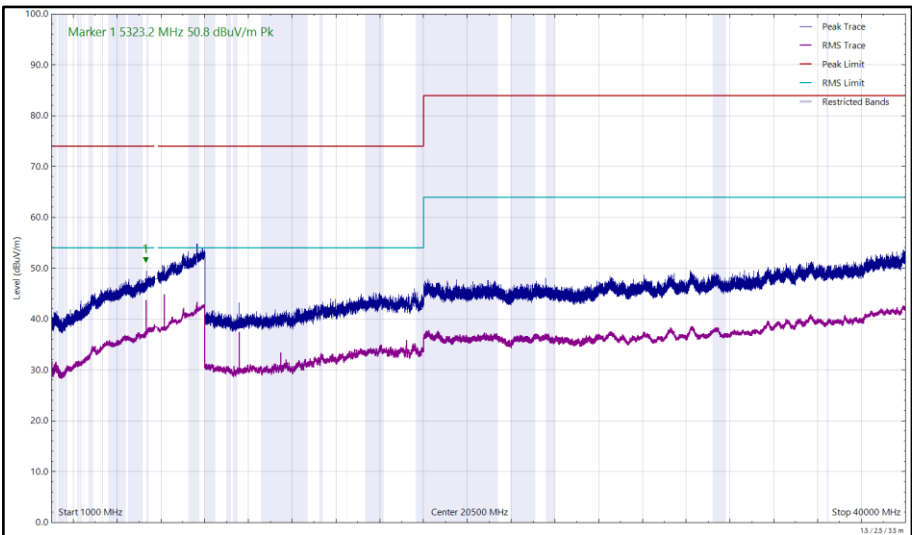


Figure 206 - U-NII-3 - 5733 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
5374.538	42.40	54.00	-11.60	RMS	9	100	Vertical
5374.613	41.74	54.00	-12.26	RMS	289	221	Horizontal
11576.014	37.51	54.00	-16.49	RMS	266	100	Vertical
11576.078	35.49	54.00	-18.51	RMS	3	113	Horizontal

Table 109 - U-NII-3 - 5788 MHz, DH5, iPA, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

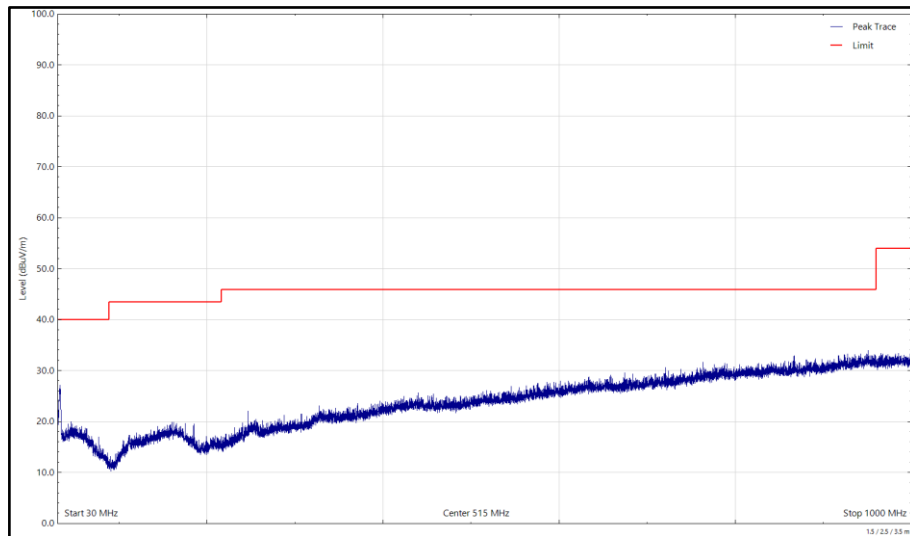


Figure 207 - U-NII-3 - 5788 MHz, DH5, iPA, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

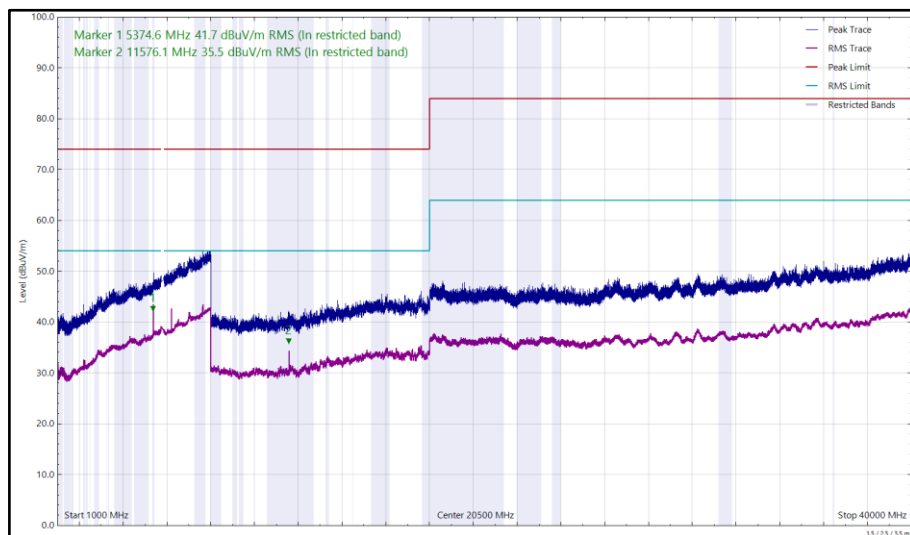


Figure 208 - U-NII-3 - 5788 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

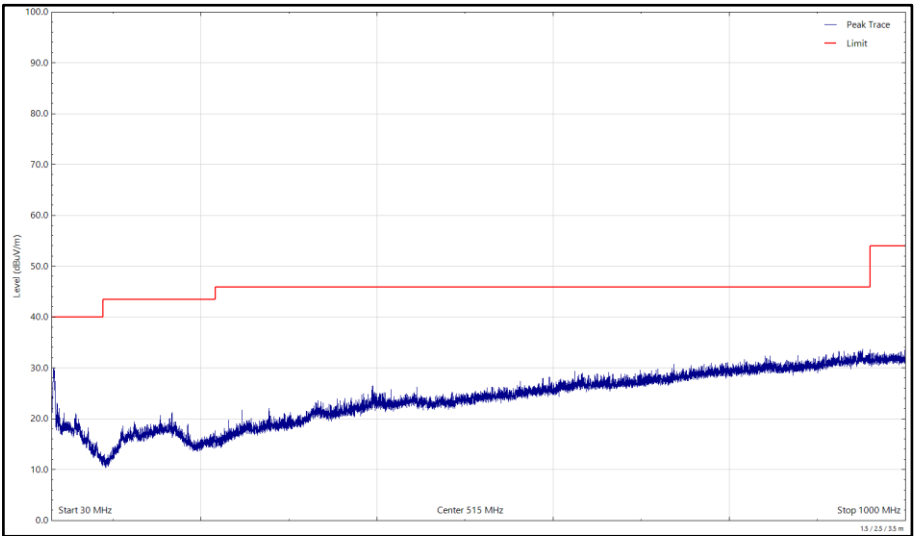


Figure 209 - U-NII-3 - 5788 MHz, DH5, iPA, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

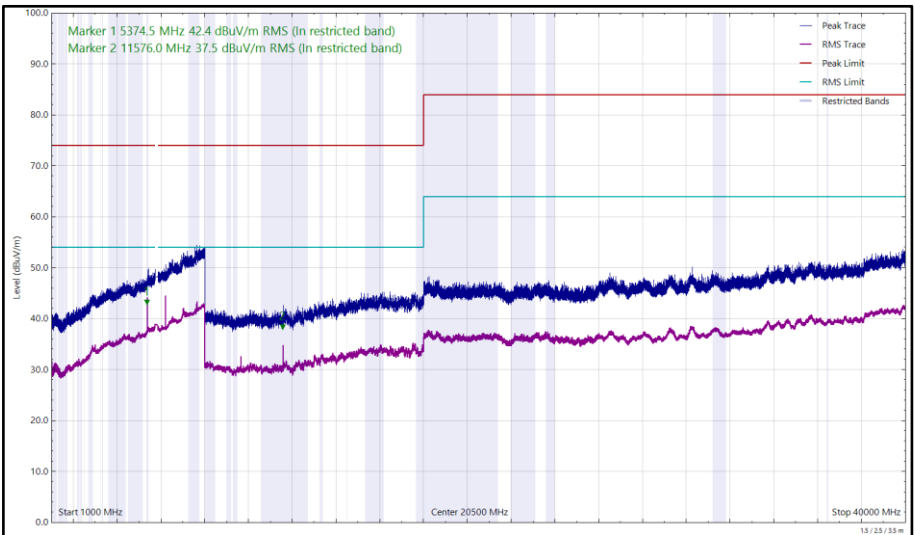


Figure 210 - U-NII-3 - 5788 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
5426.583	44.77	54.00	-9.23	RMS	359	209	Vertical
5426.613	42.83	54.00	-11.17	RMS	335	143	Horizontal
11687.981	39.30	54.00	-14.70	RMS	286	383	Vertical
11687.993	38.24	54.00	-15.76	RMS	5	144	Horizontal

Table 110 - U-NII-3 - 5844 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz

No other emissions found within 10 dB of the limit.

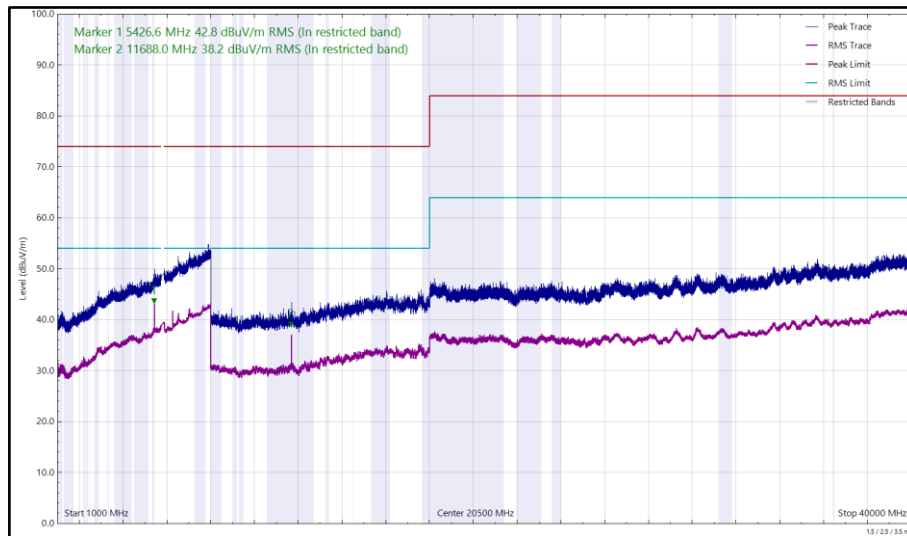


Figure 211 - U-NII-3 - 5844 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

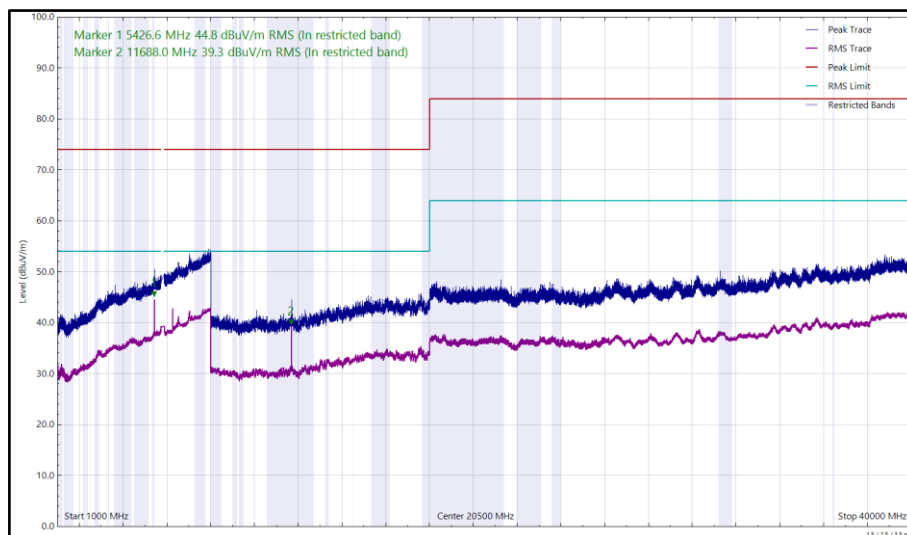


Figure 212 - U-NII-3 - 5844 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical



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

Table 111 - U-NII-1 - 5162 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz

*No emissions found within 10 dB of the limit.

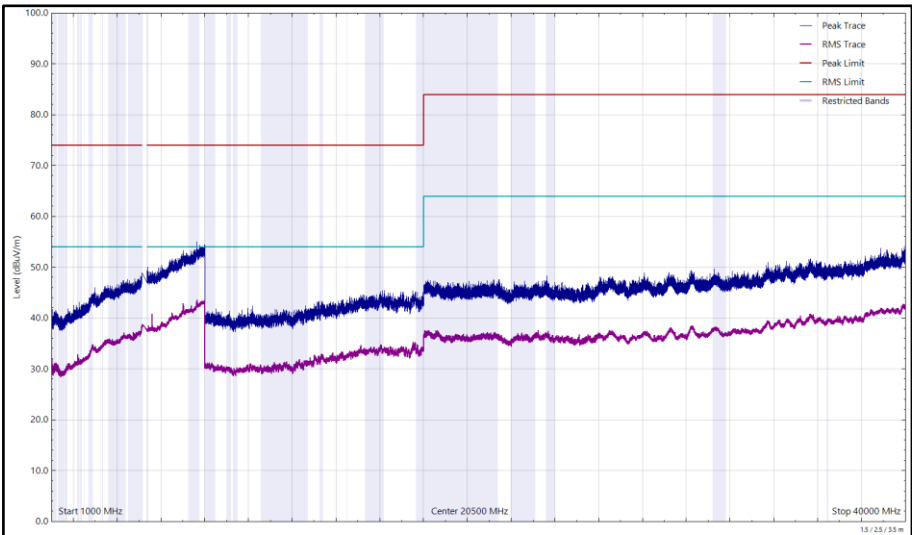


Figure 213 - U-NII-1 - 5162 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

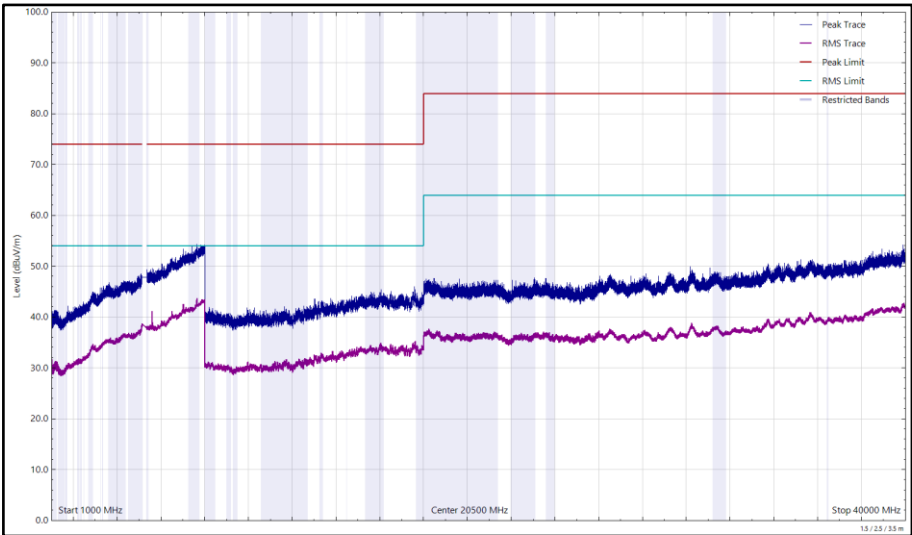


Figure 214 - U-NII-1 - 5162 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4769.572	38.55	54.00	-15.45	RMS	275	100	Horizontal

Table 112 - U-NII-1 - 5203 MHz, HDR4, ePA, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

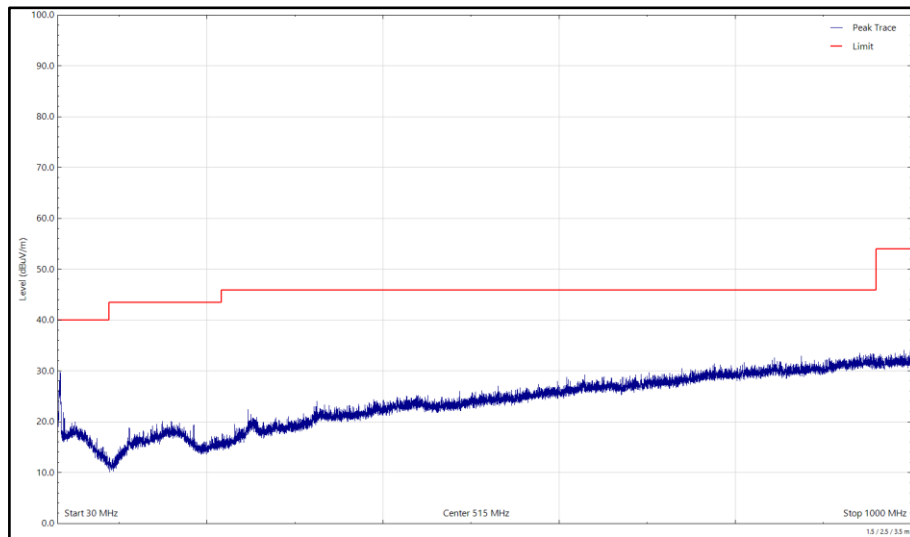


Figure 215 - U-NII-1 - 5203 MHz, HDR4, ePA, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

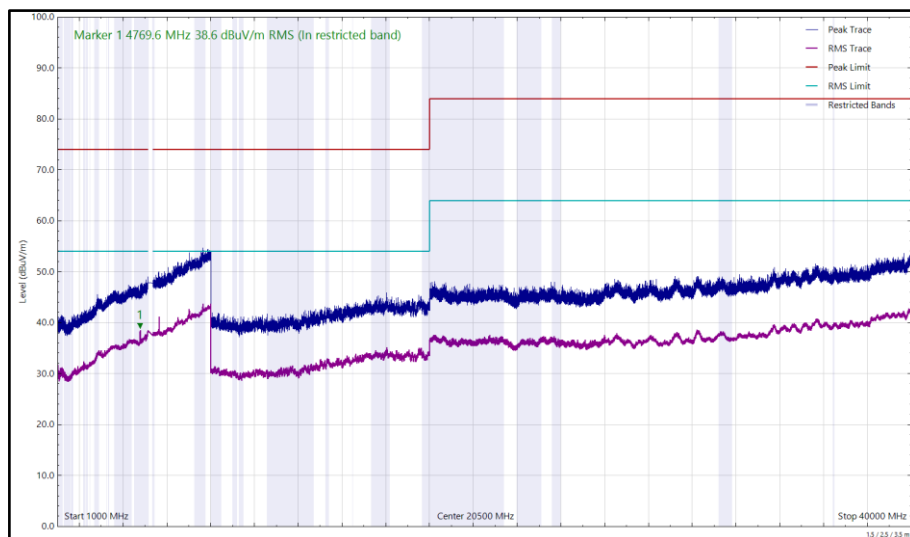


Figure 216 - U-NII-1 - 5203 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

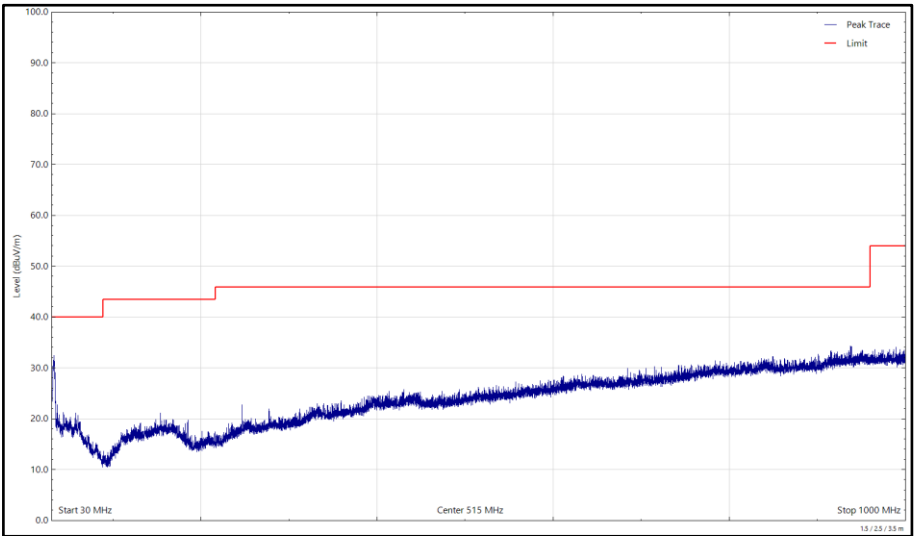


Figure 217 - U-NII-1 - 5203 MHz, HDR4, ePA, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

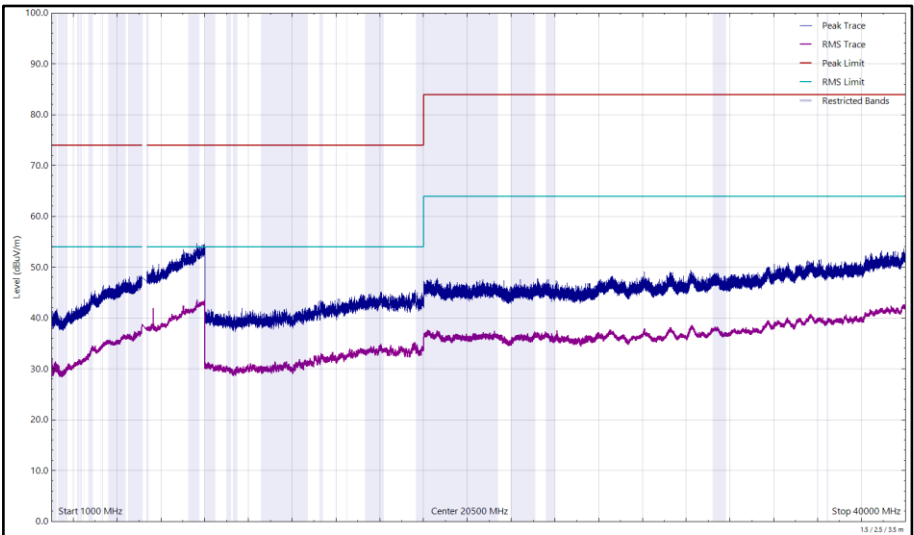


Figure 218 - U-NII-1 - 5203 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical



Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4808.074	39.02	54.00	-14.98	RMS	271	100	Horizontal

Table 113 - U-NII-1 - 5245 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz

No other emissions found within 10 dB of the limit.

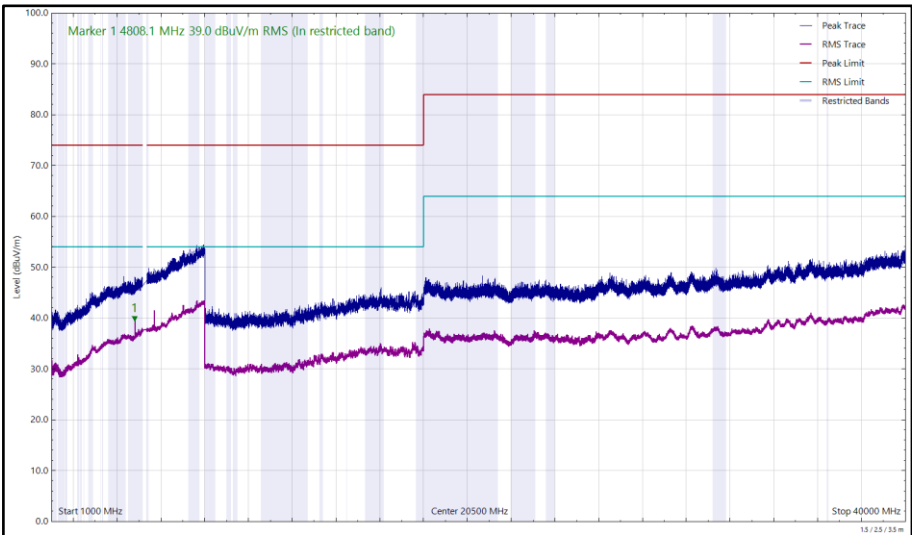


Figure 219 - U-NII-1 - 5245 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

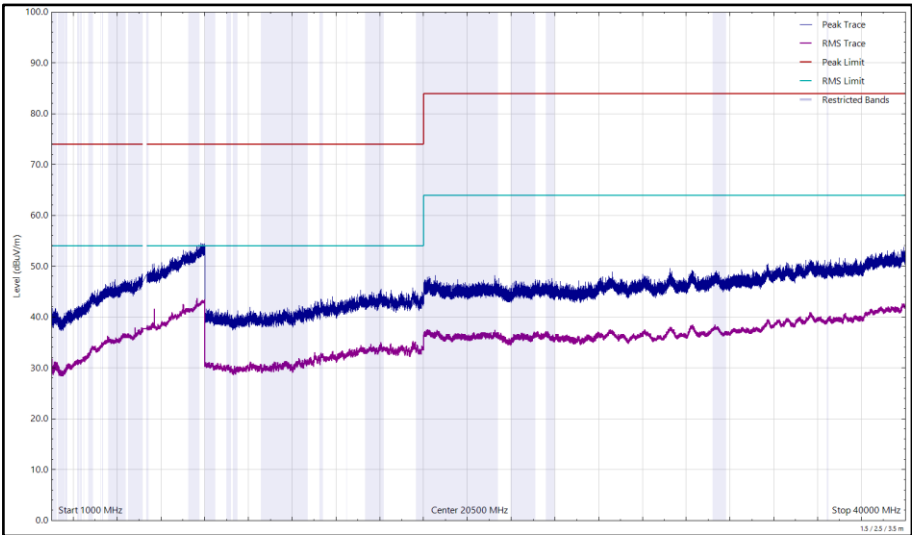


Figure 220 - U-NII-1 - 5245 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
5323.170	54.33	74.00	-19.67	Peak	352	188	Vertical

Table 114 - U-NII-3 - 5733 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz

No other emissions found within 10 dB of the limit.

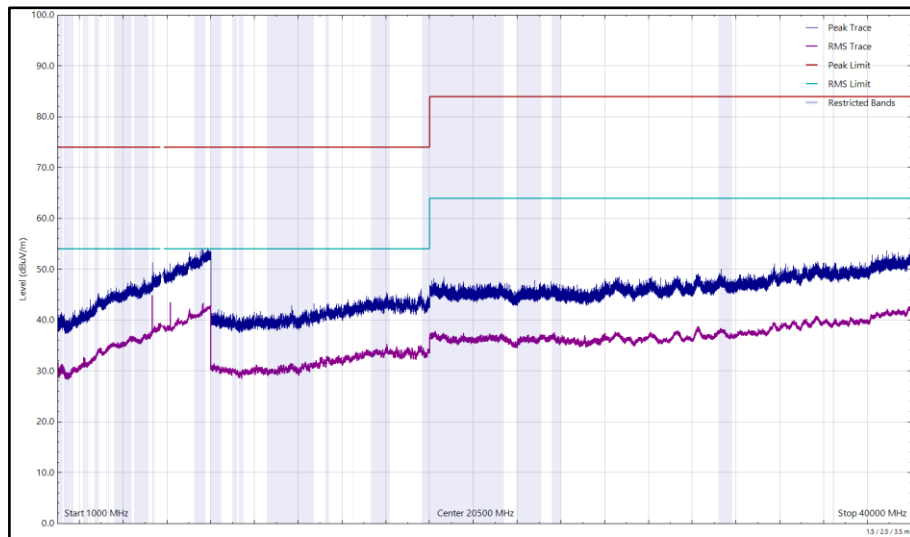


Figure 221 - U-NII-3 - 5733 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

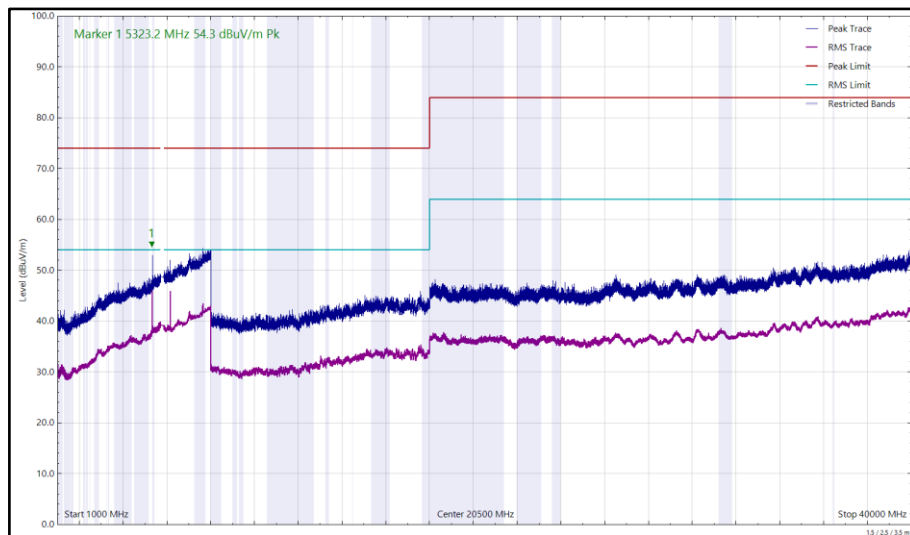


Figure 222 - U-NII-3 - 5733 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
5374.553	45.21	54.00	-8.79	RMS	276	100	Horizontal
5374.618	45.17	54.00	-8.83	RMS	354	172	Vertical

Table 115 - U-NII-3 - 5788 MHz, HDR4, ePA, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

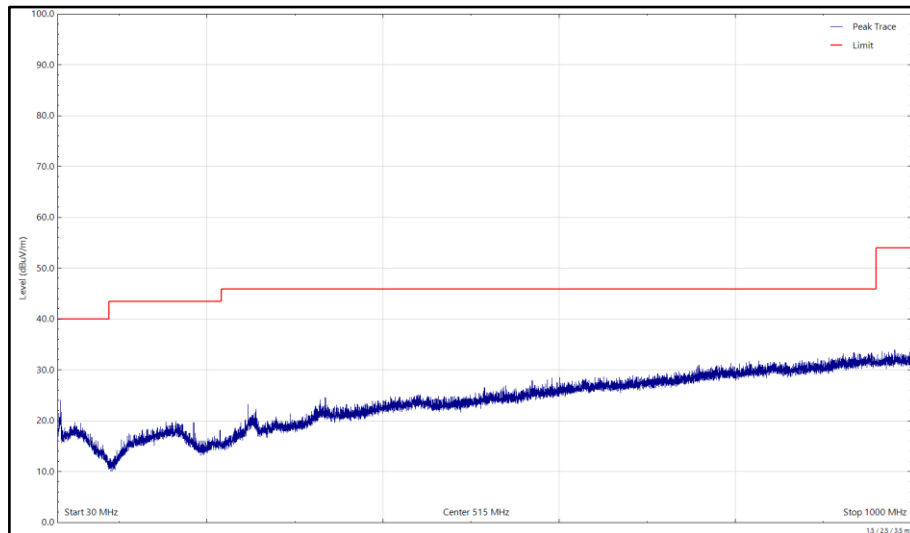


Figure 223 - U-NII-3 - 5788 MHz, HDR4, ePA, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

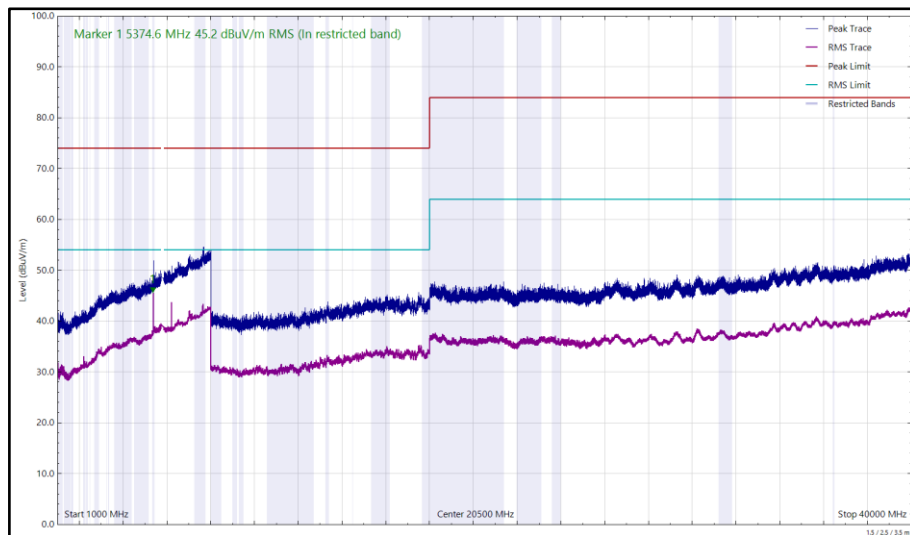


Figure 224 - U-NII-3 - 5788 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

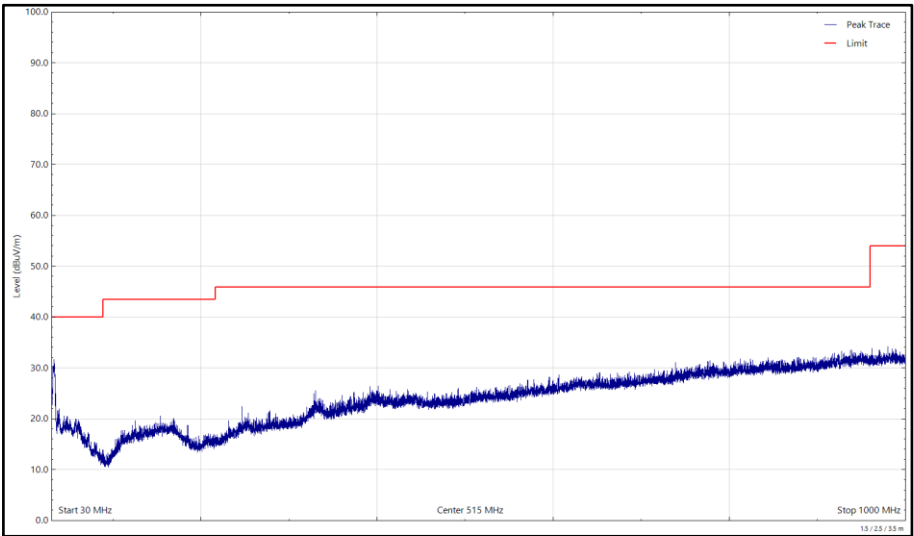


Figure 225 - U-NII-3 - 5788 MHz, HDR4, ePA, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

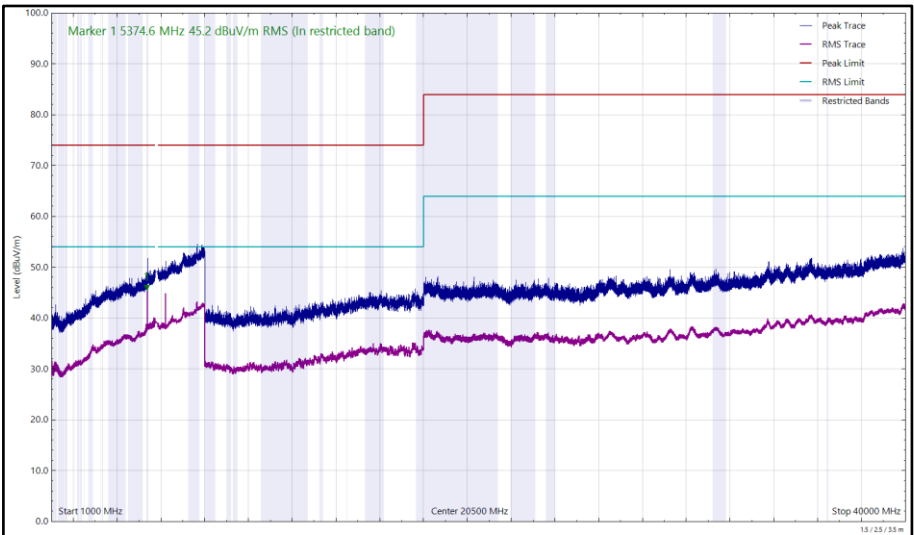


Figure 226 - U-NII-3 - 5788 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical



Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
5426.548	44.62	54.00	-9.38	RMS	275	106	Horizontal
5426.576	47.92	54.00	-6.08	RMS	351	217	Vertical
5427.123	55.37	74.00	-18.63	Peak	351	217	Vertical

Table 116 - U-NII-3 - 5844 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz

No other emissions found within 10 dB of the limit.

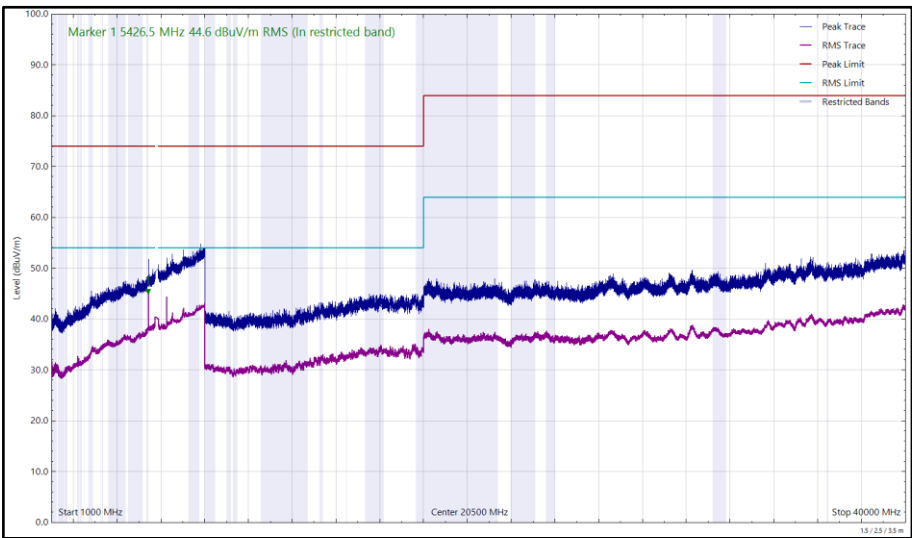


Figure 227 - U-NII-3 - 5844 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

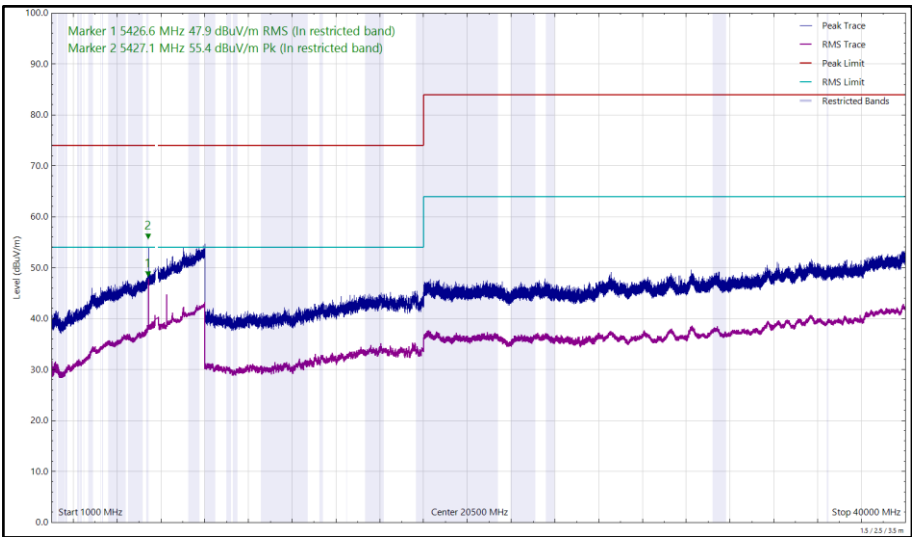


Figure 228 - U-NII-3 - 5844 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical



FCC 47 CFR Part 15, Limit Clause 15.407(b)(1)(2)(3)(4)

Emissions not falling within the restricted bands listed in FCC 47 CFR Part 15.209:

For transmitters operating in the 5.15-5.25 GHz band: ≤ -27 dBm/MHz outside 5150-5350 MHz.

For transmitters operating in the 5.25-5.35 GHz band: ≤ -27 dBm/MHz outside 5150-5350 MHz.

For transmitters operating in the 5.47-5.725 GHz band: ≤ -27 dBm/MHz outside 5470-5725 MHz

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Emissions within the restricted bands listed in FCC 47 CFR Part 15.209:

Frequency (MHz)	Field Strength (μ V/m) at 3m	Field Strength Limit (dB μ V/m) at 3m
30 to 88	100	40.00
88 to 216	150	43.52
216 to 960	200	46.02
Above 960	500	53.98

Table 117 - Radiated Emissions Limit Table (FCC)



ISED RSS-247, Limit Clause 6.2.1.2, 6.2.2.2, 6.2.3.2 and 6.2.4.2 and ISED RSS-GEN, Limit Clause 8.9

Emissions not falling within the restricted bands listed in ISED RSS-GEN, Clause 8.10:

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB.

For transmitters with operating frequencies in the bands 5250-5350 MHz and 5470-5725 MHz, all emissions outside the band 5250-5350 MHz and 5470-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p.

Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

- a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;
- b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;
- c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and
- d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

Emissions falling within the restricted bands listed in ISED RSS-GEN, Clause 8.10:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$) at 3m	Field Strength Limit ($\text{dB}\mu\text{V/m}$) at 3m
30 to 88	100	40.00
88 to 216	150	43.52
216 to 960	200	46.02
Above 960	500	53.98

Table 118 - Radiated Emissions Limit Table (ISED)

2.6.8 Test Location and Test Equipment Used

This test was carried out in RF Chamber 15.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Emissions Software	TUV SUD	EmX V3.1.4 V.3.1.4	5125	-	Software
EMI Test Receiver	Rohde & Schwarz	ESW44	5911	12	24-Feb-2023
Cable (K Type 2m)	Junkosha	MWX241- 02000KMSKMS/B	5937	12	14-May-2023
DRG Horn Antenna (7.5-18GHz)	Schwarzbeck	HWRD750	5939	12	29-May-2023
TRILOG Super Broadband Test Antenna	Schwarzbeck	VULB 9168	5944	24	03-Feb-2024
1500W (300V 12A) AC Power Supply	iTech	IT7324	5956	-	O/P Mon



Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
5m Semi-Anechoic Chamber (Dual-Axis)	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 (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	5996	12	06-Jun-2023
Cable (N to N 1m)	Junkosha	MWX221-01000NMSNMS/B	5999	12	05-Jun-2023
Cable (N to N 7m)	Junkosha	MWX221-07000NMSNMS/B	6005	12	05-Jun-2023
Cable (N to N 8m)	Junkosha	MWX221-08000NMSNMS/A	6006	12	05-Jun-2023
Cable (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	6007	12	06-Jun-2023
Cable (SMA to SMA 6.5m)	Junkosha	MWX221-06500AMSAMS/B	6014	12	07-Jun-2023
Cable (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/B	6019	12	07-Jun-2023
Horn Antenna (1-10 GHz)	Schwarzbeck	BBHA9120B	6140	12	21-Jun-2023
Digital Multimeter	Fluke	115	6147	12	16-Jun-2023
Humidity & Temperature meter	R.S Components	1364	6150	12	17-Jun-2023
Double Ridge Active Horn Antenna (18-40 GHz)	Com-Power	AHA-840	6188	24	02-Jun-2024
SAC Switch Unit	TUV SUD	SSU003	6191	12	15-Jul-2023
8GHz Highpass Filter	Wainwright	WHKX 7150 8000 18000 50SS	6195	12	15-Jul-2023
Pre Amp 8 - 18 GHz	Wright Technologies	APS06 0061	6198	12	19-Jul-2023
Attenuator 4dB	Pasternack	PE7074-4	6203	24	16-Jul-2024
Cable (SMA to SMA 20cm)	TUV SUD	MH-FH 8-18	6214	12	25-Jul-2023

Table 119

TU - Traceability Unscheduled
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	± 6.3 dB
Emission Bandwidth	± 73.60 kHz
Maximum Conducted Output Power	± 1.38 dB
Maximum Conducted Power Spectral Density	± 1.49 dB
Authorised Band Edges	± 6.3 dB
Spurious Radiated Emissions	30 MHz to 1 GHz: ± 5.2 dB 1 GHz to 40 GHz: ± 6.3 dB

Table 120

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.