



Test Configuration				
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz	
Limit Clause(s):	FCC 15.247(a)(1) RSS-247 5.1 b)	Test Method(s):	C63.10 7.8.2	
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)	Carrier Frequency Separation (MHz)			Limit (kHz)
		F1C	F2C	FHS	
2441	1.320	2441.002	2442.003	1.001	≥880.3

Table 43 - Carrier Frequency Separation Results

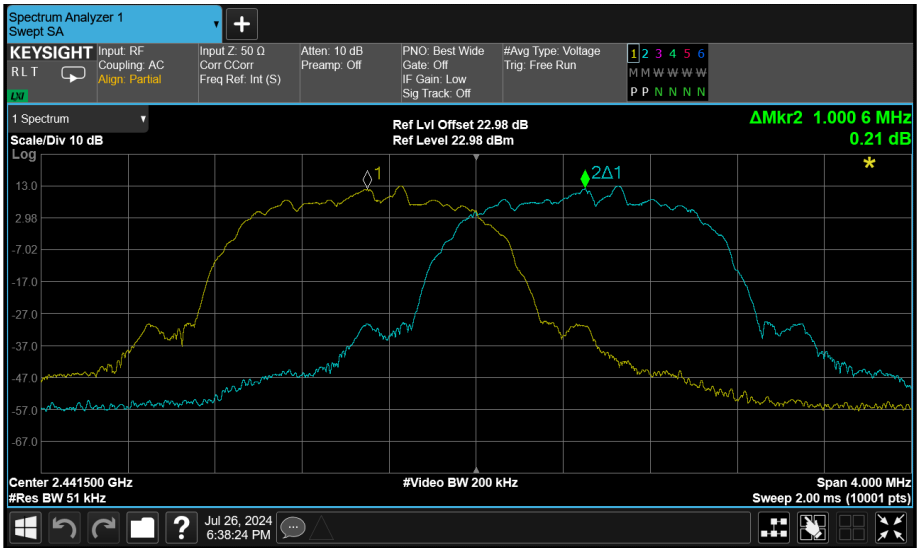


Figure 62 - 8-DPSK - 2441 MHz (CH39)



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

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 band 2400-2483.5 MHz 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 0.125 W.

ISED RSS-247, Limit Clause 5.1 (b)

FHSs 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, FHSs operating in the band 2400-2483.5 MHz 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 that the systems operate with an output power no greater than 0.125 W.

2.3.7 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
AC Programmable Power Supply	iTech	IT7324	5225	-	O/P Mon
MXA Signal Analyser	Keysight Technologies	N9020B	5529	24	13-Dec-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
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6426	12	07-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	6752	12	06-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6753	12	06-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6754	12	06-Feb-2025

Table 44

O/P Mon - Output Monitored using calibrated equipment



2.4 Frequency Hopping Systems - Number of Hopping Channels

2.4.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (a)(1)
ISED RSS-247, Clause 5.1

2.4.2 Equipment Under Test and Modification State

A3238, S/N: G76H79FX4L - Modification State 0

2.4.3 Date of Test

26-July-2024 to 29-July-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	20.3 - 21.0 °C
Relative Humidity	58.2 - 60.8 %



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):	A (Core 0)	Peak Antenna Gain (dBi):	-

Number of Hopping Frequencies		Limit
79		≥15.0

Table 45 - Number of Hopping Frequencies Results

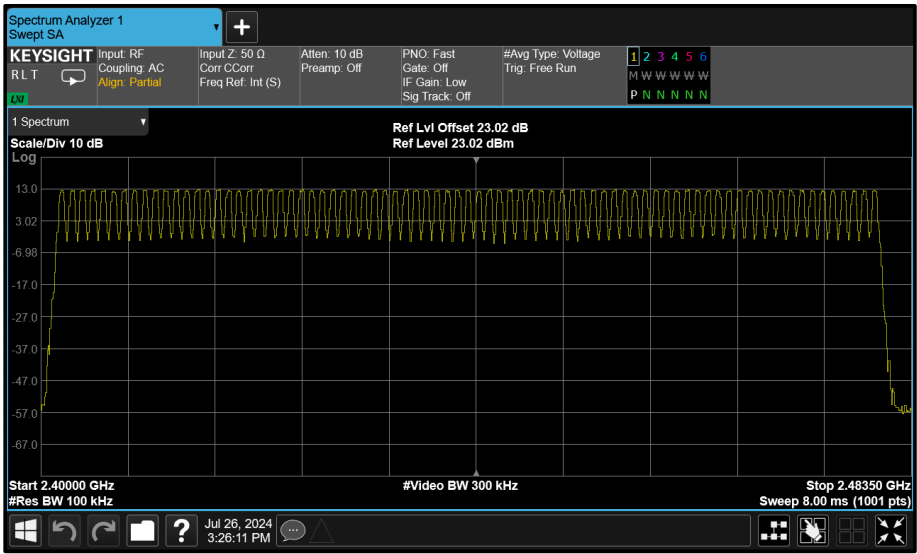


Figure 63 - GFSK (DH5) - Number of Hopping Channels



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 $\pi/4$ DQPSK (2-DH5)	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Core 0)	Peak Antenna Gain (dBi):	-

Number of Hopping Frequencies	Limit
79	≥ 15.0

Table 46 - Number of Hopping Frequencies Results

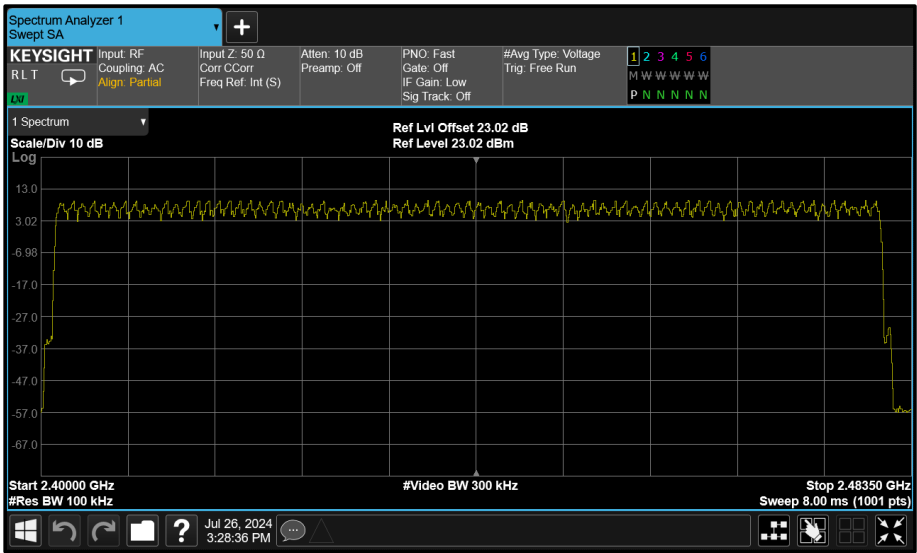


Figure 64 - $\pi/4$ DQPSK (2-DH5) - Number of Hopping Channels



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):	A (Core 0)	Peak Antenna Gain (dBi):	-

Number of Hopping Frequencies	Limit
79	≥15.0

Table 47 - Number of Hopping Frequencies Results

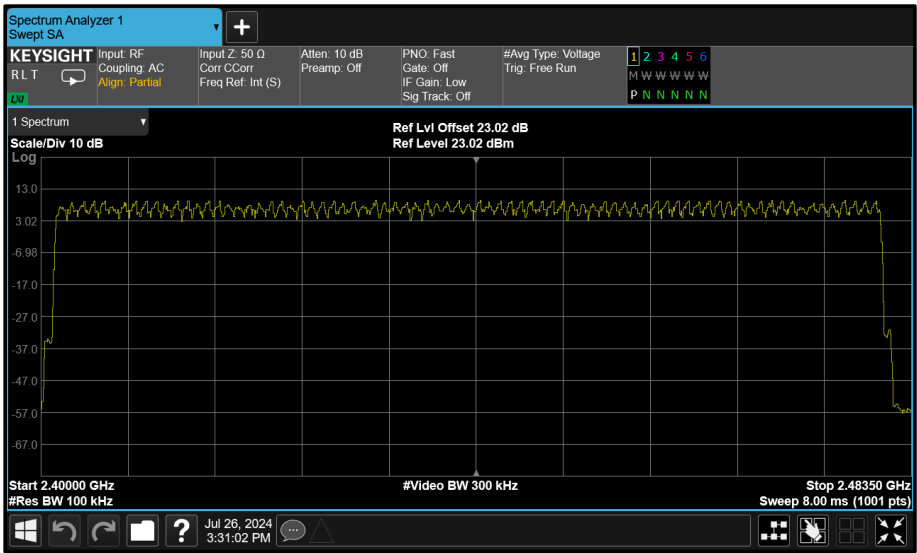


Figure 65 - 8-DPSK (3-DH5) - Number of Hopping Channels



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 48 - Number of Hopping Frequencies Results

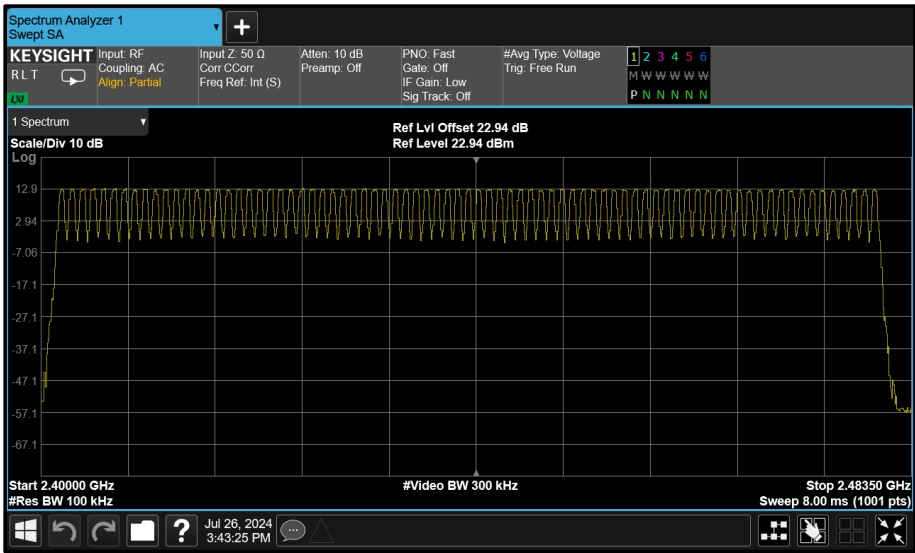


Figure 66 - GFSK (DH5) - Number of Hopping Channels



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 $\pi/4$ 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 49 - Number of Hopping Frequencies Results

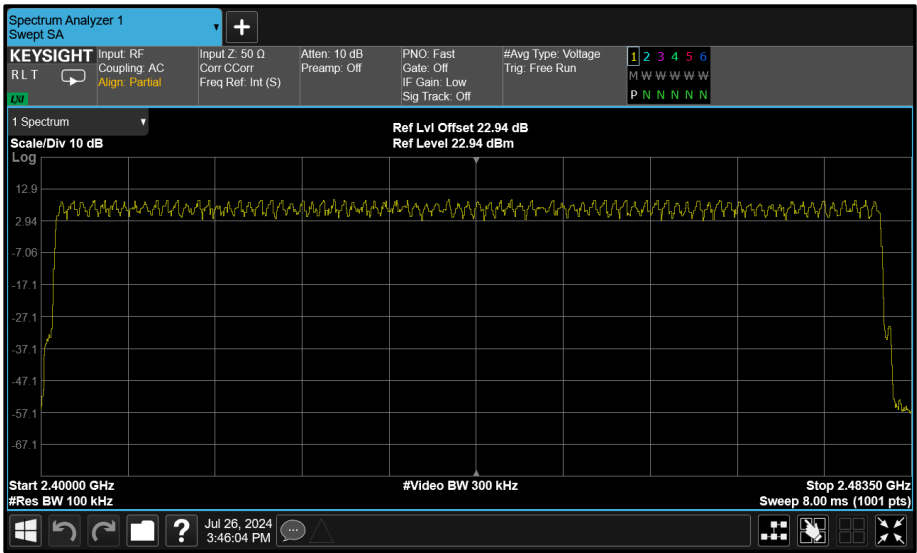


Figure 67 - $\pi/4$ DQPSK (2-DH5) - Number of Hopping Channels



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 50 - Number of Hopping Frequencies Results

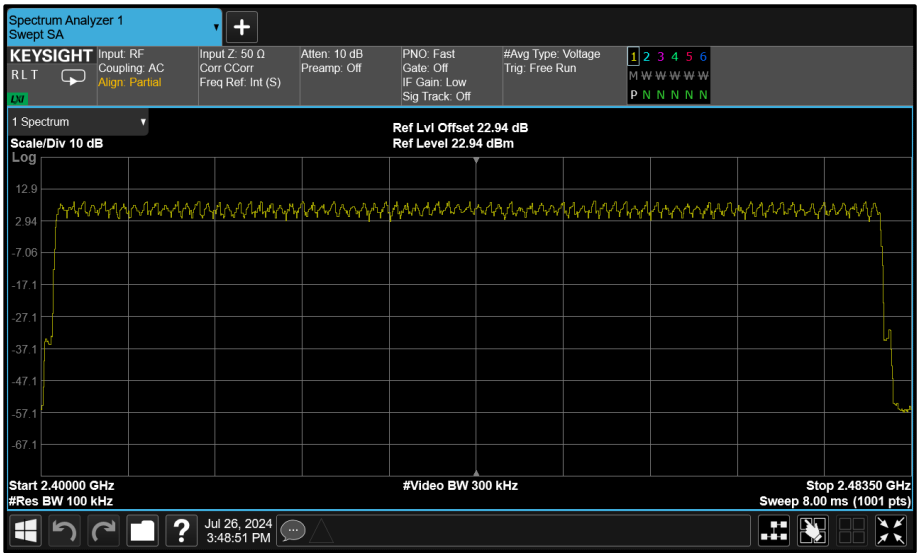


Figure 68 - 8-DPSK (3-DH5) - Number of Hopping Channels



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 $\pi/4$ DQPSK (2-DH5)	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Core 0)	Peak Antenna Gain (dBi):	-

Number of Hopping Frequencies	Limit
79	≥ 15.0

Table 51 - Number of Hopping Frequencies Results

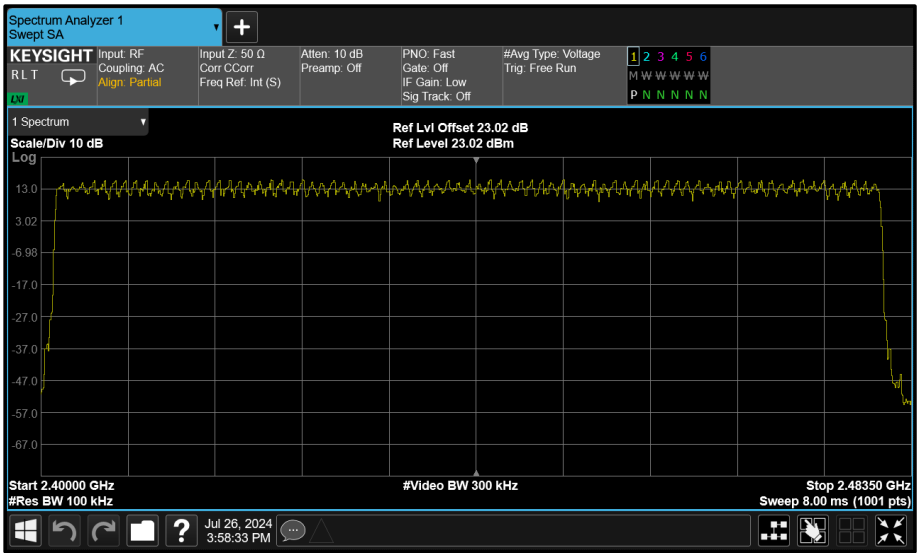


Figure 69 - $\pi/4$ DQPSK (2-DH5) - Number of Hopping Channels



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):	A (Core 0)	Peak Antenna Gain (dBi):	-

Number of Hopping Frequencies	Limit
79	≥15.0

Table 52 - Number of Hopping Frequencies Results

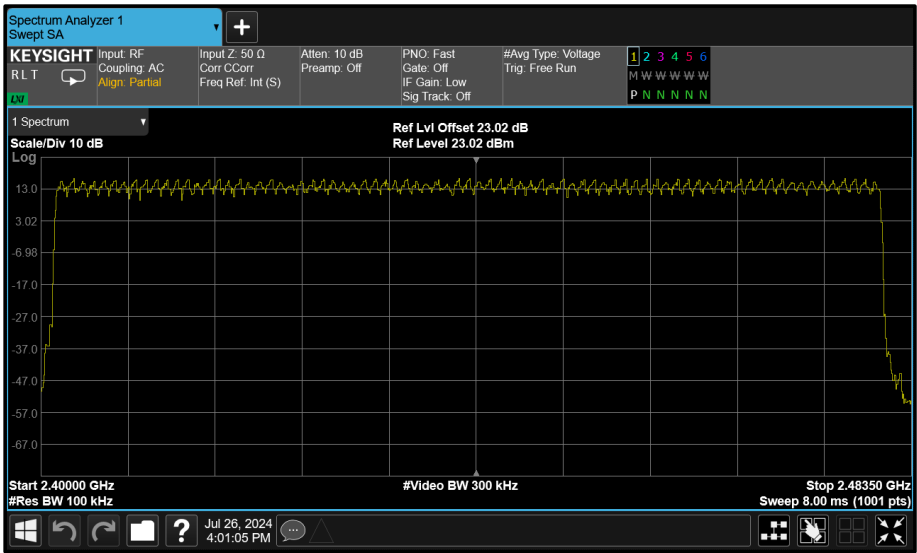


Figure 70 - 8-DPSK (3-DH5) - Number of Hopping Channels



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 53 - Number of Hopping Frequencies Results

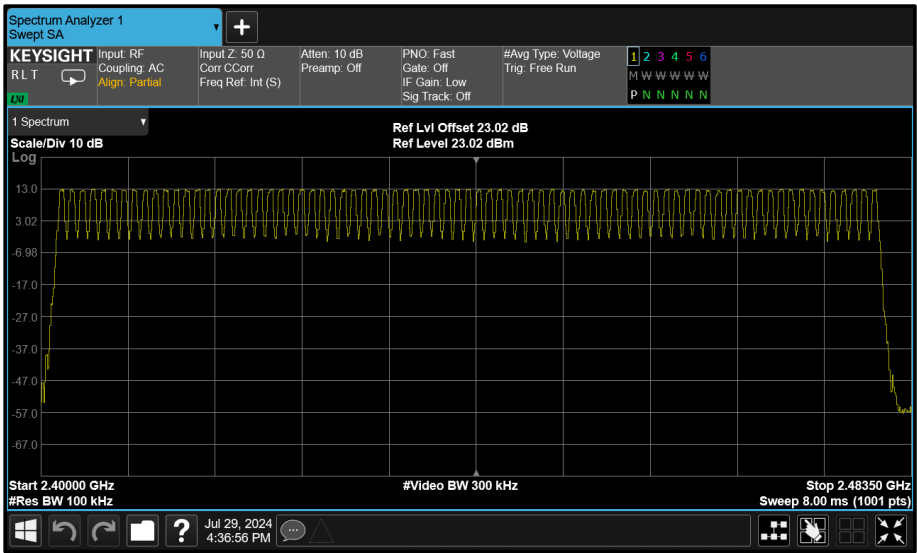


Figure 71 - GFSK (DH5) - Number of Hopping Channels



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 $\pi/4$ 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 54 - Number of Hopping Frequencies Results

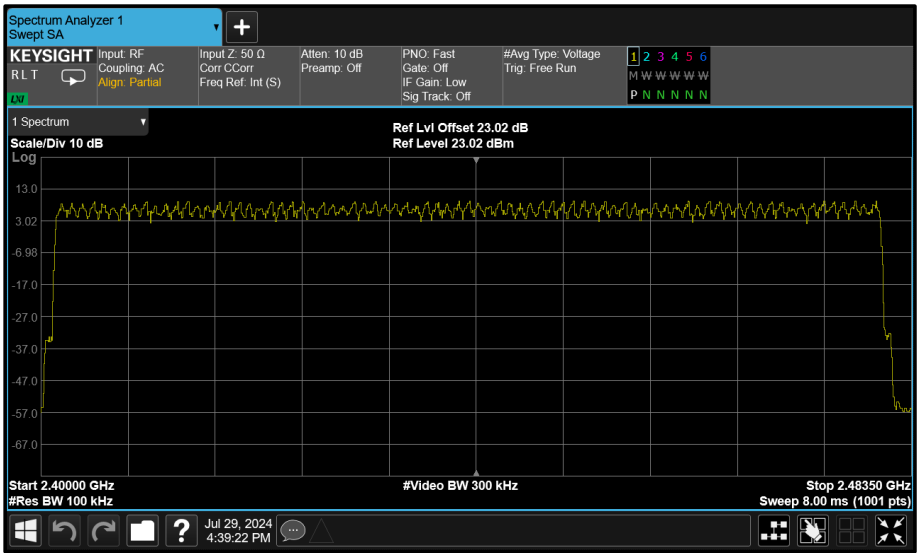


Figure 72 - $\pi/4$ DQPSK (2-DH5) - Number of Hopping Channels



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 55 - Number of Hopping Frequencies Results

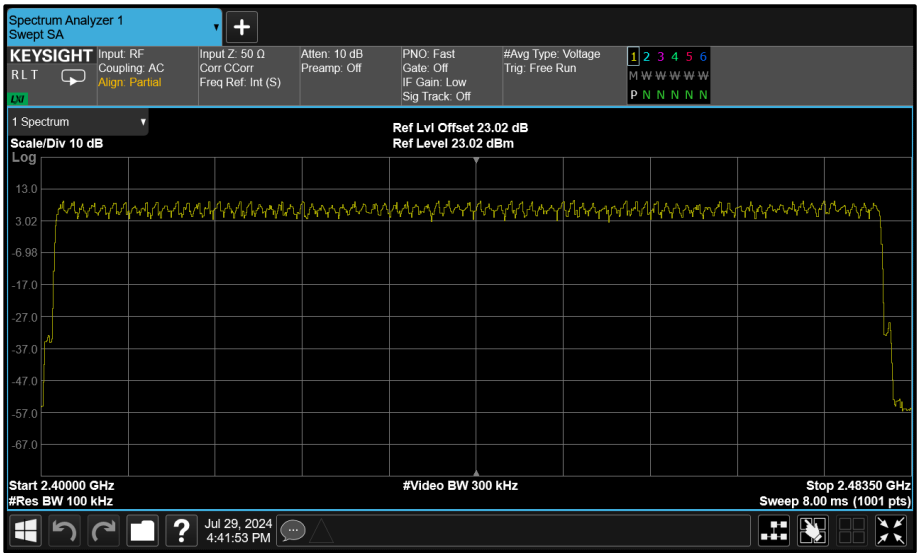


Figure 73 - 8-DPSK (3-DH5) - Number of Hopping Channels



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 $\pi/4$ 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 56 - Number of Hopping Frequencies Results

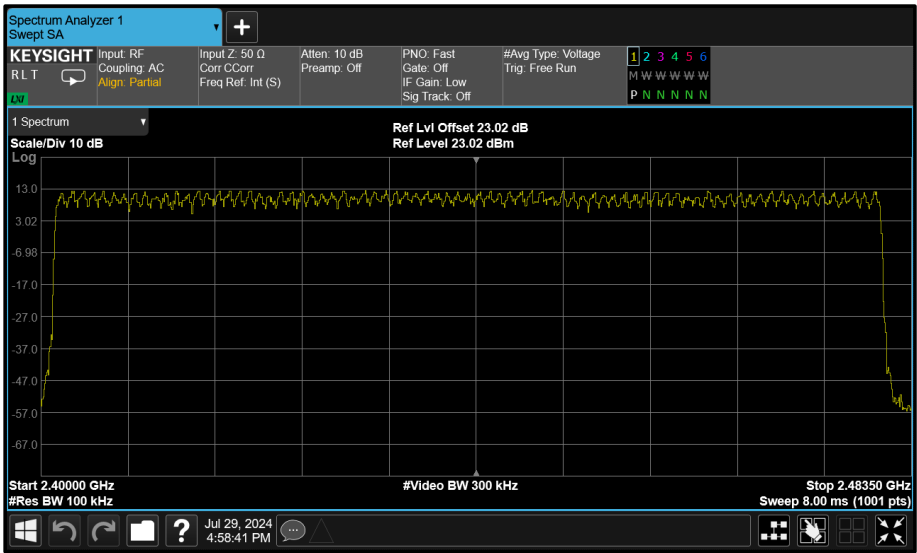


Figure 74 - $\pi/4$ DQPSK (2-DH5) - Number of Hopping Channels



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 57 - Number of Hopping Frequencies Results

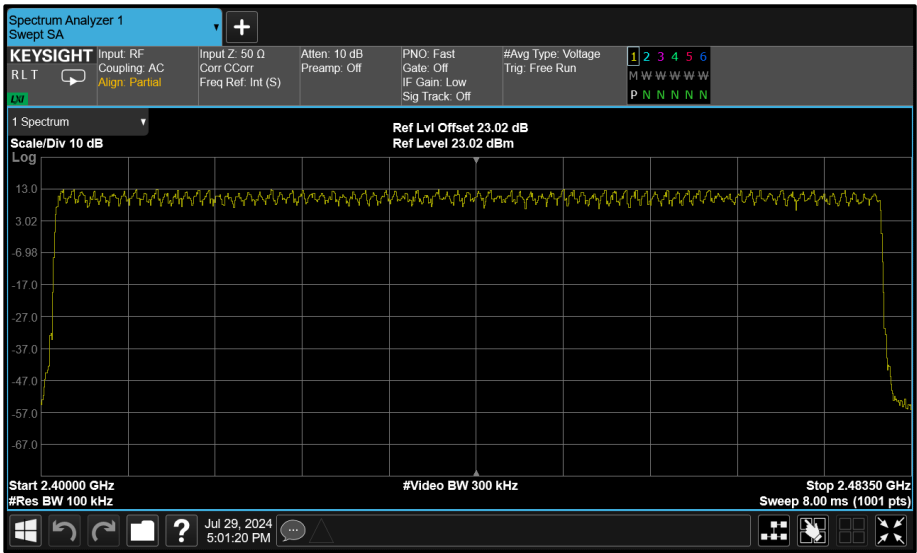


Figure 75 - 8-DPSK (3-DH5) - Number of Hopping Channels

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

≥ 15 channels

ISED RSS-247, Limit Clause 5.1 (d)

FHSSs operating in the band 2400-2483.5 MHz shall use at least 15 Hopping channels.



2.4.7 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
AC Programmable Power Supply	iTech	IT7324	5225	-	O/P Mon
MXA Signal Analyser	Keysight Technologies	N9020B	5529	24	13-Dec-2024
Digital Multimeter	Fluke	115	6145	12	06-Jun-2025
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6426	12	07-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6752	12	06-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6753	12	06-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6754	12	06-Feb-2025

Table 58

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)
ISED RSS-247, Clause 5.1
ISED RSS-GEN, Clause 6.7

2.5.2 Equipment Under Test and Modification State

A3238, S/N: X5C43QCG7L - Modification State 0
A3238, S/N: G76H79FX4L - Modification State 0

2.5.3 Date of Test

26-July-2024 to 13-August-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	20.3 - 22.5 °C
Relative Humidity	53.0 - 60.8 %



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):	A (Core 0)	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 59 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	0.852	-	-	-	-
2441	0.858	-	-	-	-
2480	0.858	-	-	-	-

Table 60 - 99% Bandwidth Results

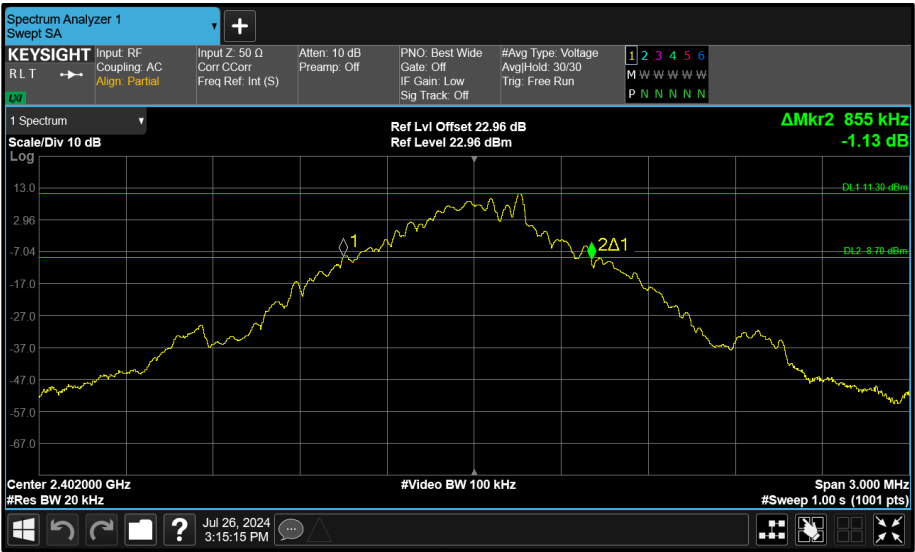


Figure 76 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

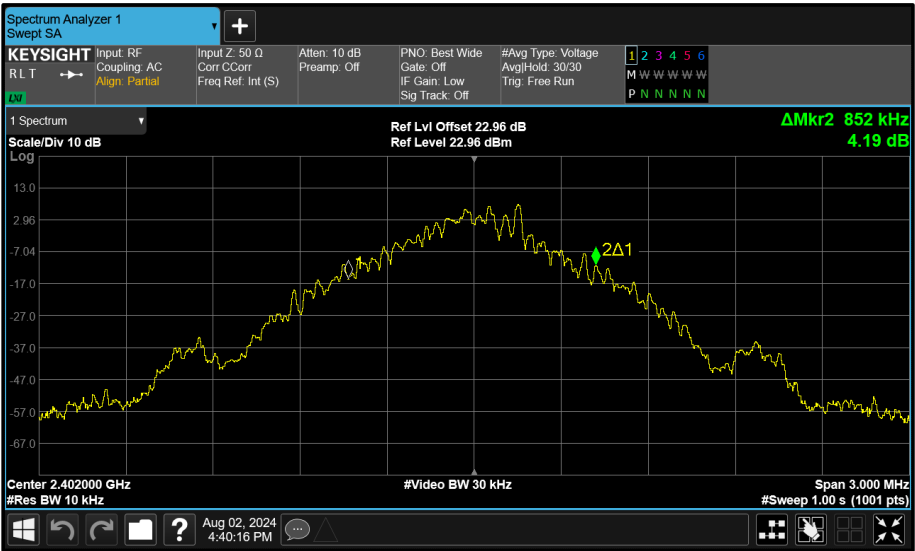


Figure 77 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

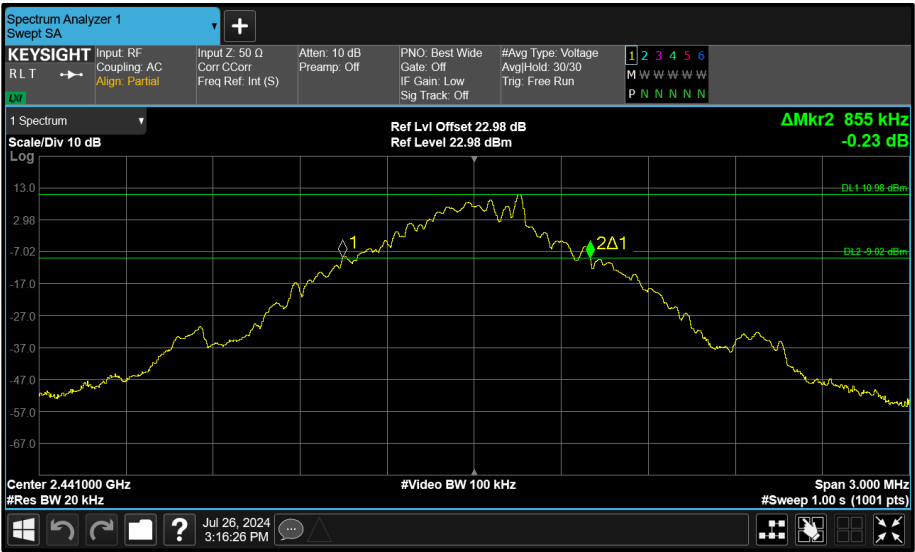


Figure 78 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

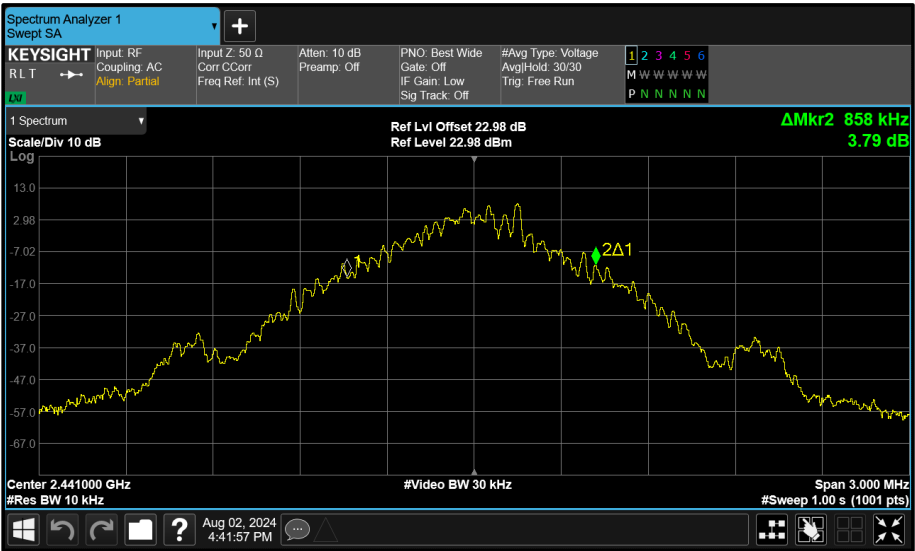


Figure 79 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

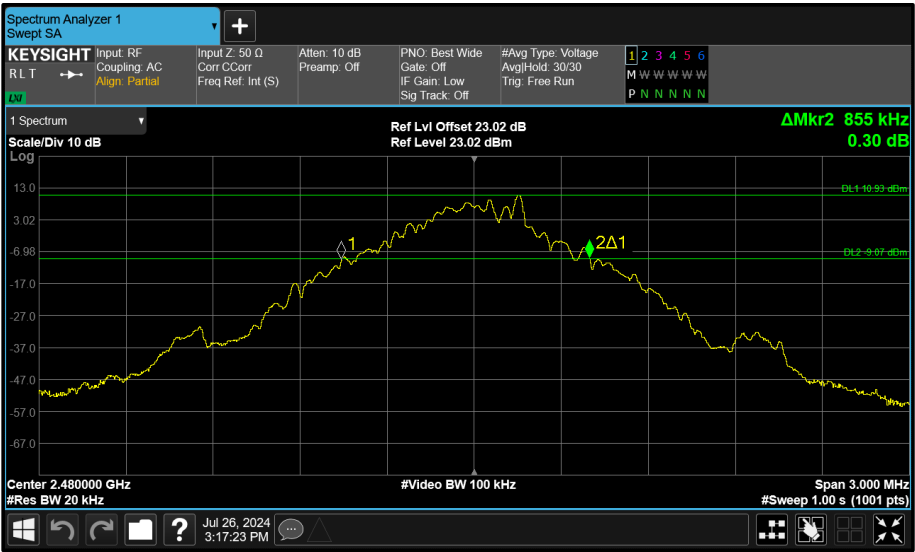


Figure 80 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

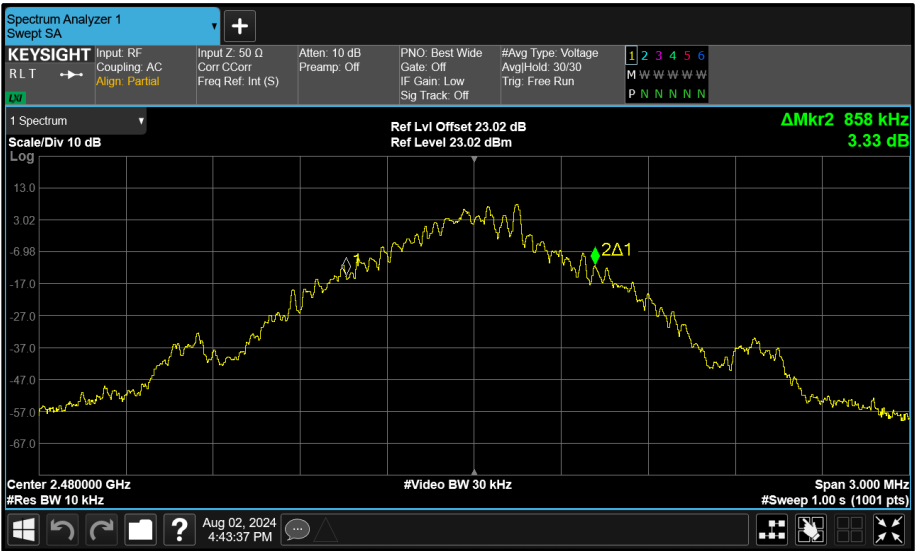


Figure 81 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth



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 $\pi/4$ DQPSK (2-DH5)	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Core 0)	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 61 - 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 62 - 99% Bandwidth Results

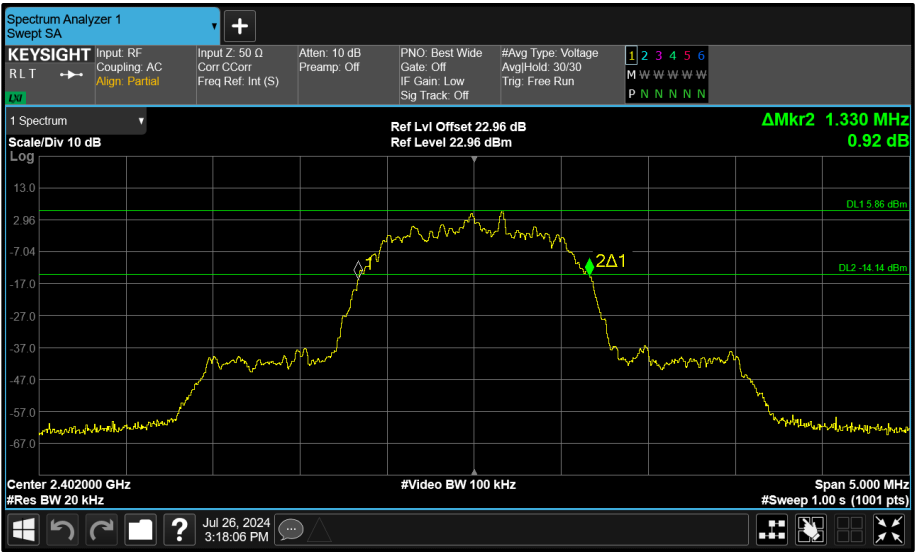


Figure 82 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

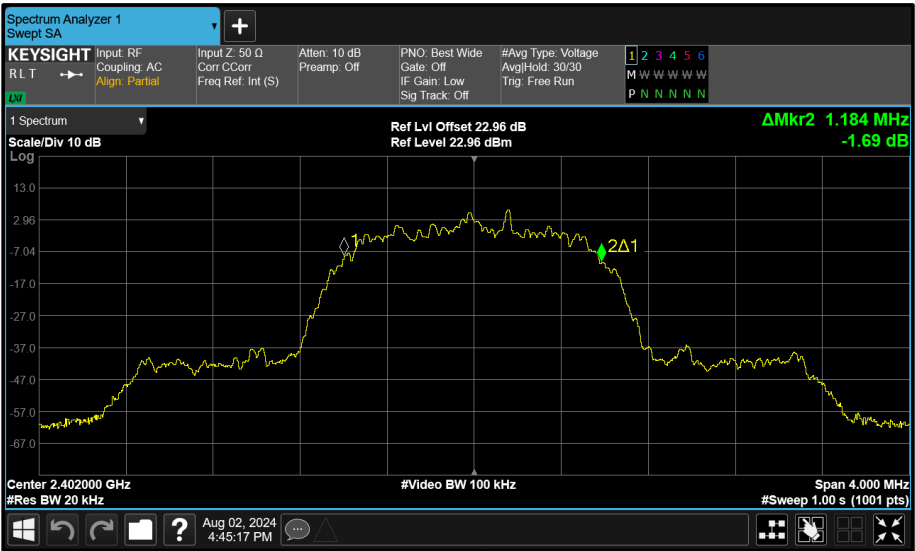


Figure 83 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

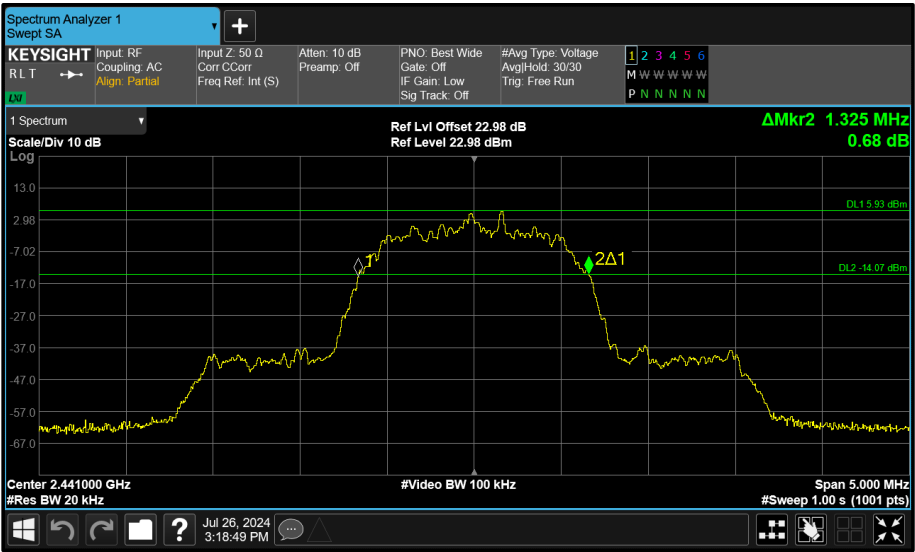


Figure 84 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

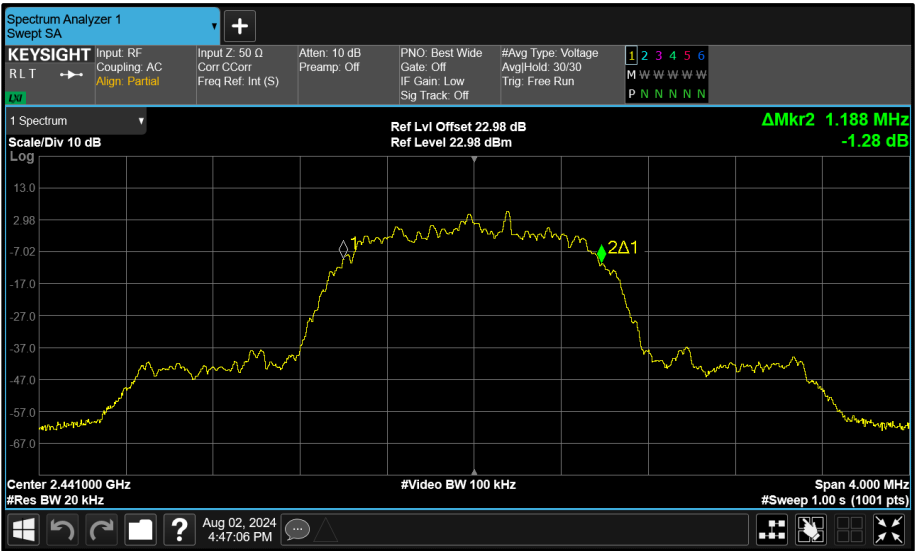


Figure 85 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth





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):	A (Core 0)	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 63 - 20 dB Bandwidth Results

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

Table 64 - 99% Bandwidth Results

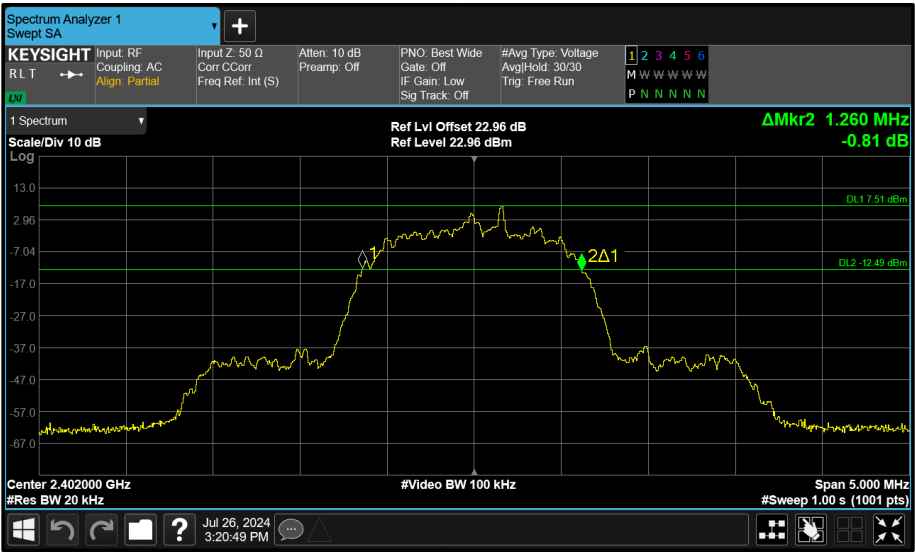


Figure 88 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

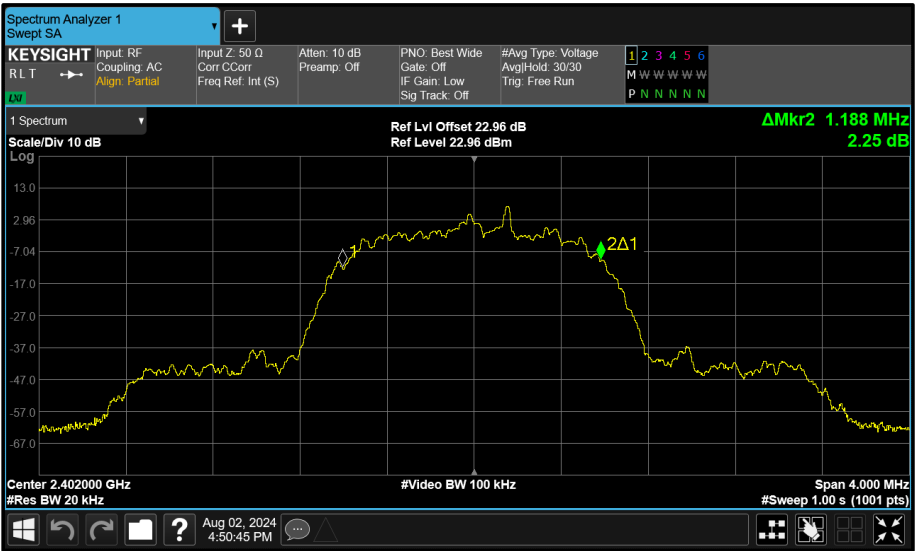


Figure 89 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

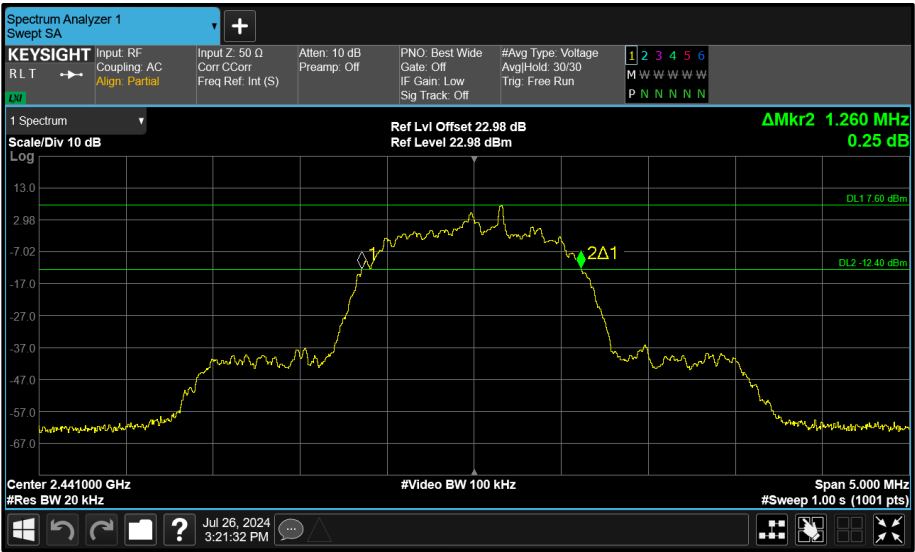


Figure 90 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

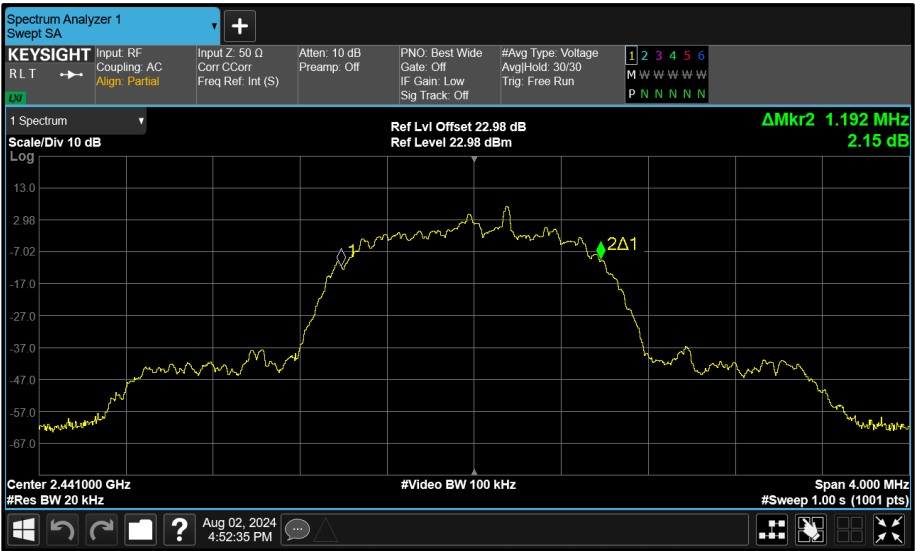


Figure 91 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

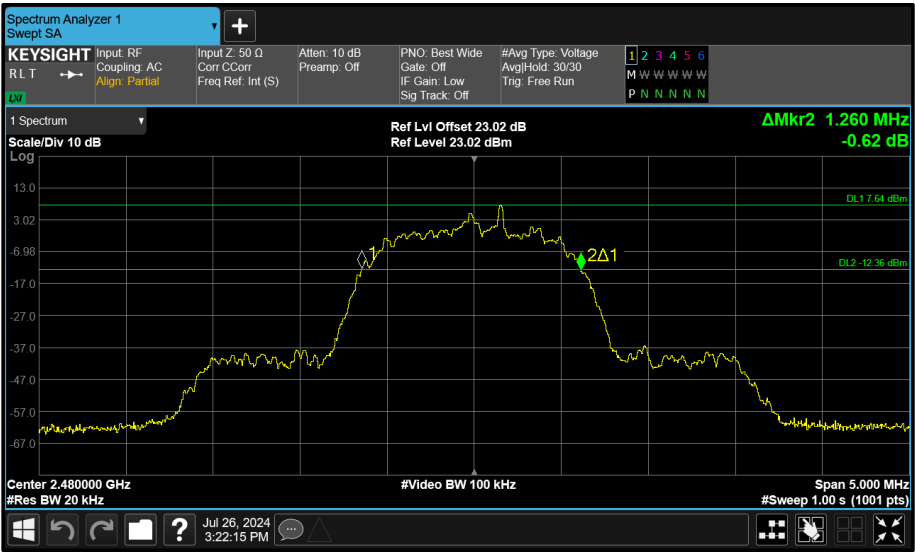


Figure 92 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

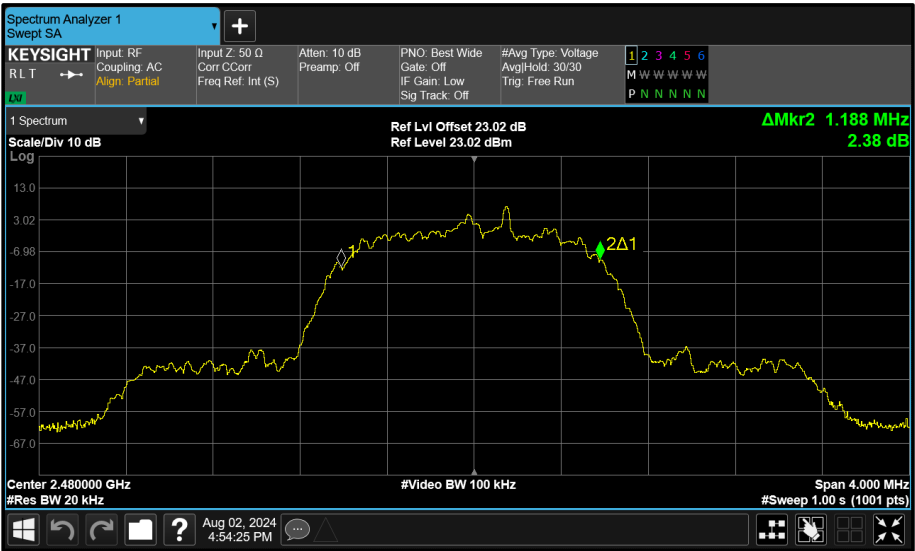


Figure 93 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth



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	-	-	0.858	-

Table 65 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	-	-	0.852	-	-
2441	-	-	0.858	-	-
2480	-	-	0.858	-	-

Table 66 - 99% Bandwidth Results

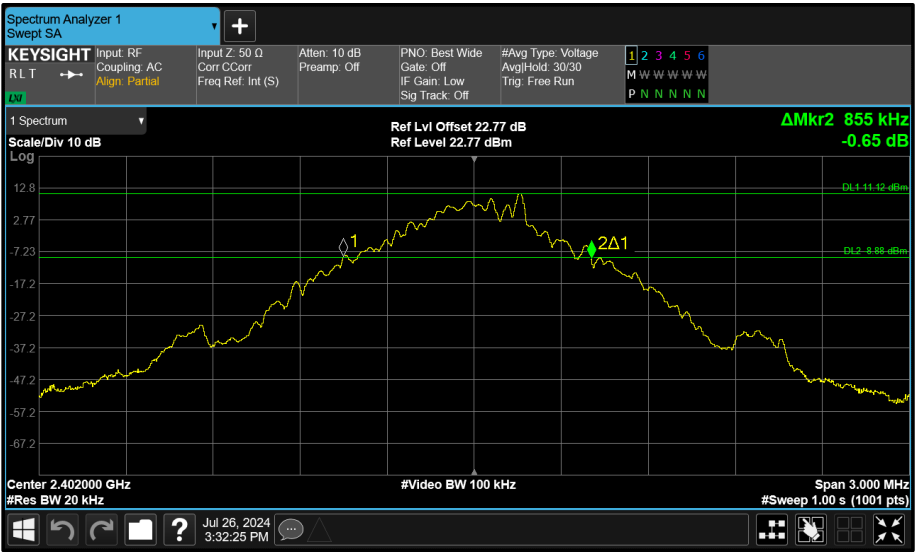


Figure 94 - Core 2 (C) 2402 MHz (CH0) 20 dB Bandwidth

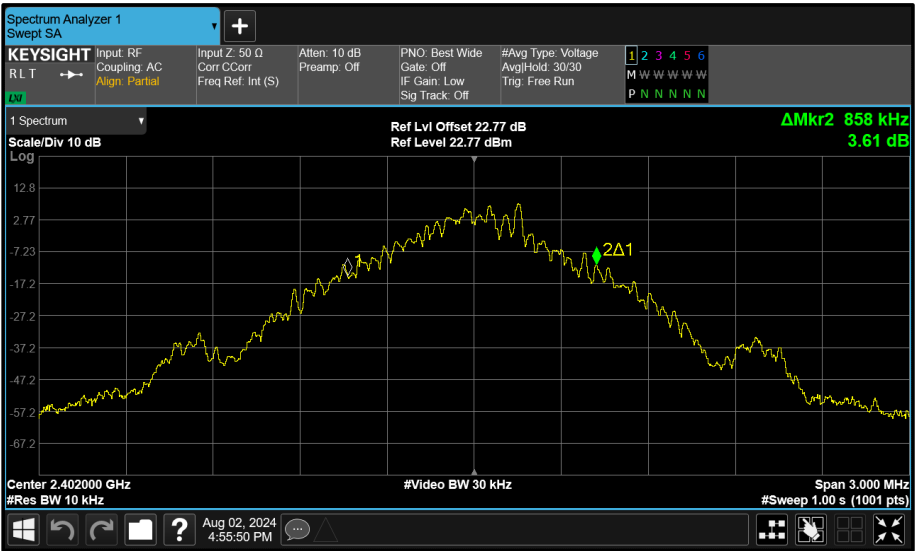


Figure 95 - Core 2 (C) 2402 MHz (CH0) 99% Bandwidth

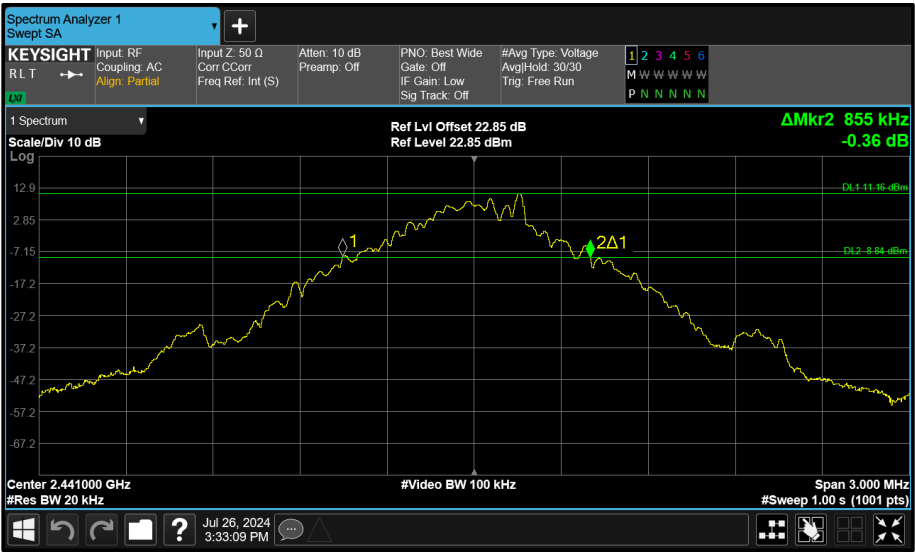


Figure 96 - Core 2 (C) 2441 MHz (CH39) 20 dB Bandwidth

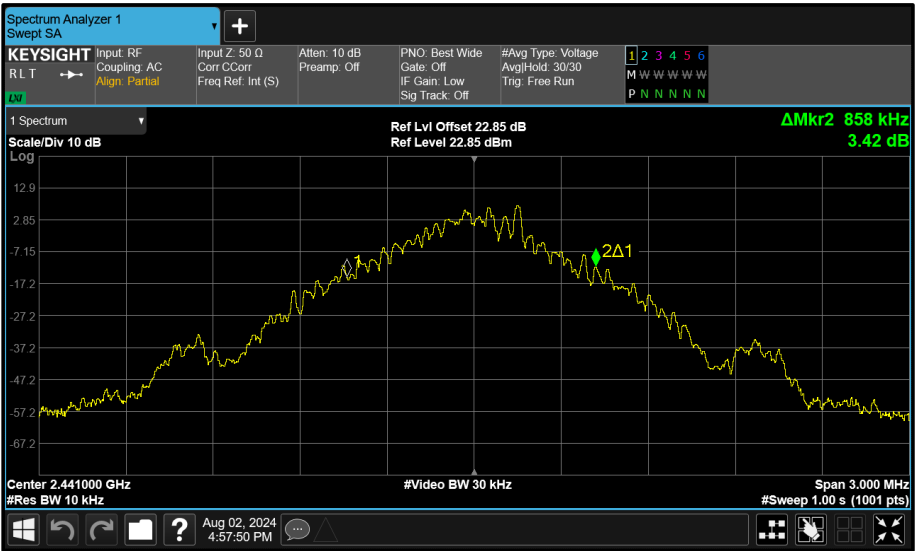


Figure 97 - Core 2 (C) 2441 MHz (CH39) 99% Bandwidth

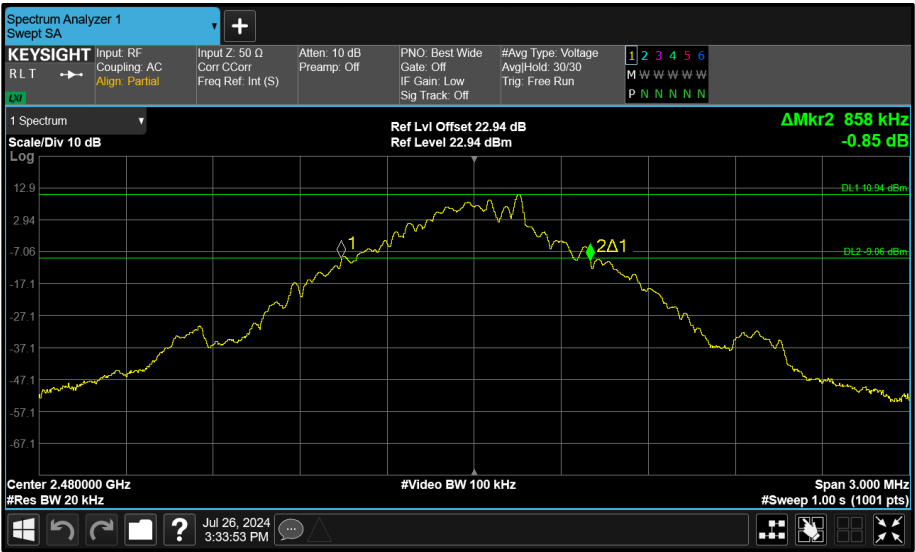


Figure 98 - Core 2 (C) 2480 MHz (CH78) 20 dB Bandwidth

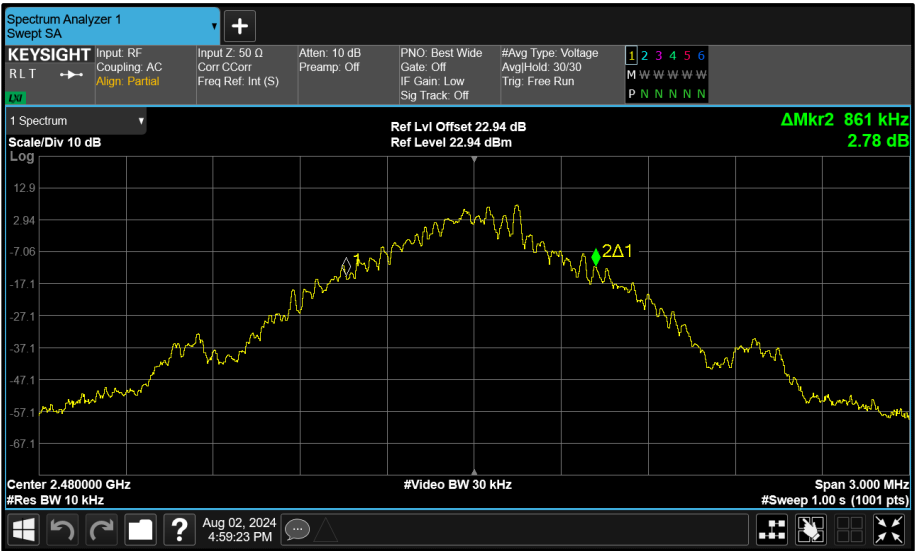


Figure 99 - Core 2 (C) 2480 MHz (CH78) 99% Bandwidth



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):	-		

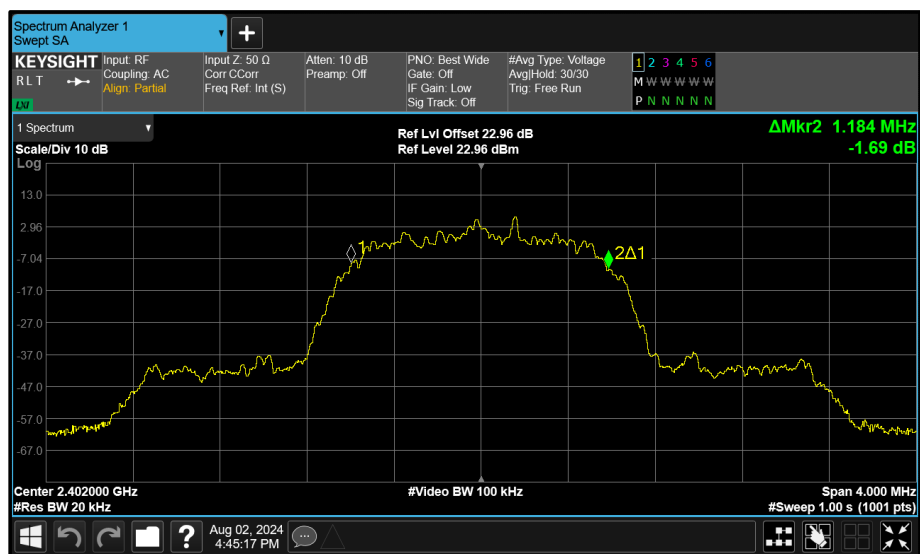
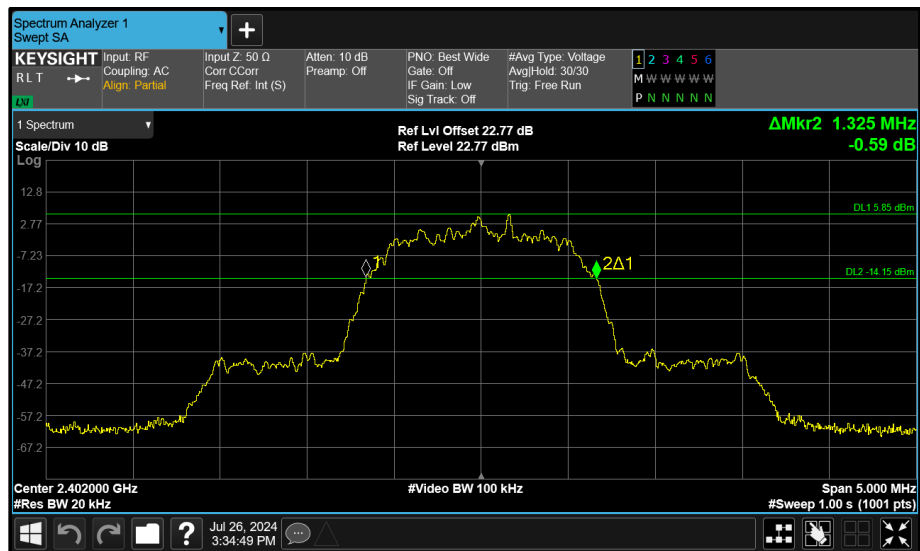
DUT Configuration			
Mode:	iPA $\pi/4$ DQPSK (2-DH5)	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	C (Core 2)	Peak Antenna Gain (dBi):	-

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

Table 67 - 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 68 - 99% Bandwidth Results



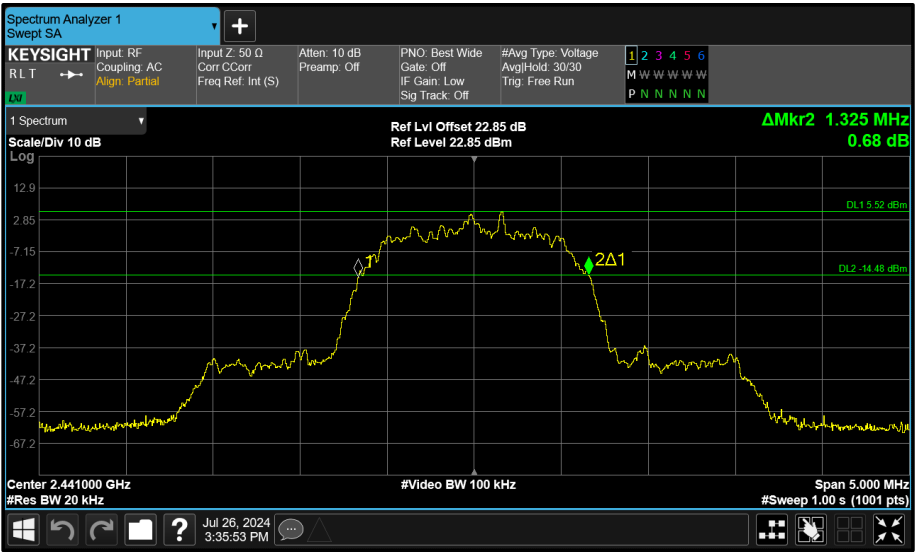


Figure 102 - Core 2 (C) 2441 MHz (CH39) 20 dB Bandwidth

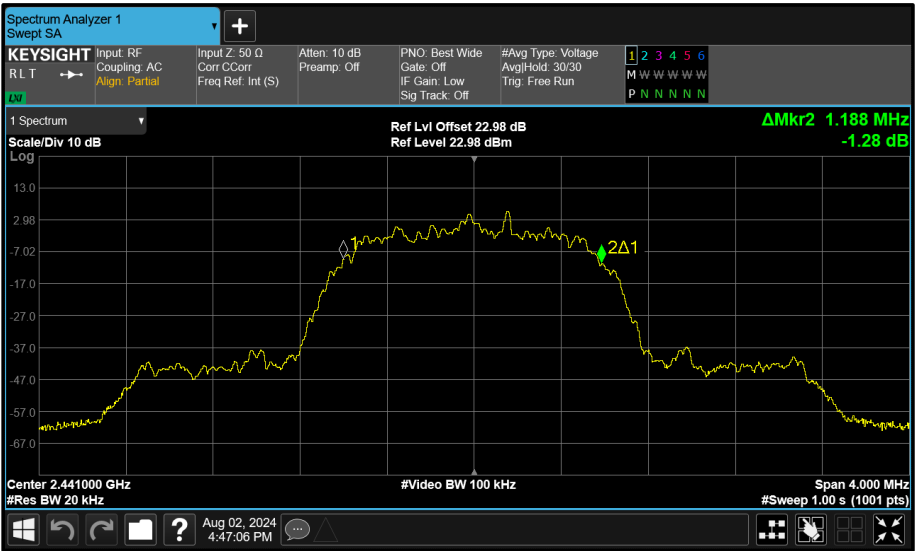


Figure 103 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth





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	-	-	1.260	-
2480	-	-	1.260	-

Table 69 - 20 dB Bandwidth Results

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

Table 70 - 99% Bandwidth Results

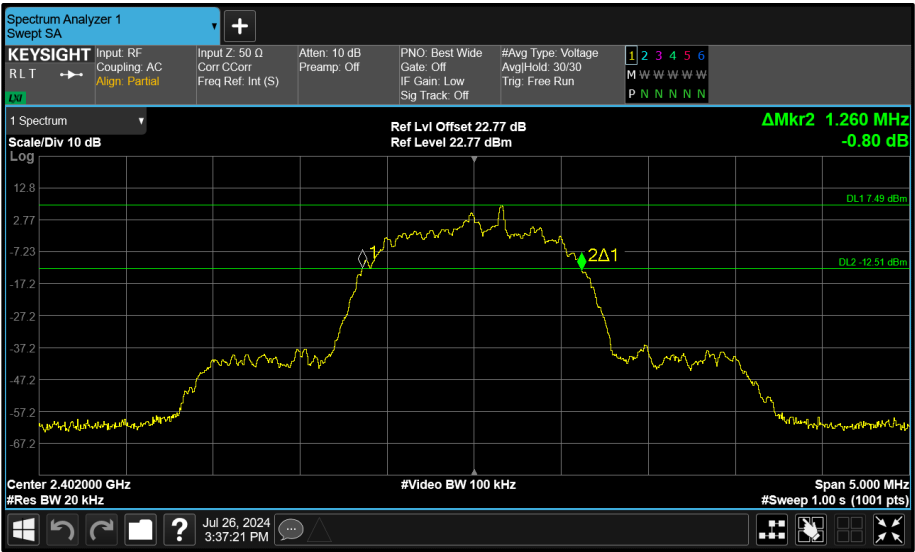


Figure 106 - Core 2 (C) 2402 MHz (CH0) 20 dB Bandwidth

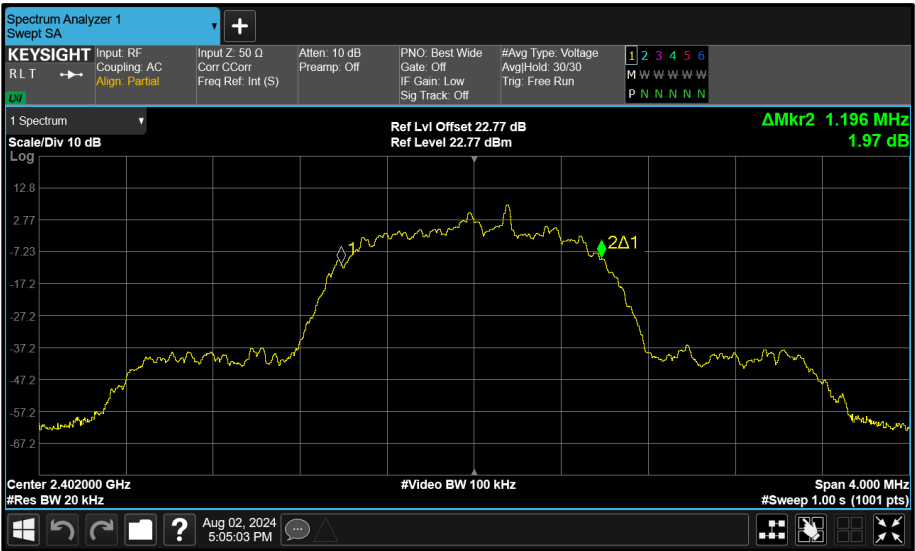


Figure 107 - Core 2 (C) 2402 MHz (CH0) 99% Bandwidth

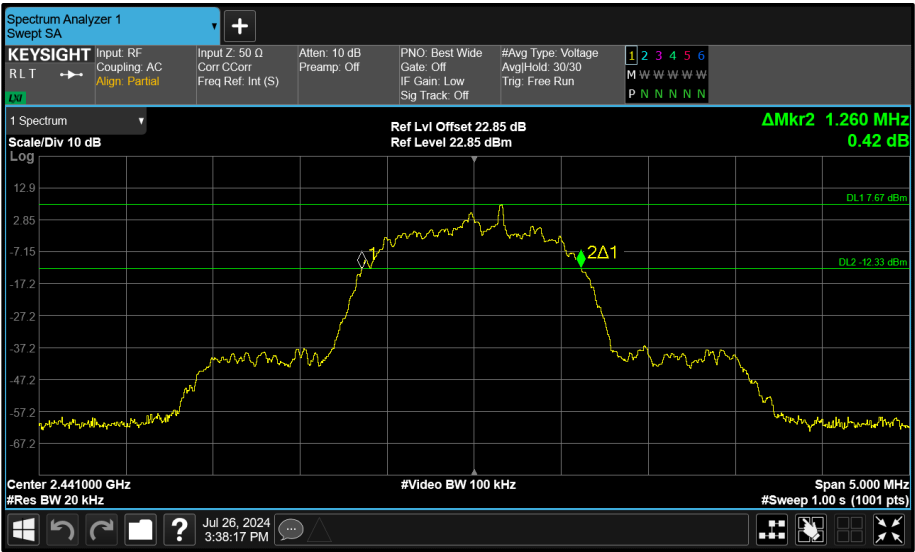


Figure 108 - Core 2 (C) 2441 MHz (CH39) 20 dB Bandwidth

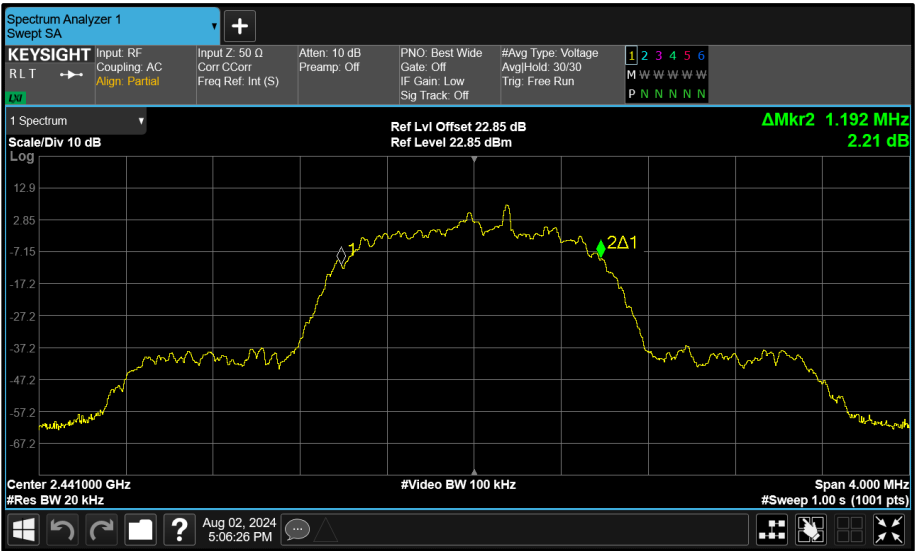


Figure 109 - Core 2 (C) 2441 MHz (CH39) 99% Bandwidth

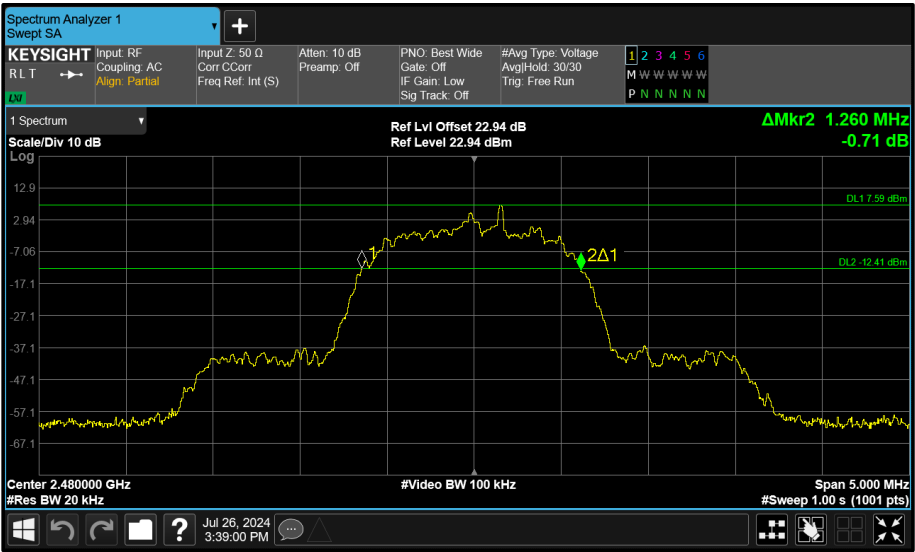


Figure 110 - Core 2 (C) 2480 MHz (CH78) 20 dB Bandwidth

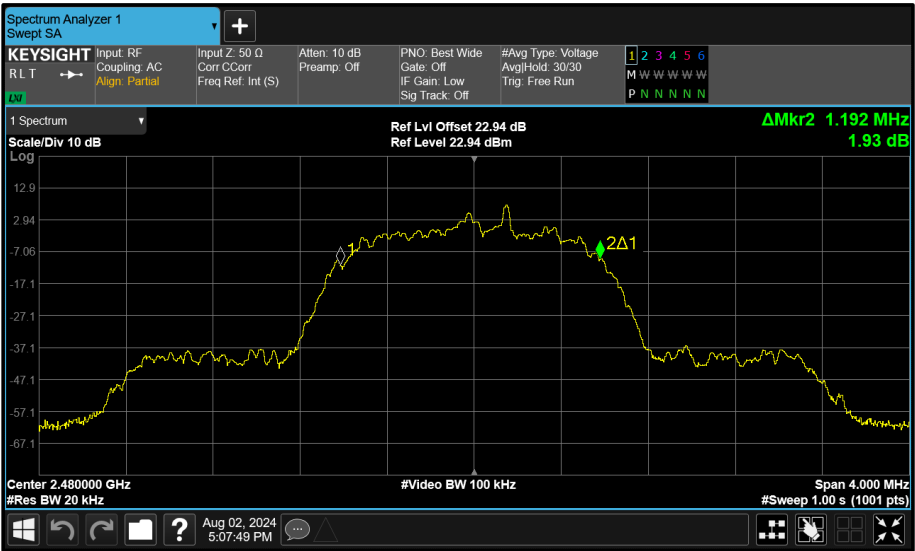


Figure 111 - Core 2 (C) 2480 MHz (CH78) 99% Bandwidth



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 $\pi/4$ DQPSK (2-DH5)	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Core 0)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	1.330	-	-	-
2441	1.329	-	-	-
2480	1.330	-	-	-

Table 71 - 20 dB Bandwidth Results

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

Table 72 - 99% Bandwidth Results

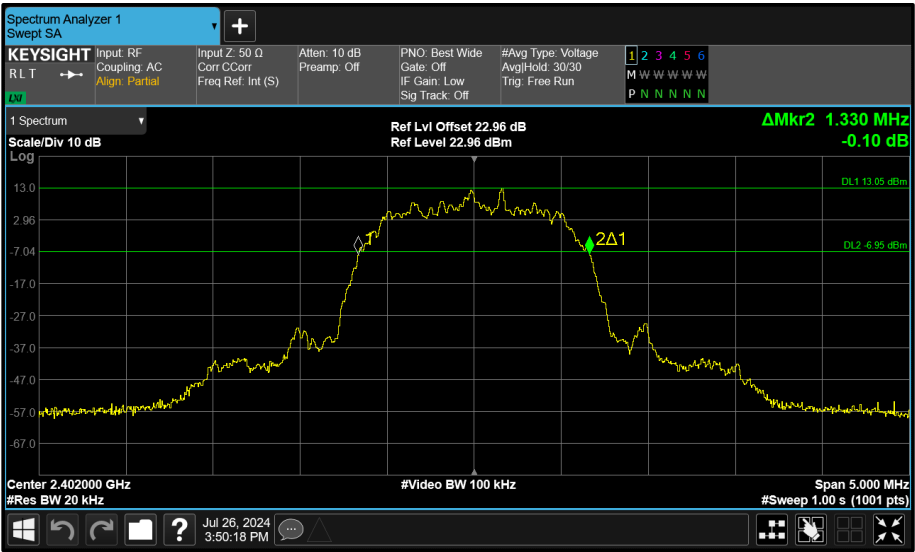


Figure 112 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

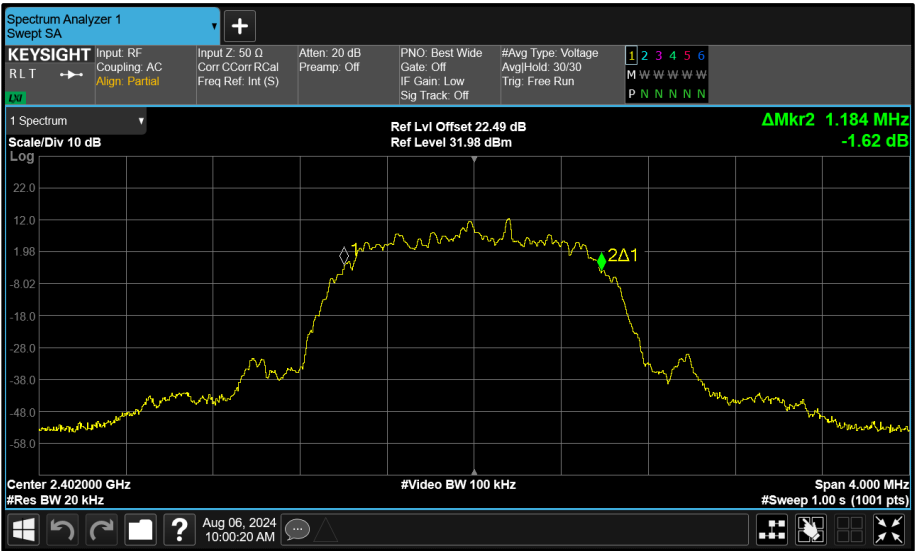


Figure 113 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

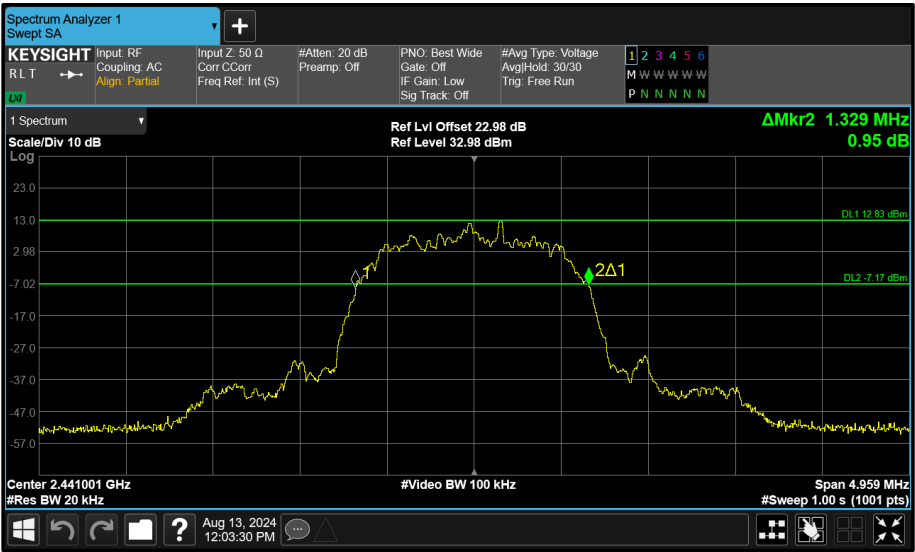


Figure 114 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

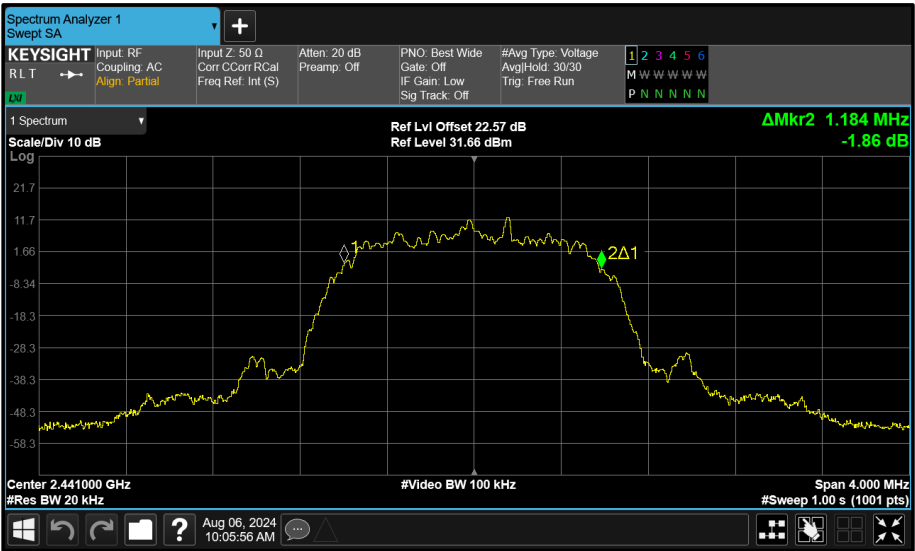


Figure 115 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

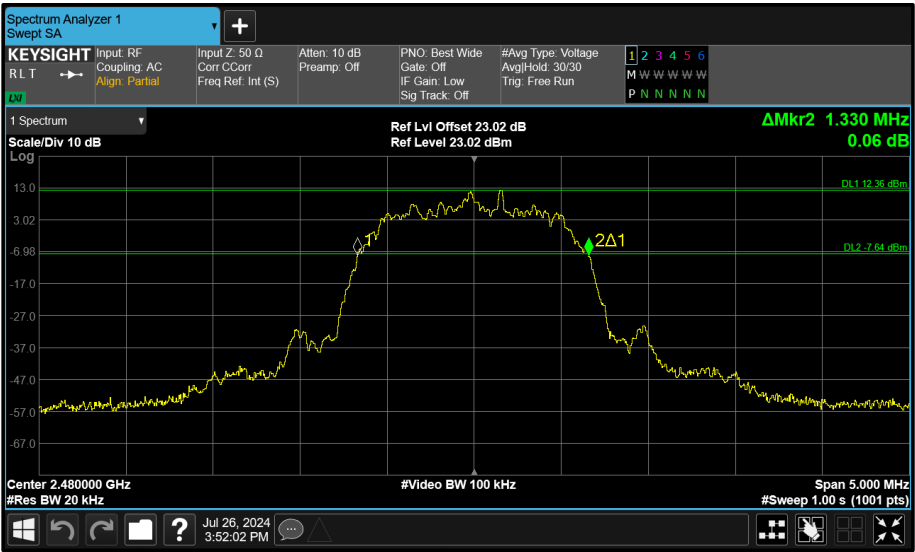


Figure 116 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

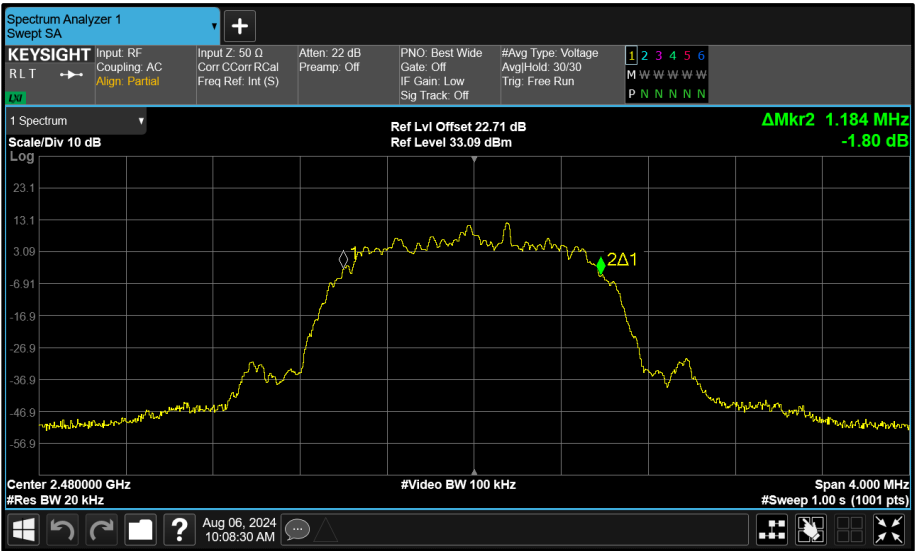


Figure 117 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth



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):	A (Core 0)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	1.260	-	-	-
2441	1.260	-	-	-
2480	1.255	-	-	-

Table 73 - 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 74 - 99% Bandwidth Results

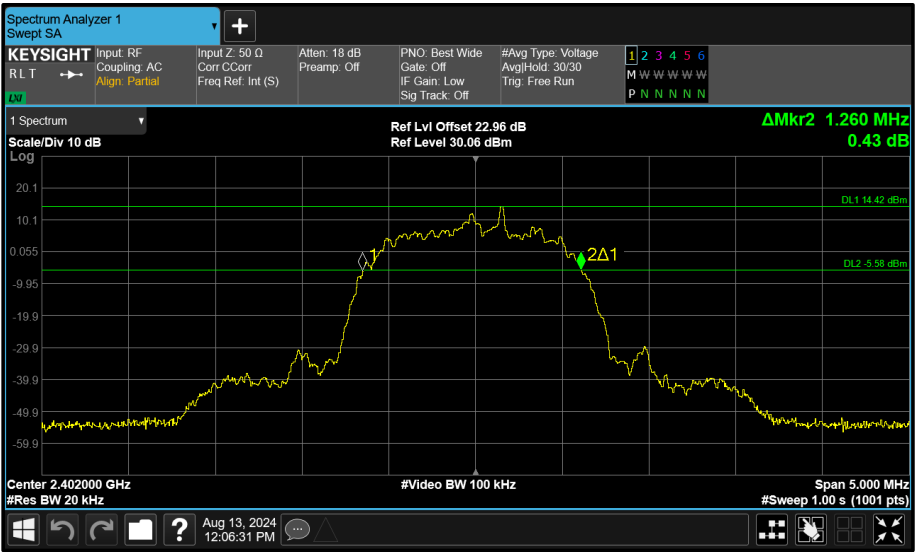


Figure 118 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

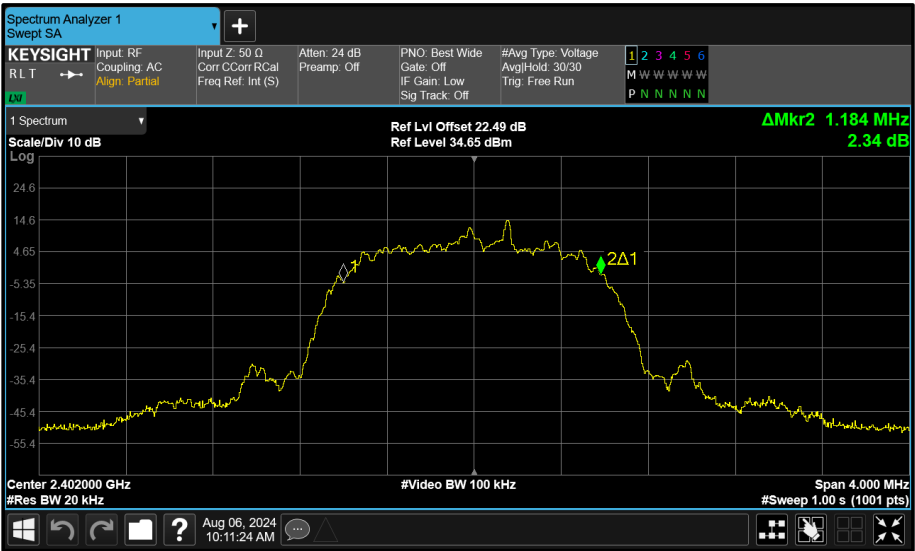


Figure 119 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

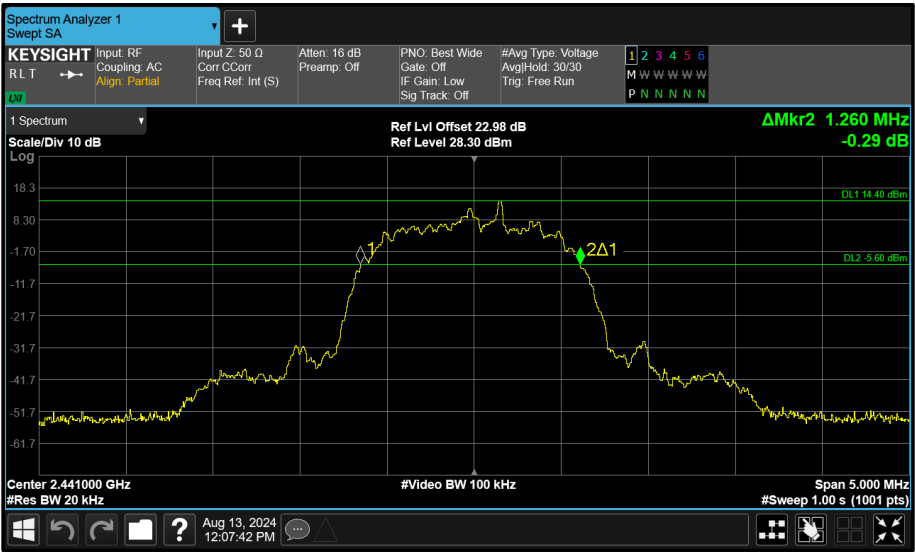


Figure 120 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

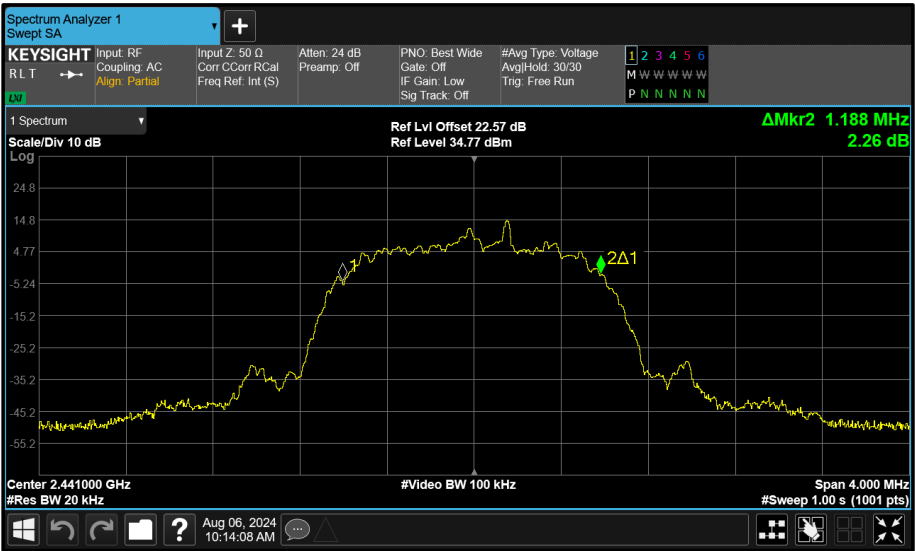


Figure 121 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

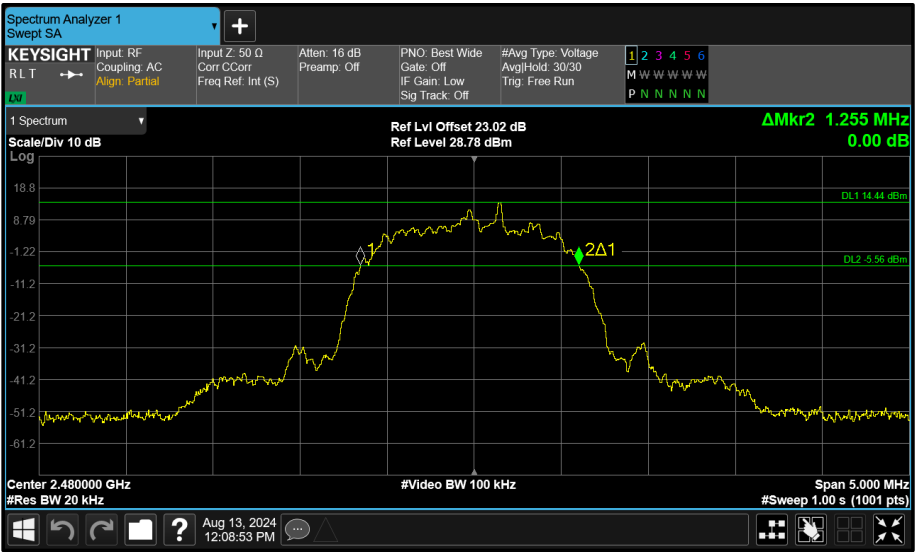


Figure 122 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

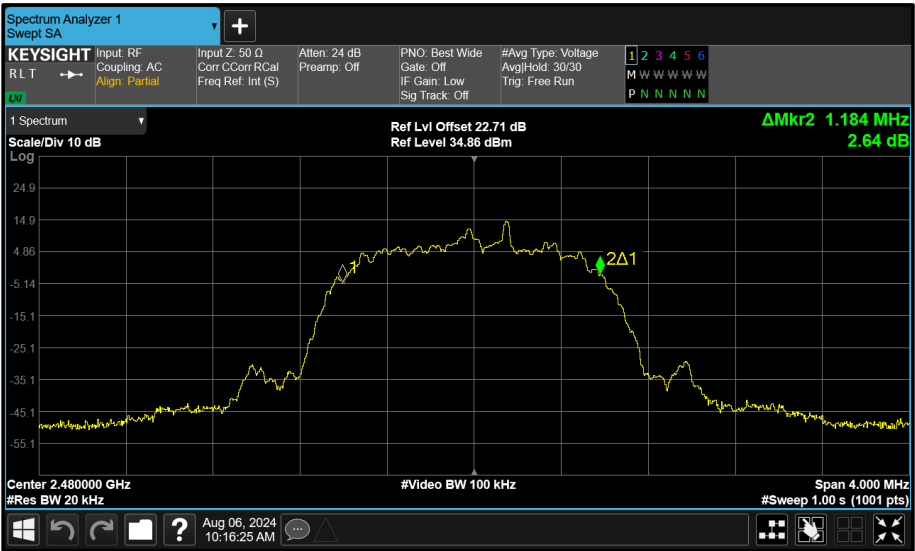


Figure 123 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth



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	1.023	-	-
2441	0.855	1.026	-	-
2480	0.855	1.023	-	-

Table 75 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	0.849	0.870	-	-	-
2441	0.858	0.873	-	-	-
2480	0.858	0.870	-	-	-

Table 76 - 99% Bandwidth Results

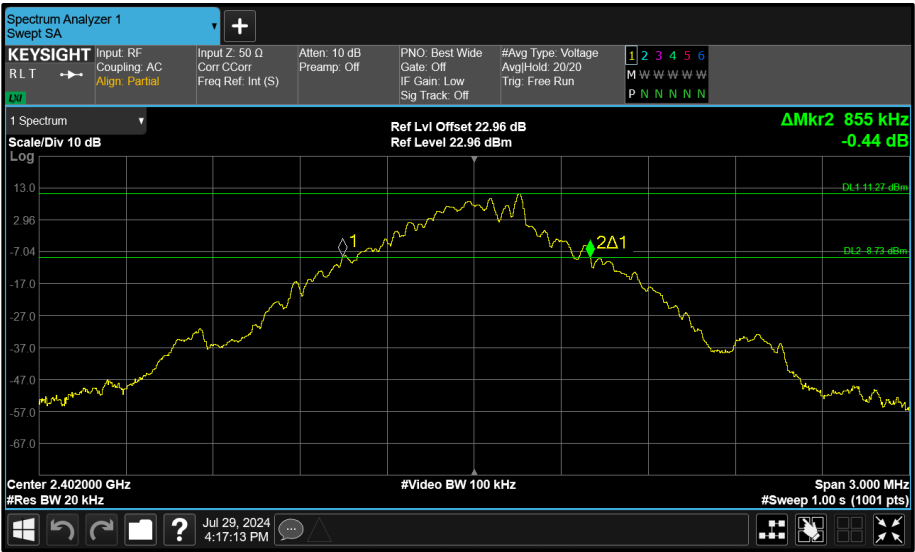


Figure 124 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

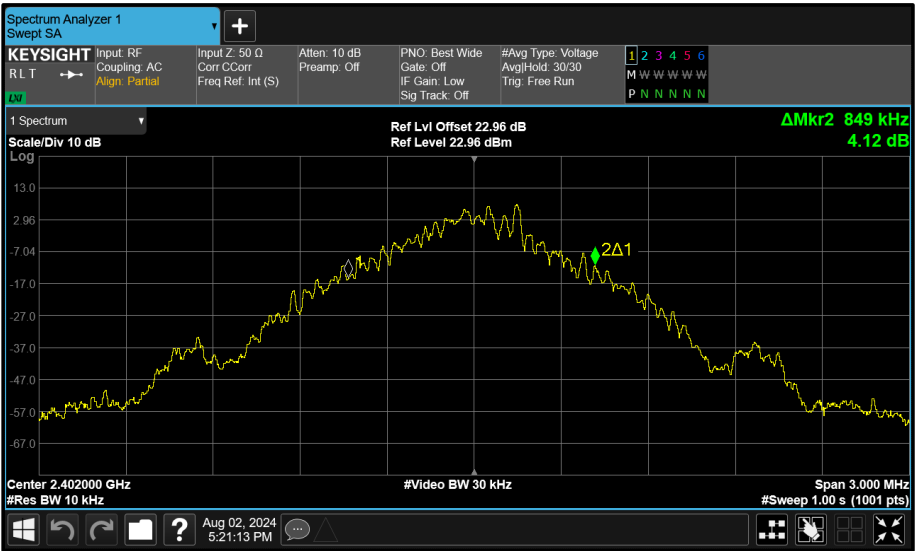


Figure 125 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth



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

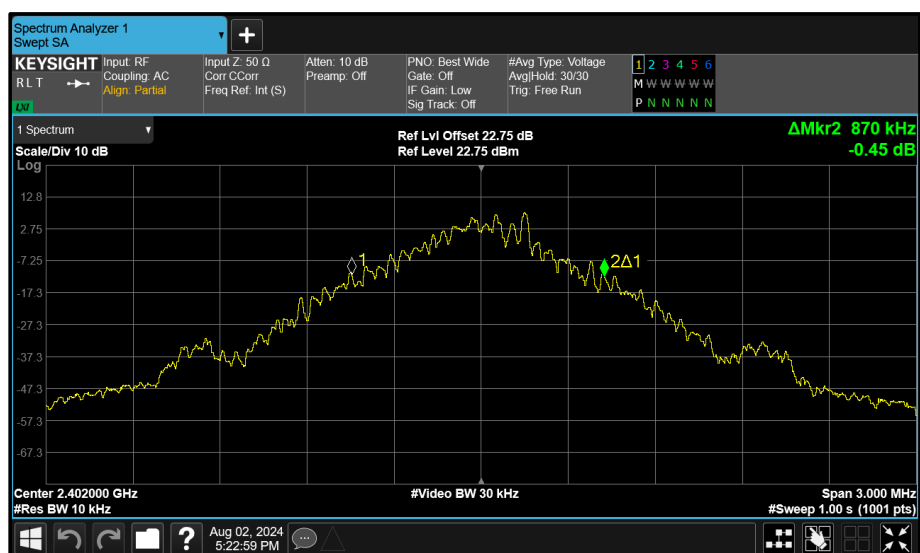


Figure 127 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

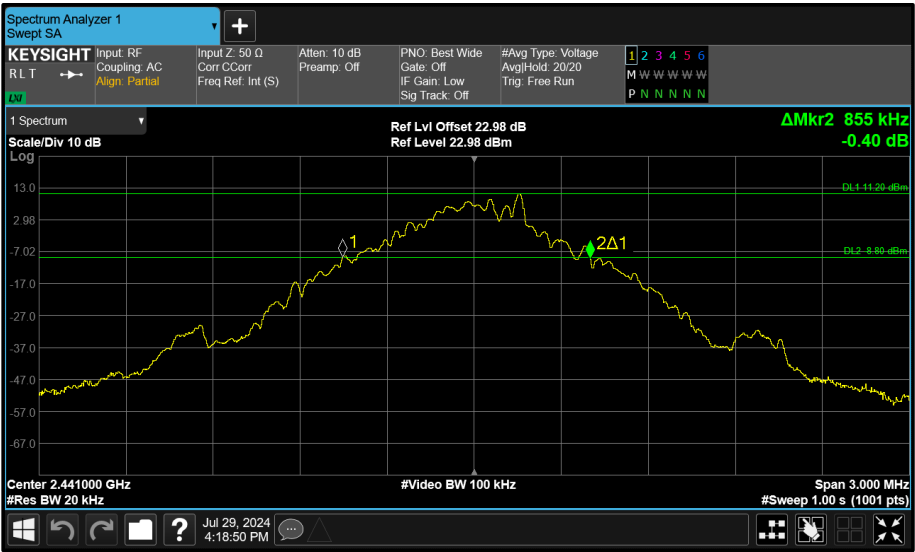


Figure 128 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

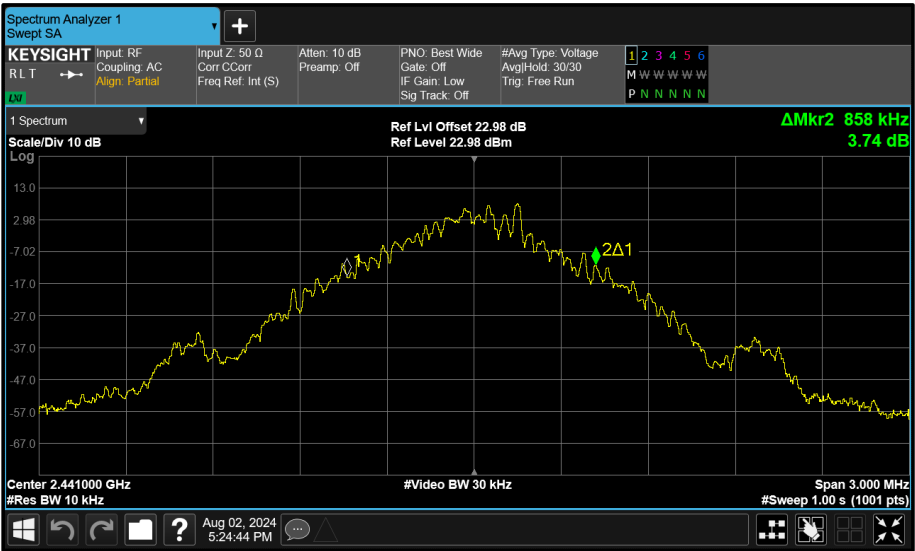


Figure 129 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

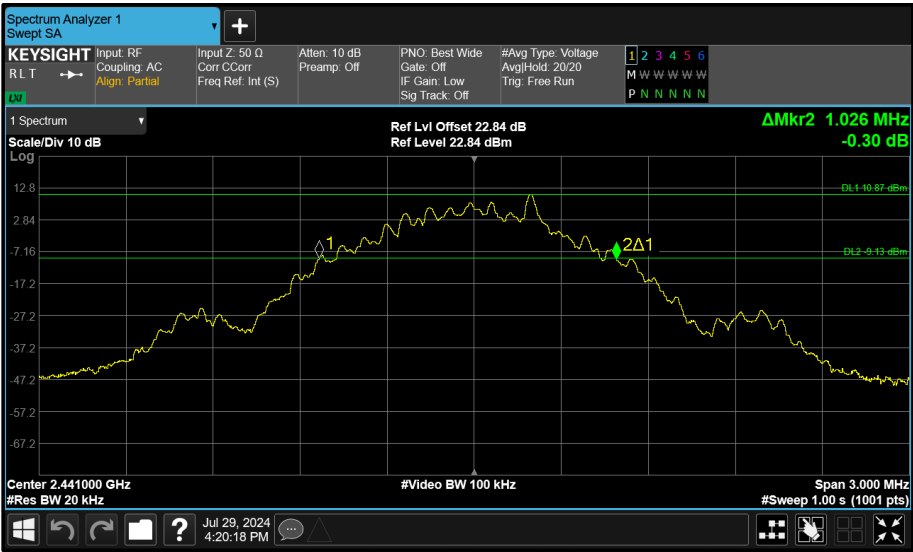


Figure 130 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

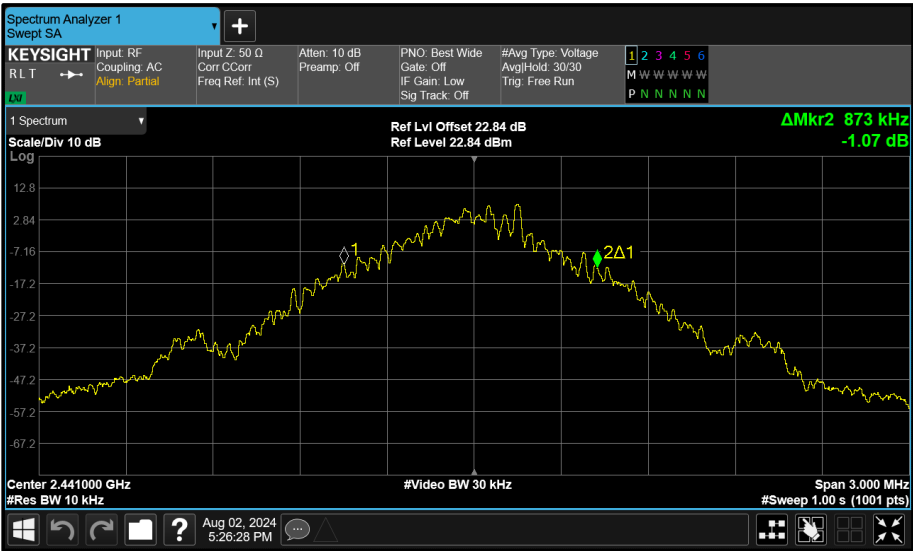


Figure 131 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

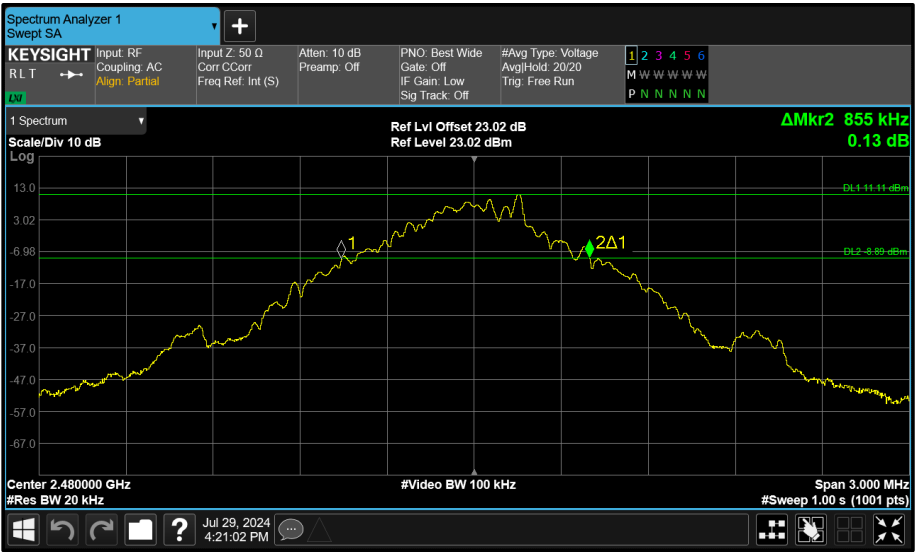


Figure 132 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

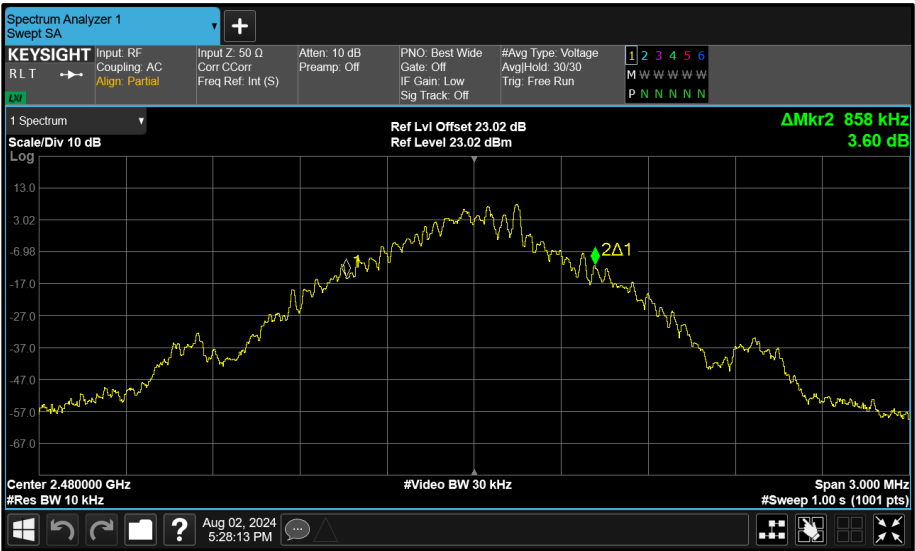


Figure 133 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

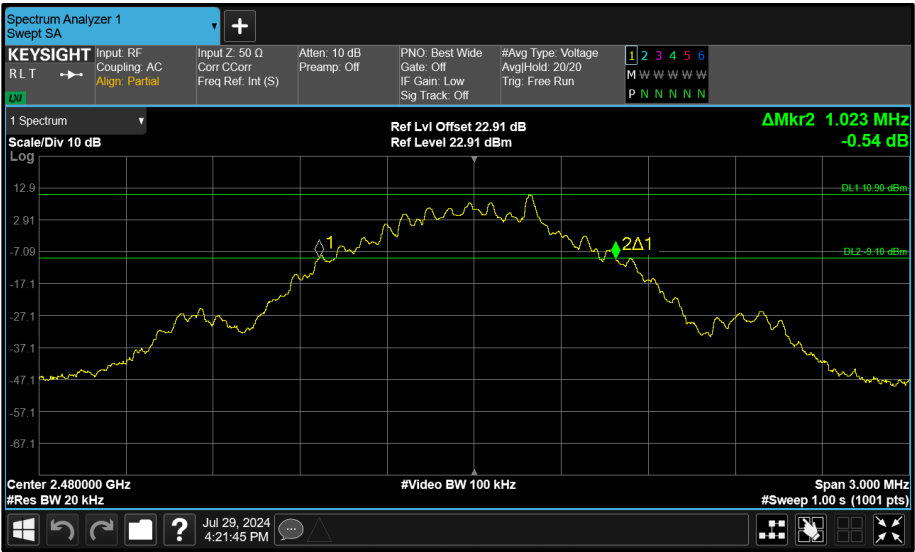


Figure 134 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

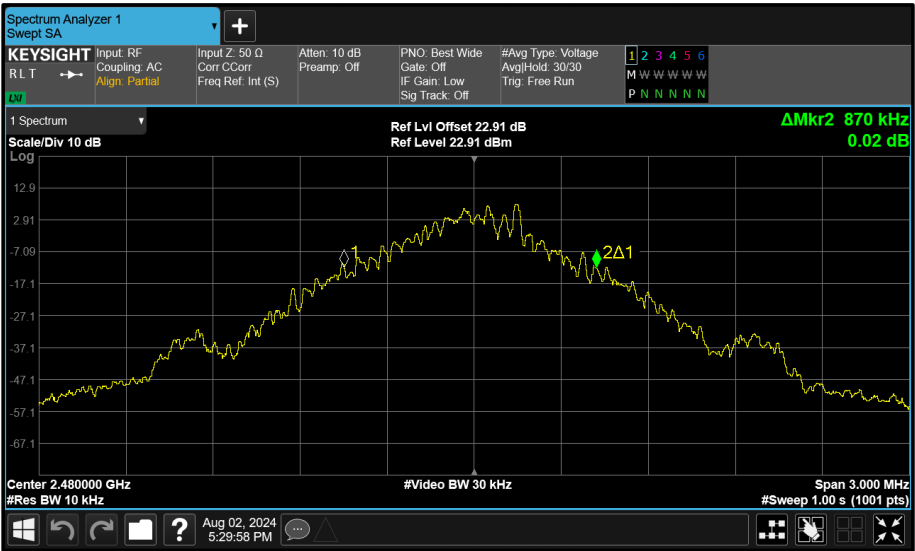


Figure 135 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth



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 $\pi/4$ 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	1.330	-	-
2441	1.325	1.330	-	-
2480	1.325	1.330	-	-

Table 77 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	1.184	1.192	-	-	-
2441	1.188	1.192	-	-	-
2480	1.188	1.192	-	-	-

Table 78 - 99% Bandwidth Results

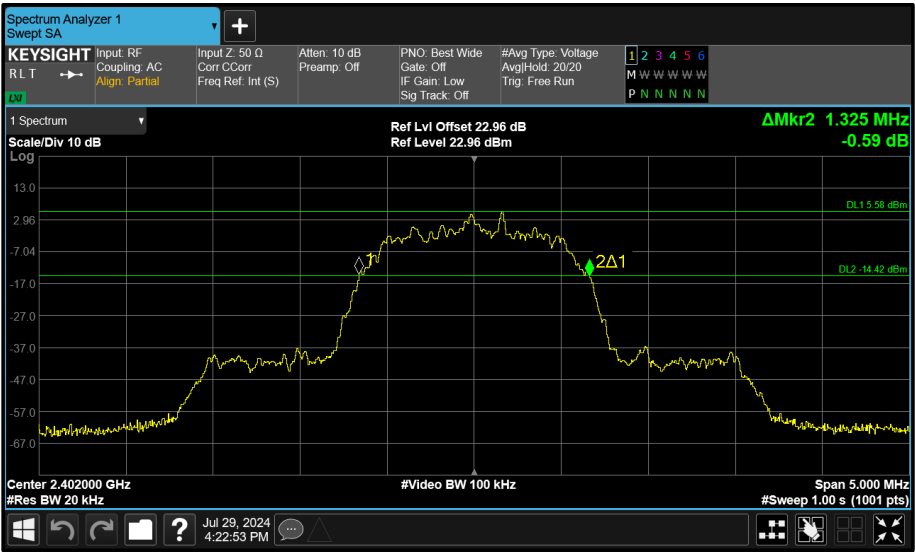


Figure 136 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

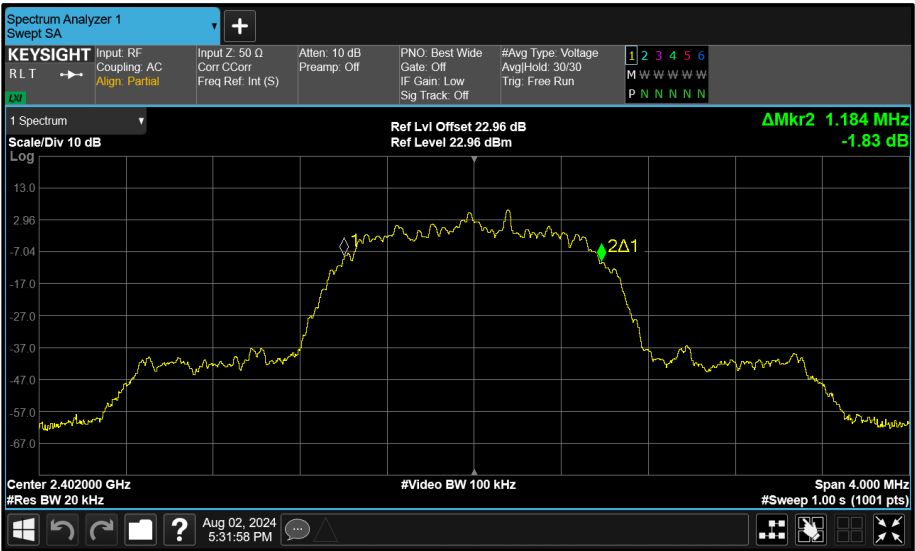


Figure 137 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

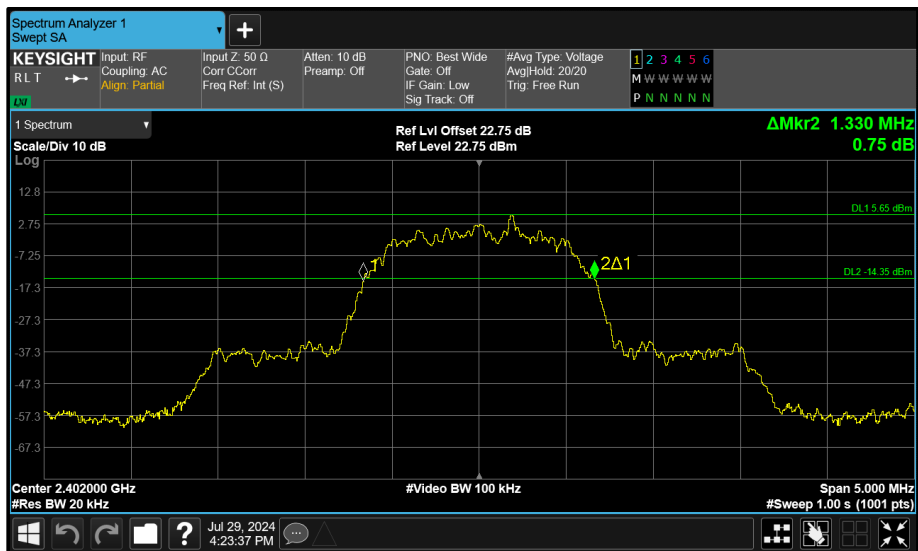


Figure 138 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

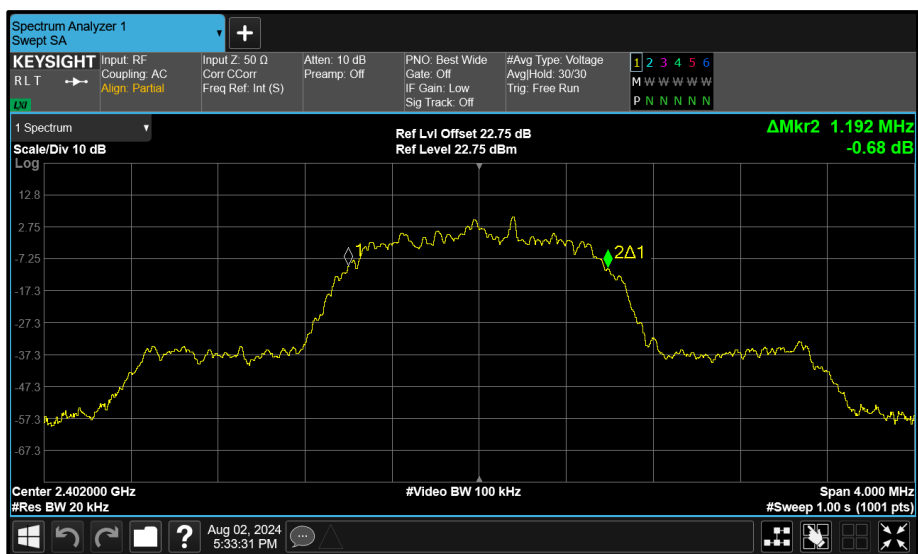


Figure 139 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

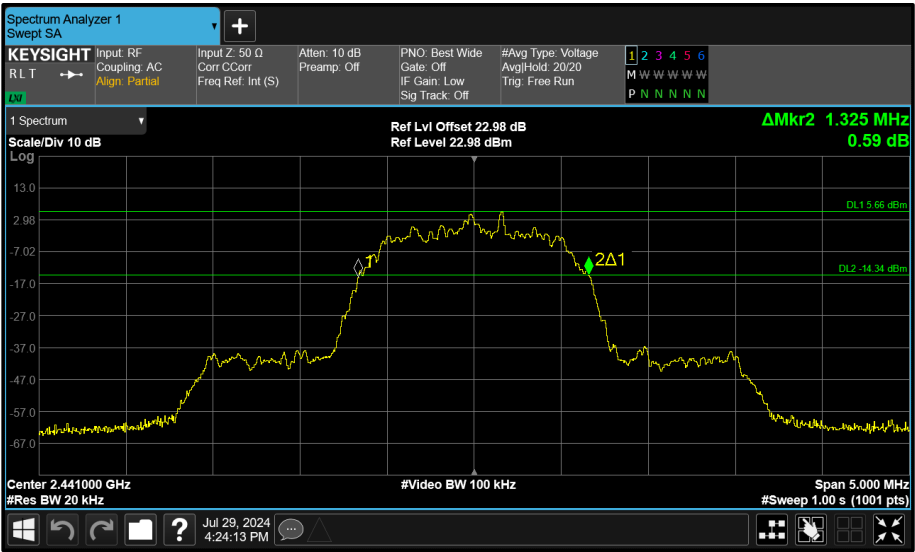


Figure 140 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

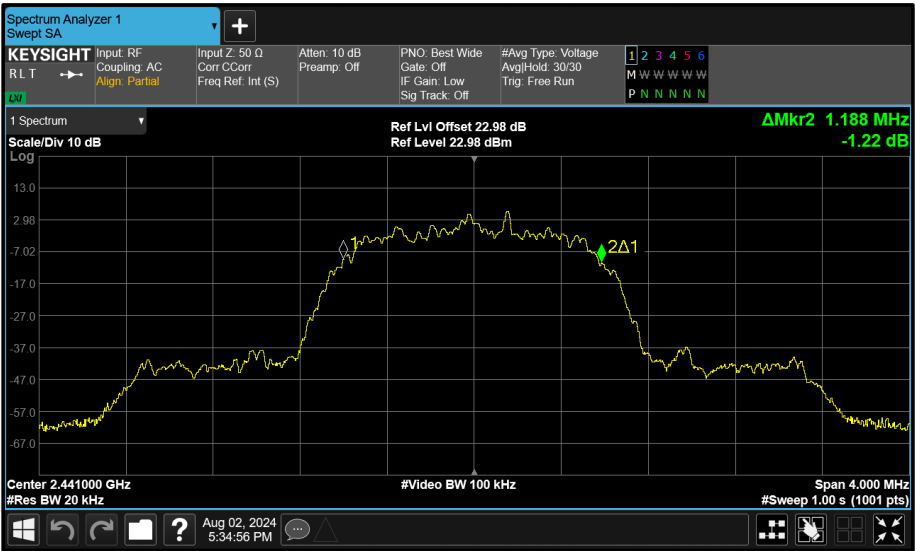


Figure 141 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

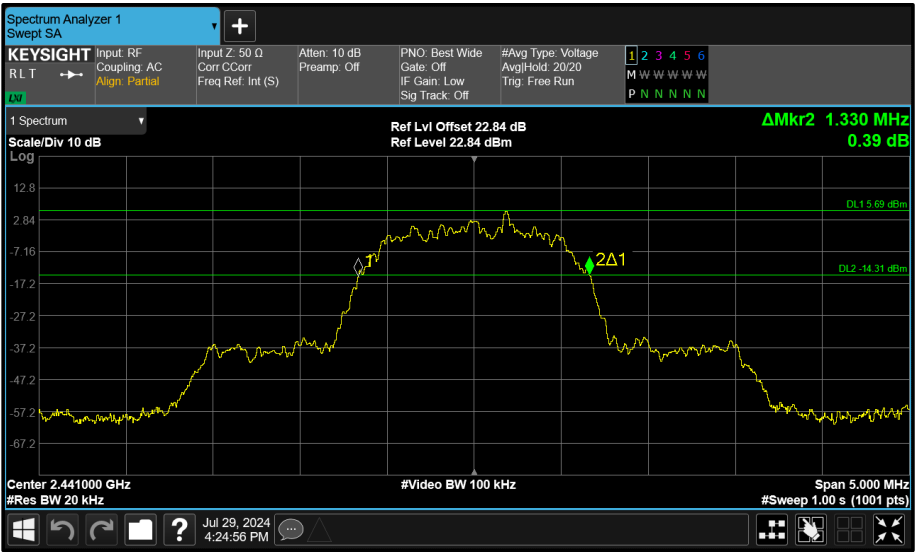


Figure 142 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

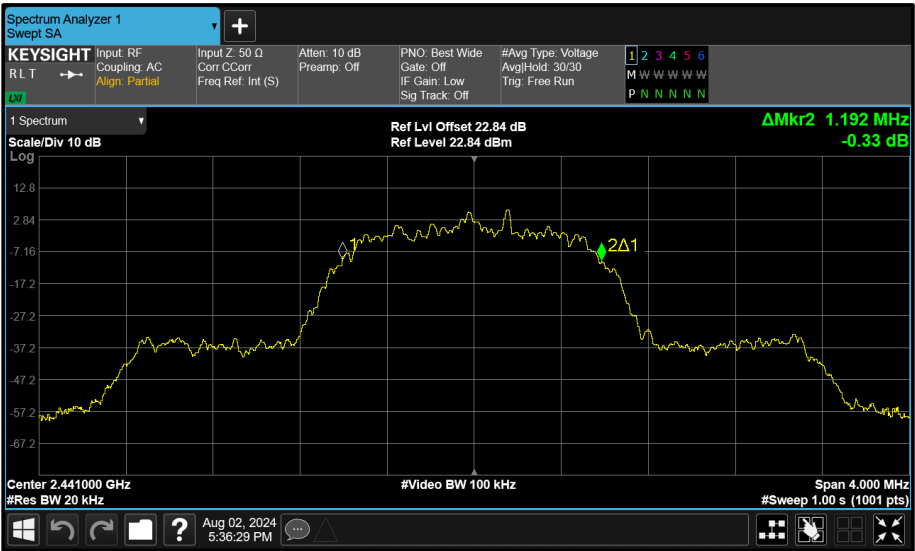


Figure 143 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

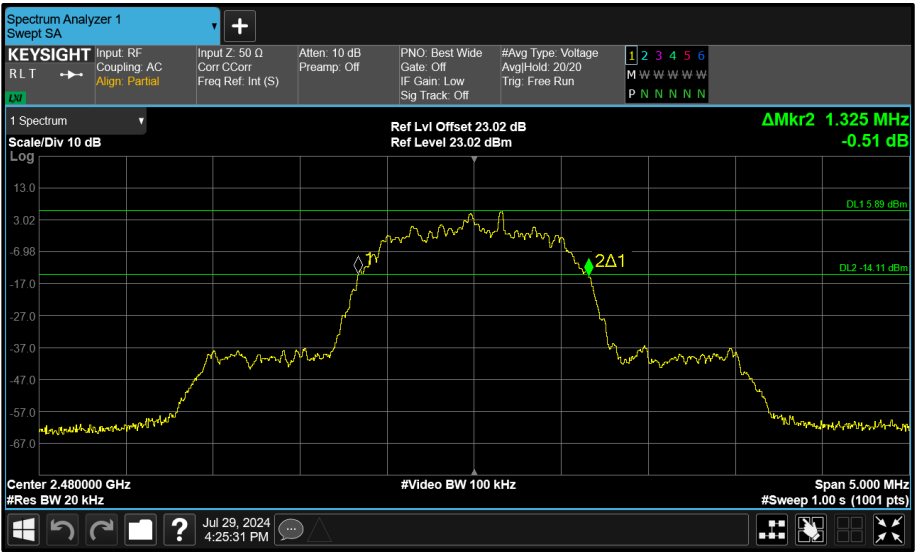


Figure 144 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

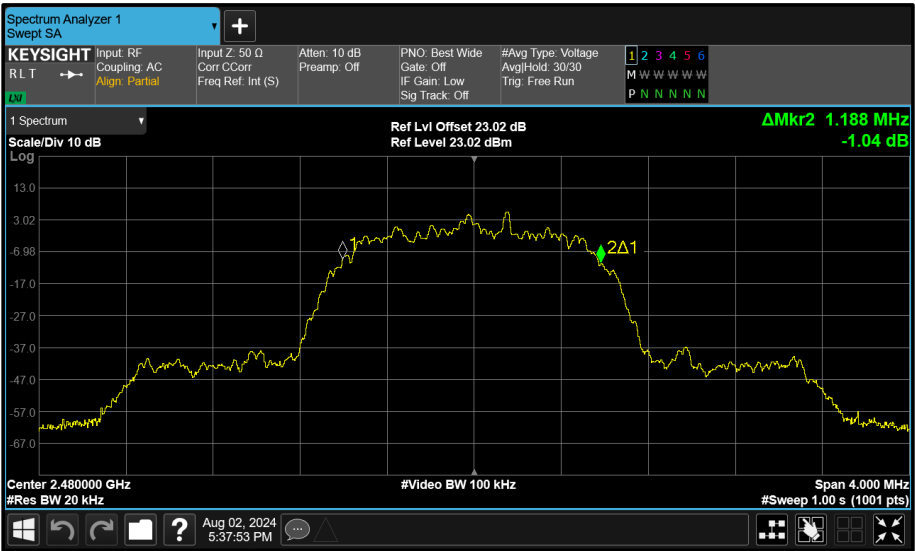


Figure 145 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth