



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 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)	Carrier Frequency Separation (MHz)			Limit (kHz)
		F1C	F2C	FHS	
2441	0.924	2441.016	2442.015	0.999	≥615.8

Table 45 - Carrier Frequency Separation Results



Figure 70 - GFSK - 2441 MHz (CH39)



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 $\pi/4$ 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)	Carrier Frequency Separation (MHz)			Limit (kHz)
		F1C	F2C	FHS	
2441	1.354	2440.997	2441.997	1.000	$\geq 902.9$

Table 46 - Carrier Frequency Separation Results



Figure 71 -  $\pi/4$  DQPSK - 2441 MHz (CH39)



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	2441.005	2442.003	0.998	≥880.3

Table 47 - Carrier Frequency Separation Results

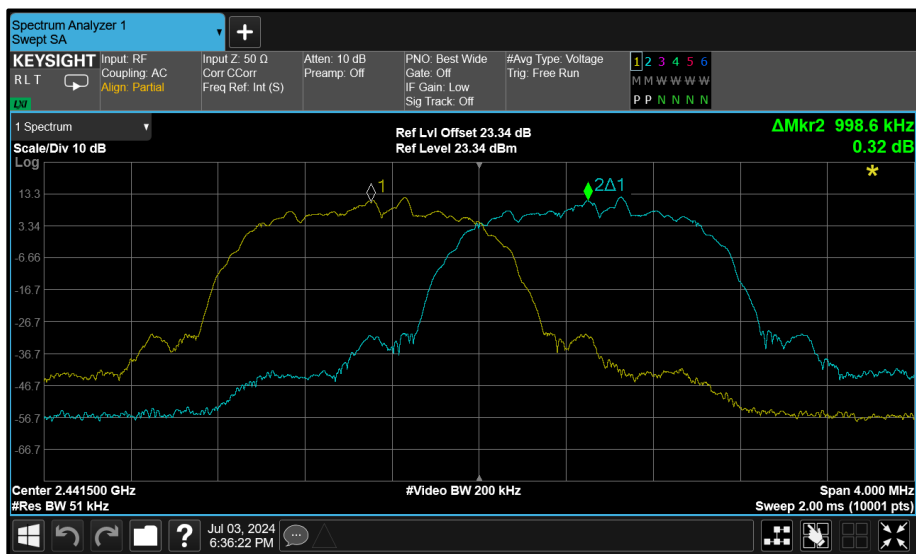


Figure 72 - 8-DPSK - 2441 MHz (CH39)



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.

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	0	06-Feb-2025

**Table 48**

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**

A3247, S/N: CMVW5QCY3C - Modification State 0  
A3247, S/N: CFK34L4W7N - Modification State 0

### **2.4.3 Date of Test**

02-July-2024 to 03-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	22.2 - 23.5 °C
Relative Humidity	49.5 - 52.5 %



**2.4.6 Test Results**

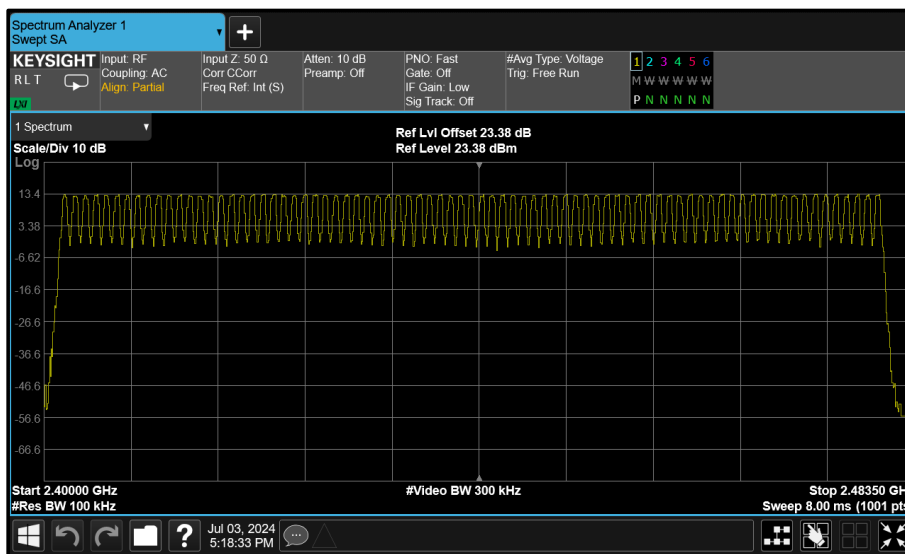
2.4 GHz Bluetooth BDR/EDR

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 49 - Number of Hopping Frequencies Results**



**Figure 73 - GFSK (DH5) - Number of Hopping Channels**

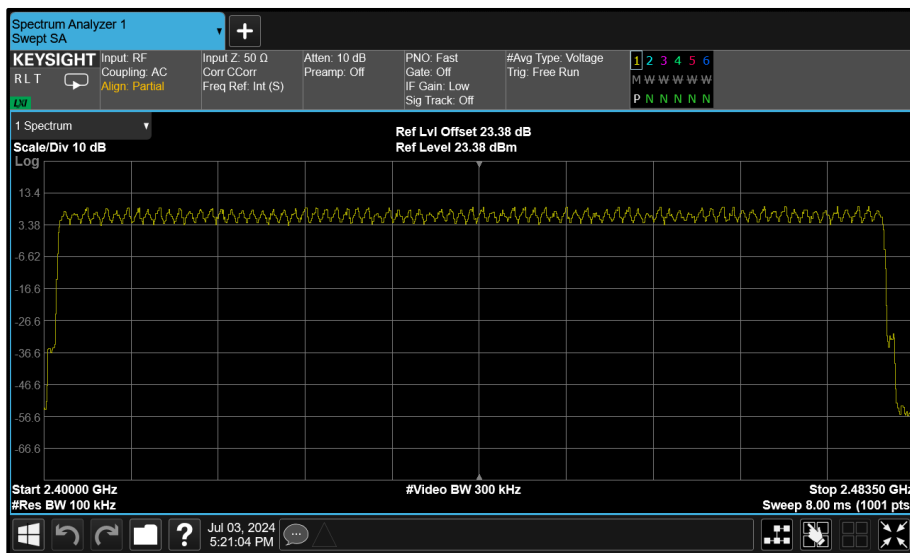


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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	$\geq 15.0$

**Table 50 - Number of Hopping Frequencies Results**



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

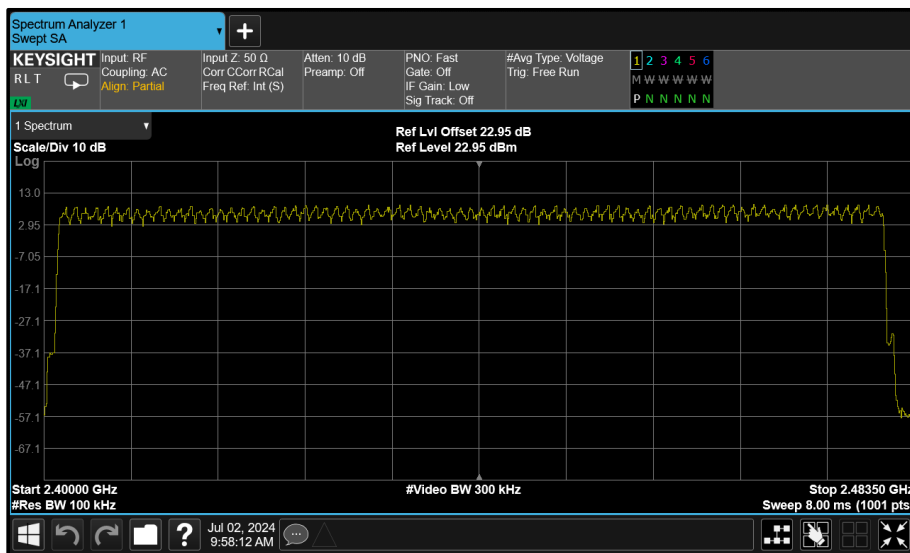


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

DUT Configuration			
Mode:	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 51 - Number of Hopping Frequencies Results**



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



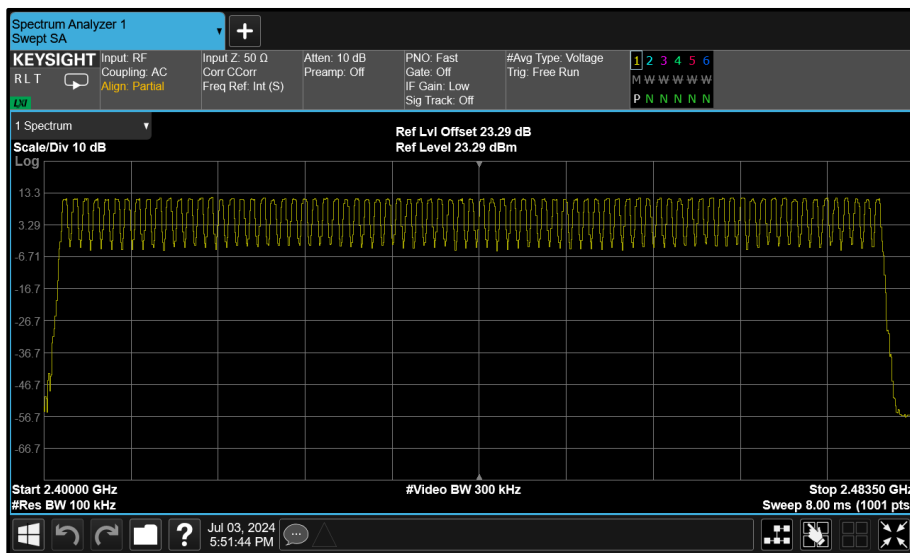


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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 52 - Number of Hopping Frequencies Results**



**Figure 76 - GFSK (DH5) - Number of Hopping Channels**

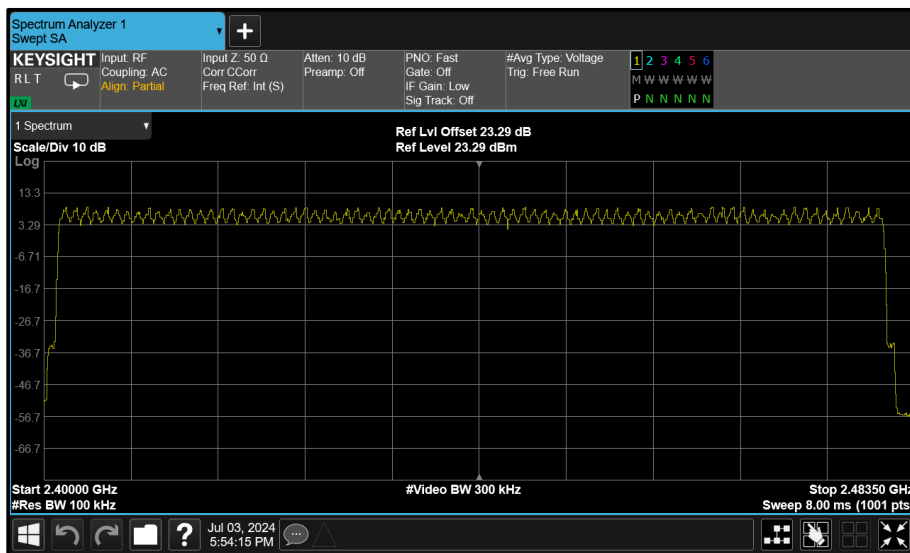


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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	$\geq 15.0$

**Table 53 - Number of Hopping Frequencies Results**



**Figure 77 -  $\pi/4$  DQPSK (2-DH5) - Number of Hopping Channels**

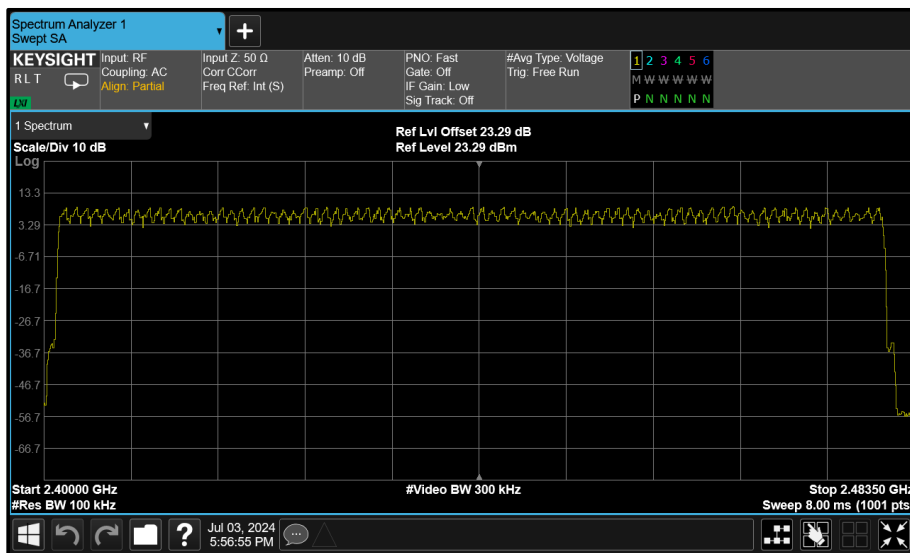


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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 54 - Number of Hopping Frequencies Results**



**Figure 78 - 8-DPSK (3-DH5) - Number of Hopping Channels**

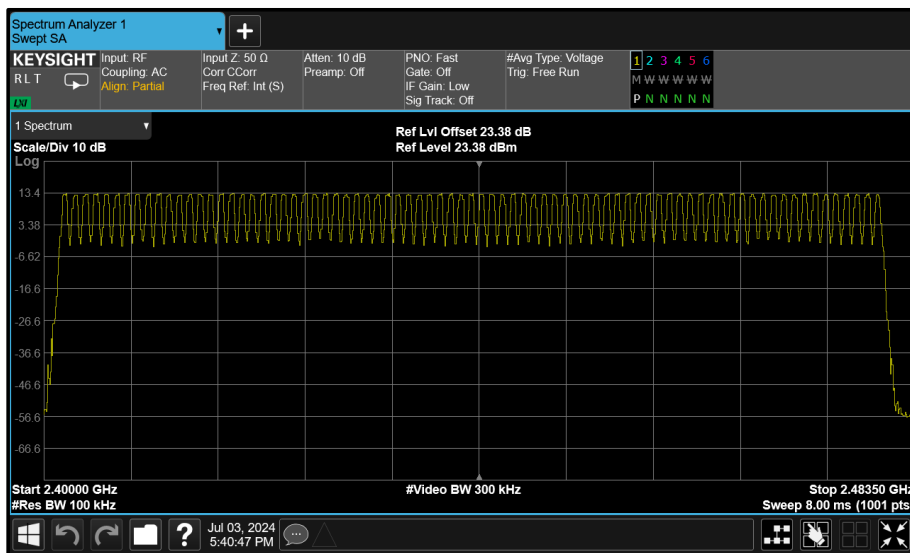


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA 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 55 - Number of Hopping Frequencies Results**



**Figure 79 - GFSK (DH5) - Number of Hopping Channels**

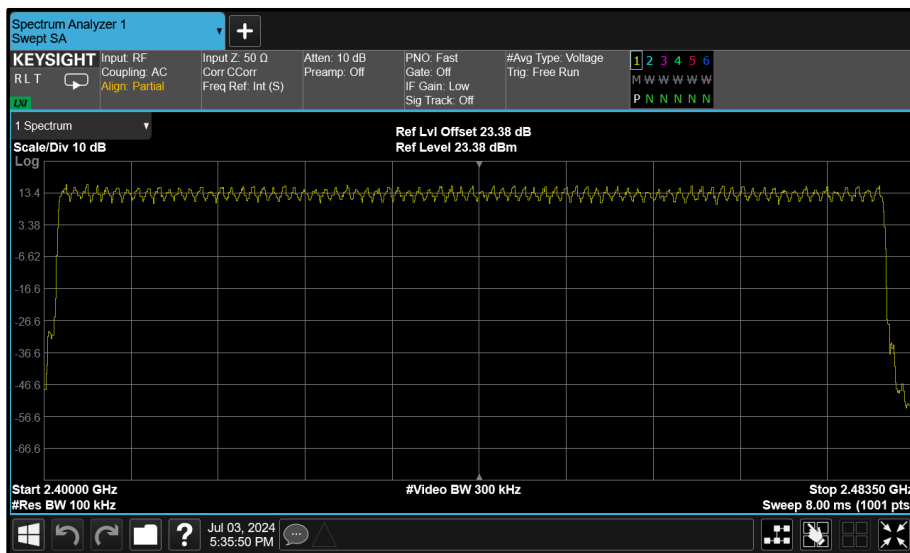


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

DUT Configuration			
Mode:	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	$\geq 15.0$

**Table 56 - Number of Hopping Frequencies Results**



**Figure 80 -  $\pi/4$  DQPSK (2-DH5) - Number of Hopping Channels**

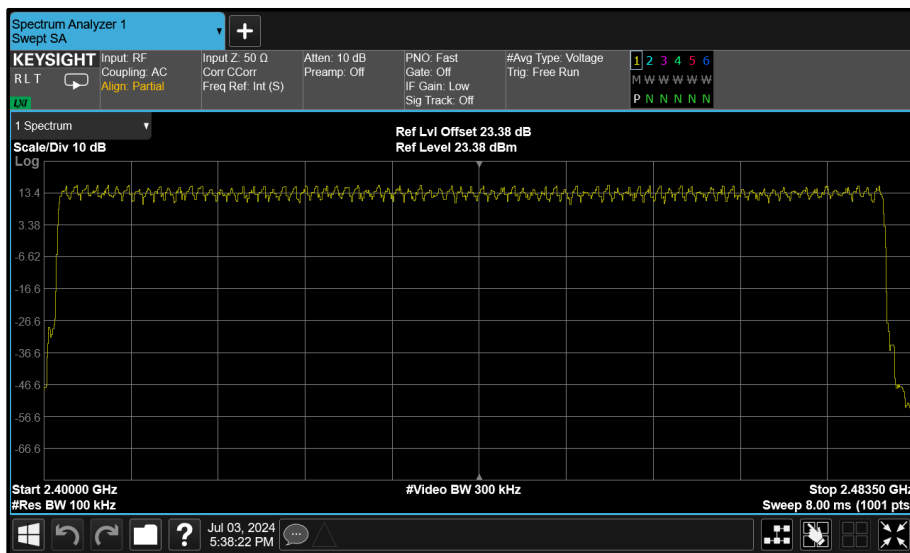


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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 57 - Number of Hopping Frequencies Results**



**Figure 81 - 8-DPSK (3-DH5) - Number of Hopping Channels**

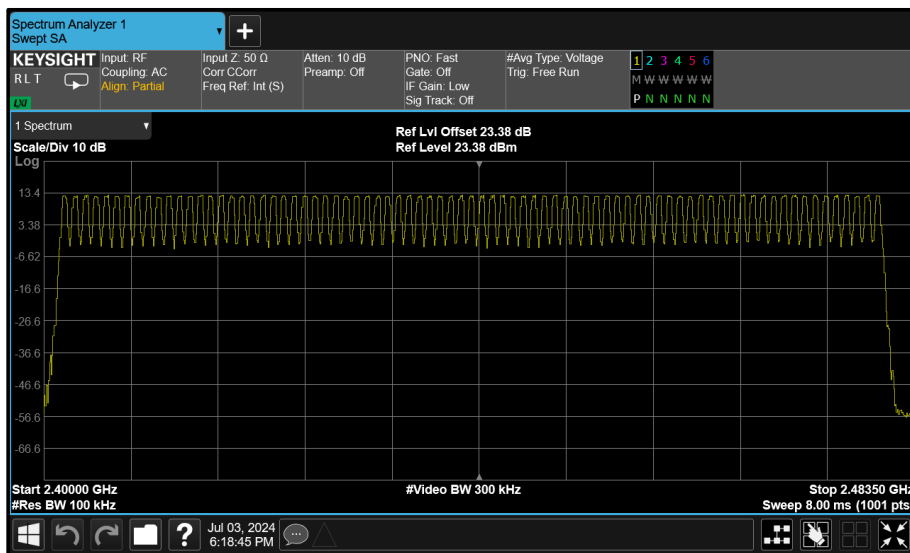


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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 58 - Number of Hopping Frequencies Results**



**Figure 82 - GFSK (DH5) - Number of Hopping Channels**

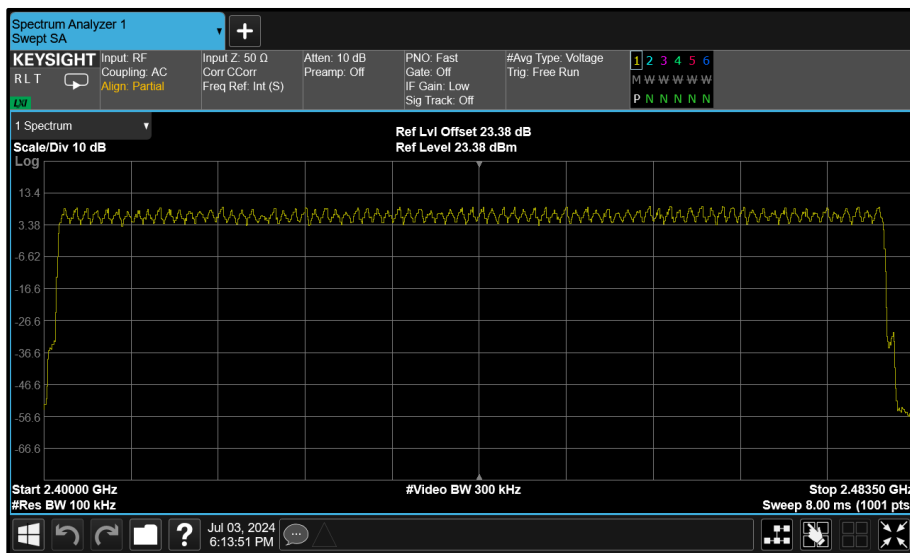


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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	$\geq 15.0$

**Table 59 - Number of Hopping Frequencies Results**



**Figure 83 -  $\pi/4$  DQPSK (2-DH5) - Number of Hopping Channels**



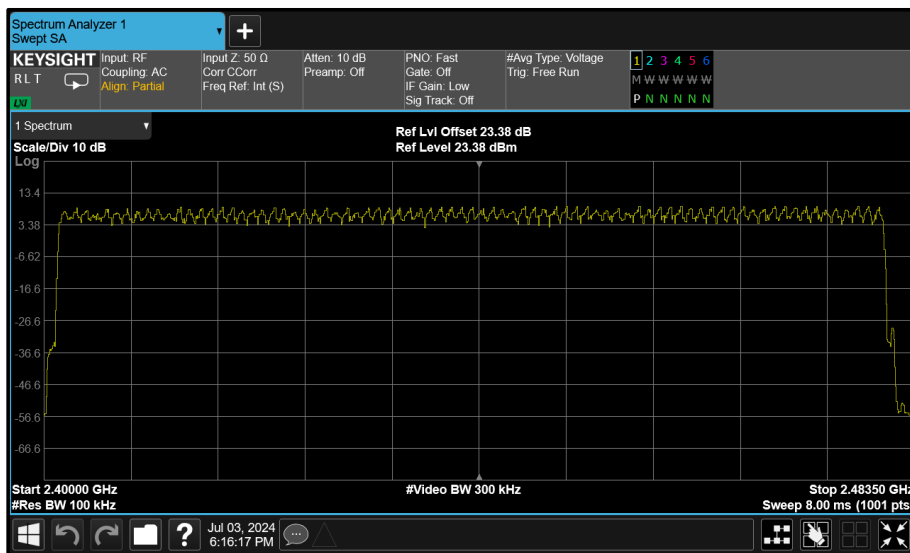


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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 60 - Number of Hopping Frequencies Results**



**Figure 84 - 8-DPSK (3-DH5) - Number of Hopping Channels**

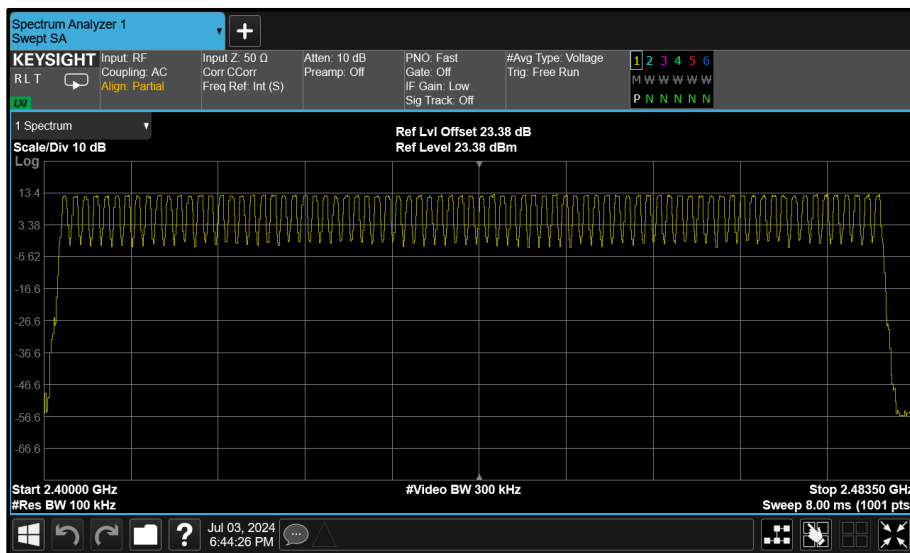


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA 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 61 - Number of Hopping Frequencies Results**



**Figure 85 - GFSK (DH5) - Number of Hopping Channels**

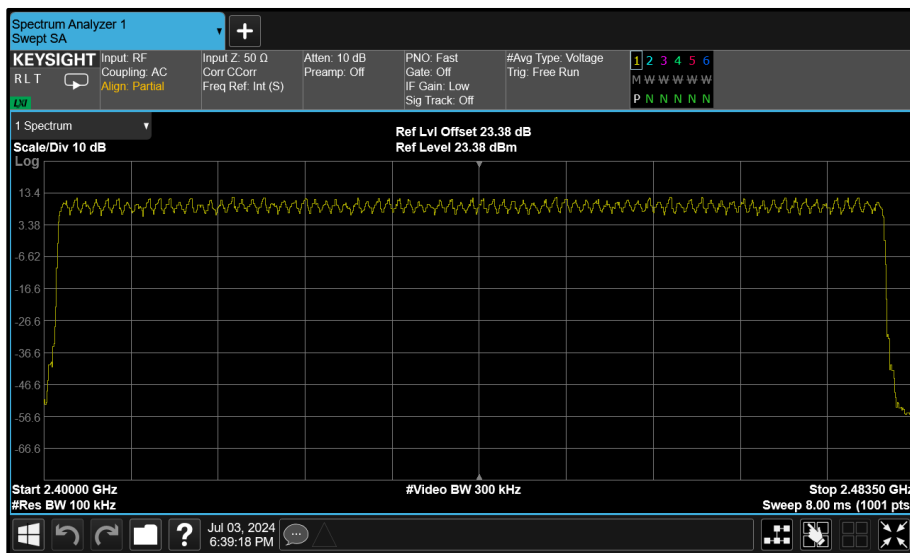


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

DUT Configuration			
Mode:	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	$\geq 15.0$

**Table 62 - Number of Hopping Frequencies Results**



**Figure 86 -  $\pi/4$  DQPSK (2-DH5) - Number of Hopping Channels**

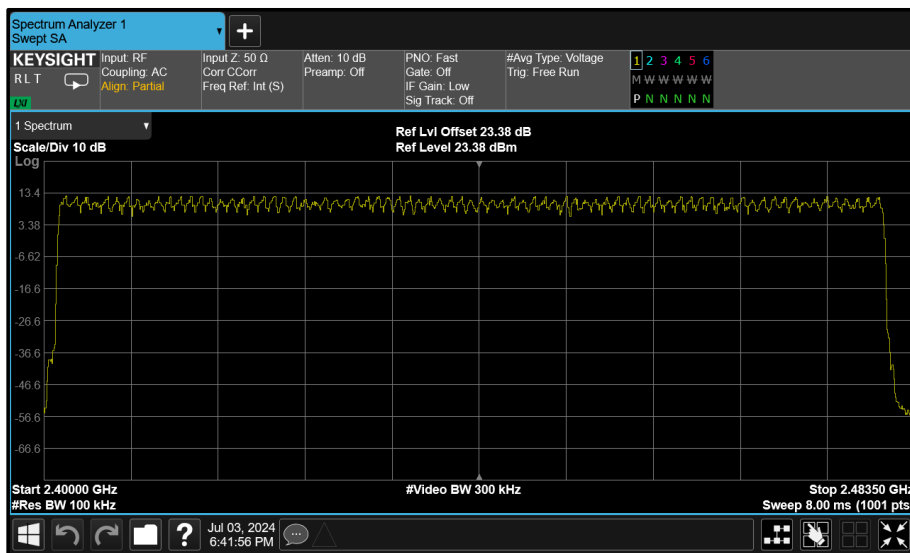


Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 5.1 d)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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 63 - Number of Hopping Frequencies Results**



**Figure 87 - 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)

FHSs 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 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
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	6517	12	22-Feb-2025
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6518	12	16-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6529	12	16-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6530	12	16-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6531	12	16-Feb-2025
AC Programmable Power Supply	iTech	IT7324	6662	-	O/P Mon
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	0	06-Feb-2025

**Table 64**

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**

A3247, S/N: CMVW5QCY3C - Modification State 0

### **2.5.3 Date of Test**

03-July-2024 to 04-July-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	22.1 - 22.2 °C
Relative Humidity	52.5 - 59.1 %



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 C63.10 6.9.3
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):	-

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	0.858	-	-	-
2441	0.855	-	-	-
2480	0.855	-	-	-

Table 65 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	0.855	-	-	-	-
2441	0.861	-	-	-	-
2480	0.858	-	-	-	-

Table 66 - 99% Bandwidth Results

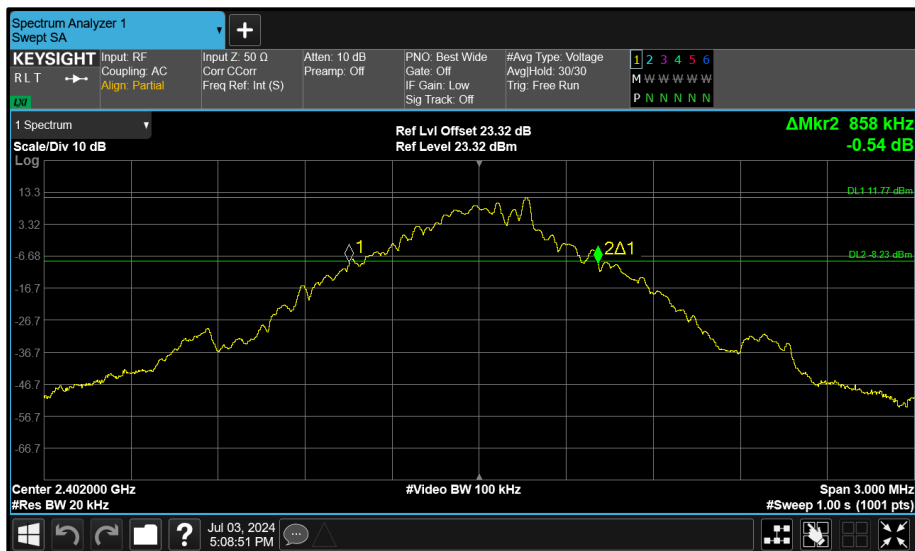


Figure 88 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

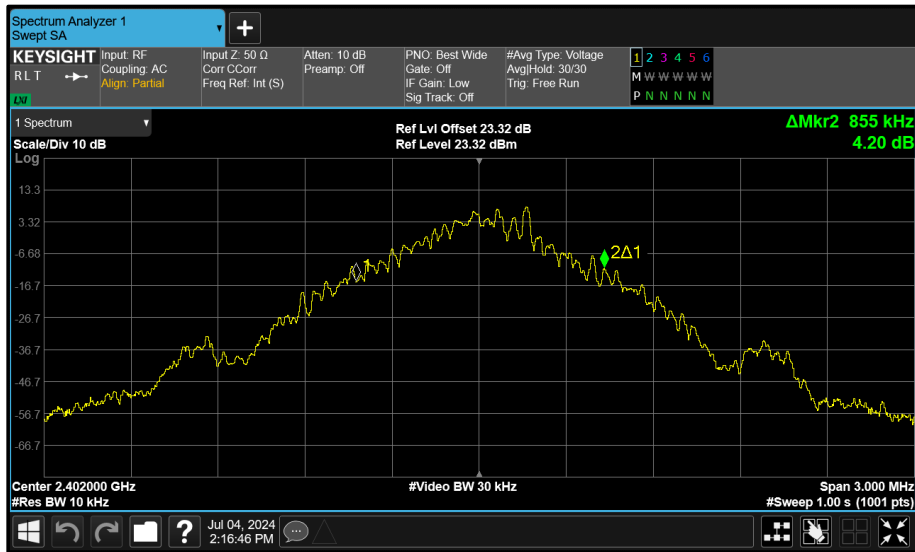


Figure 89 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

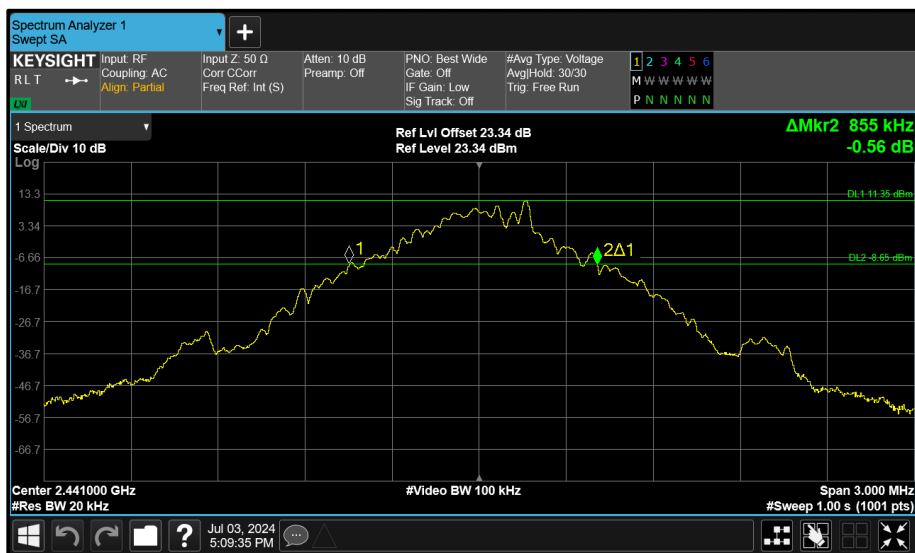


Figure 90 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth



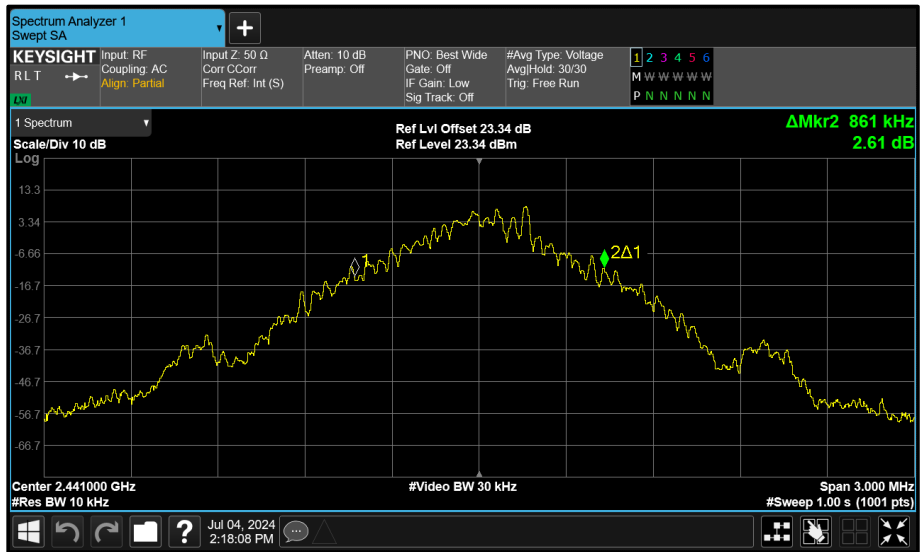


Figure 91 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

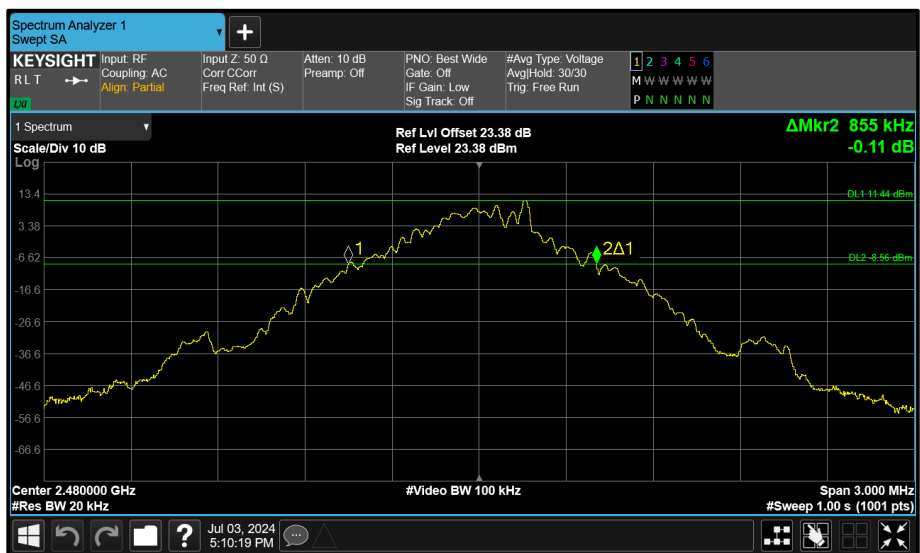


Figure 92 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

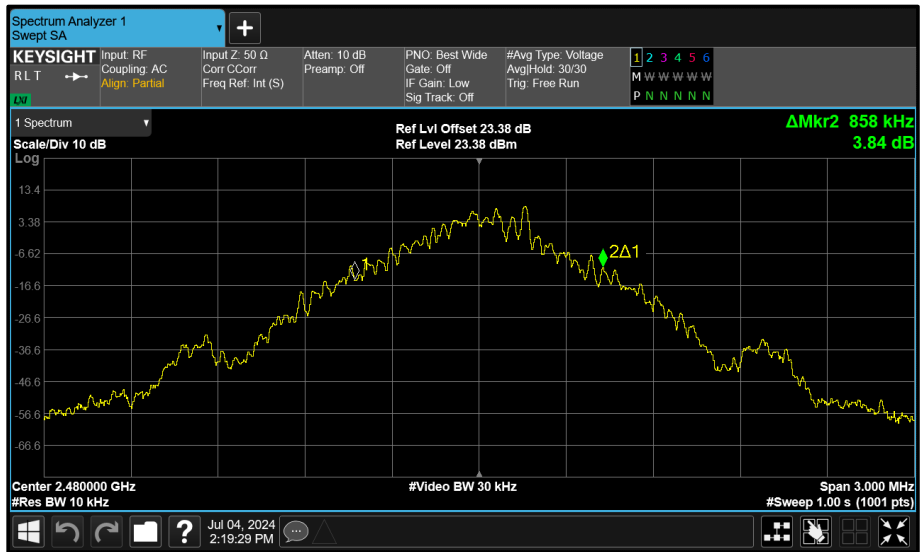


Figure 93 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth



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 C63.10 6.9.3
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):	-

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

Table 67 - 20 dB Bandwidth Results

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

Table 68 - 99% Bandwidth Results

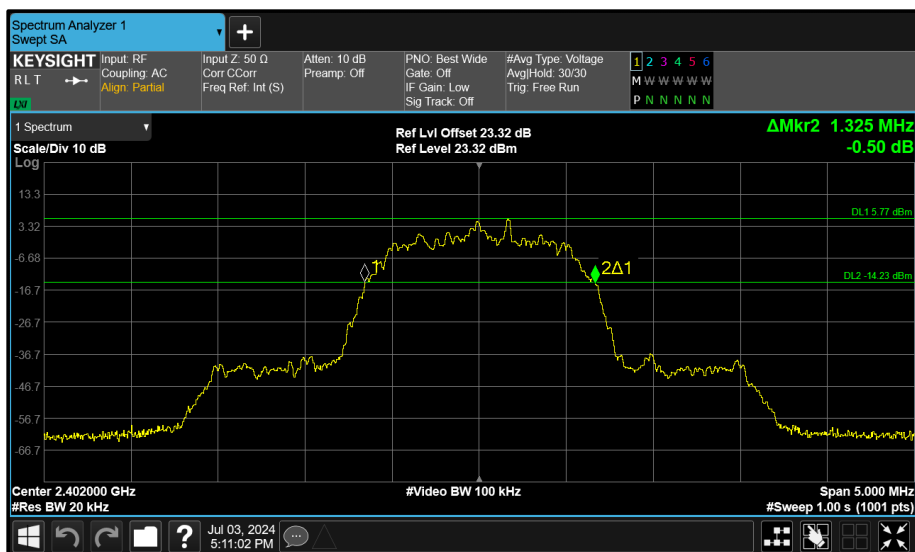


Figure 94 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

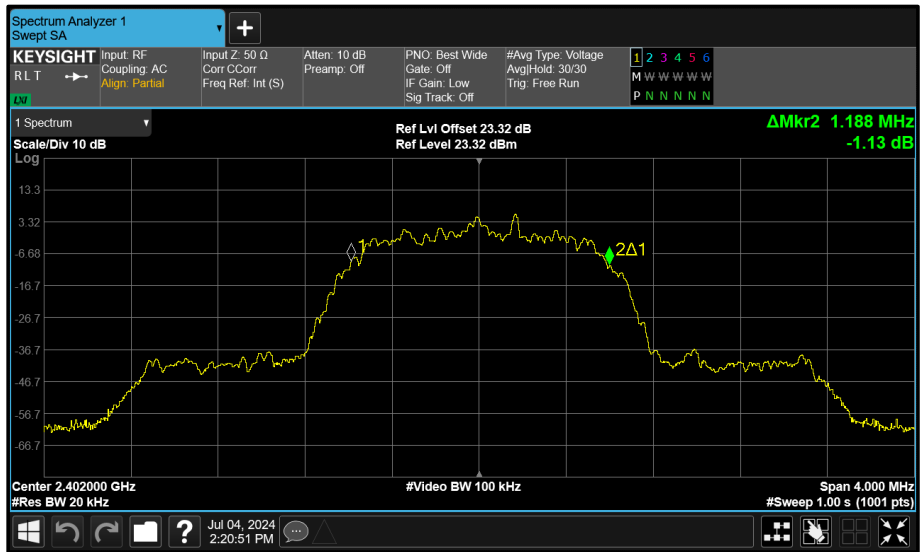


Figure 95 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

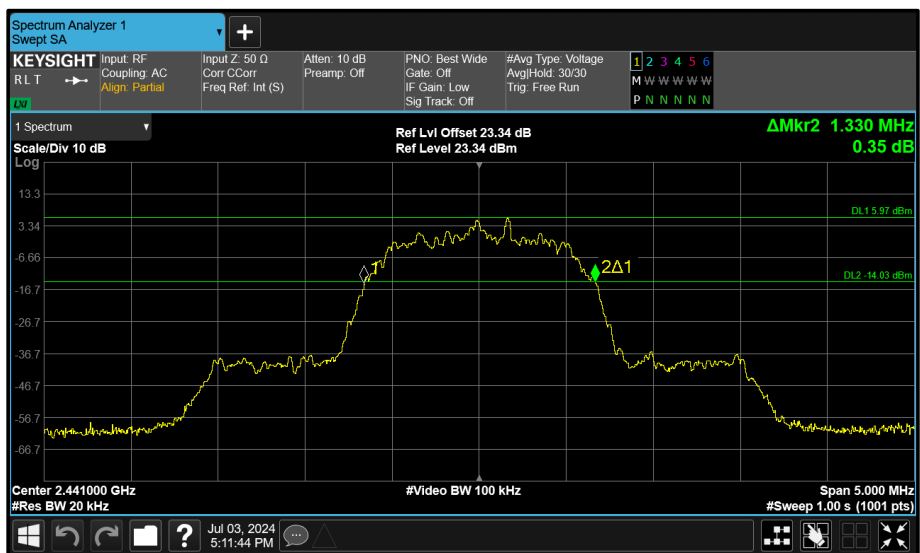


Figure 96 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth



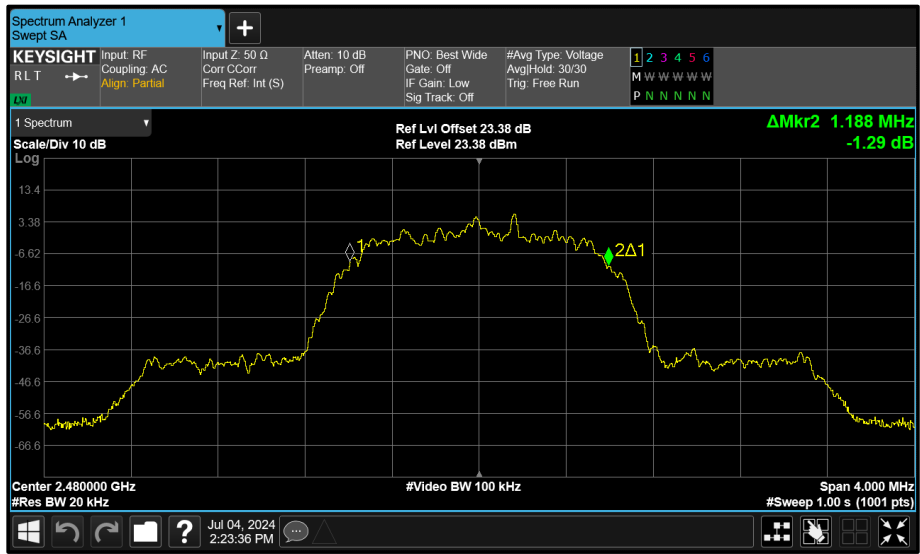


Figure 99 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth



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 C63.10 6.9.3
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA 8-DPSK (3-DH5)	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Core 0)	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 69 - 20 dB Bandwidth Results

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

Table 70 - 99% Bandwidth Results

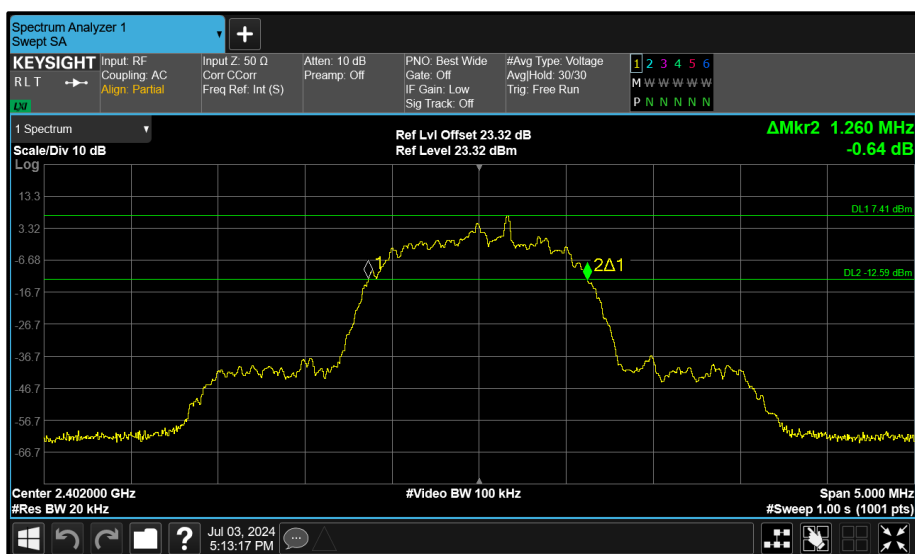


Figure 100 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth





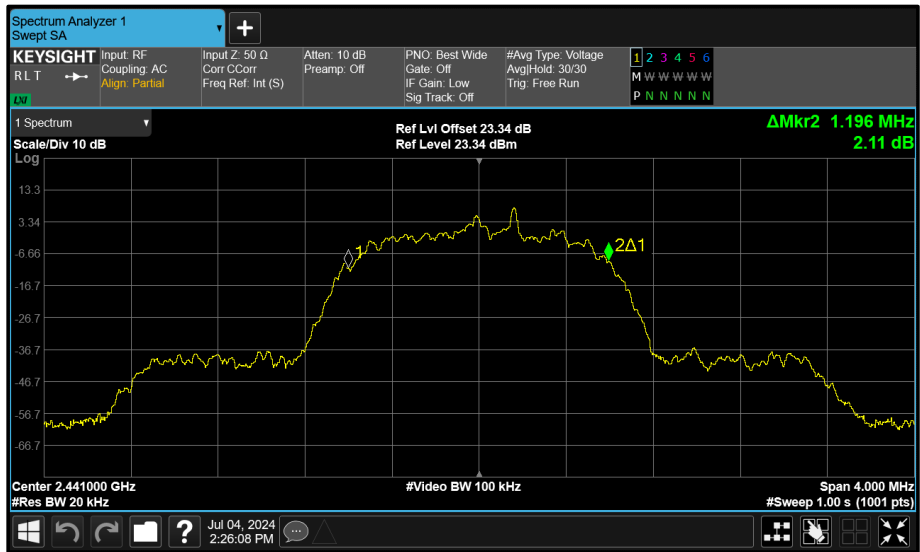


Figure 103 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

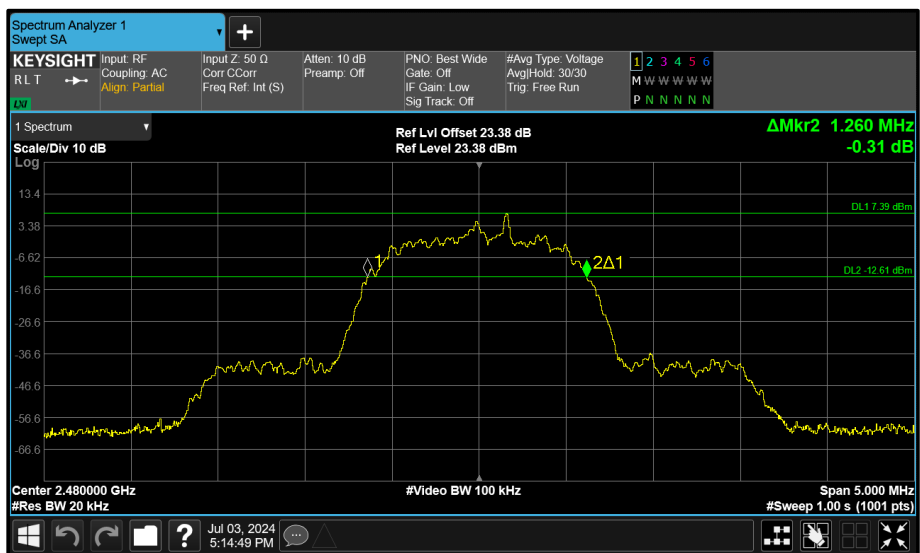


Figure 104 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

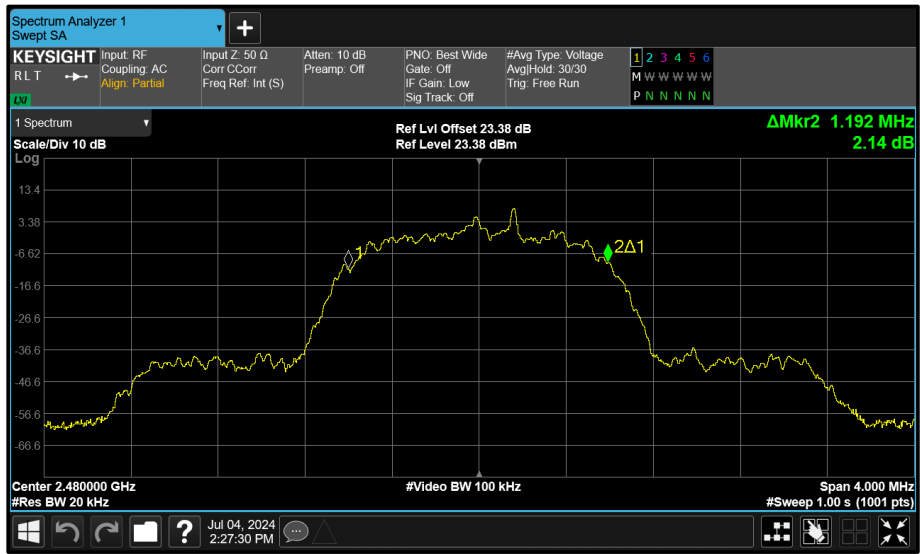


Figure 105 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth



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 C63.10 6.9.3
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):	-

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

Table 71 - 20 dB Bandwidth Results

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

Table 72 - 99% Bandwidth Results

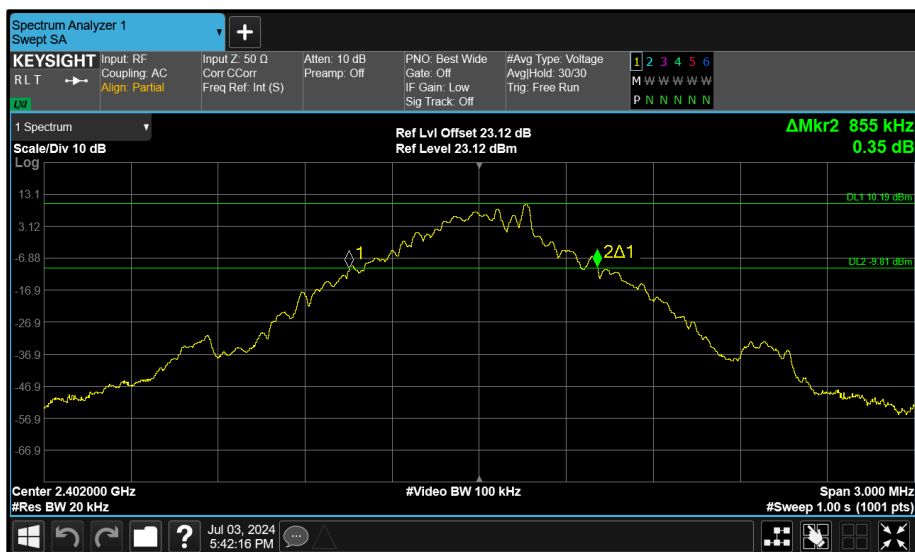


Figure 106 - Core 2 (C) 2402 MHz (CH0) 20 dB Bandwidth

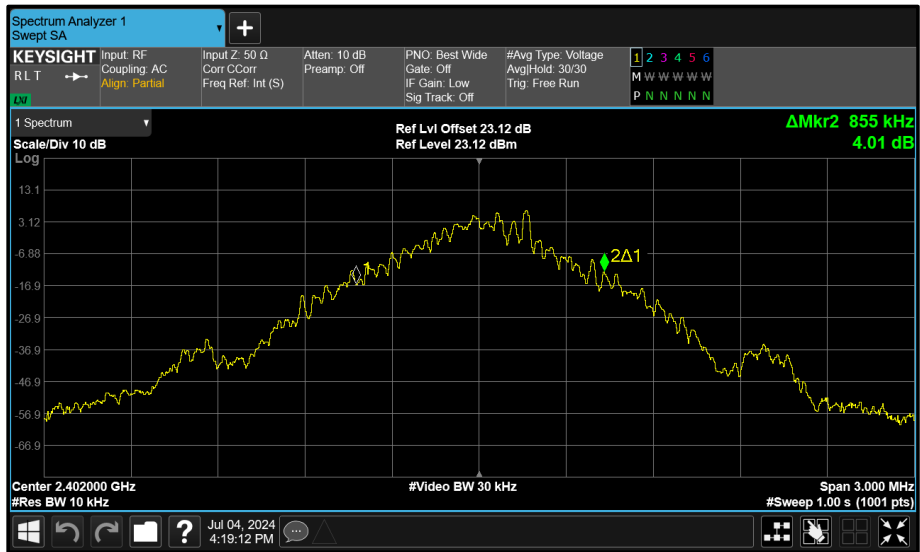


Figure 107 - Core 2 (C) 2402 MHz (CH0) 99% Bandwidth

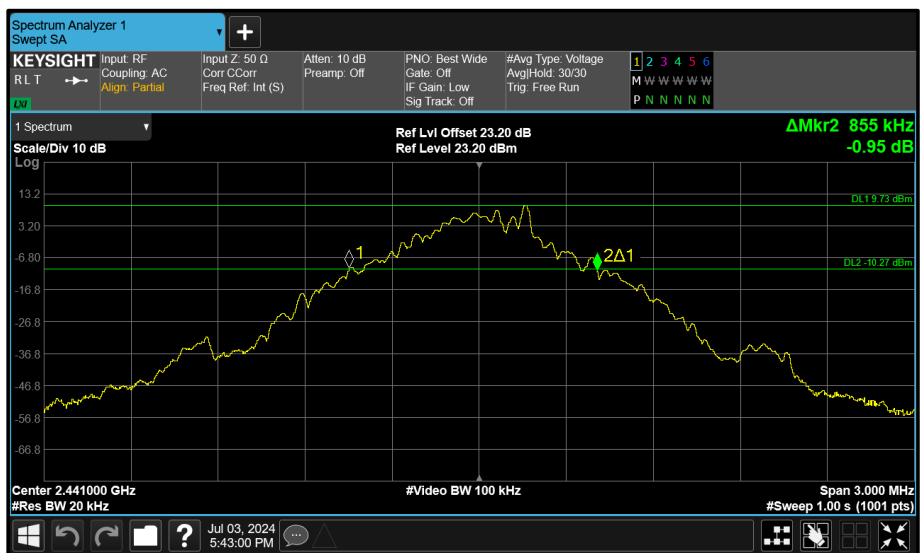


Figure 108 - Core 2 (C) 2441 MHz (CH39) 20 dB Bandwidth

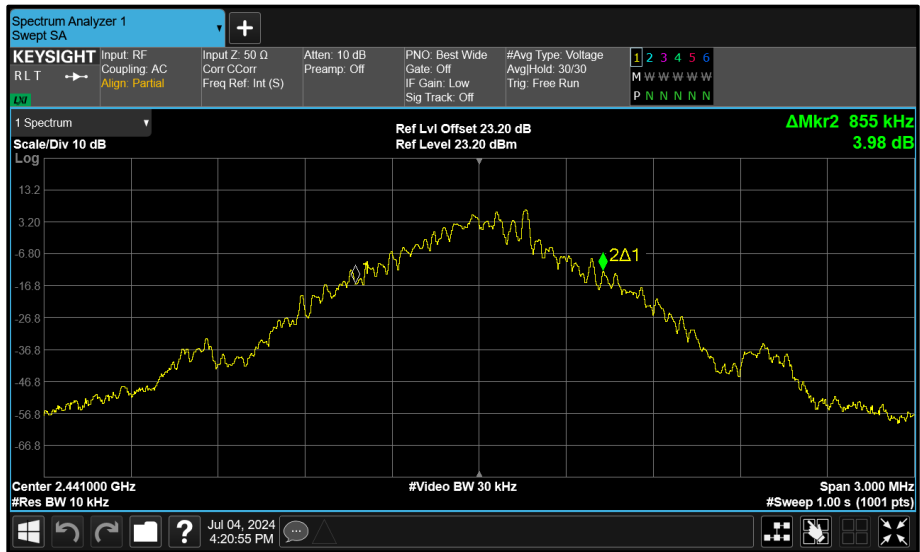


Figure 109 - Core 2 (C) 2441 MHz (CH39) 99% Bandwidth

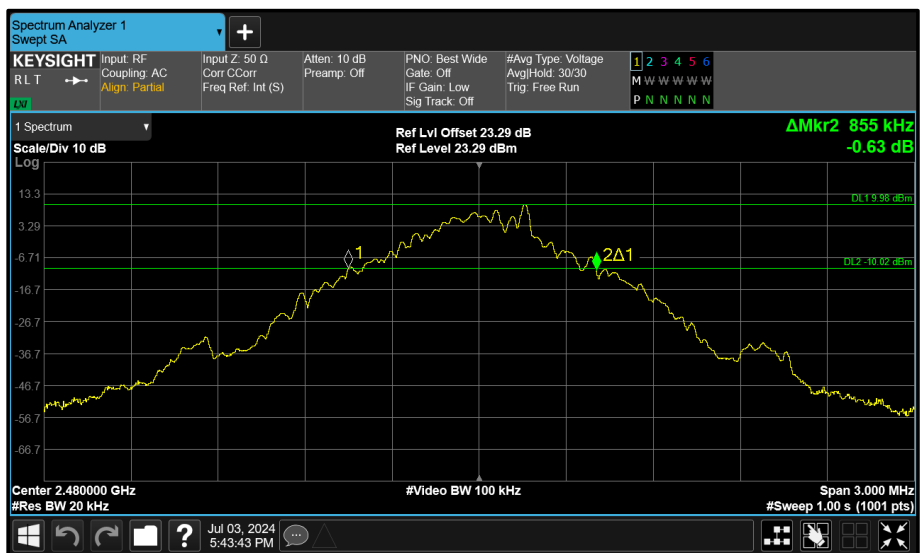


Figure 110 - Core 2 (C) 2480 MHz (CH78) 20 dB Bandwidth

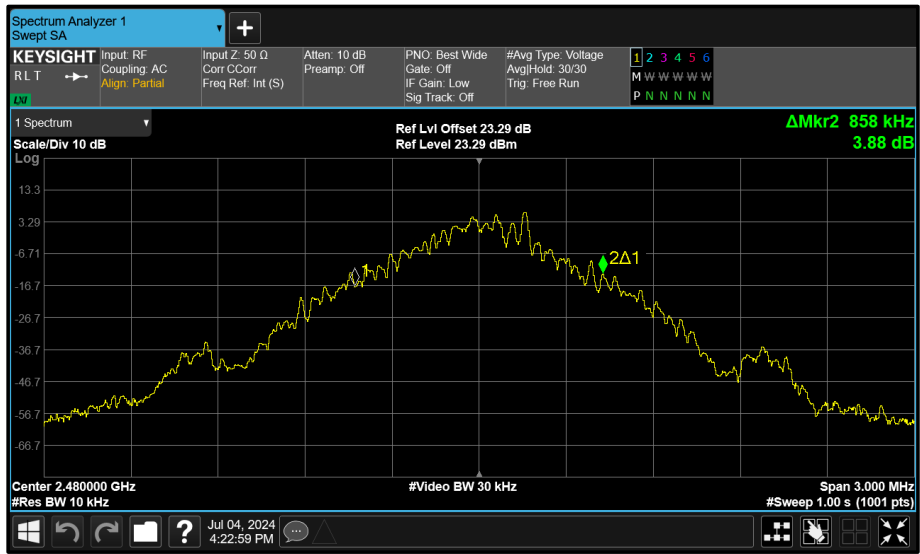


Figure 111 - Core 2 (C) 2480 MHz (CH78) 99% Bandwidth



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 C63.10 6.9.3
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):	-

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

Table 73 - 20 dB Bandwidth Results

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

Table 74 - 99% Bandwidth Results

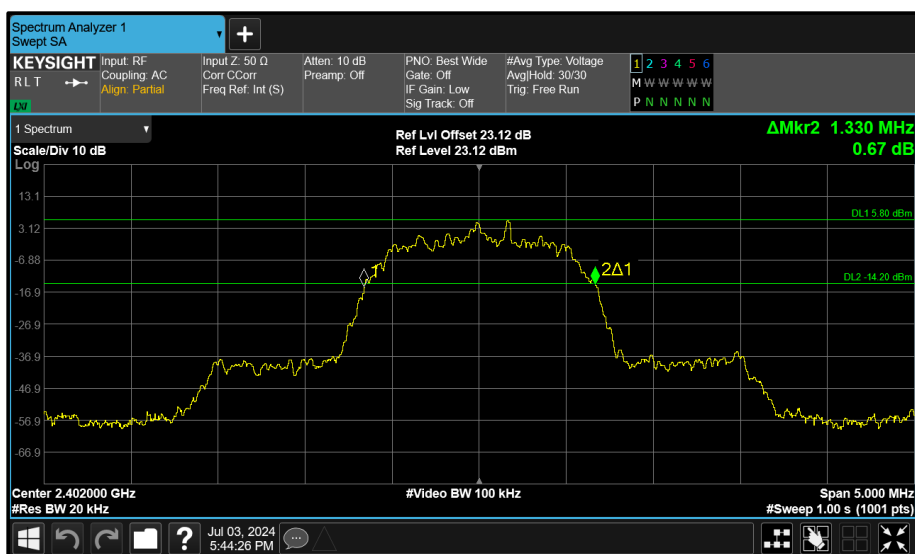


Figure 112 - Core 2 (C) 2402 MHz (CH0) 20 dB Bandwidth

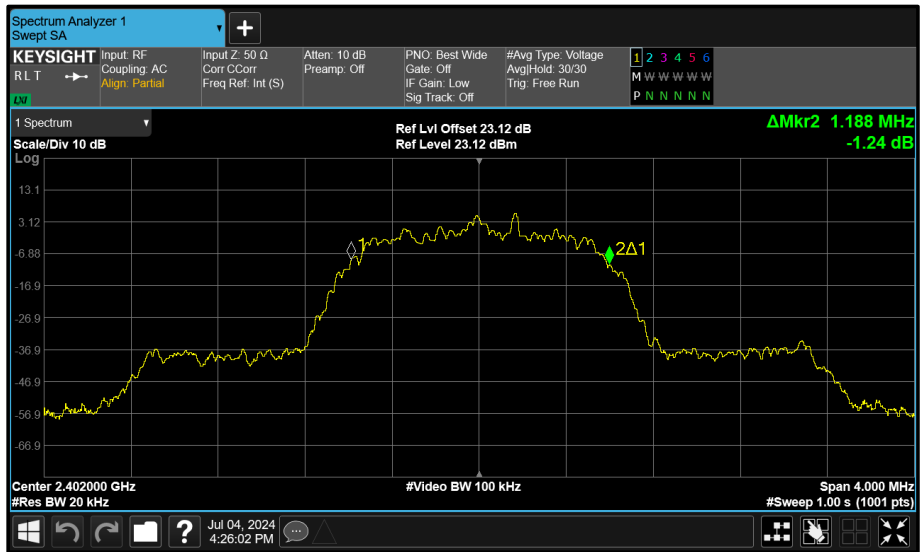


Figure 113 - Core 2 (C) 2402 MHz (CH0) 99% Bandwidth

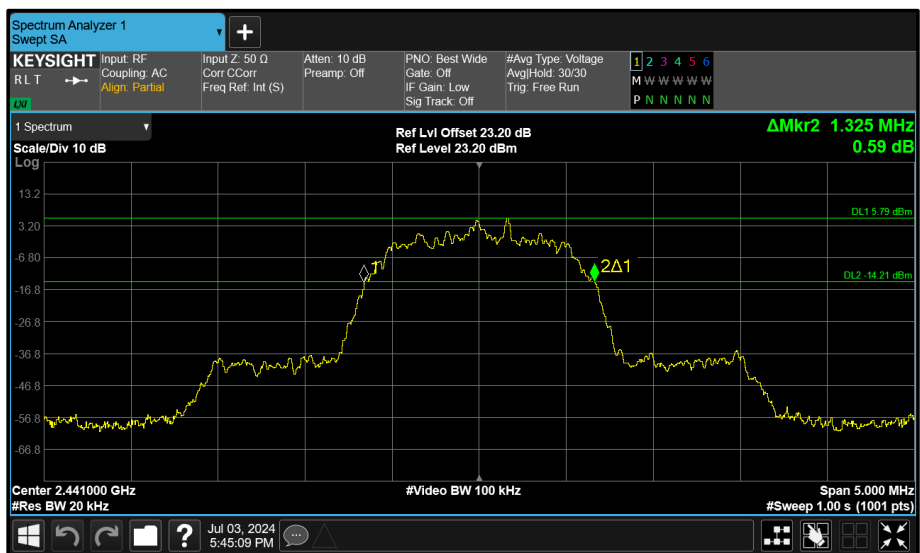


Figure 114 - Core 2 (C) 2441 MHz (CH39) 20 dB Bandwidth



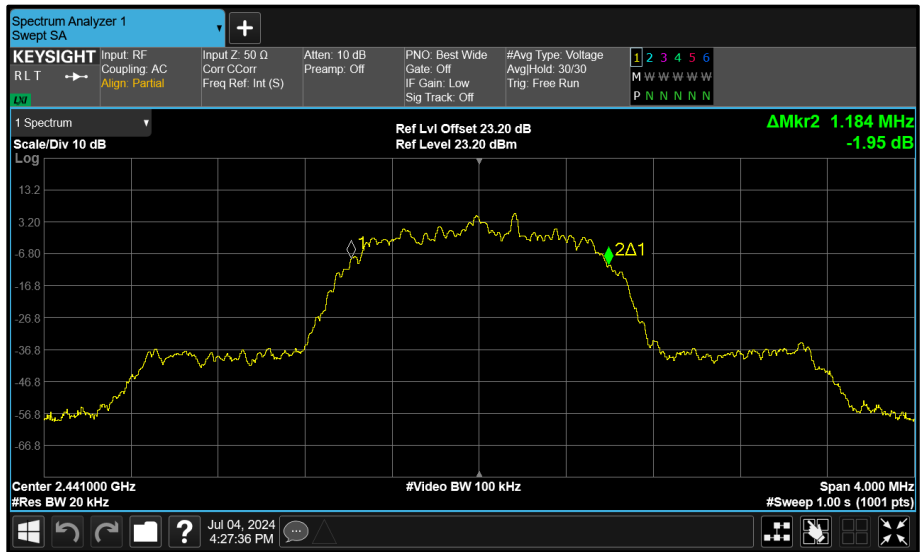


Figure 115 - Core 2 (C) 2441 MHz (CH39) 99% Bandwidth

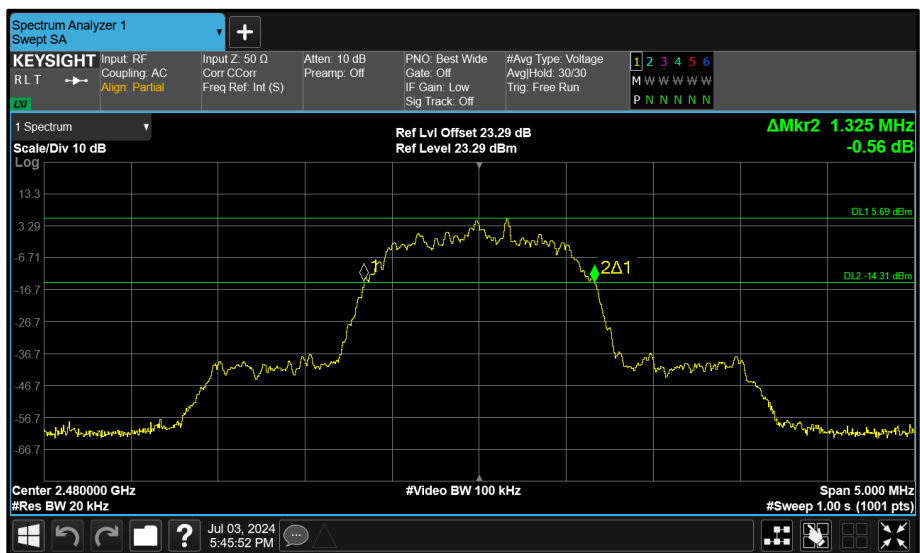


Figure 116 - Core 2 (C) 2480 MHz (CH78) 20 dB Bandwidth

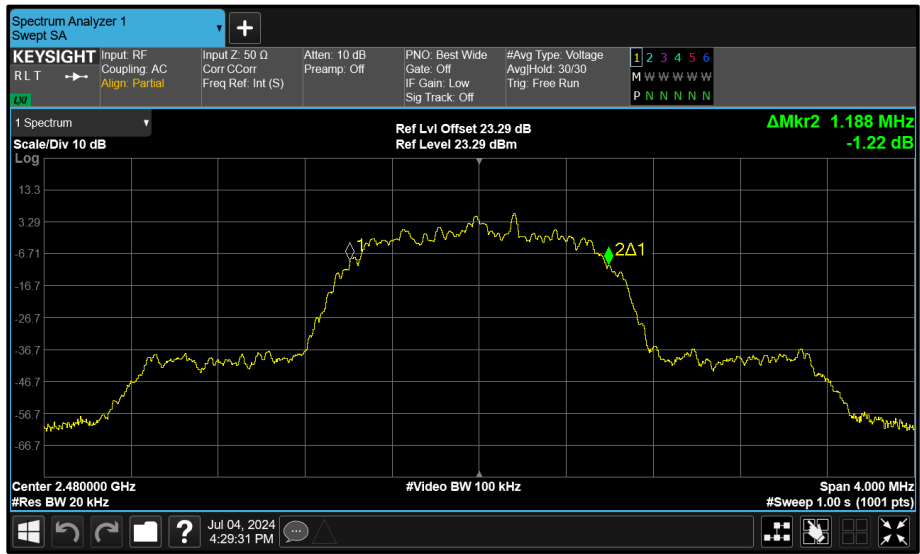


Figure 117 - Core 2 (C) 2480 MHz (CH78) 99% Bandwidth



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 C63.10 6.9.3
Additional Reference(s):	-		

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

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

Table 75 - 20 dB Bandwidth Results

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

Table 76 - 99% Bandwidth Results

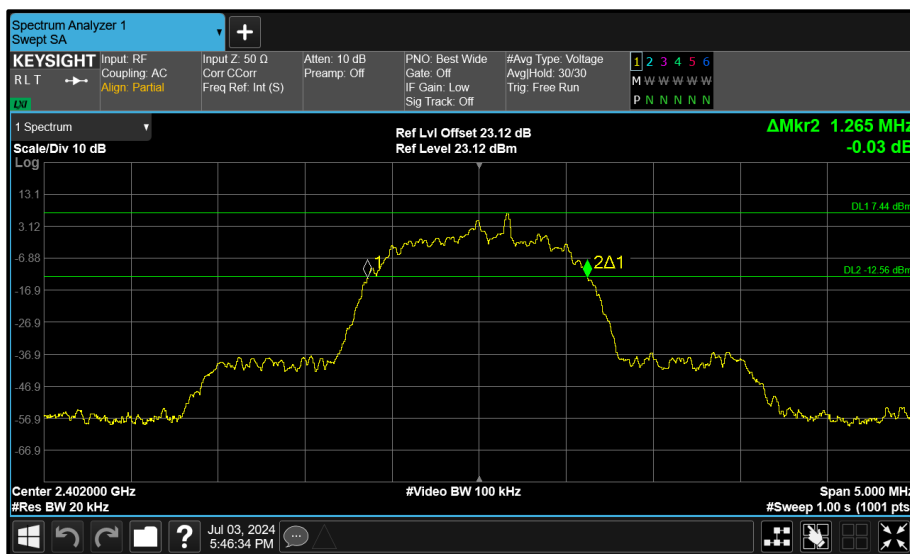


Figure 118 - Core 2 (C) 2402 MHz (CH0) 20 dB Bandwidth

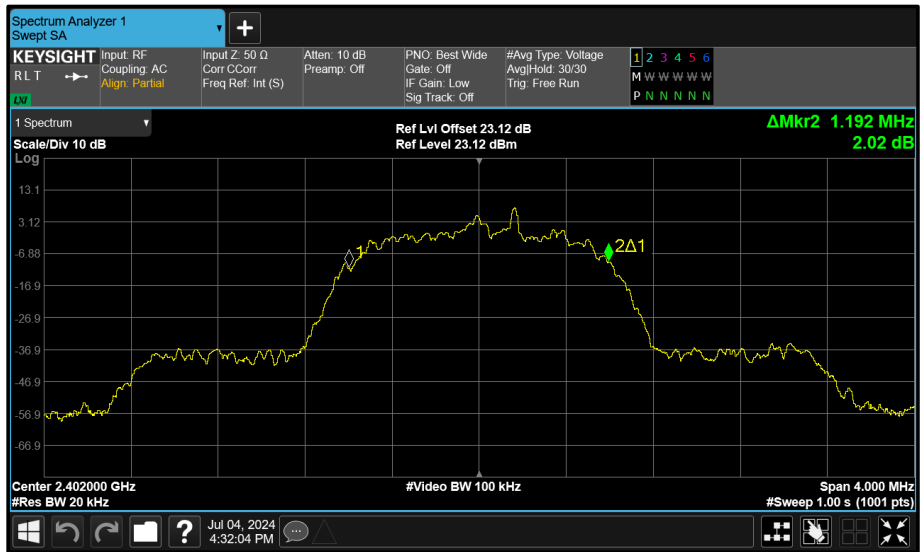


Figure 119 - Core 2 (C) 2402 MHz (CH0) 99% Bandwidth

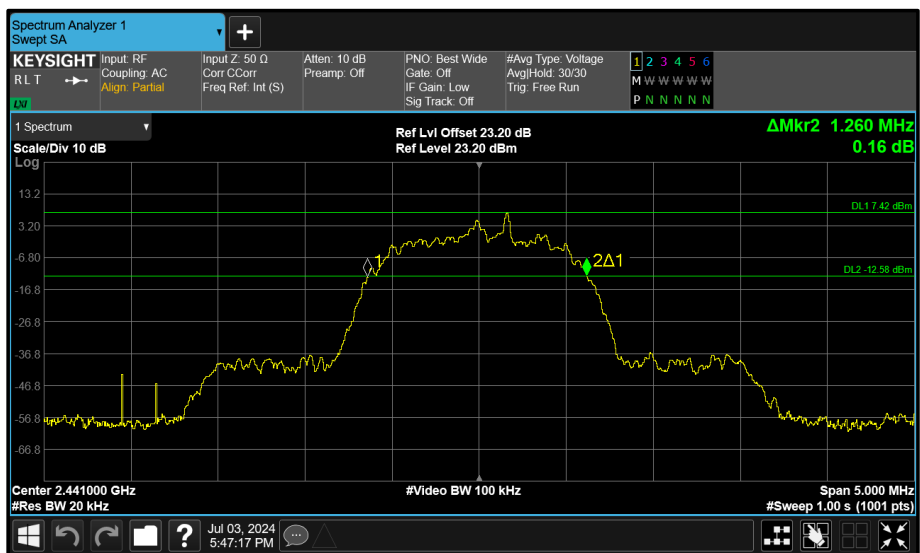


Figure 120 - Core 2 (C) 2441 MHz (CH39) 20 dB Bandwidth

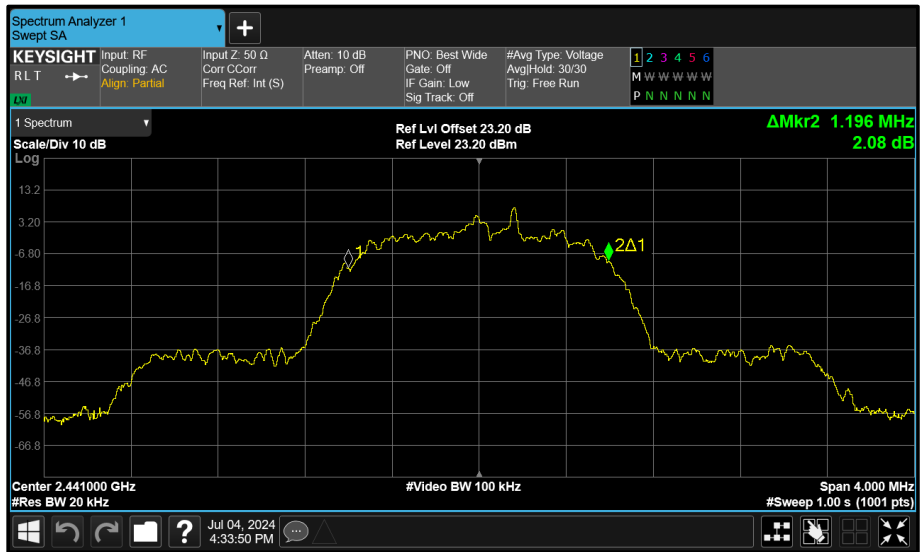


Figure 121 - Core 2 (C) 2441 MHz (CH39) 99% Bandwidth

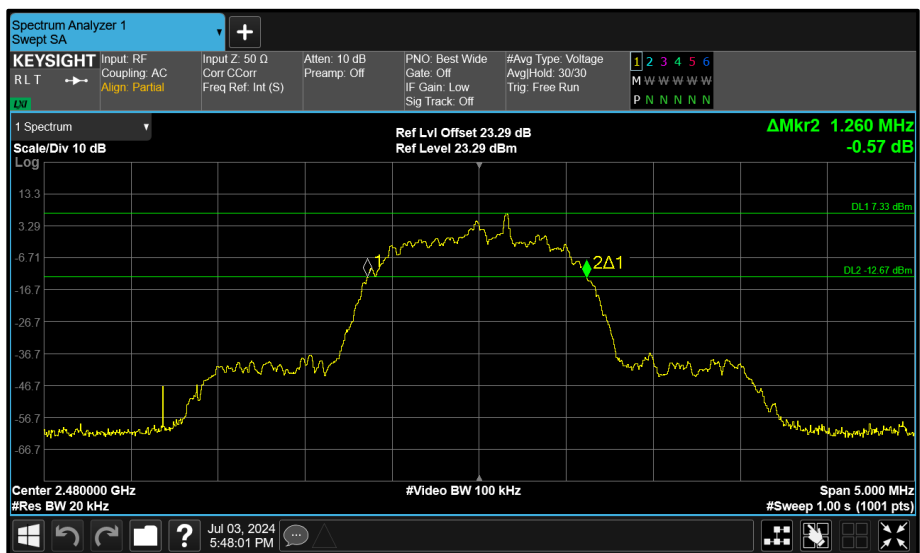


Figure 122 - Core 2 (C) 2480 MHz (CH78) 20 dB Bandwidth

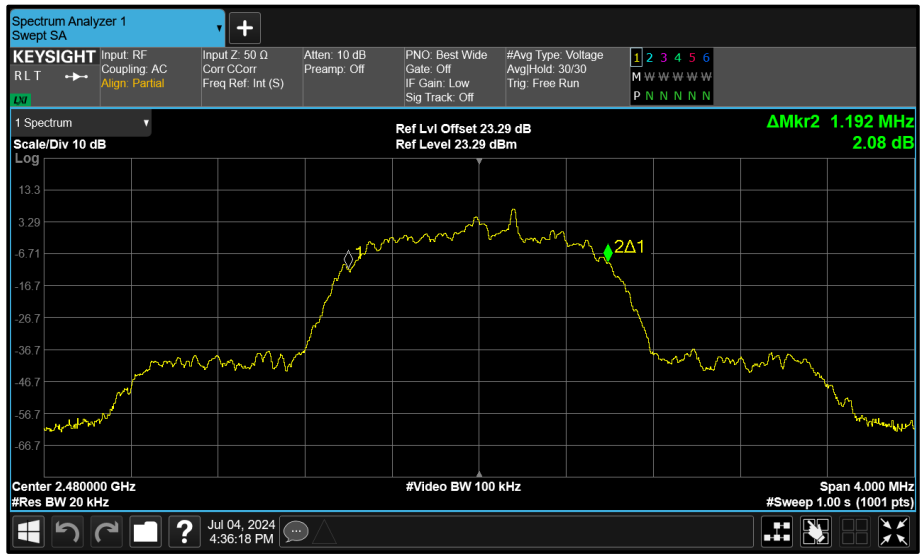


Figure 123 - Core 2 (C) 2480 MHz (CH78) 99% Bandwidth



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 C63.10 6.9.3
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA 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	0.858	-	-	-
2480	0.855	-	-	-

Table 77 - 20 dB Bandwidth Results

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

Table 78 - 99% Bandwidth Results

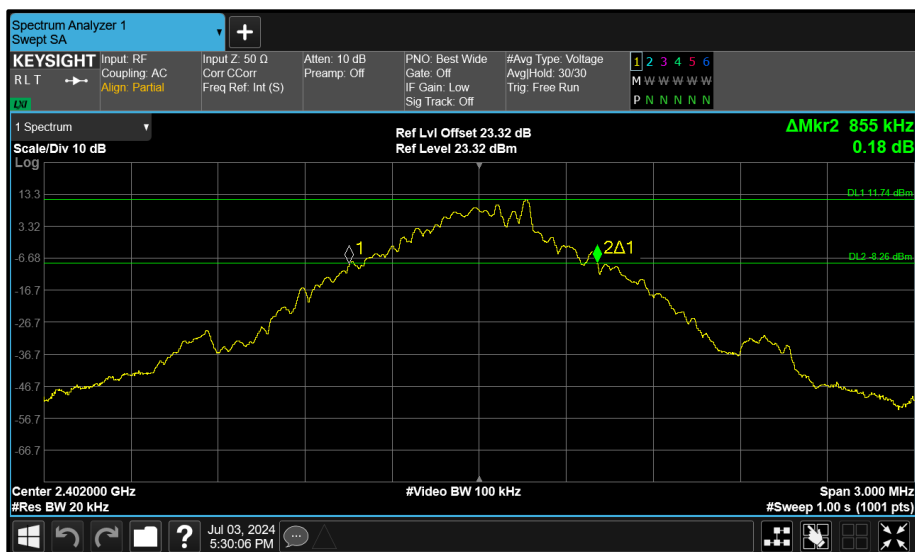


Figure 124 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

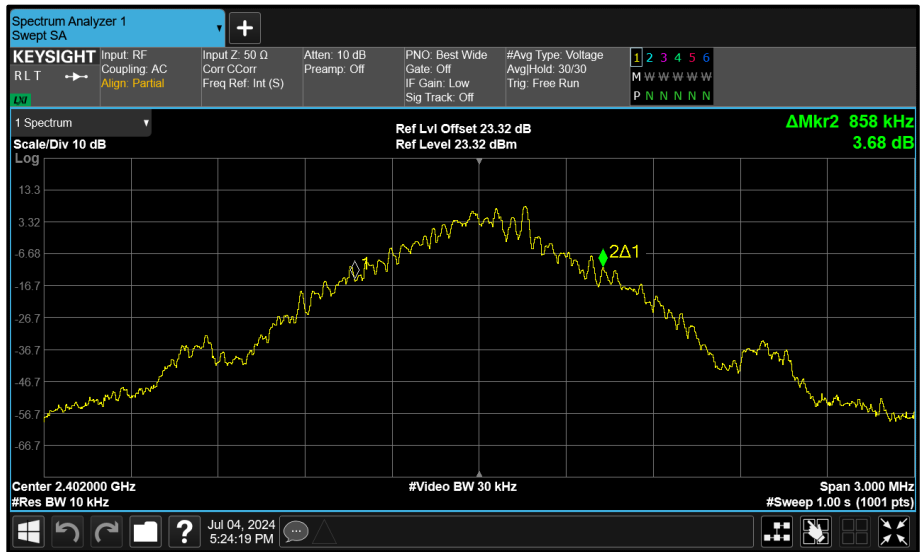


Figure 125 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

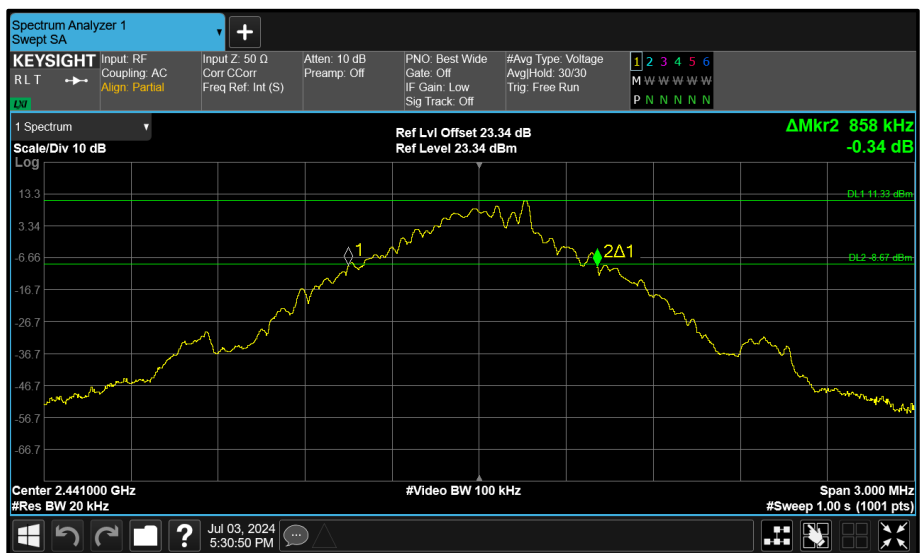


Figure 126 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth



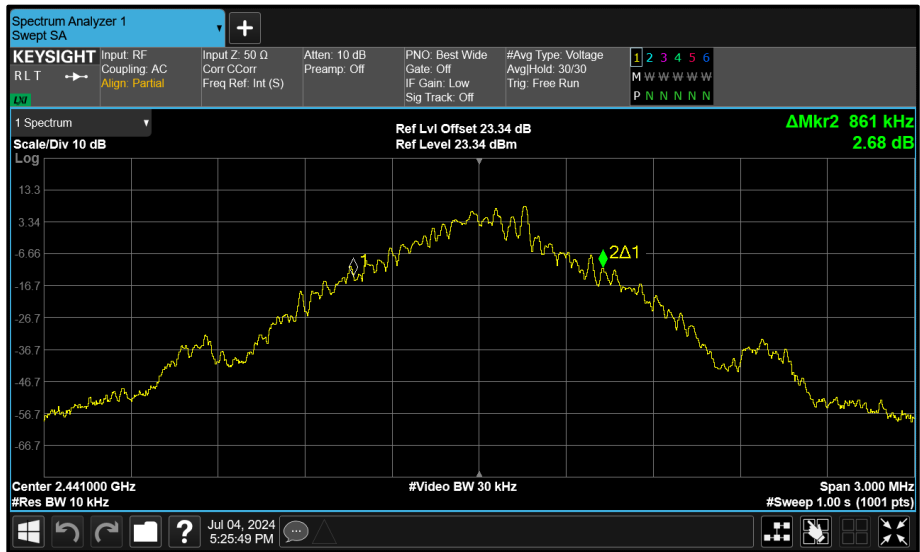


Figure 127 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

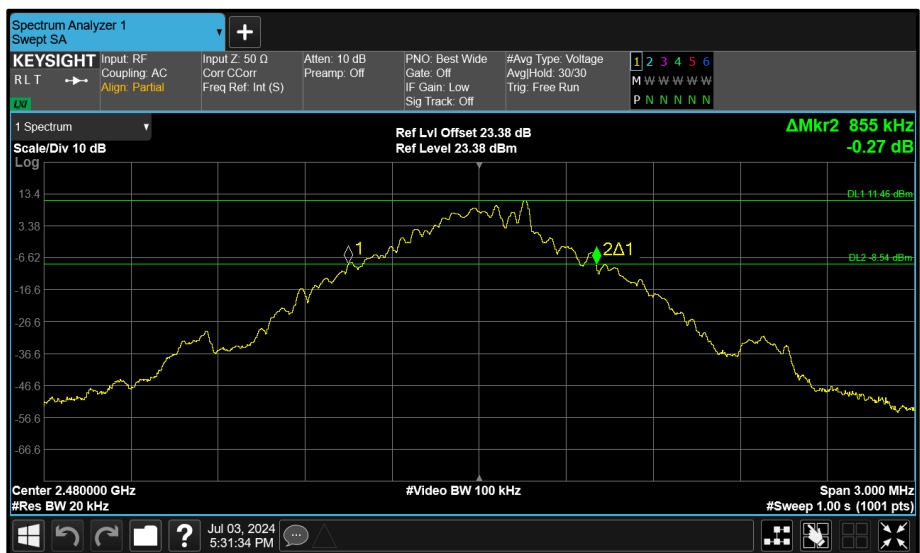


Figure 128 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

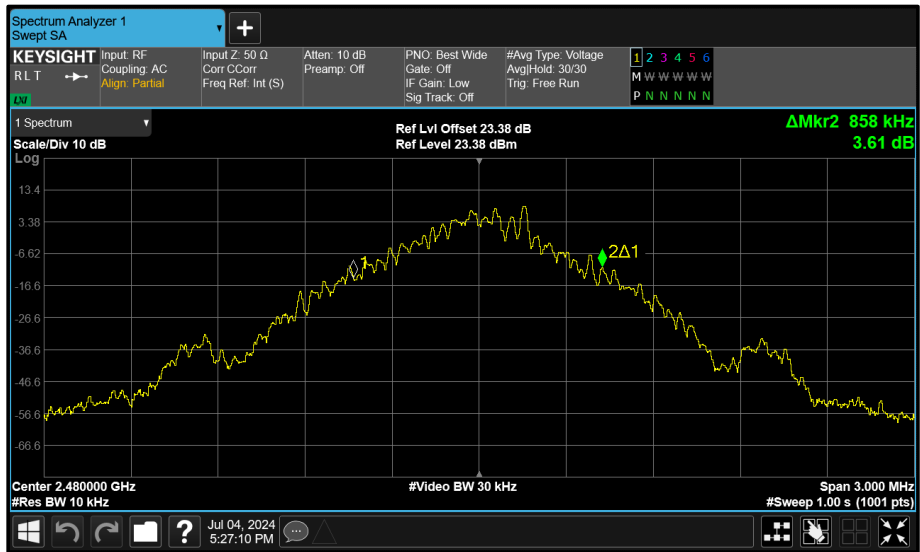


Figure 129 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth



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 C63.10 6.9.3
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):	-

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

Table 79 - 20 dB Bandwidth Results

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

Table 80 - 99% Bandwidth Results

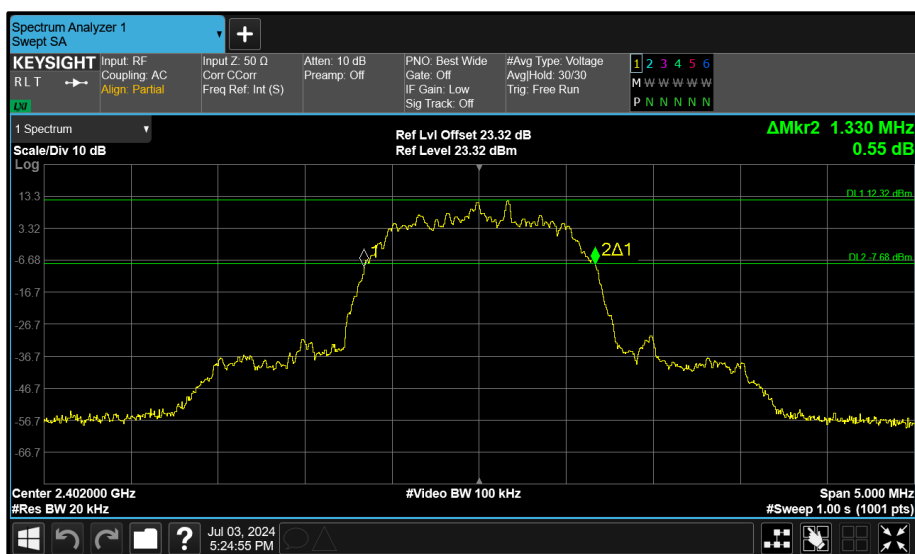


Figure 130 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

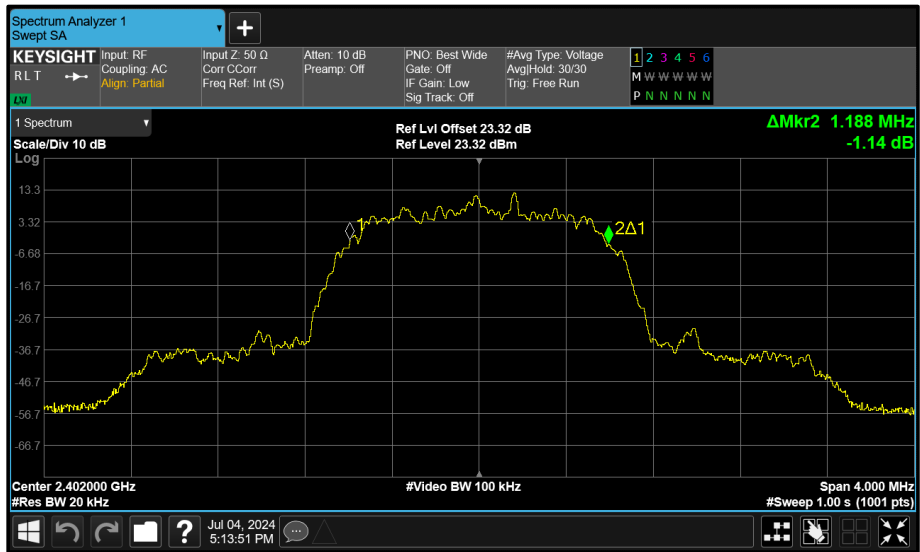


Figure 131 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

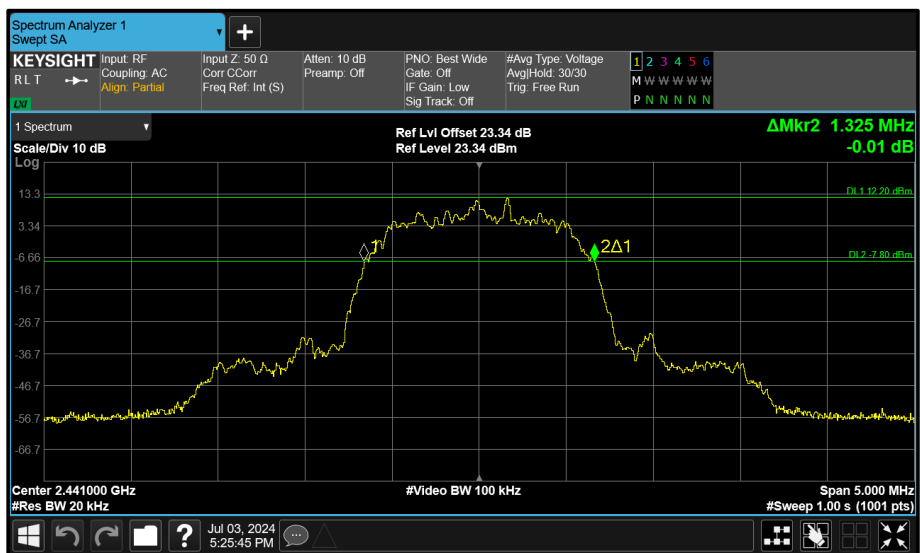


Figure 132 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth



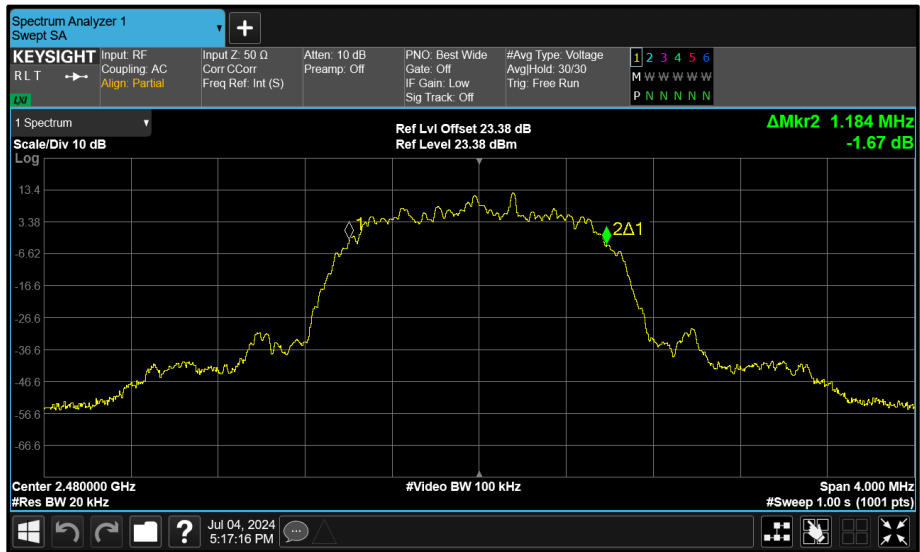


Figure 135 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth



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 C63.10 6.9.3
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):	-

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

Table 81 - 20 dB Bandwidth Results

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

Table 82 - 99% Bandwidth Results

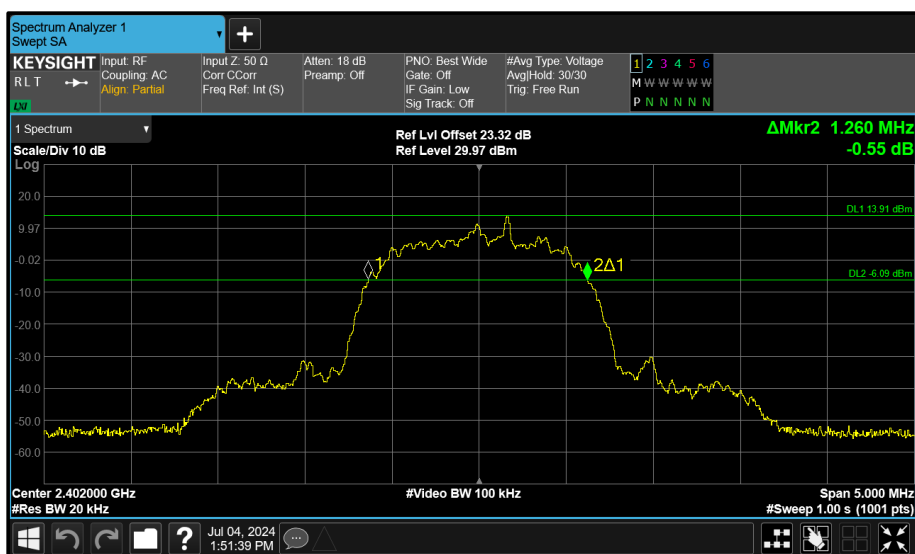


Figure 136 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

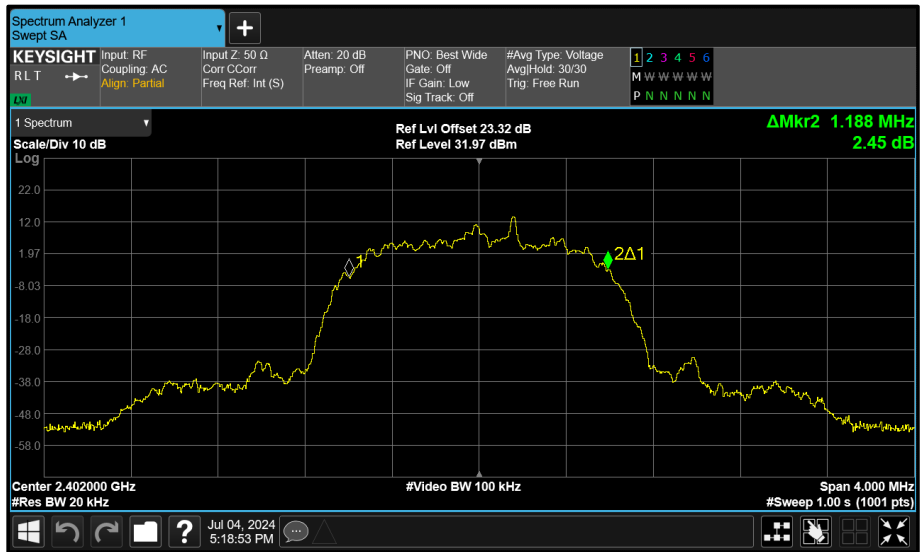


Figure 137 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

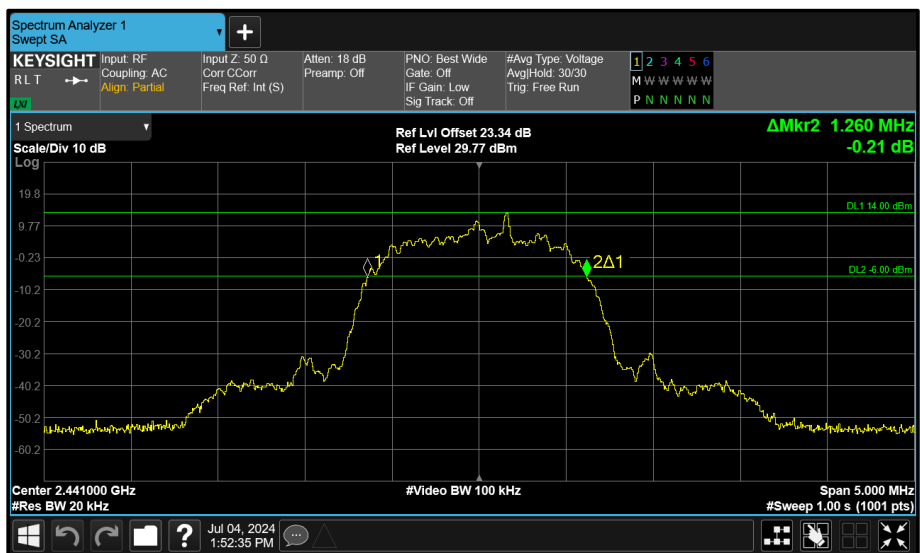


Figure 138 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth



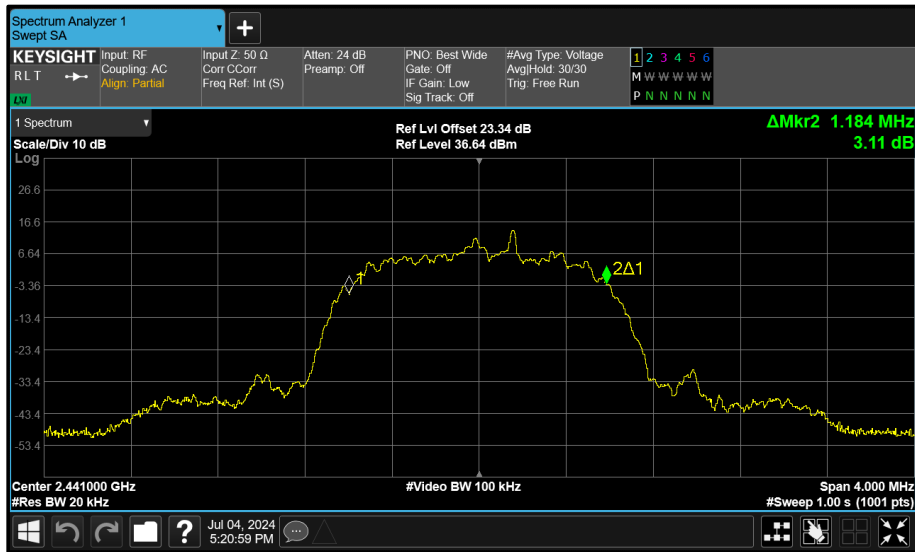


Figure 139 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

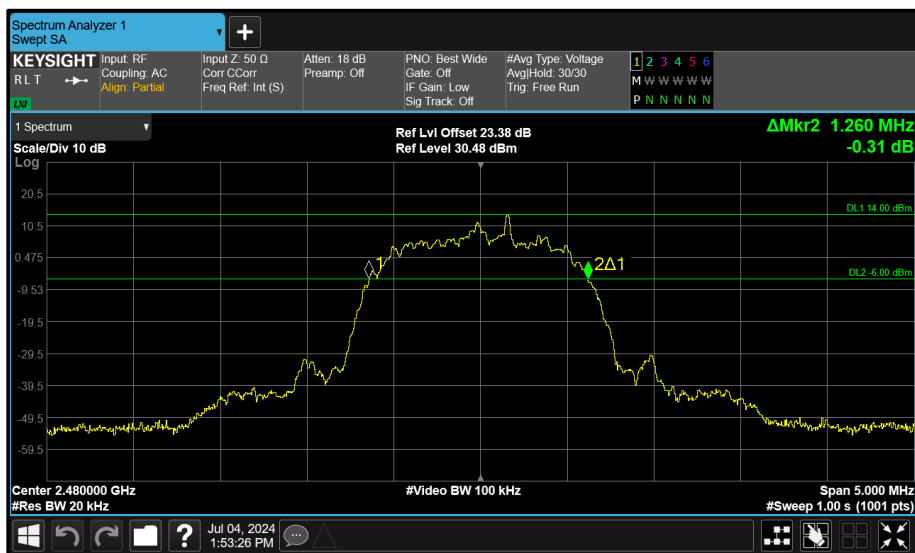


Figure 140 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth



Figure 141 - 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 C63.10 6.9.3
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):	-

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	0.855	0.855	-	-
2441	0.855	0.858	-	-
2480	0.855	0.855	-	-

Table 83 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	0.858	0.864	-	-	-
2441	0.858	0.864	-	-	-
2480	0.861	0.870	-	-	-

Table 84 - 99% Bandwidth Results

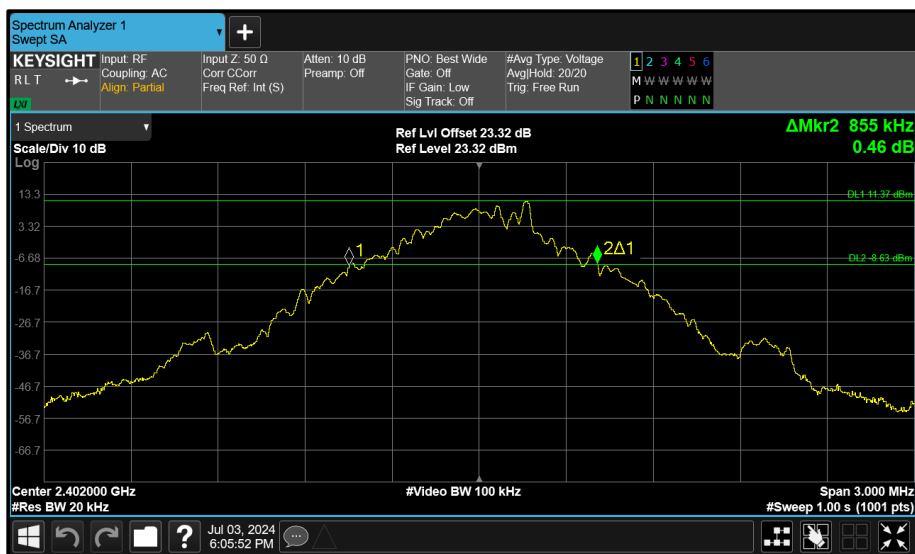


Figure 142 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

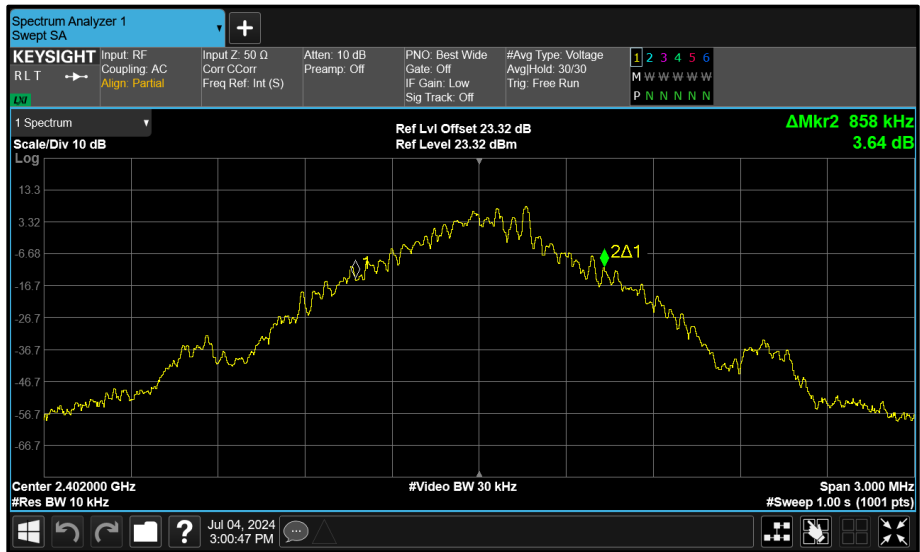


Figure 143 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

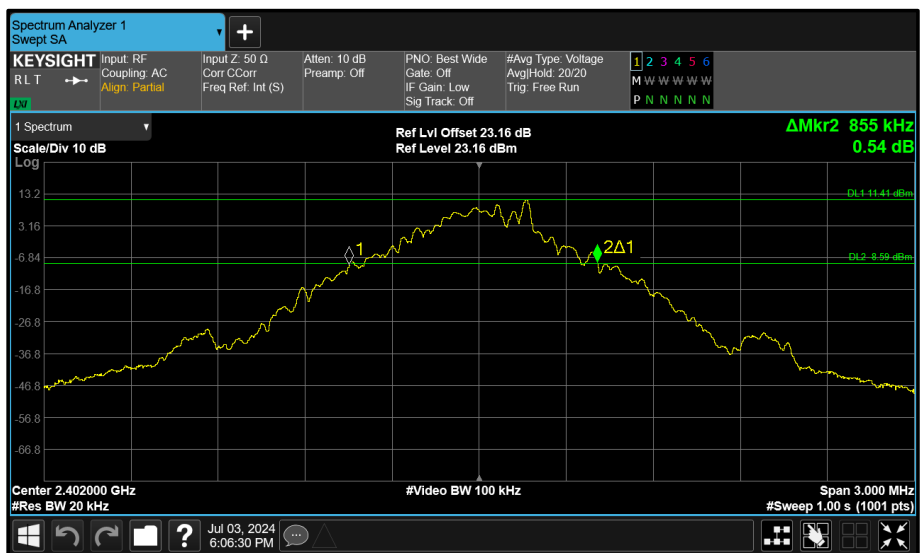


Figure 144 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

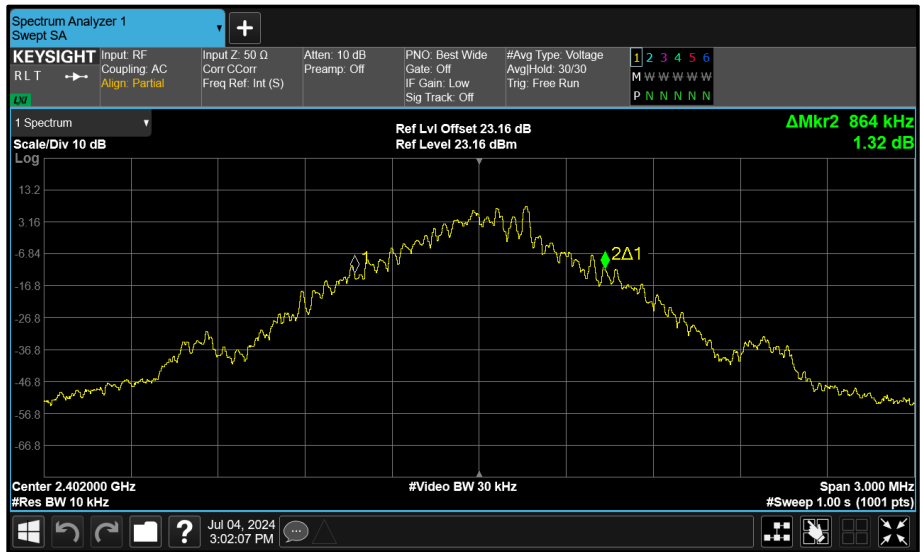


Figure 145 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

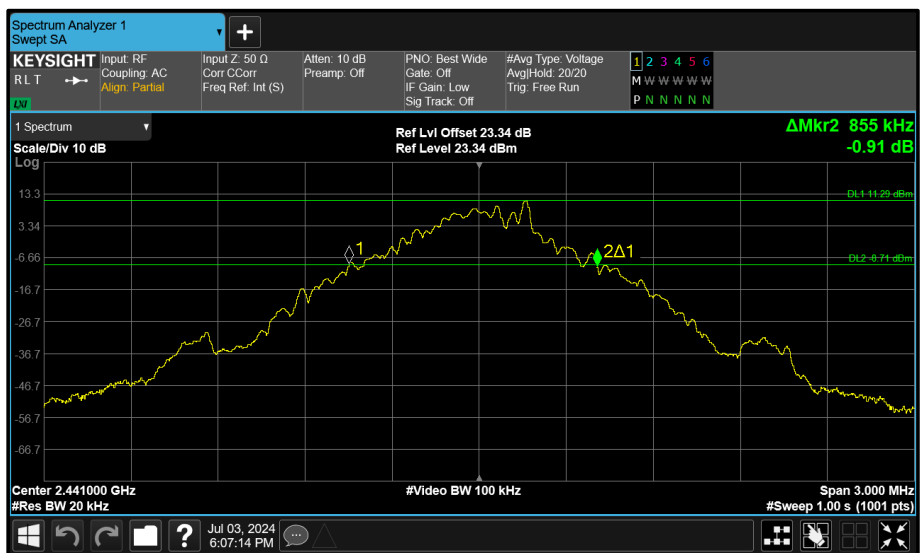


Figure 146 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

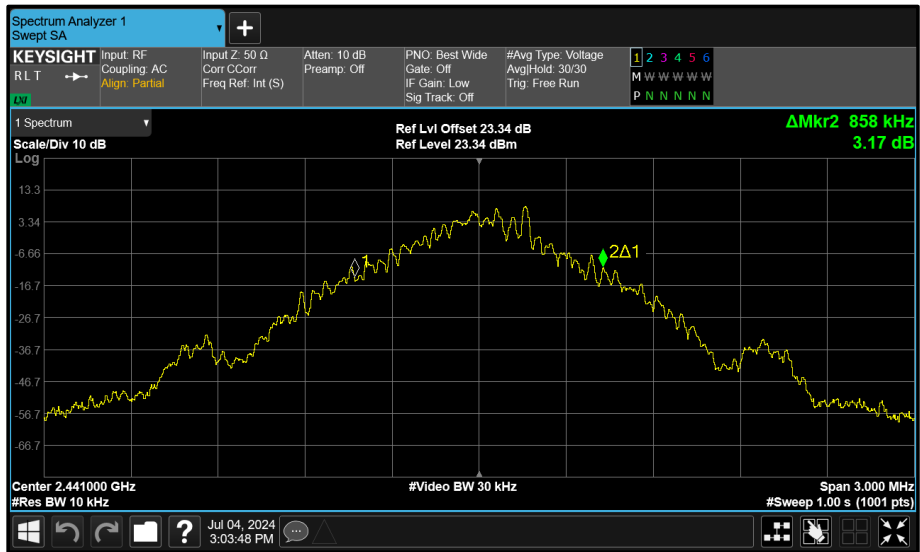


Figure 147 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

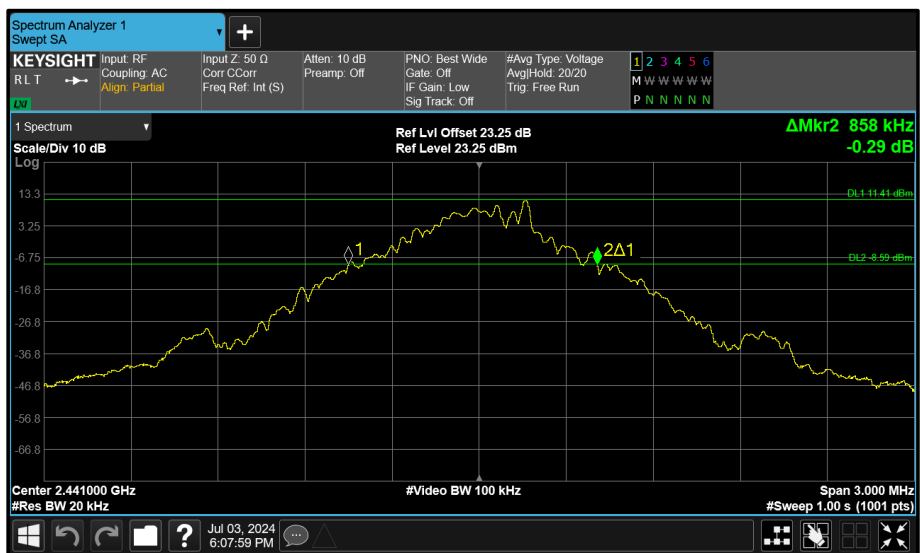


Figure 148 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

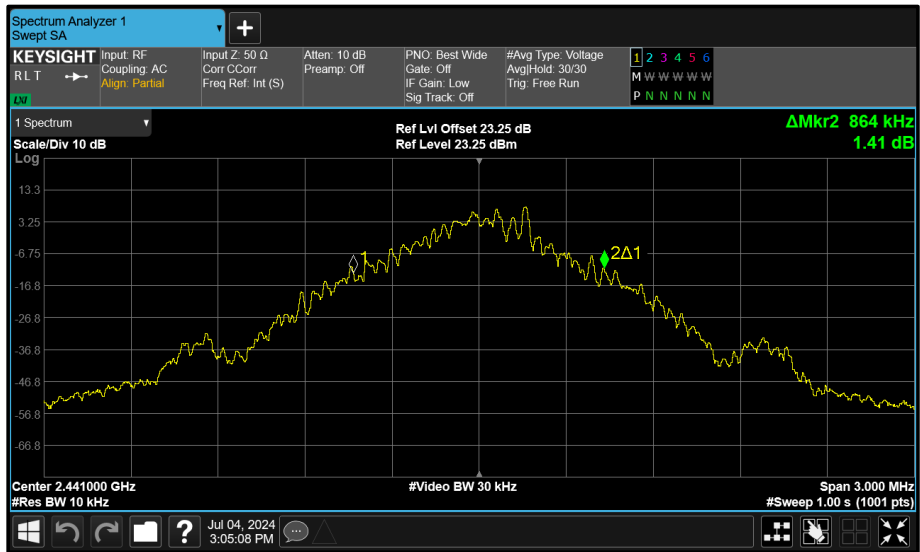


Figure 149 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

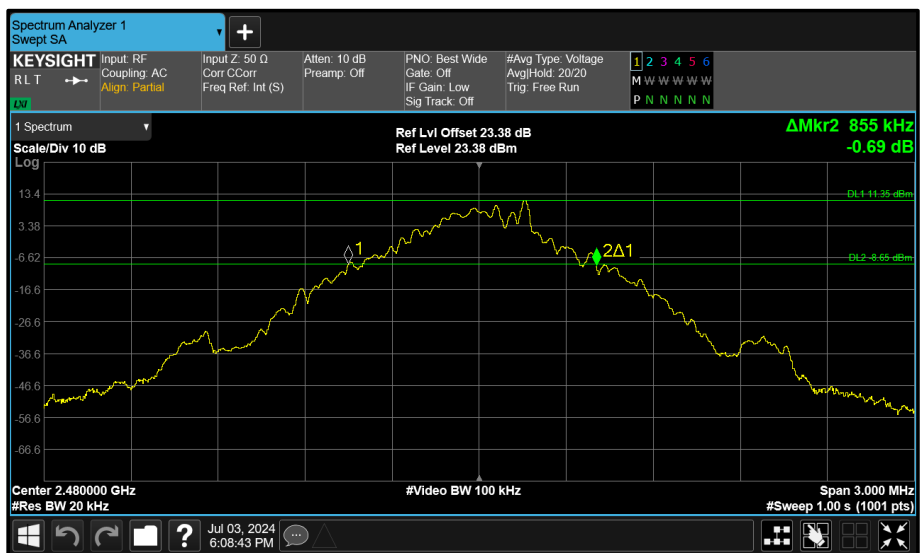


Figure 150 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

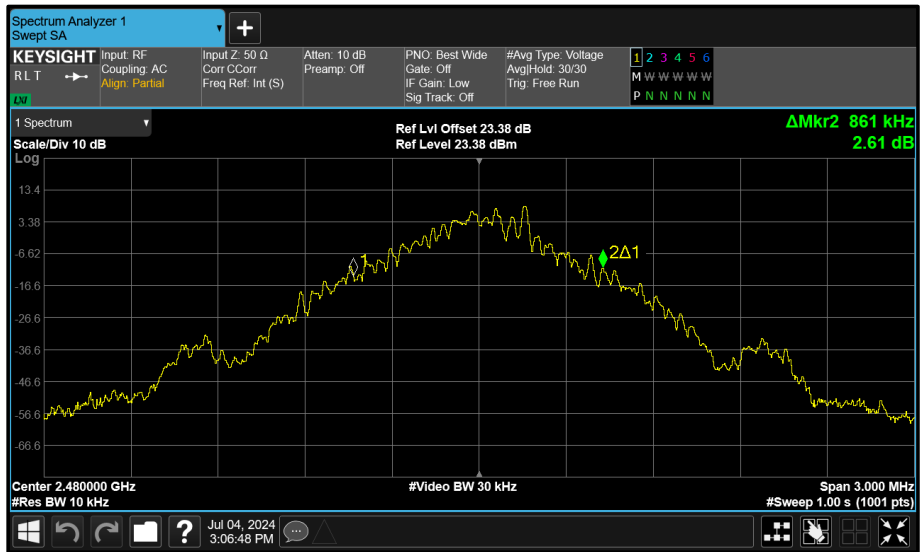


Figure 151 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

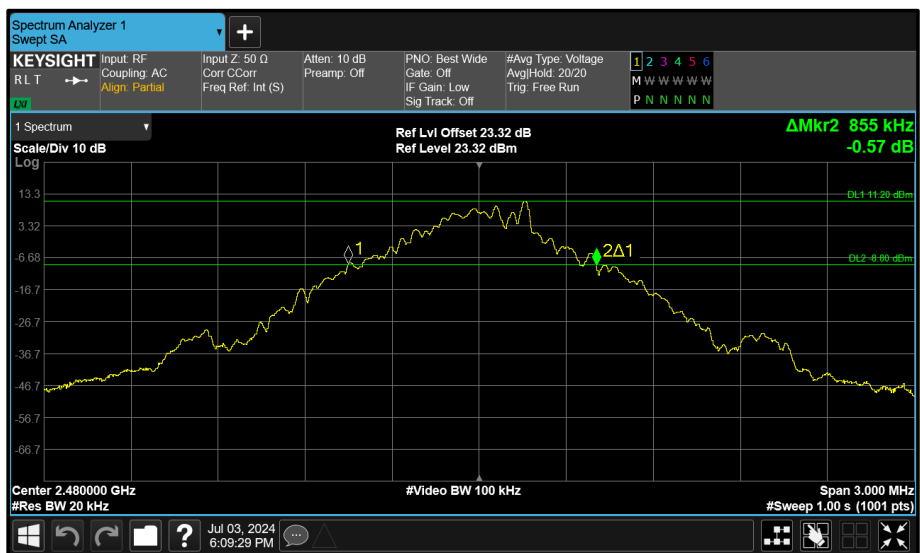


Figure 152 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth



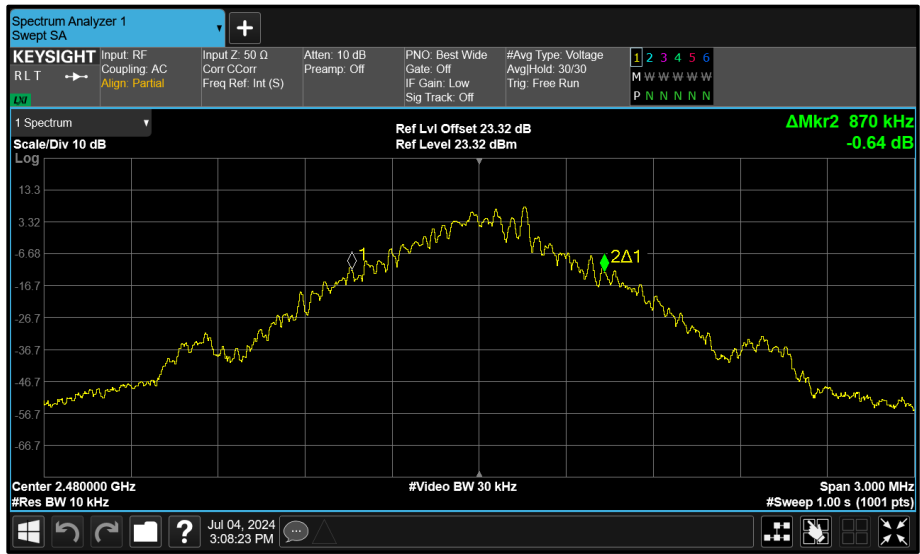


Figure 153 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1) RSS-247 5.1	Test Method(s):	C63.10 6.9.2 C63.10 6.9.3
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):	-

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

Table 85 - 20 dB Bandwidth Results

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

Table 86 - 99% Bandwidth Results

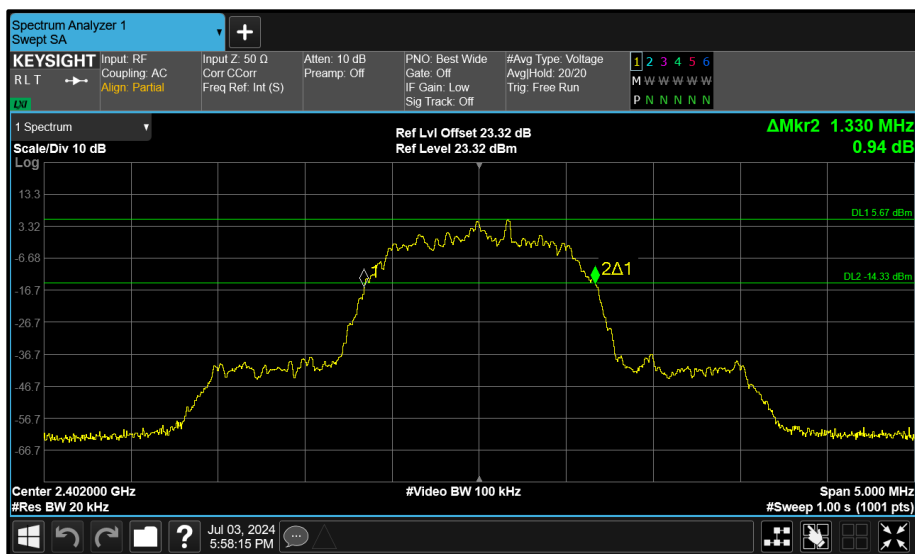


Figure 154 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

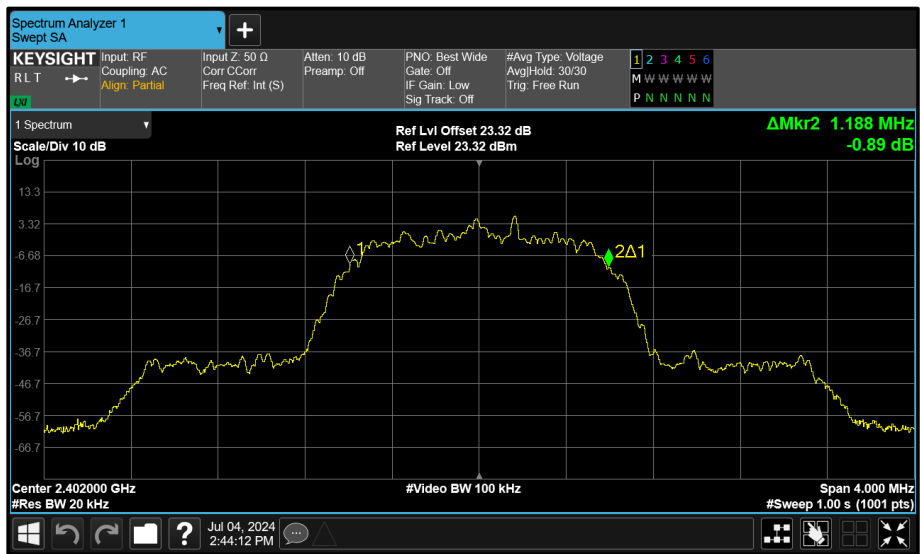


Figure 155 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

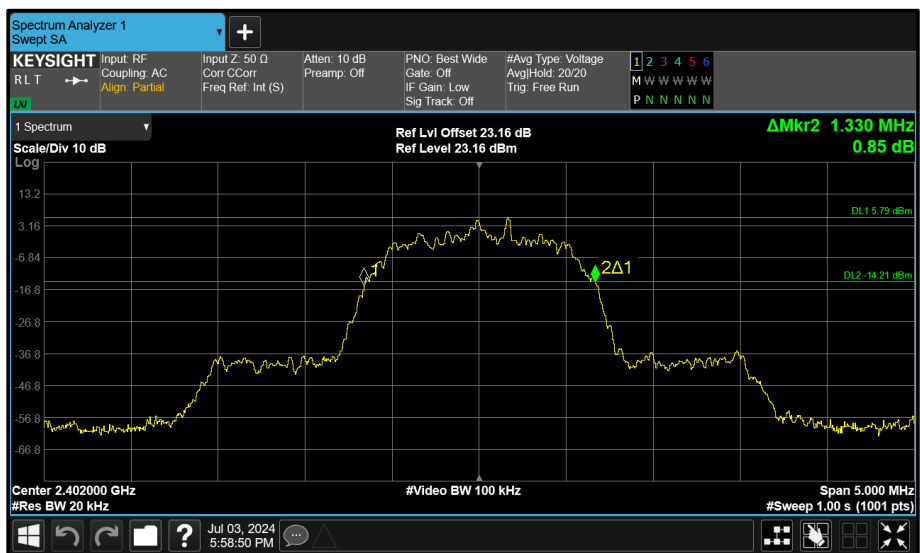


Figure 156 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

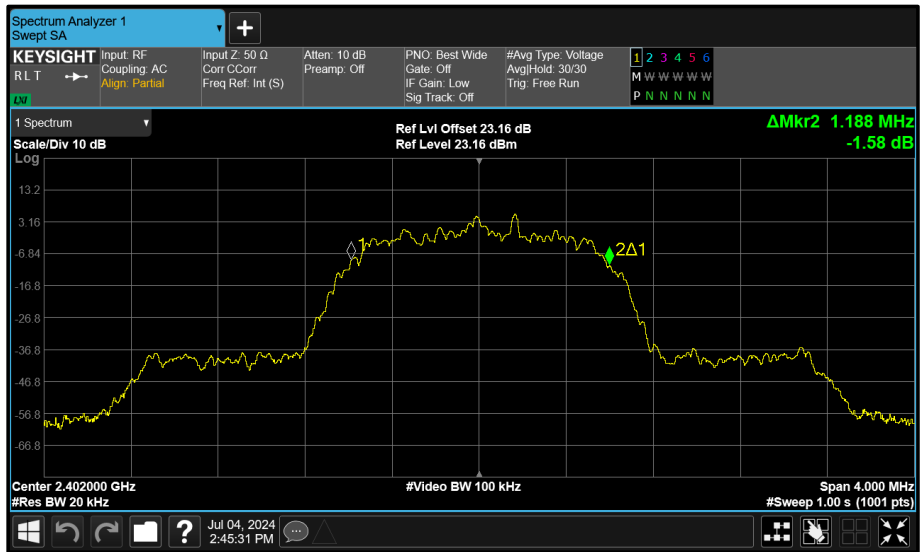


Figure 157 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

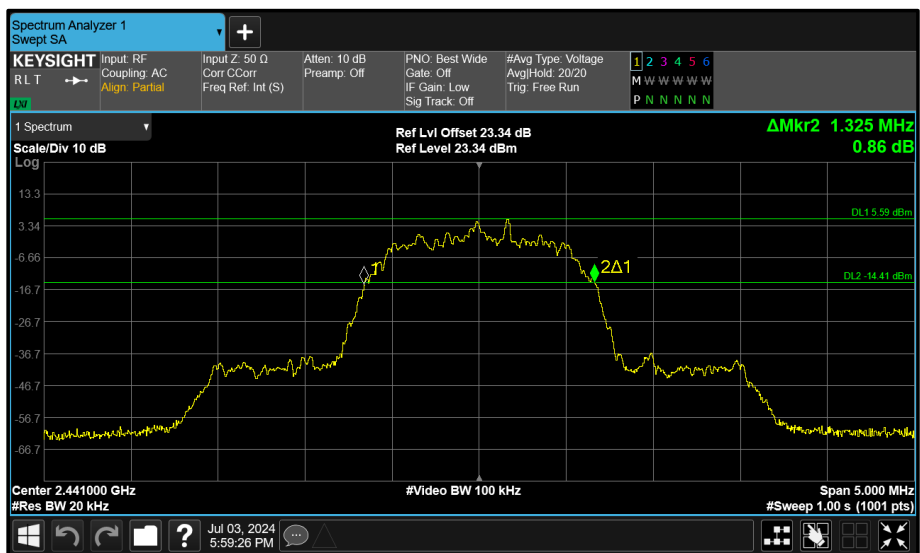


Figure 158 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth