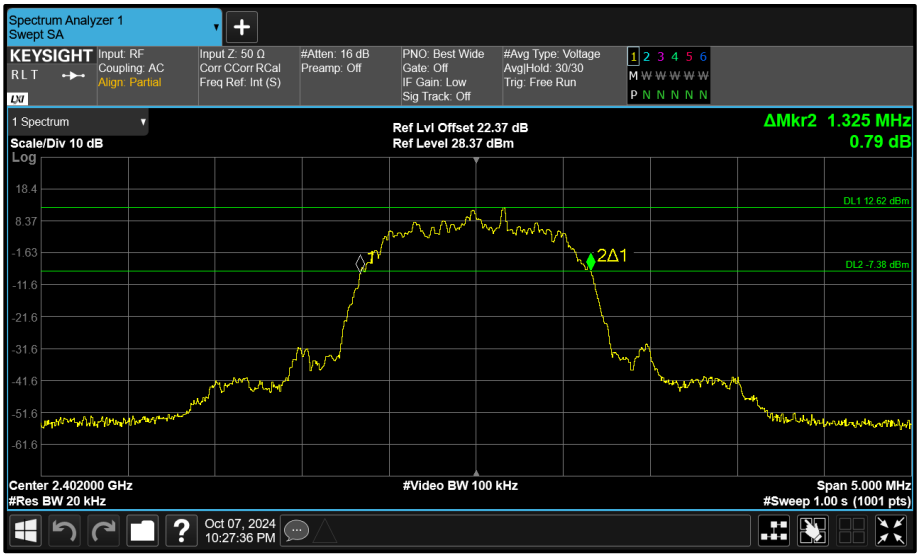

Figure 148 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

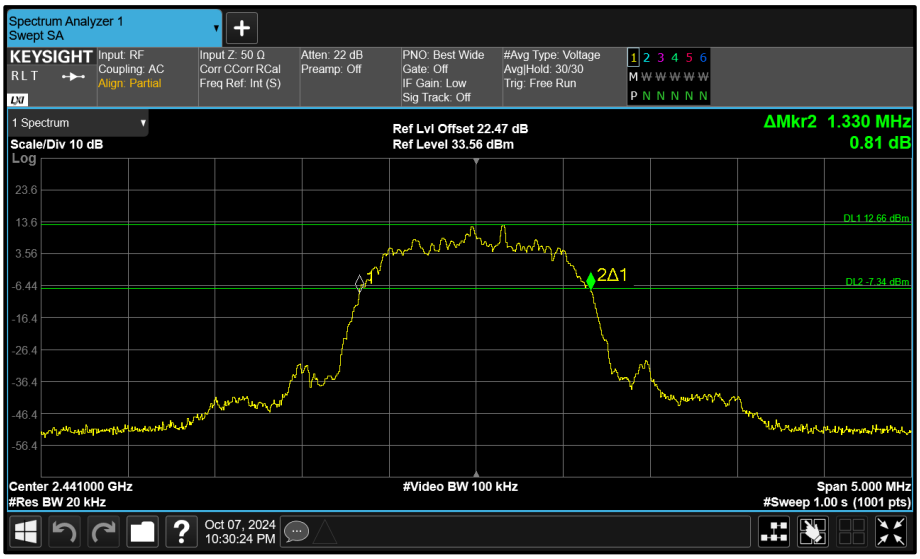

Figure 149 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

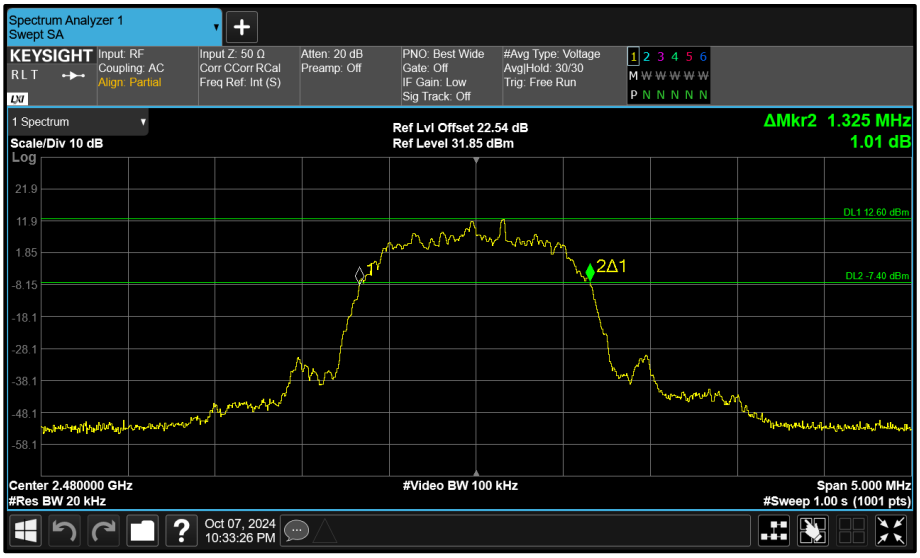

Figure 150 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

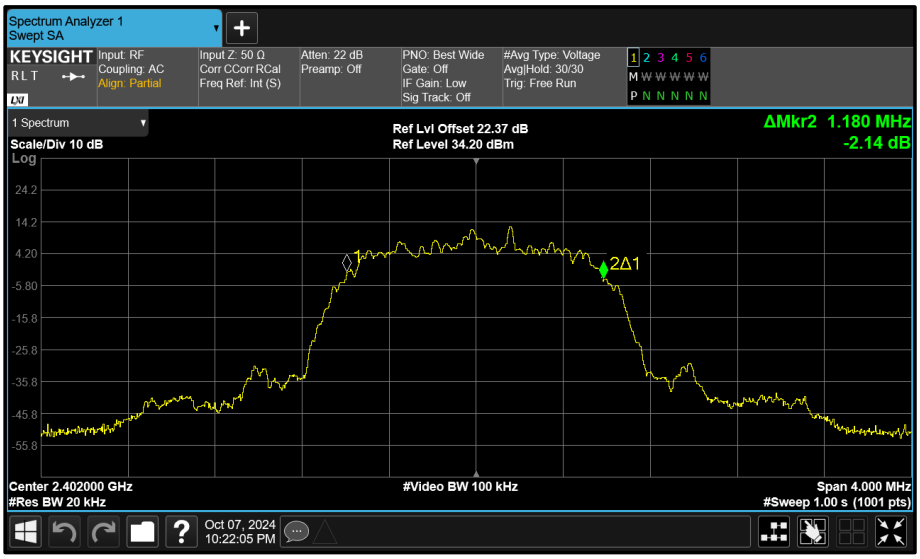

Figure 151 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

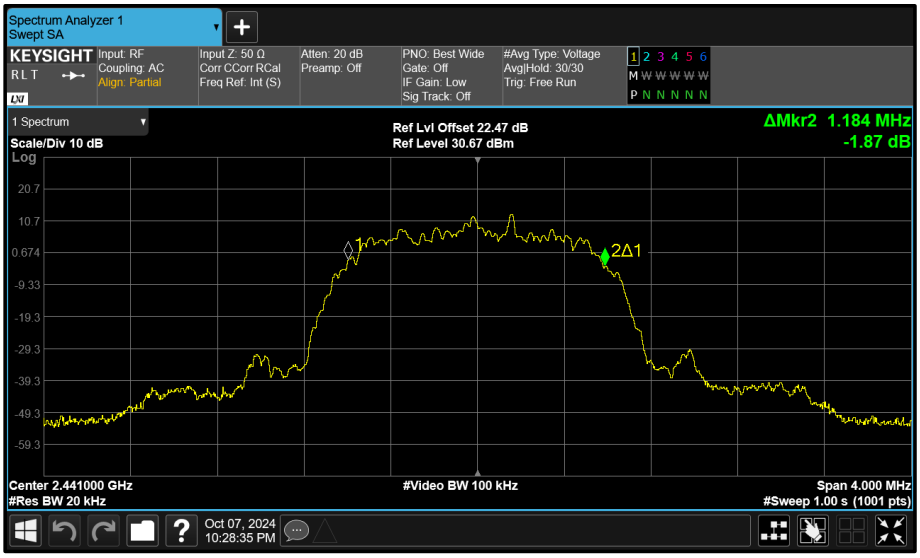

Figure 152 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

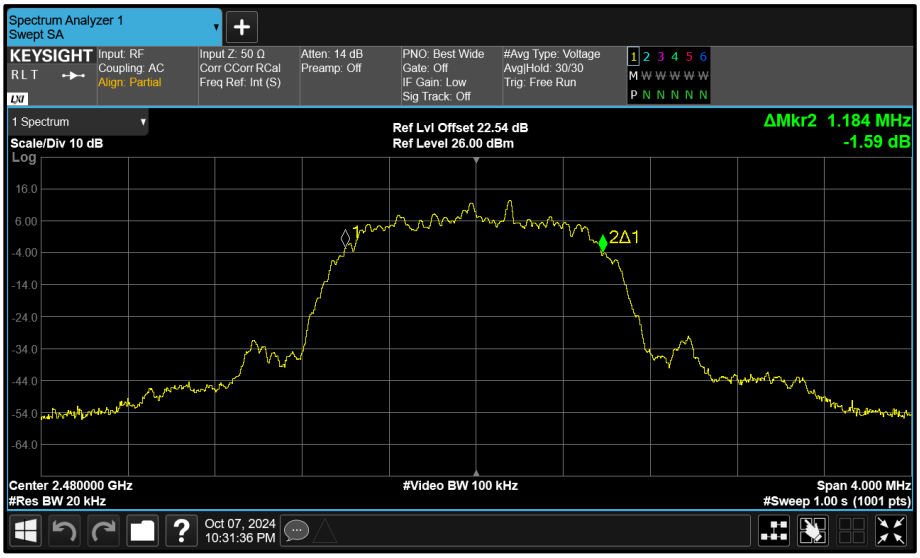

Figure 153 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

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

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

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

Table 78 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	-	1.180	-	-	-
2441	-	1.184	-	-	-
2480	-	1.184	-	-	-

Table 79 - 99% Bandwidth Results

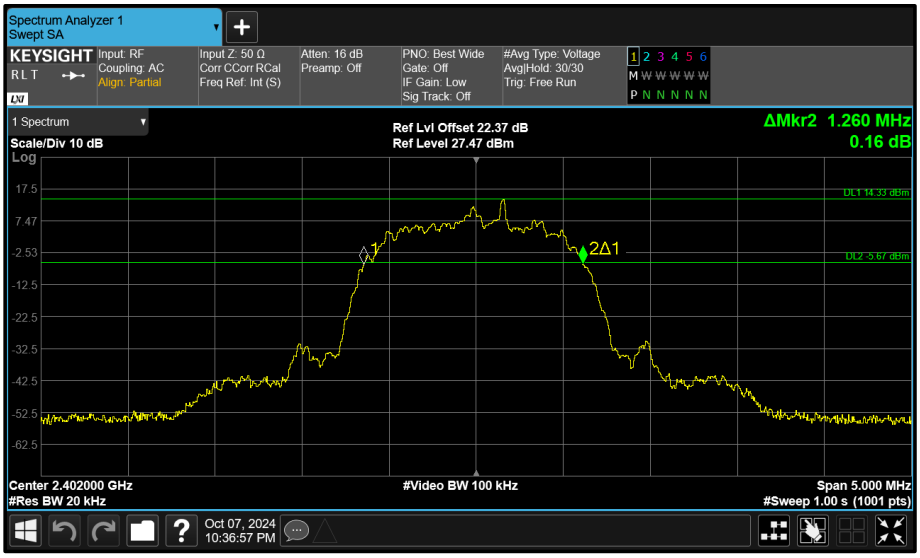

Figure 154 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

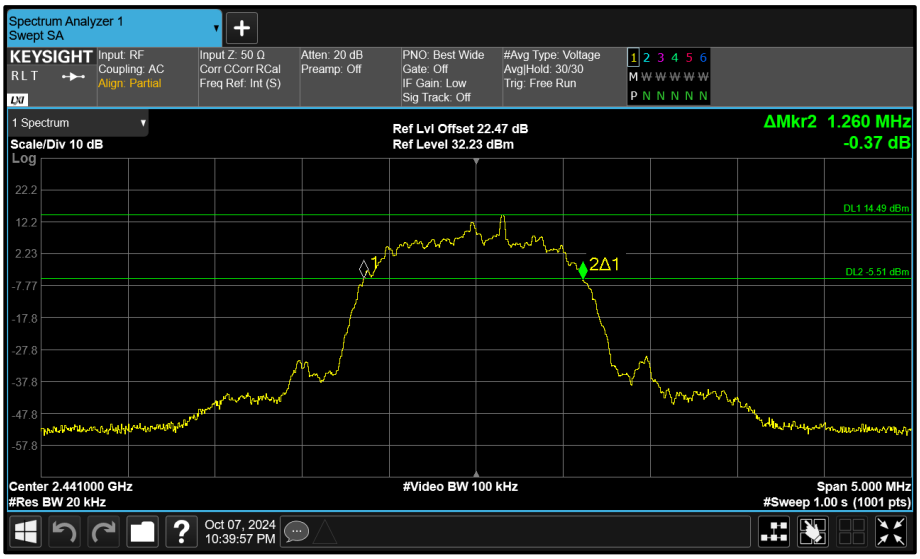

Figure 155 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

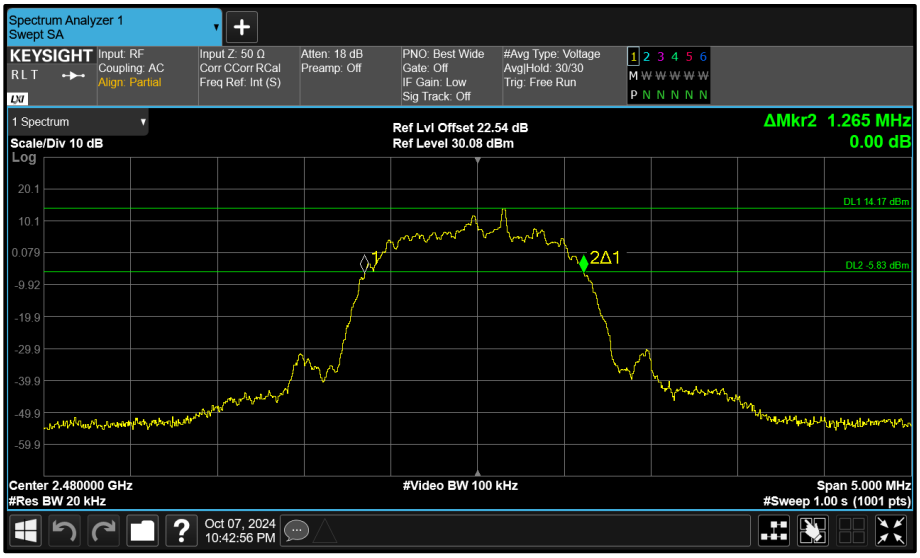

Figure 156 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

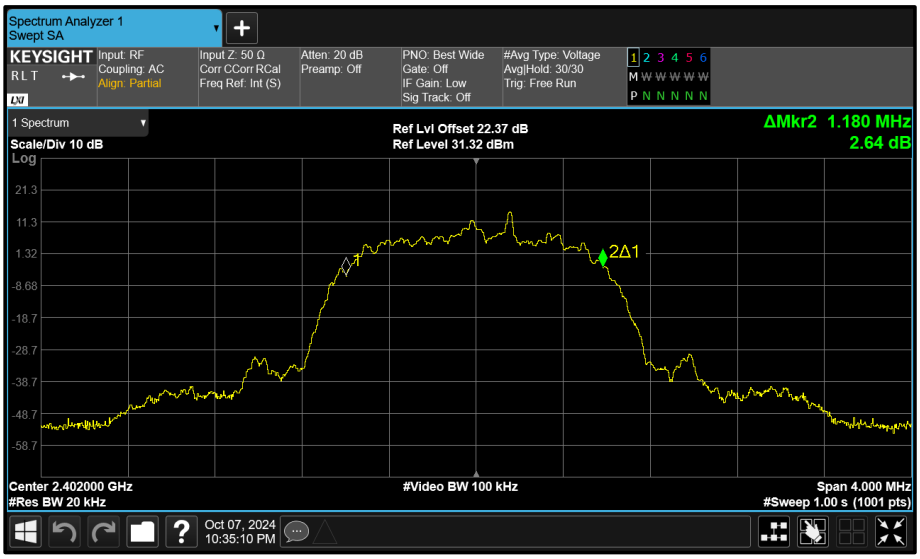

Figure 157 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

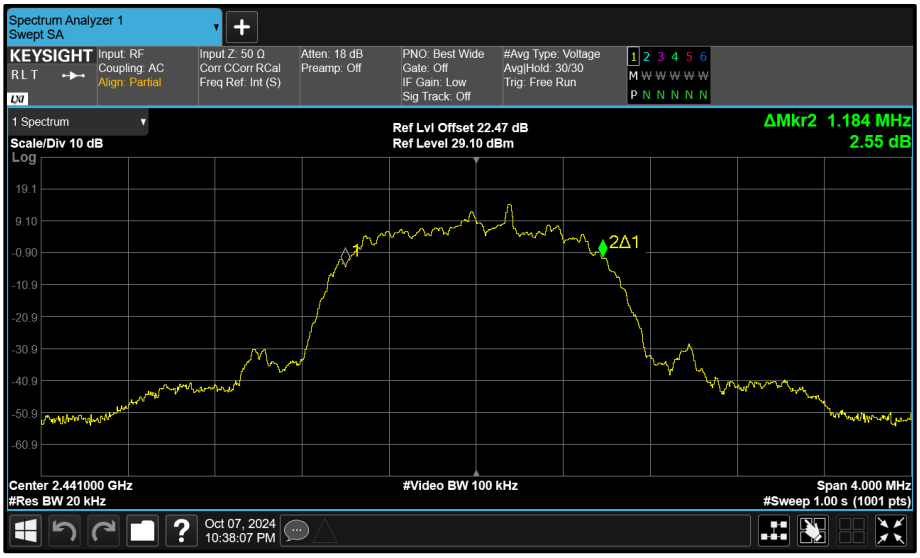

Figure 158 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

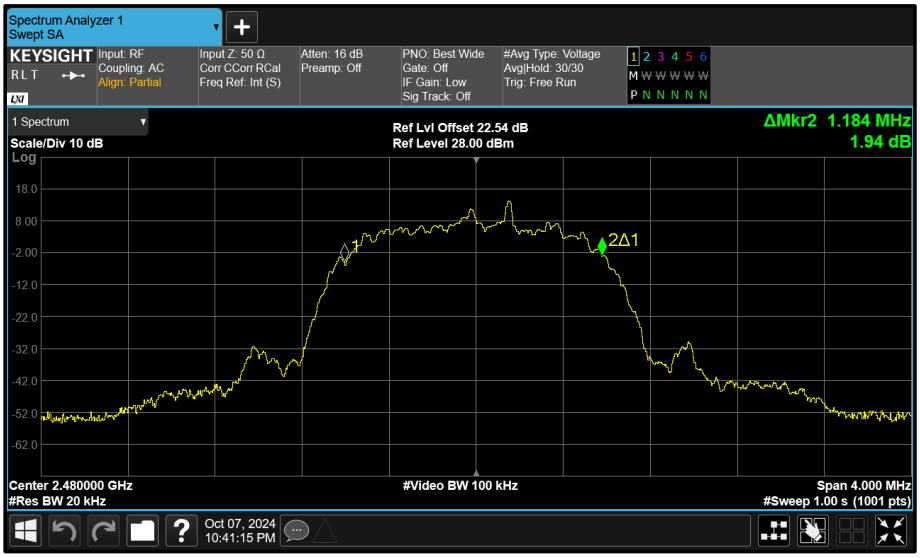

Figure 159 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

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

DUT Configuration			
Mode:	ePA 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	1.325	-	-
2480	1.330	1.330	-	-

Table 80 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	1.180	1.180	-	-	-
2441	1.184	1.184	-	-	-
2480	1.180	1.188	-	-	-

Table 81 - 99% Bandwidth Results

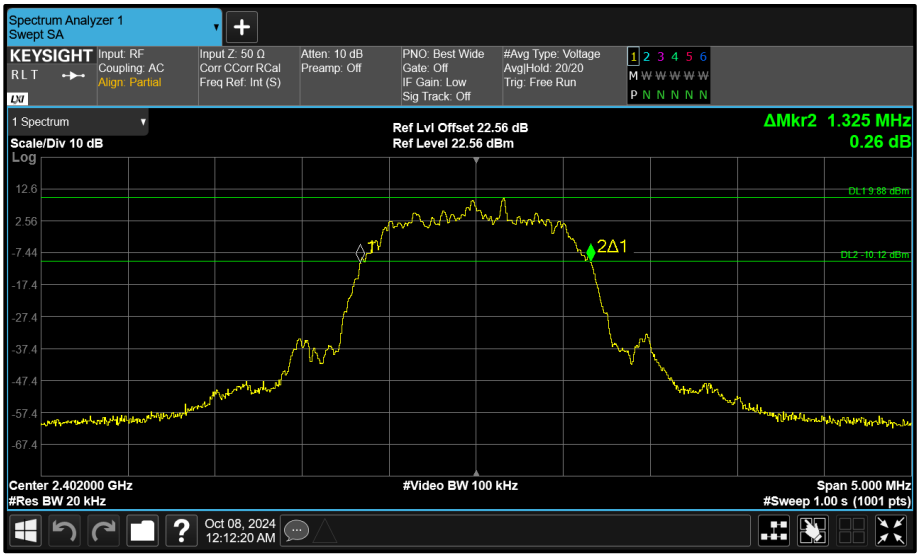

Figure 160 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

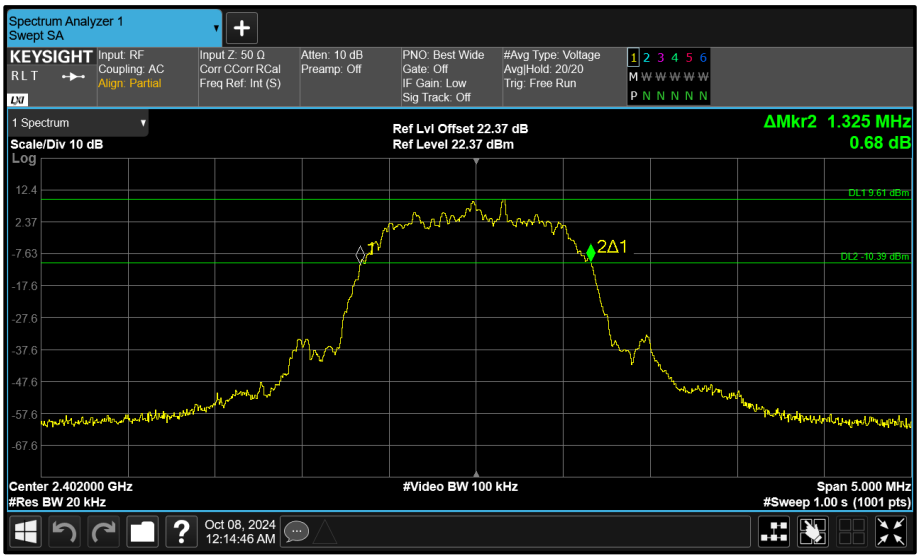

Figure 161 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

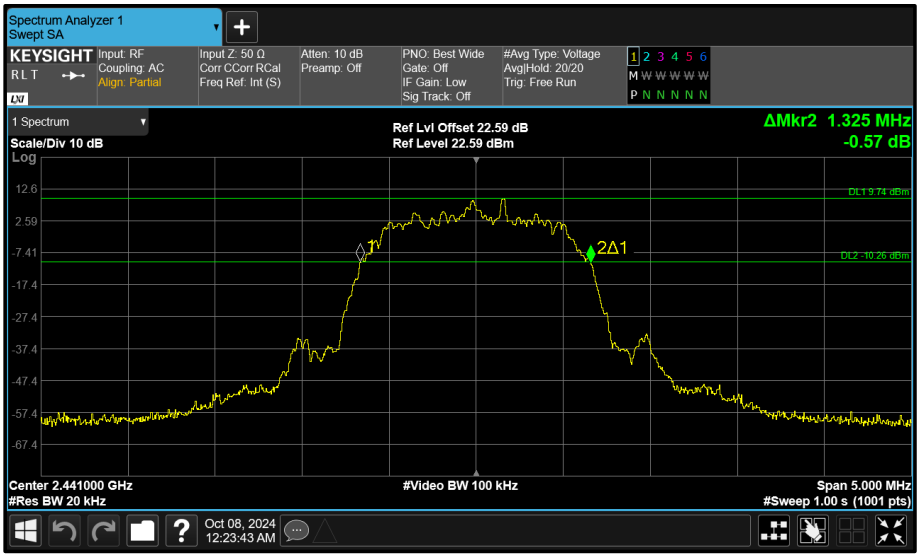

Figure 162 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

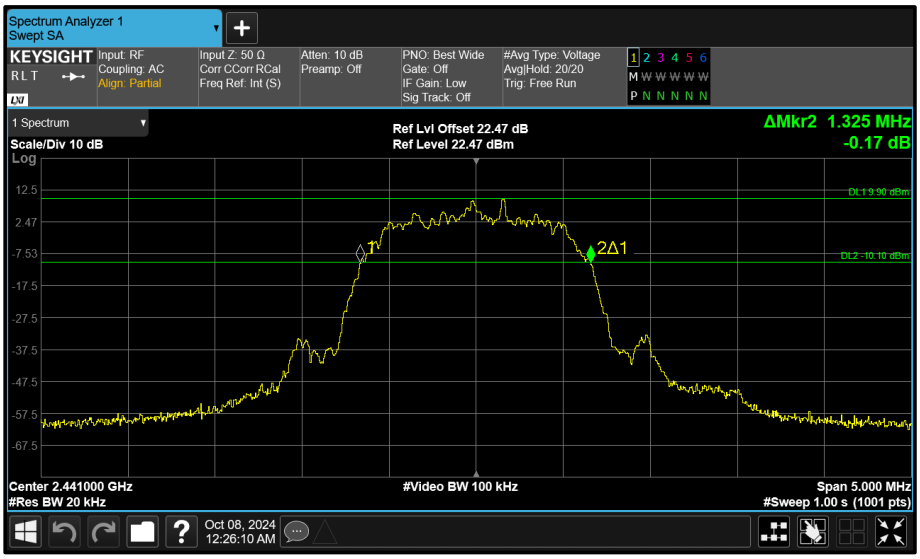

Figure 163 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

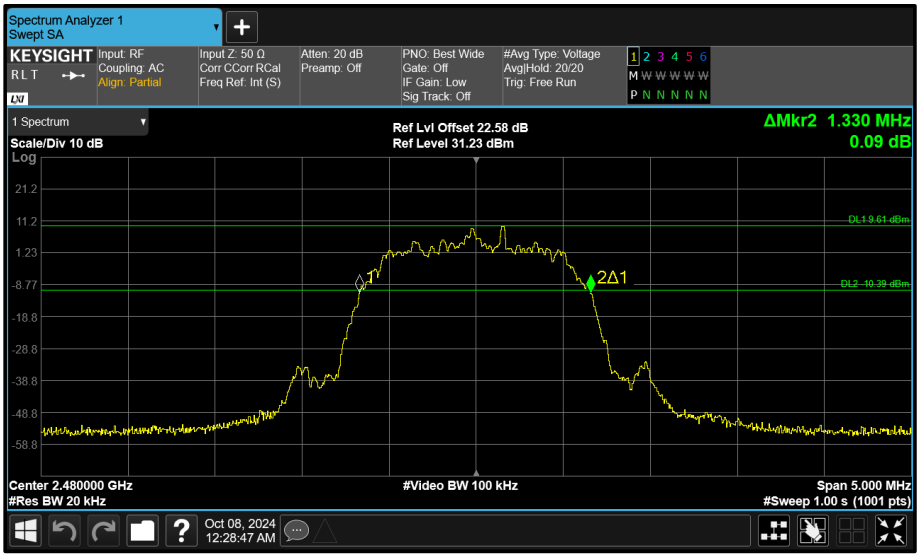

Figure 164 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

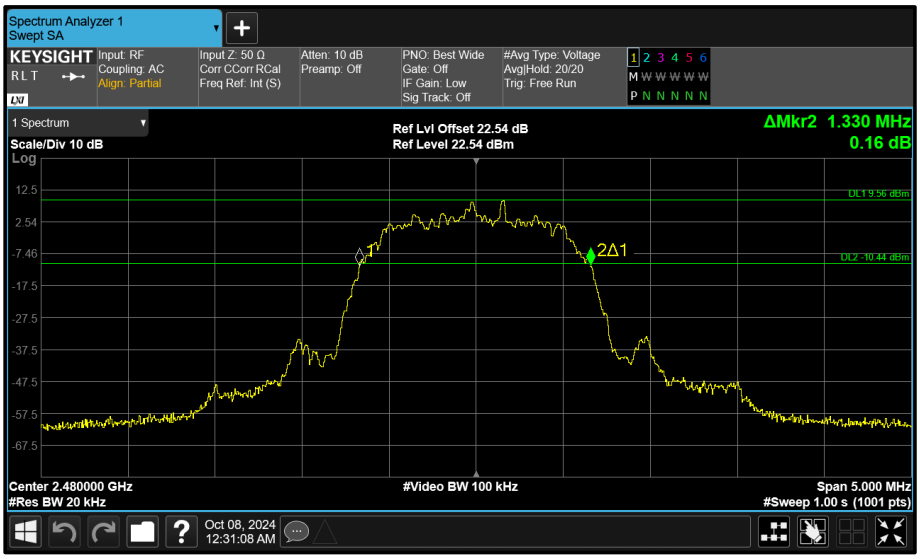

Figure 165 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

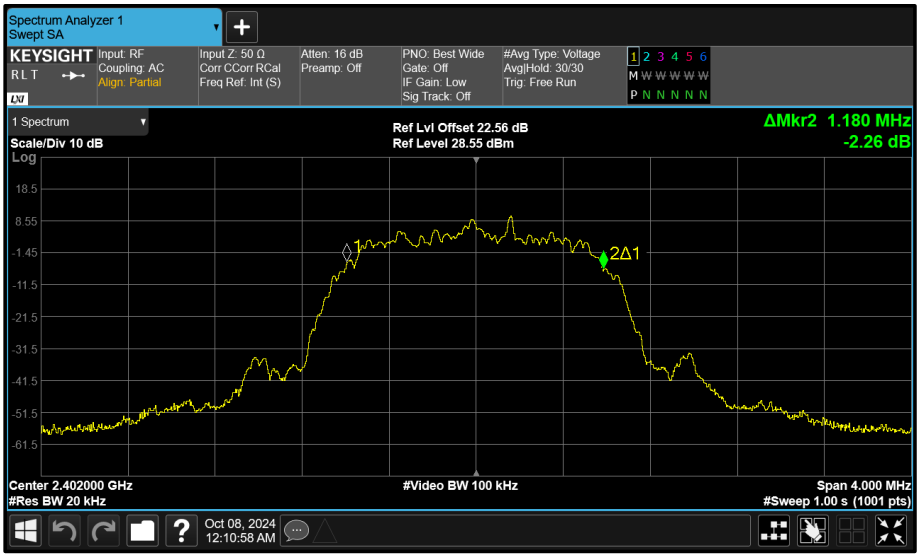

Figure 166 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

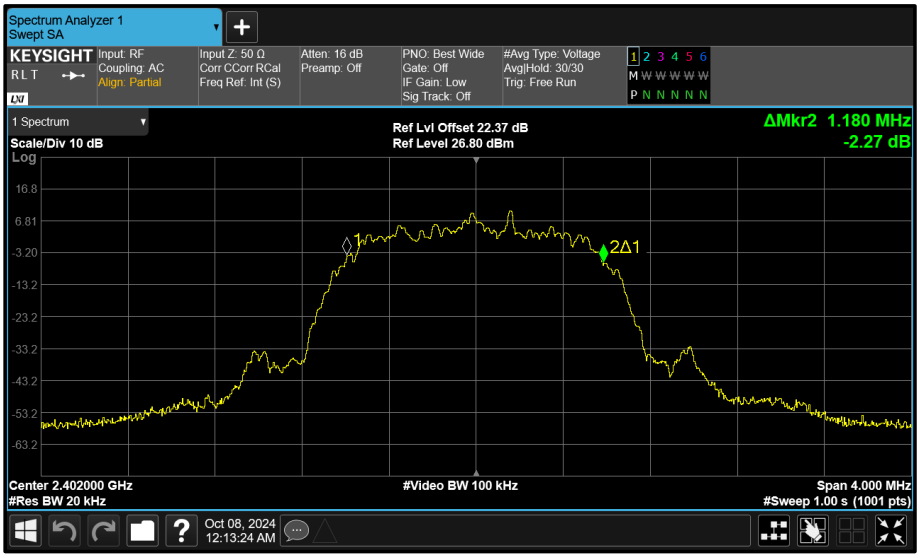

Figure 167 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

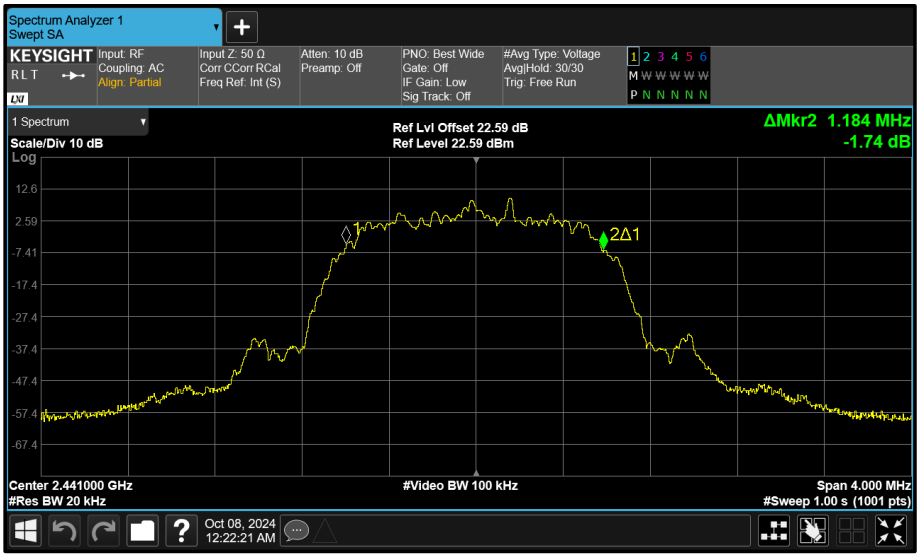

Figure 168 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

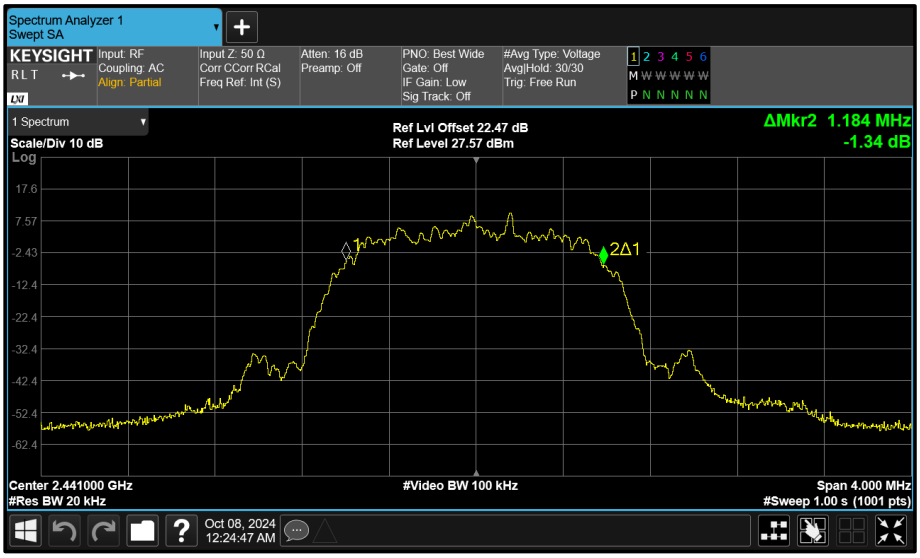

Figure 169 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

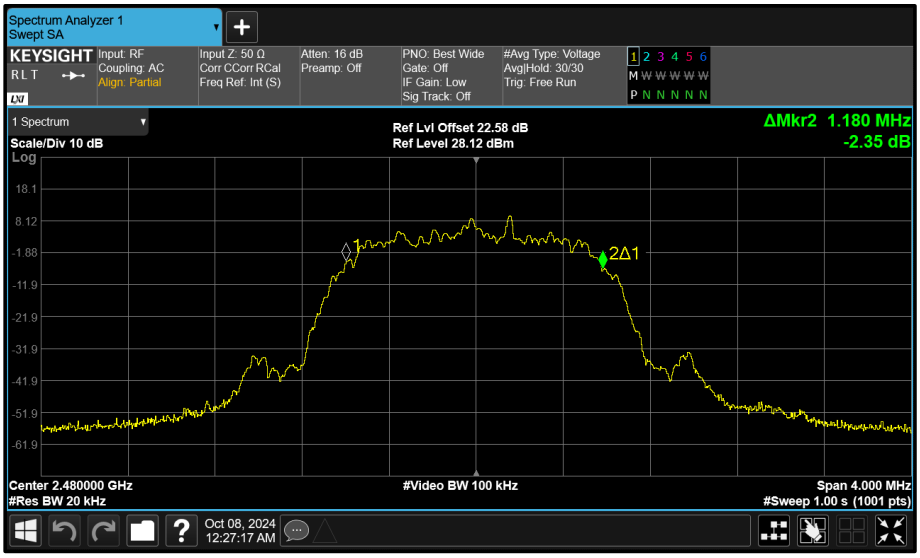

Figure 170 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

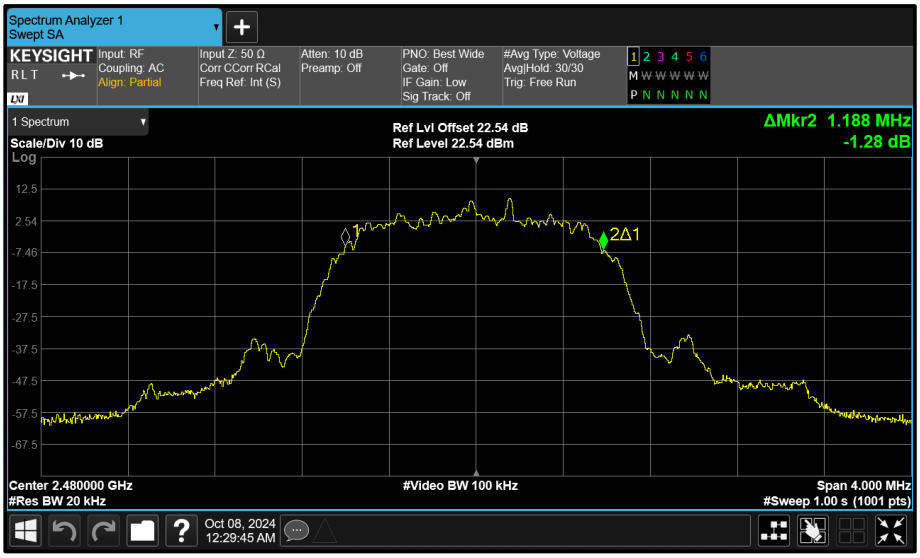

Figure 171 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

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

DUT Configuration			
Mode:	ePA 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	1.255	1.255	-	-
2441	1.260	1.260	-	-
2480	1.260	1.255	-	-

Table 82 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	1.184	1.184	-	-	-
2441	1.184	1.184	-	-	-
2480	1.184	1.188	-	-	-

Table 83 - 99% Bandwidth Results

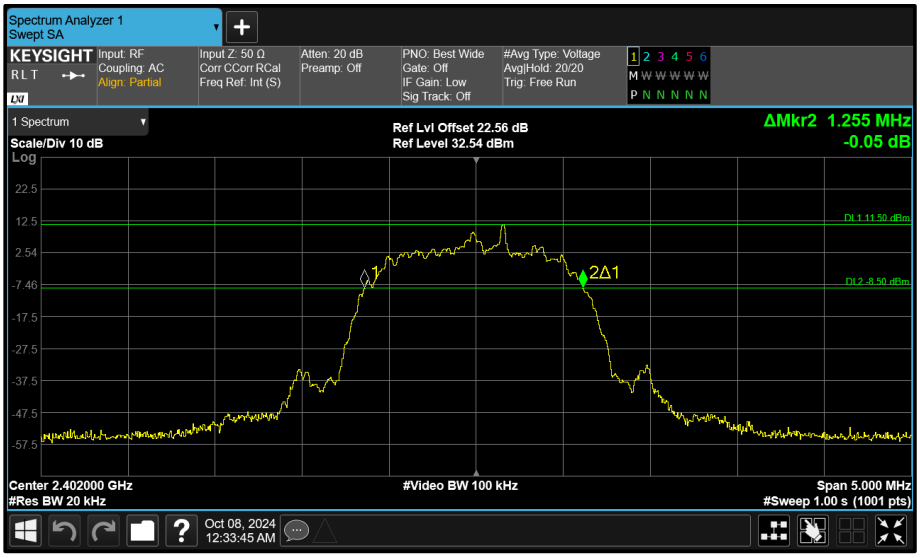

Figure 172 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

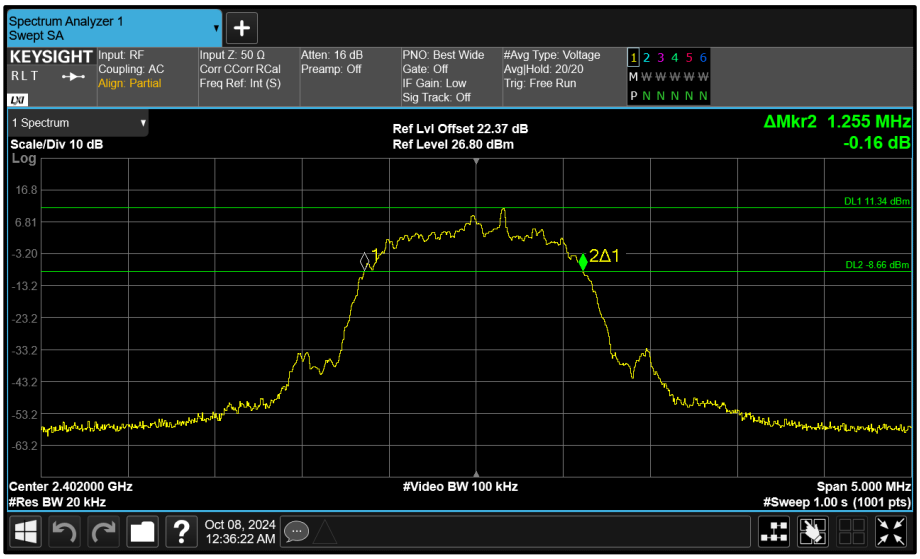

Figure 173 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

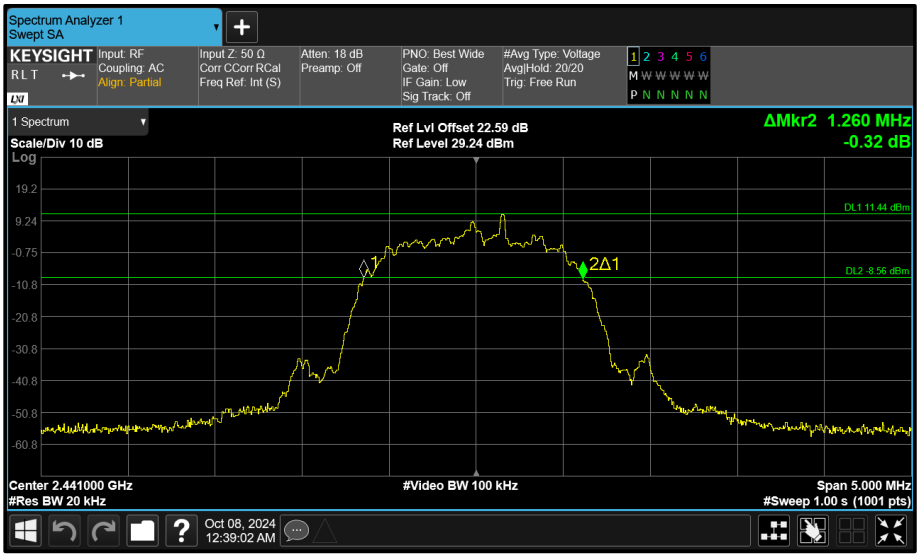

Figure 174 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

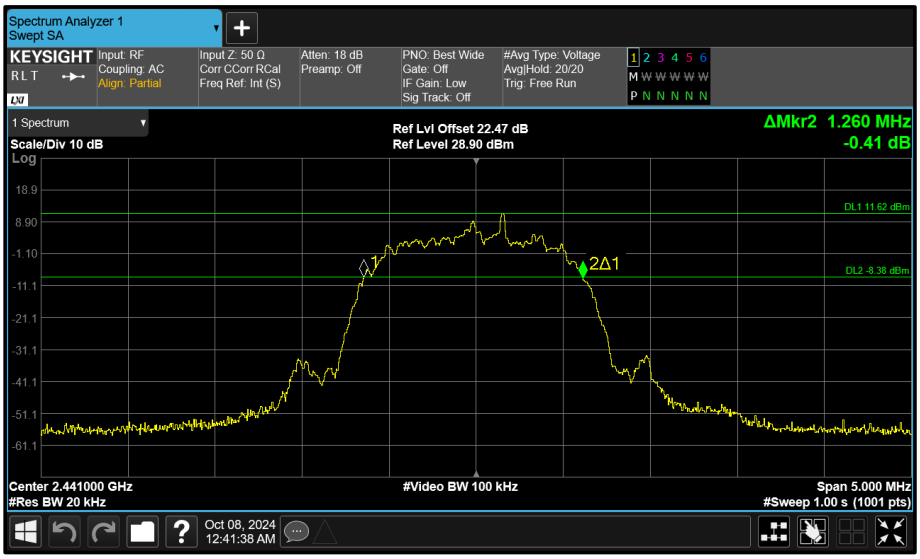

Figure 175 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

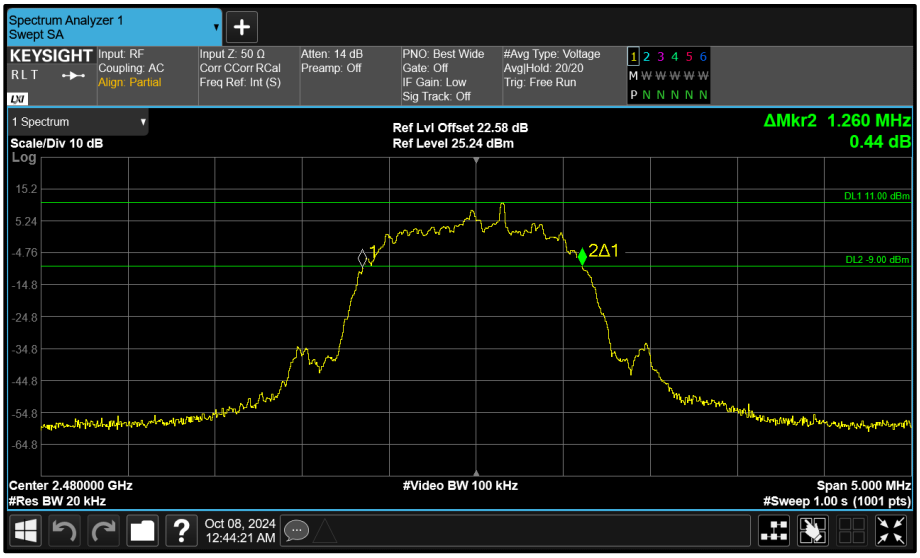

Figure 176 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

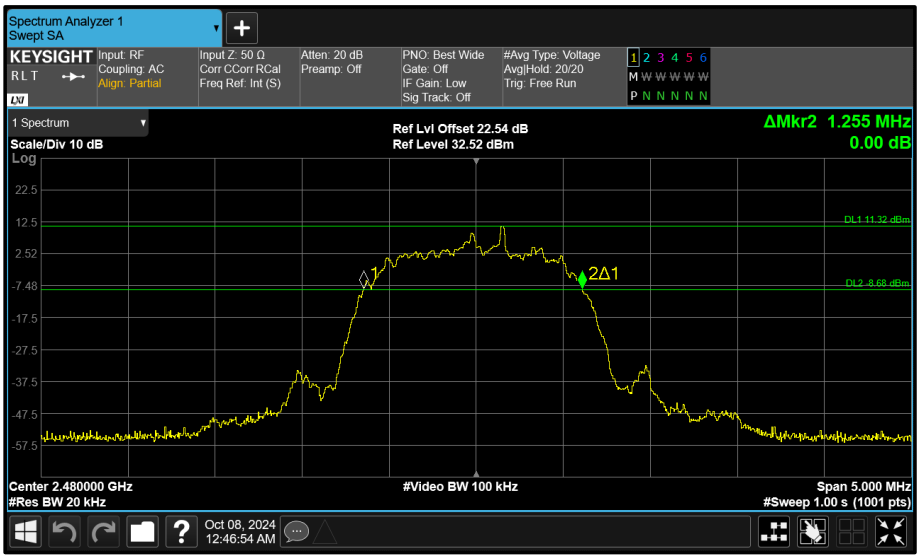

Figure 177 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

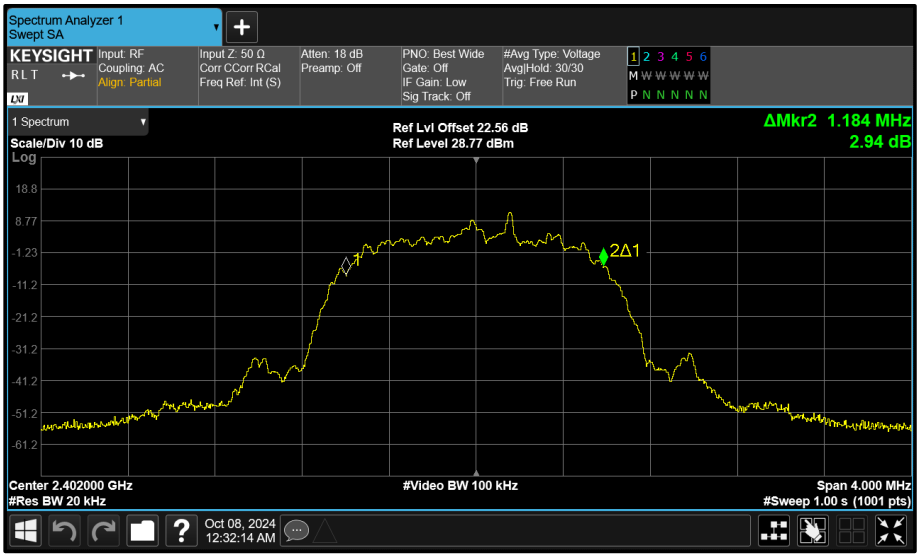

Figure 178 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

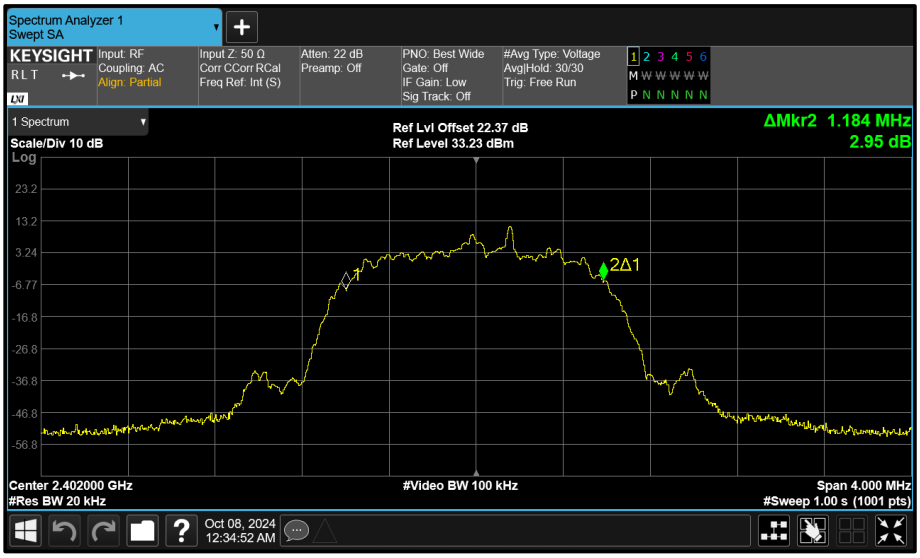

Figure 179 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

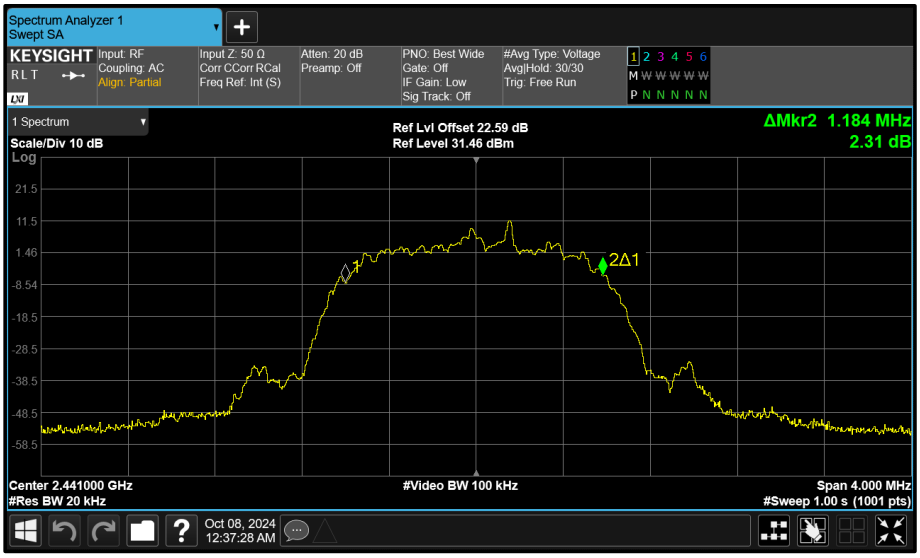

Figure 180 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

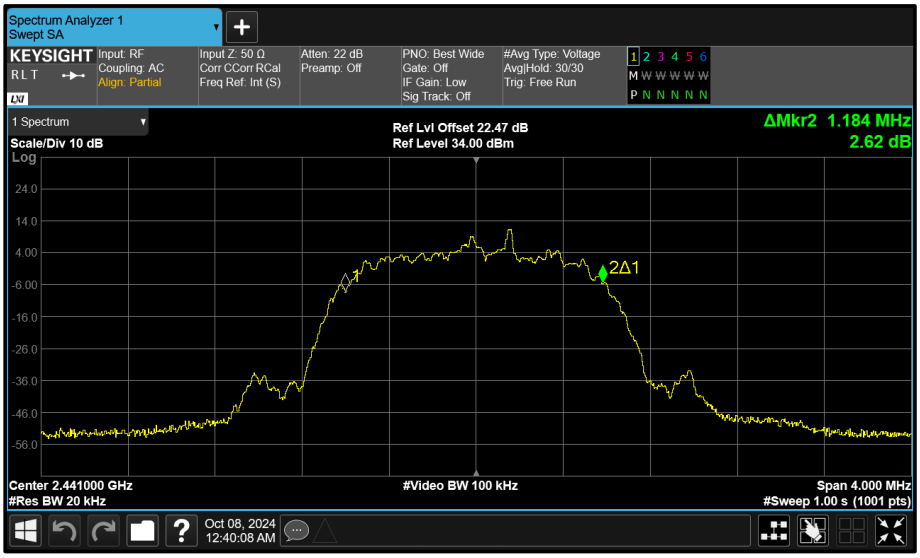

Figure 181 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

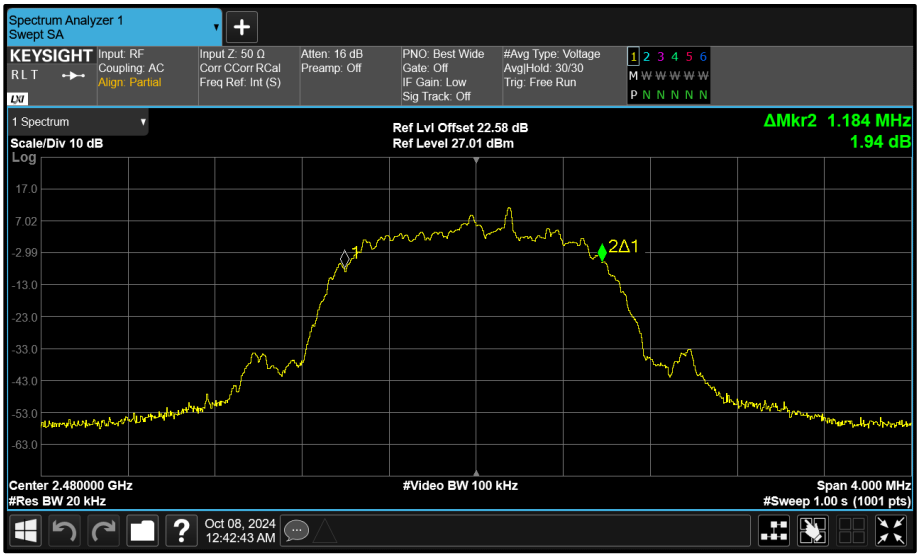

Figure 182 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

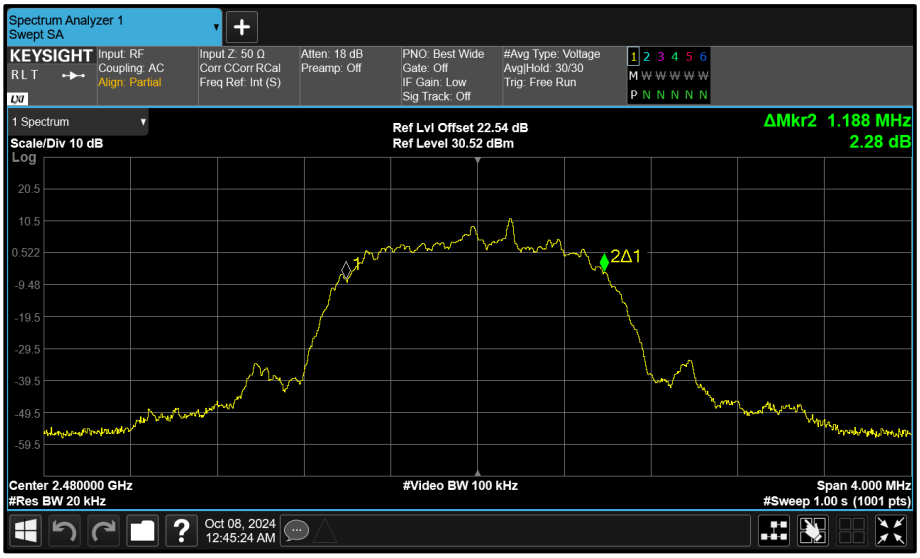

Figure 183 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

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 Chamber 18.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
Hygrometer	Rotronic	I-1000	3068	12	07-Nov-2024
Digital Multimeter	Fluke	115	6145	12	06-Jun-2025
MXA Signal Analyser	Keysight Technologies	N9020B	6419	24	28-Feb-2025
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6517	12	22-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6526	12	22-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6527	12	05-Mar-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6528	12	22-Feb-2025
AC Programmable Power Supply	iTech	IT7324	6665	-	O/P Mon

Table 84

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

A3401, S/N: HHJTCJ96L9 - Modification State 0

2.6.3 Date of Test

30-September-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	21.5 - 22.1 °C
Relative Humidity	56.8 - 58.6 %

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

DUT Configuration			
Mode:	iPA GFSK (DH5)	Duty Cycle (%):	76.8
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	4.80

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	14.46	-	-	-	30.00	-15.54
2441	-	13.25	-	-	-	30.00	-16.75
2480	-	13.38	-	-	-	30.00	-16.62

Table 85 - FCC 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 (%):	77.1
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	4.80

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	12.22	-	-	-	30.00	-17.78
2441	-	11.88	-	-	-	30.00	-18.12
2480	-	11.81	-	-	-	30.00	-18.19

Table 86 - FCC 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 (%):	76.9
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	4.80

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	12.68	-	-	-	30.00	-17.32
2441	-	12.69	-	-	-	30.00	-17.31
2480	-	11.60	-	-	-	30.00	-18.40

Table 87 - FCC 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):	C (Core 2)	Peak Antenna Gain (dBi):	4.80

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	-	13.24	-	-	30.00	-16.76
2441	-	-	13.15	-	-	30.00	-16.85
2480	-	-	13.11	-	-	30.00	-16.89

Table 88 - FCC 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):	C (Core 2)	Peak Antenna Gain (dBi):	4.80

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	-	11.89	-	-	30.00	-18.11
2441	-	-	11.72	-	-	30.00	-18.28
2480	-	-	11.74	-	-	30.00	-18.26

Table 89 - FCC 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 (%):	76.9
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	C (Core 2)	Peak Antenna Gain (dBi):	4.80

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	-	12.23	-	-	30.00	-17.77
2441	-	-	12.07	-	-	30.00	-17.93
2480	-	-	12.05	-	-	30.00	-17.95

Table 90 - FCC 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 (%):	76.8
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.66

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	13.38	13.26	-	-	16.33	28.34	-12.01
2441	13.34	13.48	-	-	16.42	28.34	-11.92
2480	13.01	13.50	-	-	16.27	28.34	-12.07

Table 91 - FCC 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):	7.66

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	11.79	11.37	-	-	14.59	28.34	-13.74
2441	11.65	11.26	-	-	14.47	28.34	-13.87
2480	11.88	11.45	-	-	14.68	28.34	-13.66

Table 92 - FCC 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 (%):	77.1
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.66

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	12.20	11.73	-	-	14.98	28.34	-13.36
2441	12.12	11.58	-	-	14.87	28.34	-13.47
2480	12.11	11.67	-	-	14.91	28.34	-13.43

Table 93 - FCC 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 π/4 DQPSK (2-DH5)	Duty Cycle (%):	76.9
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	4.80

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	19.26	-	-	-	30.00	-10.74
2441	-	19.01	-	-	-	30.00	-10.99
2480	-	19.20	-	-	-	30.00	-10.80

Table 94 - FCC 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):	4.80

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	-	19.82	-	-	-	30.00	-10.18
2441	-	19.78	-	-	-	30.00	-10.22
2480	-	19.70	-	-	-	30.00	-10.30

Table 95 - FCC 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 (%):	76.9
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	7.66

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	16.04	16.38	-	-	19.22	28.34	-9.11
2441	16.03	16.25	-	-	19.15	28.34	-9.19
2480	15.91	15.93	-	-	18.93	28.34	-9.41

Table 96 - FCC 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):	7.66

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2402	16.71	16.45	-	-	19.59	28.34	-8.74
2441	16.69	16.50	-	-	19.61	28.34	-8.73
2480	16.48	16.46	-	-	19.48	28.34	-8.85

Table 97 - FCC 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.

2.6.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 18 and RF Laboratory 14.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
Hygrometer	Rotronic	I-1000	3068	12	07-Nov-2024
1500VA AC Power Supply	iTech	IT7324	5907	-	O/P Mon
USB Power Sensors, 50MHz to 8GHz	Boonton	RTP5008	5921	12	05-Feb-2025
USB Power Sensors, 50MHz to 8GHz	Boonton	RTP5008	5922	12	05-Feb-2025
USB Power Sensors, 50MHz to 8GHz	Boonton	RTP5008	5923	12	05-Feb-2025
Digital Multimeter	Fluke	115	6145	12	06-Jun-2025
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6517	12	22-Feb-2025
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6519	12	08-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6520	12	09-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6521	12	09-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6522	12	09-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6526	12	22-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6527	12	05-Mar-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6528	12	22-Feb-2025
USB Wideband Power Sensor	Boonton	RTP5008	6585	12	20-Feb-2025
USB Wideband Power Sensor	Boonton	RTP5008	6586	12	20-Feb-2025
USB Wideband Power Sensor	Boonton	RTP5008	6590	12	20-Feb-2025
AC Programmable Power Supply	iTech	IT7324	6665	-	O/P Mon

Table 98

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

A3401, S/N: JVJC362FKV - Modification State 0
A3401, S/N: H56R7RH7PK - Modification State 0

2.7.3 Date of Test

04-September-2024 to 27-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	22.3 - 24.5 °C
Relative Humidity	41.0 - 54.7 %

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	-66.10
Static	2-DH5	2402	2400	-60.94
Static	3-DH5	2402	2400	-61.80
Hopping	DH5	hopping	2400	-68.49
Hopping	2-DH5	hopping	2400	-64.04
Hopping	3-DH5	hopping	2400	-66.27

Table 99 - SISO Authorised Band Edge Results

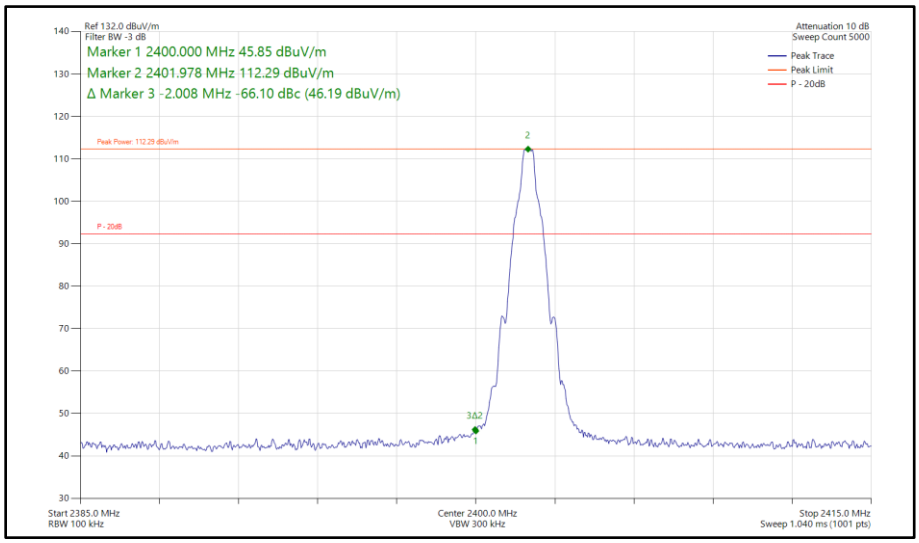

Figure 184 - Bluetooth DH5, SISO, Core 0 - 2402 MHz Band Edge Frequency 2400 MHz

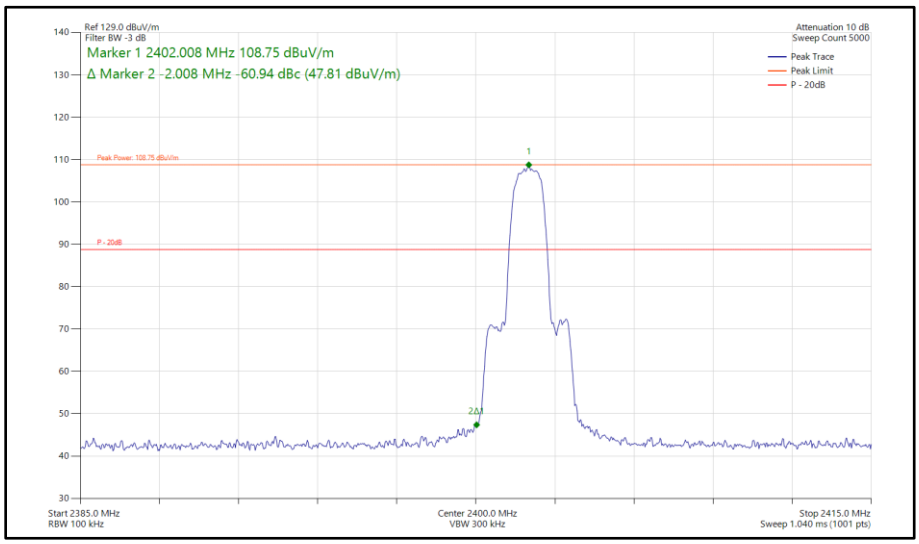

Figure 185 - Bluetooth 2-DH5, SISO, Core 0 - 2402 MHz Band Edge Frequency 2400 MHz

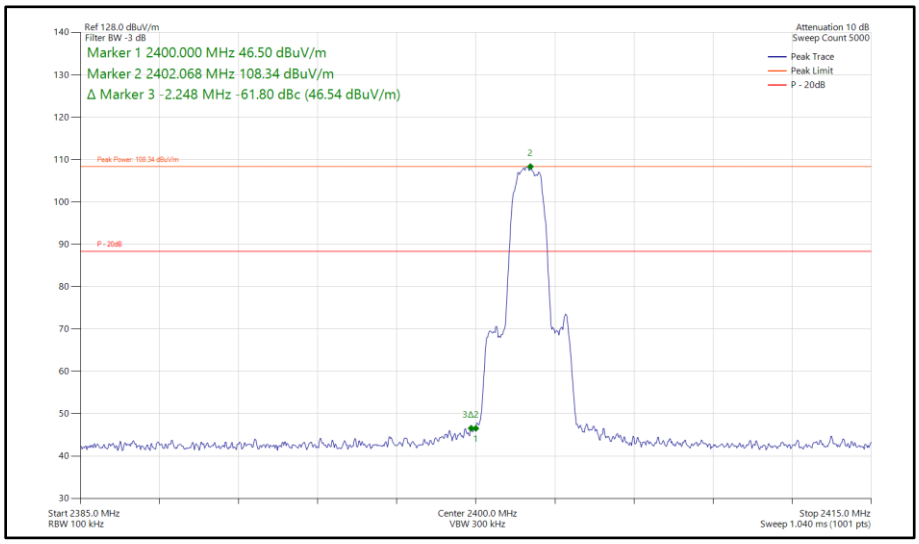

Figure 186 - Bluetooth 3-DH5, SISO, Core 0 - 2402 MHz Band Edge Frequency 2400 MHz

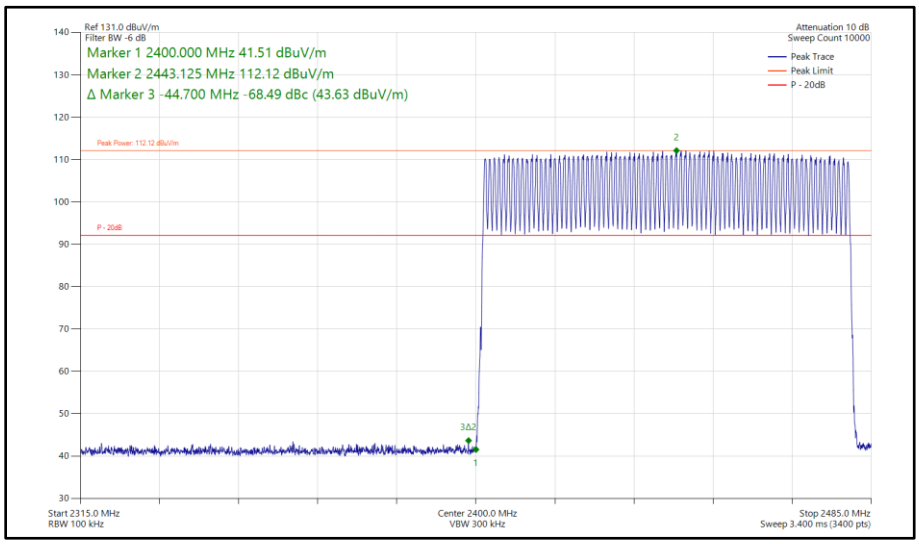

Figure 187 - Bluetooth DH5, SISO, Core 0 - Hopping Band Edge Frequency 2400 MHz

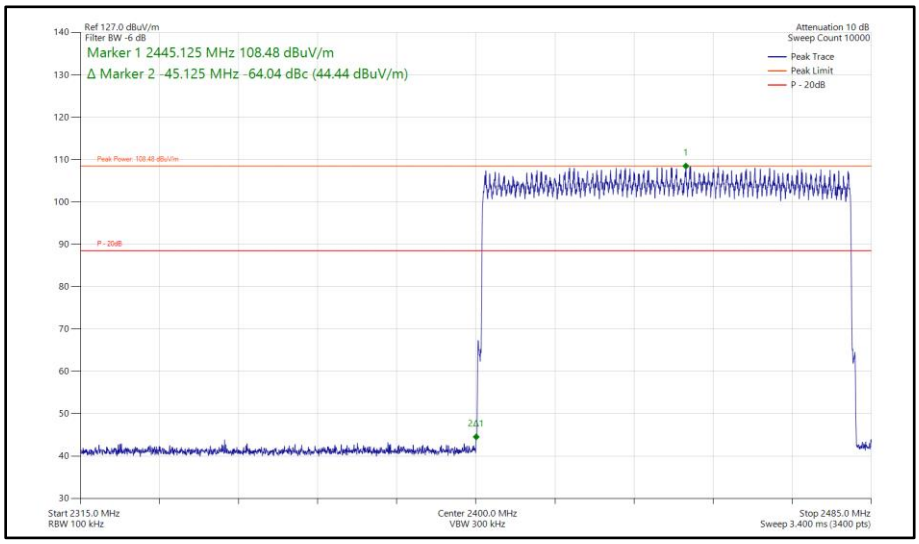

Figure 188 - Bluetooth 2-DH5, SISO, Core 0 - Hopping Band Edge Frequency 2400 MHz

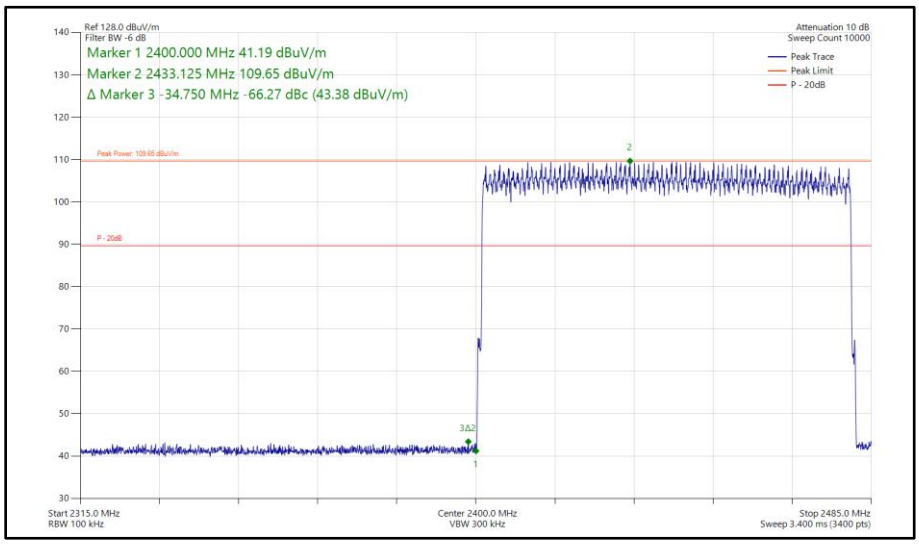

Figure 189 - Bluetooth 3-DH5, SISO, Core 0 - Hopping Band Edge Frequency 2400 MHz

iPA - Core 1 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	DH5	2402	2400	-61.88
Static	2-DH5	2402	2400	-58.06
Static	3-DH5	2402	2400	-58.96
Hopping	DH5	Hopping	2400	-68.55
Hopping	2-DH5	Hopping	2400	-63.77
Hopping	3-DH5	Hopping	2400	-62.70

Table 100 - SISO Authorised Band Edge Results

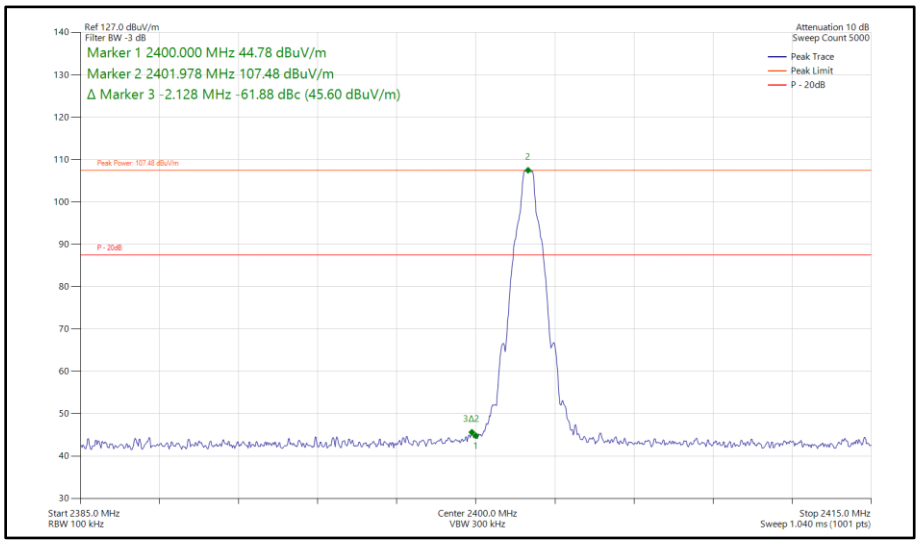

Figure 190 - Bluetooth DH5, SISO, Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

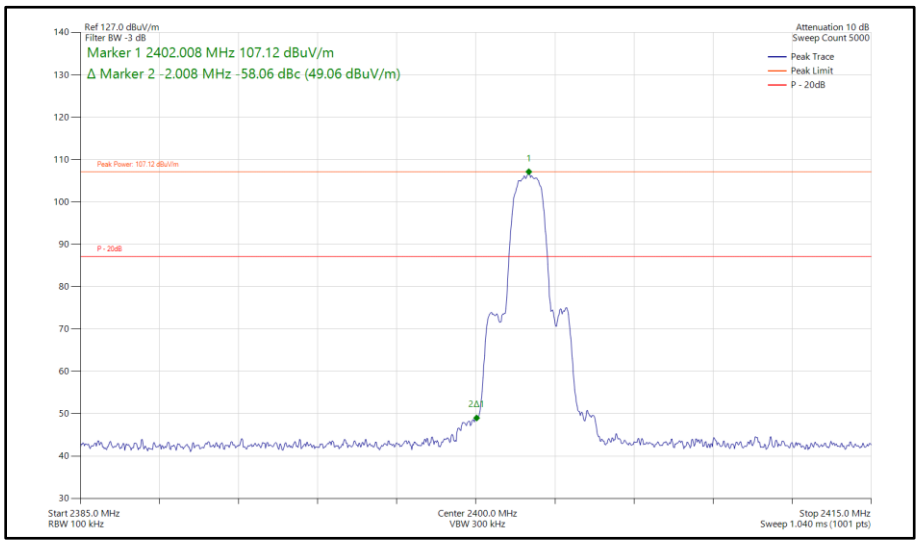

Figure 191 - Bluetooth 2-DH5, SISO, Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

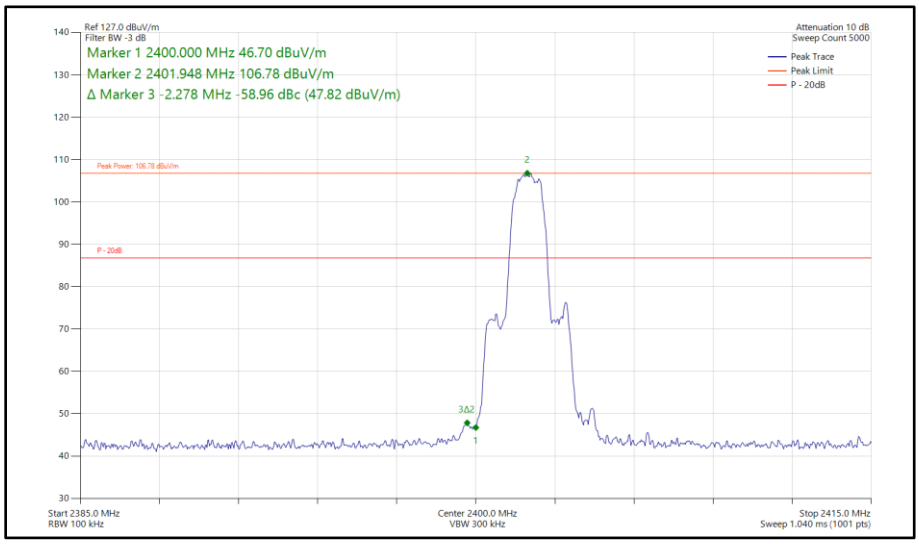

Figure 192 - Bluetooth 3-DH5, SISO, Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

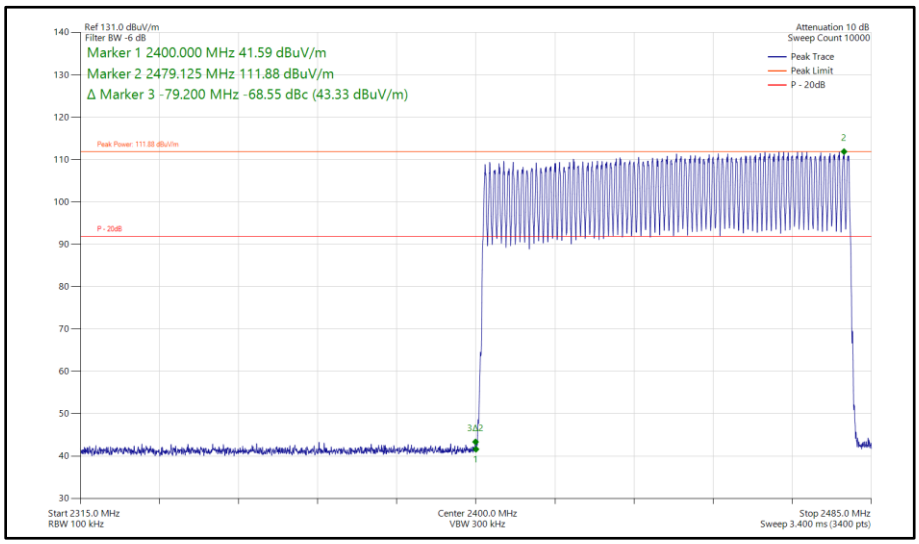

Figure 193 - Bluetooth DH5, SISO, Core 1 - Hopping Band Edge Frequency 2400 MHz

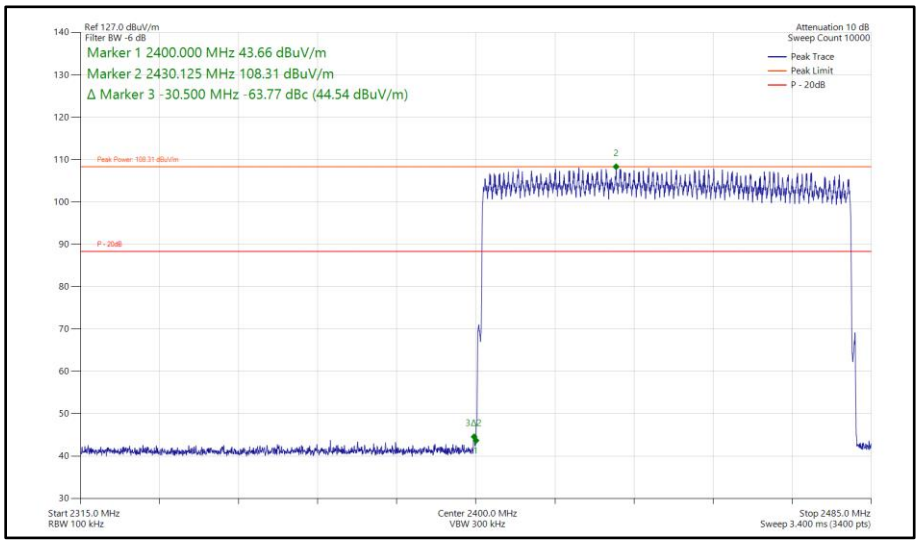

Figure 194 - Bluetooth 2-DH5, SISO, Core 1 - Hopping Band Edge Frequency 2400 MHz

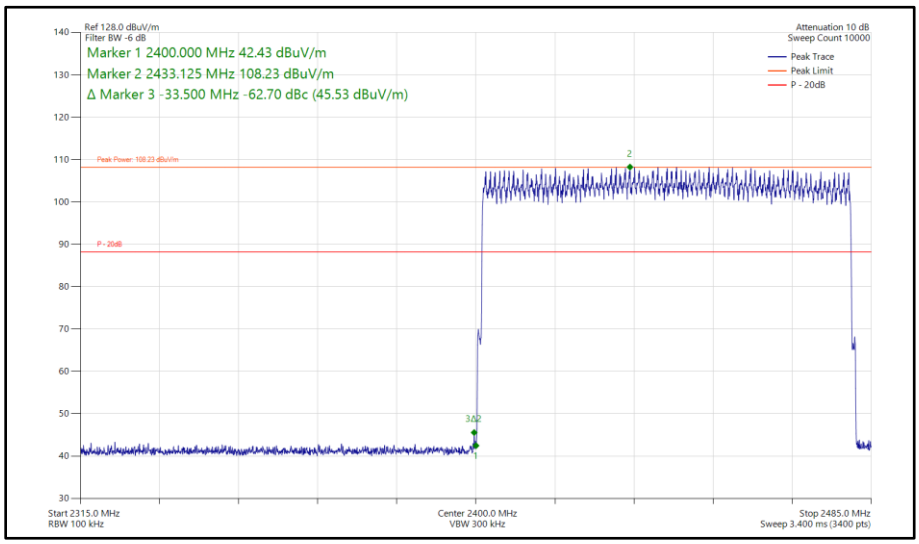

Figure 195 - Bluetooth 3-DH5, SISO, Core 1 - Hopping Band Edge Frequency 2400 MHz

iPA - Core 2 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	DH5	2402	2400	-65.42
Static	2-DH5	2402	2400	-58.33
Static	3-DH5	2402	2400	-59.54
Hopping	DH5	Hopping	2400	-68.54
Hopping	2-DH5	Hopping	2400	-63.93
Hopping	3-DH5	Hopping	2400	-64.32

Table 101 - SISO Authorised Band Edge Results

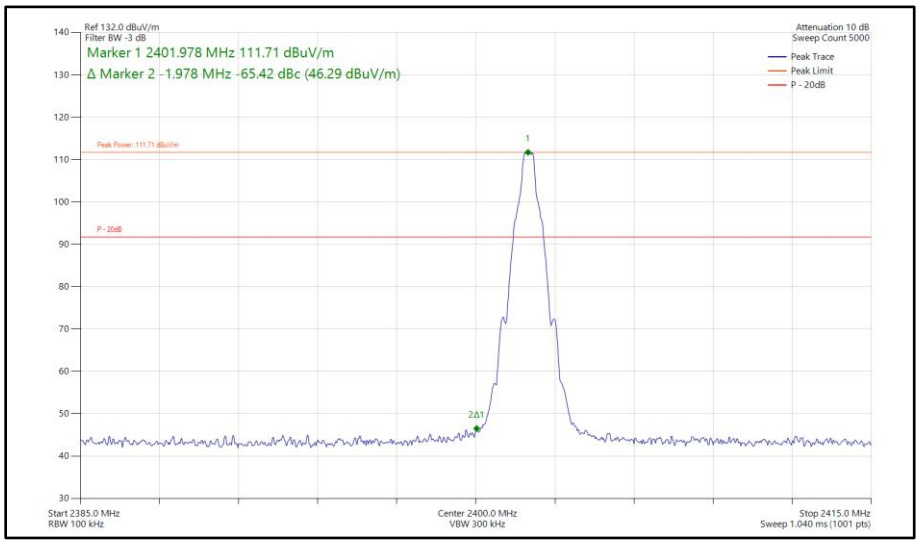

Figure 196 - Bluetooth DH5, SISO, Core 2 - 2402 MHz Band Edge Frequency 2400 MHz

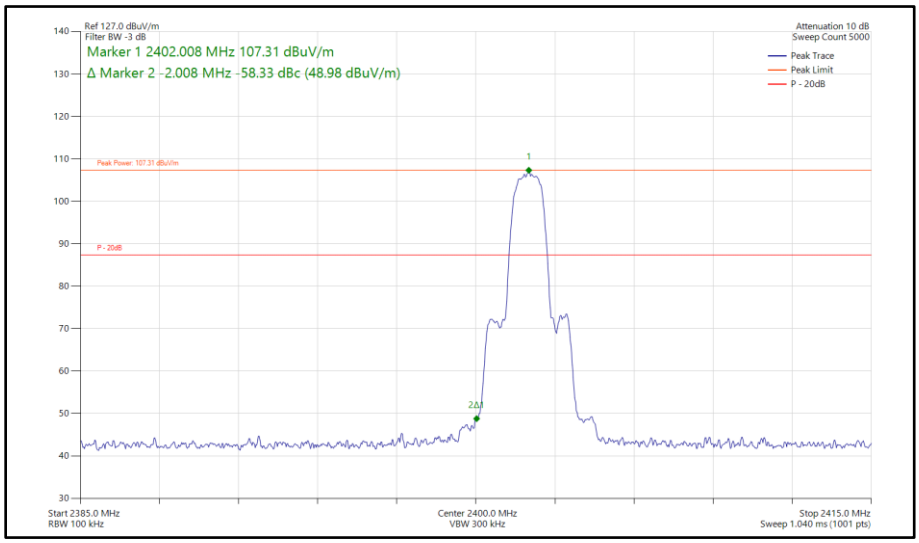

Figure 197 - Bluetooth 2-DH5, SISO, Core 2 - 2402 MHz Band Edge Frequency 2400 MHz

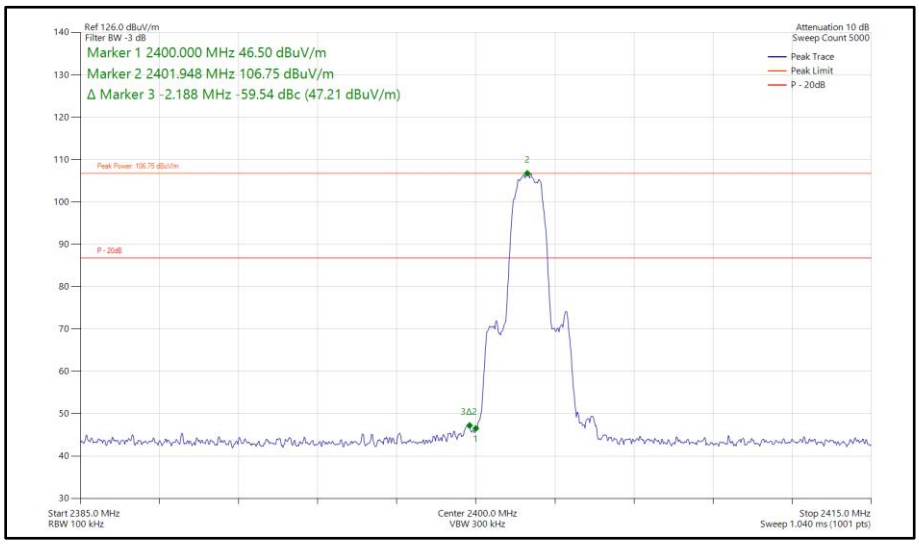

Figure 198 - Bluetooth 3-DH5, SISO, Core 2 - 2402 MHz
Band Edge Frequency 2400 MHz

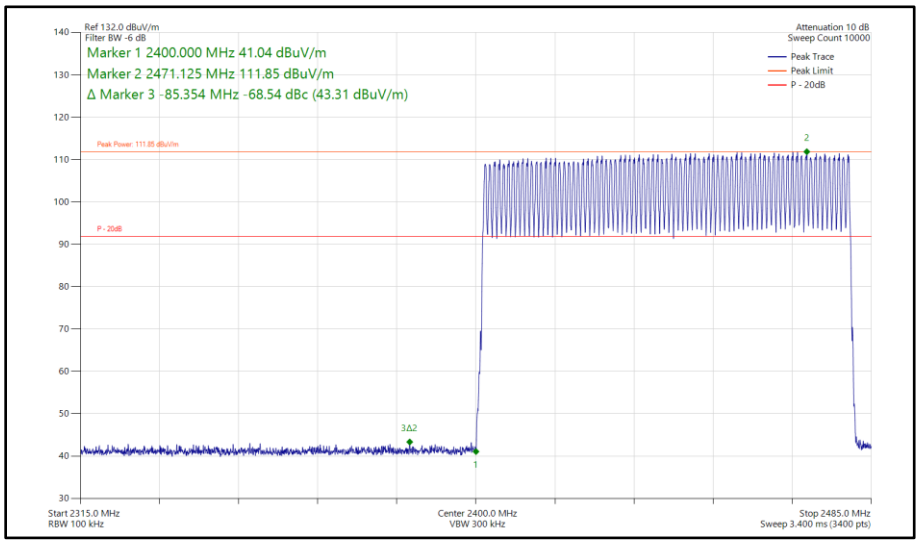

Figure 199 - Bluetooth DH5, SISO, Core 2 - Hopping
Band Edge Frequency 2400 MHz

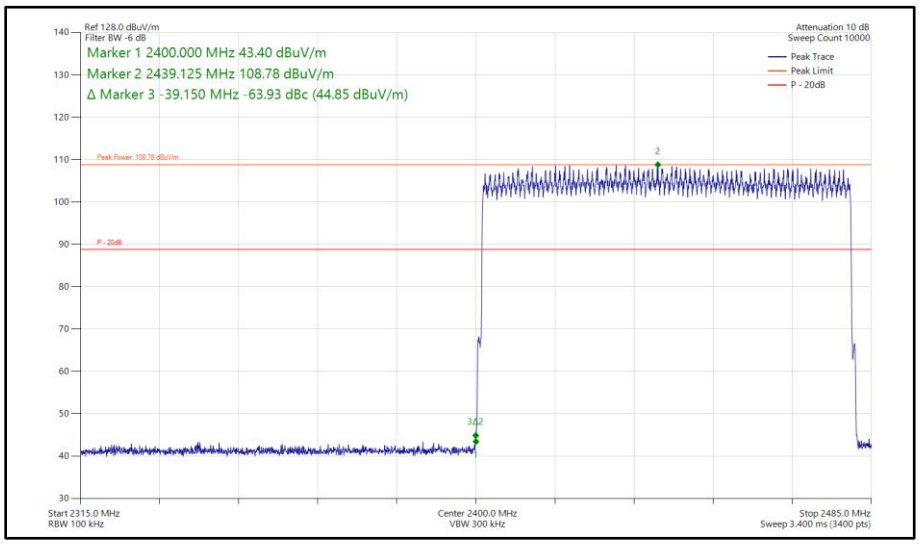

Figure 200 - Bluetooth 2-DH5, SISO, Core 2 - Hopping Band Edge Frequency 2400 MHz

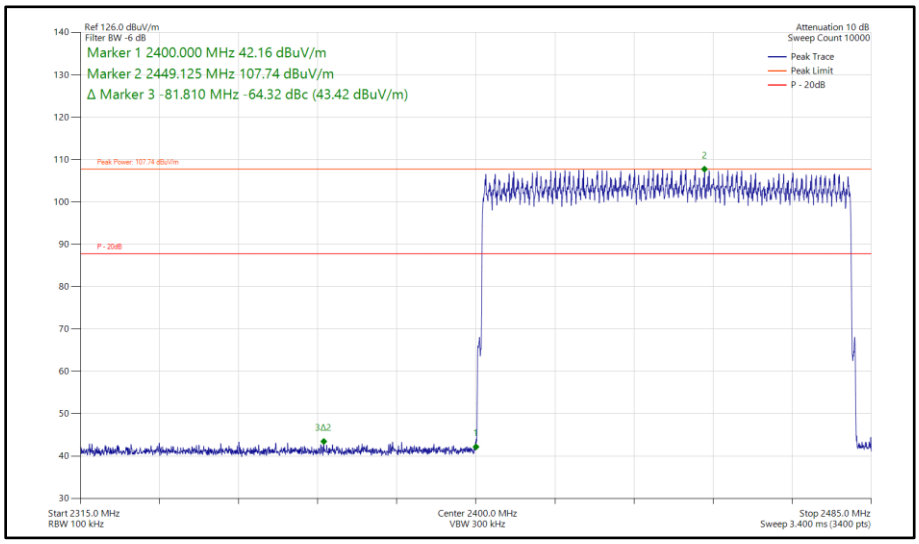

Figure 201 - Bluetooth 3-DH5, SISO, Core 2 - Hopping Band Edge Frequency 2400 MHz

iPA - Core 0 - Core 1 (MIMO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	DH5	2402	2400	-66.96
Static	2-DH5	2402	2400	-61.77
Static	3-DH5	2402	2400	-62.13
Hopping	DH5	Hopping	2400	-72.44
Hopping	2-DH5	Hopping	2400	-66.46
Hopping	3-DH5	Hopping	2400	-68.39

Table 102 - MIMO Authorised Band Edge Results

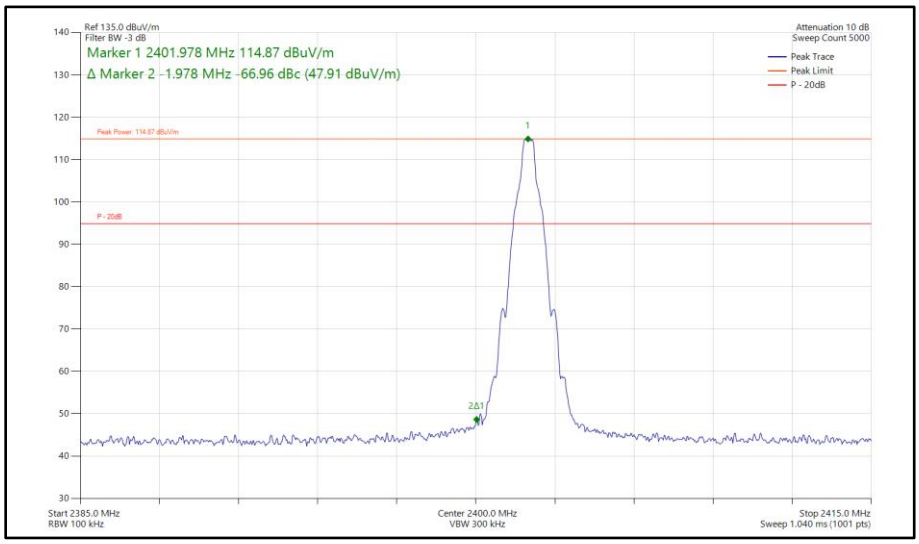

Figure 202 - Bluetooth DH5, MIMO, Core 0 - Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

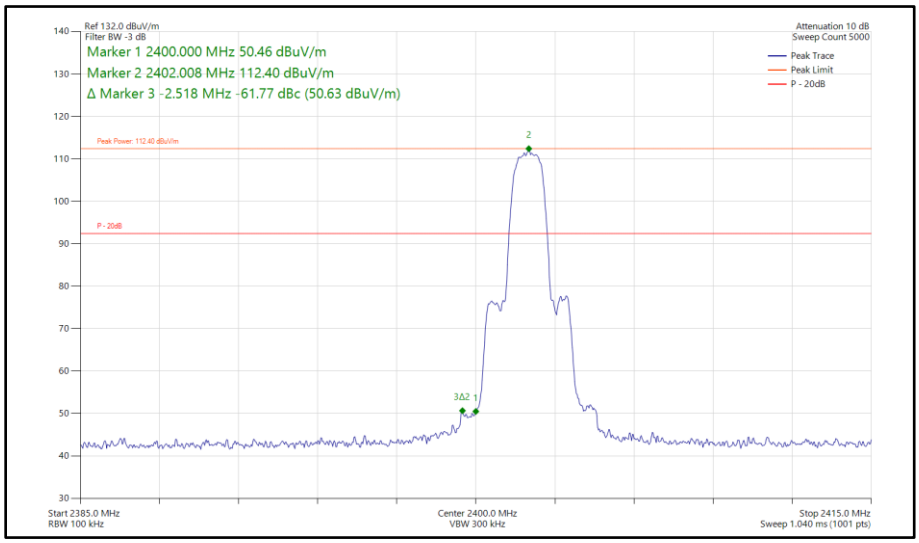

Figure 203 - Bluetooth 2-DH5, MIMO, Core 0 - Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

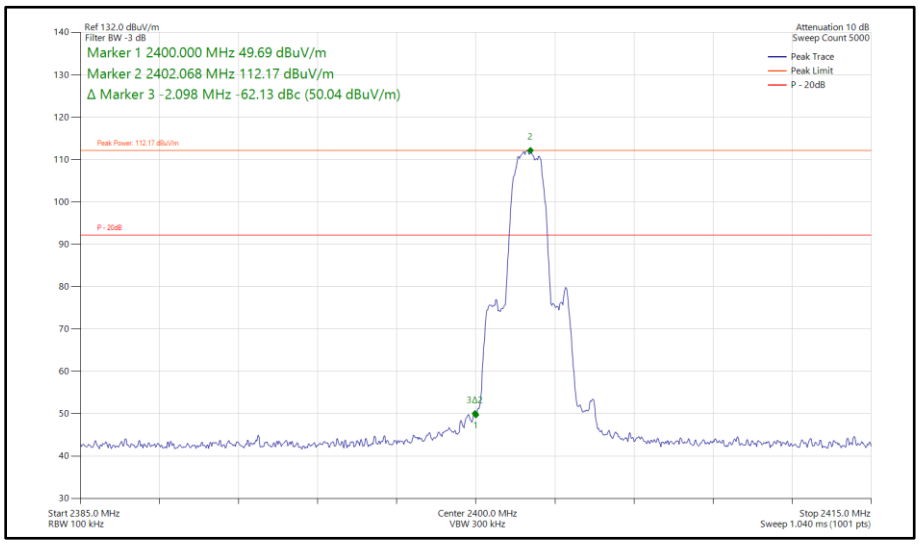

Figure 204 - Bluetooth 3-DH5, MIMO, Core 0 - Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

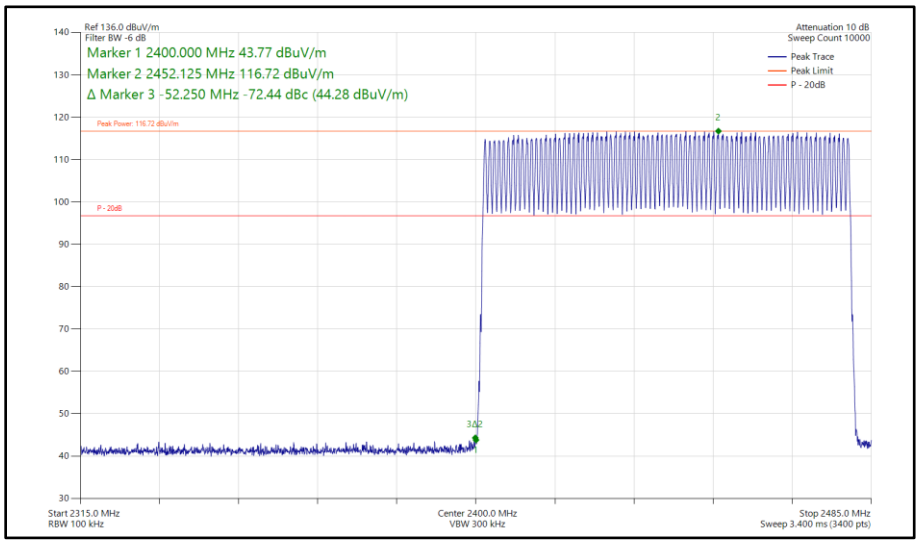

Figure 205 - Bluetooth DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

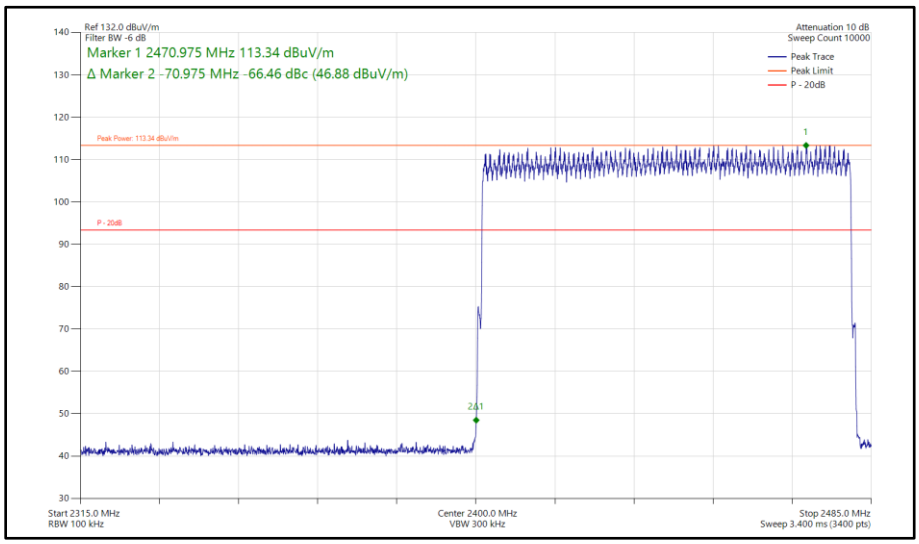

Figure 206 - Bluetooth 2-DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

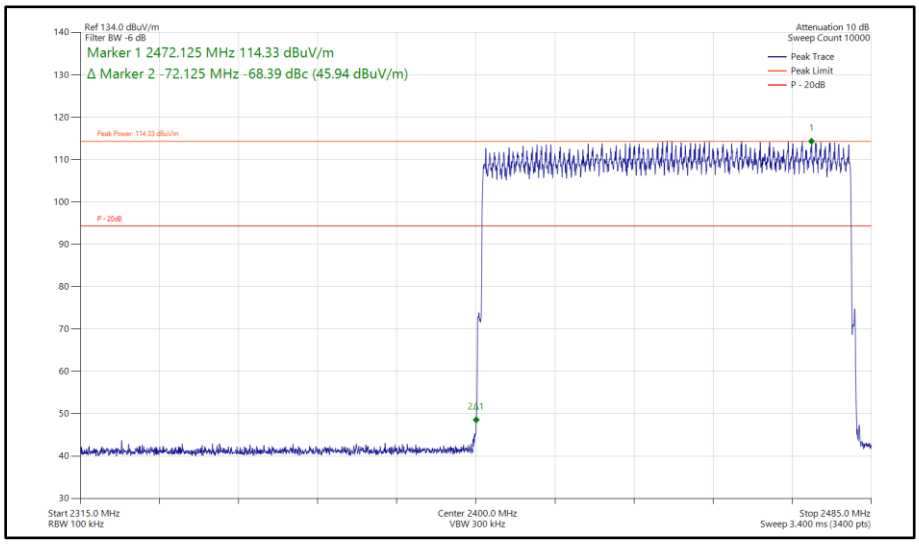

Figure 207 - Bluetooth 3-DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

ePA - Core 0 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	2-DH5	2402	2400	-61.71
Static	3-DH5	2402	2400	-62.12
Hopping	2-DH5	Hopping	2400	-68.46
Hopping	3-DH5	Hopping	2400	-69.24

Table 103 - SISO Authorised Band Edge Results

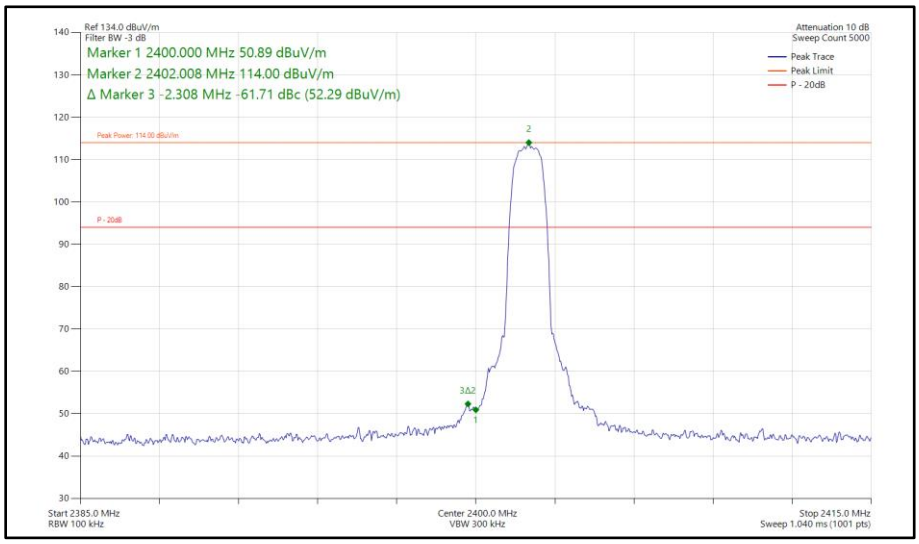

Figure 208 - Bluetooth 2-DH5, SISO, Core 0 - 2402 MHz Band Edge Frequency 2400 MHz

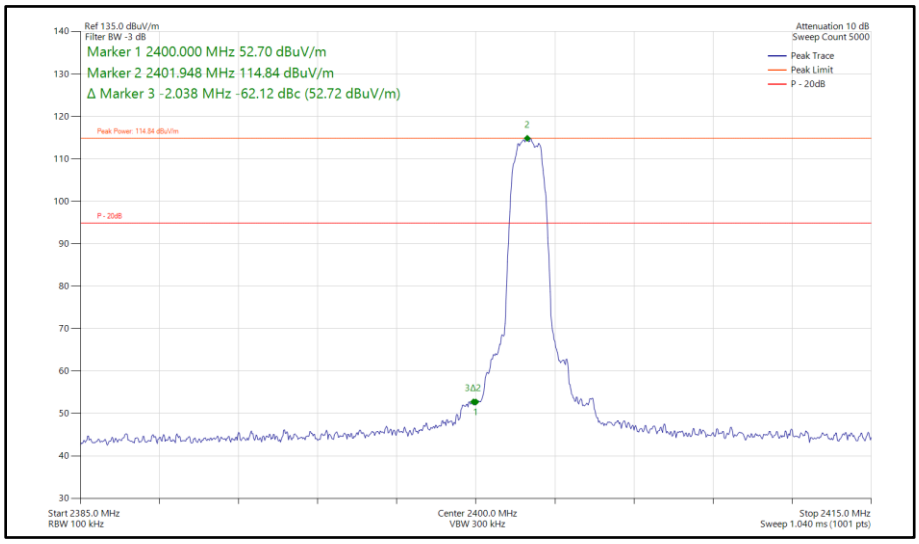

Figure 209 - Bluetooth 3-DH5, SISO, Core 0 - 2402 MHz Band Edge Frequency 2400 MHz

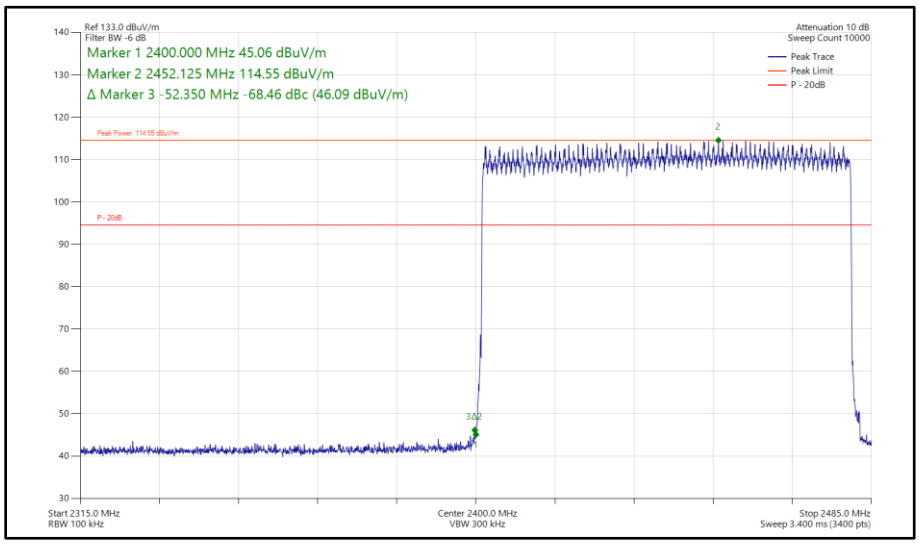

Figure 210 - Bluetooth 2-DH5, SISO, Core 0 - Hopping Band Edge Frequency 2400 MHz

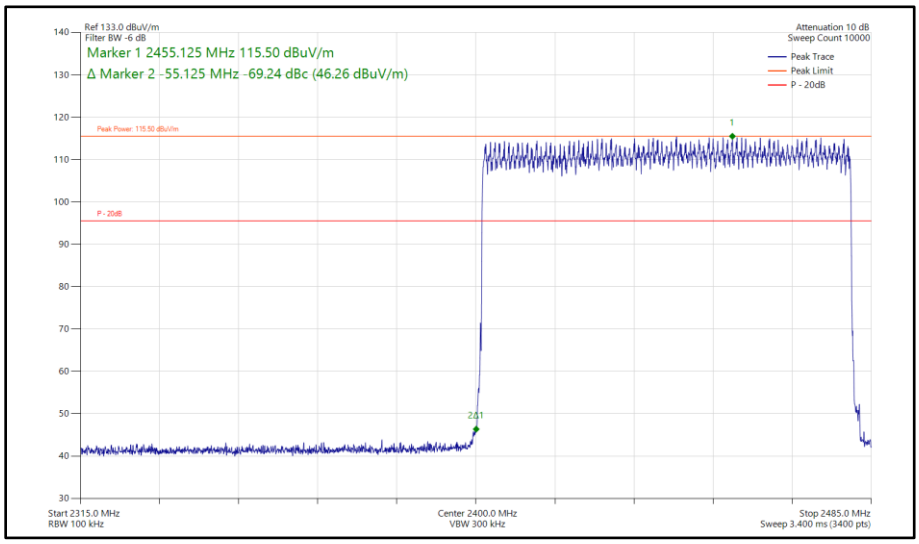

Figure 211 - Bluetooth 3-DH5, SISO, Core 0 - Hopping Band Edge Frequency 2400 MHz

ePA - Core 1 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	2-DH5	2402	2400	-61.45
Static	3-DH5	2402	2400	-60.91
Hopping	2-DH5	Hopping	2400	-69.63
Hopping	3-DH5	Hopping	2400	-69.27

Table 104 - SISO Authorised Band Edge Results

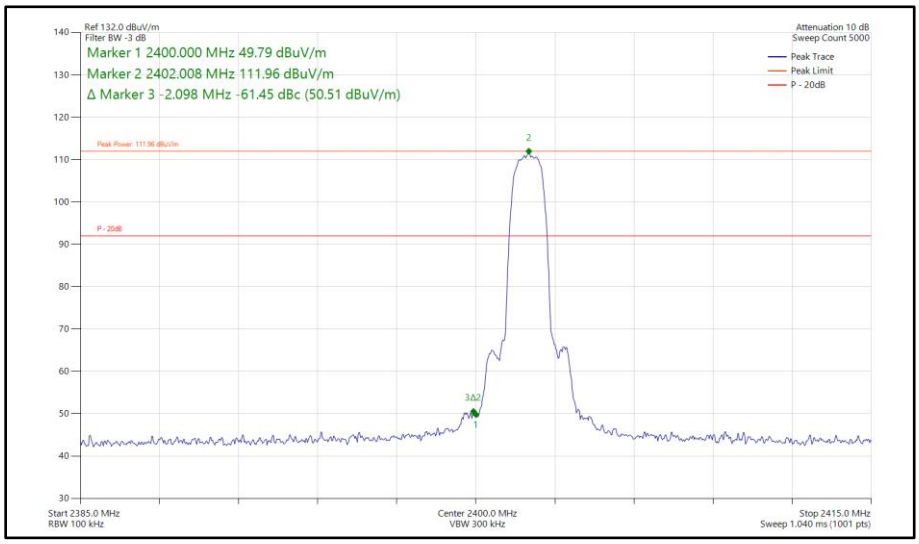

Figure 212 - Bluetooth 2-DH5, SISO, Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

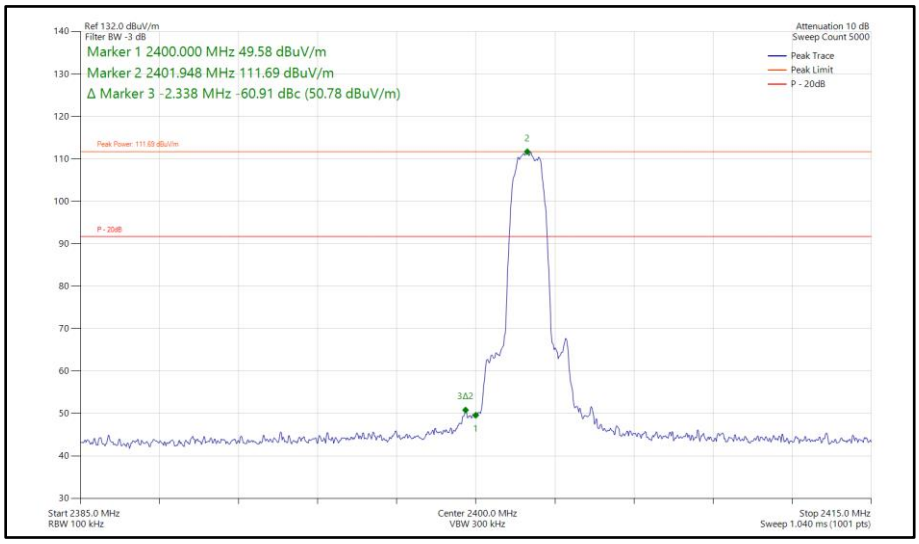

Figure 213 - Bluetooth 3-DH5, SISO, Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

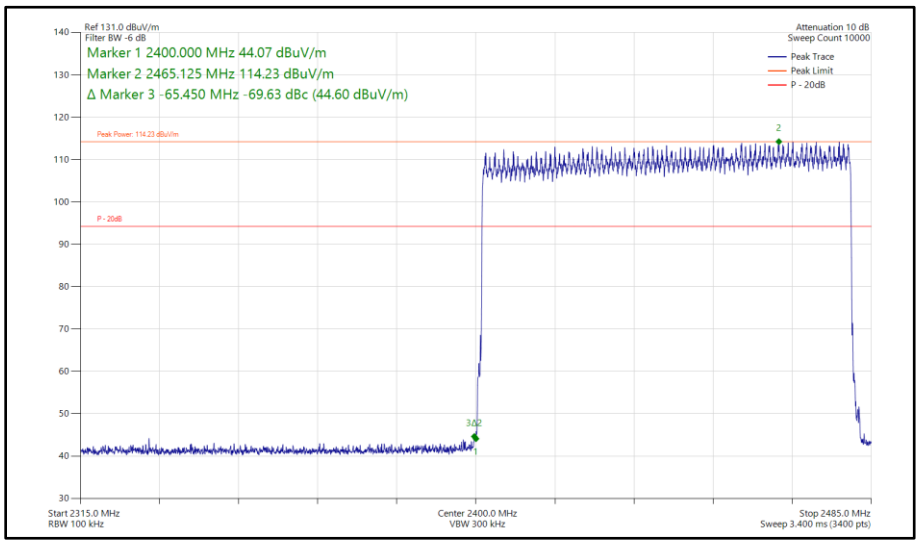

Figure 214 - Bluetooth 2-DH5, SISO, Core 1 - Hopping Band Edge Frequency 2400 MHz

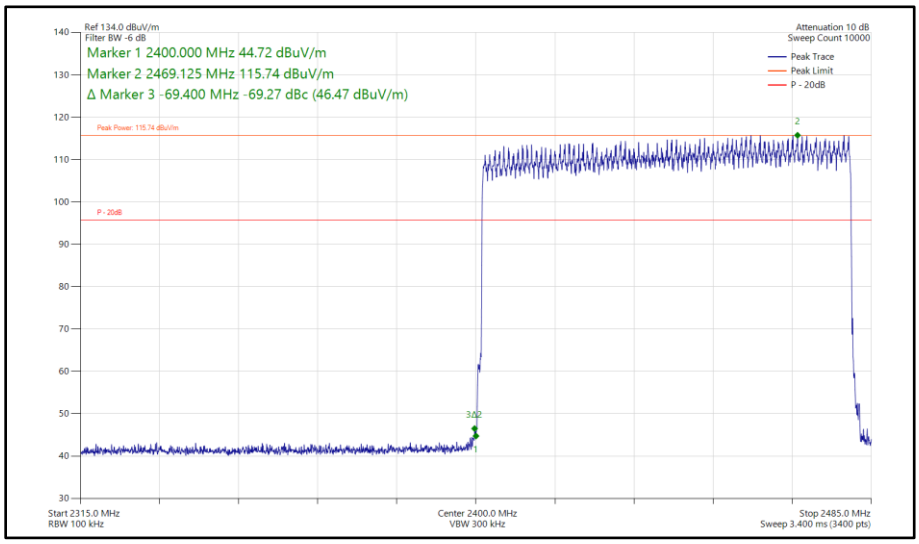

Figure 215 - Bluetooth 3-DH5, SISO, Core 1 - Hopping Band Edge Frequency 2400 MHz

ePA - Core 0 - Core 1 (MIMO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	2-DH5	2402	2400	-63.94
Static	3-DH5	2402	2400	-64.72
Hopping	2-DH5	Hopping	2400	-71.94
Hopping	3-DH5	Hopping	2400	-70.96

Table 105 - MIMO Authorised Band Edge Results

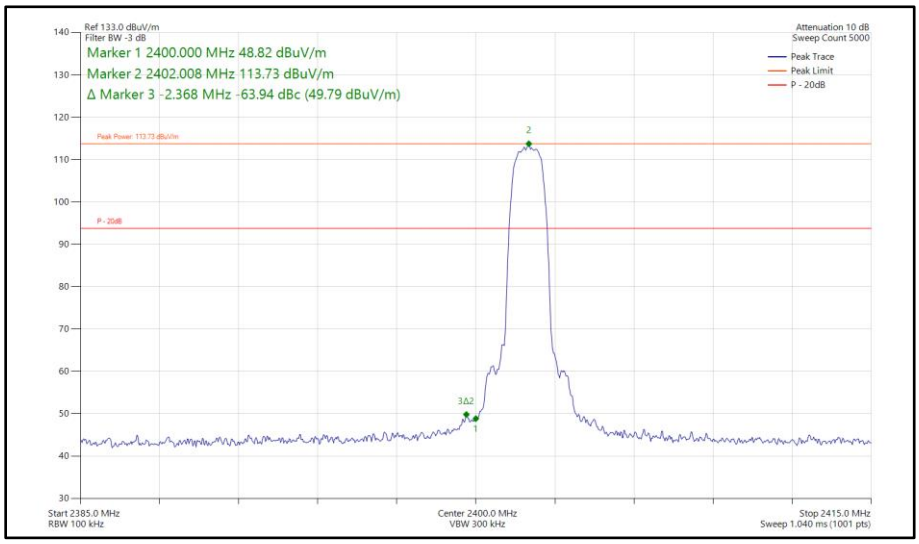

Figure 216 - Bluetooth 2-DH5, MIMO, Core 0 - Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

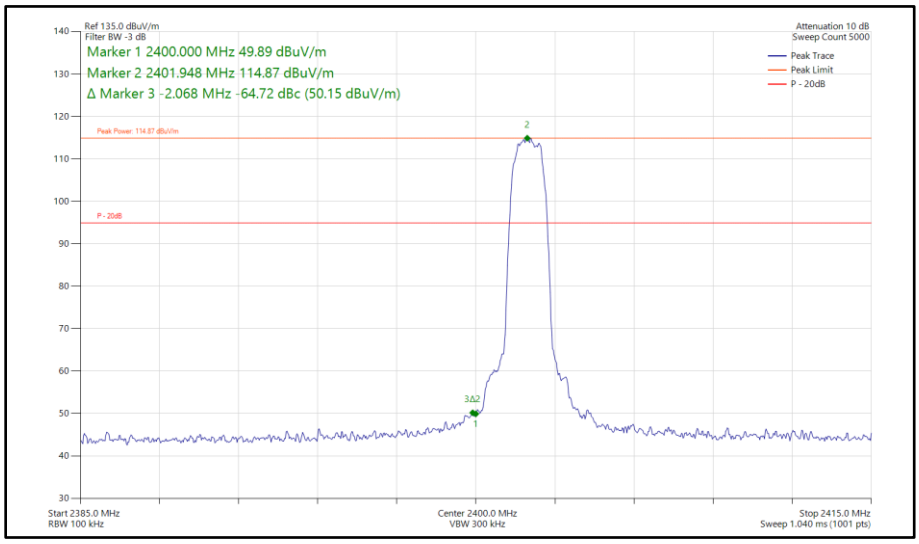

Figure 217 - Bluetooth 3-DH5, MIMO, Core 0 - Core 1 - 2402 MHz Band Edge Frequency 2400 MHz

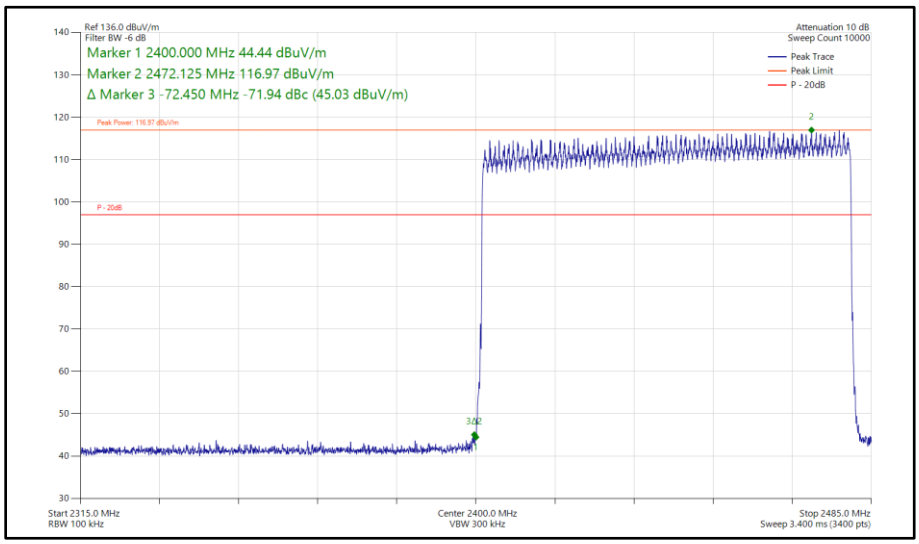

Figure 218 - Bluetooth 2-DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

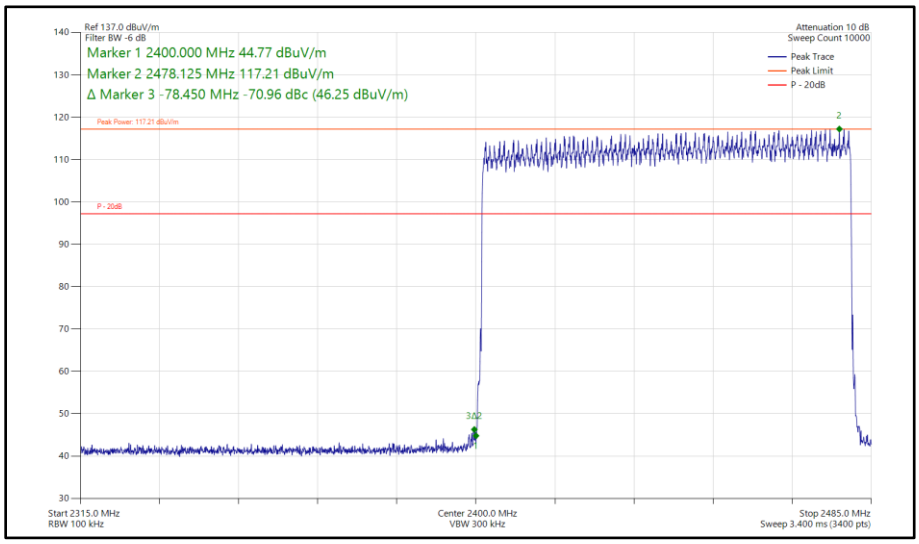

Figure 219 - Bluetooth 3-DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

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 14 and RF Chamber 17.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
Emissions Software	TUV SUD	EmX V3.4.2	5125	-	Software
EMI Test Receiver	Rohde & Schwarz	ESW44	5912	12	07-Aug-2025
1500W (300V 12A) AC Power Supply	iTech	IT7324	5956	-	O/P Mon
5m Semi-Anechoic Chamber (Dual-Axis)	Albatross Projects	RF Chamber 14	5958	36	26-Apr-2025
Compact Antenna Mast	Maturo Gmbh	CAM4.0-P	5959	-	TU
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
Cable (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	6007	12	20-May-2025
Horn Antenna (1-10 GHz)	Schwarzbeck	BBHA9120B	6141	12	05-May-2025
Horn Antenna (1-10 GHz)	Schwarzbeck	BBHA9120B	6142	12	05-May-2025
Digital Multimeter	Fluke	115	6145	12	06-Jun-2025
Digital Multimeter	Fluke	115	6146	12	06-Jun-2025
Humidity & Temperature meter	R.S Components	1364	6148	12	29-Jul-2025
Humidity & Temperature meter	R.S Components	1364	6149	12	12-Aug-2025
SAC Switch Unit	TUV SUD	TUV_SSU_001	6190	12	22-Dec-2024
EMI Test Receiver	Rohde & Schwarz	ESW44	6294	12	06-Jan-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
1m Cable	Junkosha	MWX241-01000AMSAMS/B	6741	12	01-Feb-2025
8m Cable	Junkosha	MWX221-08000AMSAMS/B	6748	12	01-Feb-2025
8M SMA Cable	Junkosha	MWX221-08000AMSAMS/B	6834	12	14-Aug-2025

Table 106

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

A3401, S/N: JVJC362FKV - Modification State 0

2.8.3 Date of Test

12-September-2024 to 24-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.

2.8.5 Example Test Setup Diagram

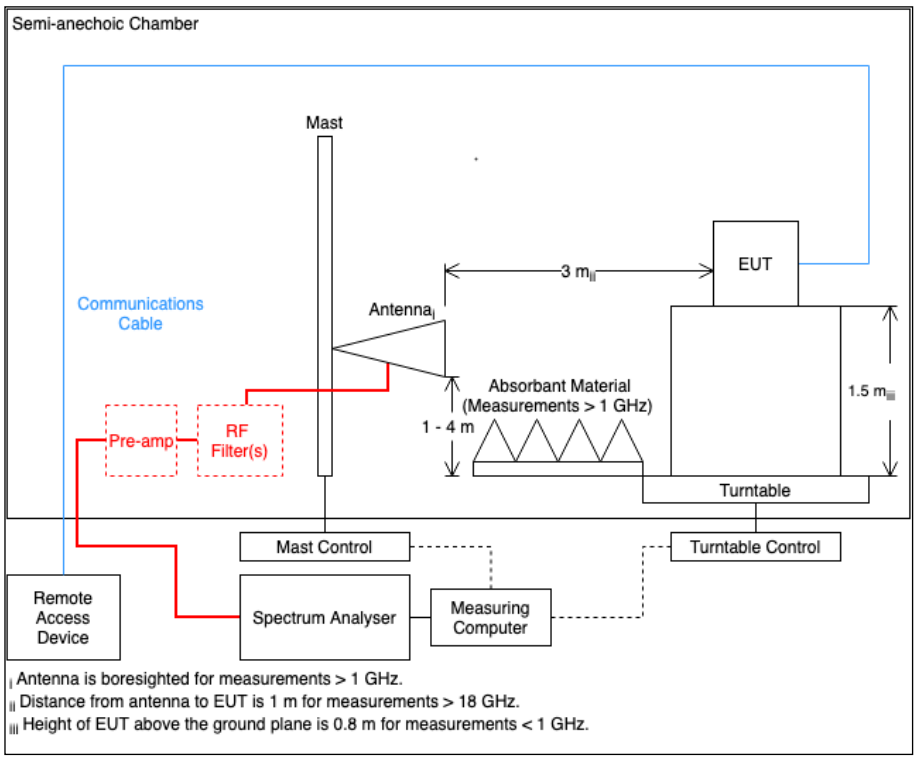

Figure 220

2.8.6 Environmental Conditions

Ambient Temperature	22.0 - 23.5 °C
Relative Humidity	49.2 - 51.7 %