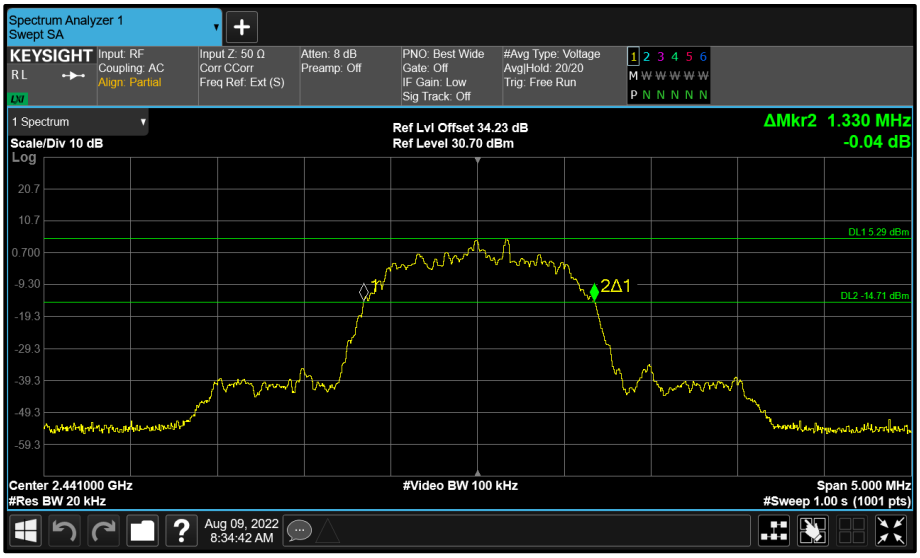

Figure 130 - BT Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

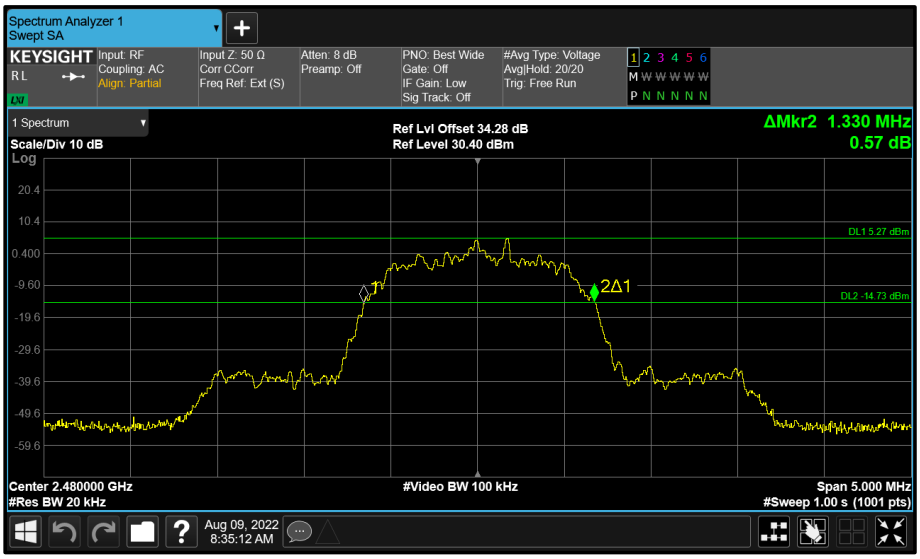

Figure 131 - BT Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

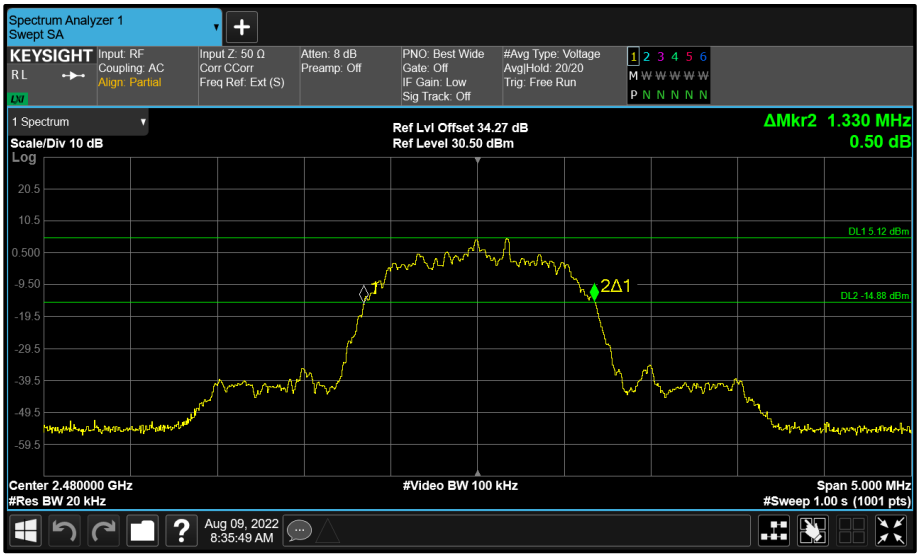

Figure 132 - BT Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1) RSS-247 5.1	Test Method(s):	C63.10 6.9.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA 8-DPSK (3-DH5)	Duty Cycle (%):	-
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (BT Core 0 + BT Core 1)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	1.265	1.265	-	-
2441	1.265	1.265	-	-
2480	1.265	1.265	-	-

Table 77 - 20 dB Bandwidth Results

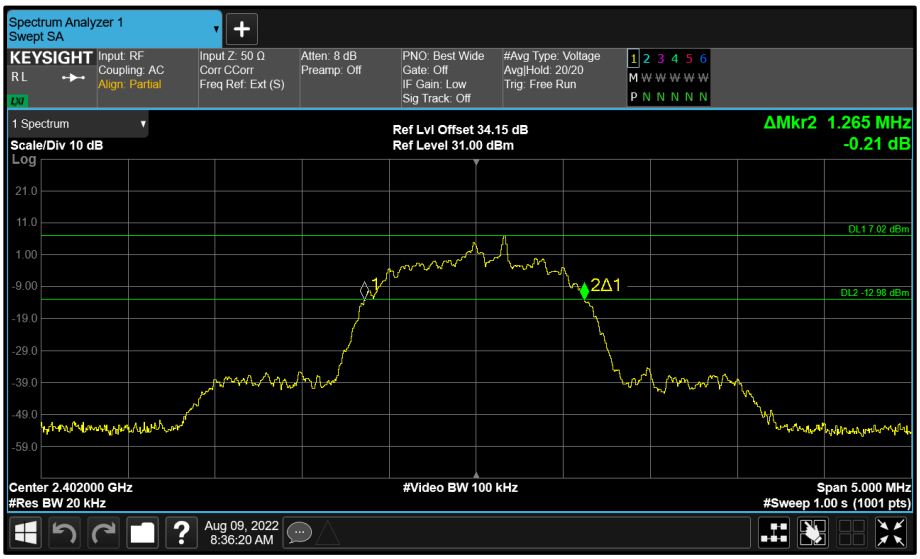

Figure 133- BT Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

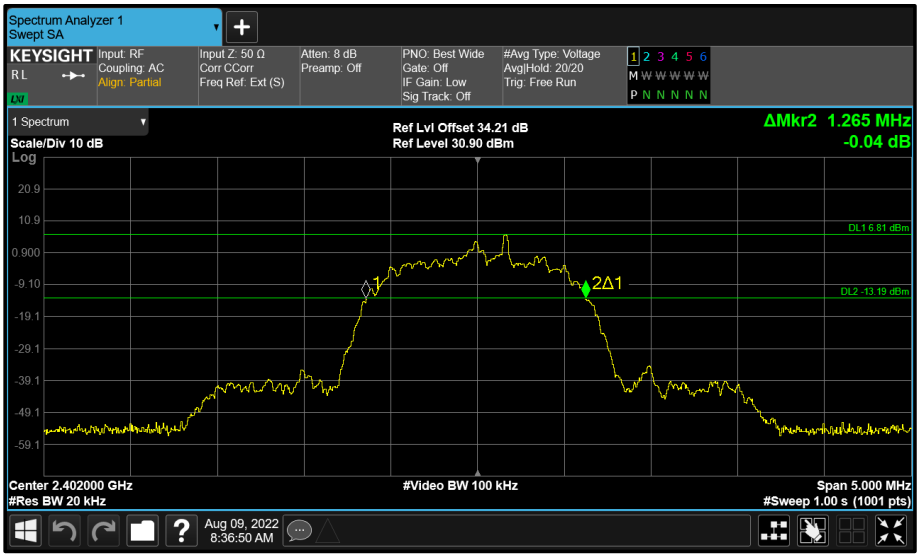

Figure 134 - BT Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

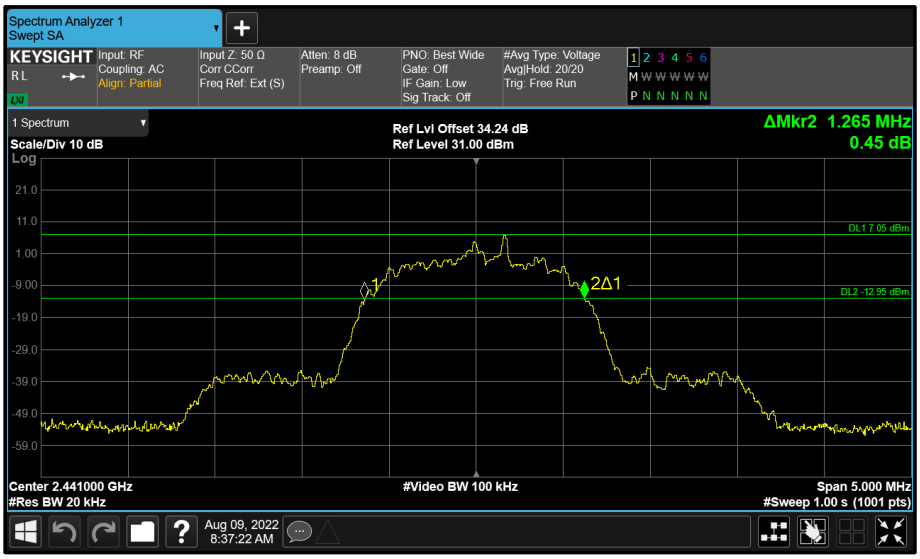

Figure 135- BT Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

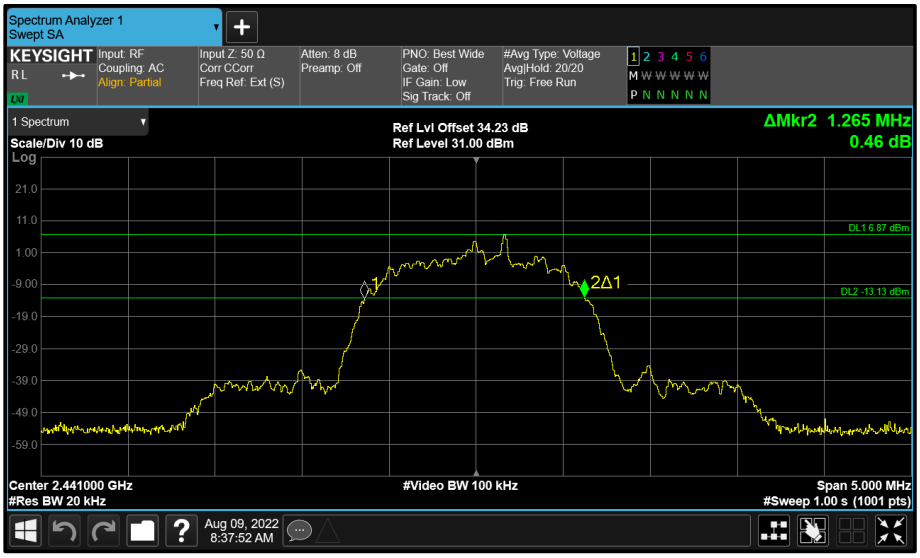

Figure 136 - BT Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

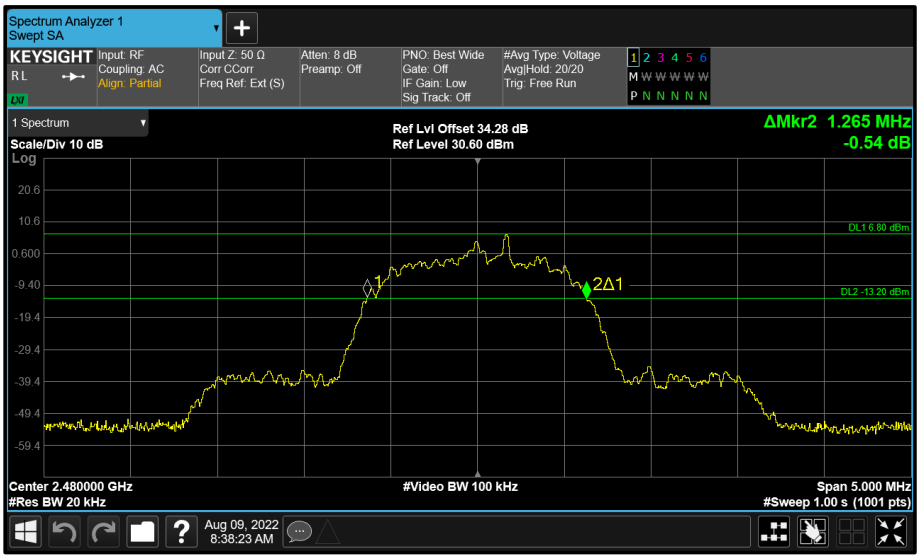

Figure 137 - BT Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

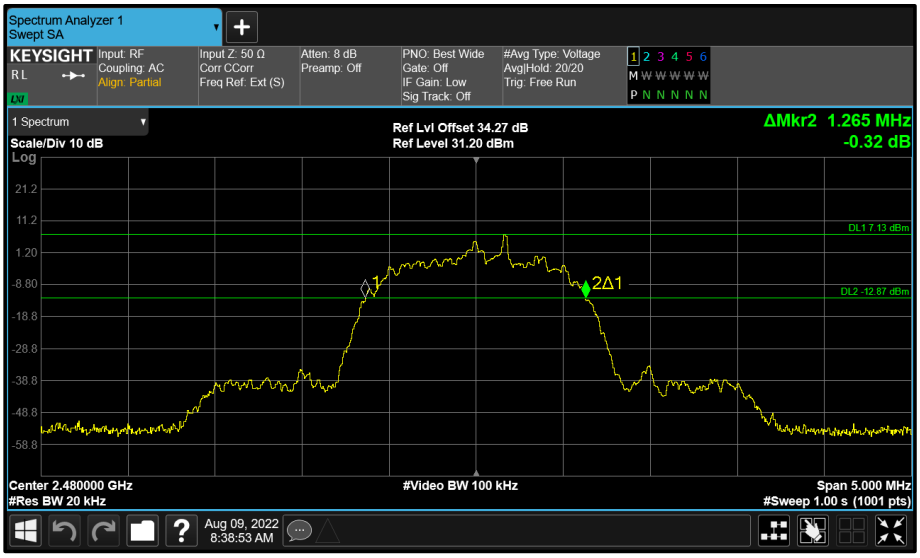

Figure 138 - BT Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

FCC 47 CFR Part 15 and ISED RSS-247 Limit Clause

None specified.

2.5.7 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	3220	12	05-Nov-2022
Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	01-Feb-2023
AC Programmable Power Supply	iTech	IT7324	5225	-	O/P Mon
MXA Signal Analyser	Keysight Technologies	N9020B	5528	24	21-Mar-2024
Signal Conditioning Unit	TUV SUD	SPECTRUM SCU001	5546	12	06-Apr-2023

Table 78

O/P Mon – Output Monitored using calibrated equipment

2.6 Maximum Conducted Output Power

2.6.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (b)
ISED RSS-247, Clause 5.4
ISED RSS-GEN, Clause 6.12

2.6.2 Equipment Under Test and Modification State

A2843, S/N: CVP4VD6WJV - Modification State 0

2.6.3 Date of Test

08-August-2022 to 09-August-2022

2.6.4 Test Method

The test was performed in accordance with ANSI C63.10 clause 7.8.5.

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

2.6.5 Environmental Conditions

Ambient Temperature	23.4 - 23.6 °C
Relative Humidity	42.8 - 51.2 %

2.6.6 Test Results

2.4 GHz Bluetooth - FHSS

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA GFSK (DH5)	Duty Cycle (%):	76.7
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (BT Core 1)	Peak Antenna Gain (dBi):	0.10

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	16.94	-	-	-	30.00	-13.06
2441	-	17.21	-	-	-	30.00	-12.79
2480	-	16.76	-	-	-	30.00	-13.24

Table 79 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	-	16.94	-	-	-	30.00	-13.06	17.04	36.00	-18.96
2441	-	17.21	-	-	-	30.00	-12.79	17.31	36.00	-18.69
2480	-	16.76	-	-	-	30.00	-13.24	16.86	36.00	-19.14

Table 80 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA π/4 DQPSK (2-DH5)	Duty Cycle (%):	76.8
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (BT Core 1)	Peak Antenna Gain (dBi):	0.10

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	18.58	-	-	-	30.00	-11.42
2441	-	18.54	-	-	-	30.00	-11.46
2480	-	18.43	-	-	-	30.00	-11.57

Table 81 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	-	18.58	-	-	-	30.00	-11.42	18.68	36.00	-17.32
2441	-	18.54	-	-	-	30.00	-11.46	18.64	36.00	-17.36
2480	-	18.43	-	-	-	30.00	-11.57	18.53	36.00	-17.47

Table 82 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA 8-DPSK (3-DH5)	Duty Cycle (%):	76.8
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (BT Core 1)	Peak Antenna Gain (dBi):	0.10

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	18.86	-	-	-	30.00	-11.14
2441	-	19.03	-	-	-	30.00	-10.97
2480	-	18.83	-	-	-	30.00	-11.17

Table 83 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	-	18.86	-	-	-	30.00	-11.14	18.96	36.00	-17.04
2441	-	19.03	-	-	-	30.00	-10.97	19.13	36.00	-16.87
2480	-	18.83	-	-	-	30.00	-11.17	18.93	36.00	-17.07

Table 84 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA GFSK (DH5)	Duty Cycle (%):	76.7
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (BT Core 1)	Peak Antenna Gain (dBi):	0.10

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	13.45	-	-	-	30.00	-16.55
2441	-	13.14	-	-	-	30.00	-16.86
2480	-	13.38	-	-	-	30.00	-16.62

Table 85 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	-	13.45	-	-	-	30.00	-16.55	13.55	36.00	-22.45
2441	-	13.14	-	-	-	30.00	-16.86	13.24	36.00	-22.76
2480	-	13.38	-	-	-	30.00	-16.62	13.48	36.00	-22.52

Table 86 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA GFSK (DH5)	Duty Cycle (%):	76.7
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	C (BT Core2)	Peak Antenna Gain (dBi):	1.13

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	-	13.10	-	-	30.00	-16.90
2441	-	-	13.09	-	-	30.00	-16.91
2480	-	-	12.83	-	-	30.00	-17.17

Table 87 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	-	-	13.10	-	-	30.00	-16.90	14.23	36.00	-21.77
2441	-	-	13.09	-	-	30.00	-16.91	14.22	36.00	-21.78
2480	-	-	12.83	-	-	30.00	-17.17	13.96	36.00	-22.04

Table 88 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA π/4 DQPSK (2-DH5)	Duty Cycle (%):	77.1
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (BT Core 1)	Peak Antenna Gain (dBi):	0.10

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	10.53	-	-	-	30.00	-19.47
2441	-	10.66	-	-	-	30.00	-19.34
2480	-	10.86	-	-	-	30.00	-19.14

Table 89 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	-	10.53	-	-	-	30.00	-19.47	10.63	36.00	-25.37
2441	-	10.66	-	-	-	30.00	-19.34	10.76	36.00	-25.24
2480	-	10.86	-	-	-	30.00	-19.14	10.96	36.00	-25.04

Table 90 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA 8-DPSK (3-DH5)	Duty Cycle (%):	76.8
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (BT Core 1)	Peak Antenna Gain (dBi):	0.10

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	10.87	-	-	-	30.00	-19.13
2441	-	10.96	-	-	-	30.00	-19.04
2480	-	10.80	-	-	-	30.00	-19.20

Table 91 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	-	10.87	-	-	-	30.00	-19.13	10.97	36.00	-25.03
2441	-	10.96	-	-	-	30.00	-19.04	11.06	36.00	-24.94
2480	-	10.80	-	-	-	30.00	-19.20	10.90	36.00	-25.10

Table 92 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA π/4 DQPSK (2-DH5)	Duty Cycle (%):	76.8
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	C (BT Core2)	Peak Antenna Gain (dBi):	1.13

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	-	12.33	-	-	30.00	-17.67
2441	-	-	12.55	-	-	30.00	-17.45
2480	-	-	12.47	-	-	30.00	-17.53

Table 93 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	-	-	12.33	-	-	30.00	-17.67	13.46	36.00	-22.54
2441	-	-	12.55	-	-	30.00	-17.45	13.68	36.00	-22.32
2480	-	-	12.47	-	-	30.00	-17.53	13.60	36.00	-22.40

Table 94 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA 8-DPSK (3-DH5)	Duty Cycle (%):	76.8
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	C (BT Core2)	Peak Antenna Gain (dBi):	1.13

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	-	12.60	-	-	30.00	-17.40
2441	-	-	12.81	-	-	30.00	-17.19
2480	-	-	12.76	-	-	30.00	-17.24

Table 95 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	-	-	12.60	-	-	30.00	-17.40	13.73	36.00	-22.27
2441	-	-	12.81	-	-	30.00	-17.19	13.94	36.00	-22.06
2480	-	-	12.76	-	-	30.00	-17.24	13.89	36.00	-22.11

Table 96 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1)		

DUT Configuration			
Mode:	ePA GFSK (DH5)	Duty Cycle (%):	76.7
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (BT Core 0 + BT Core 1)	Peak Antenna Gain (dBi):	2.70

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	17.02	16.84	-	-	19.94	30.00	-10.06
2441	16.74	17.20	-	-	19.98	30.00	-10.02
2480	16.93	17.33	-	-	20.14	30.00	-9.86

Table 97 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	17.02	16.84	-	-	19.94	30.00	-10.06	22.64	36.00	-13.36
2441	16.74	17.20	-	-	19.98	30.00	-10.02	22.68	36.00	-13.32
2480	16.93	17.33	-	-	20.14	30.00	-9.86	22.84	36.00	-13.16

Table 98 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1)		

DUT Configuration			
Mode:	ePA π/4 DQPSK (2-DH5)	Duty Cycle (%):	77.1
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (BT Core 0 + BT Core 1)	Peak Antenna Gain (dBi):	2.70

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	16.17	16.25	-	-	19.22	30.00	-10.78
2441	16.28	15.90	-	-	19.10	30.00	-10.90
2480	16.14	16.05	-	-	19.11	30.00	-10.89

Table 99 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	16.17	16.25	-	-	19.22	30.00	-10.78	21.92	36.00	-14.08
2441	16.28	15.90	-	-	19.10	30.00	-10.90	21.80	36.00	-14.20
2480	16.14	16.05	-	-	19.11	30.00	-10.89	21.80	36.00	-14.20

Table 100 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1)		

DUT Configuration			
Mode:	ePA 8-DPSK (3-DH5)	Duty Cycle (%):	76.8
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (BT Core 0 + BT Core 1)	Peak Antenna Gain (dBi):	2.70

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	16.41	16.45	-	-	19.44	30.00	-10.56
2441	16.53	16.18	-	-	19.37	30.00	-10.63
2480	16.41	16.32	-	-	19.38	30.00	-10.62

Table 101 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	16.41	16.45	-	-	19.44	30.00	-10.56	22.14	36.00	-13.86
2441	16.53	16.18	-	-	19.37	30.00	-10.63	22.07	36.00	-13.93
2480	16.41	16.32	-	-	19.38	30.00	-10.62	22.07	36.00	-13.93

Table 102 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1)		

DUT Configuration			
Mode:	iPA GFSK (DH5)	Duty Cycle (%):	76.7
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (BT Core 0 + BT Core 1)	Peak Antenna Gain (dBi):	2.70

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	12.81	13.11	-	-	15.97	30.00	-14.03
2441	12.60	13.18	-	-	15.91	30.00	-14.09
2480	12.50	13.41	-	-	15.99	30.00	-14.01

Table 103 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	12.81	13.11	-	-	15.97	30.00	-14.03	18.67	36.00	-17.33
2441	12.60	13.18	-	-	15.91	30.00	-14.09	18.61	36.00	-17.39
2480	12.50	13.41	-	-	15.99	30.00	-14.01	18.68	36.00	-17.32

Table 104 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1)		

DUT Configuration			
Mode:	iPA π/4 DQPSK (2-DH5)	Duty Cycle (%):	76.8
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (BT Core 0 + BT Core 1)	Peak Antenna Gain (dBi):	2.70

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	10.69	10.62	-	-	13.66	30.00	-16.34
2441	10.56	10.67	-	-	13.63	30.00	-16.37
2480	10.36	10.50	-	-	13.44	30.00	-16.56

Table 105 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	10.69	10.62	-	-	13.66	30.00	-16.34	16.36	36.00	-19.64
2441	10.56	10.67	-	-	13.63	30.00	-16.37	16.32	36.00	-19.68
2480	10.36	10.50	-	-	13.44	30.00	-16.56	16.14	36.00	-19.86

Table 106 - ISED Maximum Conducted (peak) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1)		

DUT Configuration			
Mode:	iPA 8-DPSK (3-DH5)	Duty Cycle (%):	76.8
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (BT Core 0 + BT Core 1)	Peak Antenna Gain (dBi):	2.70

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	11.01	10.92	-	-	13.97	30.00	-16.03
2441	10.96	10.98	-	-	13.98	30.00	-16.02
2480	10.64	11.23	-	-	13.95	30.00	-16.05

Table 107 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2402	11.01	10.92	-	-	13.97	30.00	-16.03	16.67	36.00	-19.33
2441	10.96	10.98	-	-	13.98	30.00	-16.02	16.68	36.00	-19.32
2480	10.64	11.23	-	-	13.95	30.00	-16.05	16.65	36.00	-19.35

Table 108 - ISED Maximum Conducted (peak) Output Power Results

FCC 47 CFR Part 15, Limit Clause 15.247 (b)(3)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

ISED RSS-247, Limit Clause 5.4 (d)

For DTSs employing digital modulation techniques operating in the bands 902-928 MHz and 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1 W. The e.i.r.p. shall not exceed 4 W, except as provided in section 5.4(e) of the specification.

2.6.7 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	3220	12	05-Nov-2022
AC Programmable Power Supply	iTech	IT7324	5225	-	O/P Mon
MXA Signal Analyser	Keysight Technologies	N9020B	5528	24	21-Mar-2024
Signal Conditioning Unit	TUV SUD	SPECTRUM SCU001	5546	12	06-Apr-2023
USB Power Sensor	Boonton	RTP5008	5820	12	06-Apr-2023
USB Power Sensor	Boonton	RTP5008	5821	12	06-Apr-2023
USB Power Sensor	Boonton	RTP5008	5831	12	06-Apr-2023

Table 109

O/P Mon – Output Monitored using calibrated equipment

2.7 Spurious Radiated Emissions

2.7.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (d) and 15.209
ISED RSS-247, Clause 3.3 and 5.5
ISED RSS-GEN, Clause 6.13 and 8.9

2.7.2 Equipment Under Test and Modification State

A2843, S/N: YWL2C4T4WY - Modification State 0

2.7.3 Date of Test

17-August-2022 to 05-September-2022

2.7.4 Test Method

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

For frequencies > 1 GHz, plots for average measurements were taken in accordance with ANSI C63.10, clause 4.1.4.2.5 to characterize the EUT. Where emissions were detected, final average measurements were taken in accordance with ANSI C63.10, clause 4.1.4.2.2.

Ports on the EUT were terminated with loads as described in ANSI C63.4 clause 6.2.4. For EUT's with multiple connectors of the same type, additional interconnecting cables were connected, and pre-scans performed to determine whether the level of the emissions were increased by >2 dB.

In the 30 MHz to 1 GHz range pre-scans were only performed on the mid channel (2441 MHz) only.

The plots shown are the characterisation of the EUT. The limits on the plots represent the most stringent case for restricted bands, (74/54 dBuV/m) when compared to 20 dBc outside restricted bands. The limits shown have been used as a threshold to determine where further measurements are necessary. Where results are within 10 dB 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 dBµV/m to µV/m:
10^(Field Strength in dBµV/m/20).

Above 18 GHz, the measurement distance was reduced to 1 m. The limit line was increased by 20*LOG(3/1) = 9.54 dB.

At a measurement distance of 1 meter the limit line was increased by 20*LOG(3/1) = 9.54 dB.

Where formal measurements have been necessary, the results have been presented in the emissions table.

2.7.5 Test Setup Diagram

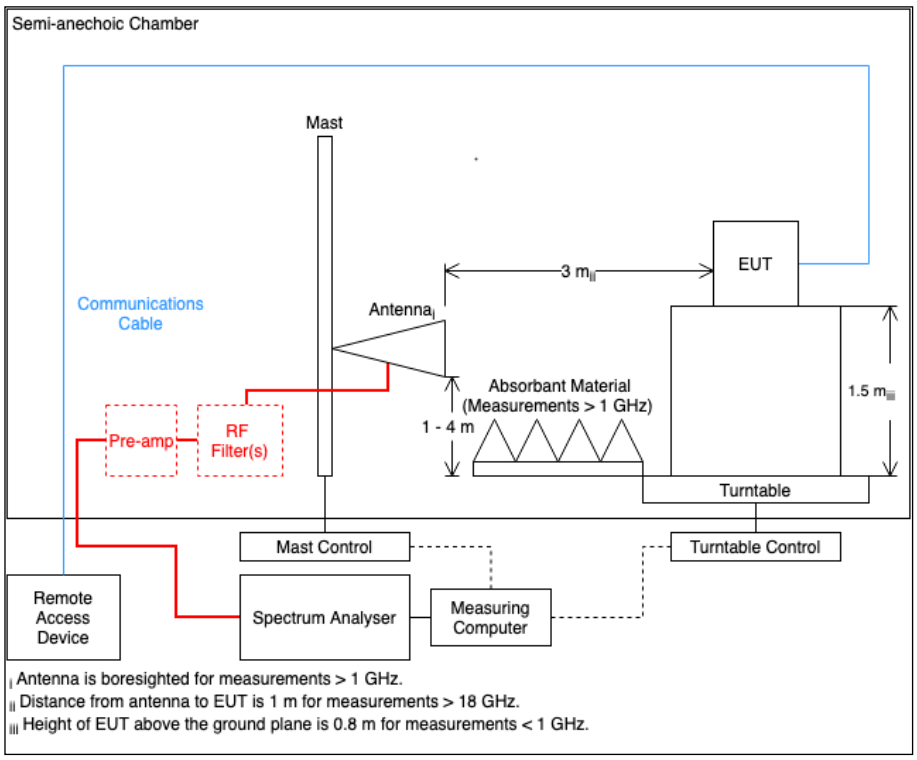

Figure 139

2.7.6 Environmental Conditions

Ambient Temperature	20.9 - 23.2 °C
Relative Humidity	41.7 - 60.5 %

2.7.7 Test Results

2.4 GHz Bluetooth - FHSS

Frequency (MHz)	Level (dBuv/m)	Limit (dBuv/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4803.591	39.4	54.0	-14.6	CISPR Avg	207	136	Vertical
4804.348	41.1	54.0	-12.9	CISPR Avg	288	149	Horizontal

Table 110 - 2402 MHz (CH0), DH5, iPA, Core 0 + Core 1, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

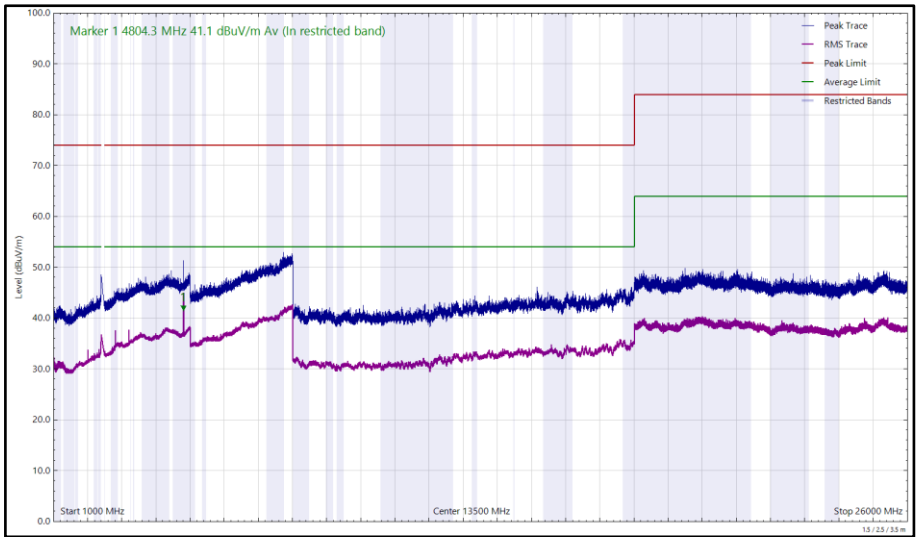

Figure 140 - 2402 MHz (CH0), DH5, iPA, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal

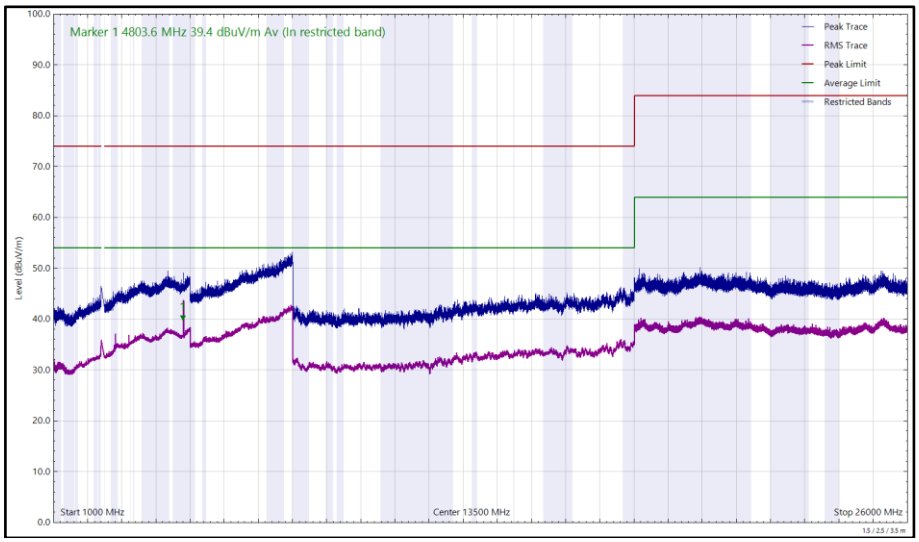

Figure 141 - 2402 MHz (CH0), DH5, iPA, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBuv/m)	Limit (dBuv/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4881.469	39.7	54.0	-14.3	CISPR Avg	36	119	Vertical
4882.358	42.0	54.0	-12.0	CISPR Avg	306	176	Horizontal

Table 111 - 2441 MHz (CH39), DH5, iPA, Core 0 + Core 1, 30 MHz to 26 GHz

No other emissions found within 10 dB of the limit.

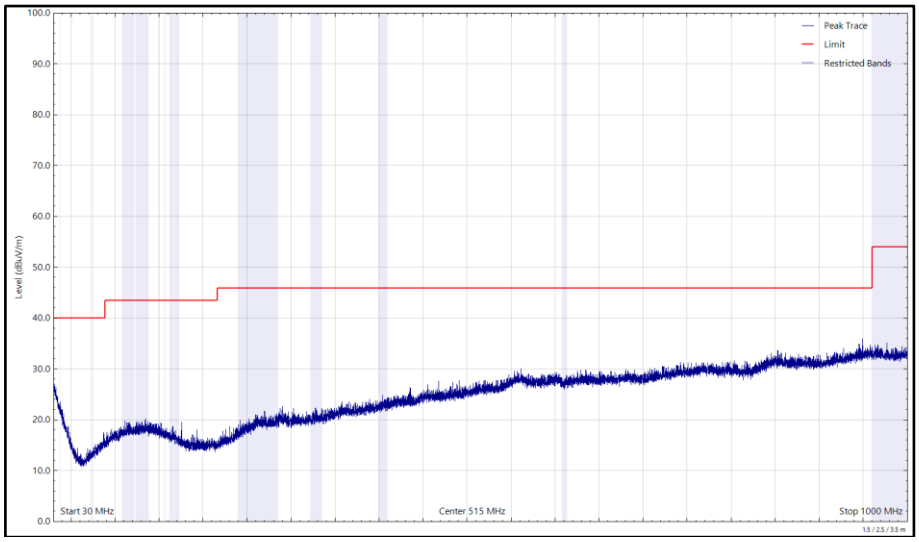

Figure 142 - 2441 MHz (CH39), DH5, iPA, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

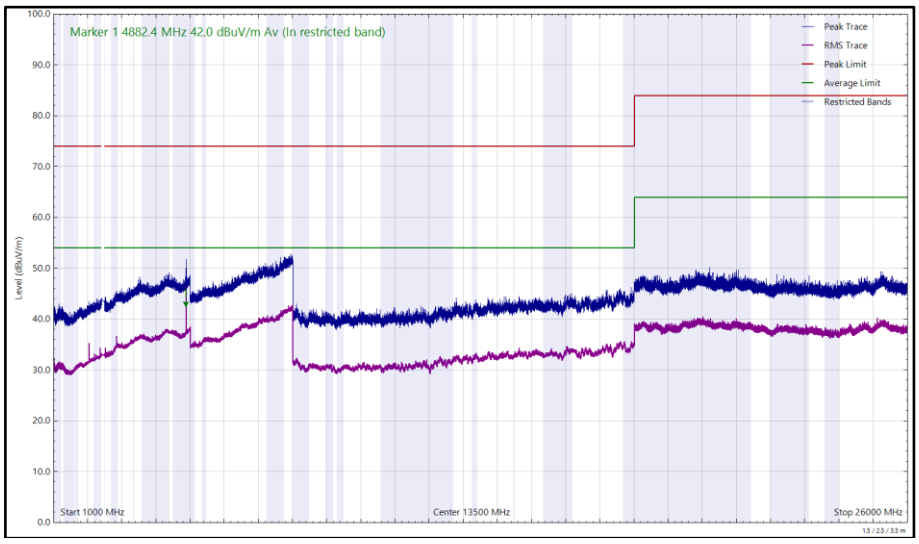

Figure 143 - 2441 MHz (CH39), DH5, iPA, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal

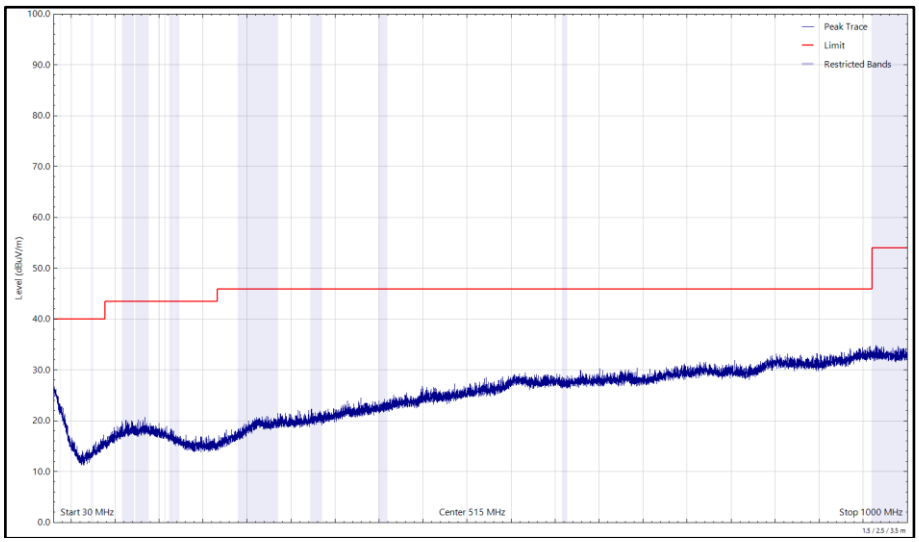

Figure 144 - 2441 MHz (CH39), DH5, iPA, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

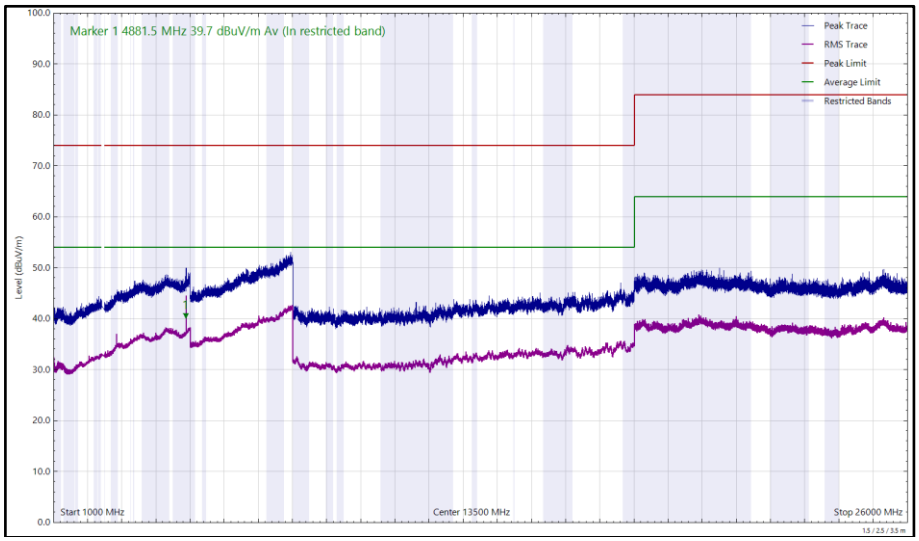

Figure 145 - 2441 MHz (CH39), DH5, iPA, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBuv/m)	Limit (dBuv/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4959.622	38.9	54.0	-15.1	CISPR Avg	316	221	Horizontal
4959.846	40.7	54.0	-13.3	CISPR Avg	233	100	Vertical

Table 112 - 2480 MHz (CH78), DH5, iPA, Core 0 + Core 1, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

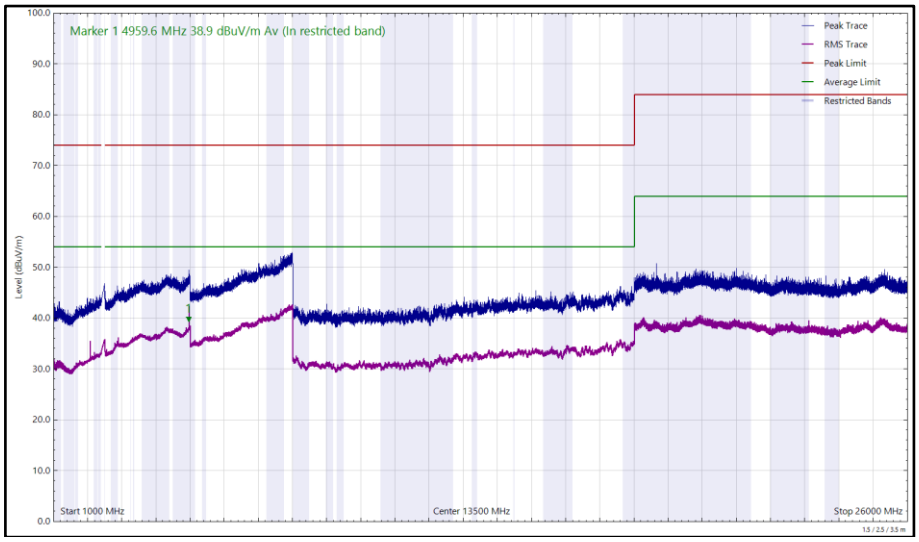

Figure 146 - 2480 MHz (CH78), DH5, iPA, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal

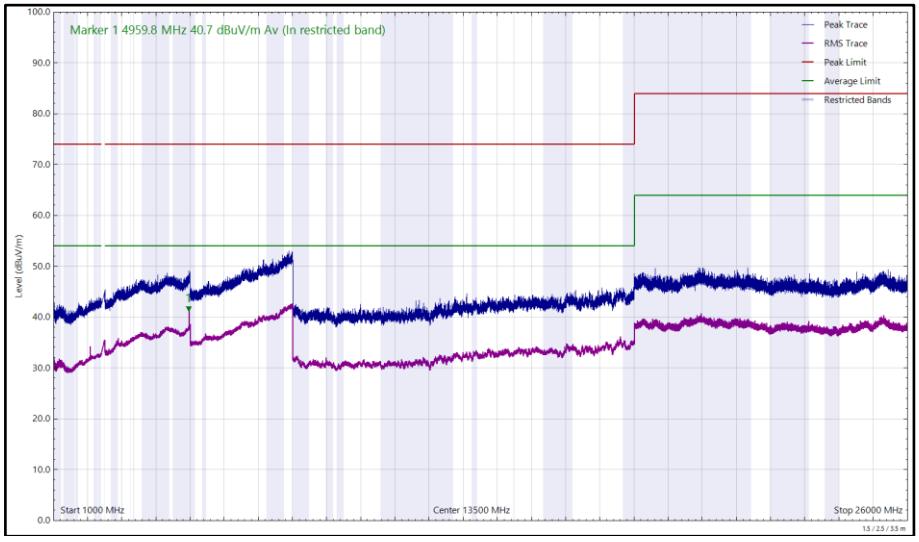

Figure 147 - 2480 MHz (CH78), DH5, iPA, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBuv/m)	Limit (dBuv/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4804.360	43.6	54.0	-10.4	CISPR Avg	281	124	Horizontal
4804.384	42.7	54.0	-11.3	CISPR Avg	207	150	Vertical

Table 113 - 2402 MHz (CH0), DH5, ePA, Core 0 + Core 1, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

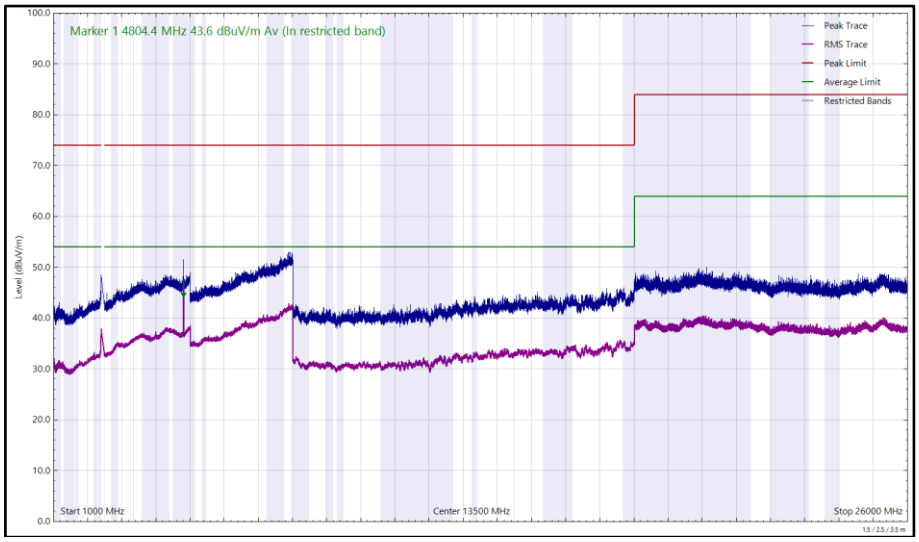

Figure 148 - 2402 MHz (CH0), DH5, ePA, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal

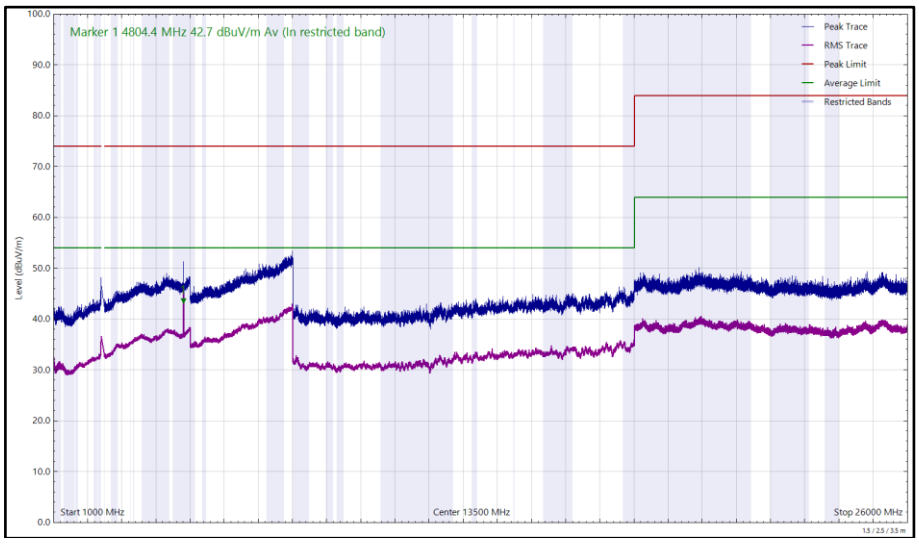

Figure 149 - 2402 MHz (CH0), DH5, ePA, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBuv/m)	Limit (dBuv/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4881.690	53.9	74.0	-20.1	Peak	32	102	Vertical
4881.869	36	54.0	-18	CISPR Avg	21	110	Horizontal
4882.131	55.0	74.0	-19.0	Peak	19	110	Horizontal
4882.262	34.9	54.0	-15.9	CISPR Avg	242	111	Vertical

Table 114 - 2441 MHz (CH39), DH5, ePA, Core 0 + Core 1, 30 MHz to 26 GHz

No other emissions found within 10 dB of the limit.

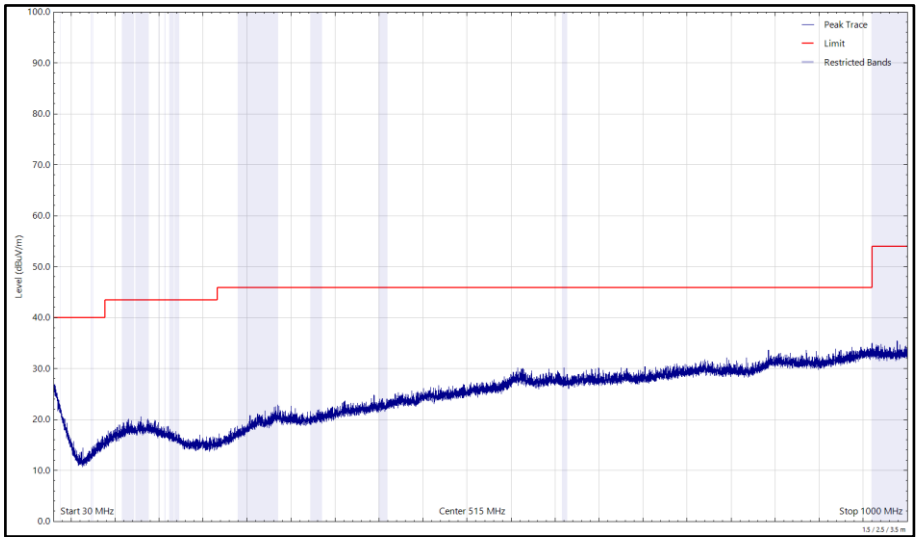

Figure 150 - 2441 MHz (CH39), DH5, ePA, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

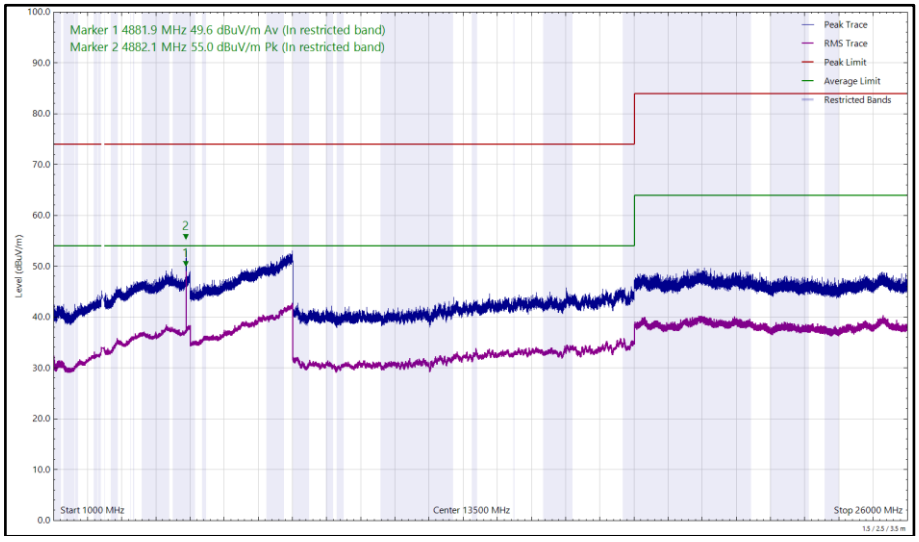

Figure 151 - 2441 MHz (CH39), DH5, ePA, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal

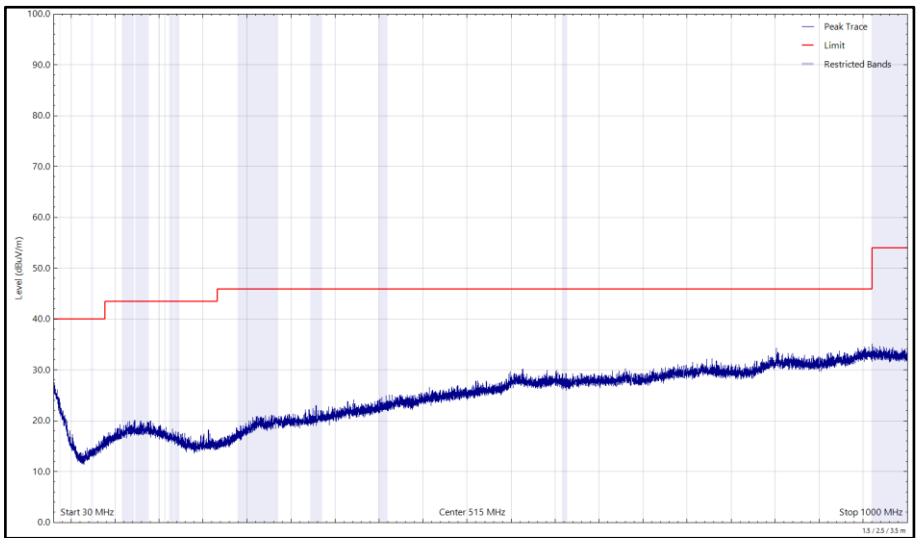

Figure 152 - 2441 MHz (CH39), DH5, ePA, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

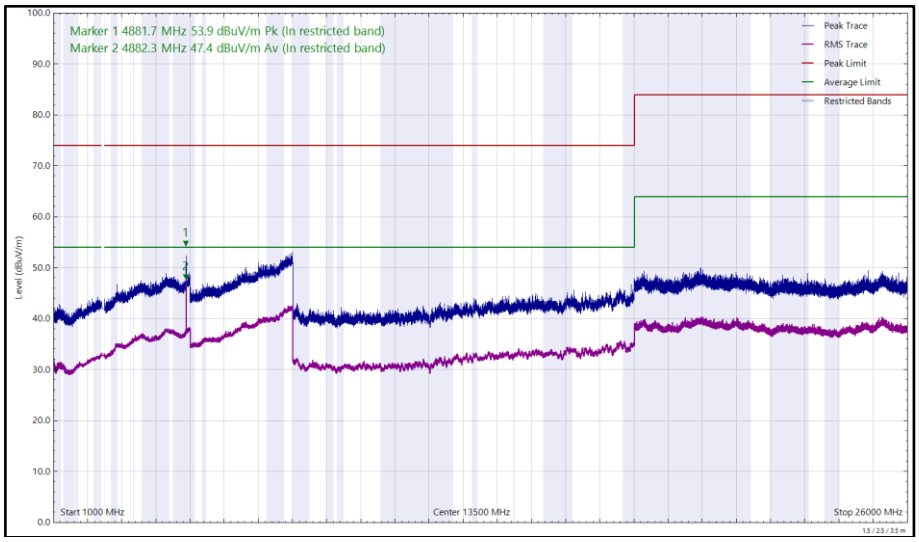

Figure 153 - 2441 MHz (CH39), DH5, ePA, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBuv/m)	Limit (dBuv/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
4959.765	36	54.0	-18	CISPR Avg	298	151	Horizontal
4959.828	53.1	74.0	-20.9	Peak	22	118	Vertical
4959.888	34.1	54.0	-19.9	CISPR Avg	251	122	Vertical
4960.417	55.0	74.0	-19.0	Peak	23	102	Horizontal

Table 115 - 2480 MHz (CH78), DH5, ePA, Core 0 + Core 1, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

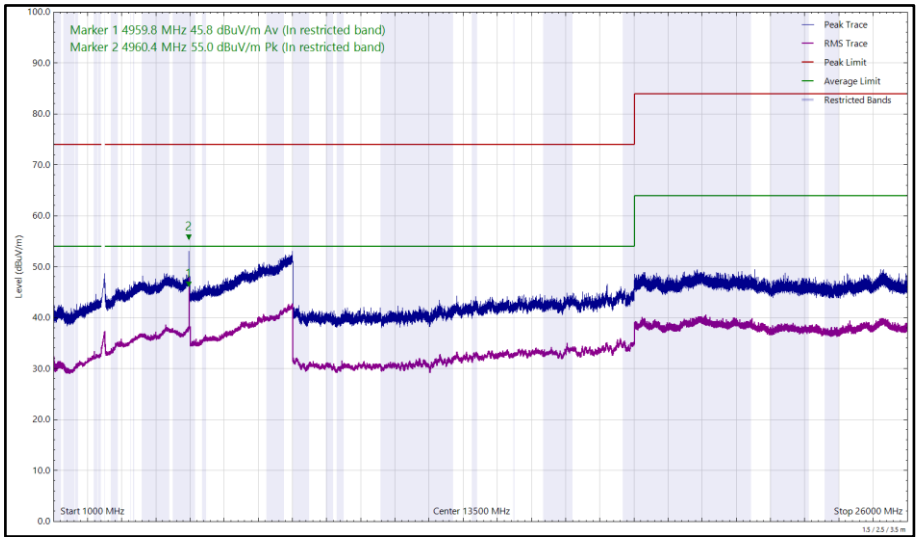

Figure 154 - 2480 MHz (CH78), DH5, ePA, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal

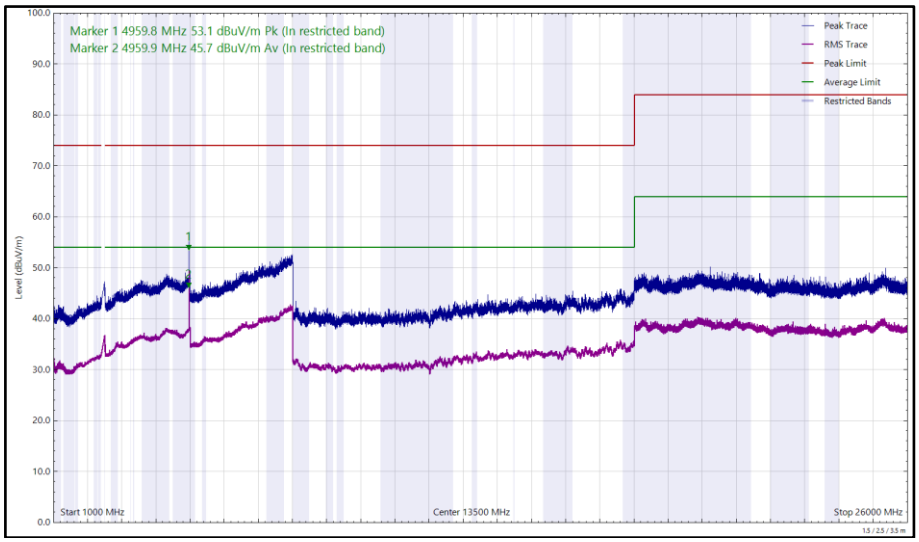

Figure 155 - 2480 MHz (CH78), DH5, ePA, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical

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

Table 116 - 2402 MHz (CH0), DH5, iPA, Core 2, 1 GHz to 26 GHz

*No emissions found within 10 dB of the limit.

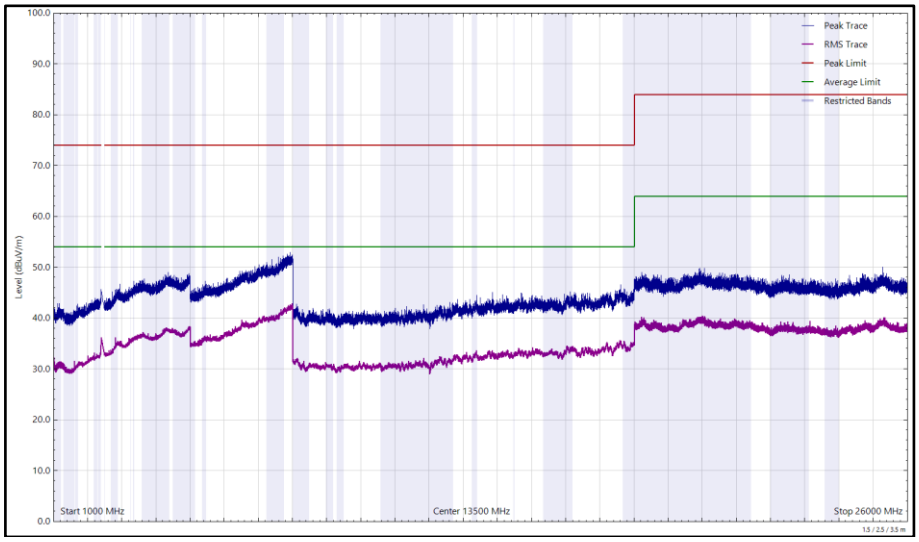

Figure 156 - 2402 MHz (CH0), DH5, iPA, Core 2, 1 GHz to 26 GHz, Horizontal

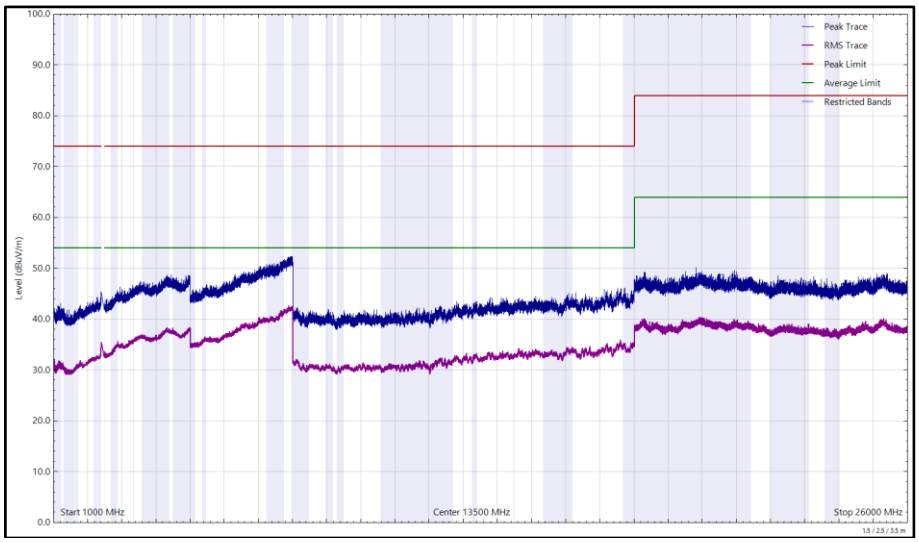

Figure 157 - 2402 MHz (CH0), DH5, iPA, Core 2, 1 GHz to 26 GHz, Vertical

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

Table 117 - 2441 MHz (CH39), DH5, iPA, Core 2, 30 MHz to 26 GHz

*No emissions found within 6 dB of the limit.

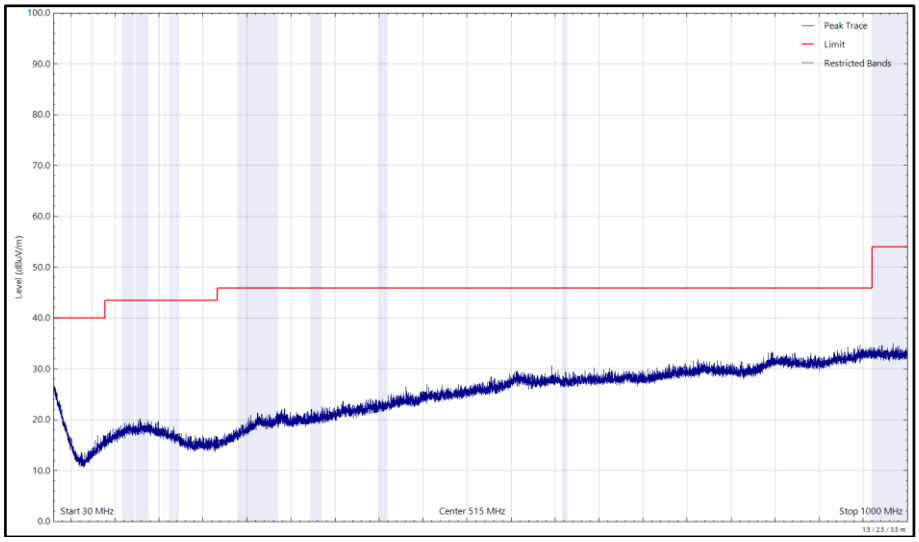

Figure 158 - 2441 MHz (CH39), DH5, iPA, Core 2, 30 MHz to 1 GHz, Horizontal (Peak)

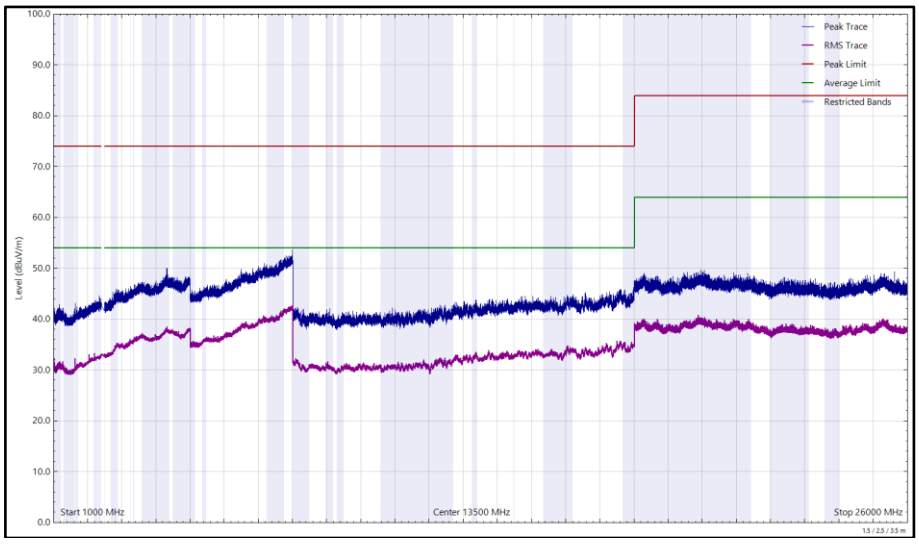

Figure 159 - 2441 MHz (CH39), DH5, iPA, Core 2, 1 GHz to 26 GHz, Horizontal

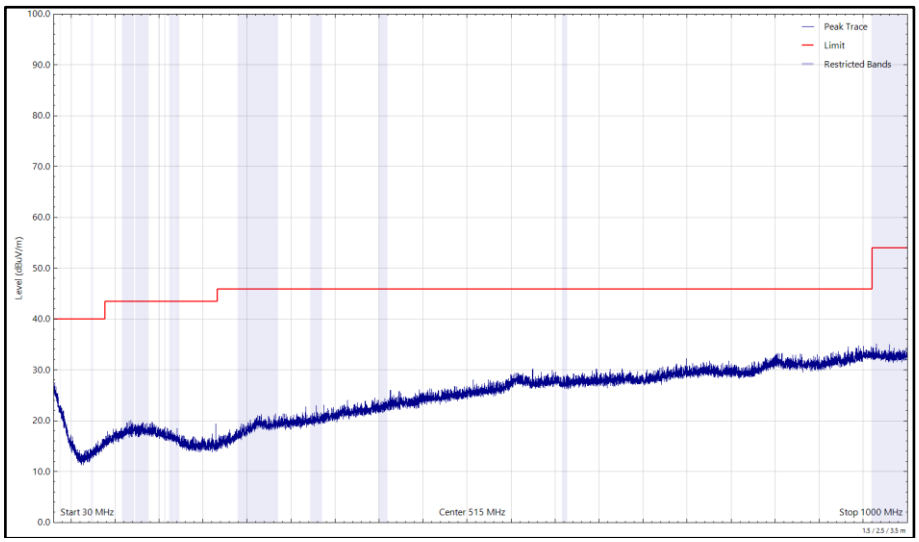

Figure 160 - 2441 MHz (CH39), DH5, iPA, Core 2, 30 MHz to 1 GHz, Vertical (Peak)

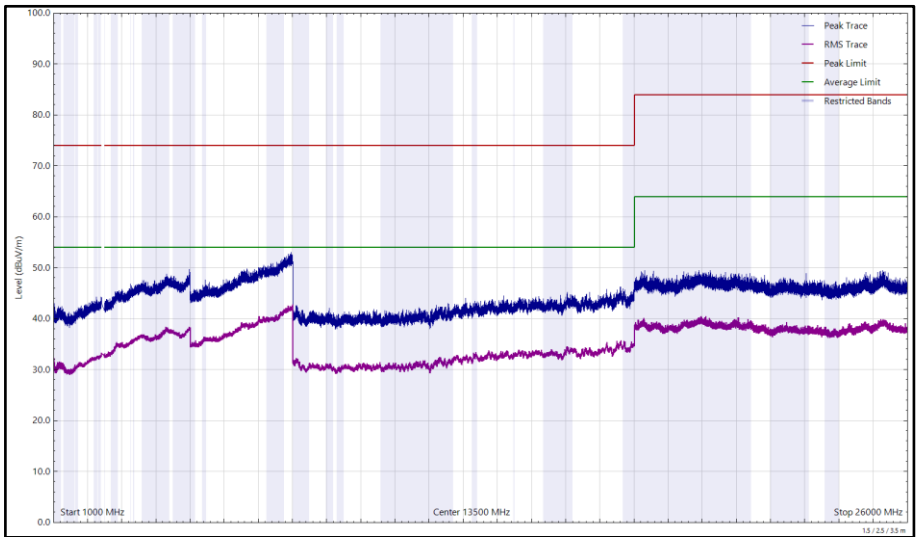

Figure 161 - 2441 MHz (CH39), DH5, iPA, Core 2, 1 GHz to 26 GHz, Vertical

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

Table 118 - 2480 MHz (CH78), DH5, iPA, Core 2, 1 GHz to 26 GHz

*No emissions found within 10 dB of the limit.

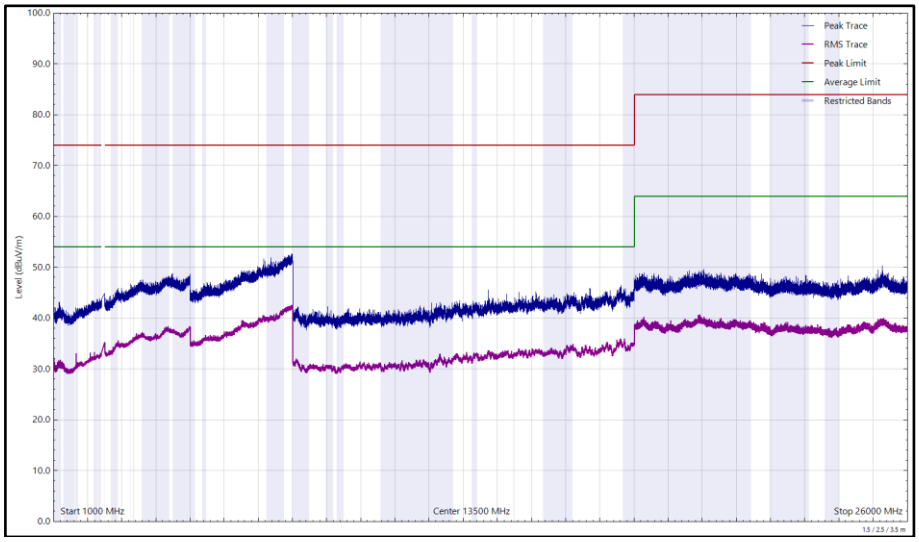

Figure 162 - 2480 MHz (CH78), DH5, iPA, Core 2, 1 GHz to 26 GHz, Horizontal

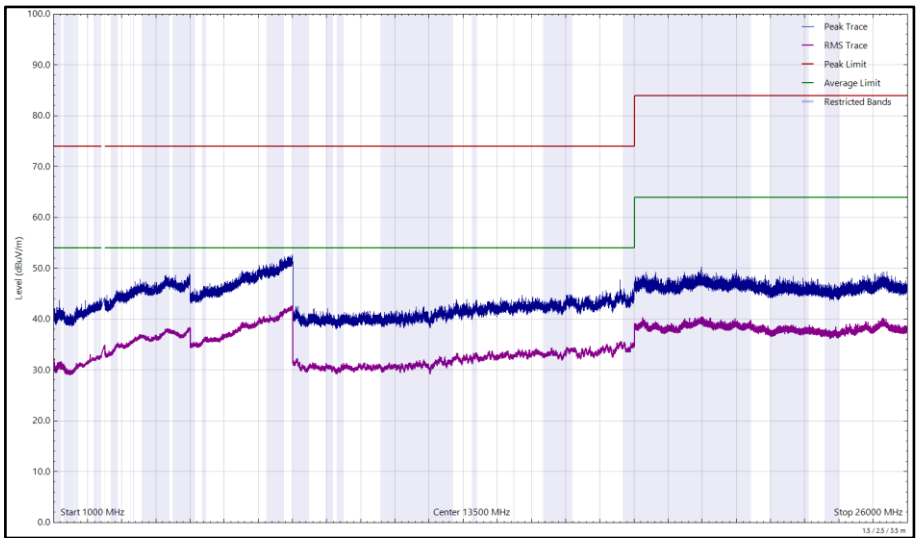

Figure 163 - 2480 MHz (CH78), DH5, iPA, Core 2, 1 GHz to 26 GHz, Vertical

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.

2.7.8 Test Location and Test Equipment Used

This test was carried out in EMC Chamber 5, RF Chamber 14 and RF Chamber 15.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Pre-Amplifier (18 GHz to 40 GHz)	Phase One	PSO4-0087	1534	12	19-Sep-2022
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
Emissions Software	TUV SUD	EmX V3.1.4 V.3.1.4	5125	-	Software
1m K-Type Cable	Junkosha	MWX241-01000KMSKMS/A	5512	12	14-Apr-2023
EMI Test Receiver	Rohde & Schwarz	ESW44	5527	12	28-Apr-2023
Thermo-Hygro-Barometer	PCE Instruments	PCE-THB 40	5604	12	22-Sep-2022
2m K-Type Cable	Junkosha	MWX241/B	5909	12	14-Apr-2023
EMI Test Receiver	Rohde & Schwarz	ESW44	5911	12	24-Feb-2023
EMI Test Receiver	Rohde & Schwarz	ESW44	5912	12	17-Feb-2023
Cable (K Type 2m)	Junkosha	MWX241-01000KMSKMS/B	5934	12	14-May-2023
Cable (K Type 2m)	Junkosha	MWX241-01000KMSKMS/B	5937	12	14-May-2023
DRG Horn Antenna (7.5-18GHz)	Schwarzbeck	HWRD750	5939	12	29-May-2023
DRG Horn Antenna (7.5-18GHz)	Schwarzbeck	HWRD750	5941	12	29-May-2023
TRILOG Super Broadband Test Antenna	Schwarzbeck	VULB 9168	5944	24	03-Feb-2024
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
Mast & Turntable Controller	Maturo Gmbh	FCU3.0	5960	-	TU
Tilt Antenna Mast	Maturo Gmbh	BAM4.5-P	5961	-	TU
Turntable	Maturo Gmbh	TT1.5SI	5962	-	TU
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
Turntable	Maturo Gmbh	TT1.5SI	5968	-	TU
Cable (SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	5996	12	06-Jun-2023

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Cable (sma to sma 1m)	Junkosha	MWX221-01000AMSAMS/A	5997	12	06-Jun-2023
Cable (N to N 1m)	Junkosha	MWX221-01000NMSNMS/B	5999	12	05-Jun-2023
Cable (SMA to SMA 4.5m)	Junkosha	MWX221-04500AMSAMS/A	6002	12	06-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 1m)	Junkosha	MWX221-01000AMSAMS/A	6008	12	06-Jun-2023
Cable (SMA to SMA 6.5m)	Junkosha	MWX221-06500AMSAMS/B	6014	12	07-Jun-2023
Cable (N to N 8m)	Junkosha	MWX221-08000NMSNMS/A	6017	12	05-Jun-2023
Horn Antenna (1-10 GHz)	Schwarzbeck	BBHA9120B	6140	12	21-Jun-2023
Horn Antenna (1-10 GHz)	Schwarzbeck	BBHA9120B	6141	12	21-Jun-2023
SAC Switch Unit	TUV SUD	SSU001	6144	12	07-Jul-2023
Digital Multimeter	Fluke	115	6146	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	6187	24	02-Jun-2024
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
Pre Amp 8 - 18 GHz	Wright Technologies	APS06 0061	6199	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
Cable (SMA to SMA 20cm)	TUV SUD	MH-FH 8-18	6215	12	25-Jul-2023

Table 119

TU - Traceability Unscheduled

2.8 Authorised Band Edges

2.8.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (d),
ISED RSS-247, Clause 5.5

2.8.2 Equipment Under Test and Modification State

A2843, S/N: YWL2C4T4WY - Modification State 0

2.8.3 Date of Test

24-May-2022

2.8.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 6.10.4.

2.8.5 Environmental Conditions

Ambient Temperature	20.1 °C
Relative Humidity	38.5 %

2.8.6 Test Results

2.4 GHz Bluetooth (FHSS)

iPA

Mode	Modulation	Core	Packet Type	Tx Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	GFSK	2	DH5	2402	2400.0	-42.46
Static	π/4 DQPSK	2	2DH5	2402	2400.0	-52.22
Static	8-DPSK	2	3DH5	2402	2400.0	-46.88
Hopping	GFSK	2	DH5	2402	2400.0	-64.26
Hopping	π/4 DQPSK	2	2DH5	2402	2400.0	-58.35
Hopping	8-DPSK	2	3DH5	2402	2400.0	-55.04

Table 120 - Authorised Band Edge Results

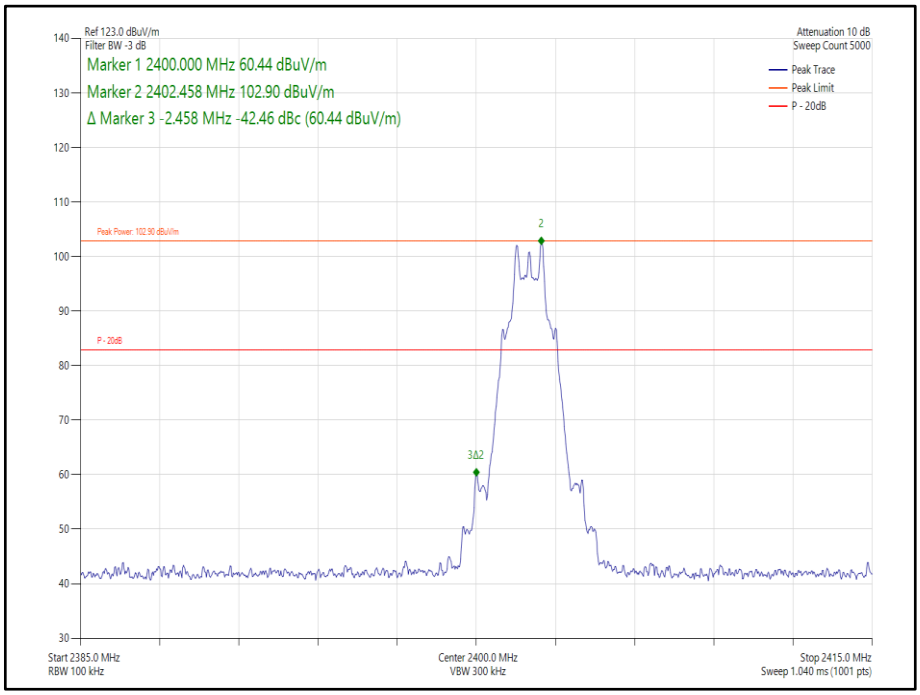

Figure 164 - Static - GFSK/DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

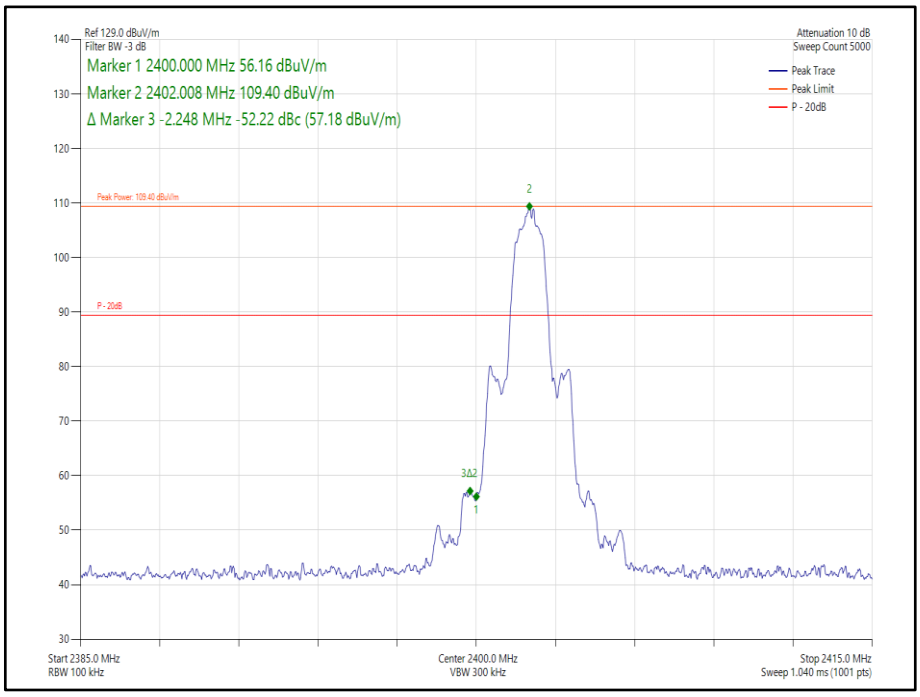

Figure 165 - Static - π/4 DQPSK/2DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

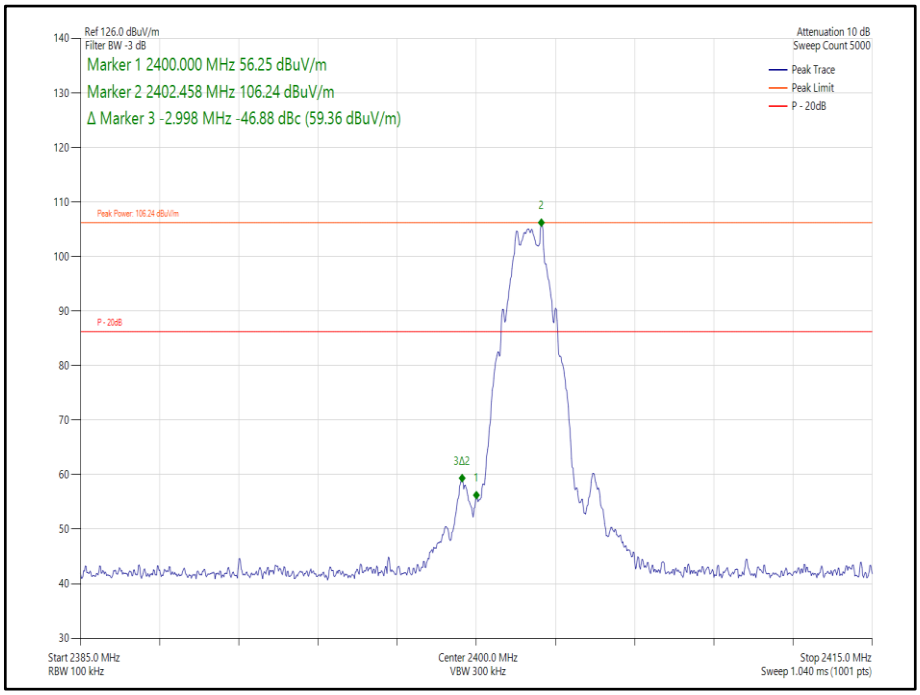

Figure 166 - Static - 8-DPSK/3DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

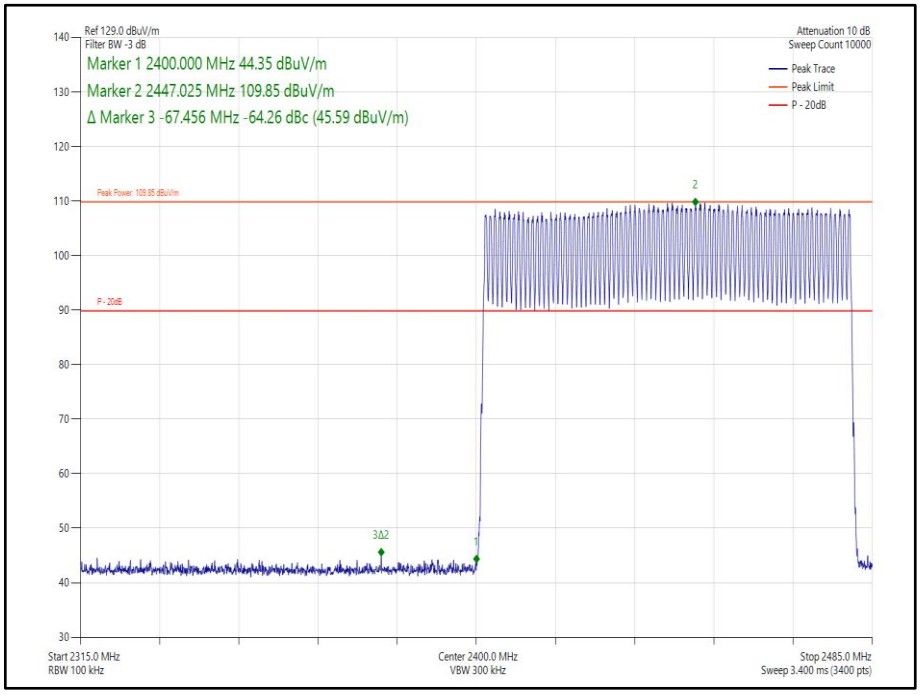

Figure 167 - Hopping - GFSK/DH5 - Band Edge Frequency 2400.0 MHz

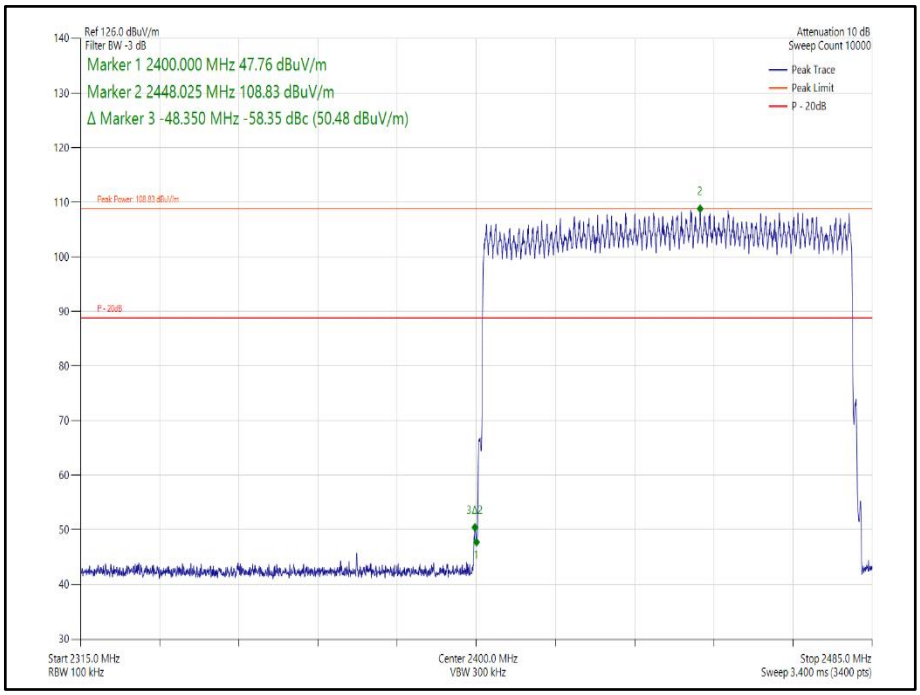

Figure 168 - Hopping - π/4 DQPSK/2DH5 - Band Edge Frequency 2400.0 MHz

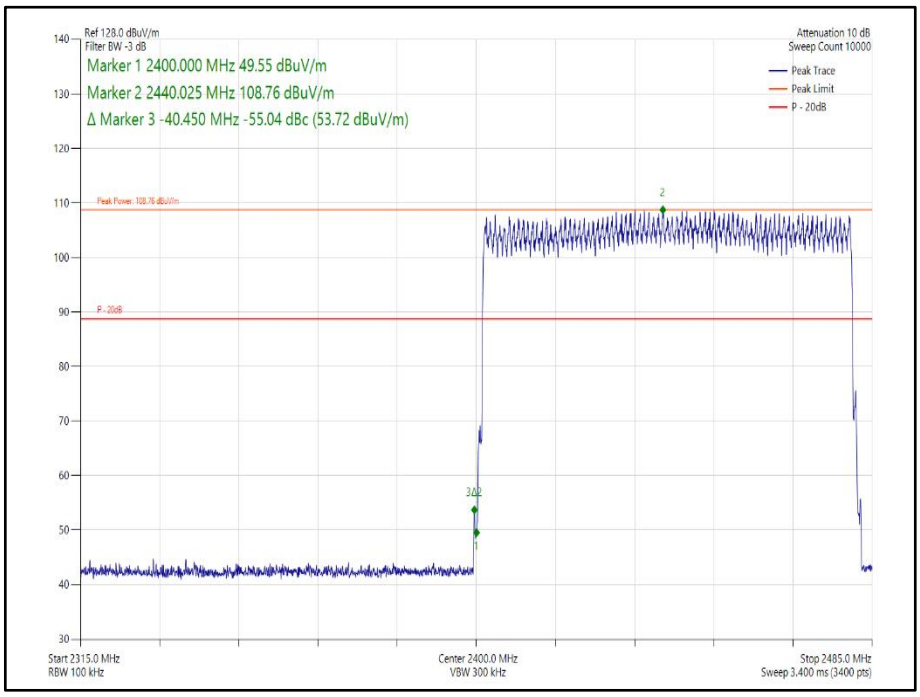

Figure 169 - Hopping - 8-DPSK/3DH5 - Band Edge Frequency 2400.0 MHz

2.4 GHz Bluetooth (FHSS)

iPA

Mode	Modulation	Core	Packet Type	Tx Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	GFSK	1	DH5	2402	2400.0	-58.78
Static	π/4 DQPSK	1	2DH5	2402	2400.0	-58.05
Static	8-DPSK	1	3DH5	2402	2400.0	-56.96
Hopping	GFSK	1	DH5	2402	2400.0	-61.43
Hopping	π/4 DQPSK	1	2DH5	2402	2400.0	-58.39
Hopping	8-DPSK	1	3DH5	2402	2400.0	-59.94

Table 121 - Authorised Band Edge Results

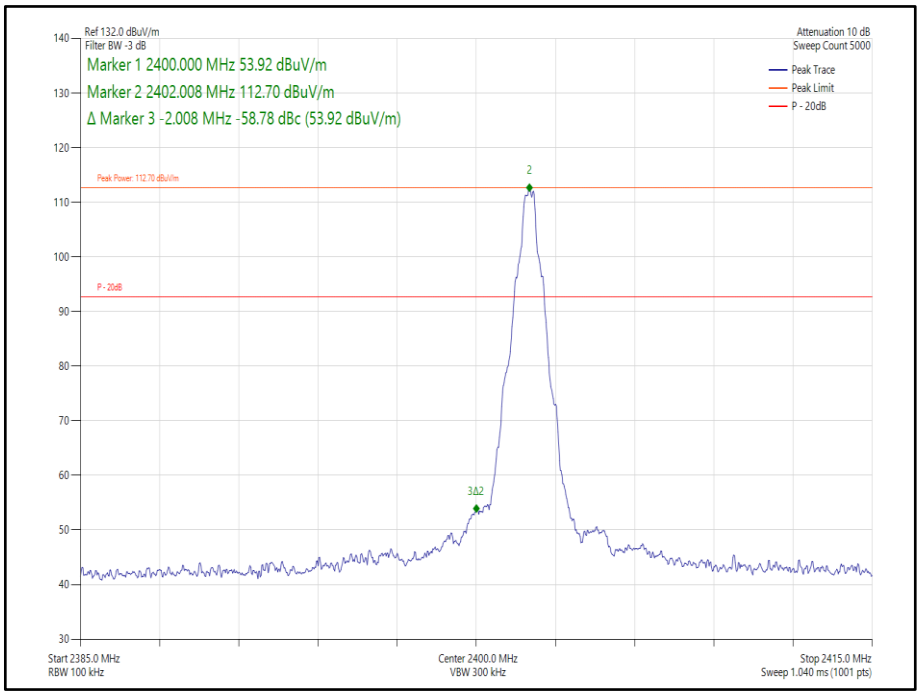

Figure 170 - Static - GFSK/DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

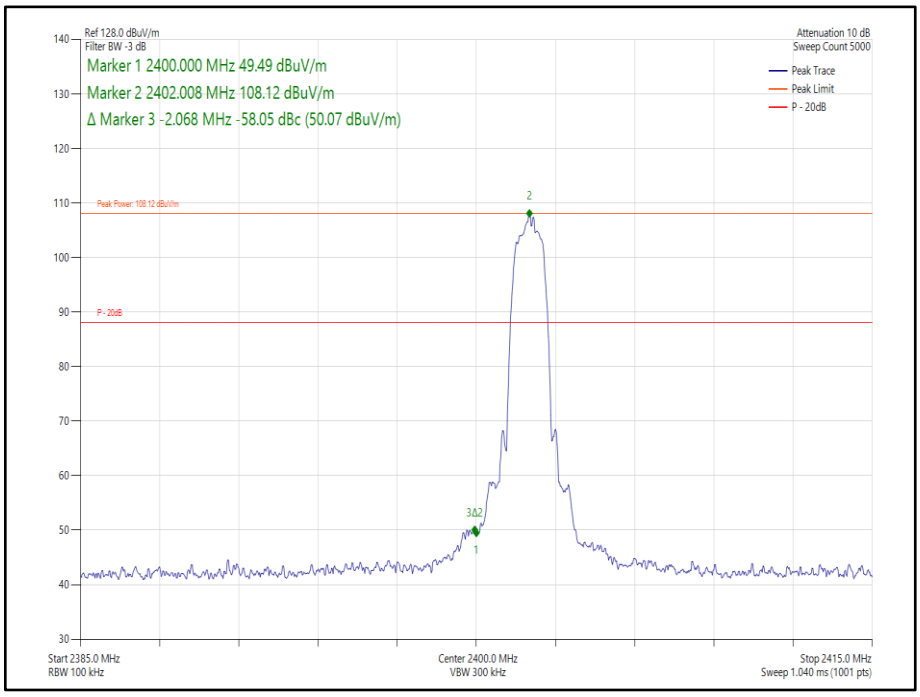

Figure 171 - Static - π/4 DQPSK/2DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

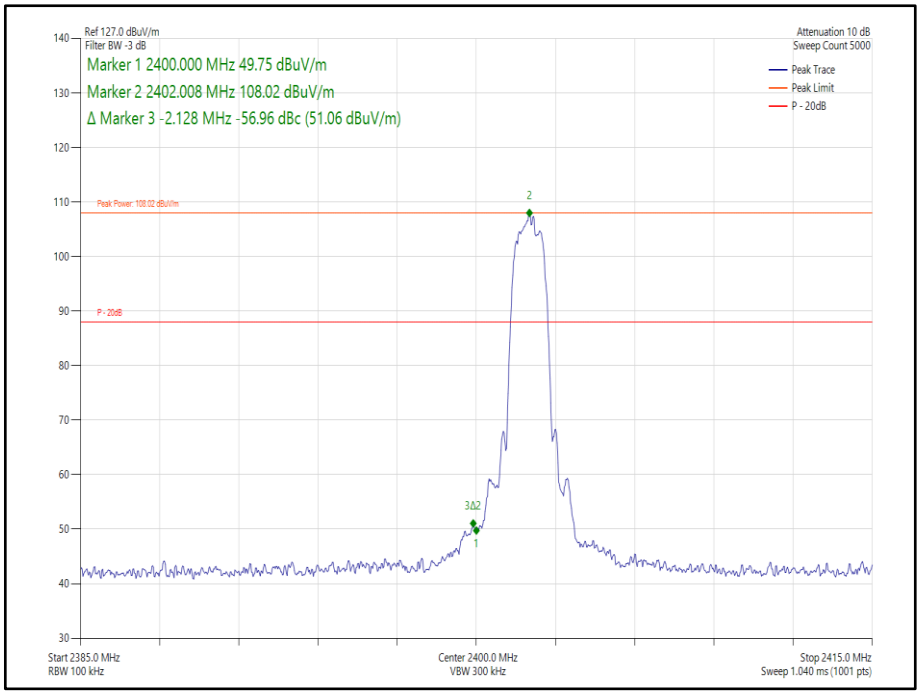

Figure 172 - Static - 8-DPSK/3DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

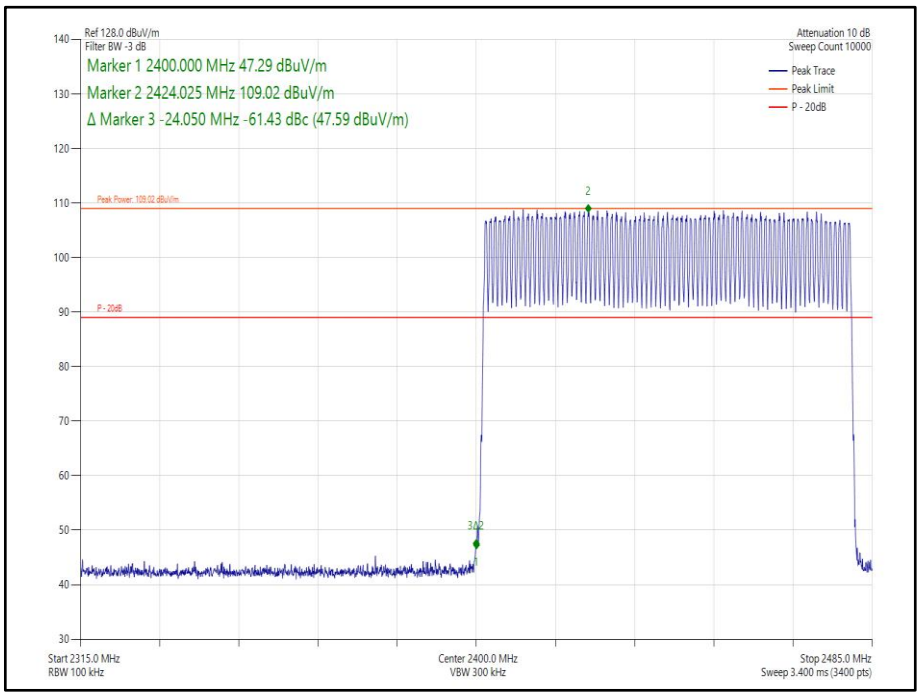

Figure 173 - Hopping - GFSK/DH5 - Band Edge Frequency 2400.0 MHz

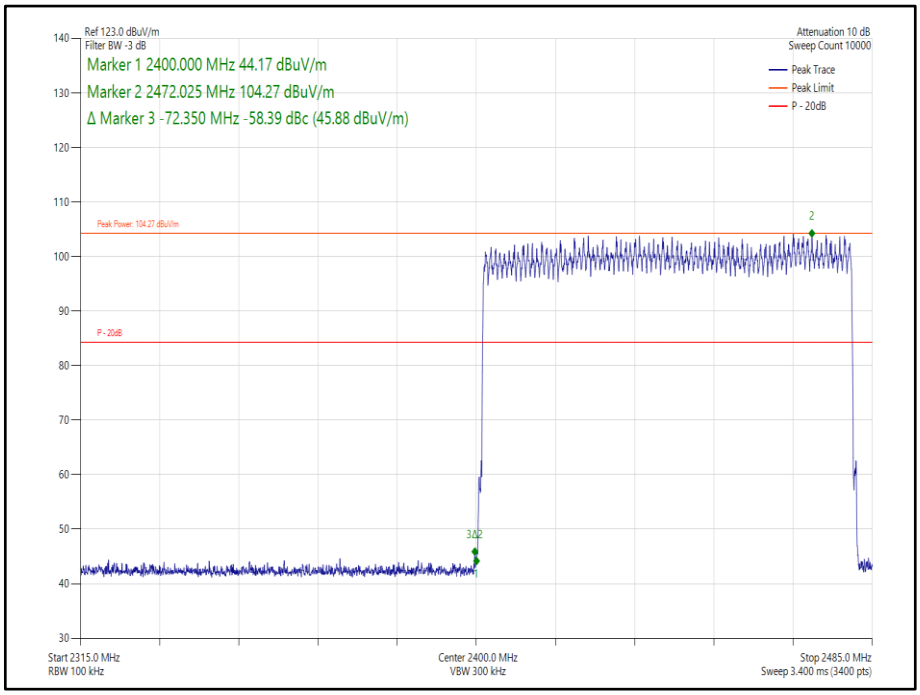

Figure 174 - Hopping - π/4 DQPSK/2DH5 - Band Edge Frequency 2400.0 MHz

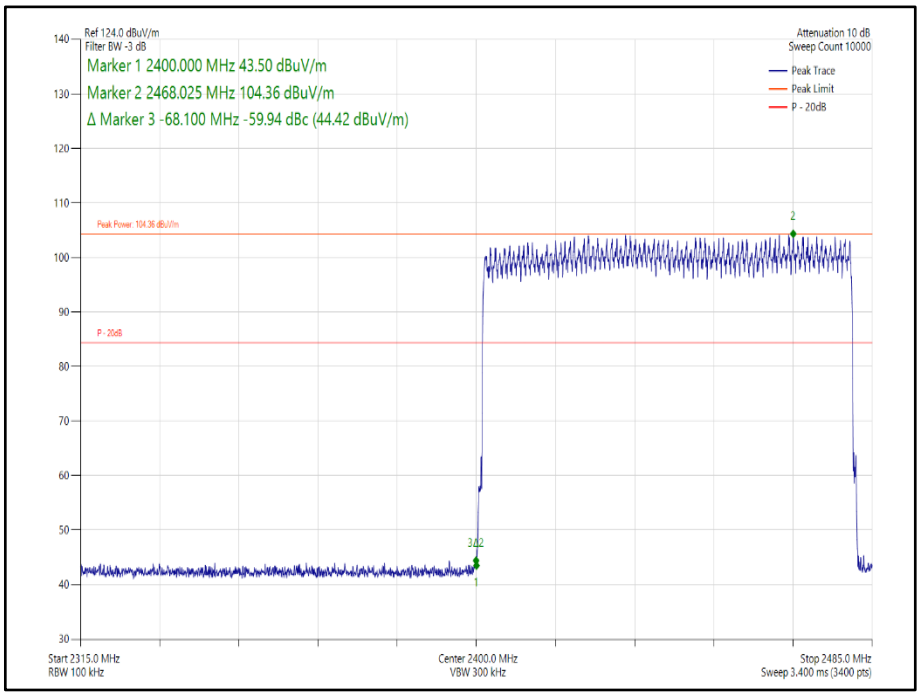

Figure 175 - Hopping - 8-DPSK/3DH5 - Band Edge Frequency 2400.0 MHz

2.4 GHz Bluetooth (FHSS)

ePA

Mode	Modulation	Core	Packet Type	Tx Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	GFSK	1	DH5	2402	2400.0	-60.14
Static	π/4 DQPSK	1	2DH5	2402	2400.0	-56.32
Static	8-DPSK	1	3DH5	2402	2400.0	-57.24
Hopping	GFSK	1	DH5	2402	2400.0	-61.67
Hopping	π/4 DQPSK	1	2DH5	2402	2400.0	-60.21
Hopping	8-DPSK	1	3DH5	2402	2400.0	-61.32

Table 122 - Authorised Band Edge Results

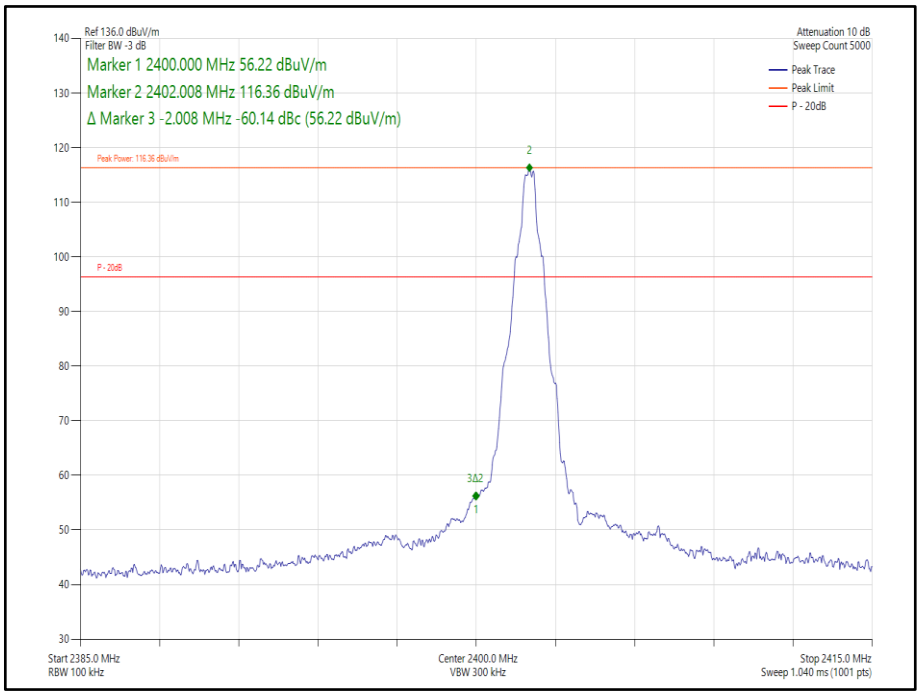

Figure 176 - Static - GFSK/DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

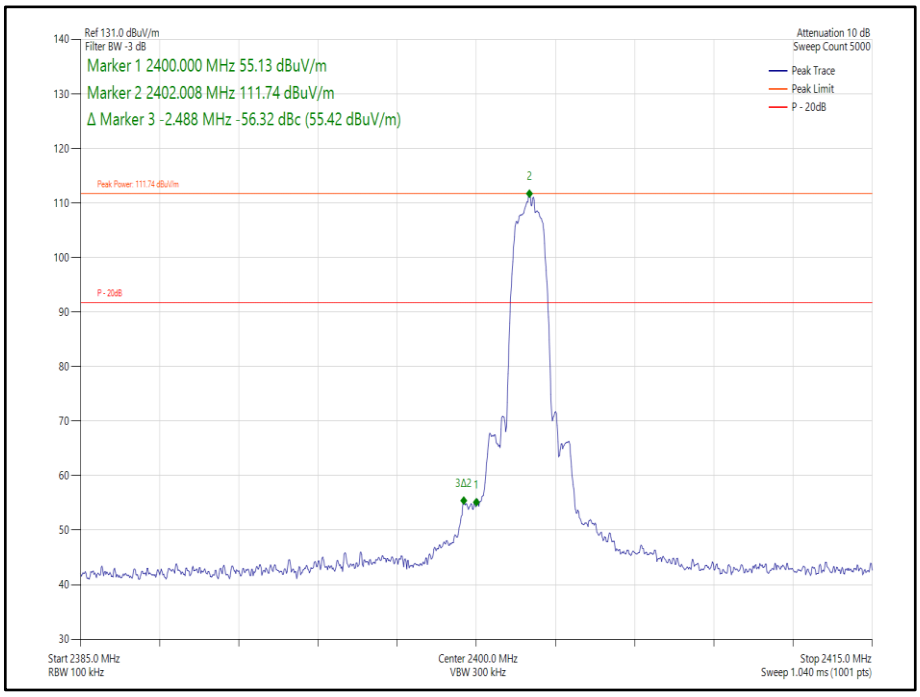

Figure 177 - Static - π/4 DQPSK/2DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

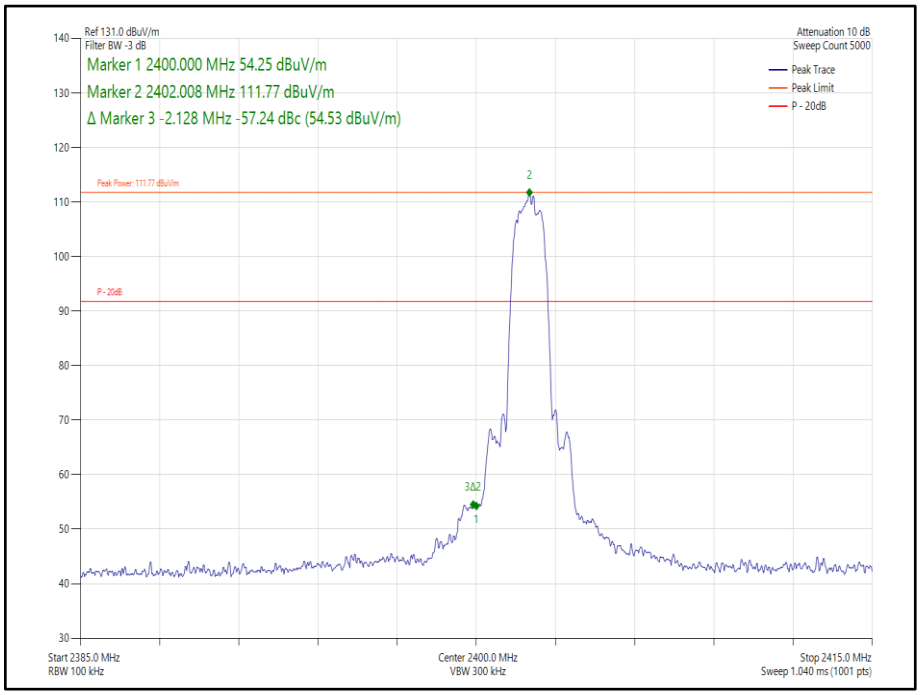

Figure 178 - Static - 8-DPSK/3DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

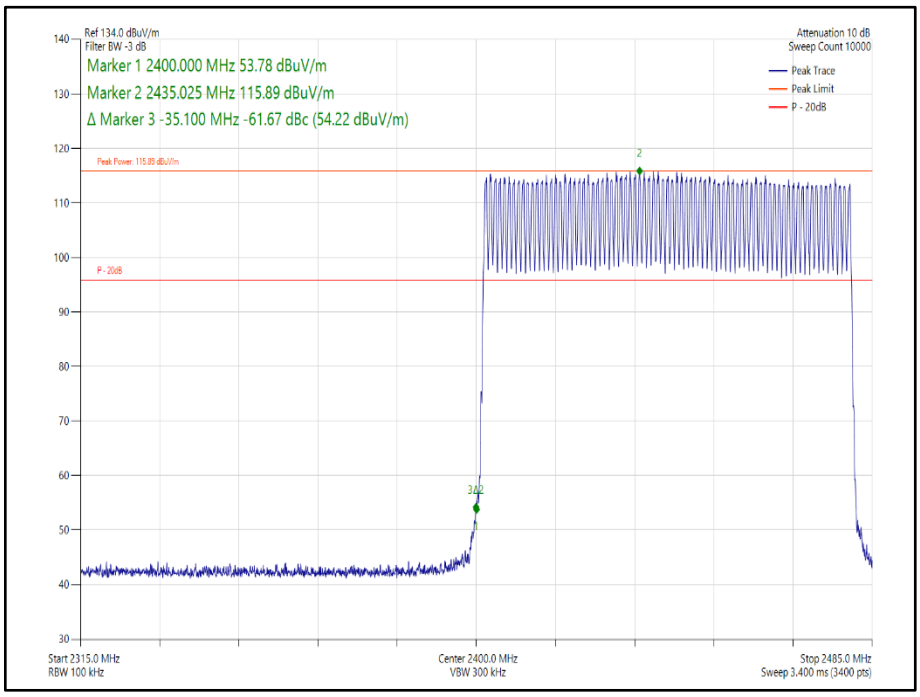

Figure 179 - Hopping - GFSK/DH5 - Band Edge Frequency 2400.0 MHz

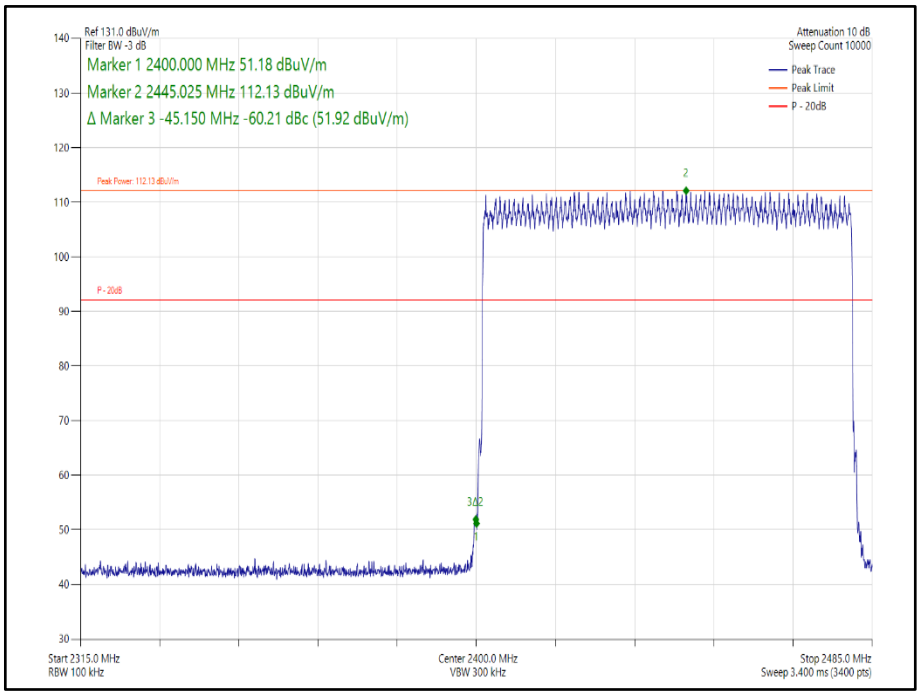

Figure 180 - Hopping - π/4 DQPSK/2DH5 - Band Edge Frequency 2400.0 MHz

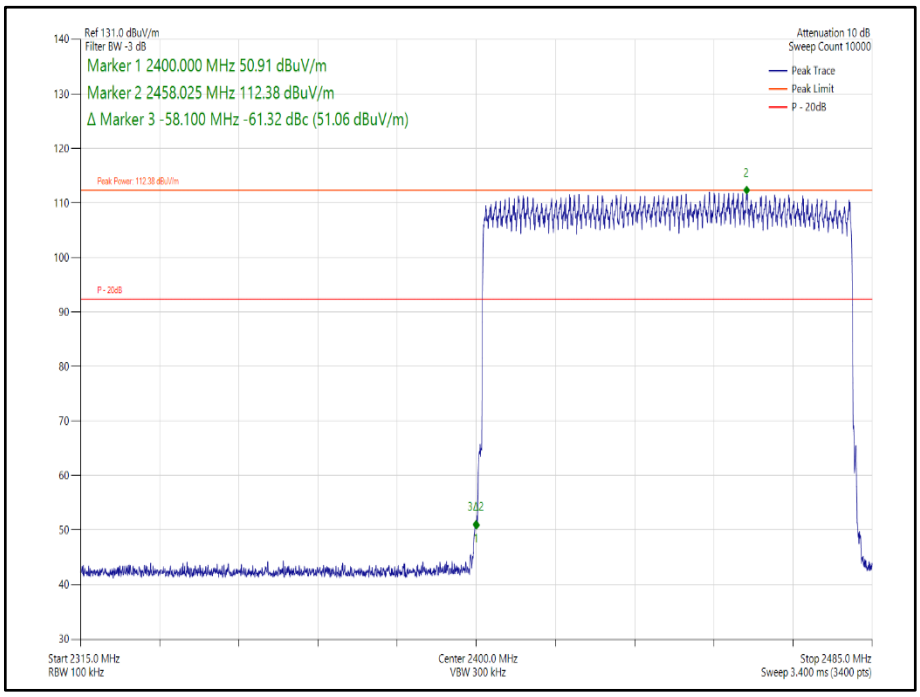

Figure 181 - Hopping - 8-DPSK/3DH5 - Band Edge Frequency 2400.0 MHz

2.4 GHz Bluetooth (FHSS)

iPA

Mode	Modulation	Core	Packet Type	Tx Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	GFSK	0-1	DH5	2402	2400.0	-64.06
Static	π/4 DQPSK	0-1	2DH5	2402	2400.0	-54.86
Static	8-DPSK	0-1	3DH5	2402	2400.0	-55.16
Hopping	GFSK	0-1	DH5	2402	2400.0	-66.20
Hopping	π/4 DQPSK	0-1	2DH5	2402	2400.0	-61.35
Hopping	8-DPSK	0-1	3DH5	2402	2400.0	-60.03

Table 123 - Authorised Band Edge Results

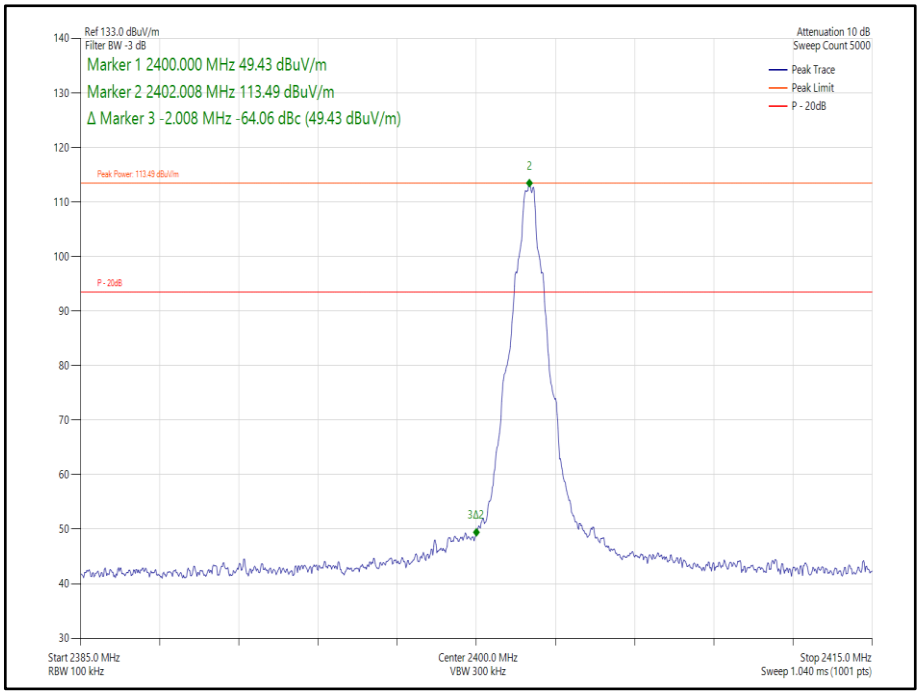

Figure 182 - Static - GFSK/DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

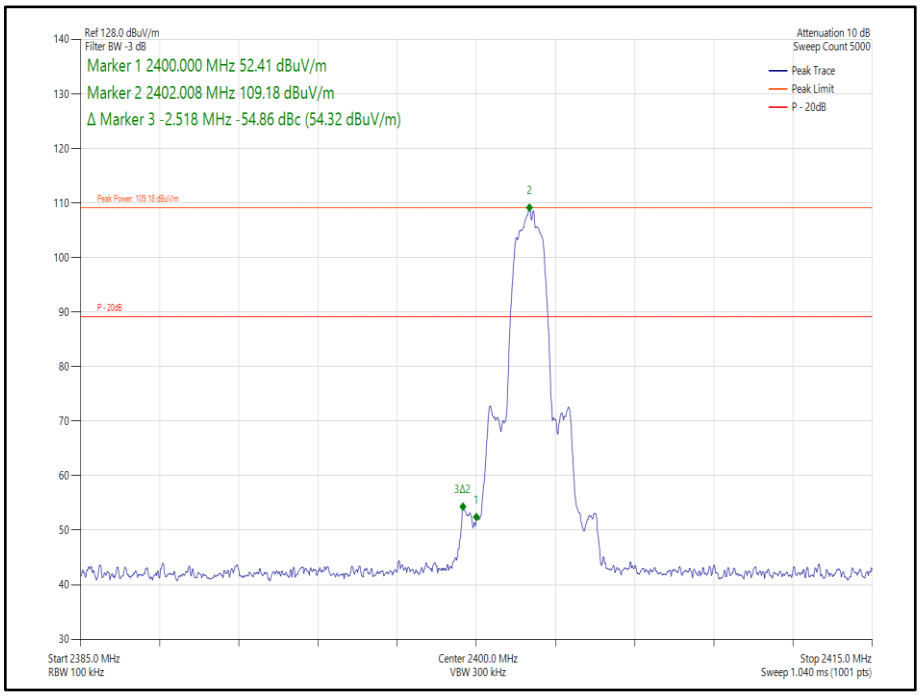

Figure 183 - Static - π/4 DQPSK/2DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

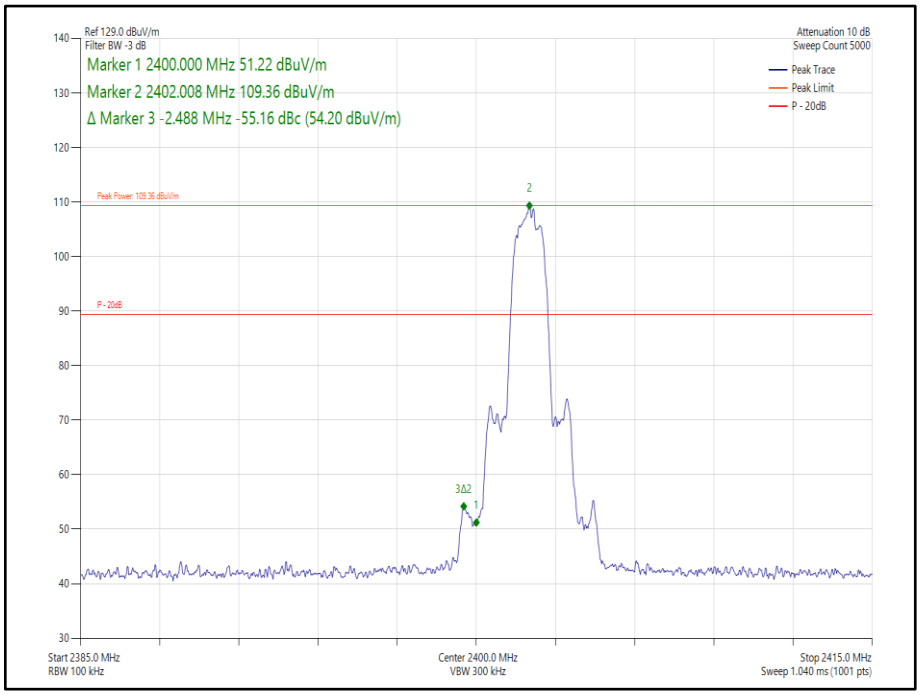

Figure 184 - Static - 8-DPSK/3DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

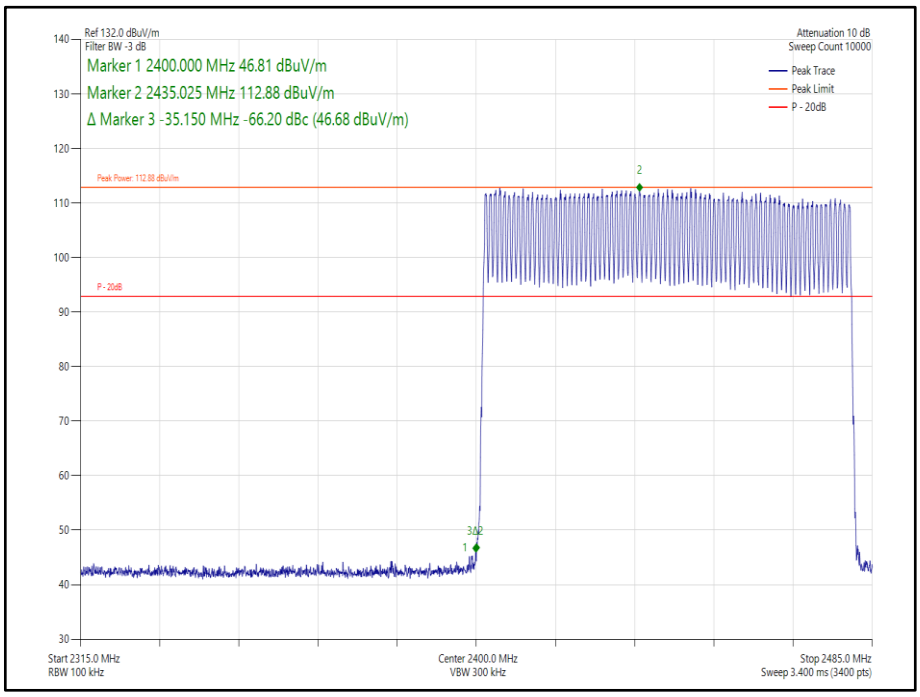

Figure 185 - Hopping - GFSK/DH5 - Band Edge Frequency 2400.0 MHz

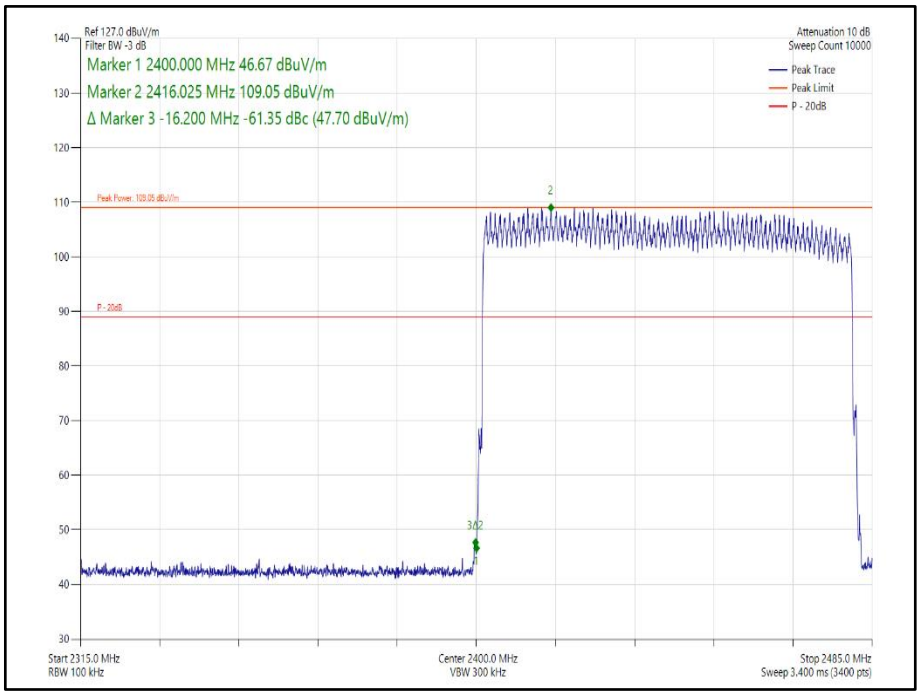

Figure 186 - Hopping - π/4 DQPSK/2DH5 - Band Edge Frequency 2400.0 MHz

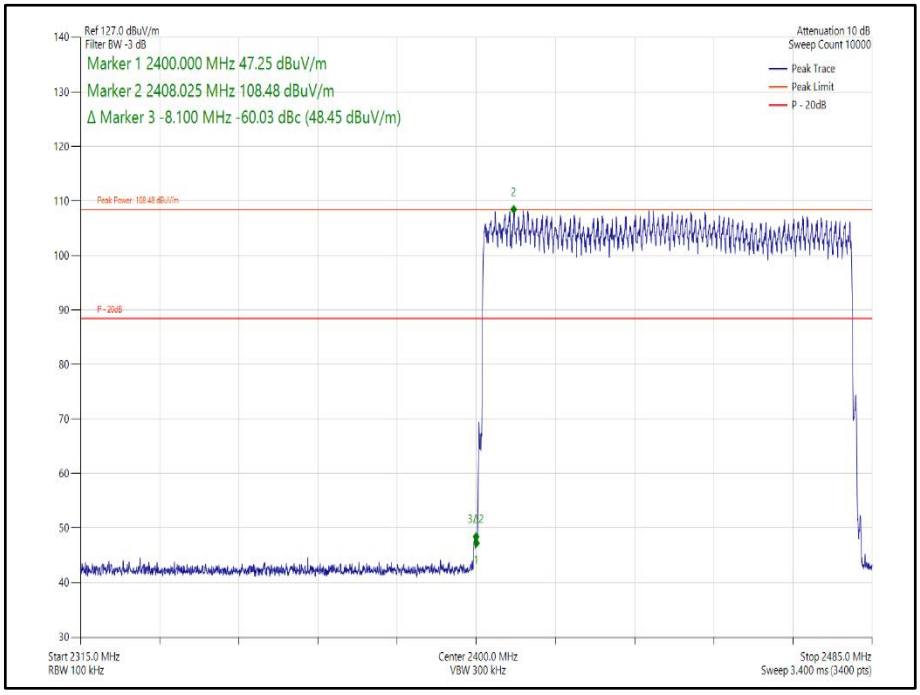

Figure 187 - Hopping - 8-DPSK/3DH5 - Band Edge Frequency 2400.0 MHz

2.4 GHz Bluetooth (FHSS)

ePA

Mode	Modulation	Core	Packet Type	Tx Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	GFSK	0-1	DH5	2402	2400.0	-65.18
Static	π/4 DQPSK	0-1	2DH5	2402	2400.0	-59.46
Static	8-DPSK	0-1	3DH5	2402	2400.0	-60.89
Hopping	GFSK	0-1	DH5	2402	2400.0	-64.19
Hopping	π/4 DQPSK	0-1	2DH5	2402	2400.0	-61.14
Hopping	8-DPSK	0-1	3DH5	2402	2400.0	-61.09

Table 124 - Authorised Band Edge Results

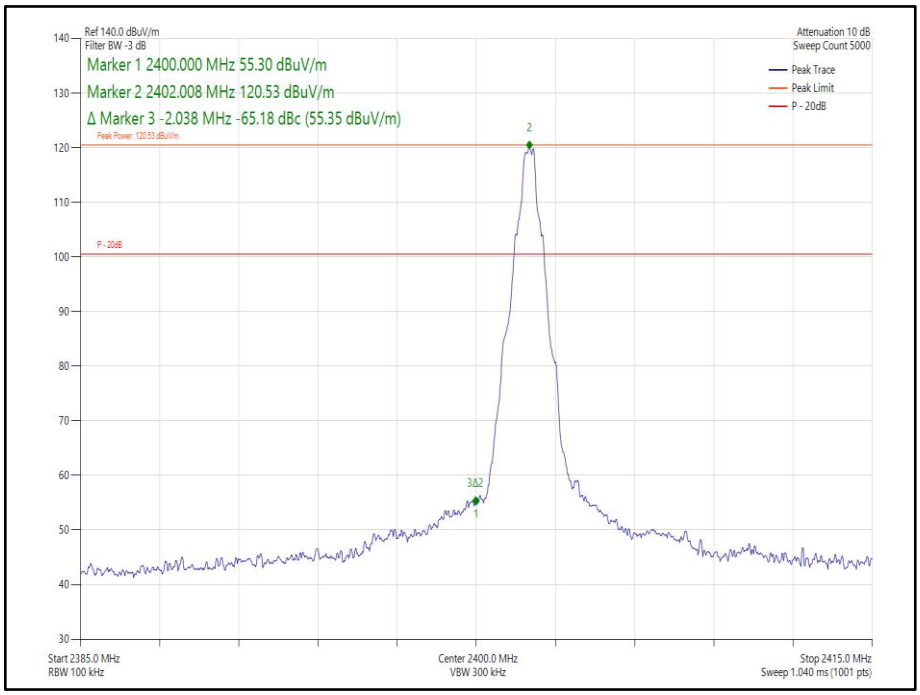

Figure 188 - Static - GFSK/DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

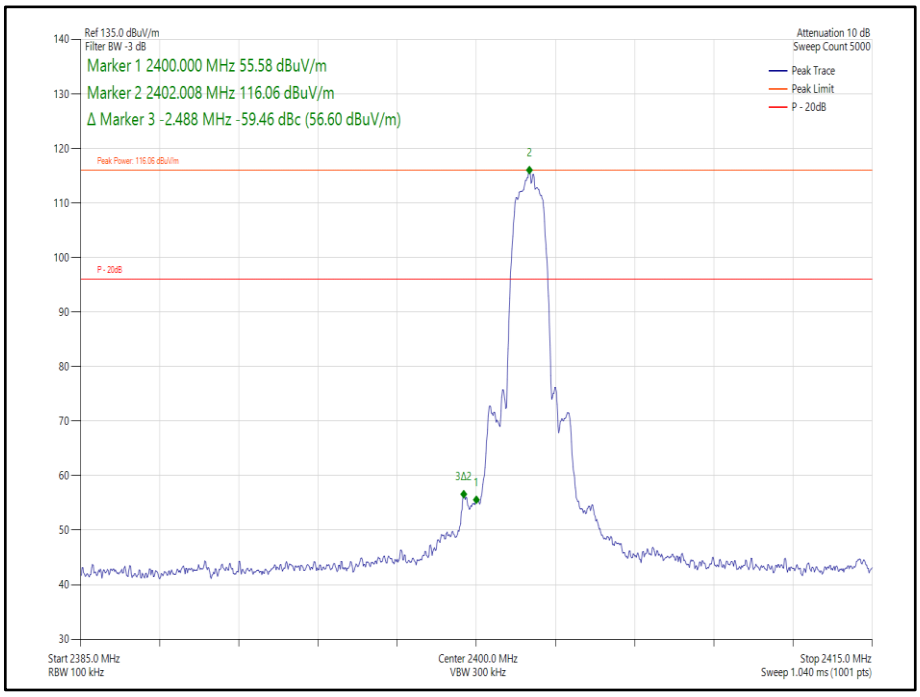

Figure 189 - Static - π/4 DQPSK/2DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

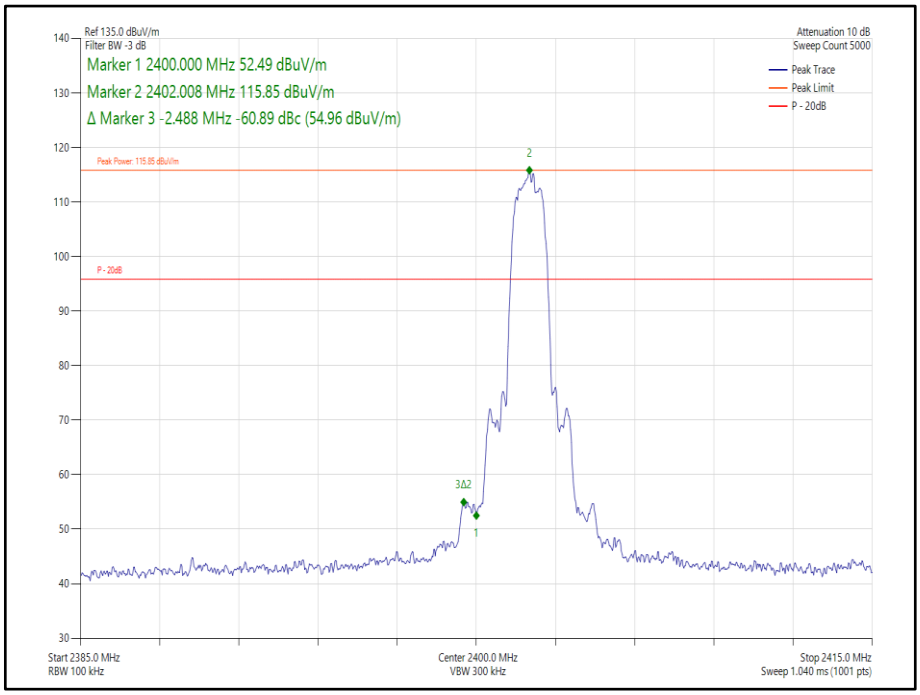

Figure 190 - Static - 8-DPSK/3DH5 - 2402 MHz - Band Edge Frequency 2400.0 MHz

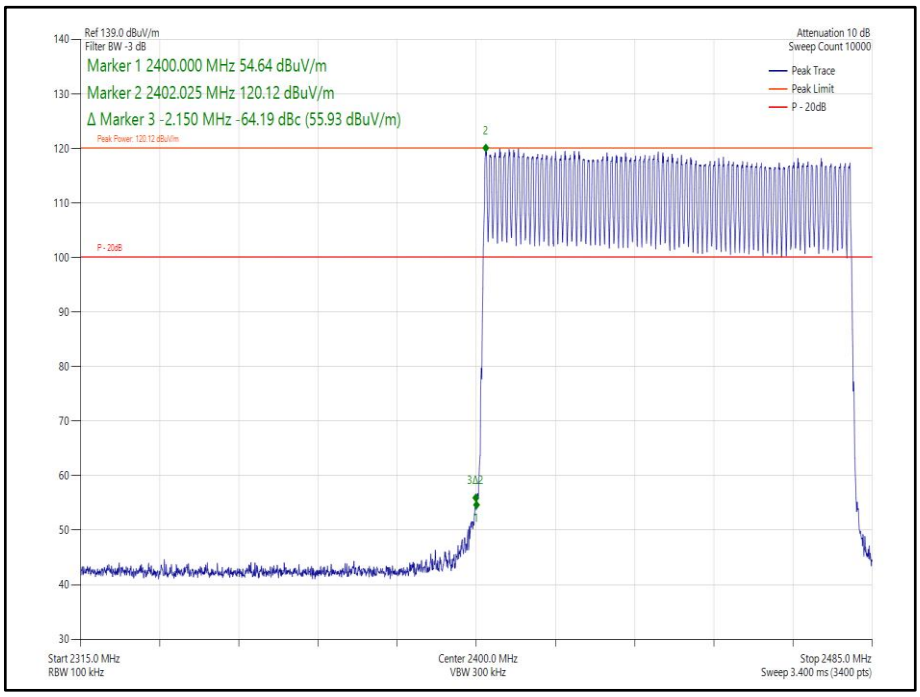

Figure 191 - Hopping - GFSK/DH5 - Band Edge Frequency 2400.0 MHz

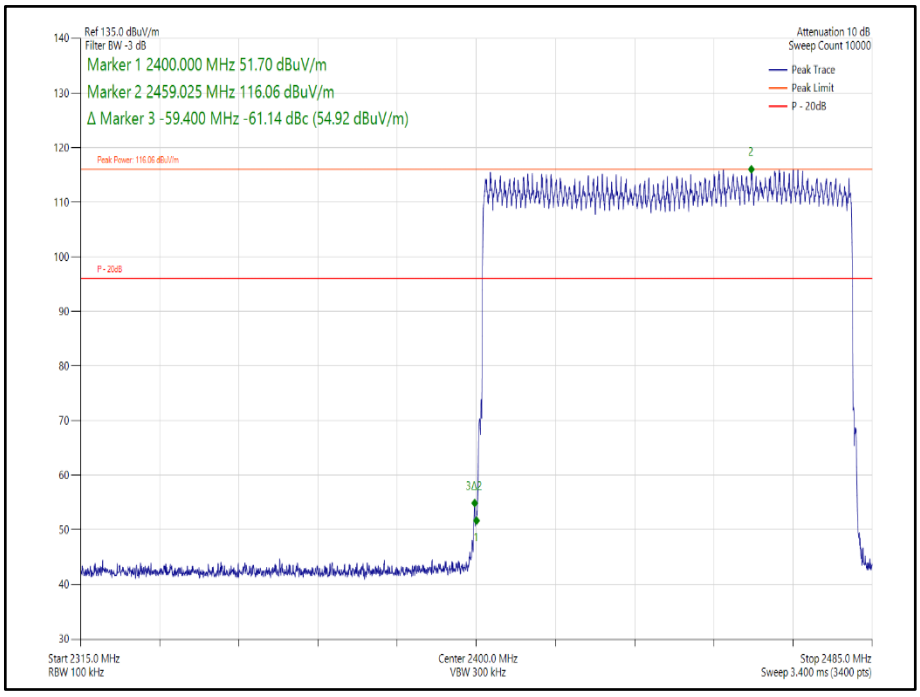

Figure 192 - Hopping - π/4 DQPSK/2DH5 - Band Edge Frequency 2400.0 MHz

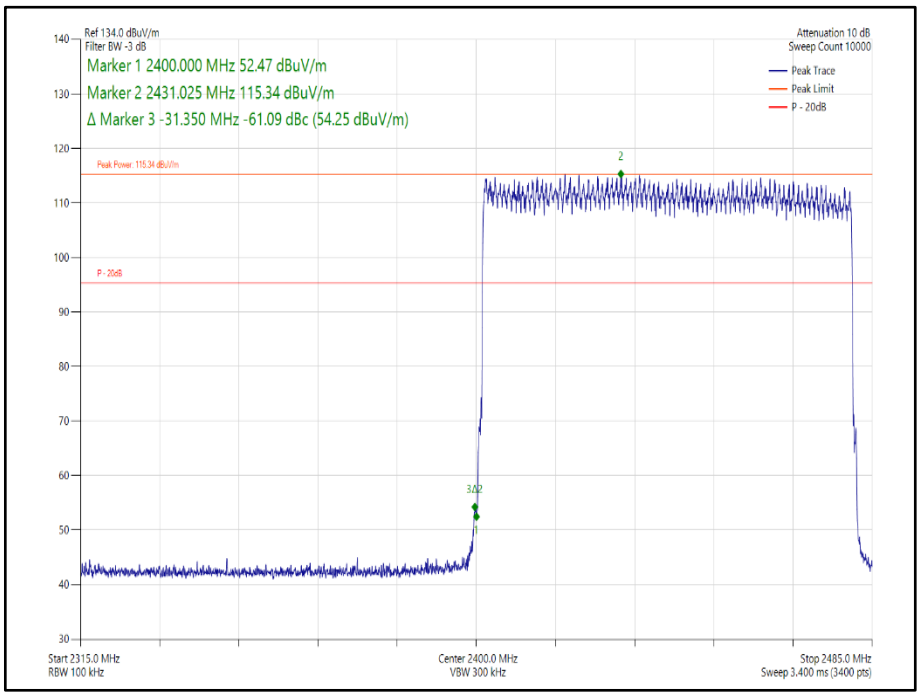

Figure 193 - Hopping - 8-DPSK/3DH5 - Band Edge Frequency 2400.0 MHz

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

20 dB below the fundamental measured in a 100 kHz bandwidth using a peak detector. If the transmitter complies with the conducted power limits, based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB below the fundamental instead of 20 dB.

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.

2.8.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 11.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Antenna (DRG 1-10.5GHz)	Schwarzbeck	BBHA9120B	4848	12	28-May-2022
EMI Test Receiver	Rohde & Schwarz	ESW44	5084	12	17-May-2023
Emissions Software	TUV SUD	EmX V3.1.4 V.3.1.4	5125	-	Software
Screened Room (11)	Rainford	Rainford	5136	36	24-Nov-2024
Mast	Maturo	TAM 4.0-P	5158	-	TU
Mast and Turntable Controller	Maturo	Maturo NCD	5159	-	TU
Turntable	Maturo	TT 15WF	5160	-	TU
Antenna (DRG 1-10.5GHz)	Schwarzbeck	BBHA9120B	5215	12	28-May-2022
2m SMA Cable	Junkosha	MWX221-02000AMSAMS/A	5518	12	12-Apr-2023
Cable (N-Type to N-Type, 8 m)	Junkosha	MWX221-08000NMSNMS/B	5520	12	24-Mar-2023
8m N Type Cable	Junkosha	MWX221-08000NMSNMS/B	5522	12	24-Mar-2023
Thermo-Hygro-Barometer	PCE Instruments	PCE-THB 40	5604	12	22-Sep-2022

Table 125

TU - Traceability Unscheduled

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
Frequency Hopping Systems - Average Time of Occupancy	-
Frequency Hopping Systems - Channel Separation	± 42.31 kHz
Frequency Hopping Systems - Number of Hopping Channels	-
Spurious Radiated Emissions	30 MHz to 1 GHz: ± 5.2 dB 1 GHz to 40 GHz: ± 6.3 dB
Frequency Hopping Systems - 20 dB Bandwidth	± 45.99 kHz
Maximum Conducted Output Power	± 3.2 dB
Authorised Band Edges	30 MHz to 1 GHz: ± 5.2 dB 1 GHz to 40 GHz: ± 6.3 dB

Table 126

Measurement Uncertainty Decision Rule – Accuracy Method

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115:2007, Clause 4.4.3 and 4.5.1. (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.