2.4 Frequency Hopping Systems - Number of Hopping Channels

2.4.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (a)(1)

2.4.2 Equipment Under Test and Modification State

A3186, S/N: M44MHNWLH2 - Modification State 0
A3186, S/N: LXXD3YHT0L - Modification State 0

2.4.3 Date of Test

03-September-2024 to 10-September-2024

2.4.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 7.8.3.

2.4.5 Environmental Conditions

Ambient Temperature	21.4 - 22.7 °C
Relative Humidity	52.1 - 52.4 %

2.4.6 Test Results

2.4 GHz Bluetooth BDR/EDR

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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

Number of Hopping Frequencies	Limit
79	≥15.0

Table 44 - Number of Hopping Frequencies Results

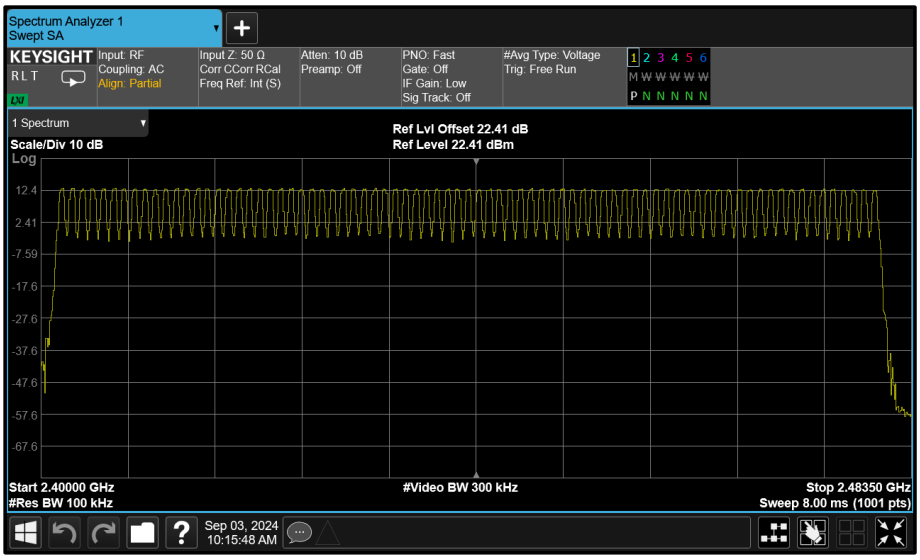

Figure 63 - GFSK (DH5) - Number of Hopping Channels

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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

Number of Hopping Frequencies	Limit
79	≥15.0

Table 45 - Number of Hopping Frequencies Results

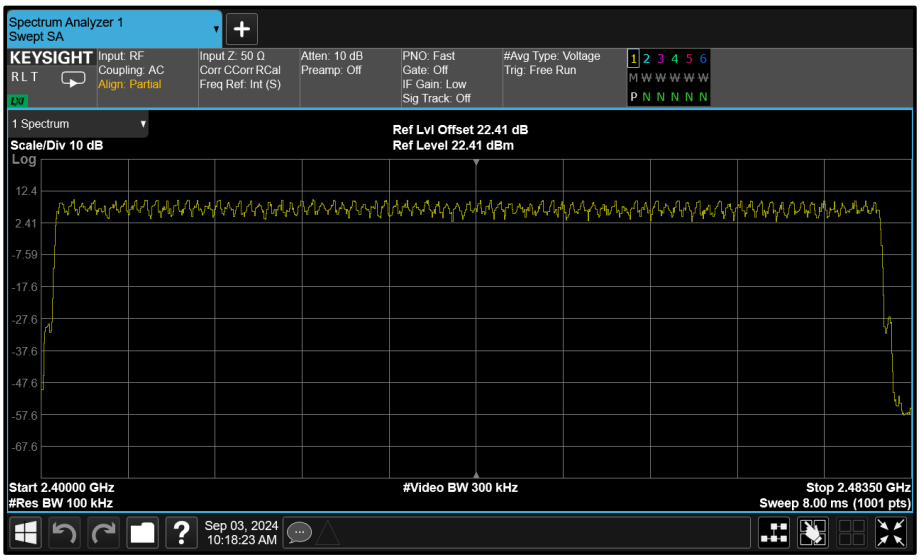

Figure 64 - π/4 DQPSK (2-DH5) - Number of Hopping Channels

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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

Number of Hopping Frequencies	Limit
79	≥15.0

Table 46 - Number of Hopping Frequencies Results

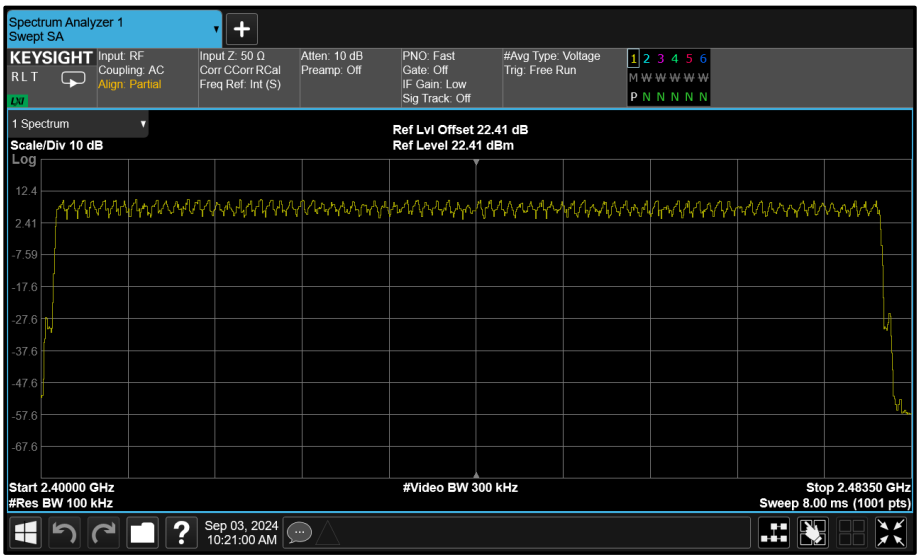

Figure 65 - 8-DPSK (3-DH5) - Number of Hopping Channels

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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

Number of Hopping Frequencies	Limit
79	≥15.0

Table 47 - Number of Hopping Frequencies Results

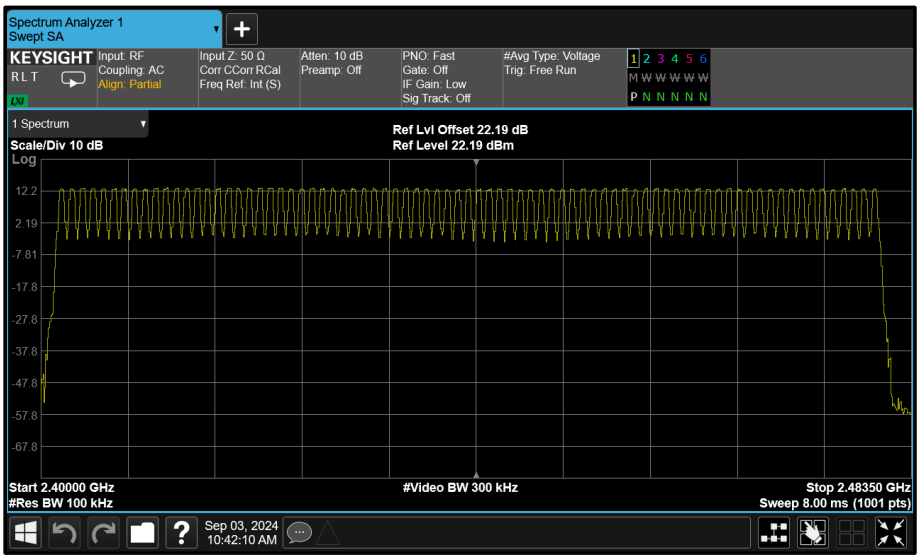

Figure 66 - GFSK (DH5) - Number of Hopping Channels

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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

Number of Hopping Frequencies	Limit
79	≥15.0

Table 48 - Number of Hopping Frequencies Results

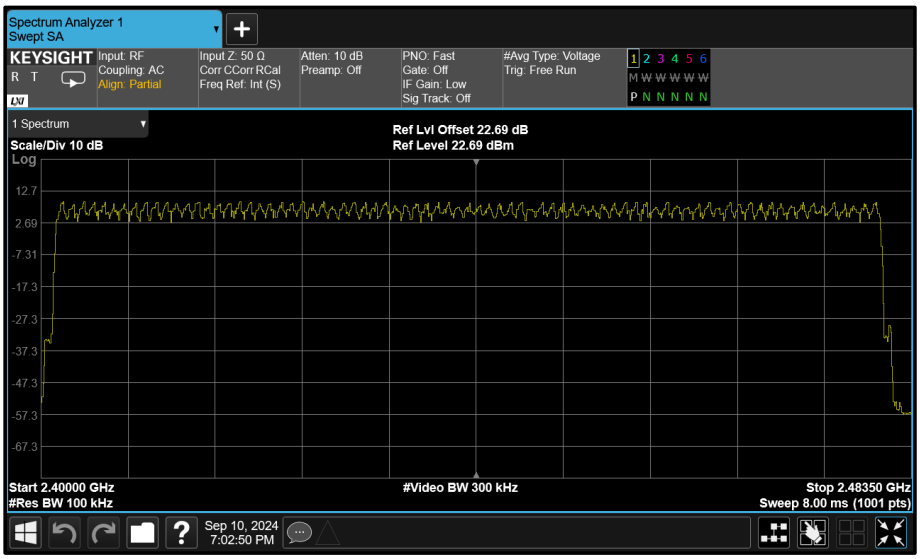

Figure 67 - π/4 DQPSK (2-DH5) - Number of Hopping Channels

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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

Number of Hopping Frequencies	Limit
79	≥15.0

Table 49 - Number of Hopping Frequencies Results

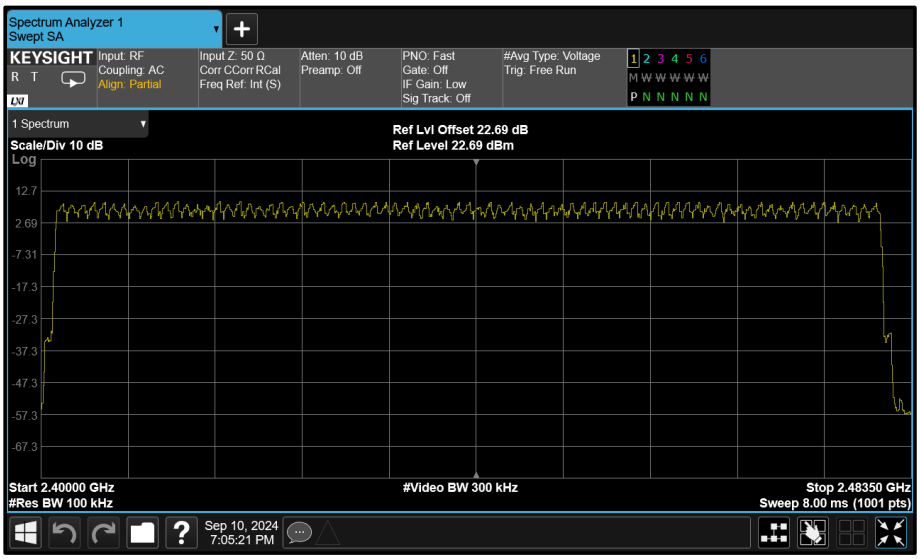

Figure 68 - 8-DPSK (3-DH5) - Number of Hopping Channels

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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

Number of Hopping Frequencies	Limit
79	≥15.0

Table 50 - Number of Hopping Frequencies Results

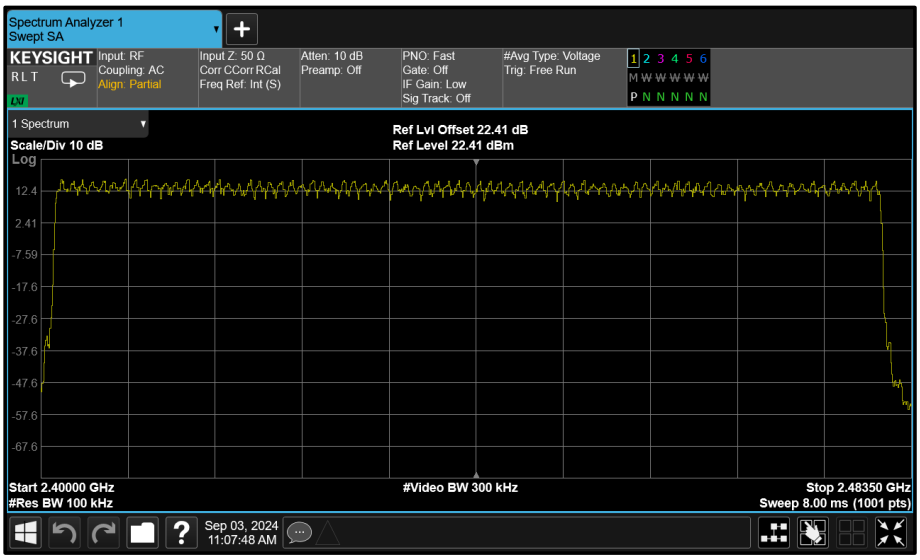

Figure 69 - π/4 DQPSK (2-DH5) - Number of Hopping Channels

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
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):	-

Number of Hopping Frequencies	Limit
79	≥15.0

Table 51 - Number of Hopping Frequencies Results

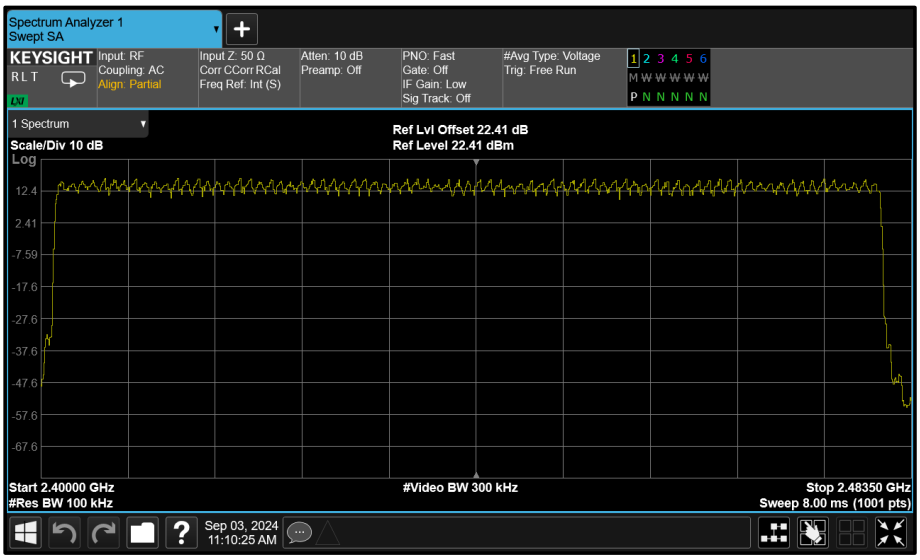

Figure 70 - 8-DPSK (3-DH5) - Number of Hopping Channels

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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

Number of Hopping Frequencies	Limit
79	≥15.0

Table 52 - Number of Hopping Frequencies Results

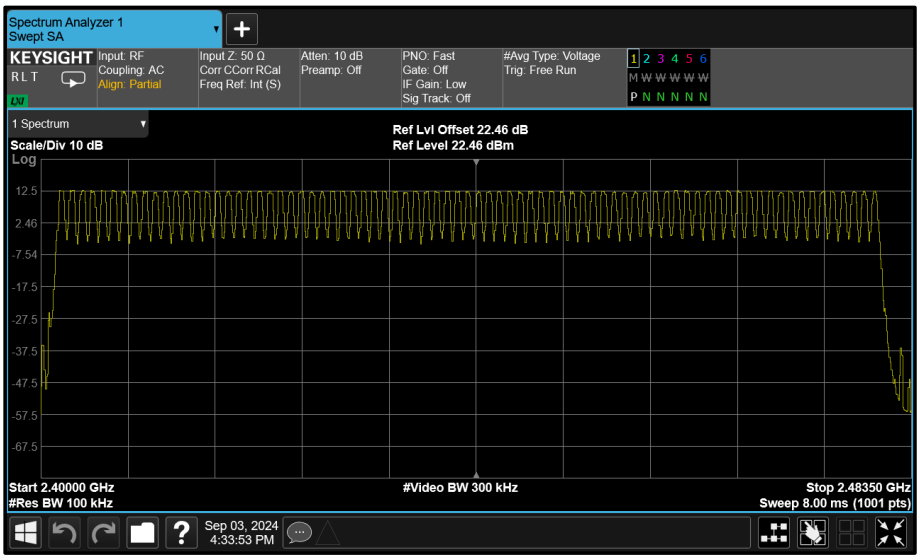

Figure 71 - GFSK (DH5) - Number of Hopping Channels

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
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):	-

Number of Hopping Frequencies	Limit
79	≥15.0

Table 53 - Number of Hopping Frequencies Results

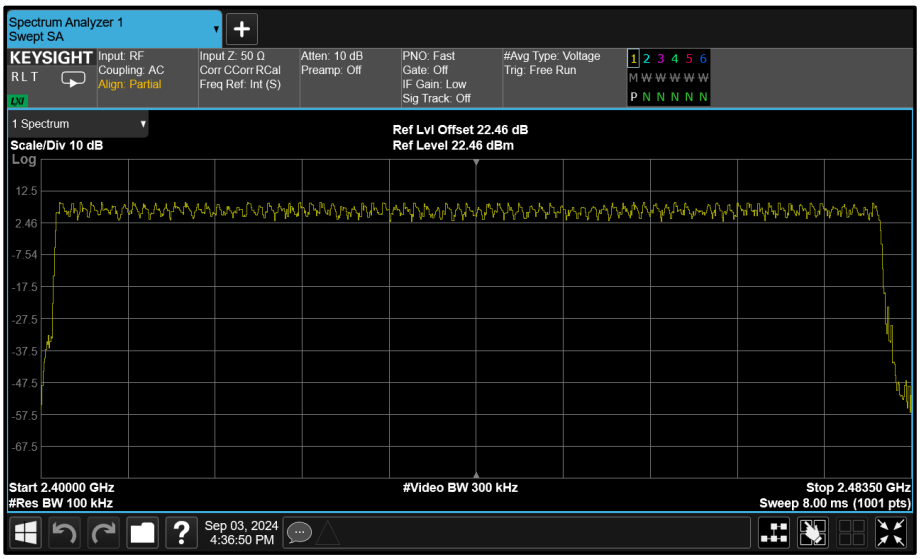

Figure 72 - π/4 DQPSK (2-DH5) - Number of Hopping Channels

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
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):	-

Number of Hopping Frequencies	Limit
79	≥15.0

Table 54 - Number of Hopping Frequencies Results

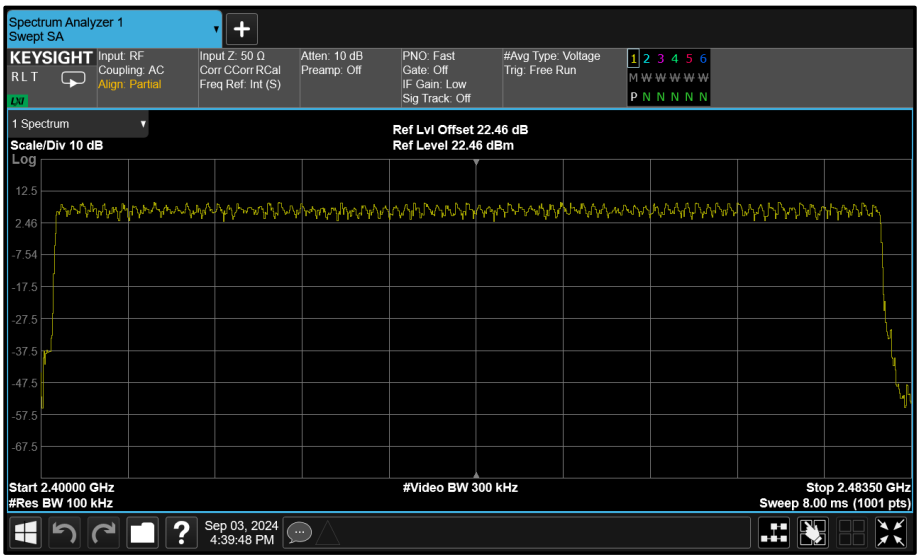

Figure 73 - 8-DPSK (3-DH5) - Number of Hopping Channels

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
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):	-

Number of Hopping Frequencies	Limit
79	≥15.0

Table 55 - Number of Hopping Frequencies Results

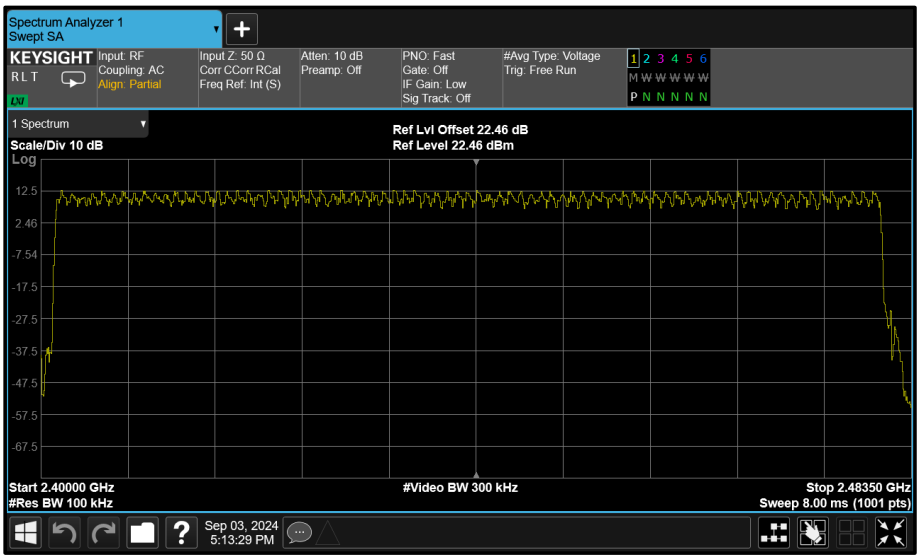

Figure 74 - π/4 DQPSK (2-DH5) - Number of Hopping Channels

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
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):	-

Number of Hopping Frequencies	Limit
79	≥15.0

Table 56 - Number of Hopping Frequencies Results

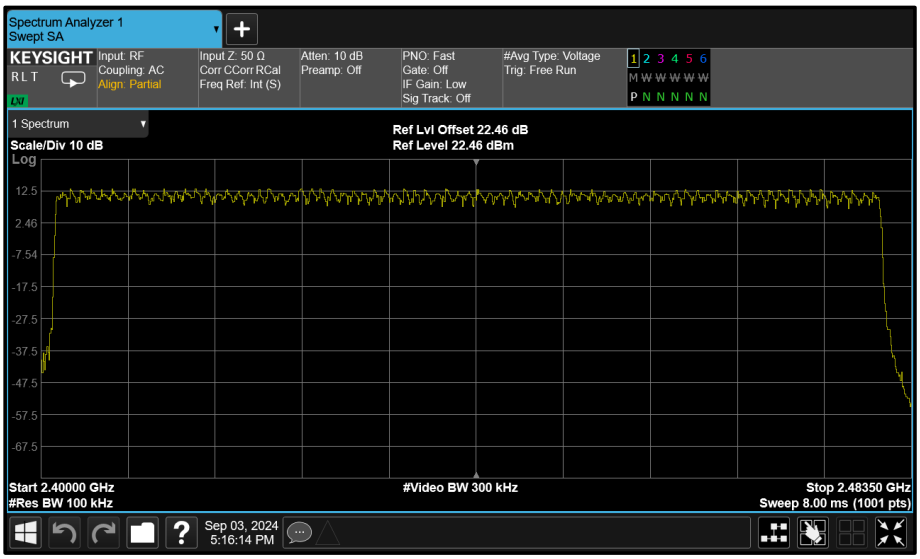

Figure 75 - 8-DPSK (3-DH5) - Number of Hopping Channels

FCC 47 CFR Part 15

≥ 15 channels.

2.4.7 Test Location and Test Equipment Used

This test was carried out in 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
MXA Signal Analyser	Keysight Technologies	N9020B	5919	24	18-Mar-2026
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
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	6526	12	22-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6527	12	05-Mar-2025
AC Programmable Power Supply	iTech	IT7324	6665	-	O/P Mon

Table 57

O/P Mon - Output Monitored using calibrated equipment

2.5 Frequency Hopping Systems - 99% & 20 dB Bandwidth

2.5.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (a)(1)

2.5.2 Equipment Under Test and Modification State

A3186, S/N: M44MHNWLH2 - Modification State 0
A3186, S/N: LXXD3YHT0L - Modification State 0

2.5.3 Date of Test

03-September-2024 to 17-September-2024

2.5.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 6.9.2 for 20 dB Bandwidth and ANSI C63.10, clause 6.9.3 for 99% Bandwidth.

2.5.5 Environmental Conditions

Ambient Temperature	21.5 - 22.3 °C
Relative Humidity	52.1 - 55.6 %

2.5.6 Test Results

2.4 GHz Bluetooth BDR/EDR

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 GFSK (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	-	0.858	-	-
2441	-	0.855	-	-
2480	-	0.855	-	-

Table 58 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	-	0.855	-	-	-
2441	-	0.855	-	-	-
2480	-	0.855	-	-	-

Table 59 - 99% Bandwidth Results

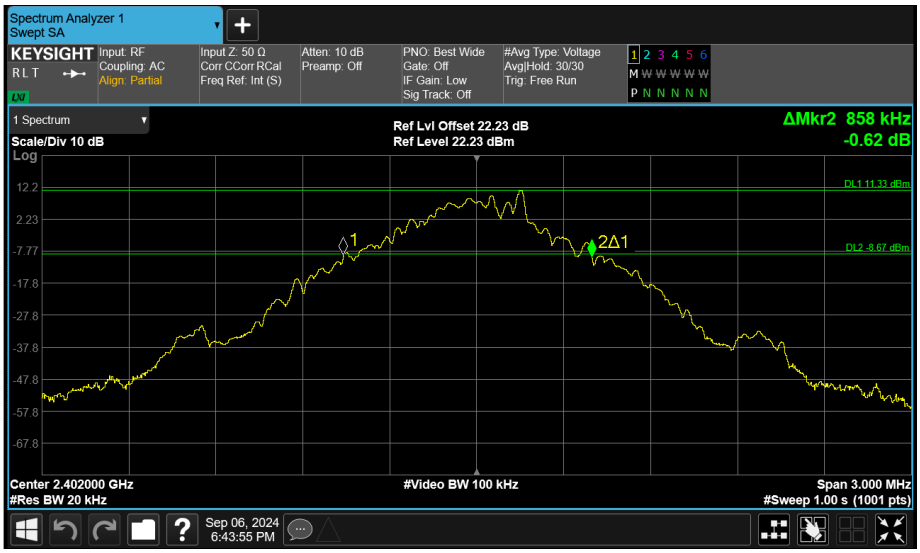

Figure 76 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

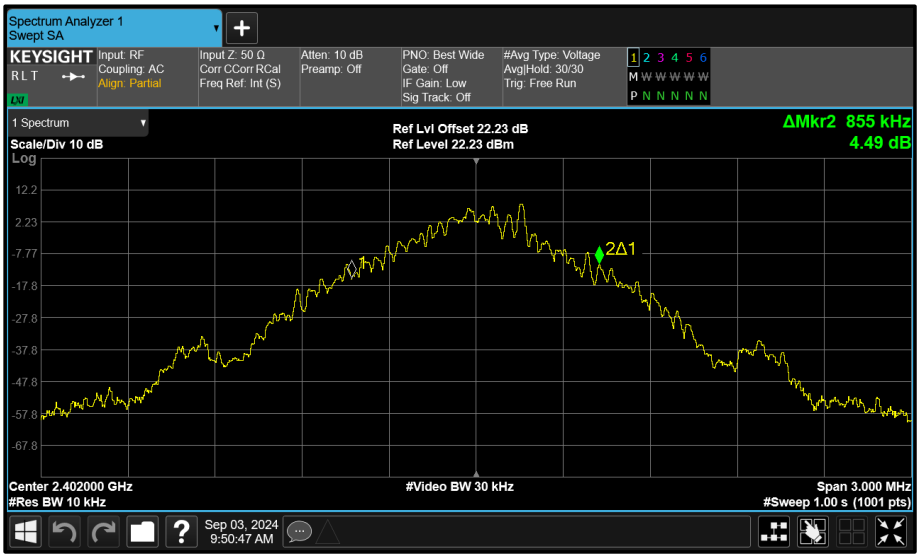

Figure 77 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

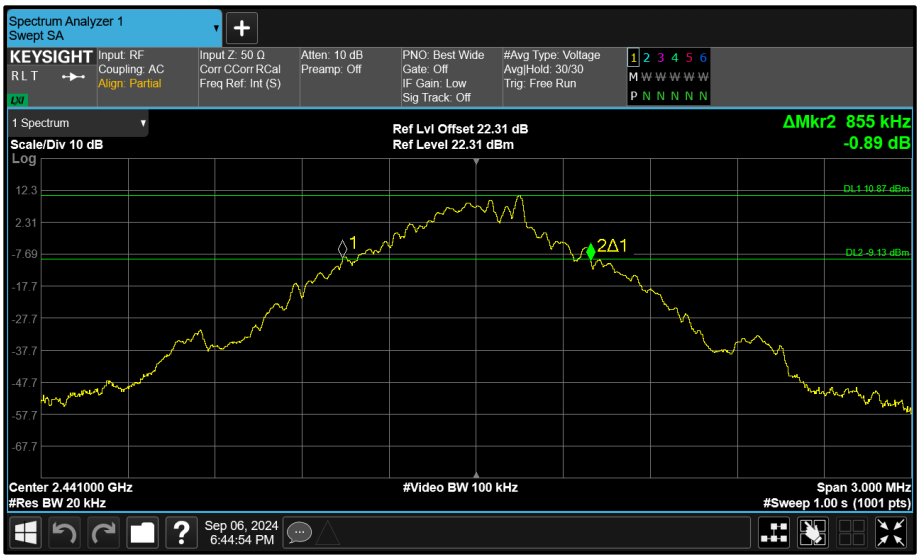

Figure 78 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

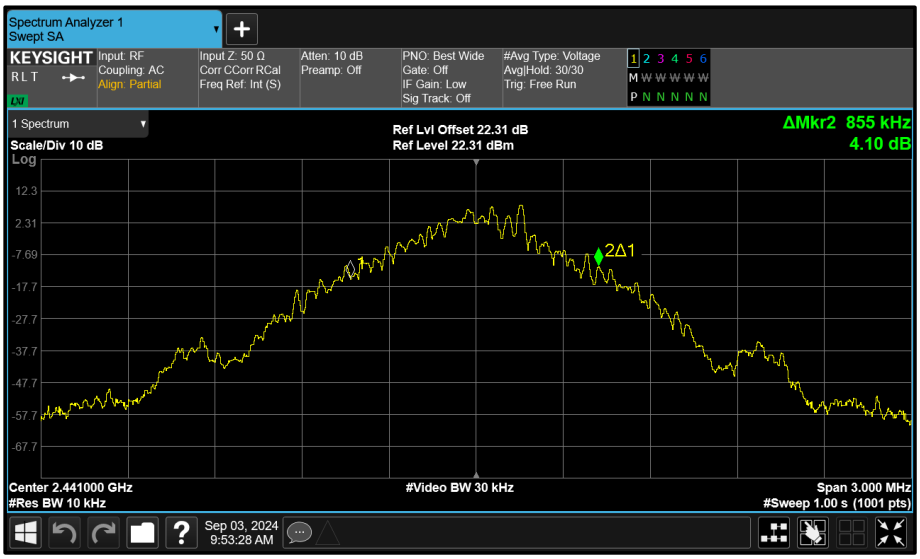

Figure 79 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

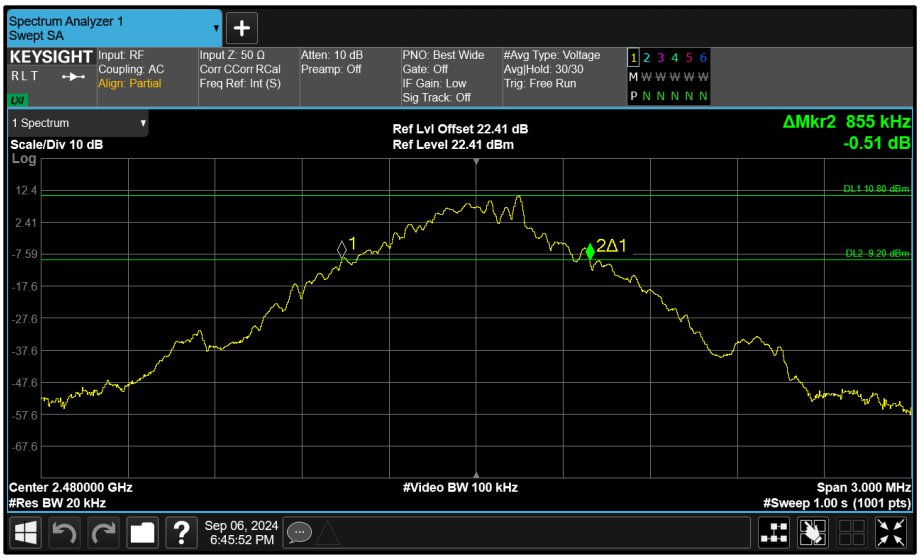

Figure 80 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

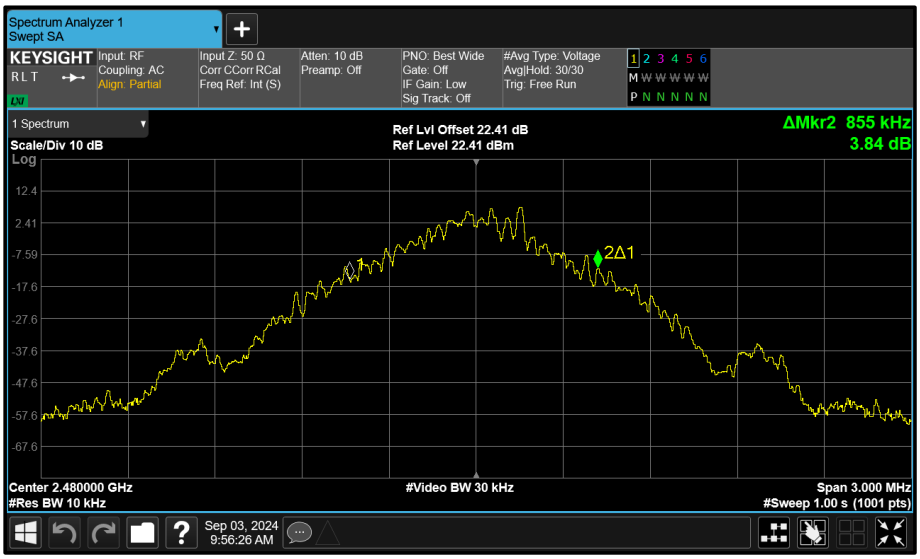

Figure 81 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

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

DUT Configuration			
Mode:	iPA π/4 DQPSK (2-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	-	1.325	-	-
2441	-	1.325	-	-
2480	-	1.325	-	-

Table 60 - 20 dB Bandwidth Results

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

Table 61 - 99% Bandwidth Results

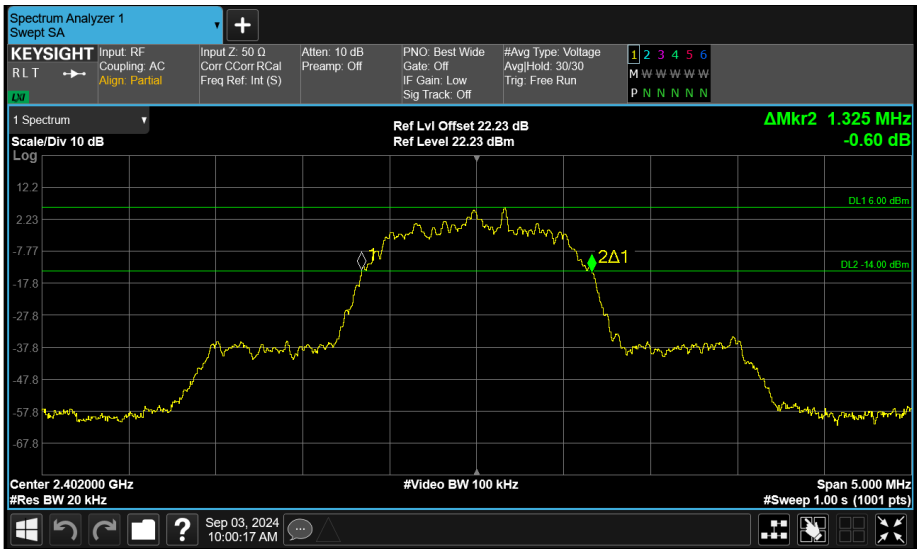

Figure 82 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

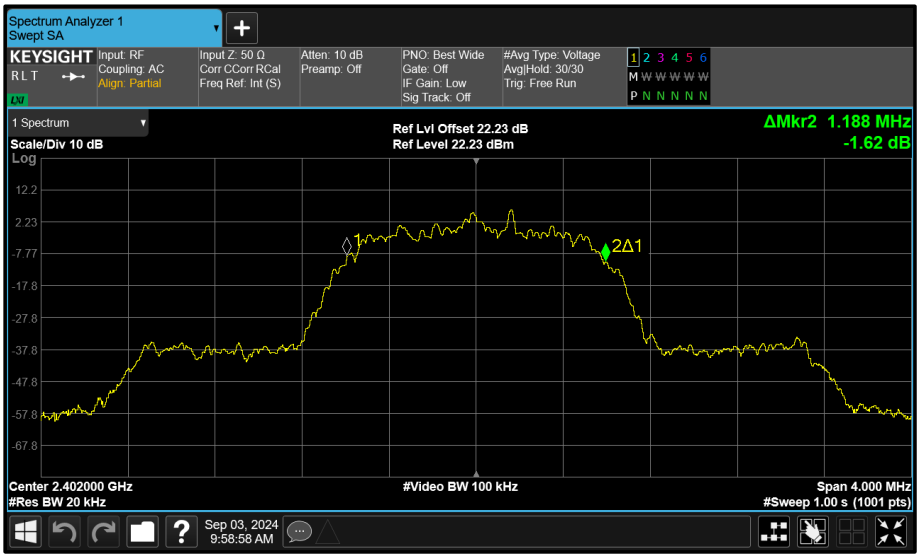

Figure 83 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

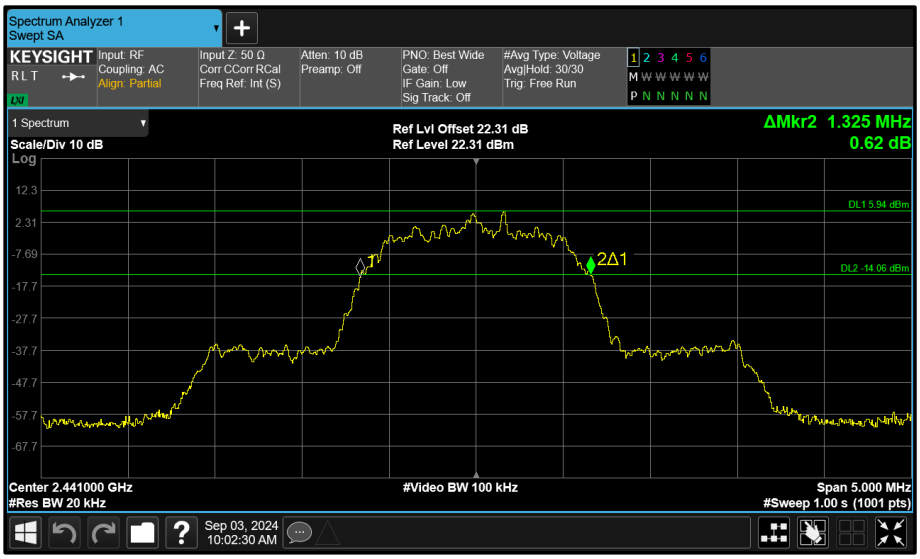

Figure 84 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

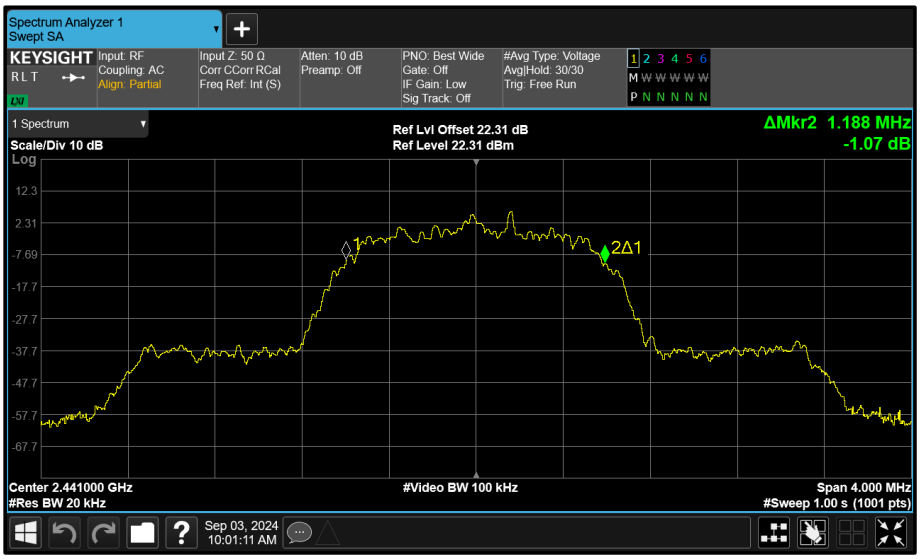

Figure 85 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

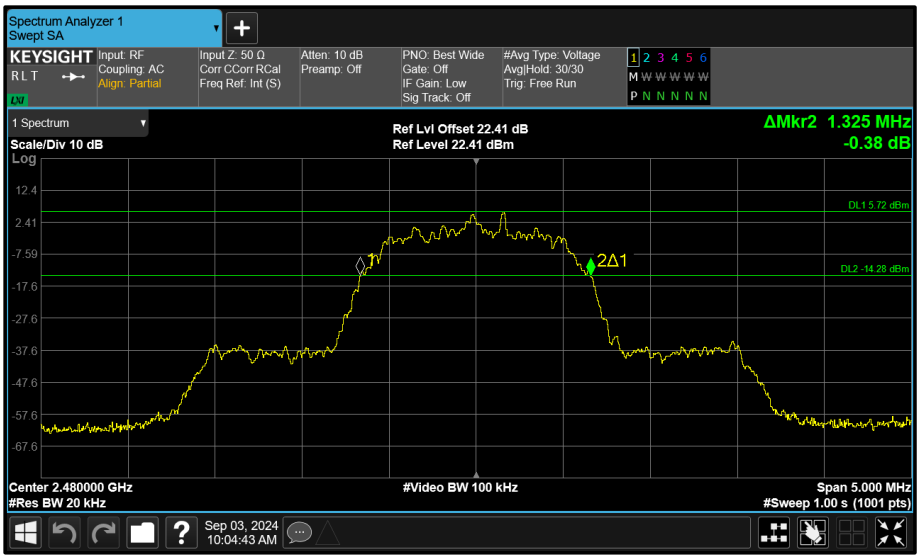

Figure 86 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

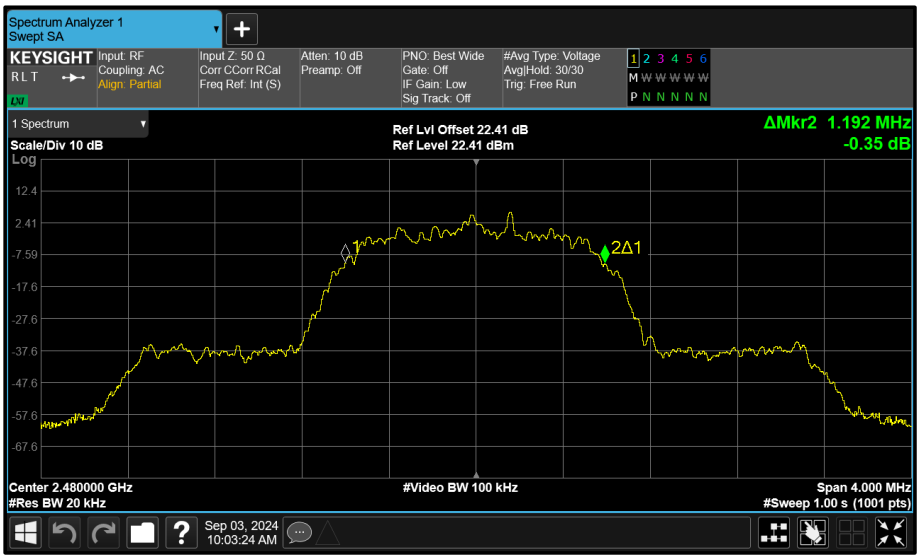

Figure 87 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1) 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:	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	-	1.265	-	-
2480	-	1.260	-	-

Table 62 - 20 dB Bandwidth Results

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

Table 63 - 99% Bandwidth Results

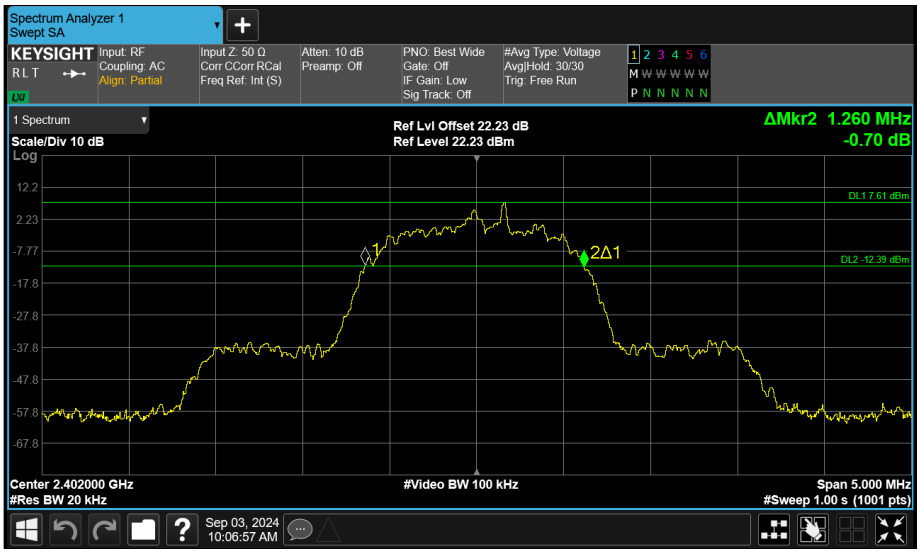

Figure 88 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

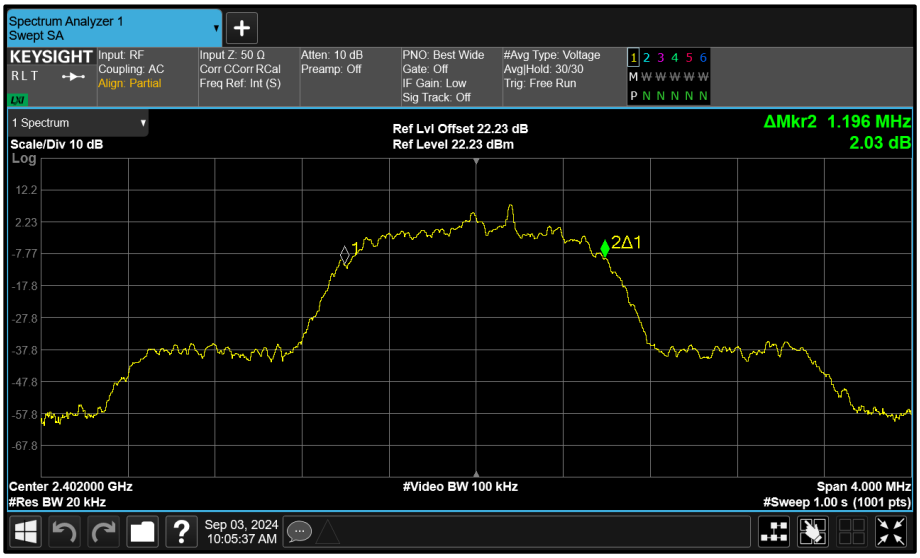

Figure 89 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

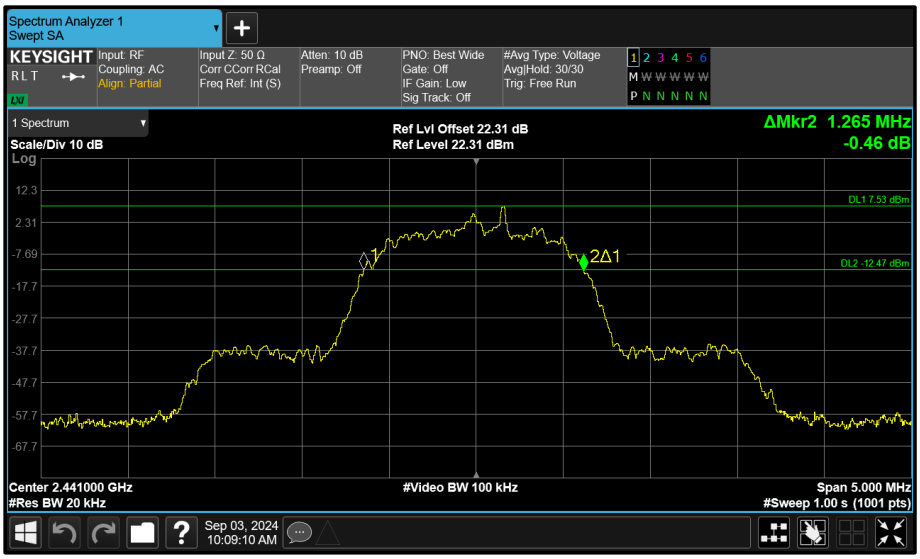

Figure 90 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

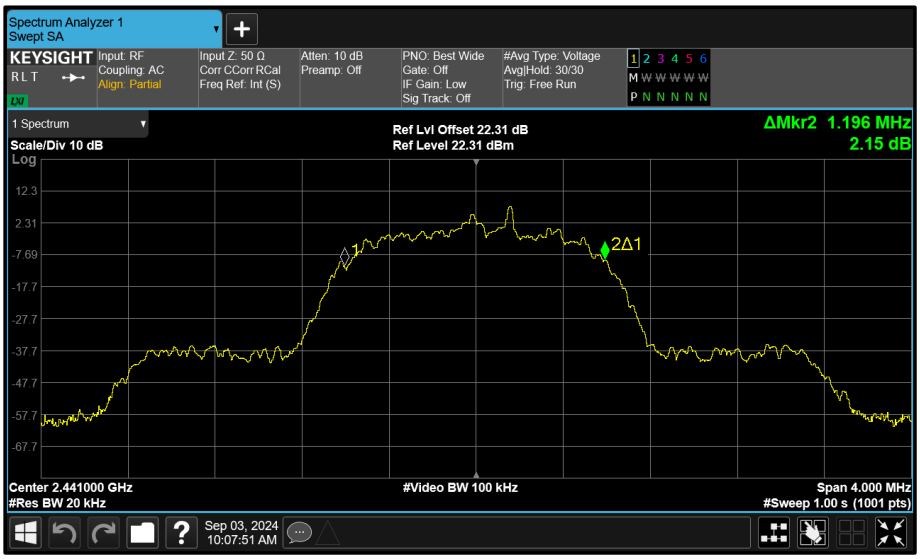

Figure 91 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

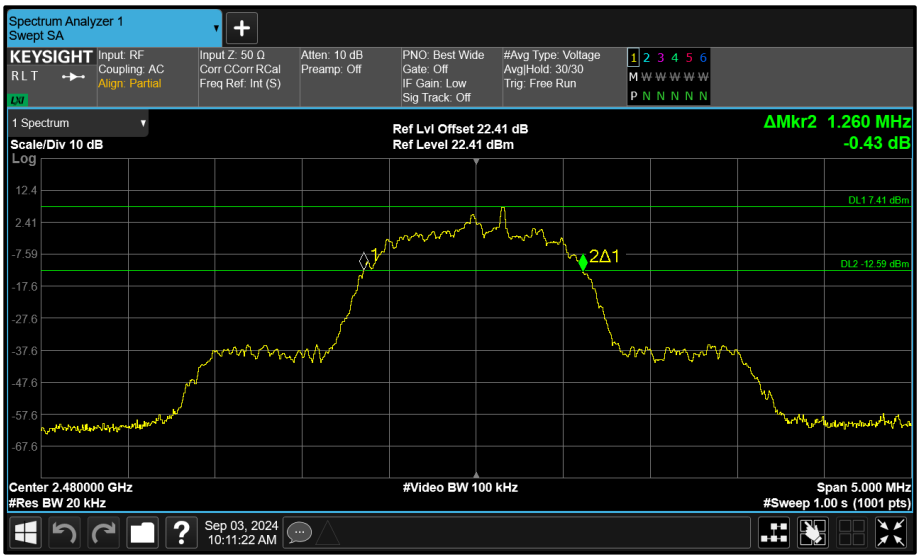

Figure 92 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

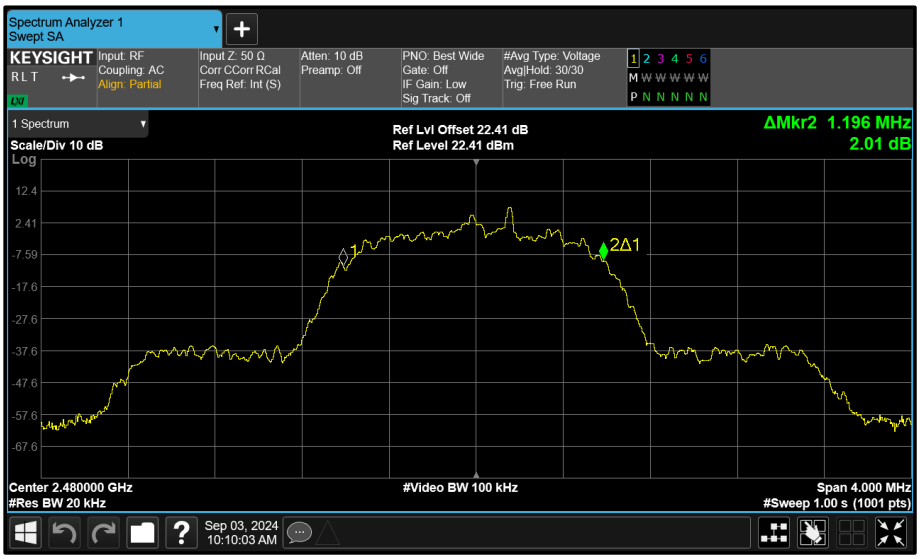

Figure 93 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

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

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

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	-	-	0.855	-
2441	-	-	0.855	-
2480	-	-	0.855	-

Table 64 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	-	-	0.861	-	-
2441	-	-	0.858	-	-
2480	-	-	0.861	-	-

Table 65 - 99% Bandwidth Results

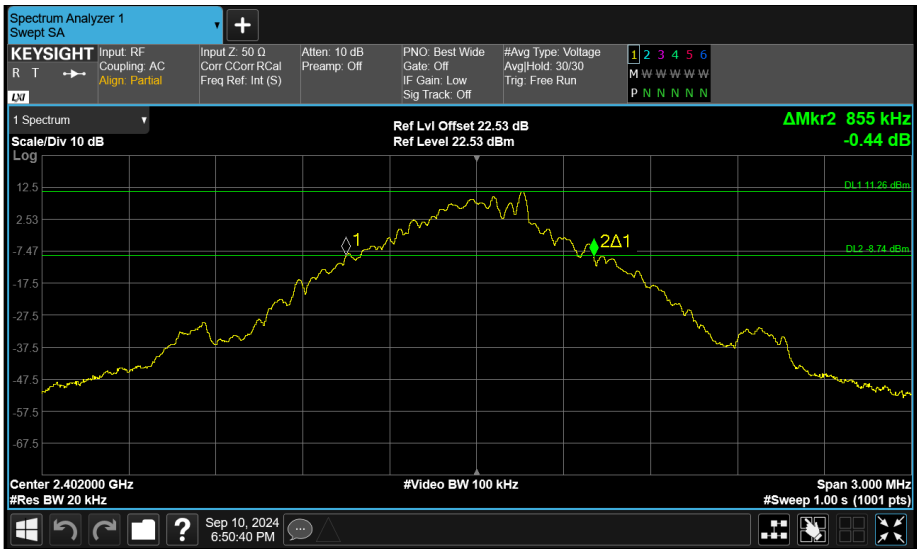

Figure 94 - Core 2 (C) 2402 MHz (CH0) 20 dB Bandwidth

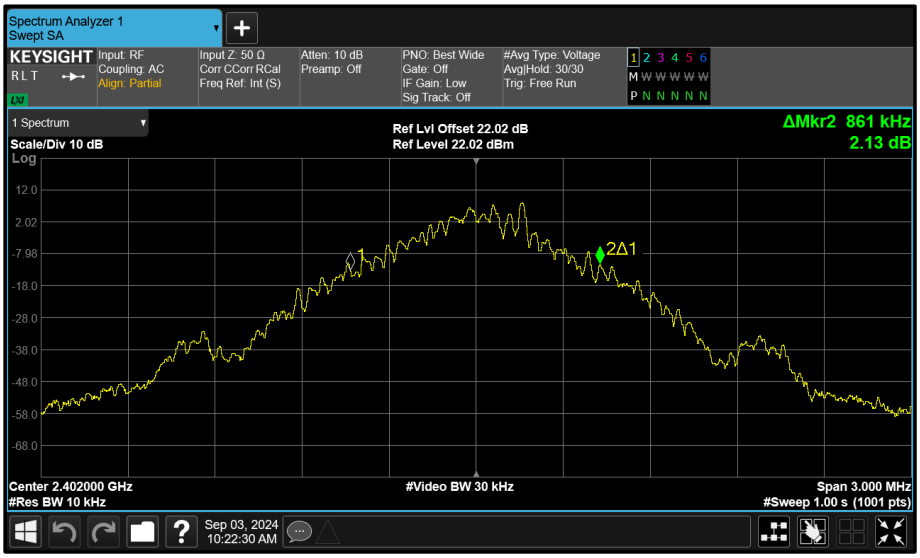

Figure 95 - Core 2 (C) 2402 MHz (CH0) 99% Bandwidth

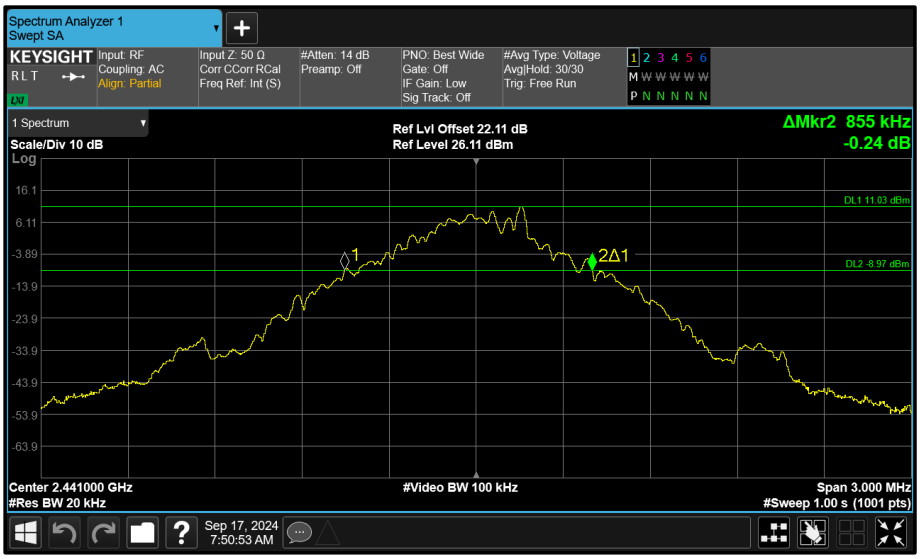

Figure 96 - Core 2 (C) 2441 MHz (CH39) 20 dB Bandwidth

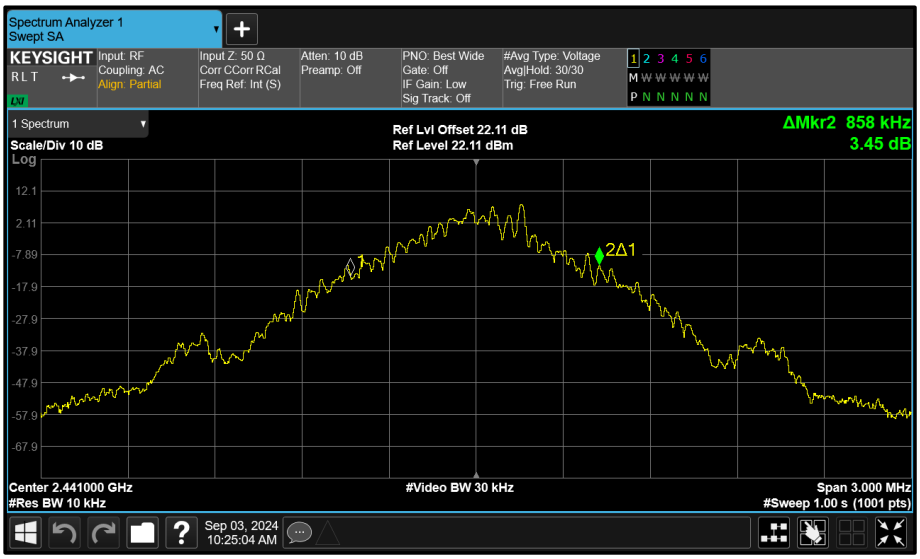

Figure 97 - Core 2 (C) 2441 MHz (CH39) 99% Bandwidth

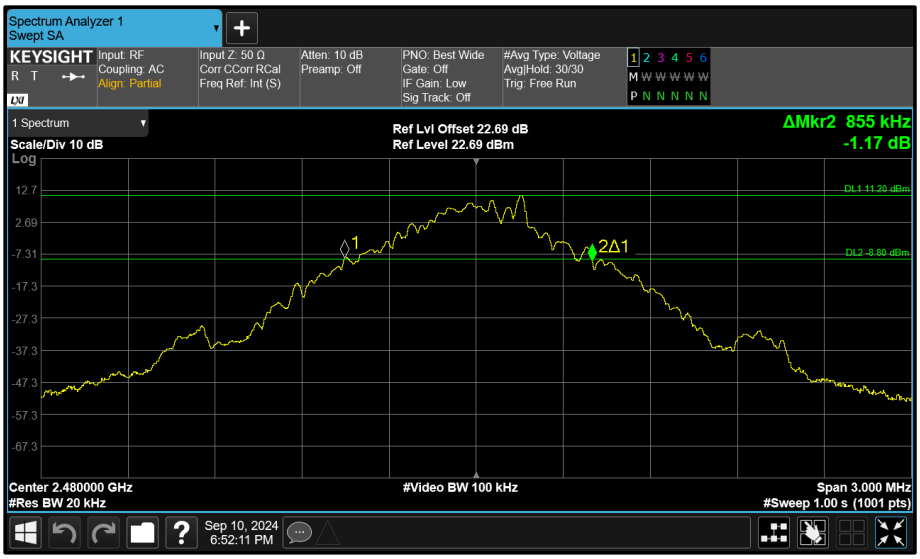

Figure 98 - Core 2 (C) 2480 MHz (CH78) 20 dB Bandwidth

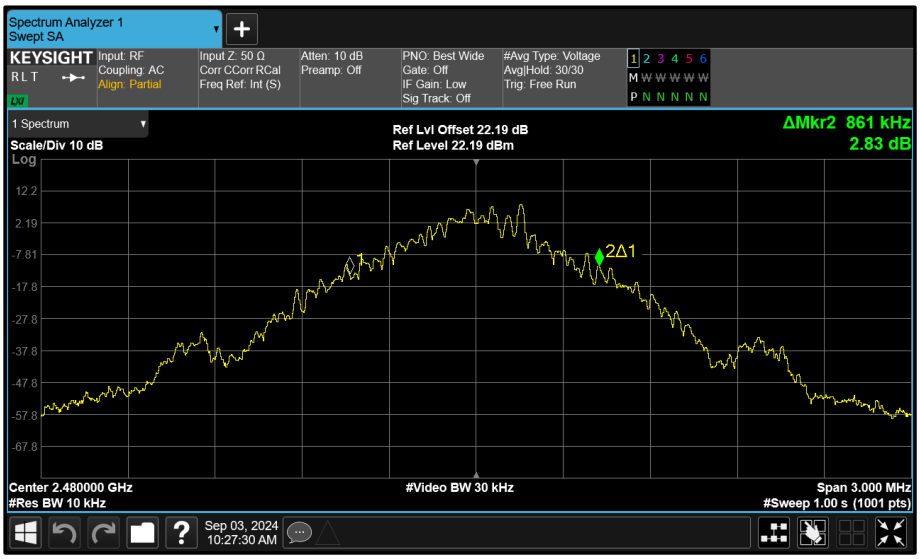

Figure 99 - Core 2 (C) 2480 MHz (CH78) 99% Bandwidth

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

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

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

Table 66 - 20 dB Bandwidth Results

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

Table 67 - 99% Bandwidth Results

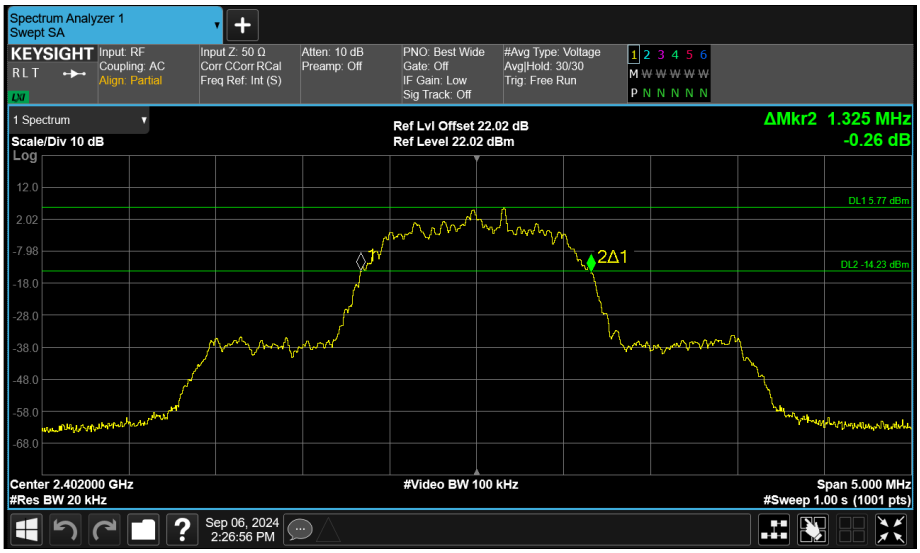

Figure 100 - Core 2 (C) 2402 MHz (CH0) 20 dB Bandwidth

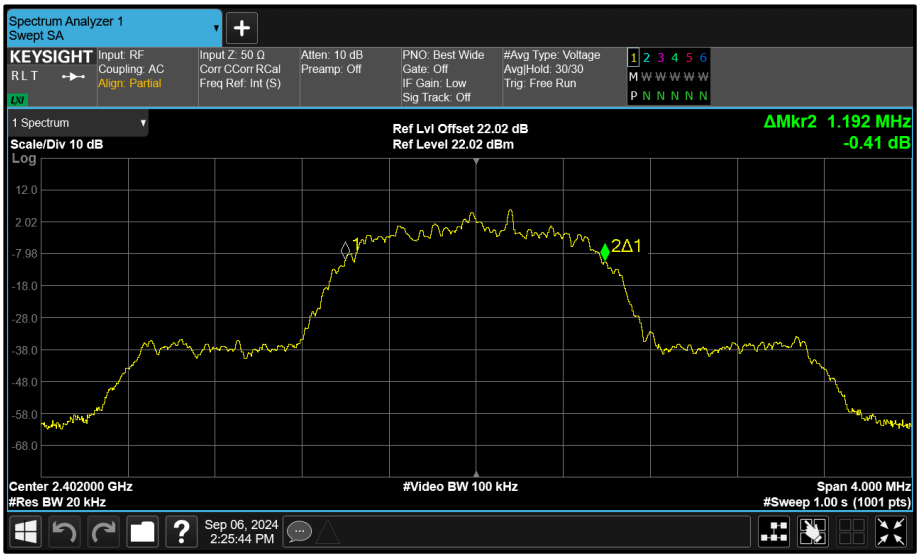

Figure 101 - Core 2 (C) 2402 MHz (CH0) 99% Bandwidth

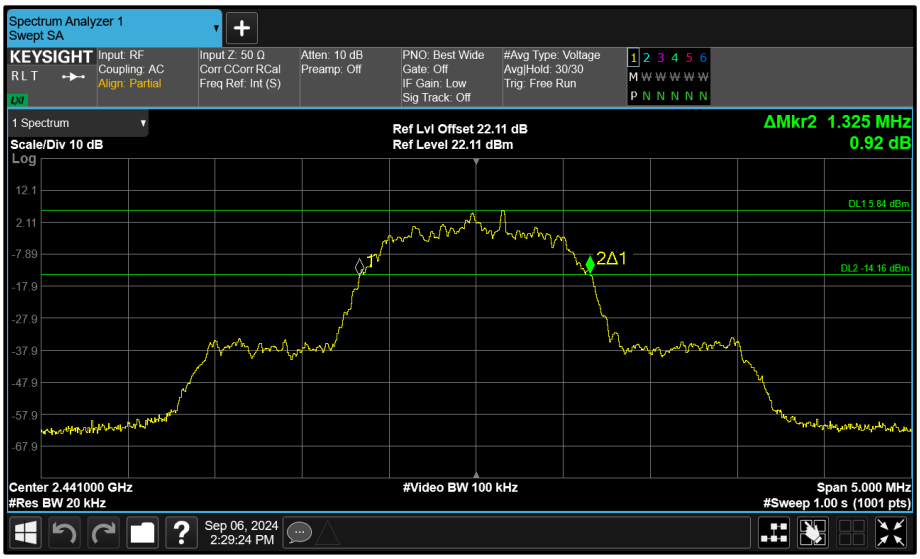

Figure 102 - Core 2 (C) 2441 MHz (CH39) 20 dB Bandwidth

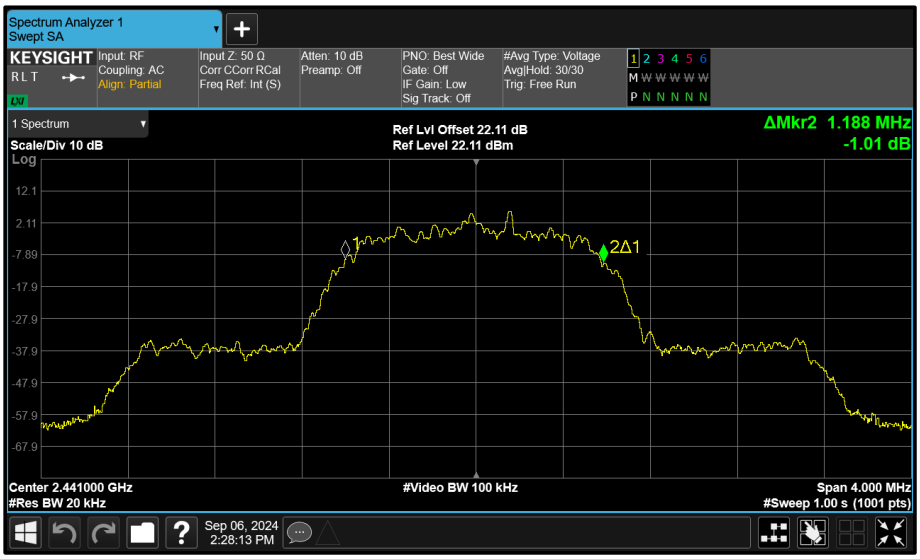

Figure 103 - Core 2 (C) 2441 MHz (CH39) 99% Bandwidth

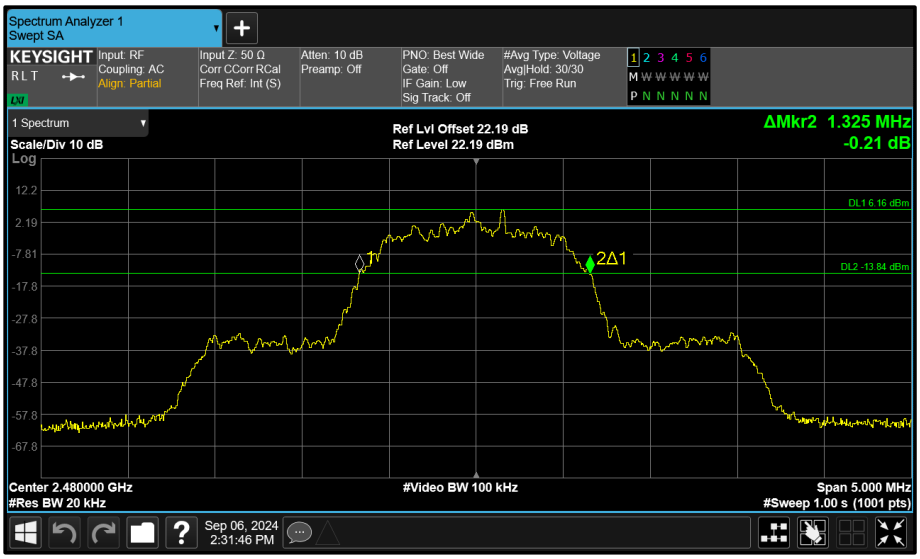

Figure 104 - Core 2 (C) 2480 MHz (CH78) 20 dB Bandwidth

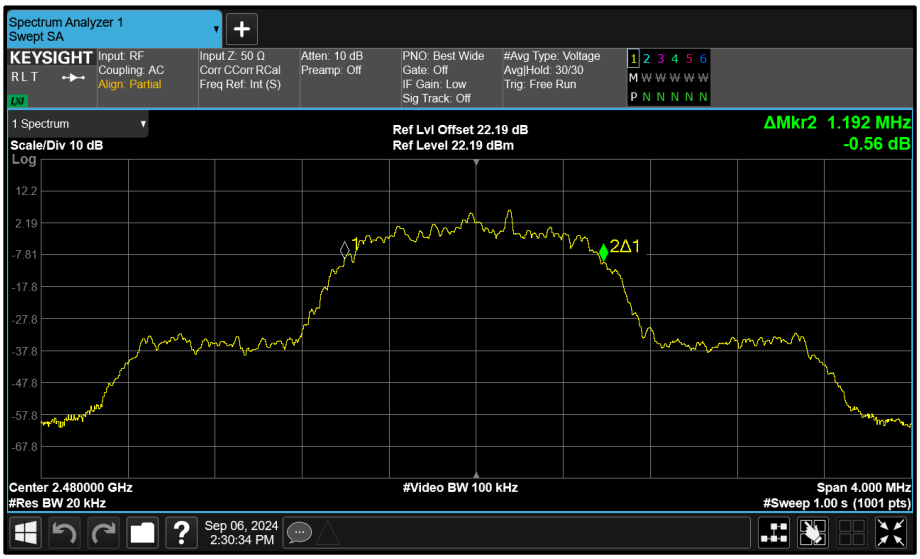

Figure 105 - Core 2 (C) 2480 MHz (CH78) 99% Bandwidth

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1) 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:	SISO	DCCF (dB):	-
Active Port(s):	C (Core 2)	Peak Antenna Gain (dBi):	-

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

Table 68 - 20 dB Bandwidth Results

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

Table 69 - 99% Bandwidth Results

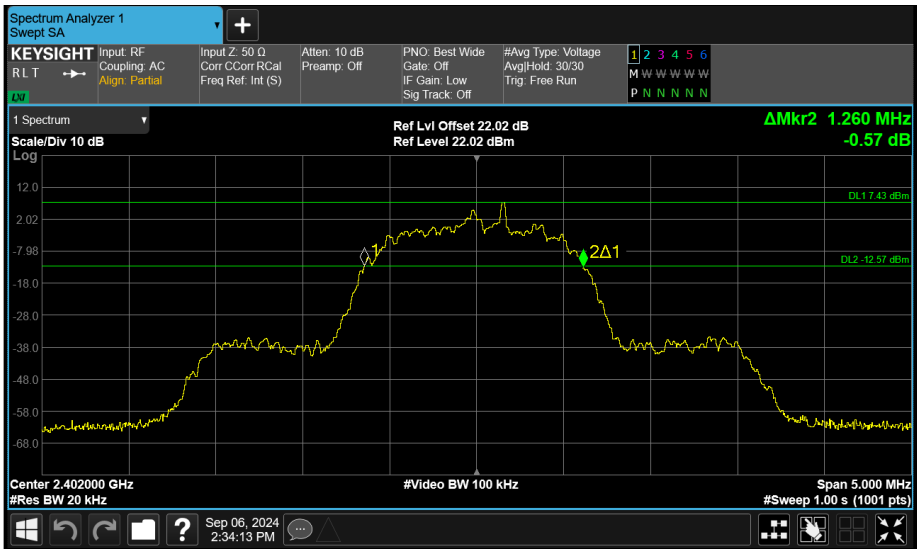

Figure 106 - Core 2 (C) 2402 MHz (CH0) 20 dB Bandwidth

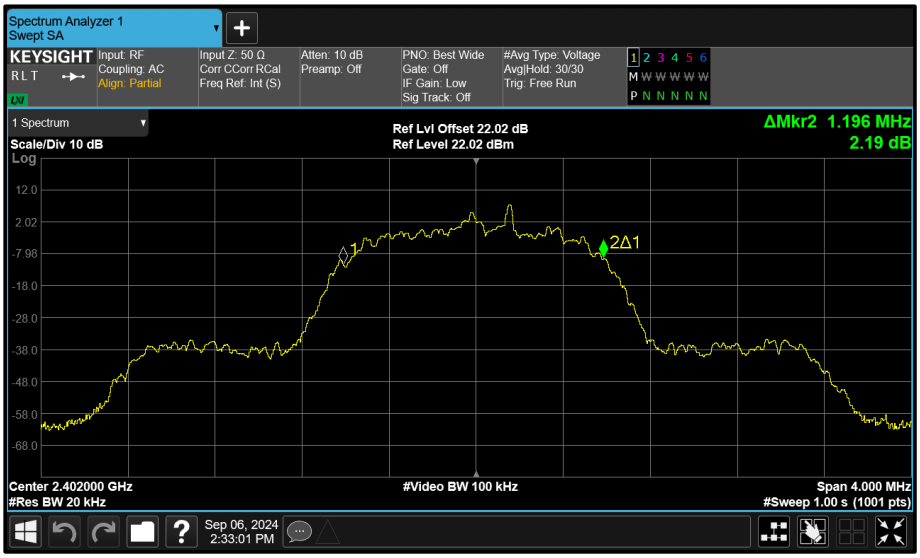

Figure 107 - Core 2 (C) 2402 MHz (CH0) 99% Bandwidth

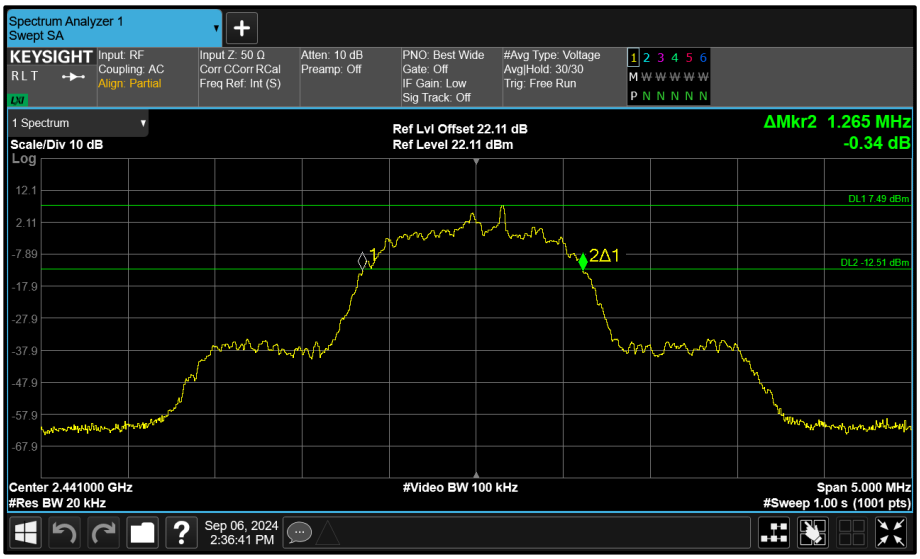

Figure 108 - Core 2 (C) 2441 MHz (CH39) 20 dB Bandwidth

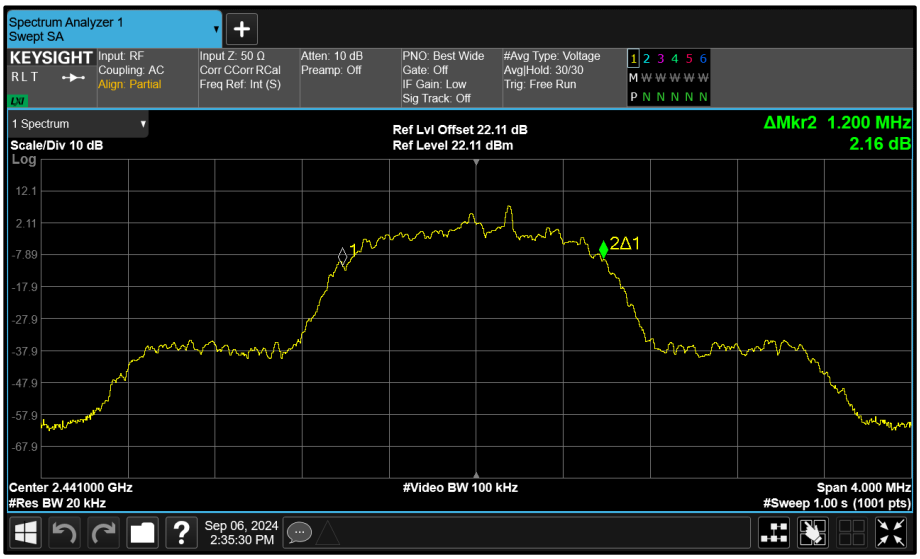

Figure 109 - Core 2 (C) 2441 MHz (CH39) 99% Bandwidth

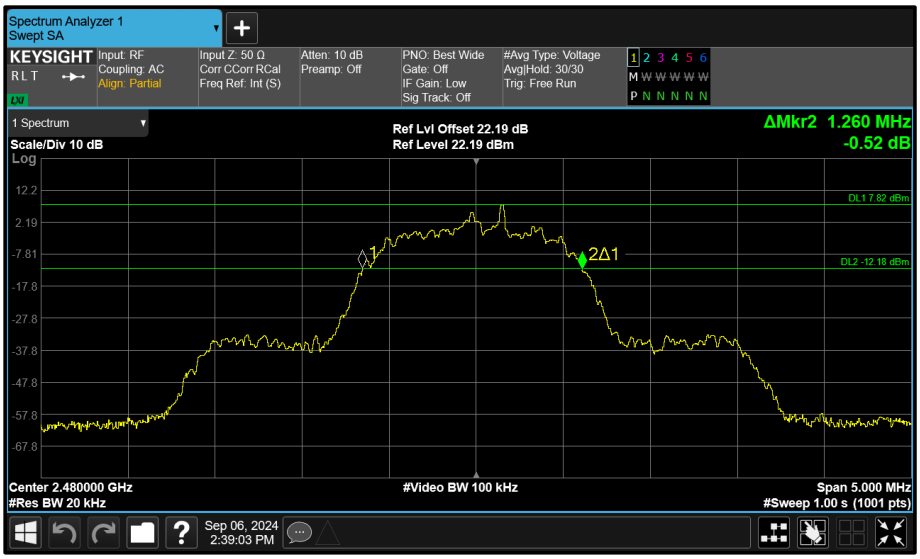

Figure 110 - Core 2 (C) 2480 MHz (CH78) 20 dB Bandwidth

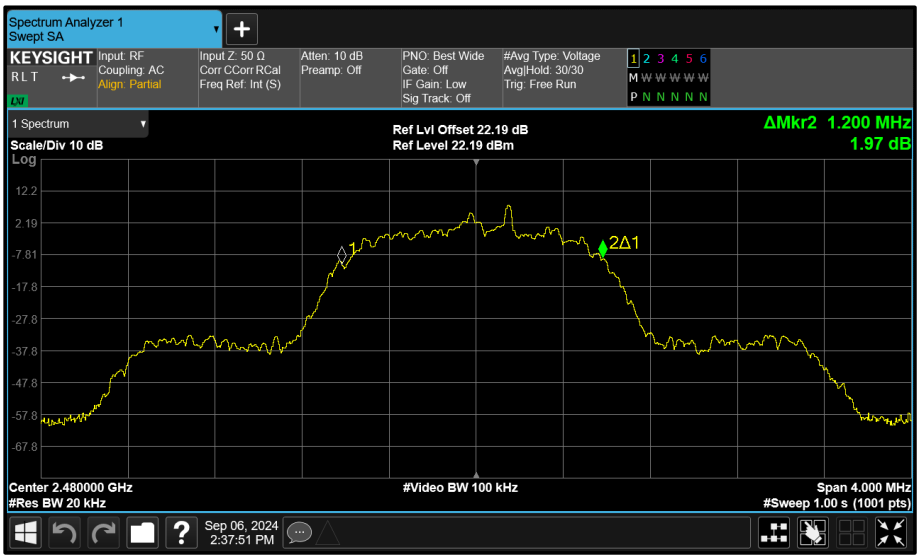

Figure 111 - Core 2 (C) 2480 MHz (CH78) 99% Bandwidth

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

DUT Configuration			
Mode:	ePA π/4 DQPSK (2-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	-	1.330	-	-
2441	-	1.325	-	-
2480	-	1.325	-	-

Table 70 - 20 dB Bandwidth Results

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

Table 71 - 99% Bandwidth Results

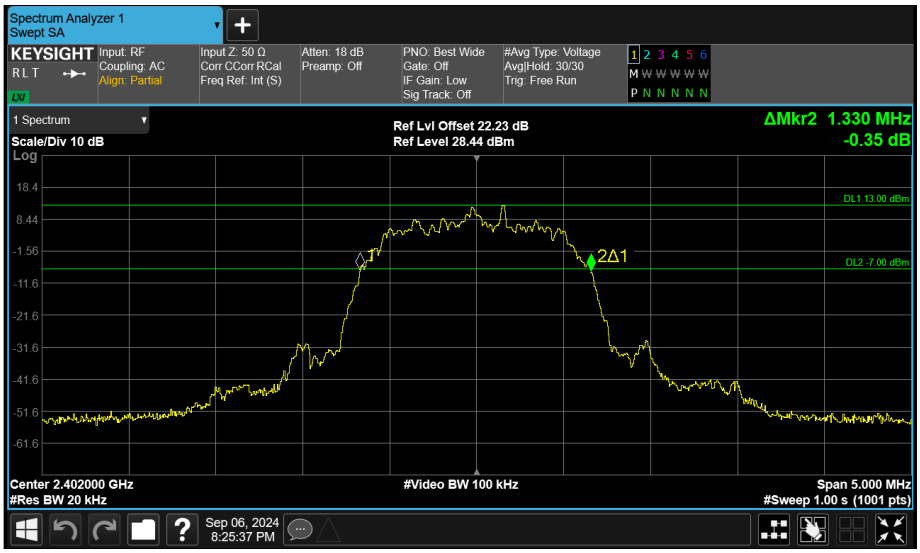

Figure 112 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

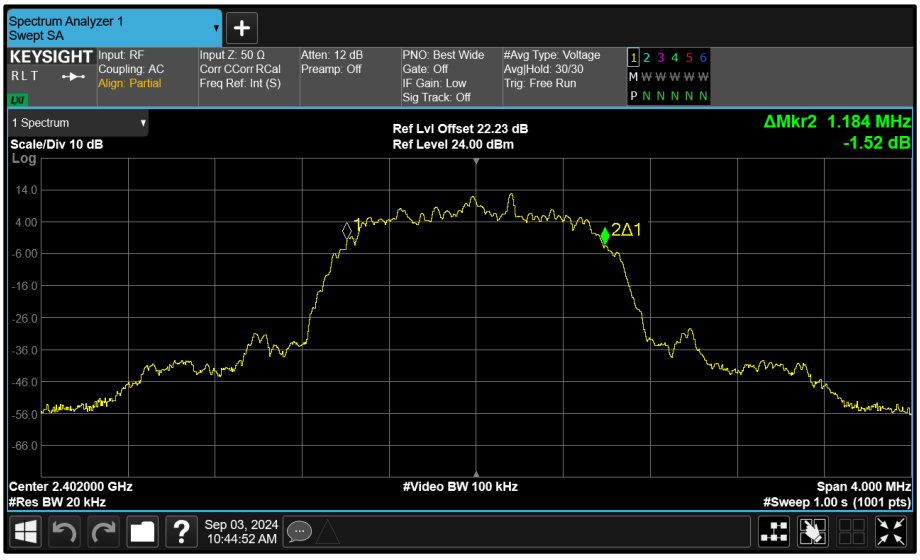

Figure 113 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

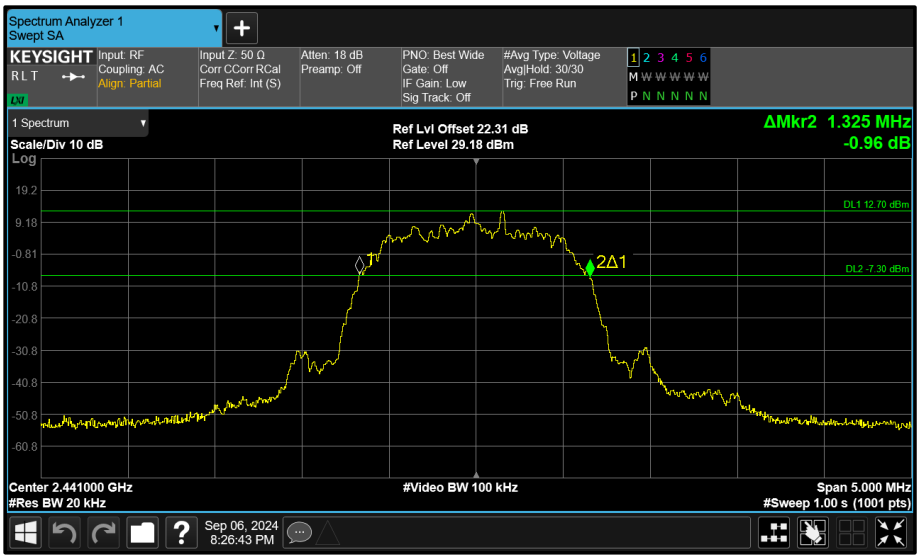

Figure 114 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

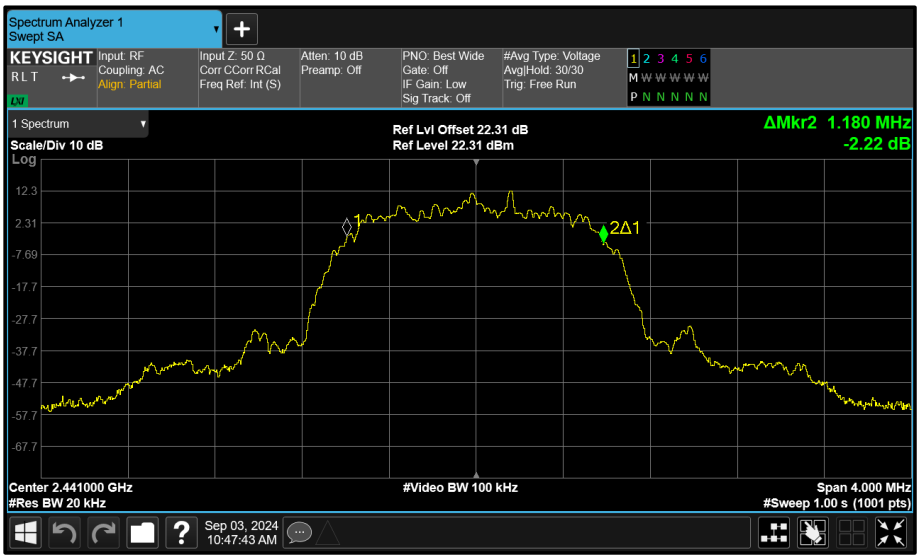

Figure 115 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

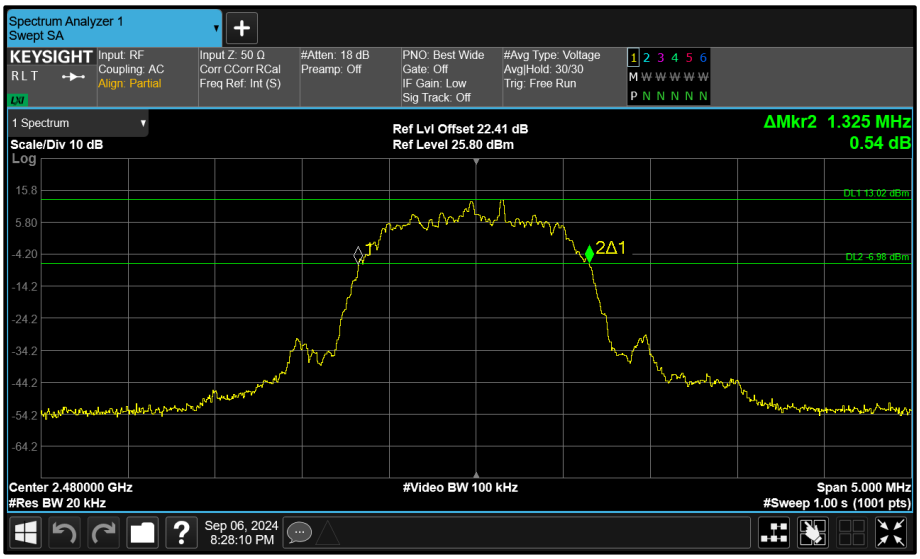

Figure 116 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

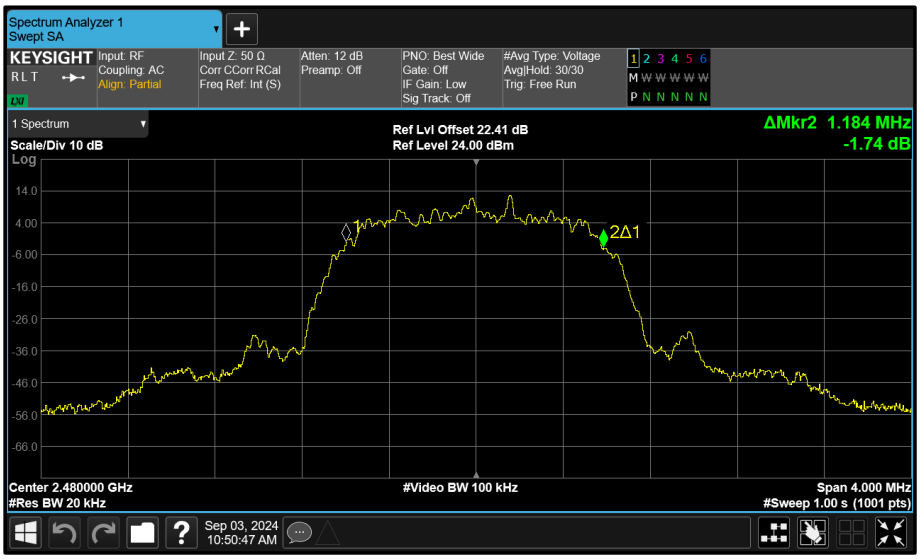

Figure 117 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1) RSS-247 5.1	Test Method(s):	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	-	1.260	-	-

Table 72 - 20 dB Bandwidth Results

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

Table 73 - 99% Bandwidth Results

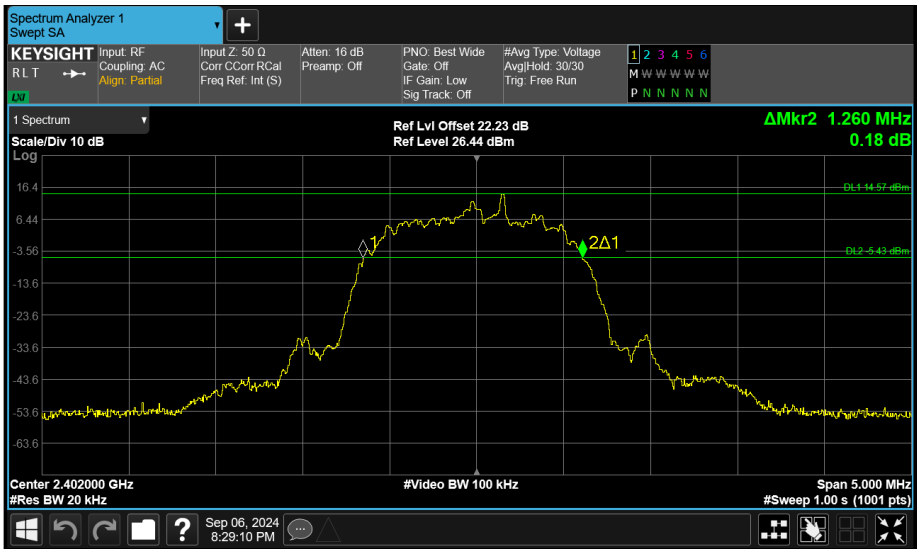

Figure 118 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

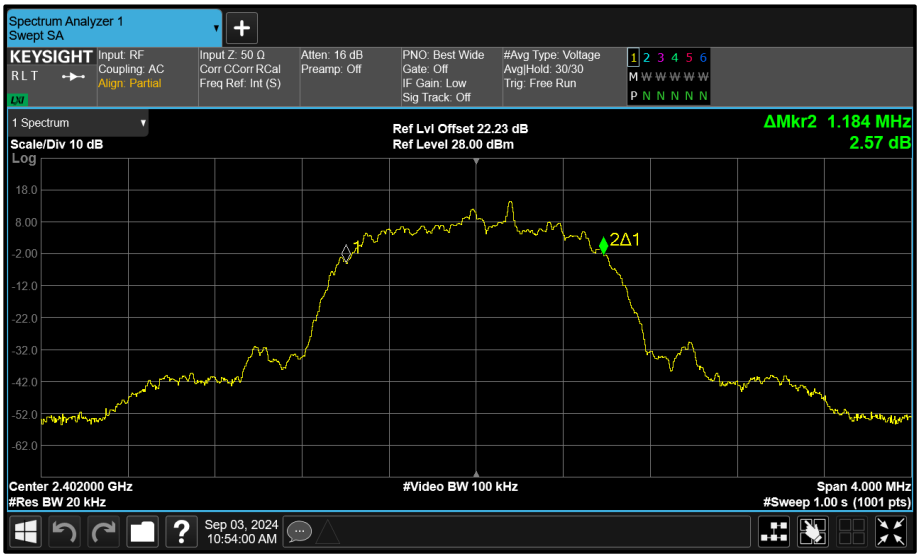

Figure 119 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

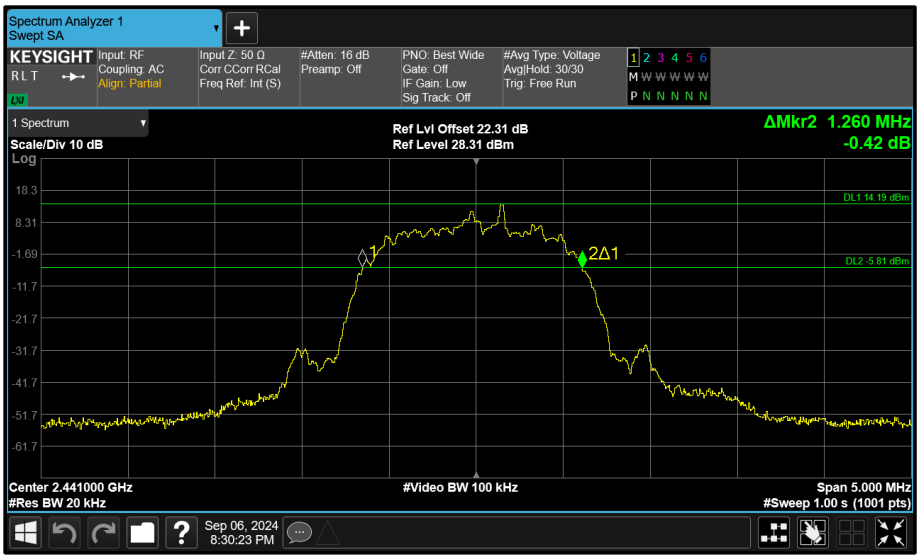

Figure 120 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

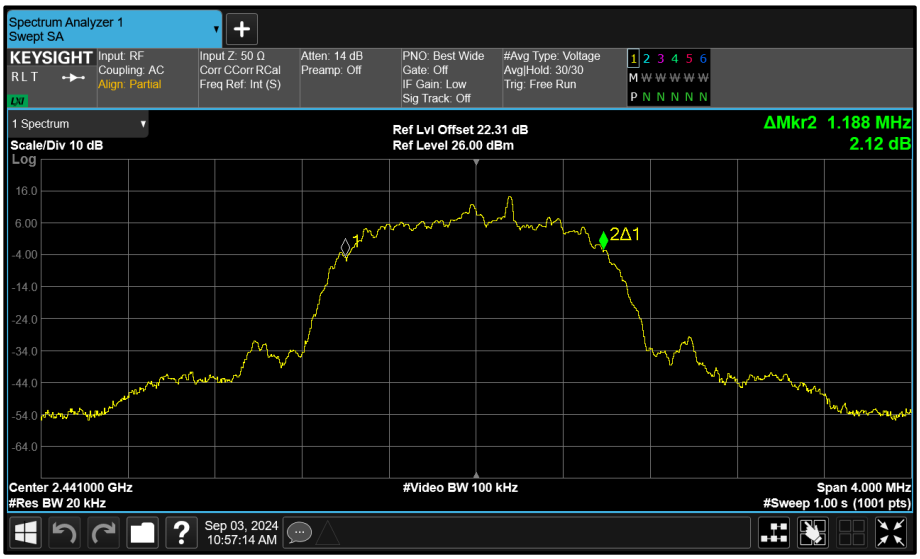

Figure 121 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

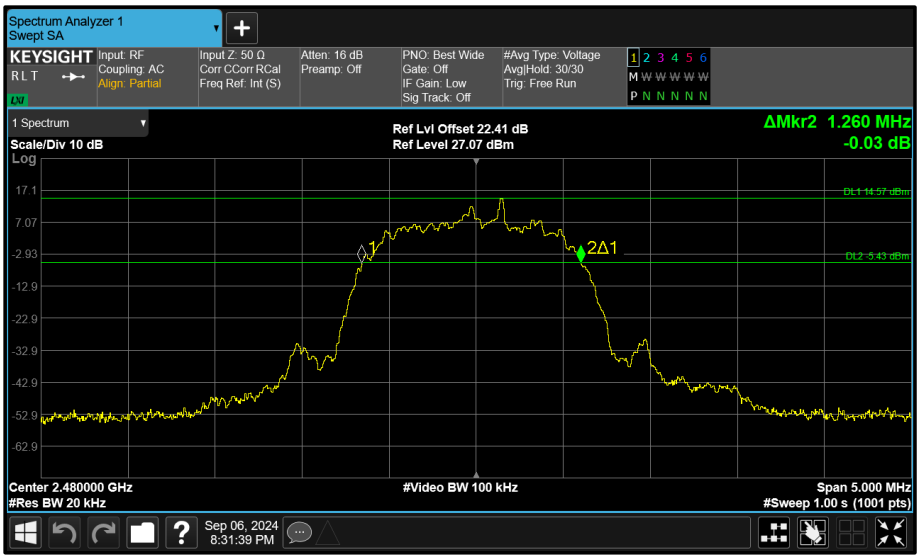

Figure 122 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

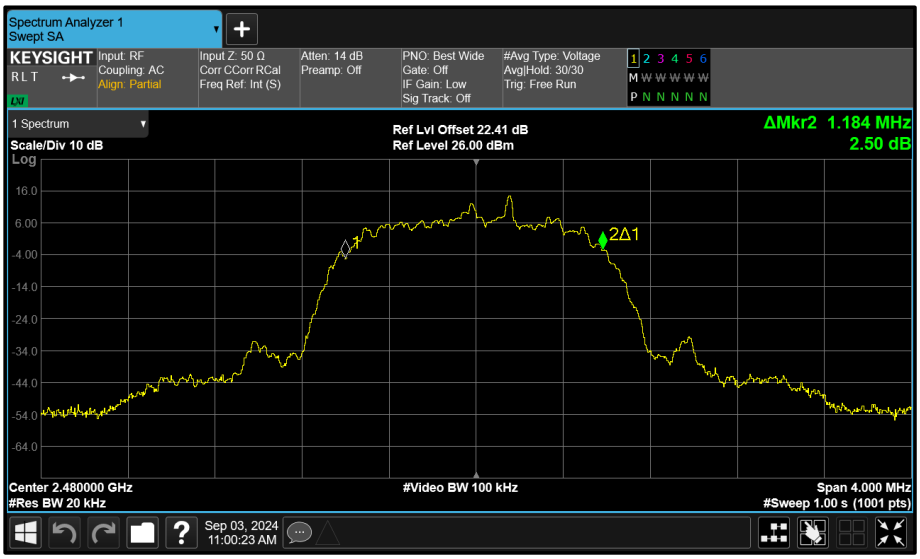

Figure 123 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

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

DUT Configuration			
Mode:	iPA GFSK (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	0.855	0.855	-	-
2441	0.855	0.894	-	-
2480	0.855	0.858	-	-

Table 74 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	0.855	0.855	-	-	-
2441	0.858	0.900	-	-	-
2480	0.858	0.855	-	-	-

Table 75 - 99% Bandwidth Results

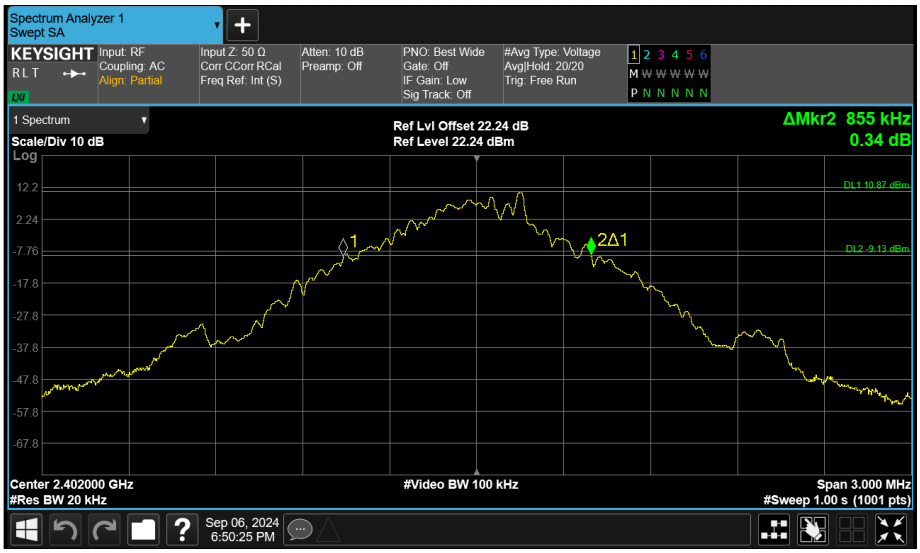

Figure 124 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

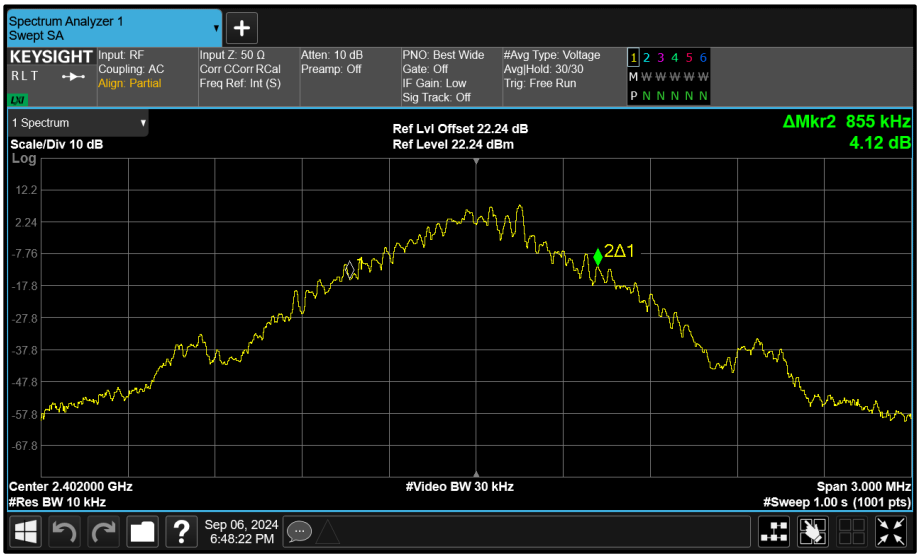

Figure 125 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

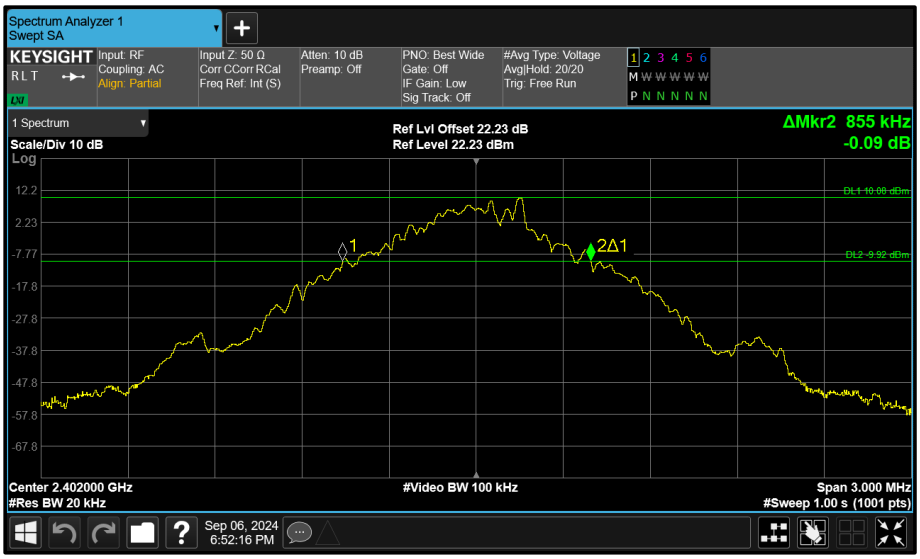

Figure 126 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

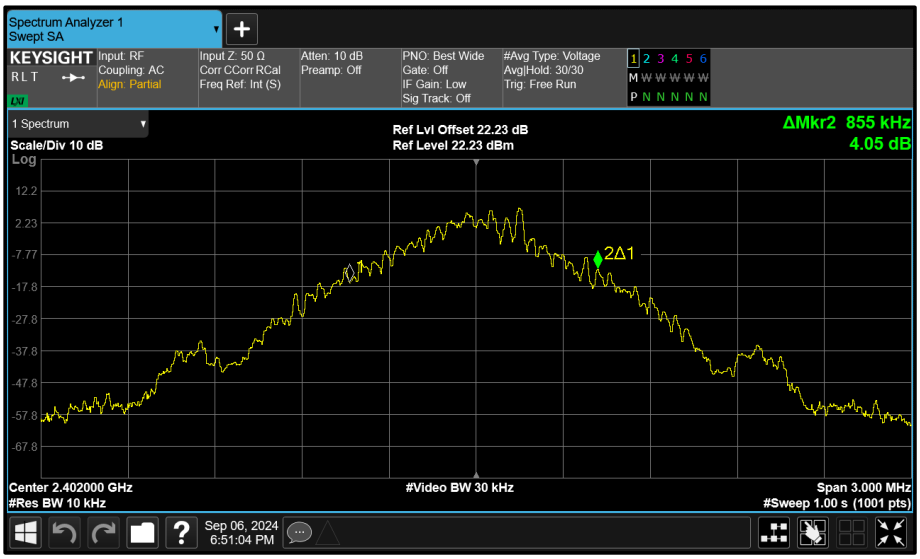

Figure 127 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

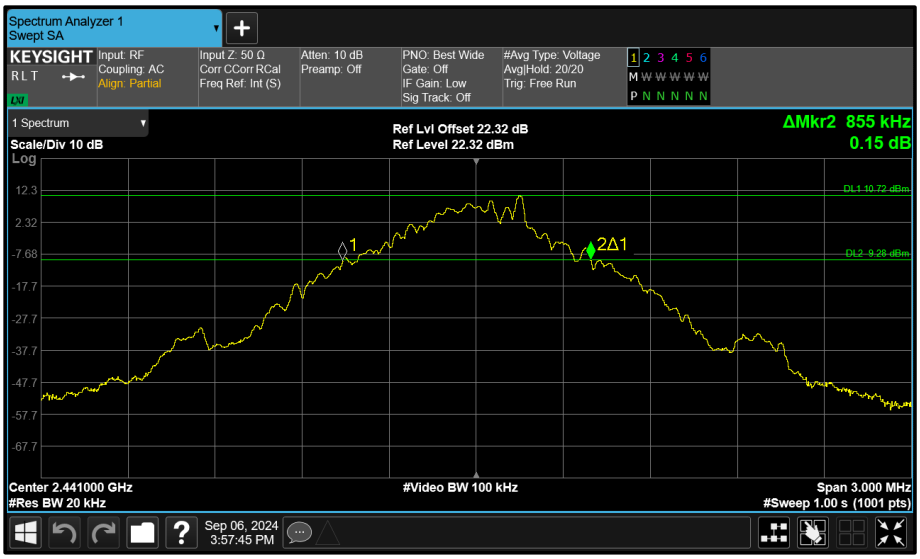

Figure 128 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

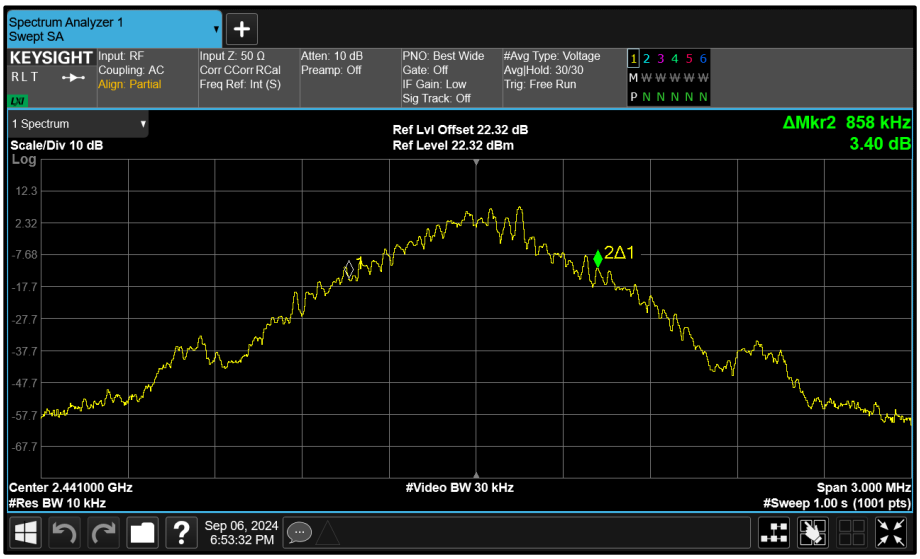

Figure 129 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

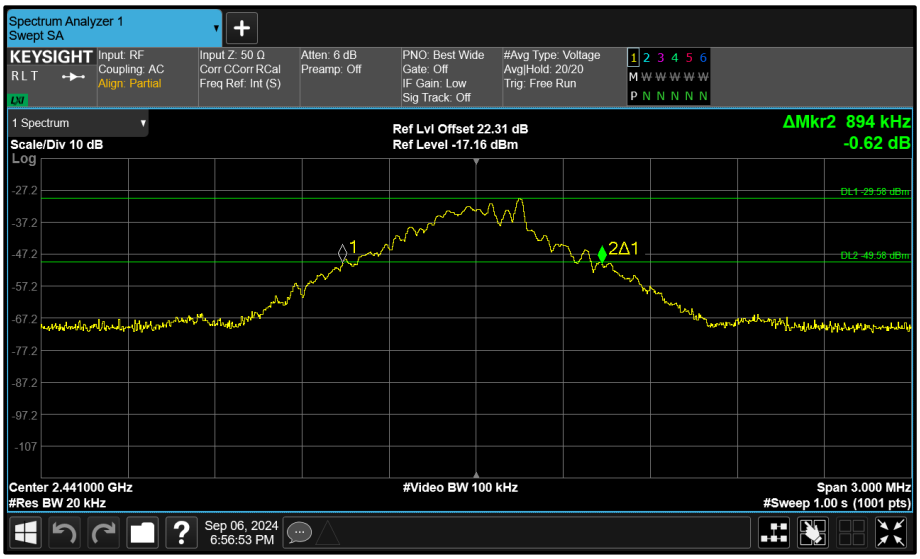

Figure 130 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

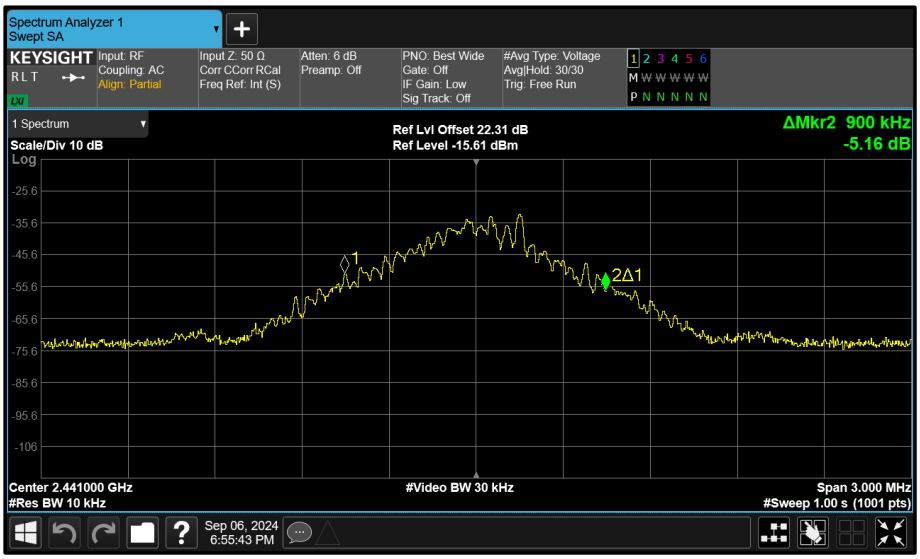

Figure 131 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

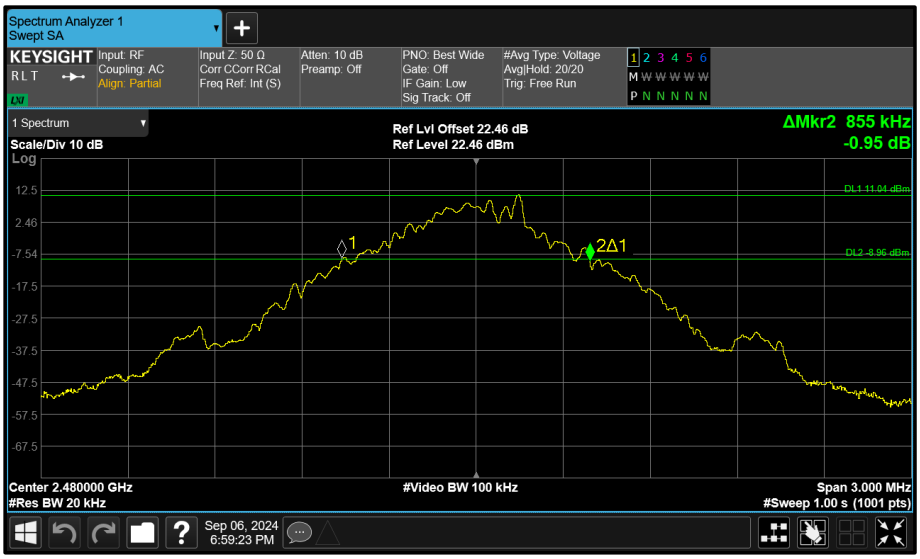

Figure 132 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

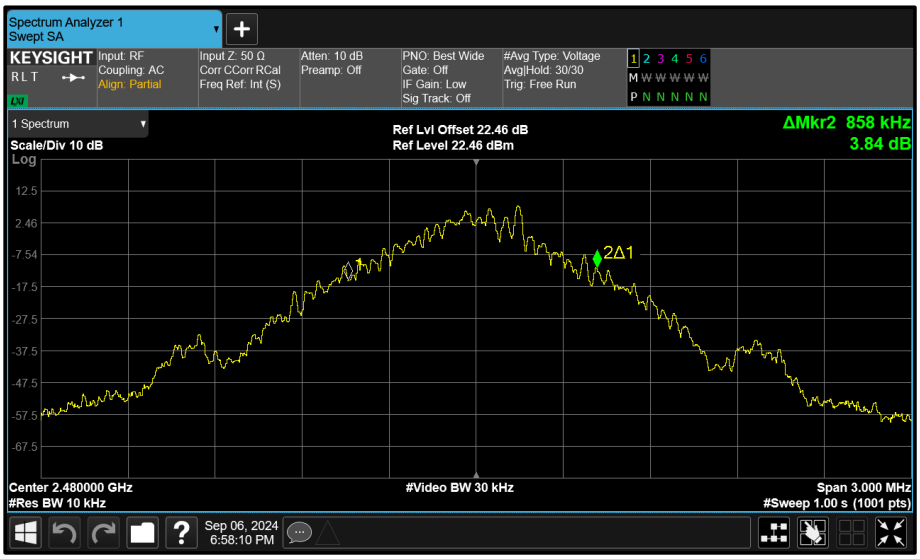

Figure 133 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

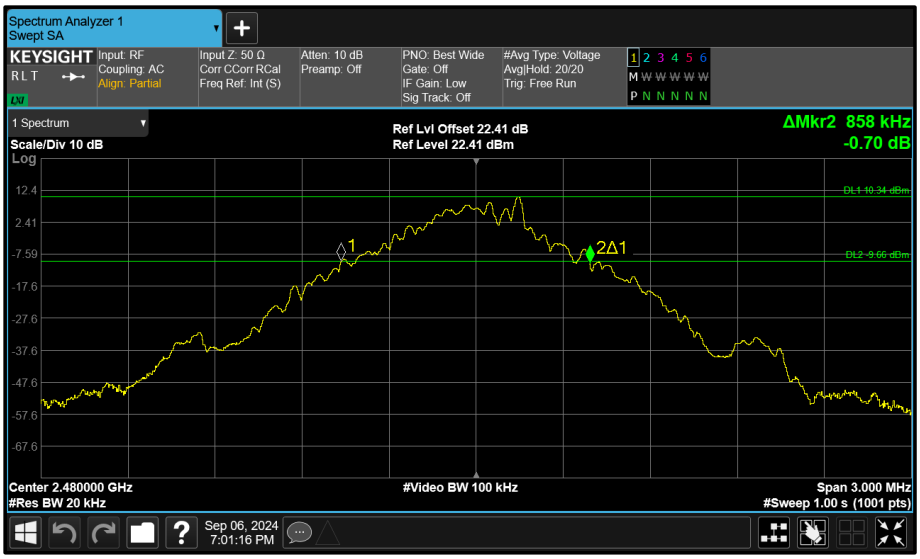

Figure 134 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

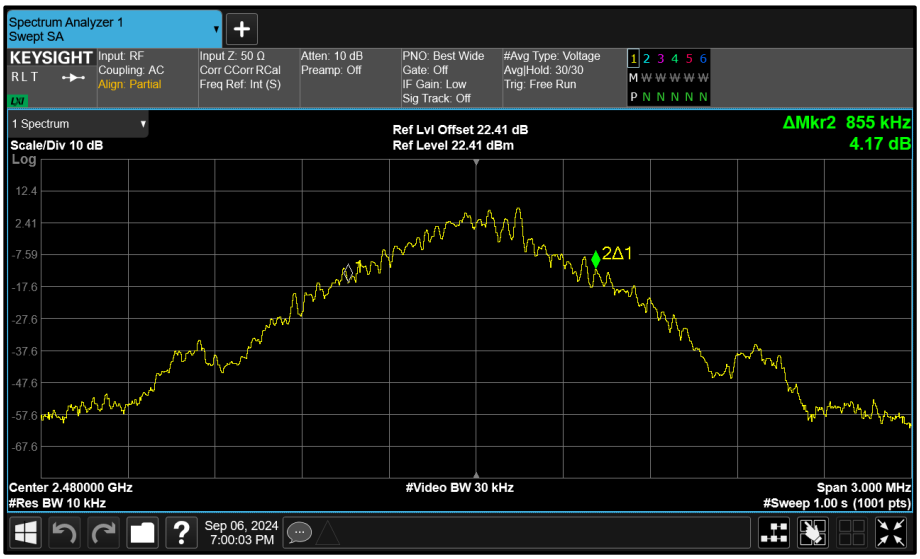

Figure 135 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1) RSS-247 5.1	Test Method(s):	C63.10 6.9.2
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	1.330	1.340	-	-
2441	1.325	1.335	-	-
2480	1.325	1.335	-	-

Table 76 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	1.184	1.248	-	-	-
2441	1.188	1.252	-	-	-
2480	1.188	1.256	-	-	-

Table 77 - 99% Bandwidth Results

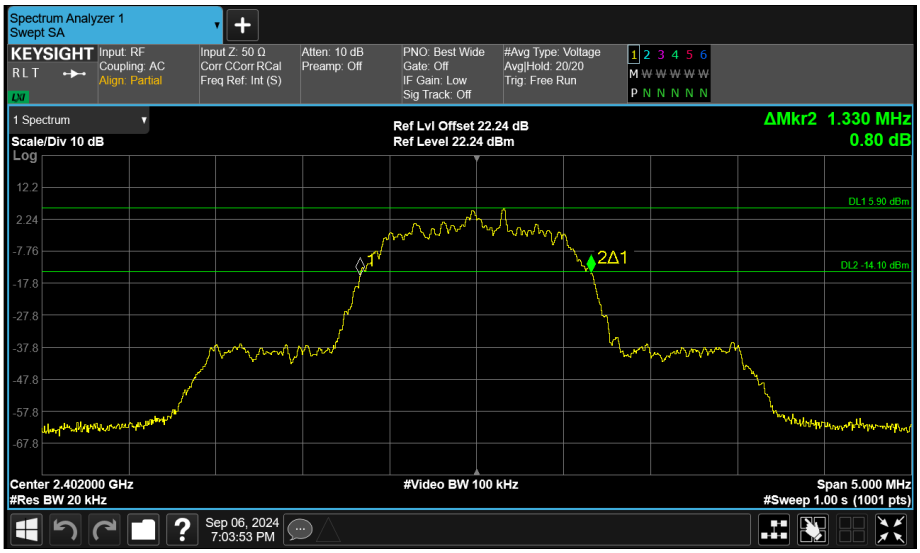

Figure 136 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

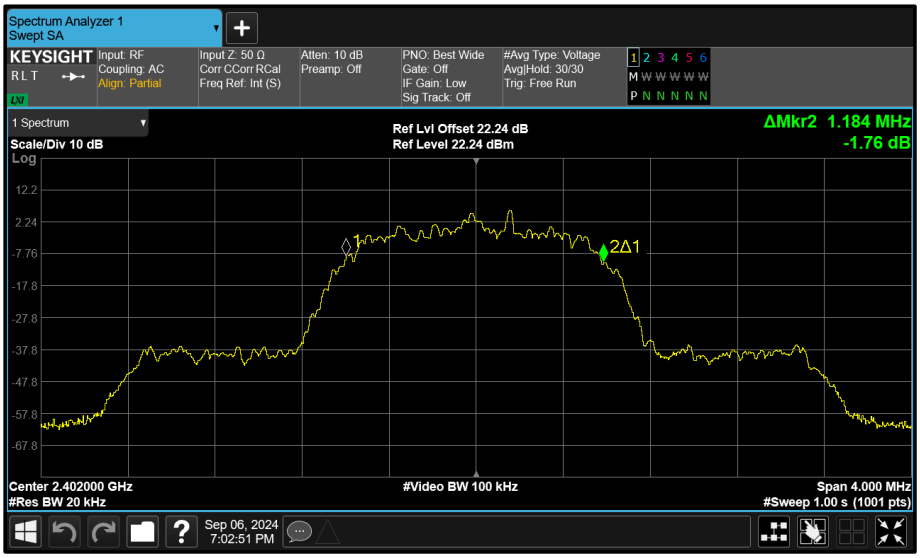

Figure 137 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

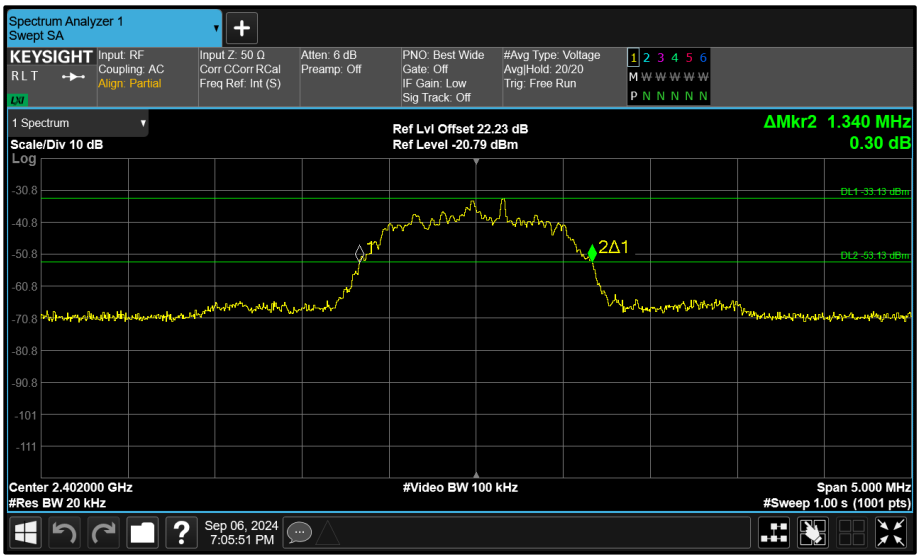

Figure 138 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

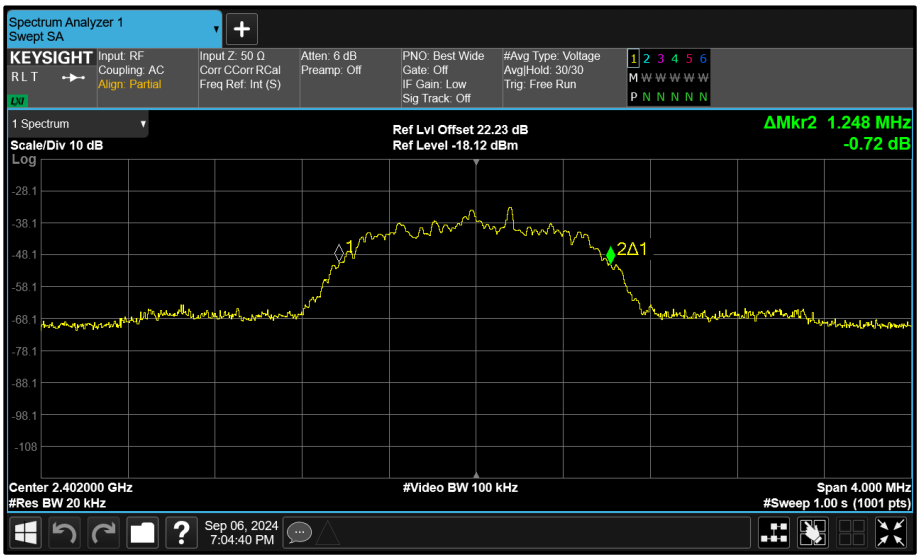

Figure 139 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

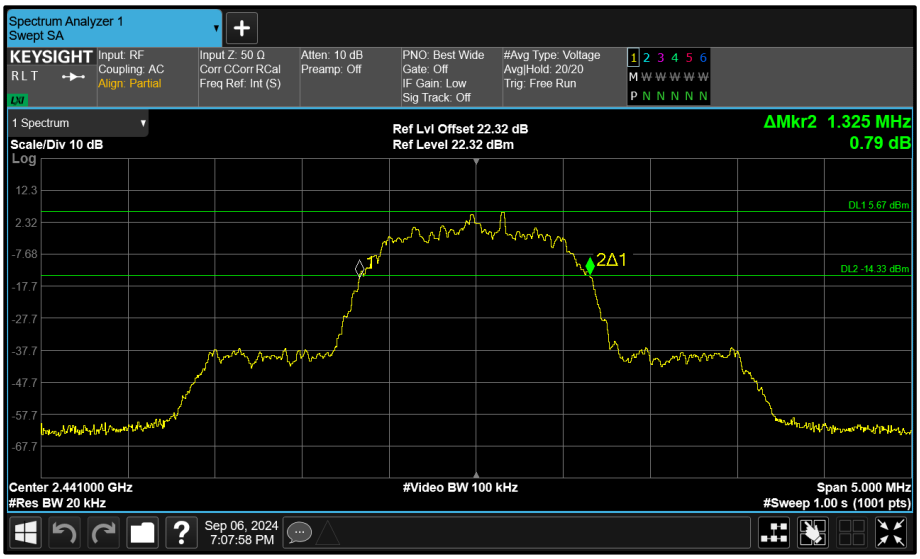

Figure 140 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

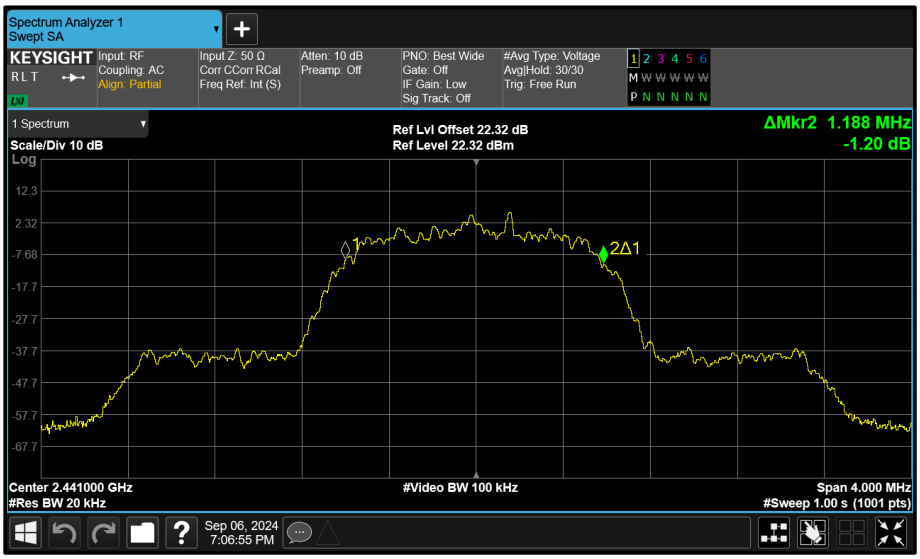

Figure 141 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

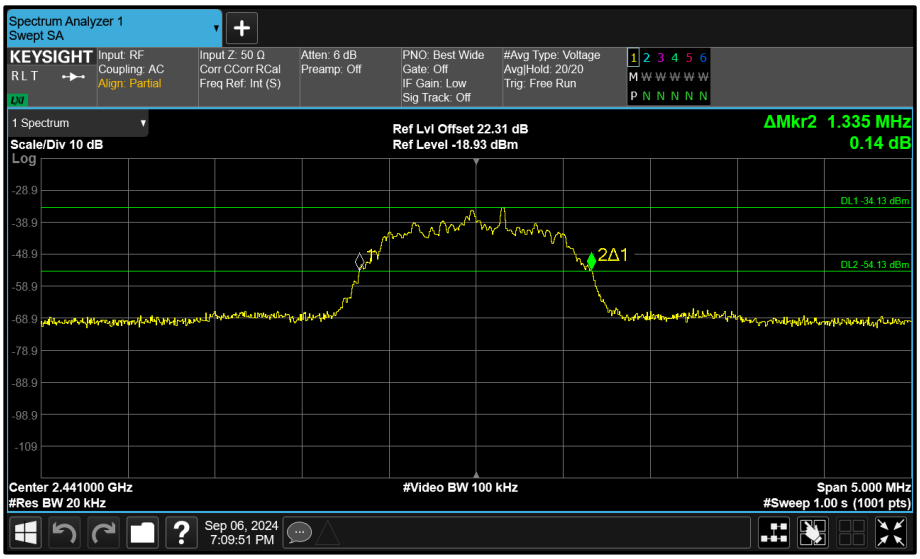

Figure 142 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

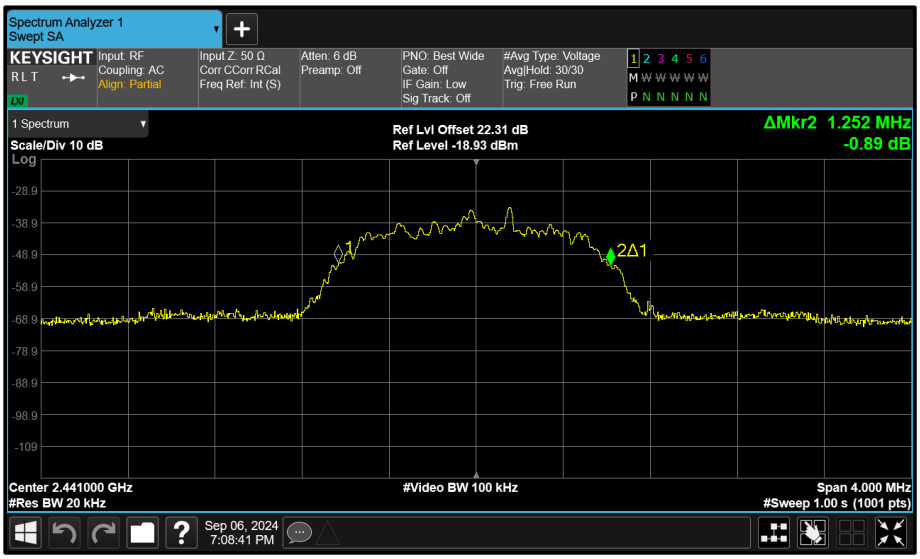

Figure 143 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth