



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 Expiry Date
Multimeter	Fluke	79 Series III	611	12	21-Dec-2022
Hygrometer	Rotronic	I-1000	3068	12	21-Sep-2023
AC Programmable Power Supply	iTech	IT7324	5226	-	O/P Mon
Signal Conditioning Unit	TUV SUD	SPECTRUM SCU002	5759	12	05-Jul-2023
USB Power Sensor	Boonton	RTP5008	5830	12	07-Jul-2023
USB Power Sensor	Boonton	RTP5008	5832	12	07-Jul-2023

Table 136

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

A2779, S/N: NX7LCFL417 - Modification State 0

2.4.3 Date of Test

10-November-2022 to 24-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 or 2TX MIMO operation are those giving the highest EIRP and/or lowest conducted limit based on the combination of antennas giving highest total directional gain.

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

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

2.4.5 Environmental Conditions

Ambient Temperature	22.8 - 23.1 °C
Relative Humidity	40.2 - 44.7 %



2.4.6 Test Results

NarrowBand

Test Configuration			
Frequency Range:	5.150-5.250 GHz	Band:	U-NII-1
Limit Clause(s):	15.407 (a)(1)(iv) RSS-247 6.2.1.1	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 (%):	78.4
Antenna Configuration:	SISO	DCCF (dB):	1.06
Active Port(s):	A (Core 0)	Peak Antenna Gain (dBi):	6.61

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	8.95	-	-	-	-	10.39	-1.44
5204	9.13	-	-	-	-	10.39	-1.26
5245	9.05	-	-	-	-	10.39	-1.34

Table 137 - 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) RSS-247 6.2.1.1	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):	A (Core 0)	Peak Antenna Gain (dBi):	6.61

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	7.10	-	-	-	-	10.39	-3.29
5204	6.71	-	-	-	-	10.39	-3.68
5245	6.93	-	-	-	-	10.39	-3.46

Table 138 - 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) RSS-247 6.2.1.1	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 (%):	78.4
Antenna Configuration:	SISO	DCCF (dB):	1.06
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	4.53

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-	8.20	-	-	-	11.00	-2.80
5204	-	7.94	-	-	-	11.00	-3.06
5245	-	8.79	-	-	-	11.00	-2.21

Table 139 - 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) RSS-247 6.2.1.1	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):	4.53

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-	5.73	-	-	-	11.00	-5.27
5204	-	5.60	-	-	-	11.00	-5.40
5245	-	5.07	-	-	-	11.00	-5.93

Table 140 - 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) RSS-247 6.2.1.1	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):	8.64

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	3.64	3.62	-	-	6.64	8.36	-1.72
5204	3.45	3.07	-	-	6.27	8.36	-2.08
5245	3.56	3.40	-	-	6.49	8.36	-1.87

Table 141 - 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) RSS-247 6.2.1.1	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):	8.64

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	1.33	1.14	-	-	4.25	8.36	-4.11
5204	1.36	0.90	-	-	4.14	8.36	-4.21
5245	1.11	0.79	-	-	3.97	8.36	-4.39

Table 142 - 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):	A (Core 0)	Peak Antenna Gain (dBi):	5.17

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	9.80	-	-	-	-	30.00	-20.20
5789	10.11	-	-	-	-	30.00	-19.89
5844	10.11	-	-	-	-	30.00	-19.89

Table 143 - 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):	A (Core 0)	Peak Antenna Gain (dBi):	5.17

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	6.58	-	-	-	-	30.00	-23.42
5789	7.42	-	-	-	-	30.00	-22.58
5844	7.79	-	-	-	-	30.00	-22.21

Table 144 - 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 (%):	78.4
Antenna Configuration:	SISO	DCCF (dB):	1.06
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.72

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-	9.80	-	-	-	29.28	-19.48
5789	-	9.90	-	-	-	29.28	-19.38
5844	-	9.63	-	-	-	29.28	-19.65

Table 145 - 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):	6.72

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-	7.18	-	-	-	29.28	-22.10
5789	-	7.18	-	-	-	29.28	-22.10
5844	-	7.35	-	-	-	29.28	-21.93

Table 146 - 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):	8.99

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	9.74	9.70	-	-	12.73	27.01	-14.28
5789	9.71	8.75	-	-	12.27	27.01	-14.74
5844	9.99	9.86	-	-	12.93	27.01	-14.08

Table 147 - 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):	8.99

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	7.39	6.63	-	-	10.04	27.01	-16.97
5789	7.11	7.65	-	-	10.40	27.01	-16.61
5844	7.05	7.70	-	-	10.40	27.01	-16.61

Table 148 - 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) RSS-247 6.2.1.1	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):	A (Core 0)	Peak Antenna Gain (dBi):	6.61

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	9.65	-	-	-	-	10.39	-0.74
5204	9.41	-	-	-	-	10.39	-0.98
5245	9.50	-	-	-	-	10.39	-0.89

Table 149 - 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) RSS-247 6.2.1.1	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):	4.53

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-	7.91	-	-	-	11.00	-3.09
5204	-	8.68	-	-	-	11.00	-2.32
5245	-	8.56	-	-	-	11.00	-2.44

Table 150 - 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) RSS-247 6.2.1.1	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):	8.64

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	3.28	3.92	-	-	6.62	8.36	-1.74
5204	3.66	3.62	-	-	6.65	8.36	-1.71
5245	3.39	3.60	-	-	6.51	8.36	-1.85

Table 151 - 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) RSS-247 6.2.1.1	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):	A (Core 0)	Peak Antenna Gain (dBi):	6.61

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	1.70	-	-	-	-	10.39	-8.69
5204	1.93	-	-	-	-	10.39	-8.46
5245	2.12	-	-	-	-	10.39	-8.27

Table 152 - 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) RSS-247 6.2.1.1	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 (%):	78.2
Antenna Configuration:	SISO	DCCF (dB):	1.07
Active Port(s):	A (Core 0)	Peak Antenna Gain (dBi):	6.61

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-0.31	-	-	-	-	10.39	-10.70
5204	-0.45	-	-	-	-	10.39	-10.84
5245	-0.11	-	-	-	-	10.39	-10.50

Table 153 - 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) RSS-247 6.2.1.1	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 (%):	78.4
Antenna Configuration:	SISO	DCCF (dB):	1.06
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	4.53

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-	2.16	-	-	-	11.00	-8.84
5204	-	1.69	-	-	-	11.00	-9.31
5245	-	1.90	-	-	-	11.00	-9.10

Table 154 - 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) RSS-247 6.2.1.1	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 (%):	78.2
Antenna Configuration:	SISO	DCCF (dB):	1.07
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	4.53

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-	-0.07	-	-	-	11.00	-11.07
5204	-	-0.58	-	-	-	11.00	-11.58
5245	-	-0.21	-	-	-	11.00	-11.21

Table 155 - 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) RSS-247 6.2.1.1	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):	8.64

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	1.88	2.32	-	-	5.12	8.36	-3.24
5204	1.93	1.87	-	-	4.91	8.36	-3.45
5245	1.86	1.74	-	-	4.81	8.36	-3.55

Table 156 - 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) RSS-247 6.2.1.1	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):	8.64

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / MHz)	Margin (dB)
	A	B	C	D	Σ		
5162	-0.34	-0.56	-	-	2.56	8.36	-5.80
5204	-0.75	-0.56	-	-	2.36	8.36	-6.00
5245	-2.58	-0.62	-	-	1.52	8.36	-6.84

Table 157 - 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):	A (Core 0)	Peak Antenna Gain (dBi):	5.17

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	9.19	-	-	-	-	30.00	-20.81
5789	9.71	-	-	-	-	30.00	-20.29
5844	10.05	-	-	-	-	30.00	-19.95

Table 158 - 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):	6.72

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-	9.78	-	-	-	29.28	-19.50
5789	-	9.94	-	-	-	29.28	-19.34
5844	-	8.93	-	-	-	29.28	-20.35

Table 159 - 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):	8.99

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	9.63	10.13	-	-	12.90	27.01	-14.11
5789	10.13	10.22	-	-	13.19	27.01	-13.82
5844	10.35	9.95	-	-	13.16	27.01	-13.85

Table 160 - 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 (%):	78.4
Antenna Configuration:	SISO	DCCF (dB):	1.06
Active Port(s):	A (Core 0)	Peak Antenna Gain (dBi):	5.17

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-1.10	-	-	-	-	30.00	-31.10
5789	-0.25	-	-	-	-	30.00	-30.25
5844	-0.36	-	-	-	-	30.00	-30.36

Table 161 - 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):	A (Core 0)	Peak Antenna Gain (dBi):	5.17

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-2.79	-	-	-	-	30.00	-32.79
5789	-3.24	-	-	-	-	30.00	-33.24
5844	-2.71	-	-	-	-	30.00	-32.71

Table 162 - 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 (%):	78.4
Antenna Configuration:	SISO	DCCF (dB):	1.06
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.72

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-	-0.30	-	-	-	29.28	-29.58
5789	-	-0.41	-	-	-	29.28	-29.69
5844	-	-1.02	-	-	-	29.28	-30.30

Table 163 - 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 (%):	78.2
Antenna Configuration:	SISO	DCCF (dB):	1.07
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.72

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-	-3.26	-	-	-	29.28	-32.54
5789	-	-3.30	-	-	-	29.28	-32.58
5844	-	-2.58	-	-	-	29.28	-31.86

Table 164 - 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):	8.99

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-0.54	-0.90	-	-	2.30	27.01	-24.71
5789	-0.14	-0.16	-	-	2.86	27.01	-24.15
5844	-0.65	-0.77	-	-	2.30	27.01	-24.71

Table 165 - 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):	8.99

Test Frequency (MHz)	PSD (dBm/MHz)					Limit (dBm / 500 kHz)	Margin (dB)
	A	B	C	D	Σ		
5733	-3.93	-2.78	-	-	-0.31	27.01	-27.32
5789	-3.08	-2.69	-	-	0.13	27.01	-26.88
5844	-3.29	-2.58	-	-	0.09	27.01	-26.92

Table 166 - 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 167

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 168

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 Expiry Date
Multimeter	Fluke	79 Series III	611	12	21-Dec-2022
Hygrometer	Rotronic	I-1000	3068	12	21-Sep-2023
Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	01-Feb-2023
AC Programmable Power Supply	iTech	IT7324	5226	-	O/P Mon
MXA Signal Analyser	Keysight Technologies	N9020B	5528	24	21-Mar-2024
Signal Conditioning Unit	TUV SUD	SPECTRUM SCU002	5759	12	05-Jul-2023

Table 169

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

A2779, S/N: JM67M9K770 - Modification State 0

2.5.3 Date of Test

11-August-2022 to 13-August-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 MIMO 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	21.8 - 22.5 °C
Relative Humidity	38.0 - 54.3 %

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	57.74
Static	$\pi/4$ DQPSK	1	4-DH5	5733	5725	57.05
Static	$\pi/4$ DQPSK	1	8-DH5	5733	5725	56.98
Hopping	GFSK	1	DH5	-	5725	57.10
Hopping	$\pi/4$ DQPSK	1	4-DH5	-	5725	56.97
Hopping	$\pi/4$ DQPSK	1	8-DH5	-	5725	57.11
Static	GFSK	1	DH5	5844	5850	57.02
Static	$\pi/4$ DQPSK	1	4-DH5	5844	5850	57.22
Static	$\pi/4$ DQPSK	1	8-DH5	5844	5850	57.73
Hopping	GFSK	1	DH5	-	5850	58.30
Hopping	$\pi/4$ DQPSK	1	4-DH5	-	5850	58.19
Hopping	$\pi/4$ DQPSK	1	8-DH5	-	5850	57.25

Table 170 - Authorised Band Edge Results

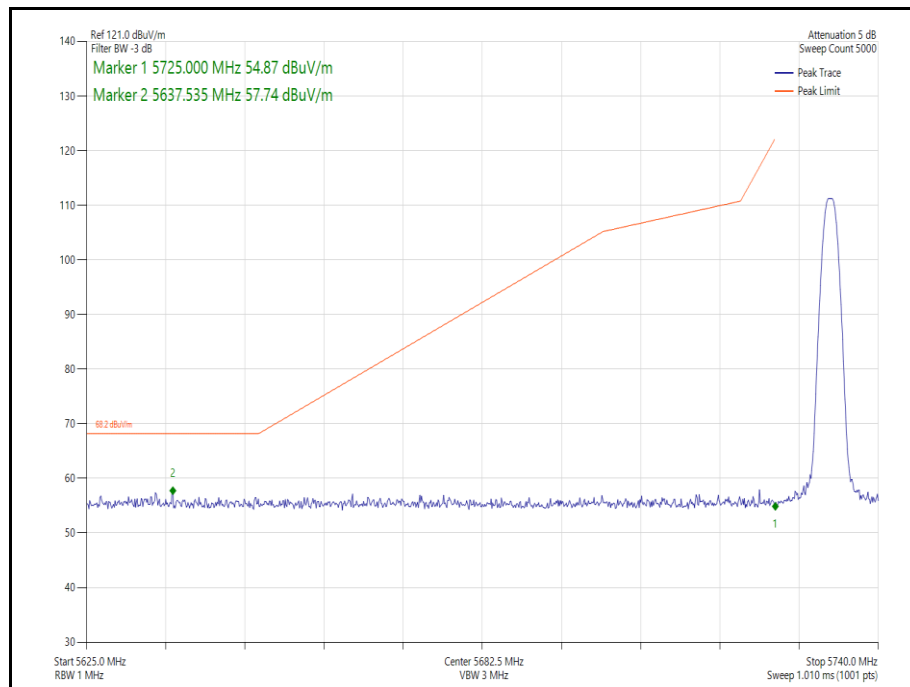


Figure 201 - Static - GFSK/DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

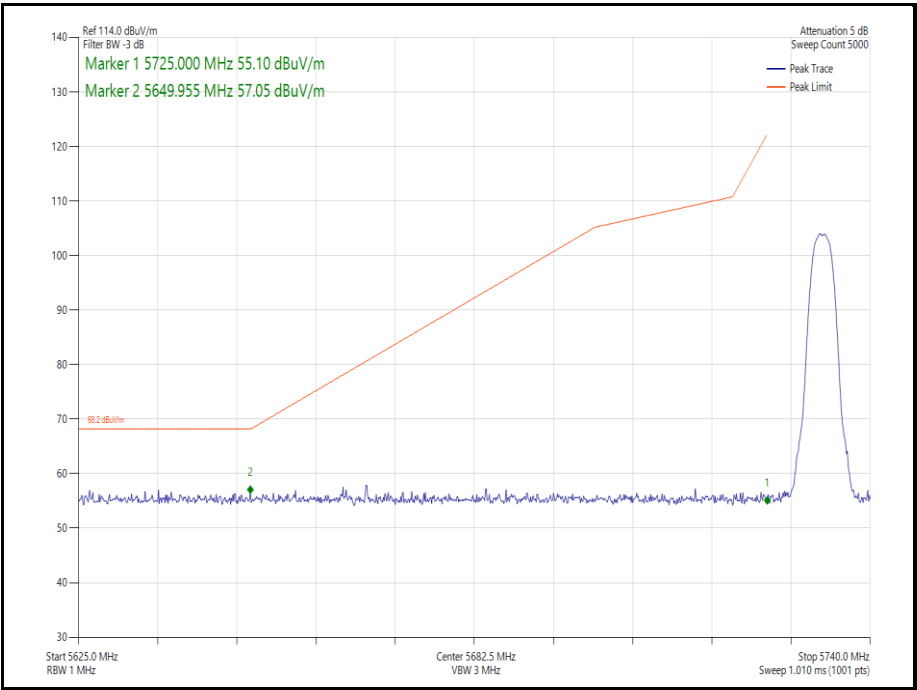


Figure 202 - Static - $\pi/4$ DQPSK/4-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

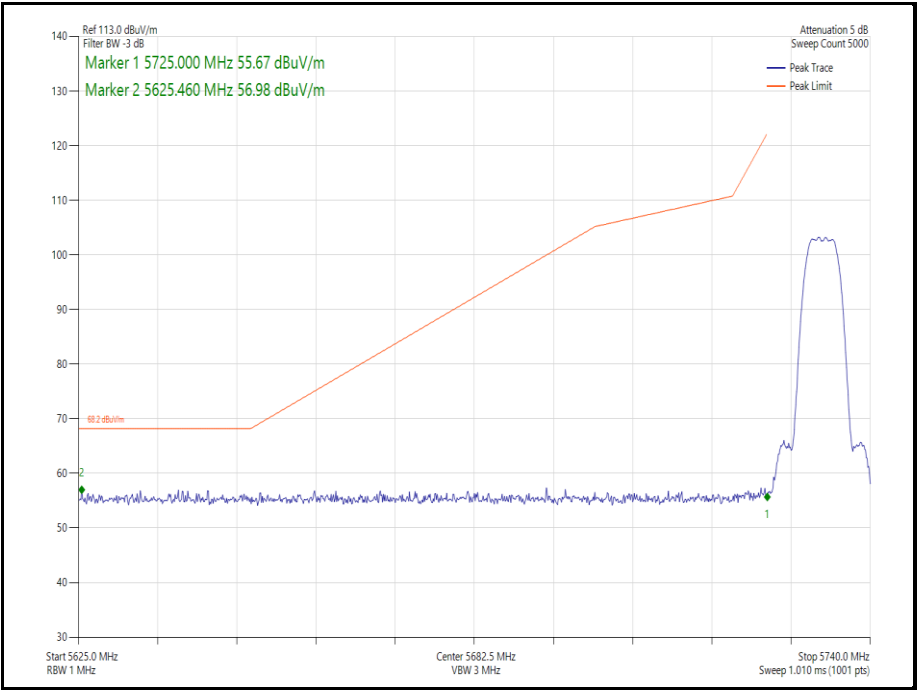


Figure 203 - Static - $\pi/4$ DQPSK/8-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

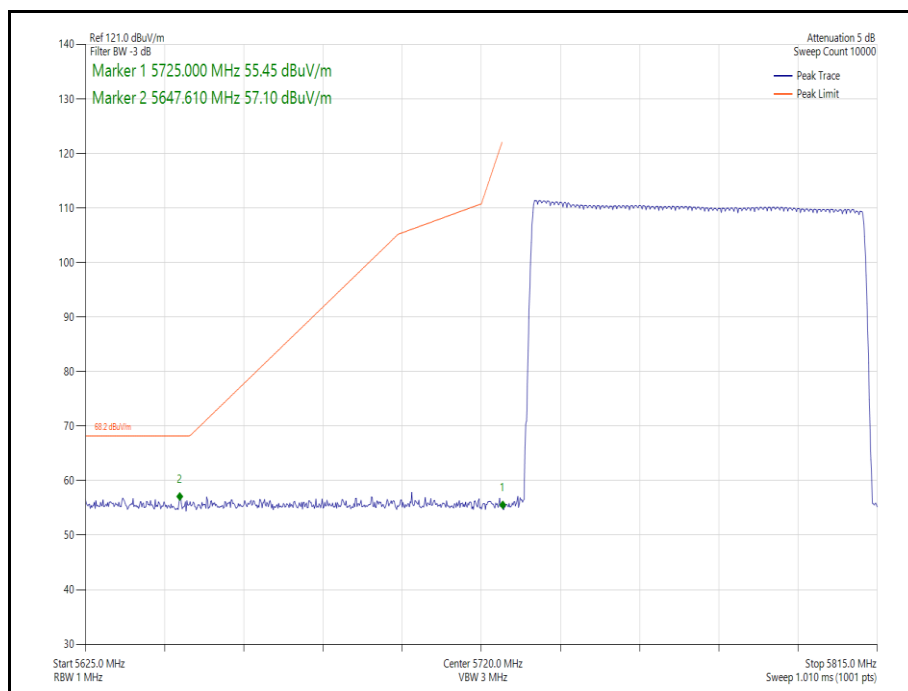


Figure 204 - Hopping - GFSK/DH5 - Band Edge Frequency 5725 MHz

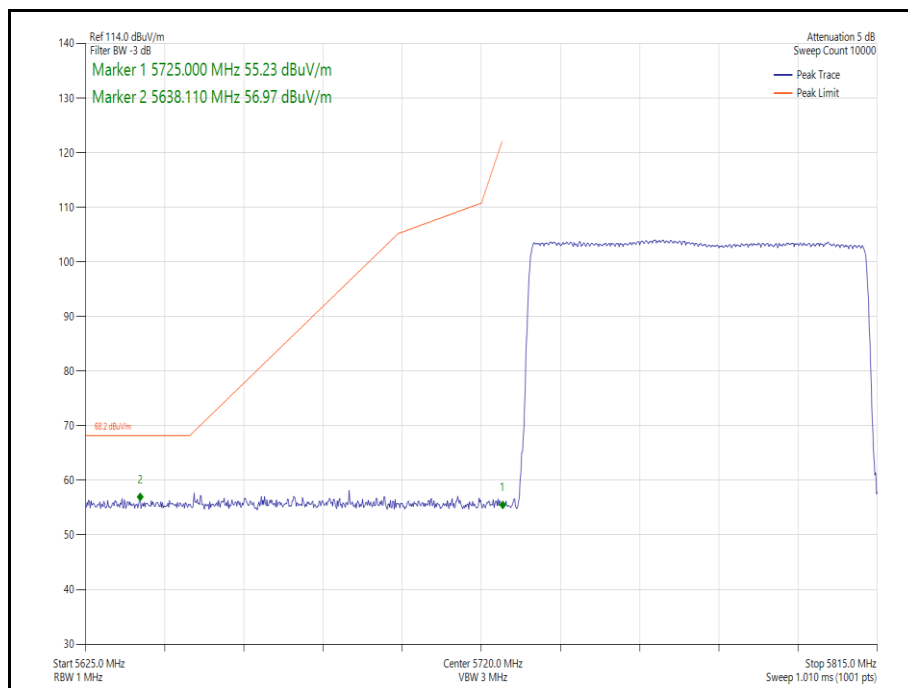


Figure 205 - Hopping - $\pi/4$ DQPSK/4-DH5 - Band Edge Frequency 5725 MHz

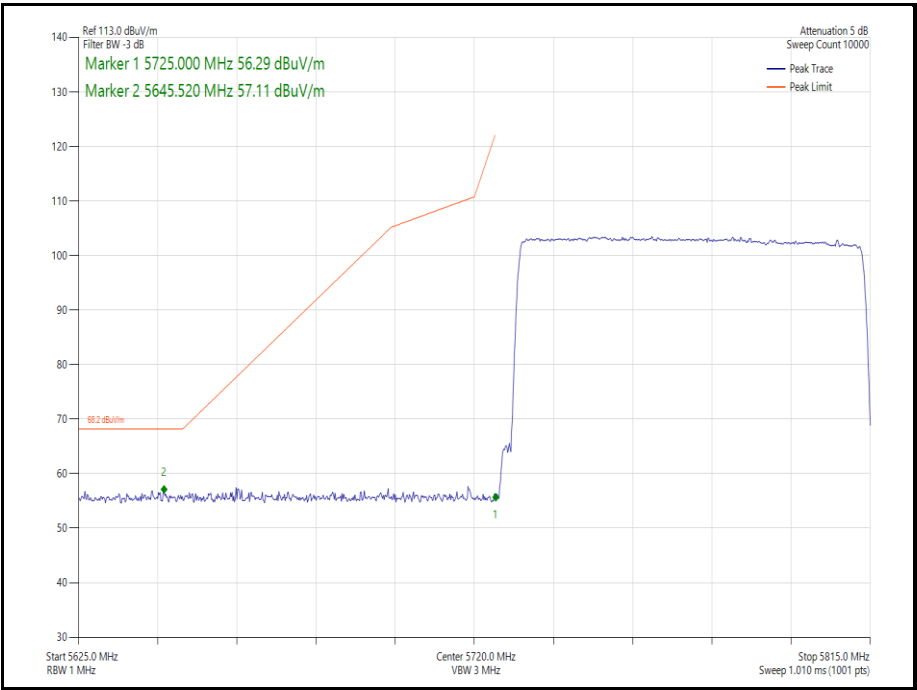


Figure 206 - Hopping - $\pi/4$ DQPSK/8-DH5 - Band Edge Frequency 5725 MHz

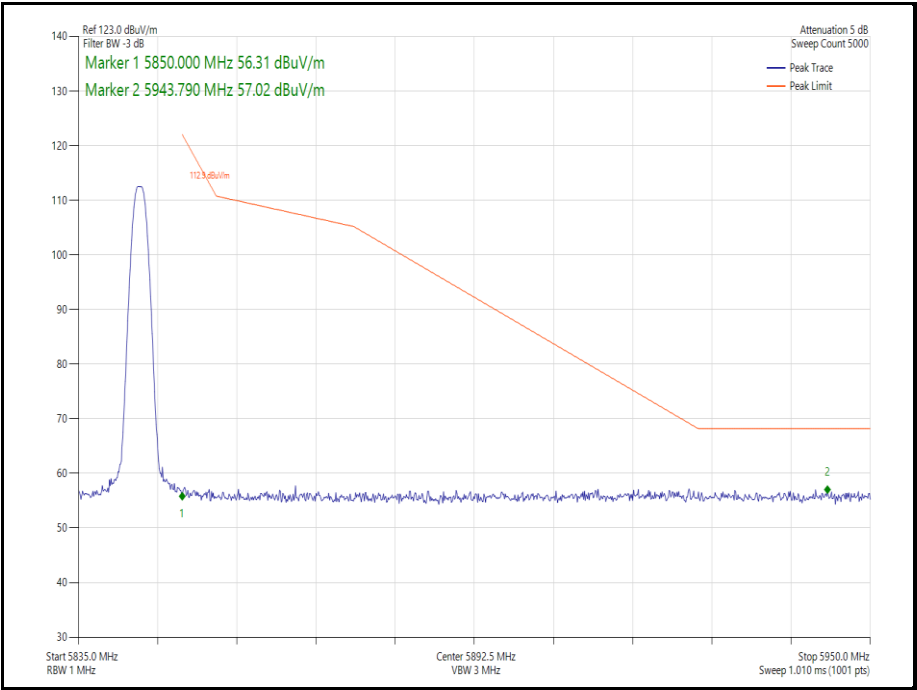


Figure 207 - Static - GFSK/DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

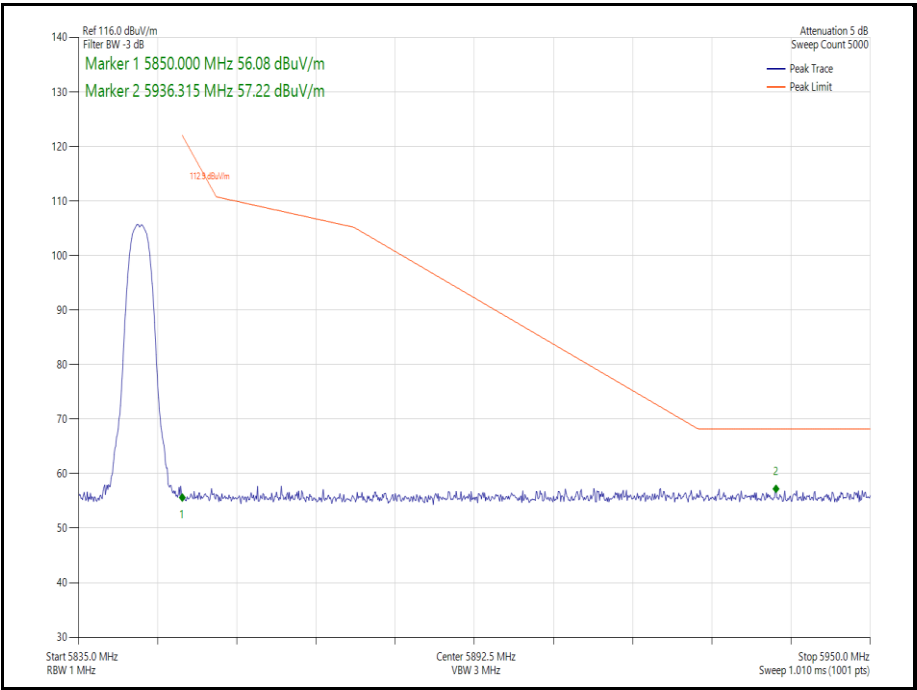


Figure 208 - Static - $\pi/4$ DQPSK/4-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

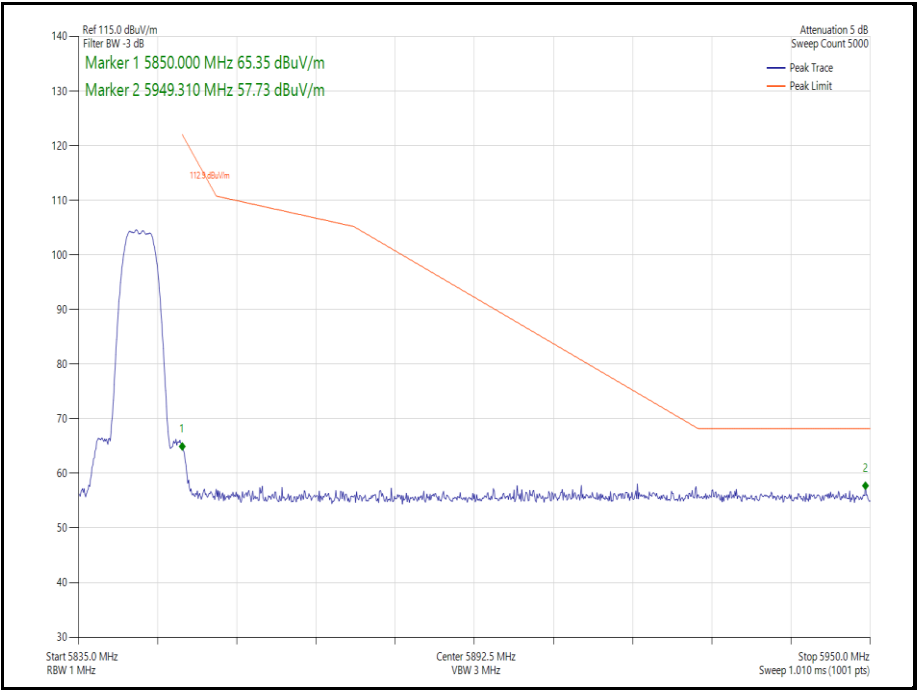


Figure 209 - Static - $\pi/4$ DQPSK/8-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz

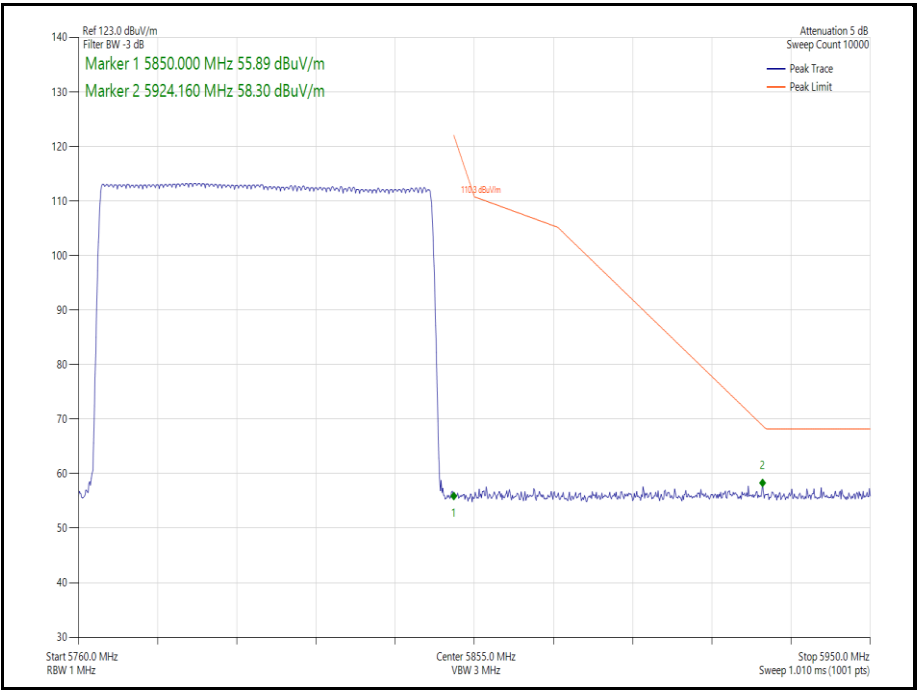


Figure 210 - Hopping - GFSK/DH5 - Band Edge Frequency 5850 MHz

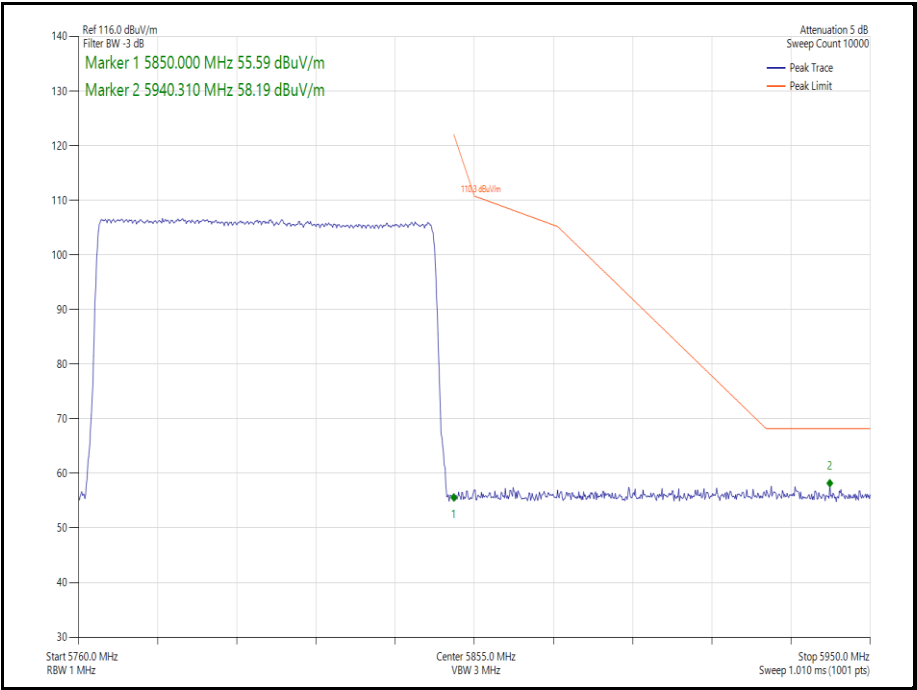


Figure 211 - Hopping - $\pi/4$ DQPSK/4-DH5 - Band Edge Frequency 5850 MHz

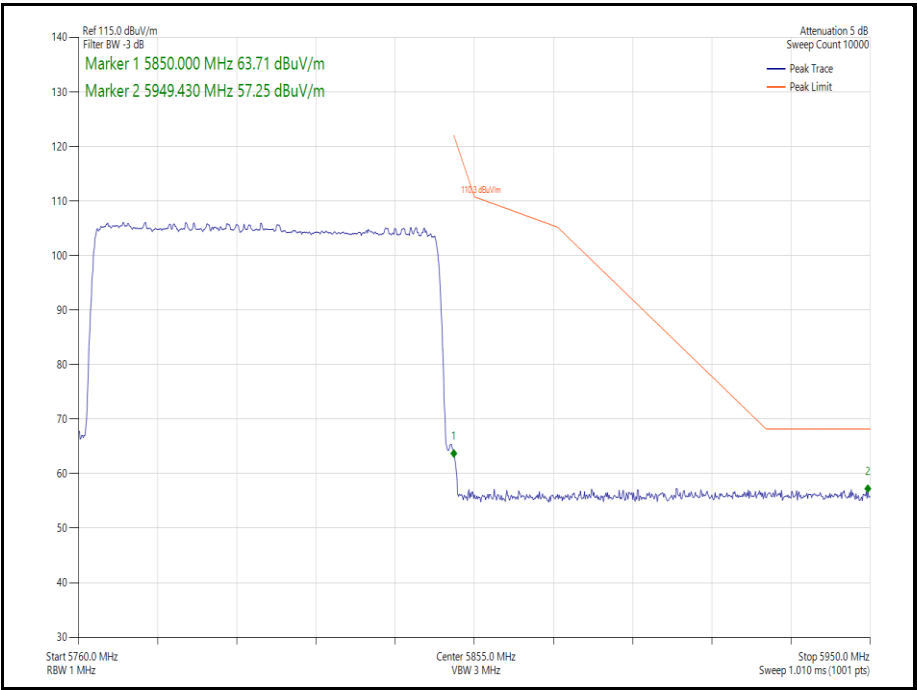


Figure 212 - Hopping - $\pi/4$ DQPSK/8-DH5 - Band Edge Frequency 5850 MHz

iPA - TXBF

Mode	Modulation	Core	Packet Type	Tx Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBμV/m)
Static	GFSK	0-1	DH5	5733	5725	57.04
Static	$\pi/4$ DQPSK	0-1	4-DH5	5733	5725	56.63
Static	$\pi/4$ DQPSK	0-1	8-DH5	5733	5725	57.60
Hopping	GFSK	0-1	DH5	-	5725	57.02
Hopping	$\pi/4$ DQPSK	0-1	4-DH5	-	5725	57.13
Hopping	$\pi/4$ DQPSK	0-1	8-DH5	-	5725	57.03
Static	GFSK	0-1	DH5	5844	5850	57.54
Static	$\pi/4$ DQPSK	0-1	4-DH5	5844	5850	57.21
Static	$\pi/4$ DQPSK	0-1	8-DH5	5844	5850	57.11
Hopping	GFSK	0-1	DH5	-	5850	57.37
Hopping	$\pi/4$ DQPSK	0-1	4-DH5	-	5850	56.91
Hopping	$\pi/4$ DQPSK	0-1	8-DH5	-	5850	57.61

Table 171 - Authorised Band Edge Results

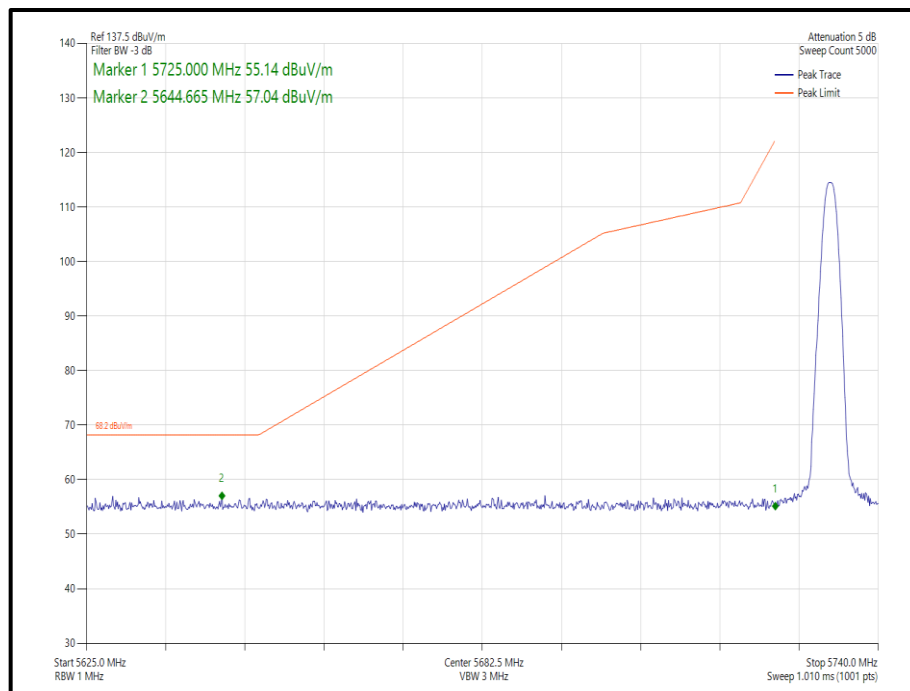


Figure 213 - Static - GFSK/DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

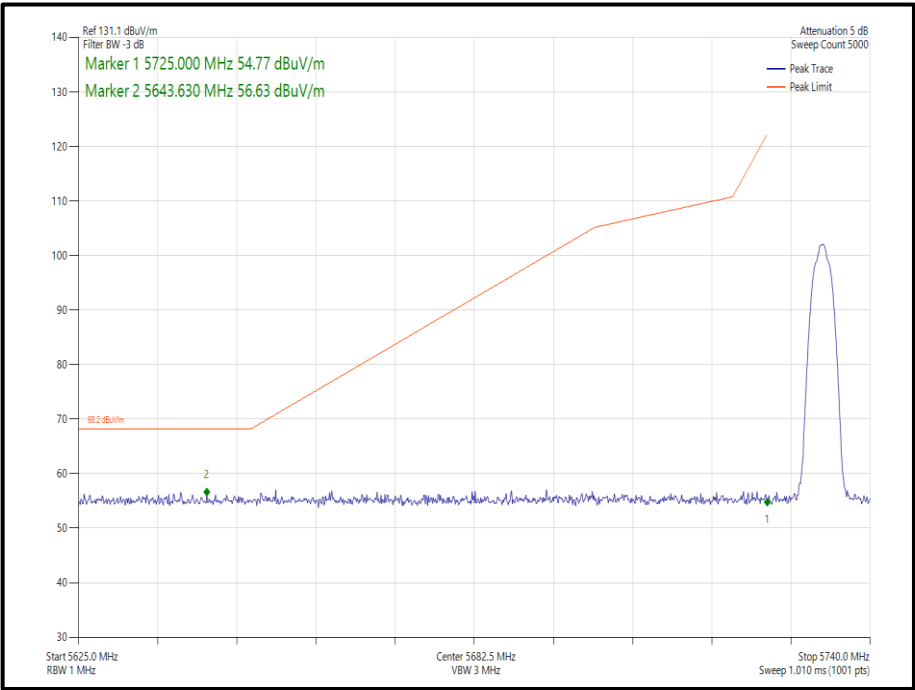


Figure 214 - Static - $\pi/4$ DQPSK/4-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz

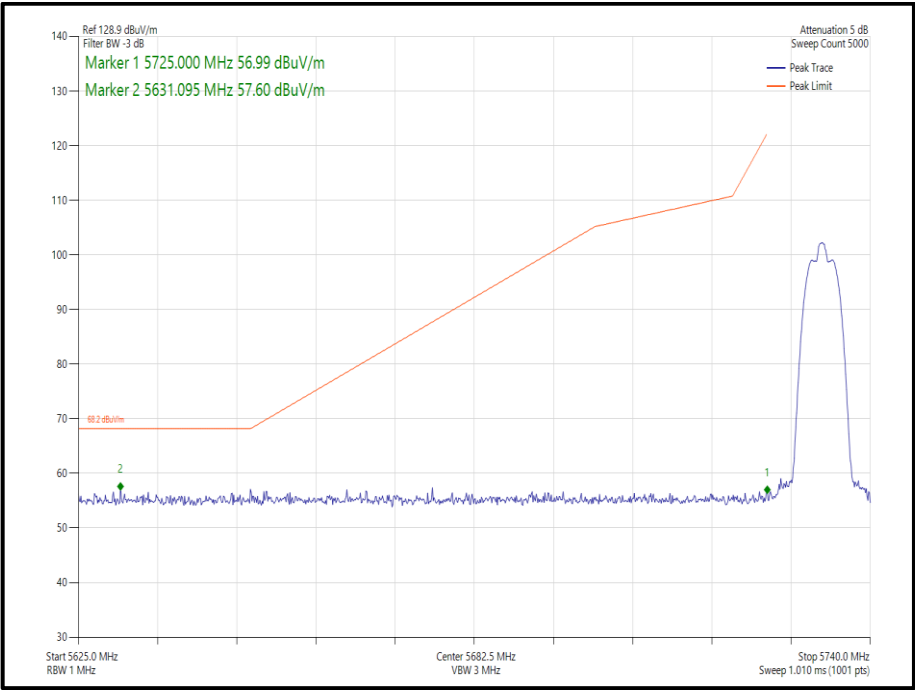


Figure 215 - Static - $\pi/4$ DQPSK/8-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz