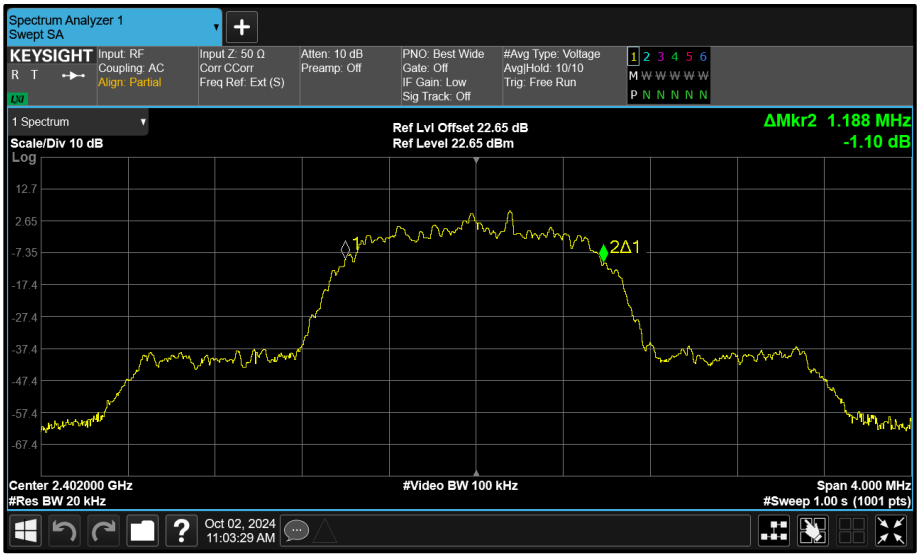

Figure 148 - Core 2 (A) 2402 MHz (CH0) 99% Bandwidth

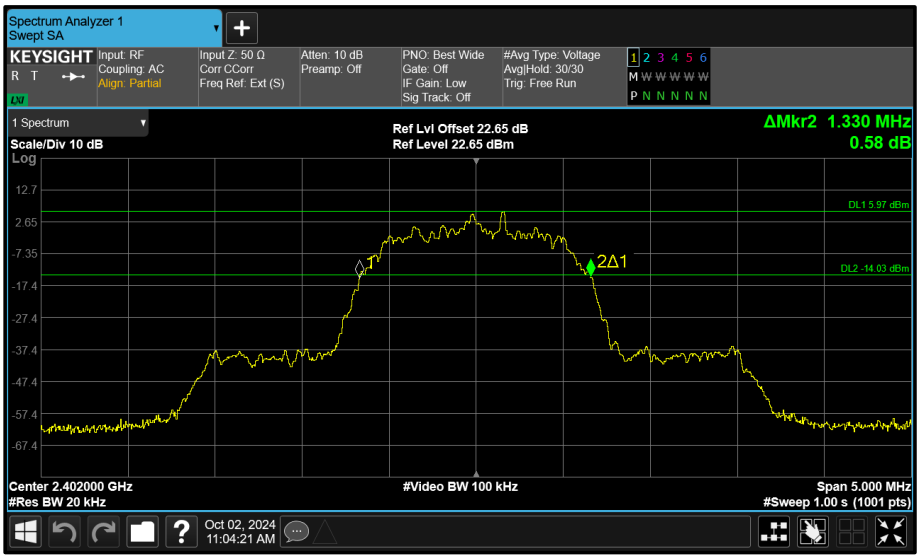

Figure 149 - Core 2 (A) 2402 MHz (CH0) 20 dB Bandwidth

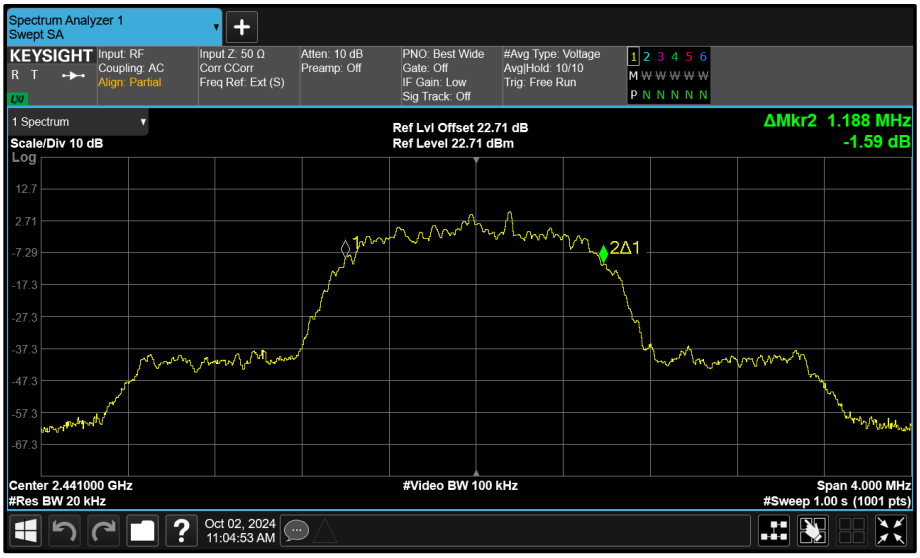

Figure 150 - Core 2 (A) 2441 MHz (CH39) 99% Bandwidth

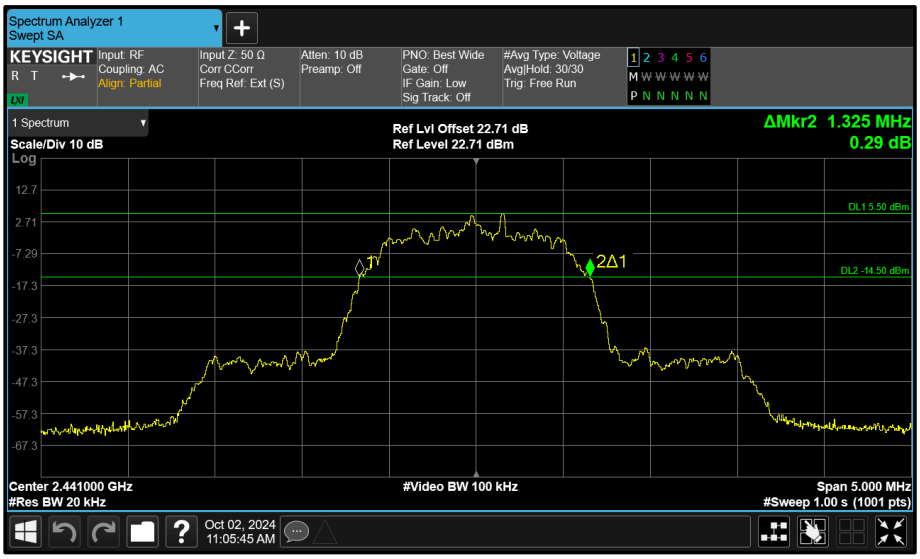

Figure 151 - Core 2 (A) 2441 MHz (CH39) 20 dB Bandwidth

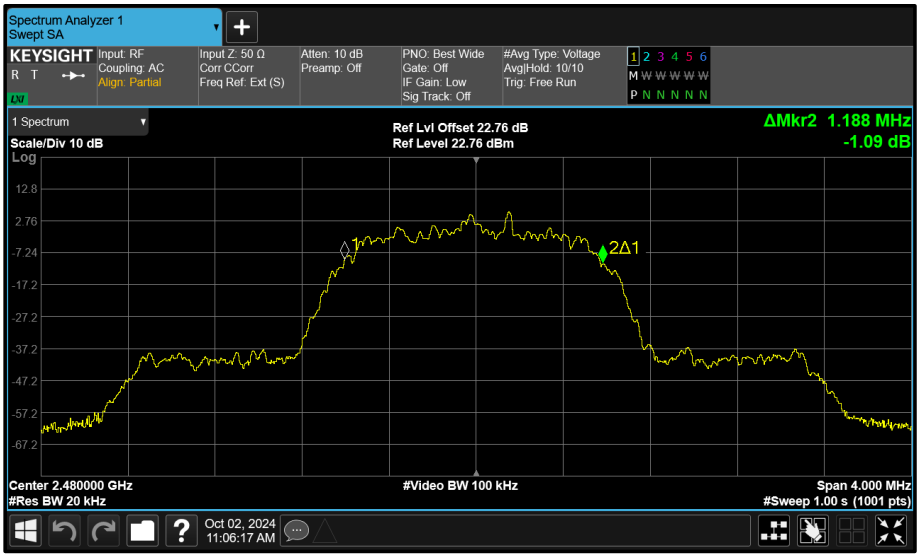

Figure 152 - Core 2 (A) 2480 MHz (CH78) 99% Bandwidth

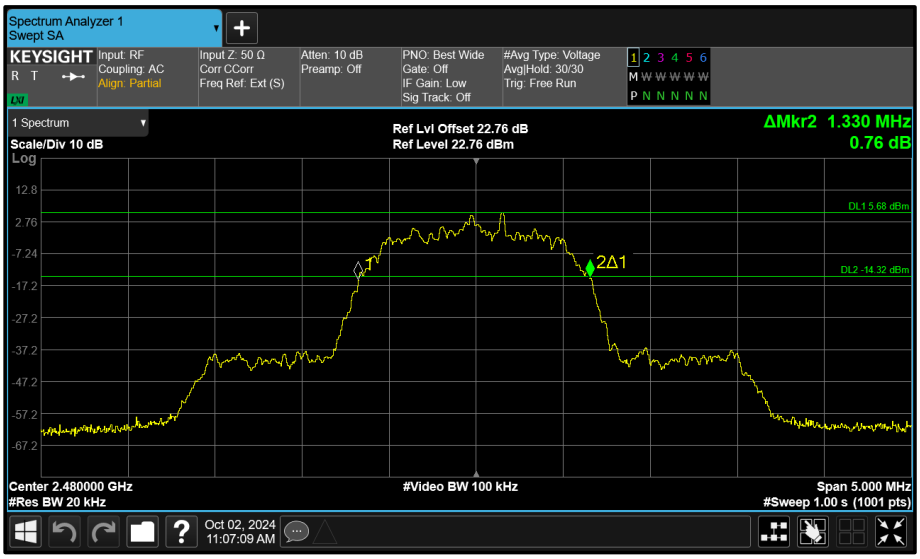

Figure 153 - Core 2 (A) 2480 MHz (CH78) 20 dB Bandwidth

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(1)	Test Method(s):	C63.10 6.9.2 C63.10 6.9.3
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA 8-DPSK (3-DH5)	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Core 2)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	1.265	-	-	-
2441	1.260	-	-	-
2480	1.265	-	-	-

Table 79 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	1.196	-	-	-	-
2441	1.196	-	-	-	-
2480	1.192	-	-	-	-

Table 80 - 99% Bandwidth Results

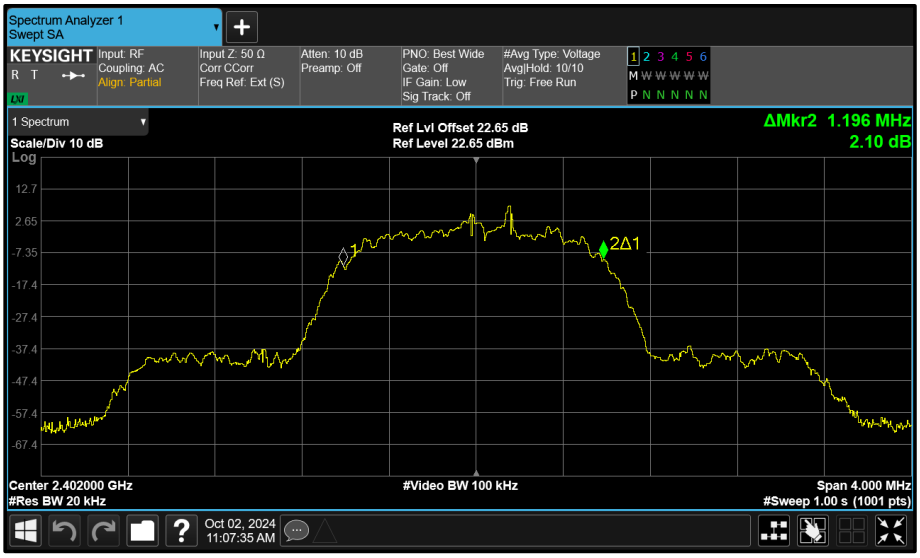

Figure 154 - Core 2 (A) 2402 MHz (CH0) 99% Bandwidth

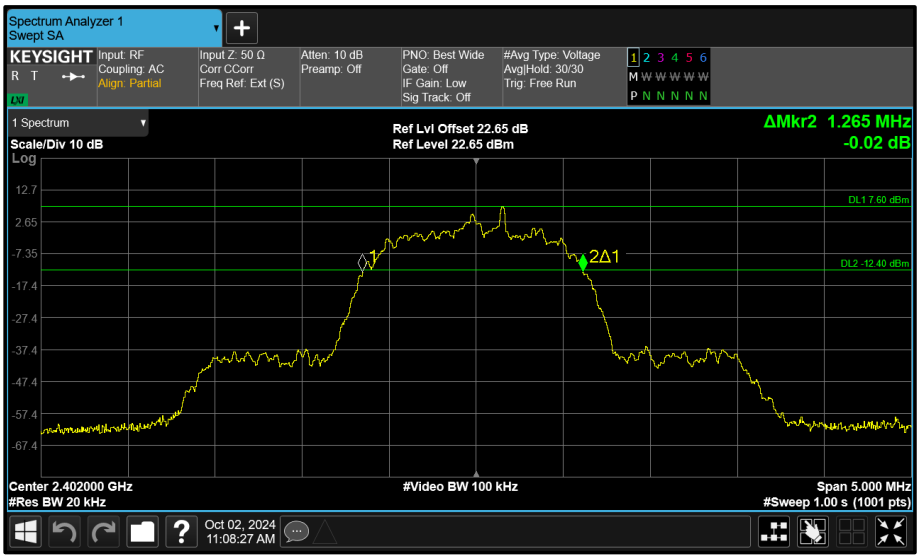

Figure 155 - Core 2 (A) 2402 MHz (CH0) 20 dB Bandwidth

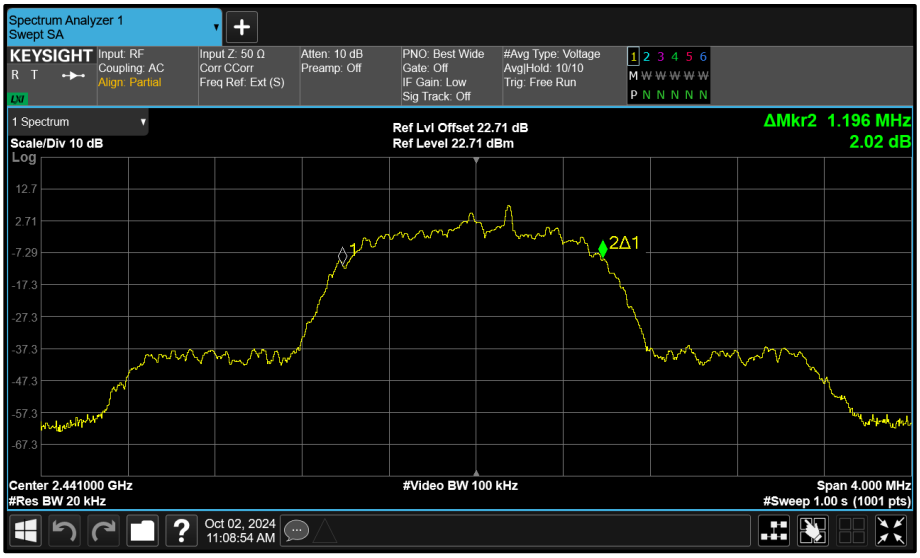

Figure 156 - Core 2 (A) 2441 MHz (CH39) 99% Bandwidth

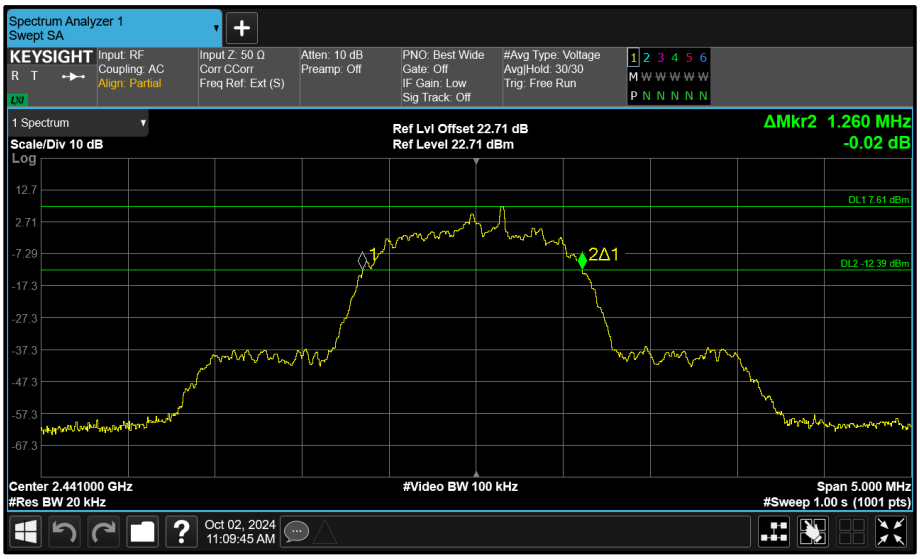

Figure 157 - Core 2 (A) 2441 MHz (CH39) 20 dB Bandwidth

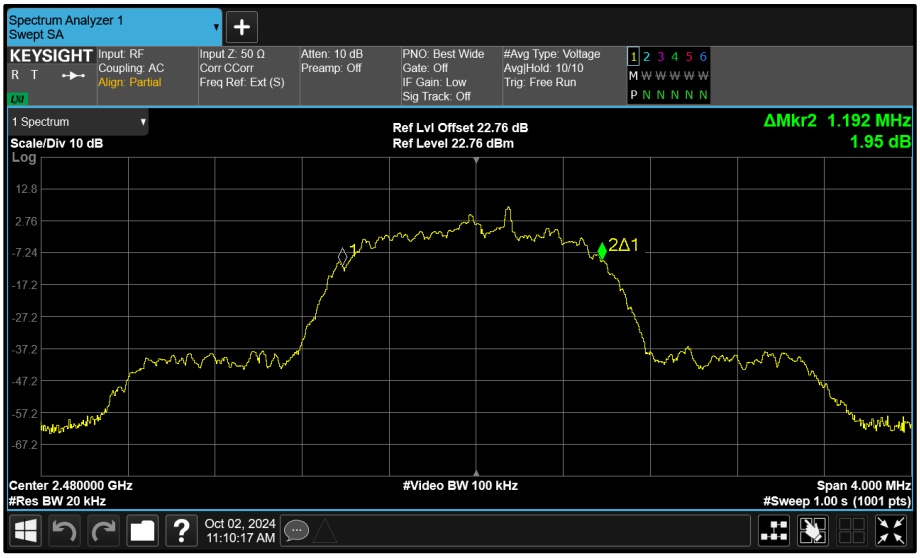

Figure 158 - Core 2 (A) 2480 MHz (CH78) 99% Bandwidth

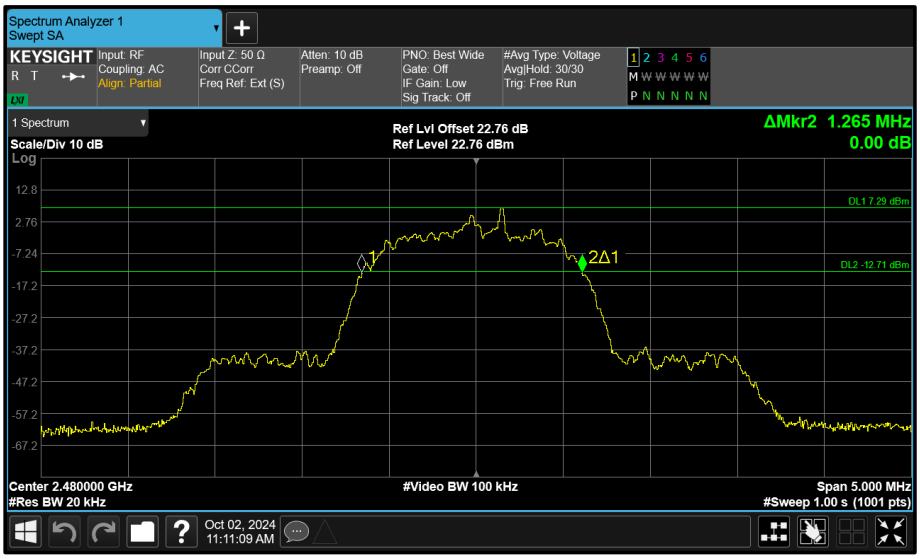

Figure 159 - Core 2 (A) 2480 MHz (CH78) 20 dB Bandwidth

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(1)	Test Method(s):	C63.10 6.9.2 C63.10 6.9.3
Additional Reference(s):	-		

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

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	1.325	1.325	-	-
2441	1.325	1.330	-	-
2480	1.330	1.325	-	-

Table 81 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	1.188	1.188	-	-	-
2441	1.188	1.192	-	-	-
2480	1.188	1.188	-	-	-

Table 82 - 99% Bandwidth Results

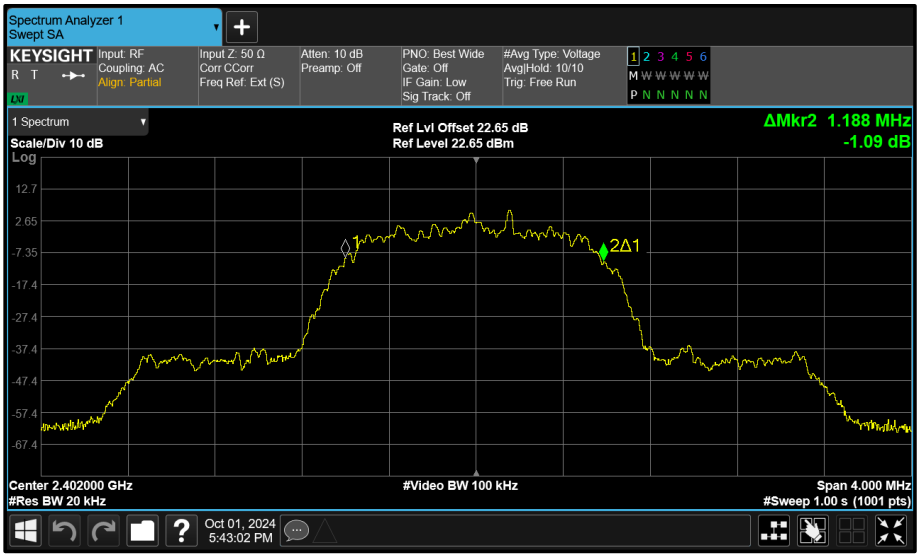

Figure 160 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

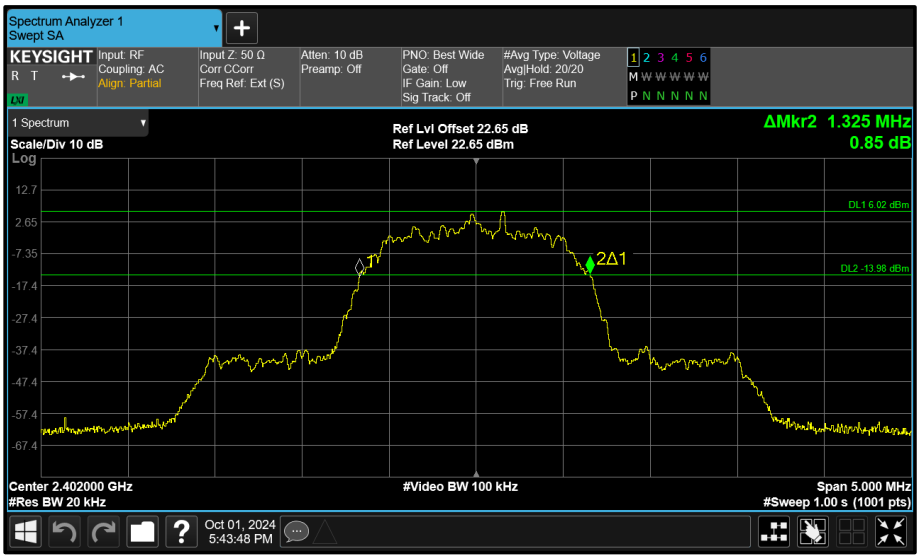

Figure 161 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

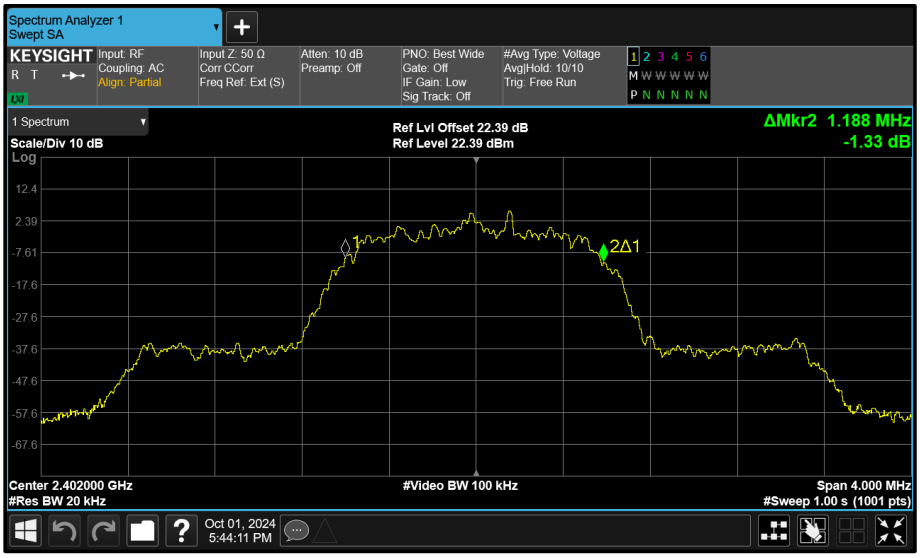

Figure 162 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

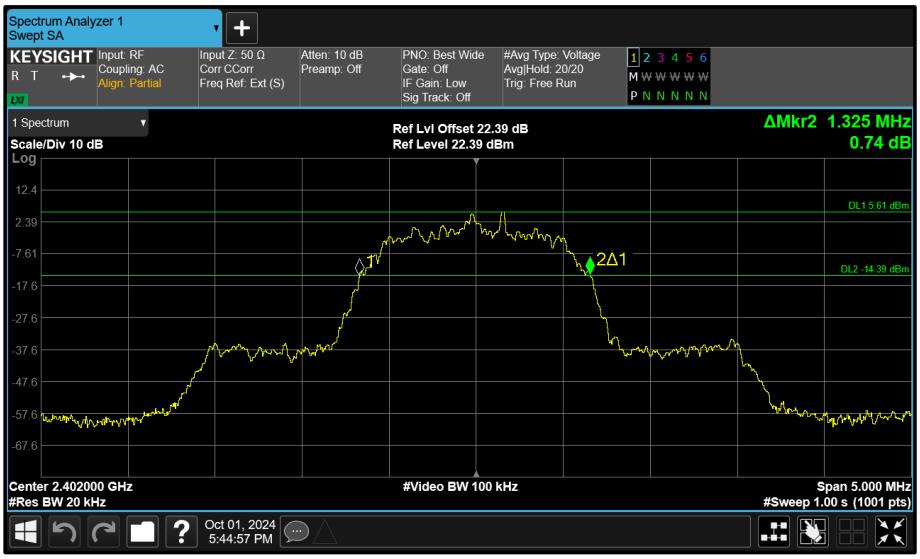

Figure 163 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

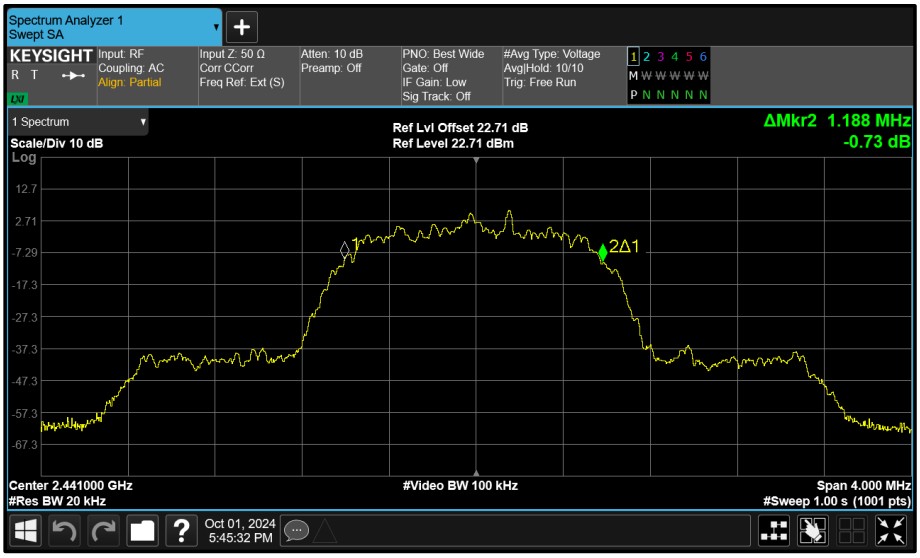

Figure 164 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

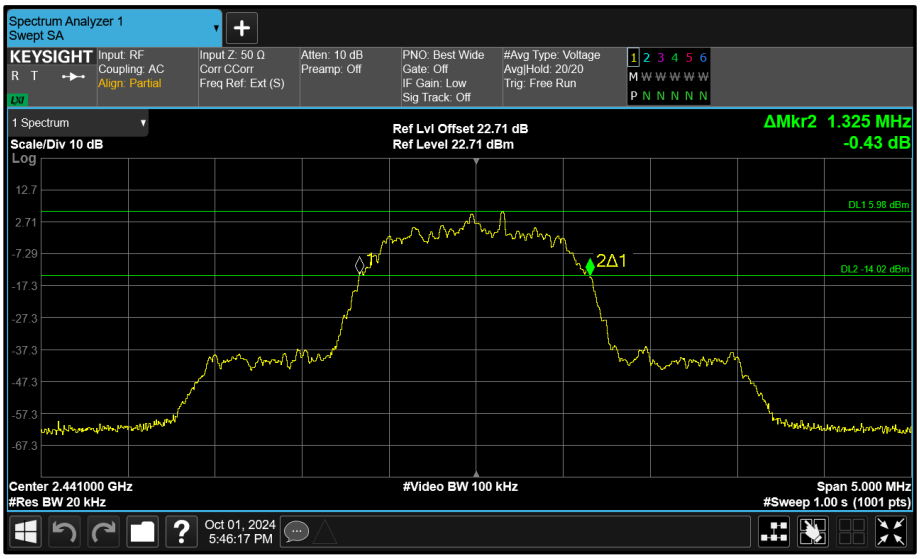

Figure 165 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

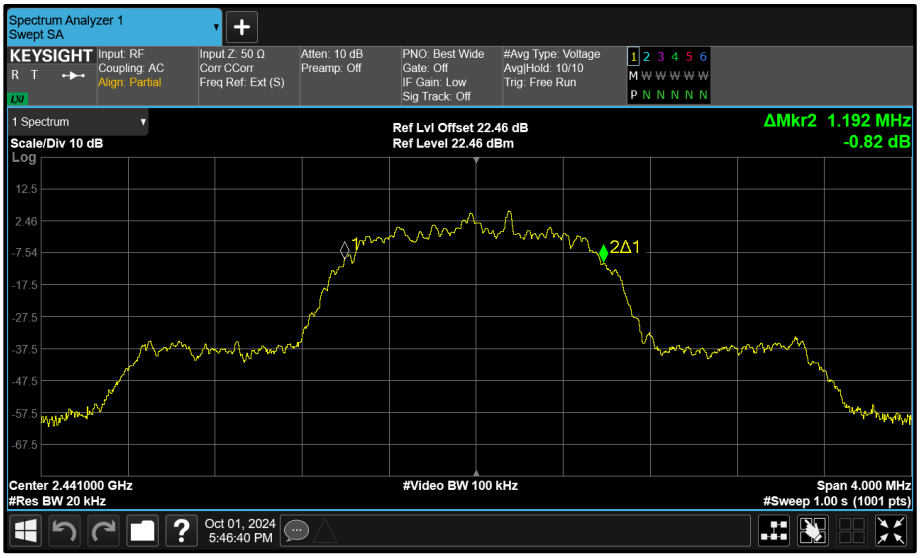

Figure 166 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

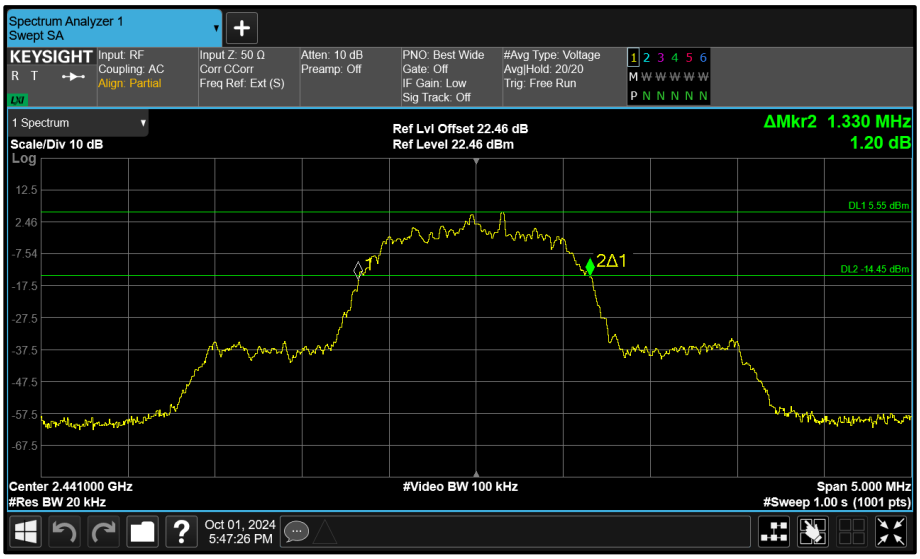

Figure 167 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

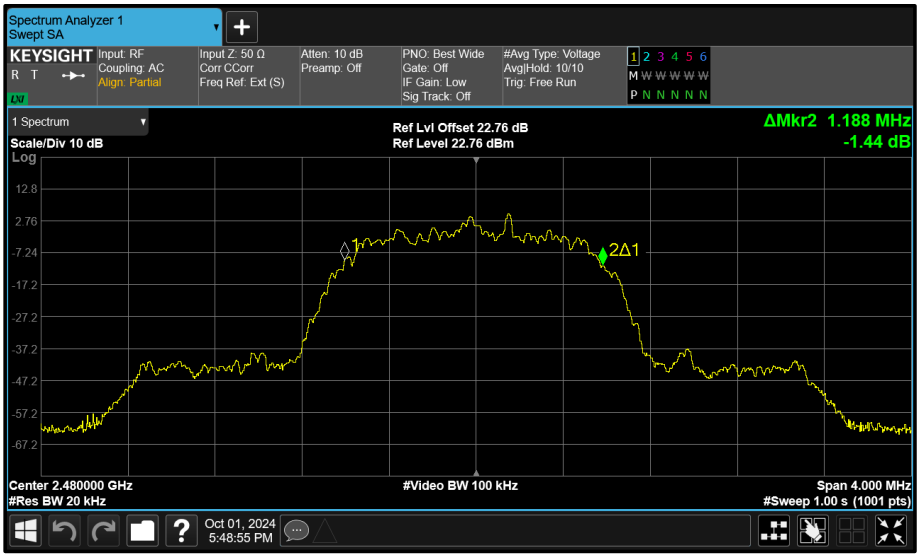

Figure 168 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

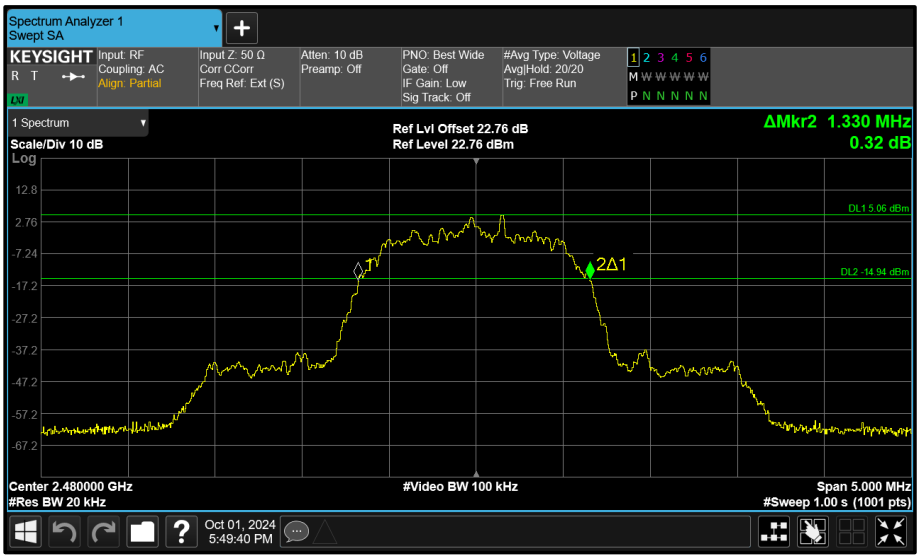

Figure 169 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

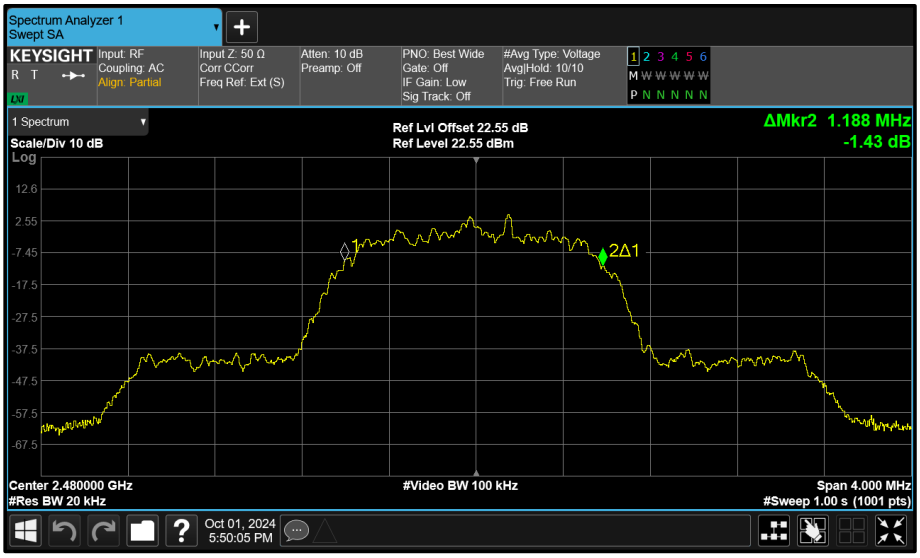

Figure 170 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

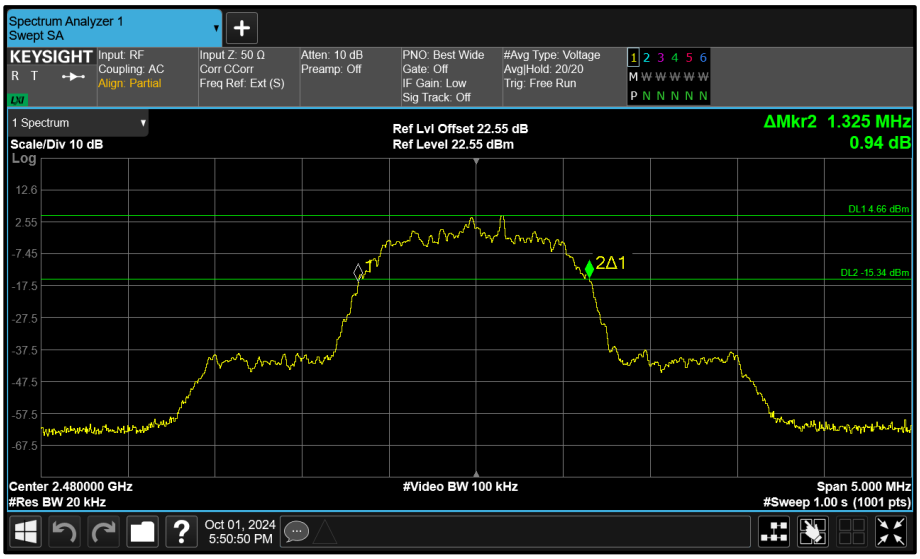

Figure 171 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(1)	Test Method(s):	C63.10 6.9.2 C63.10 6.9.3
Additional Reference(s):	-		

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

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	1.260	1.265	-	-
2441	1.260	1.260	-	-
2480	1.260	1.260	-	-

Table 83 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	1.192	1.196	-	-	-
2441	1.192	1.200	-	-	-
2480	1.192	1.196	-	-	-

Table 84 - 99% Bandwidth Results

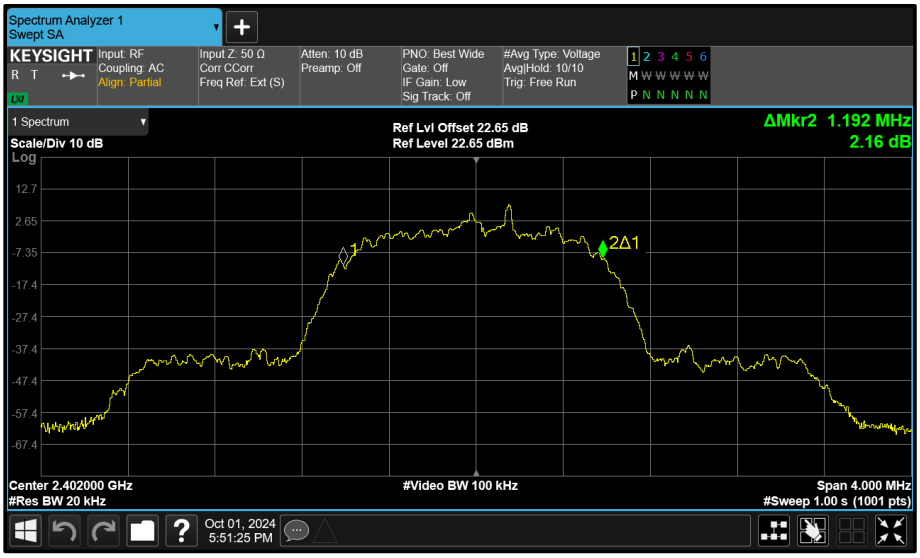

Figure 172 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

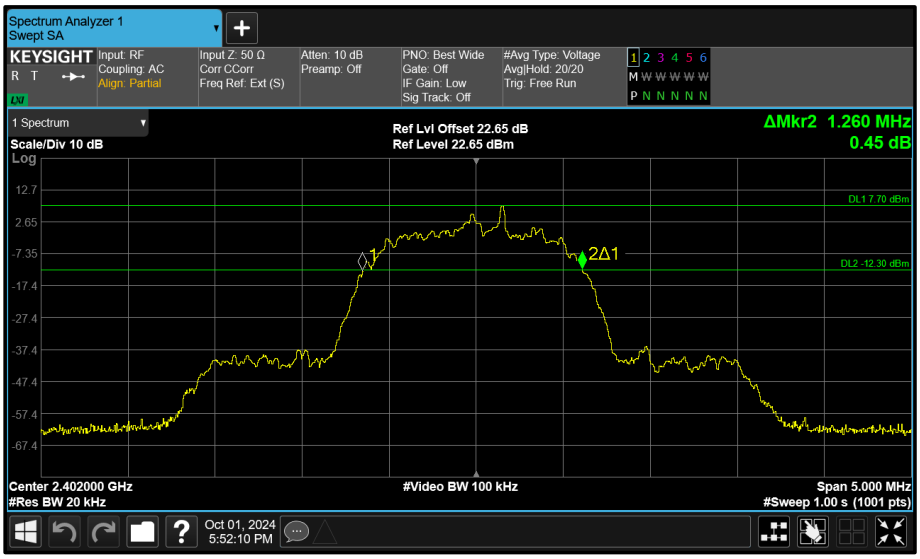

Figure 173 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

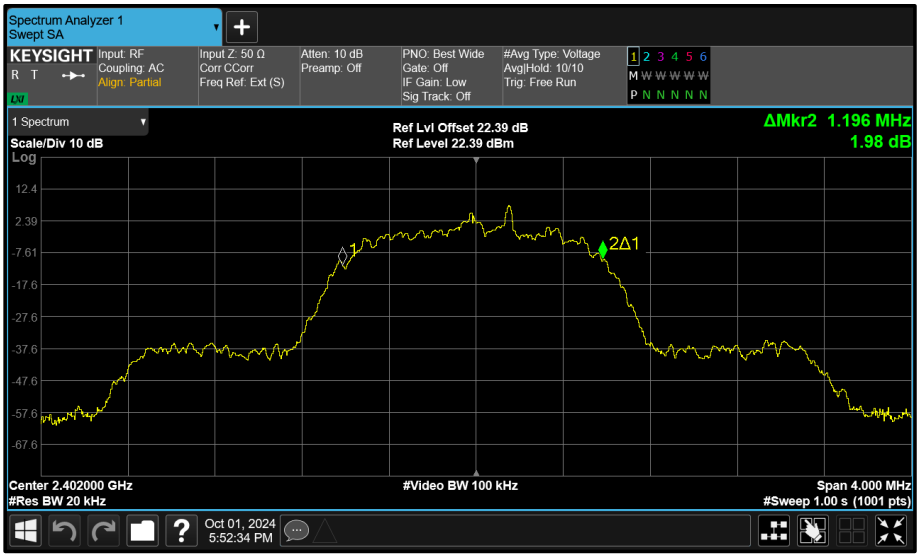

Figure 174 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

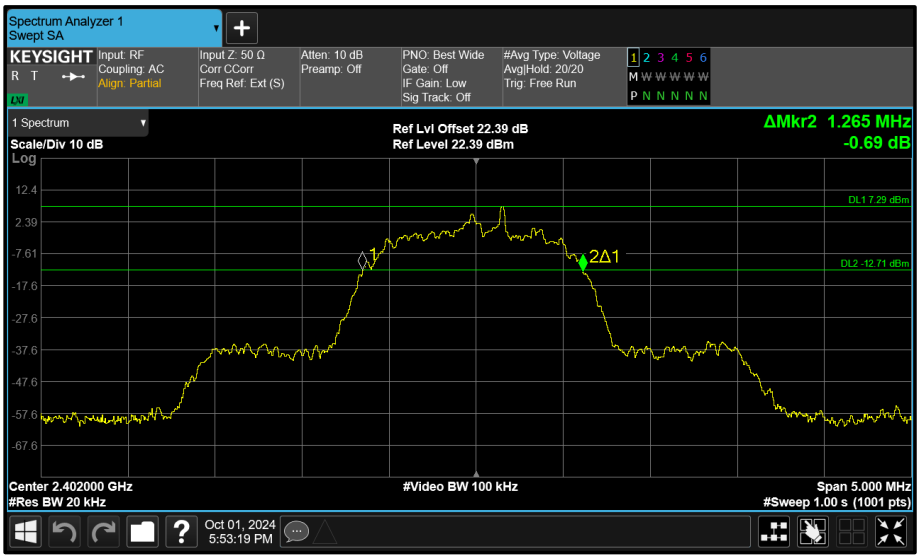

Figure 175 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

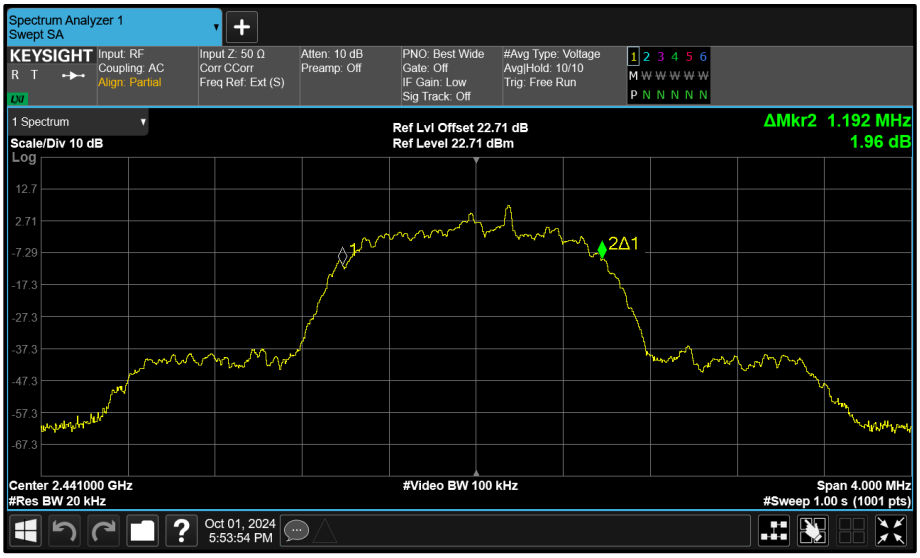

Figure 176 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

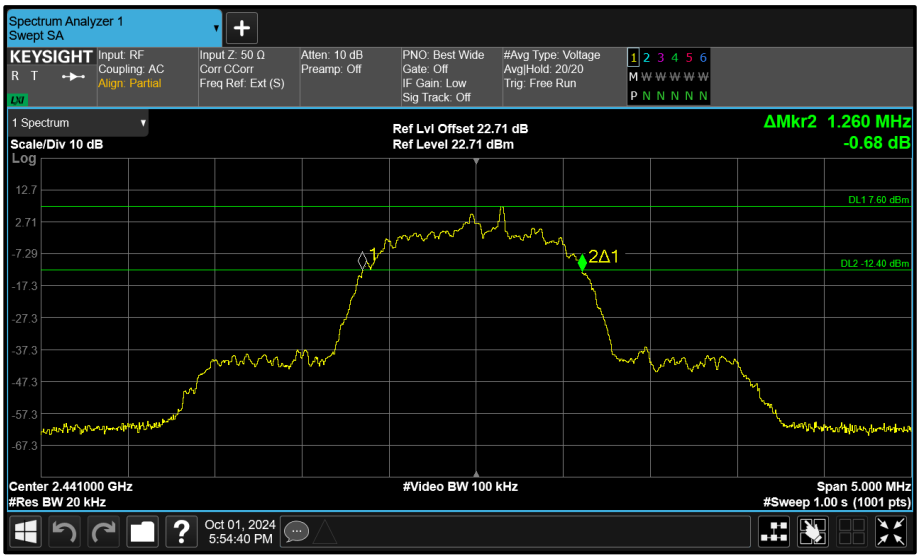

Figure 177 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

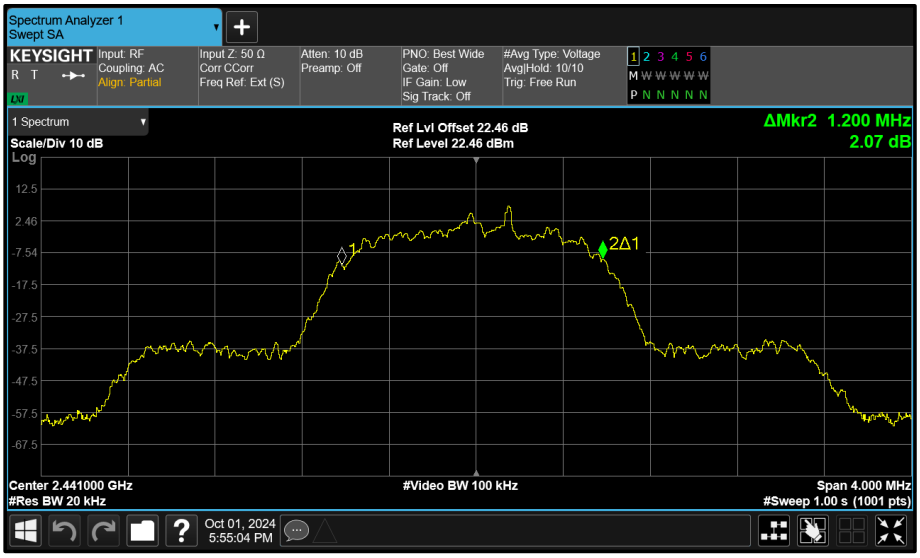

Figure 178 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

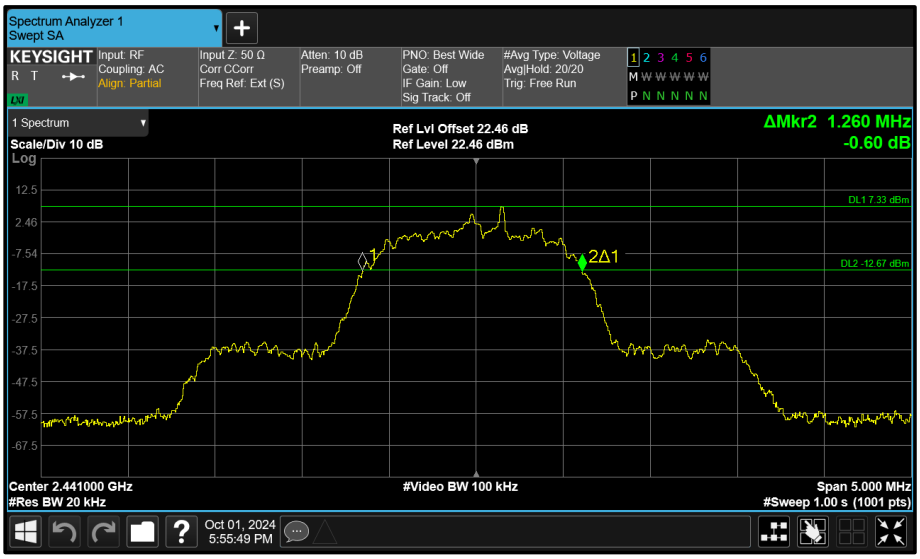

Figure 179 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

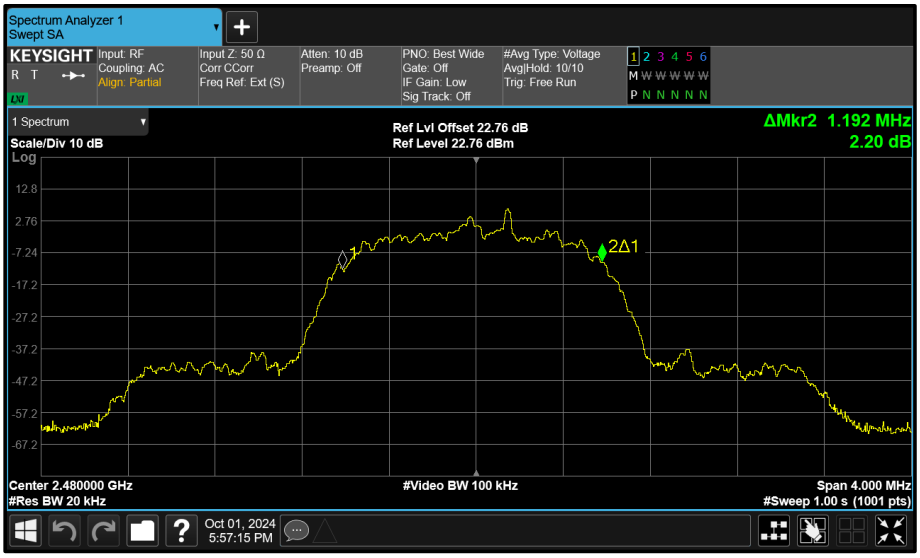

Figure 180 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

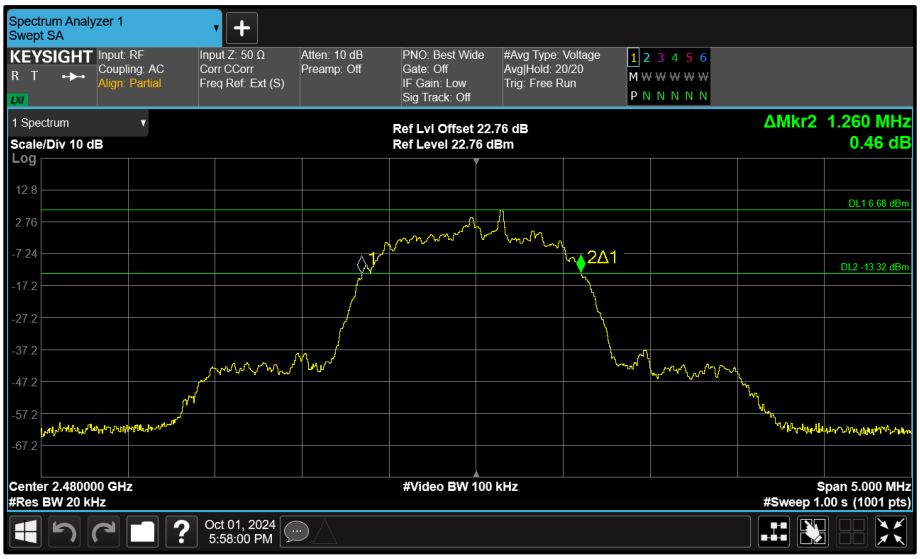

Figure 181 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

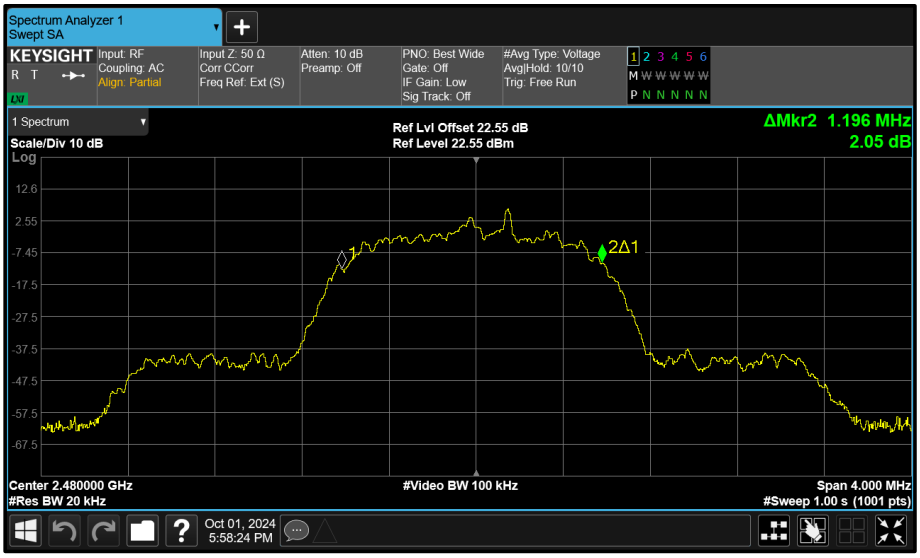

Figure 182 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

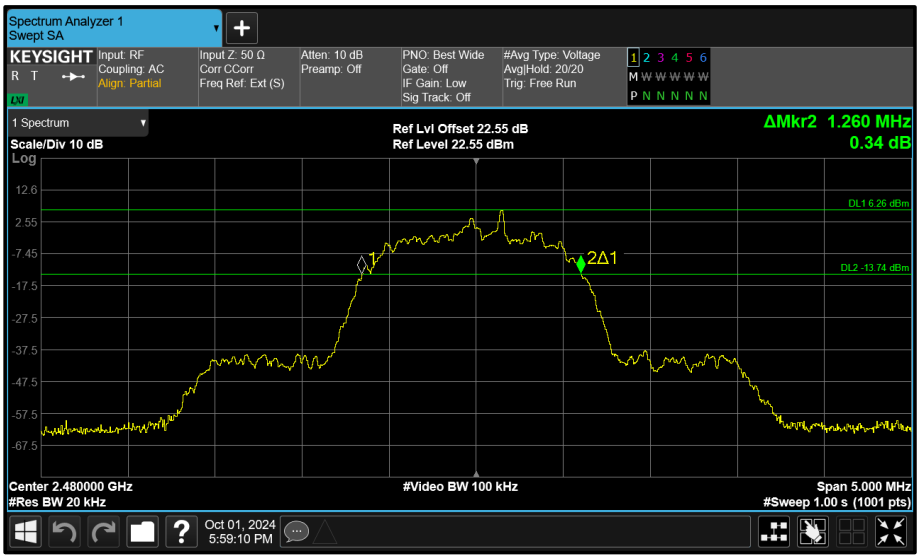

Figure 183 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

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 SAR Chamber 2.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
True RMS Multimeter	Fluke	79 Series III	411	12	12-Jan-2025
Hygrometer	Rotronic	Hygropalm 0	3028	12	12-Aug-2025
1 MHz / 10 MHz reference	Quartzlock	E10-X	4973	12	03-Sep-2025
AC Programmable Power Supply	iTech	IT7324	5226	-	O/P Mon
MXA Signal Analyser	Keysight Technologies	N9020B	5528	24	18-Sep-2025
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6350	12	02-Aug-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6638	12	02-Aug-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6639	12	02-Aug-2025

Table 85

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)

2.6.2 Equipment Under Test and Modification State

A3403, S/N: M7J9X1XPGD - Modification State 0

2.6.3 Date of Test

01-October-2024 to 07-October-2024

2.6.4 Test Method

The test was performed in accordance with ANSI C63.10 clause 7.8.5 using a power meter.

MIMO output port summing was performed in accordance with KDB 662911 D01. Directional Gain was calculated in accordance with clause F)2)f)(ii) using the calculations from F)2)f)(i) with worst-case individual gain and an array gain of zero.

2.6.5 Environmental Conditions

Ambient Temperature	20.4 - 22.8 °C
Relative Humidity	45.4 - 55.5 %

2.6.6 Test Results

2.4 GHz Bluetooth BDR/EDR

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) 15.247 (b)(4)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA π/4 DQPSK (2-DH5)	Duty Cycle (%):	76.9
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.30

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	19.08	-	-	-	29.70	-10.62
2441	-	18.93	-	-	-	29.70	-10.77
2480	-	19.02	-	-	-	29.70	-10.68

Table 86 - 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) 15.247 (b)(4)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA 8-DPSK (3-DH5)	Duty Cycle (%):	76.9
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.30

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	19.59	-	-	-	29.70	-10.11
2441	-	19.48	-	-	-	29.70	-10.22
2480	-	19.40	-	-	-	29.70	-10.30

Table 87 - 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) 15.247 (b)(4)	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 (%):	76.8
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.94

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	15.96	15.60	-	-	18.79	28.06	-9.27
2441	15.97	15.69	-	-	18.84	28.06	-9.22
2480	16.33	15.70	-	-	19.03	28.06	-9.03

Table 88 - 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) 15.247 (b)(4)	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 (%):	76.9
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.94

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	16.47	15.90	-	-	19.21	28.06	-8.85
2441	16.32	15.82	-	-	19.08	28.06	-8.98
2480	16.69	16.15	-	-	19.44	28.06	-8.62

Table 89 - 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) 15.247 (b)(4)	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 (Core 1)	Peak Antenna Gain (dBi):	6.30

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	13.91	-	-	-	29.70	-15.79
2441	-	13.30	-	-	-	29.70	-16.40
2480	-	13.29	-	-	-	29.70	-16.41

Table 90 - 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) 15.247 (b)(4)	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):	B (Core 1)	Peak Antenna Gain (dBi):	6.30

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	11.48	-	-	-	29.70	-18.22
2441	-	11.70	-	-	-	29.70	-18.00
2480	-	11.65	-	-	-	29.70	-18.05

Table 91 - 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) 15.247 (b)(4)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA 8-DPSK (3-DH5)	Duty Cycle (%):	77.2
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	6.30

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	11.81	-	-	-	29.70	-17.89
2441	-	11.99	-	-	-	29.70	-17.71
2480	-	11.97	-	-	-	29.70	-17.73

Table 92 - 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)	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):	A (Core 2)	Peak Antenna Gain (dBi):	5.20

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	13.35	-	-	-	-	30.00	-16.65
2441	13.47	-	-	-	-	30.00	-16.53
2480	13.35	-	-	-	-	30.00	-16.65

Table 93 - 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)	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):	A (Core 2)	Peak Antenna Gain (dBi):	5.20

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	11.77	-	-	-	-	30.00	-18.23
2441	11.56	-	-	-	-	30.00	-18.44
2480	11.60	-	-	-	-	30.00	-18.40

Table 94 - 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)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA 8-DPSK (3-DH5)	Duty Cycle (%):	77.2
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Core 2)	Peak Antenna Gain (dBi):	5.20

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	12.17	-	-	-	-	30.00	-17.83
2441	12.30	-	-	-	-	30.00	-17.70
2480	12.02	-	-	-	-	30.00	-17.98

Table 95 - 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) 15.247 (b)(4)	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 (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.94

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	13.44	12.90	-	-	16.19	28.06	-11.87
2441	13.60	12.82	-	-	16.24	28.06	-11.82
2480	13.46	12.71	-	-	16.12	28.06	-11.95

Table 96 - 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) 15.247 (b)(4)	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 (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.94

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	12.00	11.31	-	-	14.68	28.06	-13.38
2441	11.99	11.16	-	-	14.61	28.06	-13.45
2480	11.98	11.20	-	-	14.62	28.06	-13.44

Table 97 - 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) 15.247 (b)(4)	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 (%):	76.9
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.94

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	12.34	11.71	-	-	15.05	28.06	-13.01
2441	12.35	11.63	-	-	15.01	28.06	-13.05
2480	12.39	11.59	-	-	15.02	28.06	-13.04

Table 98 - Maximum Conducted (peak) Output Power Results

FCC 47 CFR Part 15, Limit Clause 15.247 (b)(1)

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

2.6.7 Test Location and Test Equipment Used

This test was carried out in SAR Chamber 2.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
True RMS Multimeter	Fluke	79 Series III	411	12	12-Jan-2025
Hygrometer	Rotronic	Hygropalm 0	3028	12	12-Aug-2025
AC Programmable Power Supply	iTech	IT7324	5226	-	O/P Mon
USB Power Sensor	Boonton	RTP5008	5833	12	26-Jul-2025
USB Power Sensor	Boonton	RTP5008	5834	12	26-Jul-2025
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6350	12	02-Aug-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6638	12	02-Aug-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6639	12	02-Aug-2025

Table 99

O/P Mon - Output Monitored using calibrated equipment

2.7 Authorised Band Edges

2.7.1 Specification Reference

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

2.7.2 Equipment Under Test and Modification State

A3403, S/N: JF4T7PYJ66 - Modification State 0

2.7.3 Date of Test

04-September-2024 to 24-September-2024

2.7.4 Test Method

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

2.7.5 Environmental Conditions

Ambient Temperature	21.4 - 23.0 °C
Relative Humidity	46.3 % - 49.0 %

2.7.6 Test Results

2.4 GHz Bluetooth BDR/EDR

iPA - Core 0 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	DH5	2402	2400	-66.97
Static	2-DH5	2402	2400	-62.10
Static	3-DH5	2402	2400	-63.19
Hopping	DH5	hopping	2400	-70.27
Hopping	2-DH5	hopping	2400	-66.36
Hopping	3-DH5	hopping	2400	-65.37

Table 100 - SISO Authorised Band Edge Results

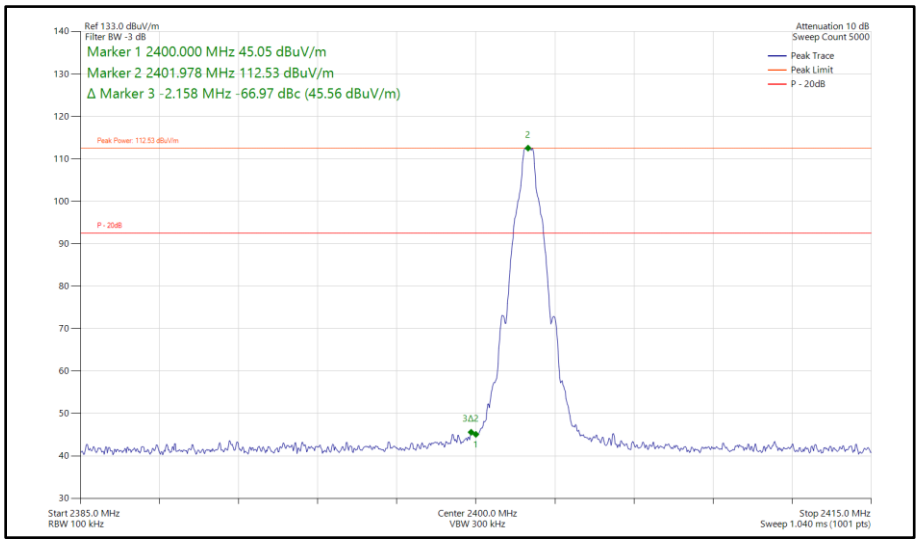

Figure 184 - Bluetooth DH5, SISO, Core 0 - 2402 MHz Band Edge Frequency 2400 MHz

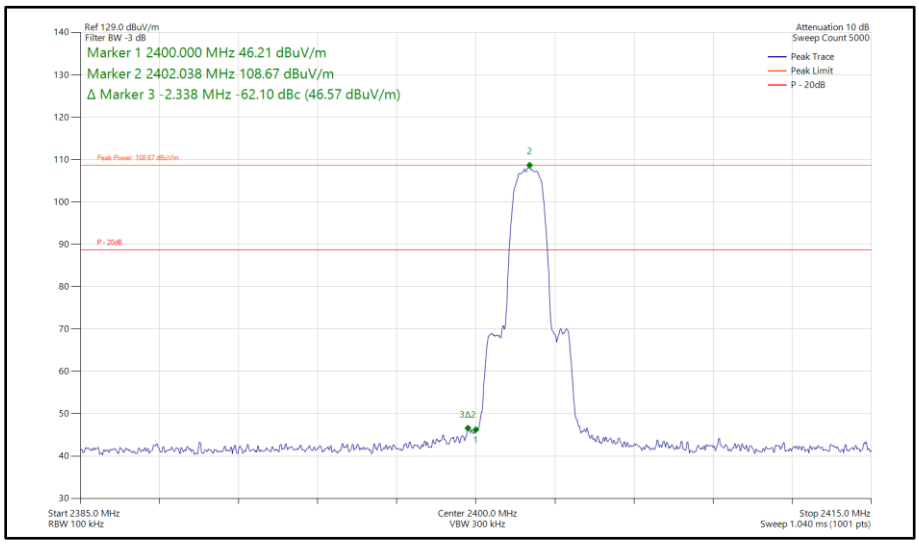

Figure 185 - Bluetooth 2-DH5, SISO, Core 0 - 2402 MHz Band Edge Frequency 2400 MHz

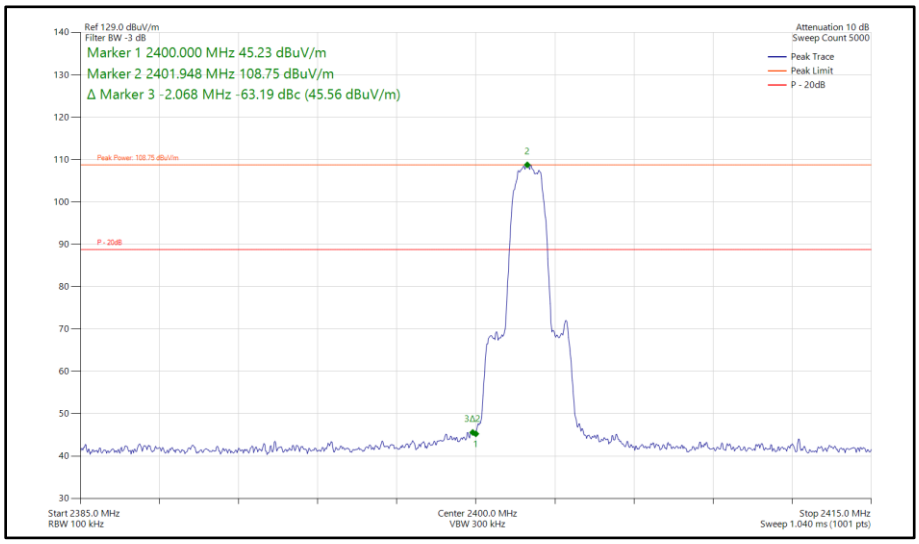

Figure 186 - Bluetooth 3-DH5, SISO, Core 0 - 2402 MHz Band Edge Frequency 2400 MHz

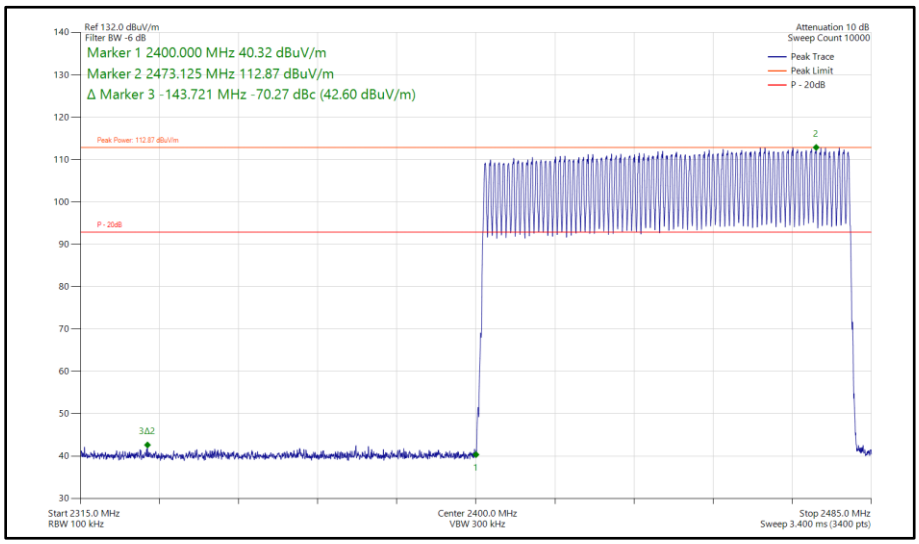

Figure 187 - Bluetooth DH5, SISO, Core 0 - Hopping Band Edge Frequency 2400 MHz

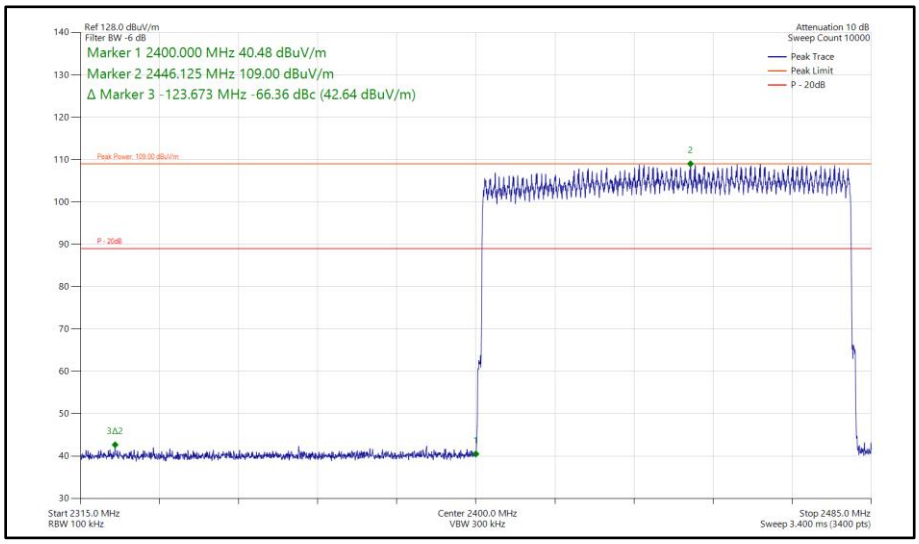

Figure 188 - Bluetooth 2-DH5, SISO, Core 0 - Hopping Band Edge Frequency 2400 MHz

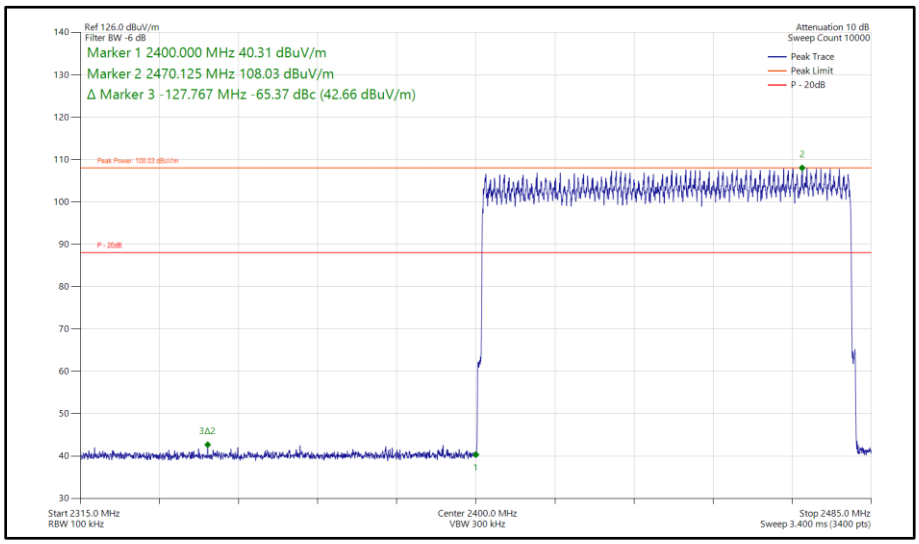

Figure 189 - Bluetooth 3-DH5, SISO, Core 0 - Hopping Band Edge Frequency 2400 MHz

iPA - Core 1 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	DH5	2402	2400	-66.50
Static	2-DH5	2402	2400	-60.43
Static	3-DH5	2402	2400	-59.82
Hopping	DH5	hopping	2400	-66.33
Hopping	2-DH5	hopping	2400	-63.15
Hopping	3-DH5	hopping	2400	-64.16

Table 101 - SISO Authorised Band Edge Results

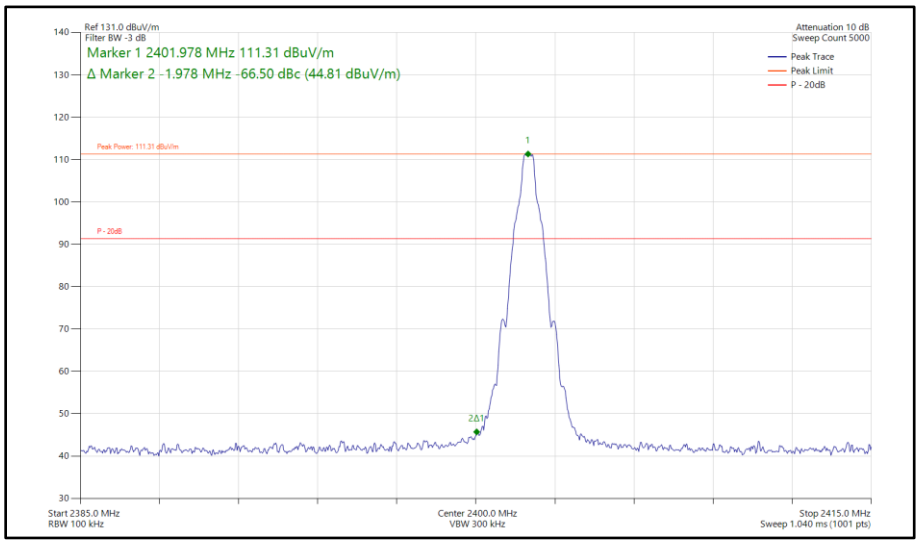

Figure 190 - Bluetooth DH5, SISO, Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

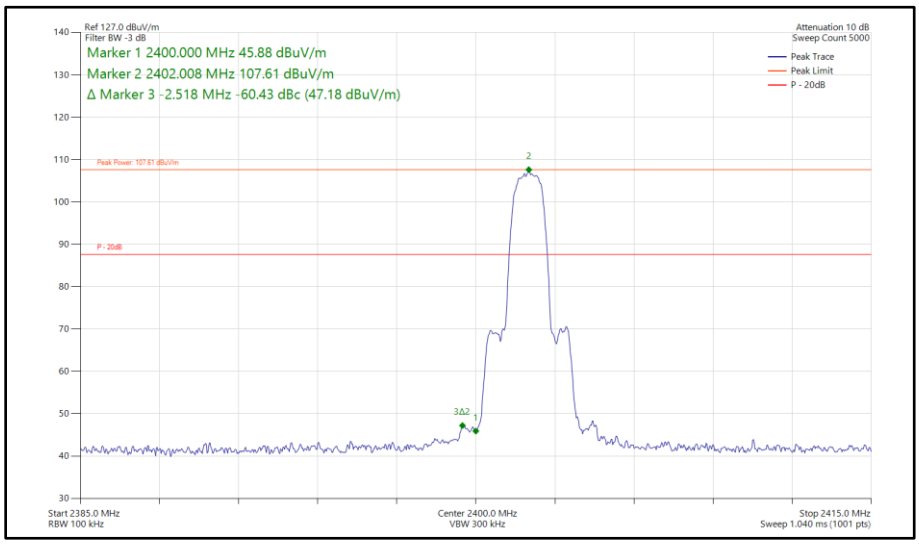

Figure 191 - Bluetooth 2-DH5, SISO, Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

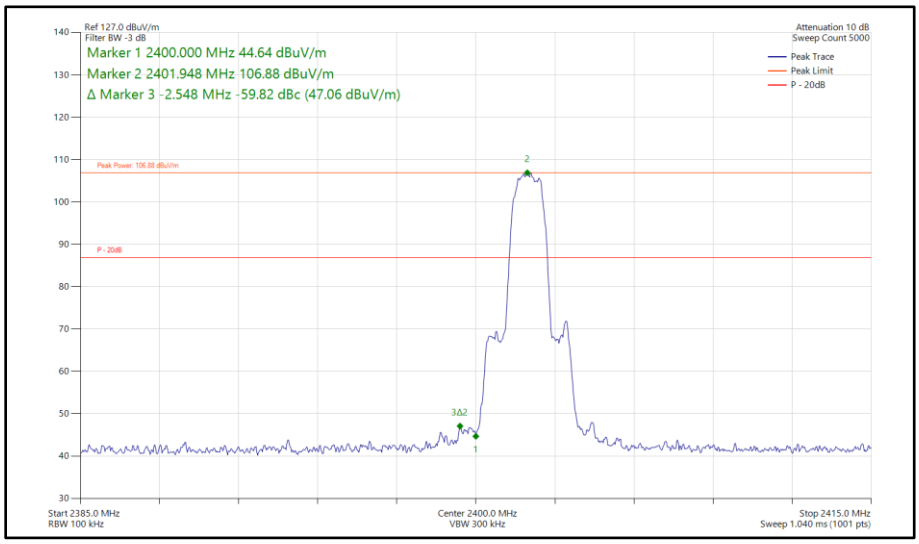

Figure 192 - Bluetooth 3-DH5, SISO, Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

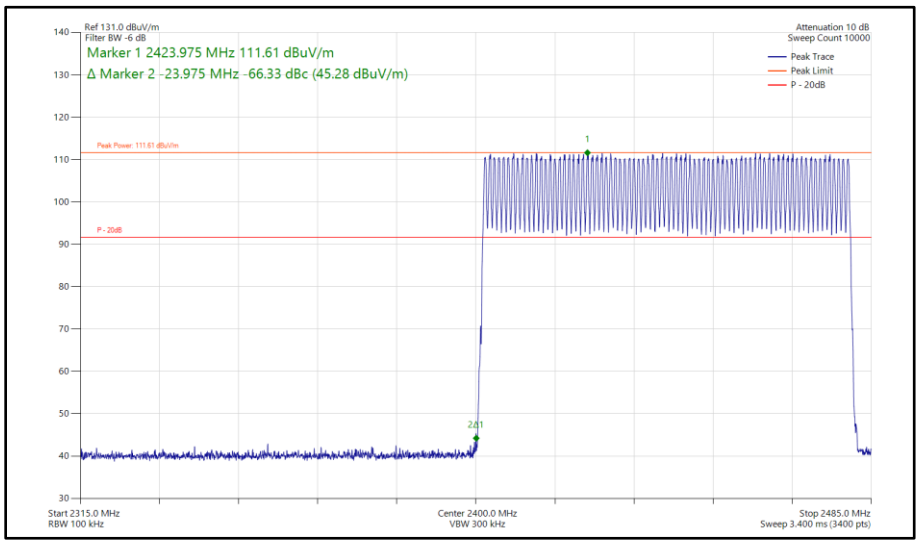

Figure 193 - Bluetooth DH5, SISO, Core 1 - Hopping Band Edge Frequency 2400 MHz

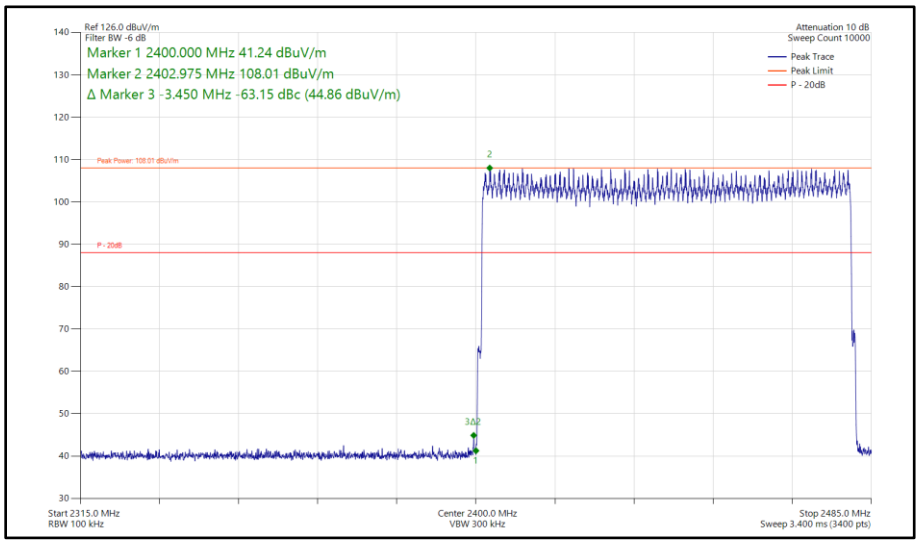

Figure 194 - Bluetooth 2-DH5, SISO, Core 1 - Hopping Band Edge Frequency 2400 MHz

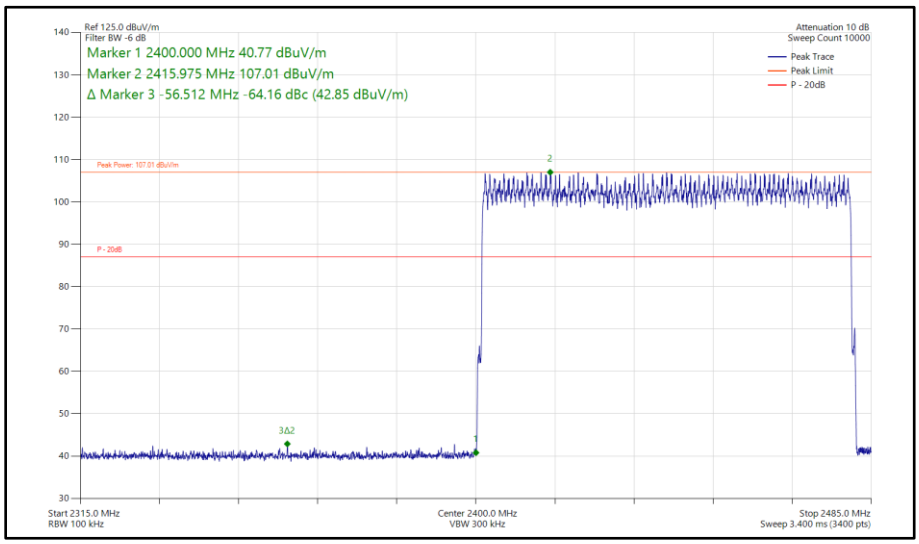

Figure 195 - Bluetooth 3-DH5, SISO, Core 1 - Hopping Band Edge Frequency 2400 MHz

iPA - Core 2 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	DH5	2402	2400	-65.53
Static	2-DH5	2402	2400	-60.68
Static	3-DH5	2402	2400	-60.19
Hopping	DH5	hopping	2400	-70.66
Hopping	2-DH5	hopping	2400	-65.88
Hopping	3-DH5	hopping	2400	-64.46

Table 102 - SISO Authorised Band Edge Results

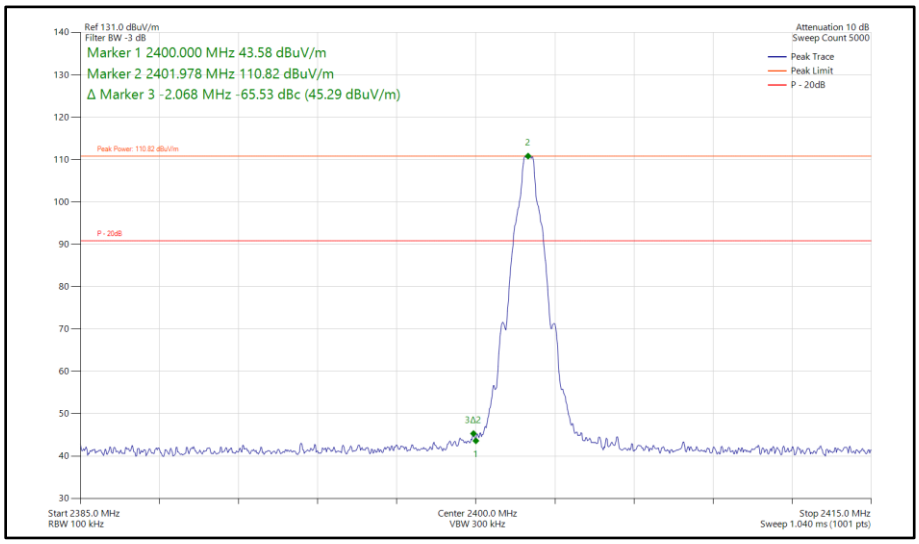

Figure 196 - Bluetooth DH5, SISO, Core 2 - 2402 MHz Band Edge Frequency 2400 MHz

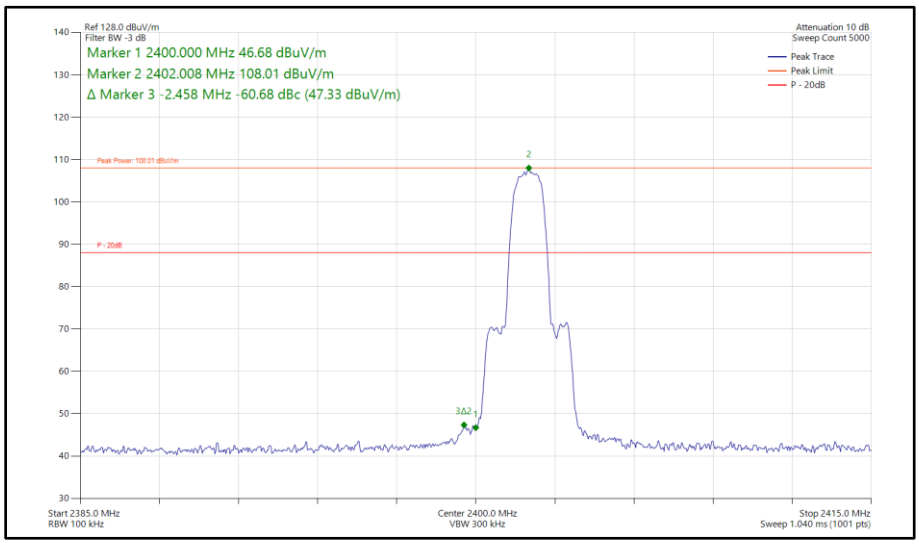

Figure 197 - Bluetooth 2-DH5, SISO, Core 2 - 2402 MHz Band Edge Frequency 2400 MHz

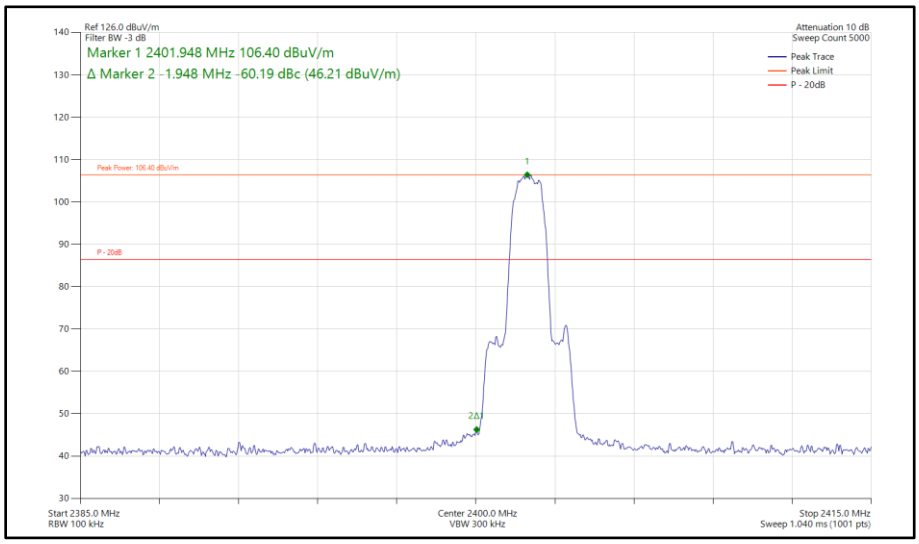

Figure 198 - Bluetooth 3-DH5, SISO, Core 2 - 2402 MHz Band Edge Frequency 2400 MHz

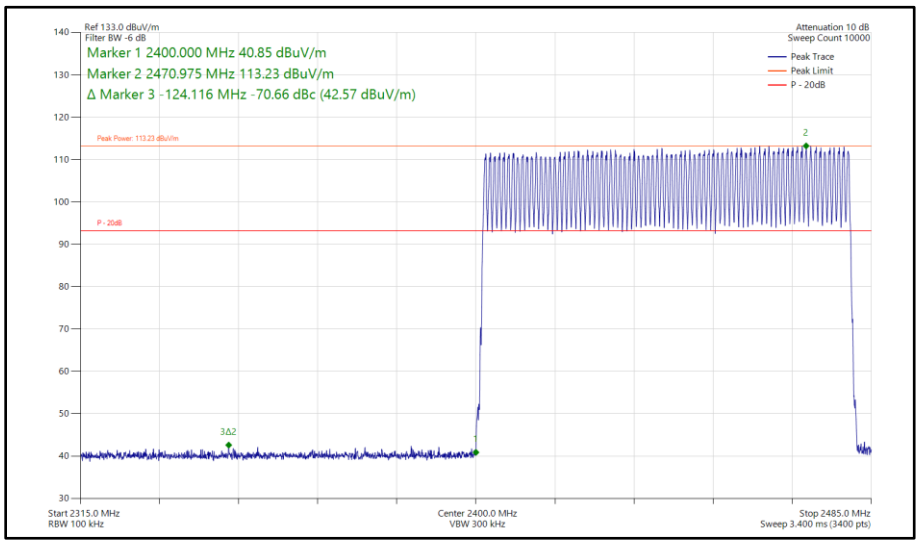

Figure 199 - Bluetooth DH5, SISO, Core 2 - Hopping Band Edge Frequency 2400 MHz

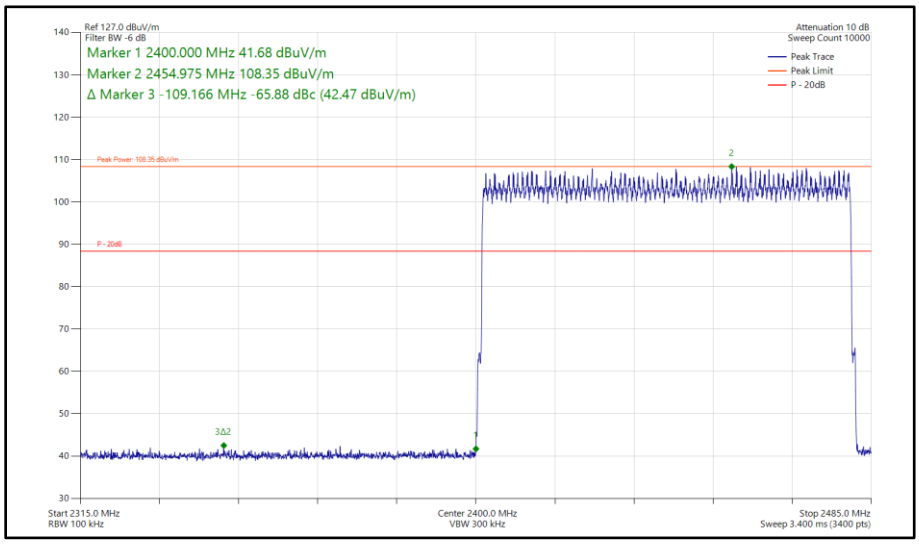

Figure 200 - Bluetooth 2-DH5, SISO, Core 2 - Hopping Band Edge Frequency 2400 MHz

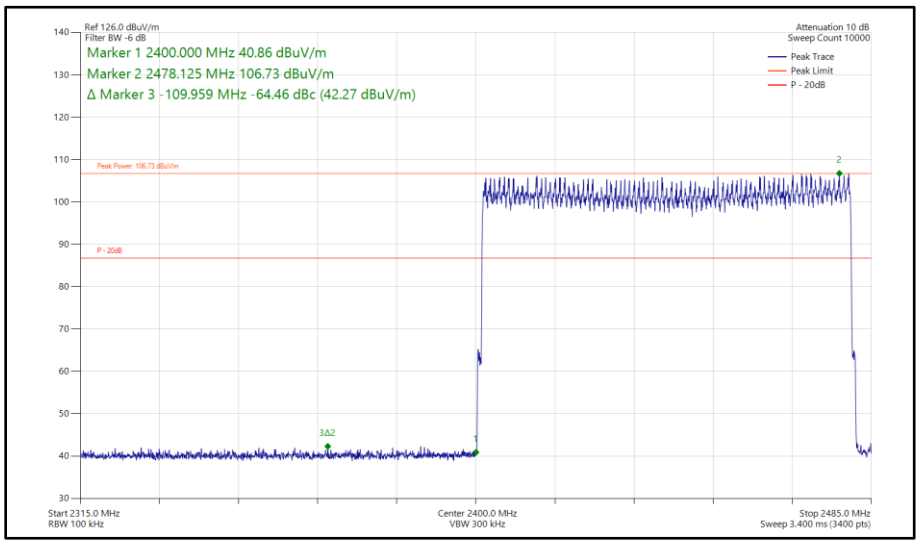

Figure 201 - Bluetooth 3-DH5, SISO, Core 2 - Hopping Band Edge Frequency 2400 MHz

iPA - Core 0 - Core 1 (MIMO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	DH5	2402	2400	-68.33
Static	2-DH5	2402	2400	-62.65
Static	3-DH5	2402	2400	-63.31
Hopping	DH5	hopping	2400	-73.94
Hopping	2-DH5	hopping	2400	-66.50
Hopping	3-DH5	hopping	2400	-69.51

Table 103 - MIMO Authorised Band Edge Results

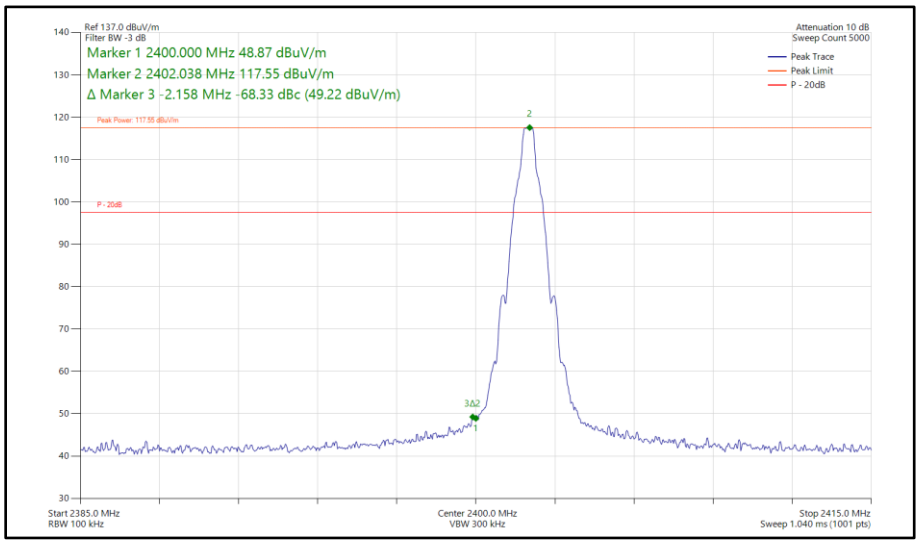

Figure 202 - Bluetooth DH5, MIMO, Core 0 - Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

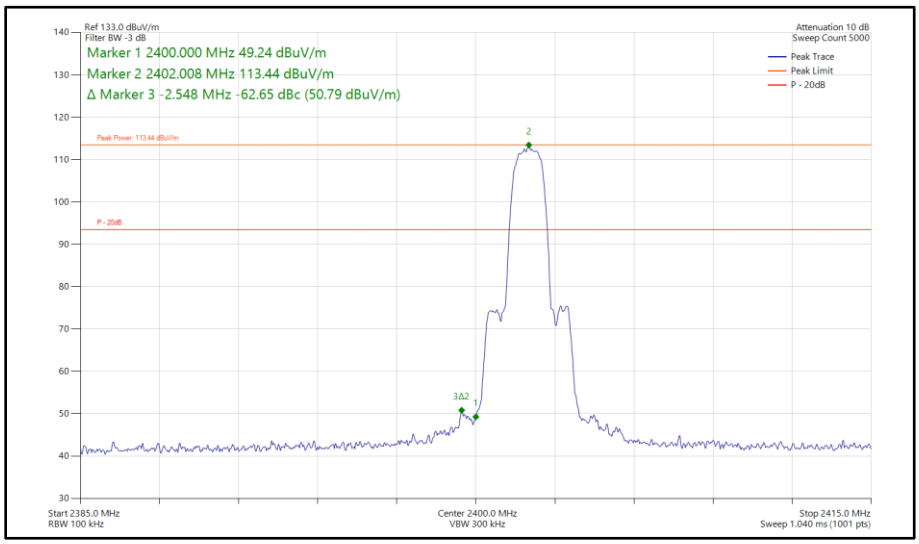

Figure 203 - Bluetooth 2-DH5, MIMO, Core 0 - Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

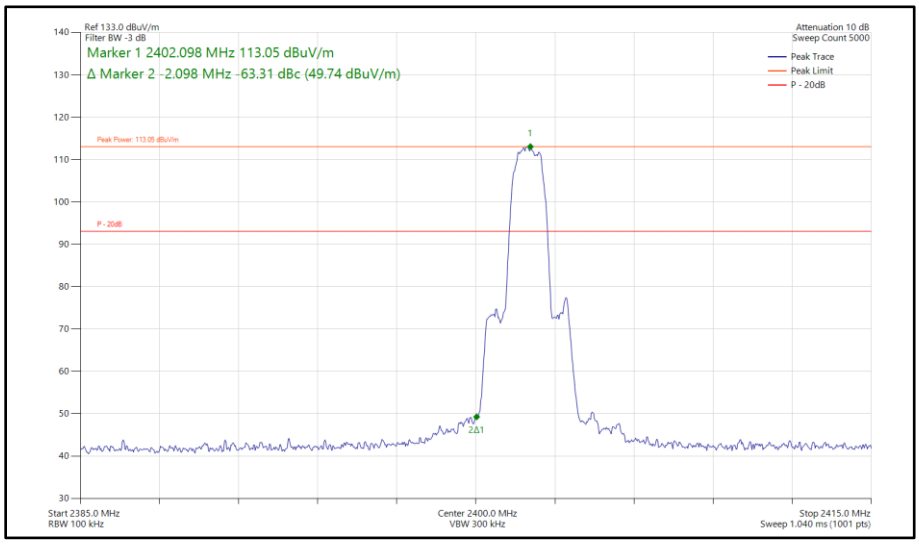

Figure 204 - Bluetooth 3-DH5, MIMO, Core 0 - Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

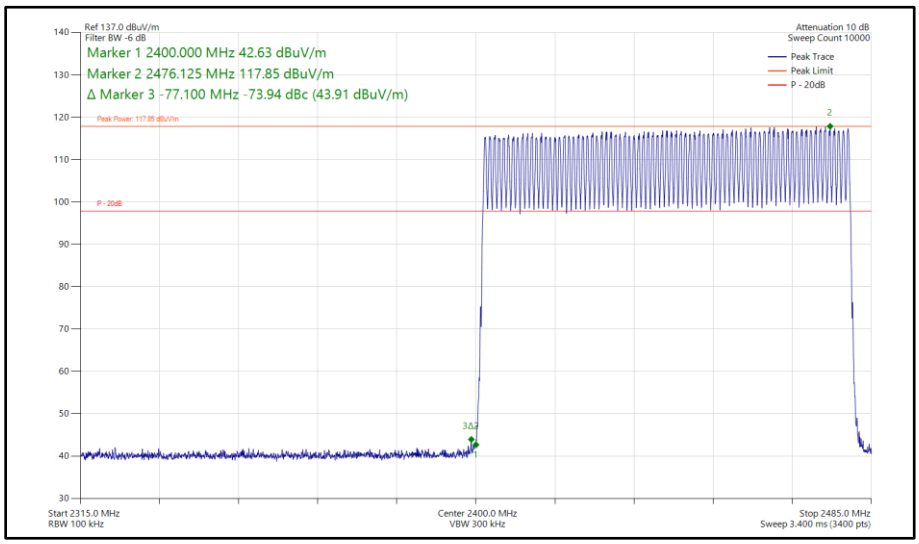

Figure 205 - Bluetooth DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

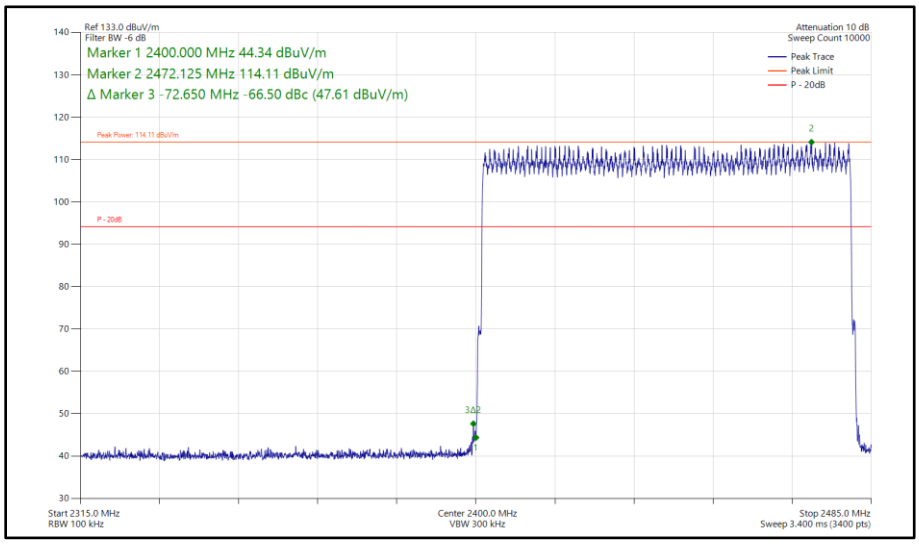

Figure 206 - Bluetooth 2-DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

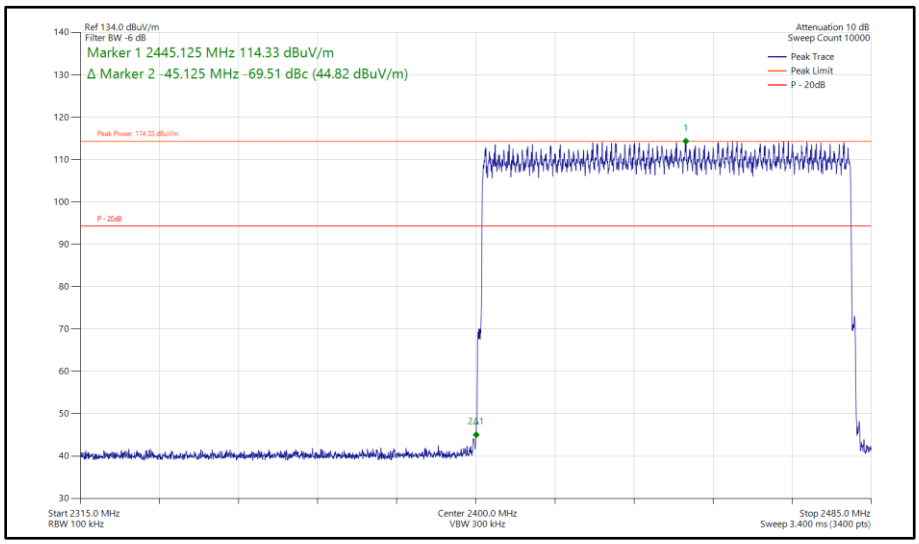

Figure 207 - Bluetooth 3-DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

ePA - Core 0 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	2-DH5	2402	2400	-62.85
Static	3-DH5	2402	2400	-62.31
Hopping	2-DH5	hopping	2400	-68.68
Hopping	3-DH5	hopping	2400	-69.98

Table 104 - SISO Authorised Band Edge Results

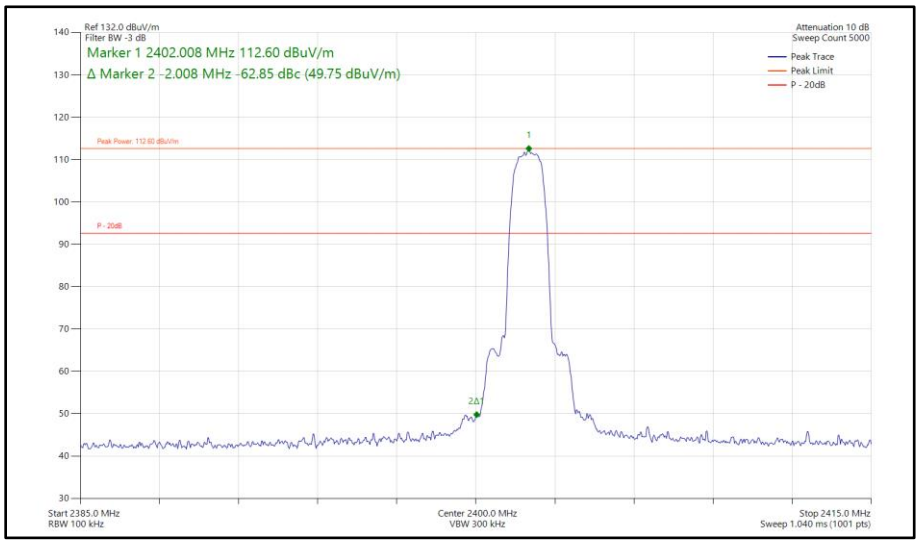

Figure 208 - Bluetooth 2-DH5, SISO, Core 0 - 2402 MHz Band Edge Frequency 2400 MHz

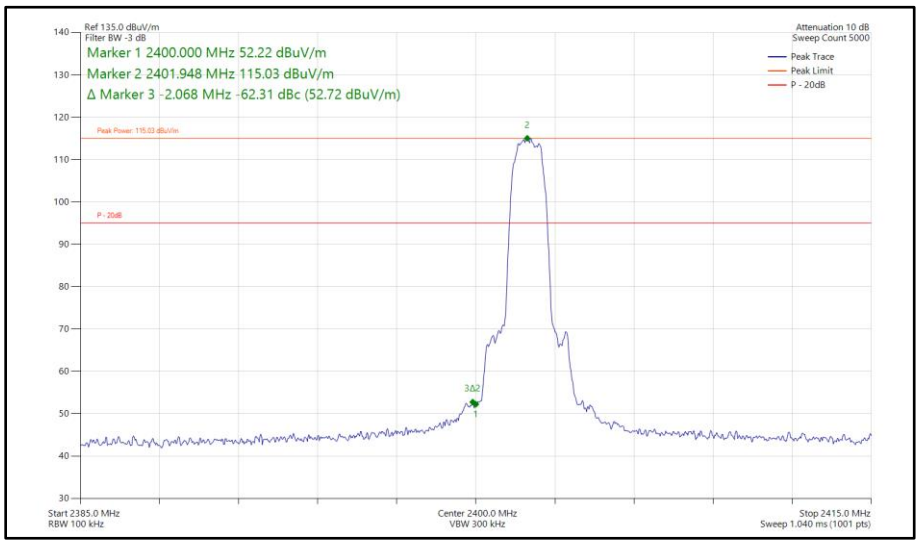

Figure 209 - Bluetooth 3-DH5, SISO, Core 0 - 2402 MHz
Band Edge Frequency 2400 MHz

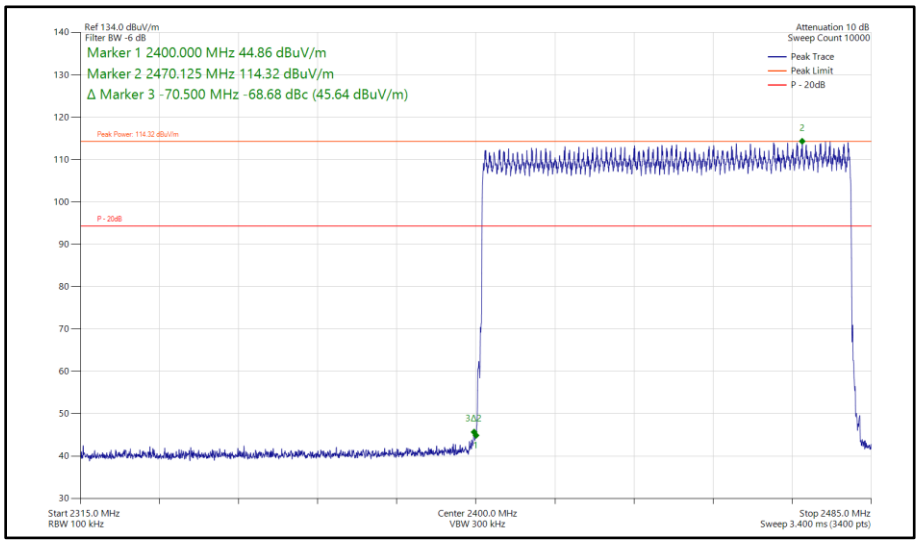

Figure 210 - Bluetooth 2-DH5, SISO, Core 0 - Hopping
Band Edge Frequency 2400 MHz

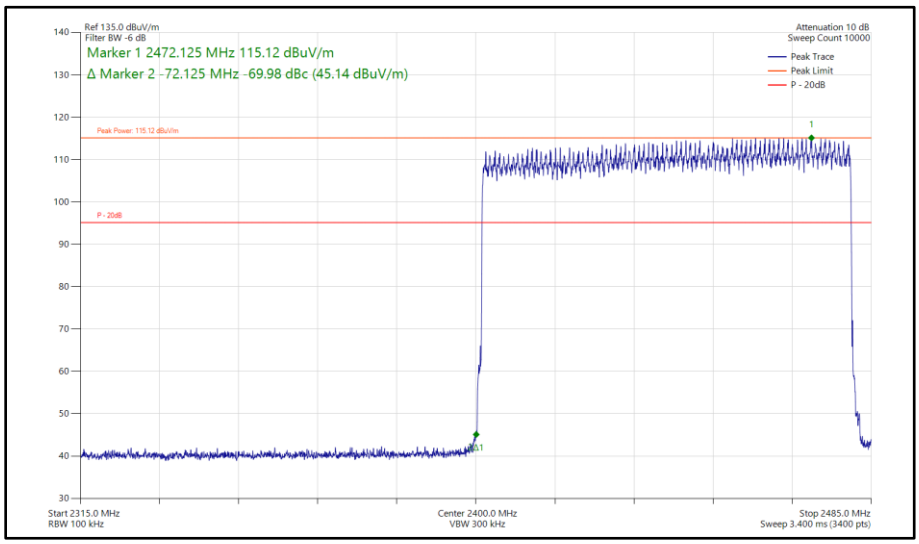

Figure 211 - Bluetooth 3-DH5, SISO, Core 0 - Hopping Band Edge Frequency 2400 MHz

ePA - Core 1 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	2-DH5	2402	2400	-61.44
Static	3-DH5	2402	2400	-61.10
Hopping	2-DH5	hopping	2400	-69.40
Hopping	3-DH5	hopping	2400	-67.97

Table 105 - SISO Authorised Band Edge Results

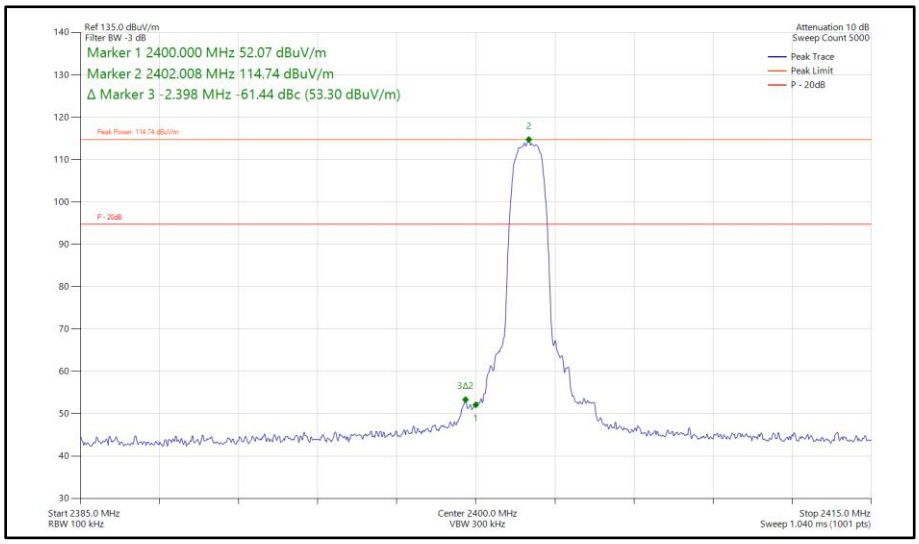

Figure 212 - Bluetooth 2-DH5, SISO, Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

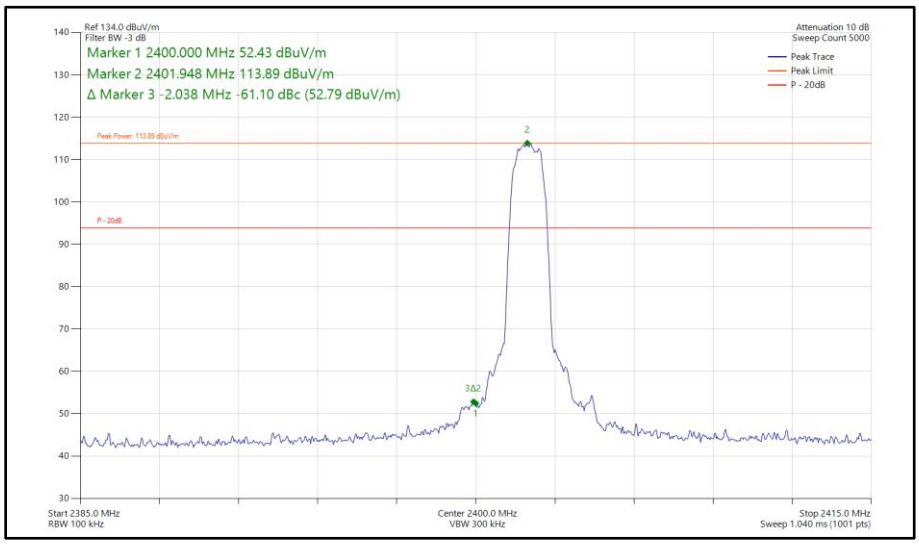

Figure 213 - Bluetooth 3-DH5, SISO, Core 1 - 2402 MHz
Band Edge Frequency 2400 MHz

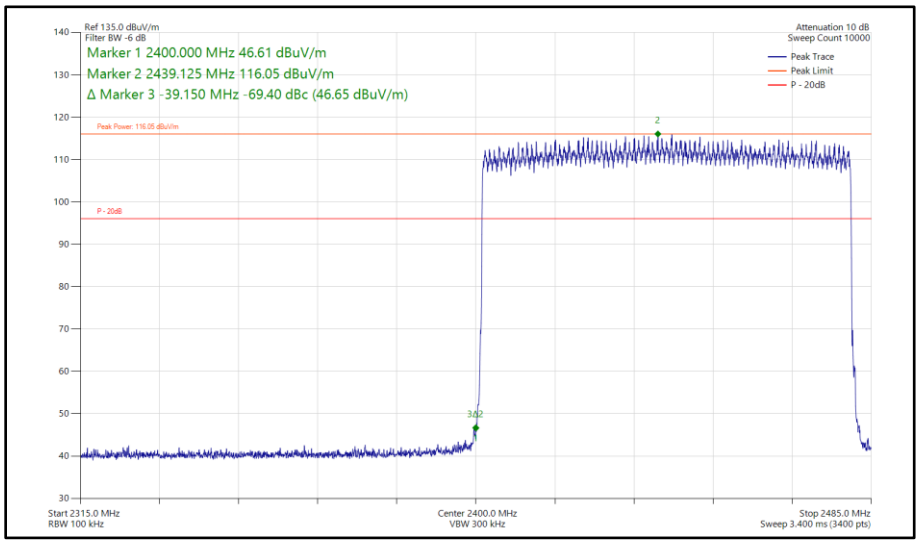

Figure 214 - Bluetooth 2-DH5, SISO, Core 1 - Hopping
Band Edge Frequency 2400 MHz

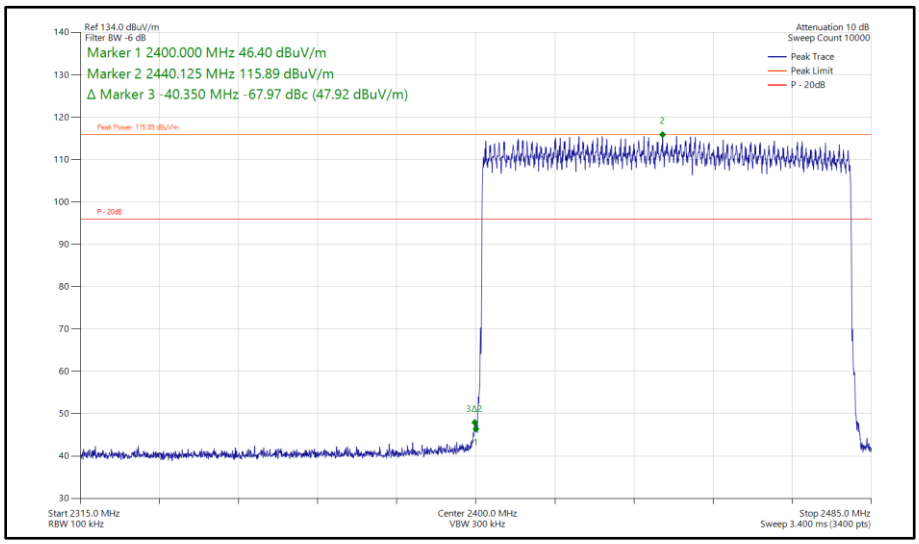

Figure 215 - Bluetooth 3-DH5, SISO, Core 1 - Hopping Band Edge Frequency 2400 MHz

ePA - Core 0 - Core 1 (MIMO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	2-DH5	2402	2400	-63.87
Static	3-DH5	2402	2400	-64.59
Hopping	2-DH5	hopping	2400	-68.59
Hopping	3-DH5	hopping	2400	-70.15

Table 106 - MIMO Authorised Band Edge Results

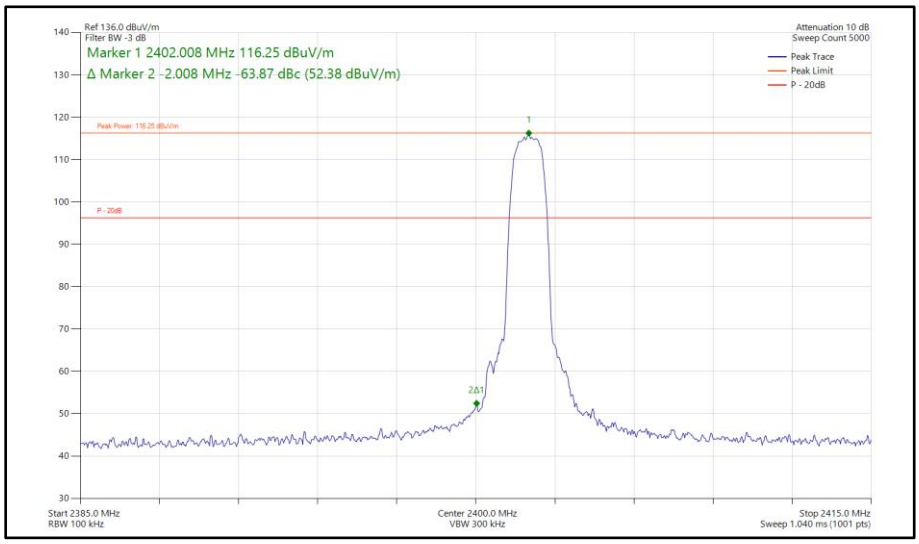

Figure 216 - Bluetooth 2-DH5, MIMO, Core 0 - Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

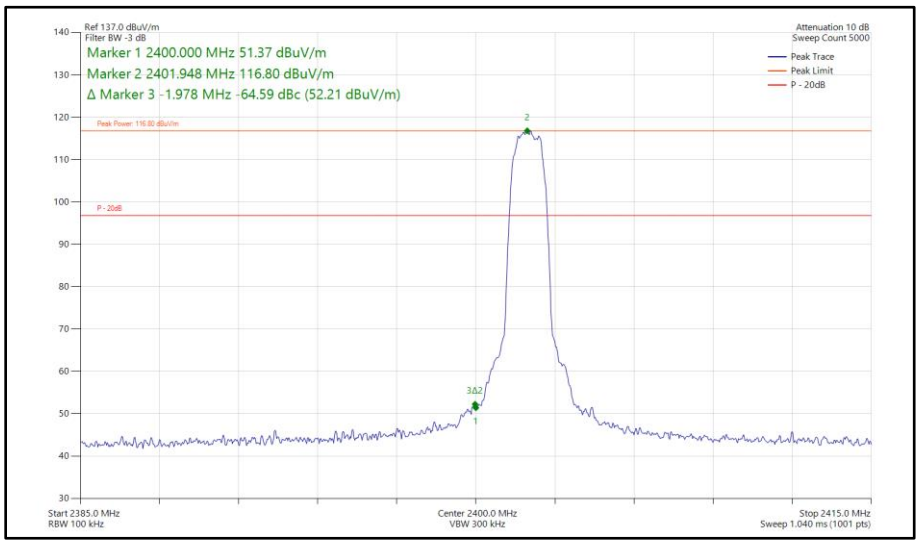

Figure 217 - Bluetooth 3-DH5, MIMO, Core 0 - Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

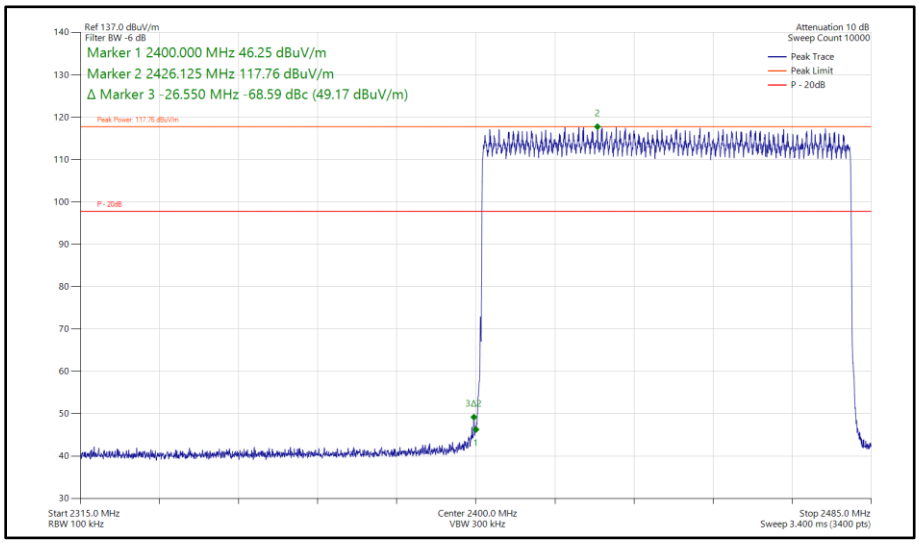

Figure 218 - Bluetooth 2-DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

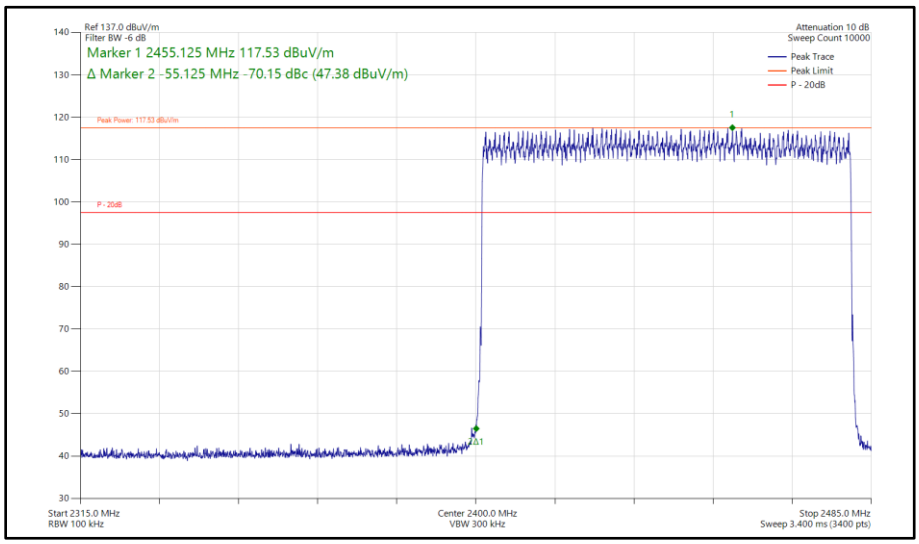

Figure 219 - Bluetooth 3-DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

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.

2.7.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 17.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
Power Supply Unit	Hewlett Packard	6253A	441	-	O/P Mon
Emissions Software	TUV SUD	EmX V3.4.2	5125	-	Software
Test Receiver	Rohde & Schwarz	ESW44	5379	12	12-Dec-2024
SAC Switch Unit	TUV SUD	TUV_SSU_001	6144	12	11-Dec-2024
Cable (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	6315	12	04-Feb-2025
Horn Antenna (1–10.5 GHz)	Schwarzbeck	BBHA 9120 B	6457	12	05-May-2025
AC Power Supply	iTech	IT7324	6657	-	O/P Mon
3m Semi-Anechoic Chamber	Albatross Projects	RF Chamber 17	6658	36	28-Jan-2026
Mast and Turntable Controller	Maturo Gmbh	FCU3.0	6659	-	TU
Tilt Antenna Mast	Maturo Gmbh	BAM4.5-P	6660	-	TU
Turntable	Maturo Gmbh	TT1.5SI	6661	-	TU
8m Cable	Junkosha	MWX221-08000AMSAMS/B	6748	12	01-Feb-2025

Table 107

TU - Traceability Unscheduled
O/P Mon - Output Monitored using calibrated equipment

2.8 Spurious Radiated Emissions

2.8.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.209 and 15.247 (d)

2.8.2 Equipment Under Test and Modification State

A3403, S/N: LJHNW3N9XQ - Modification State 0
A3403, S/N: JF4T7PYJ66 - Modification State 0

2.8.3 Date of Test

26-August-2024 to 20-September-2024

2.8.4 Test Method

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

The EUT was placed on the non-conducting platform in a manner typical of a normal installation. 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 20 dB of the limits shown on the plots, further investigation was carried out and reported in results tables.

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.

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.

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

Radiated spurious emissions tests have been conducted in 2-DH5 ePA (high power) and DH5 iPA (low power) modes as these represent worst case with respect to Power and PSD.