



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 6.9.3 C63.10 6.9.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA 8-DPSK (3-DH5)	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	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 52 - 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 53 - 99% Bandwidth Results

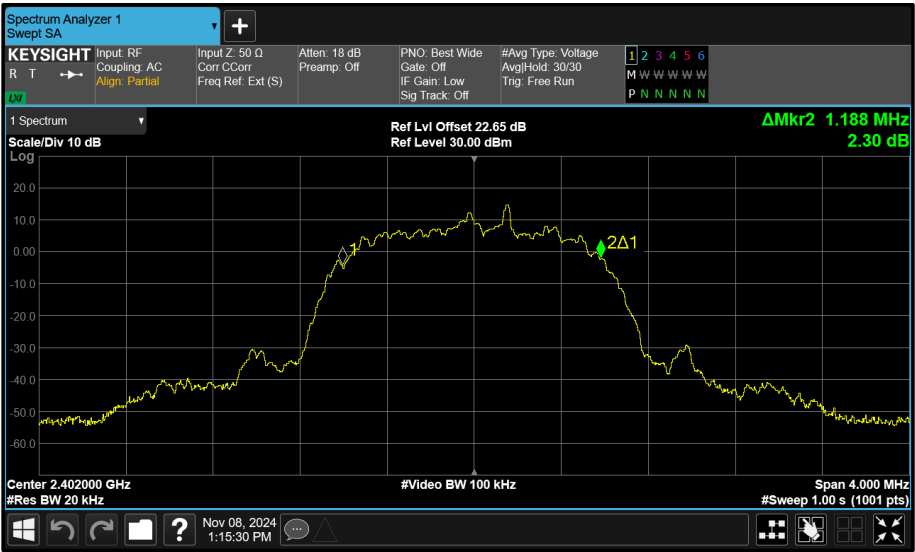


Figure 67 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

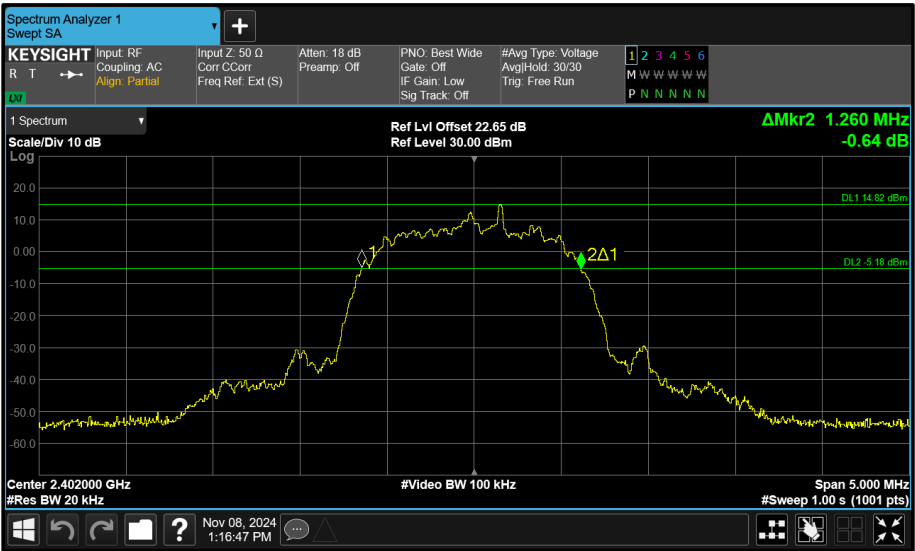


Figure 68 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

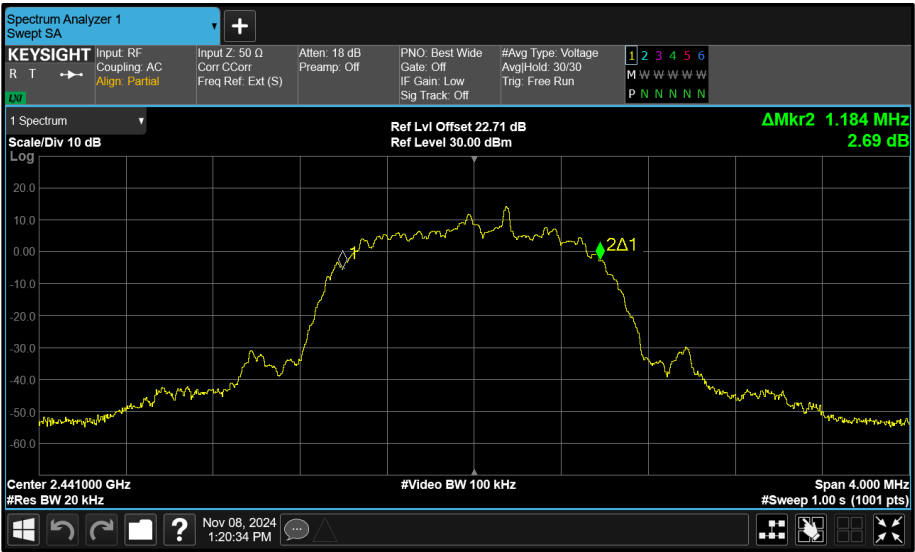


Figure 69 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

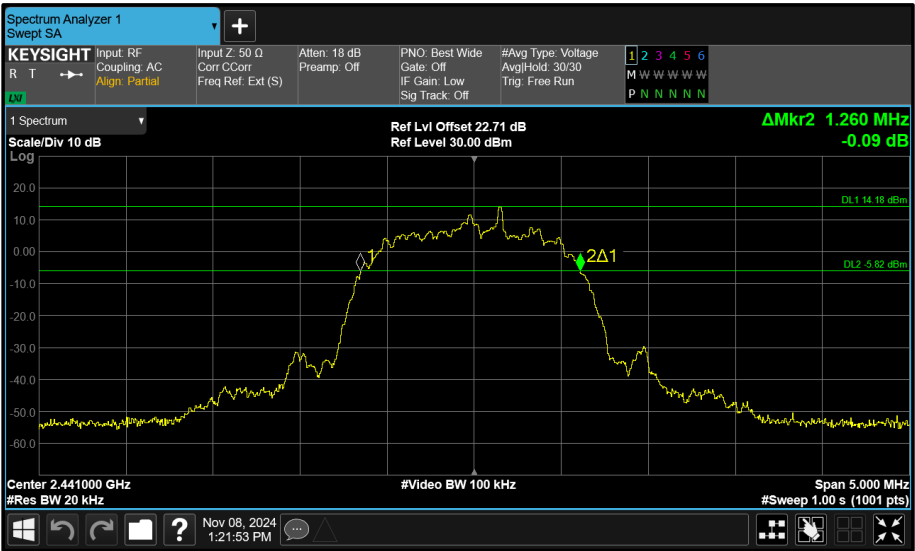


Figure 70 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

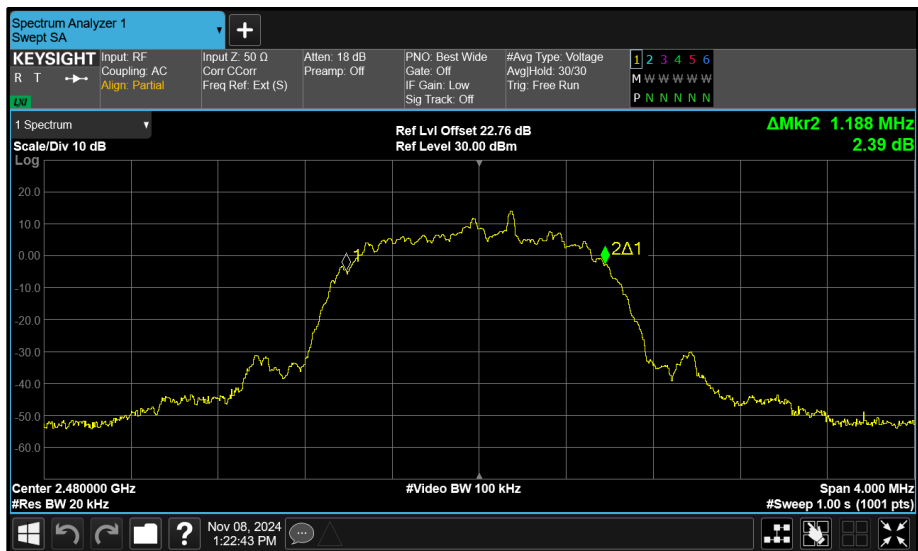


Figure 71 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

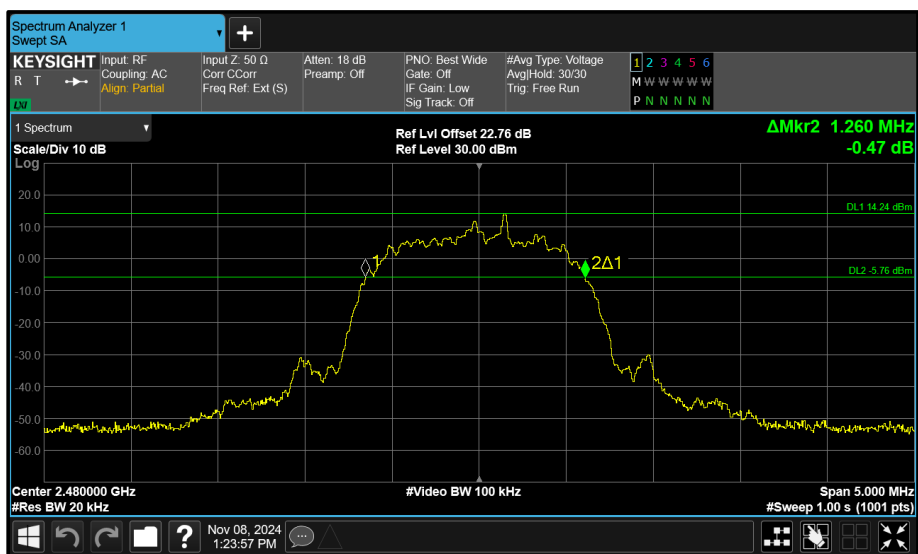


Figure 72 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth



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 6.9.3 C63.10 6.9.2
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)			
	A	B	C	D
2402	1.330	1.325	-	-
2441	1.325	1.330	-	-
2480	1.330	1.325	-	-

Table 54 - 20 dB Bandwidth Results

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

Table 55 - 99% Bandwidth Results

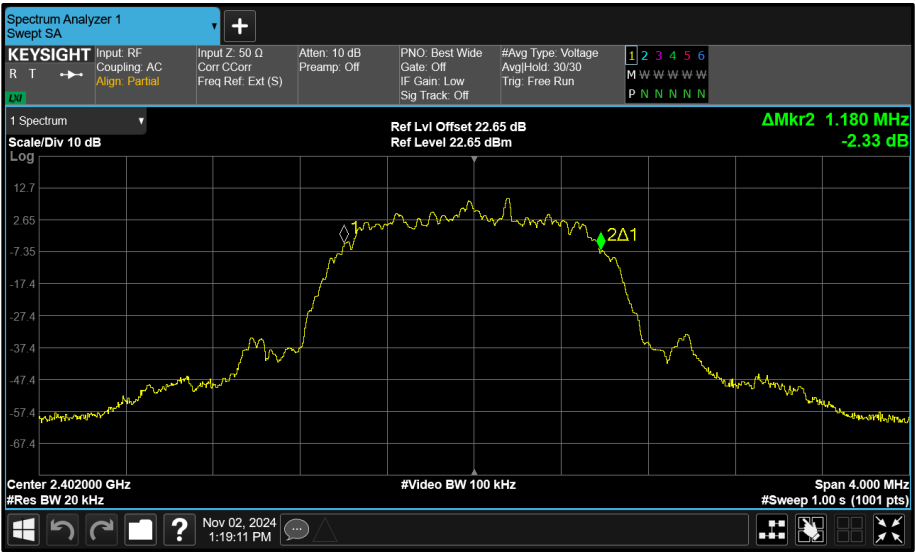


Figure 73 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

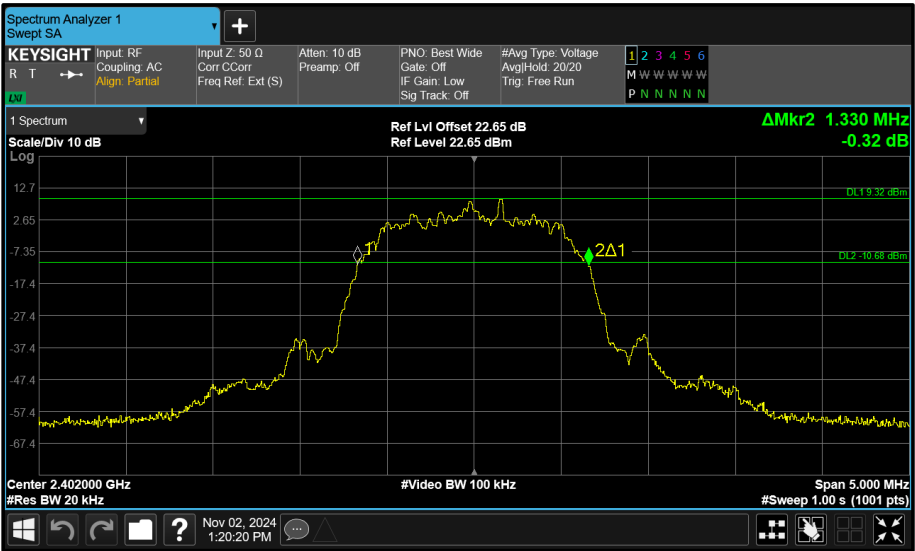


Figure 74 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

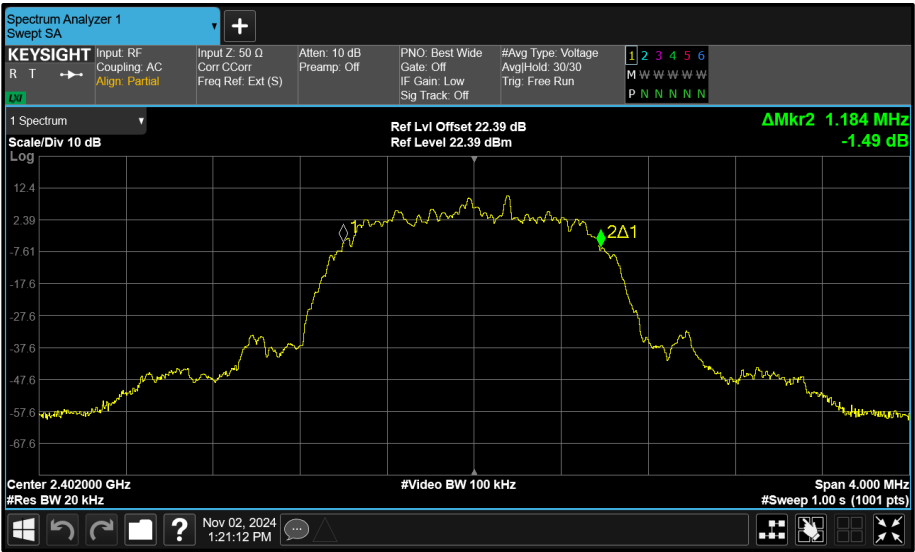


Figure 75 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

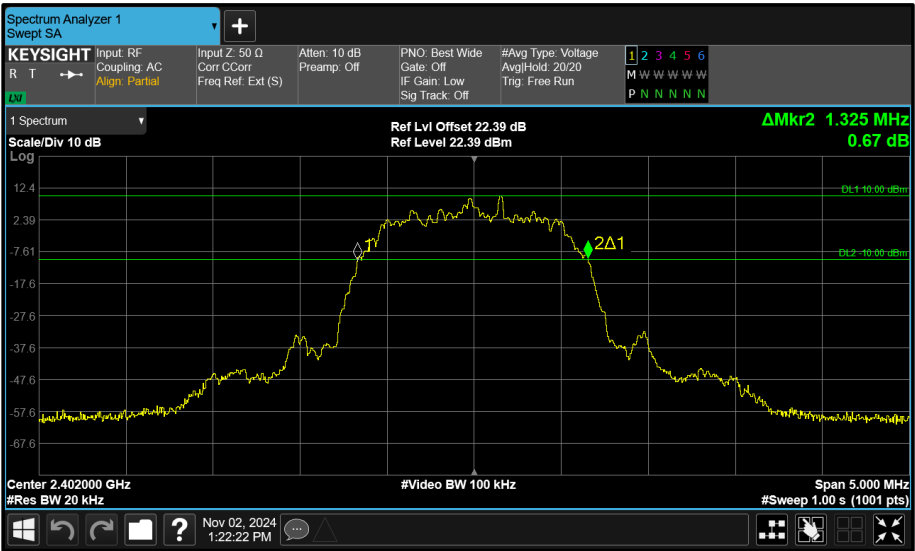


Figure 76 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

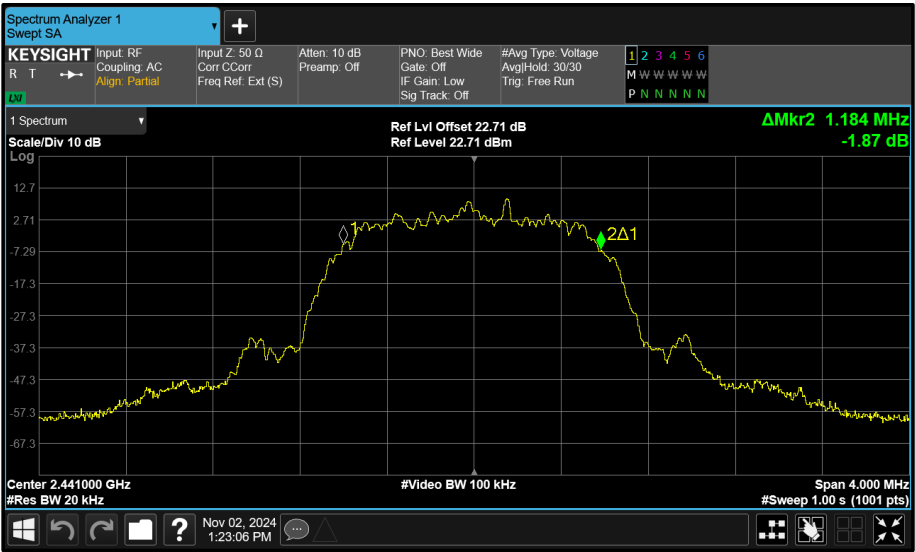


Figure 77 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

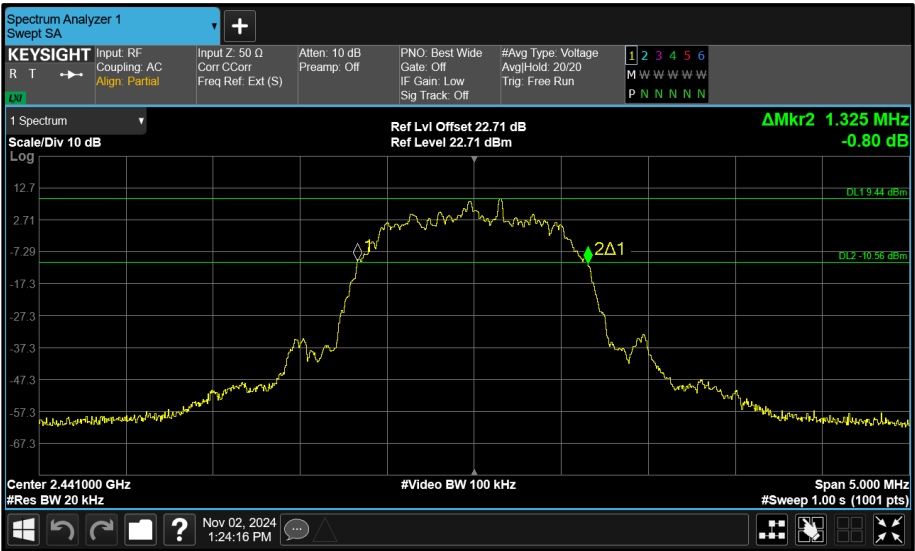


Figure 78 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

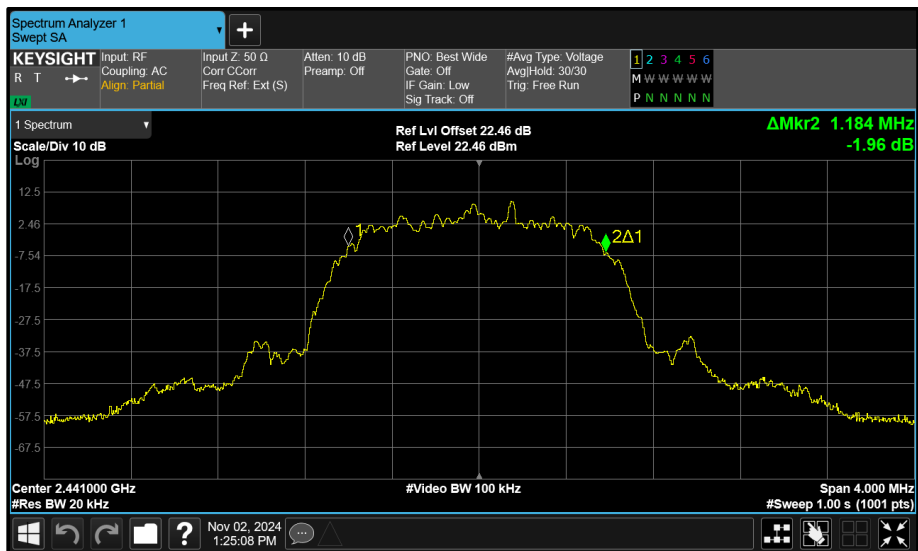


Figure 79 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

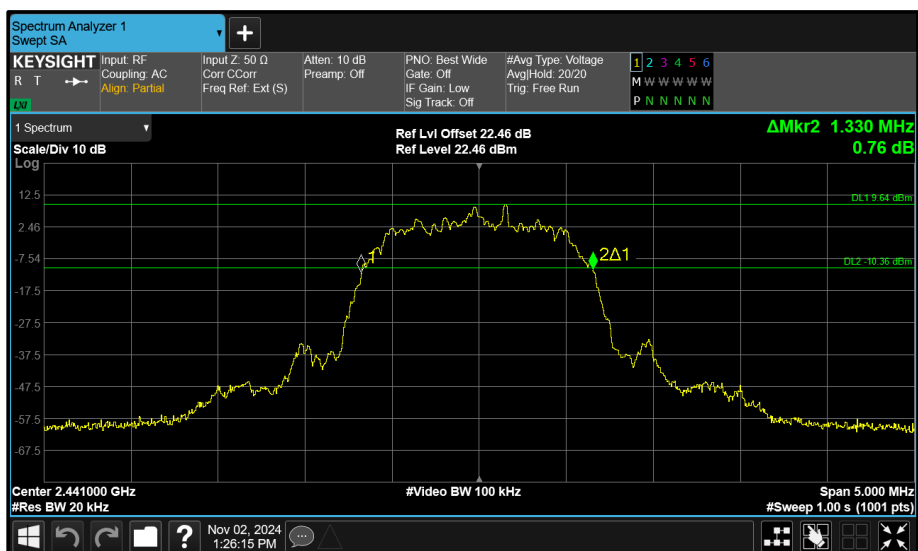


Figure 80 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

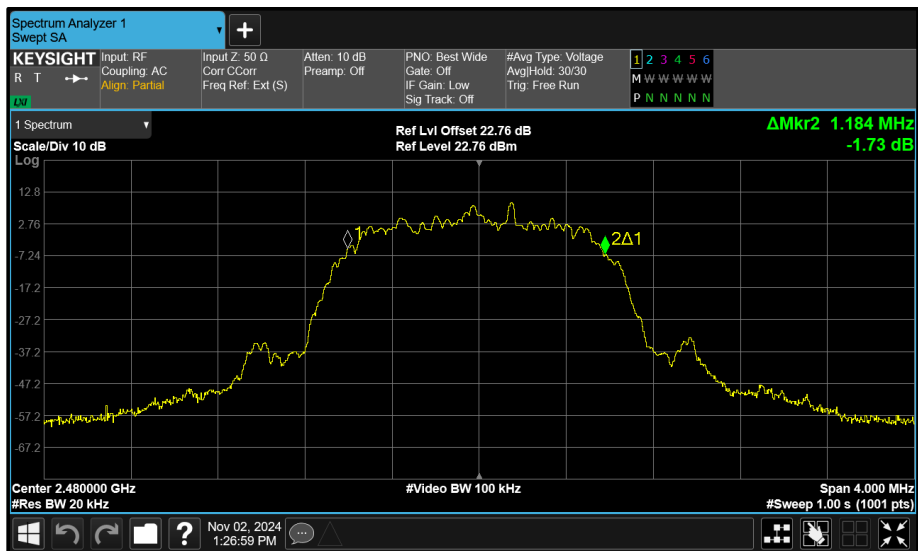


Figure 81 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

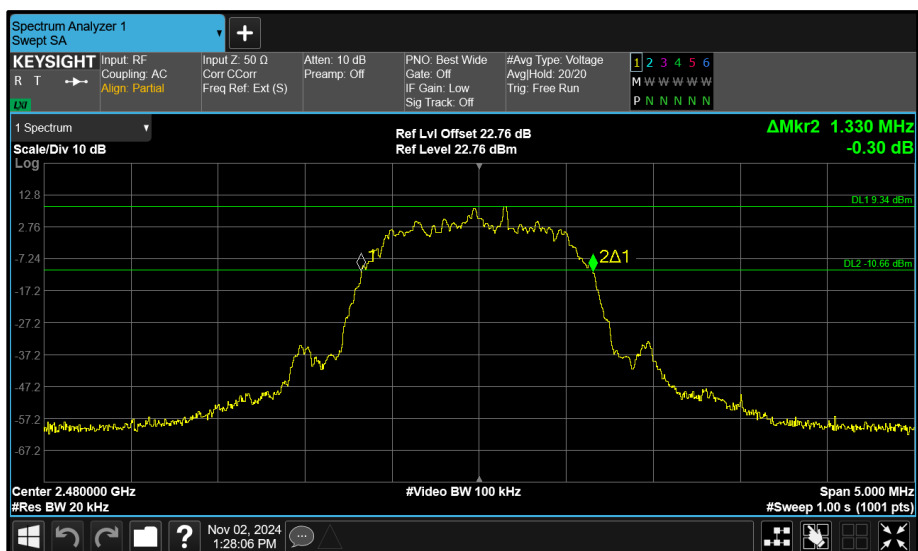


Figure 82 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

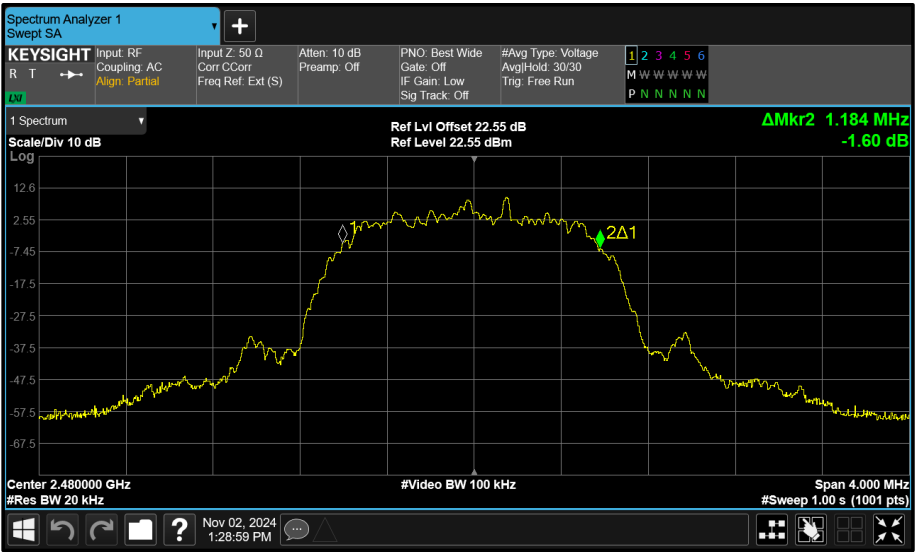


Figure 83 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

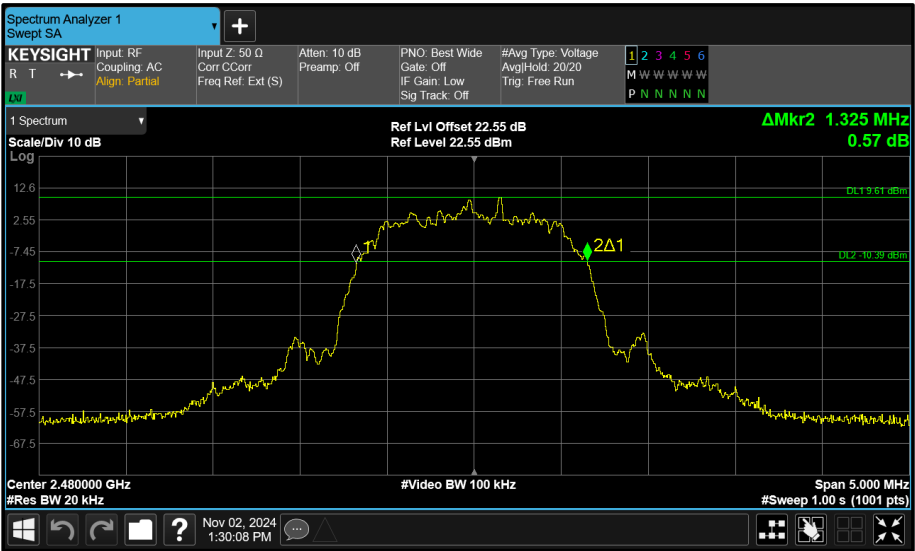


Figure 84 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth



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 6.9.3 C63.10 6.9.2
Additional Reference(s):	-		

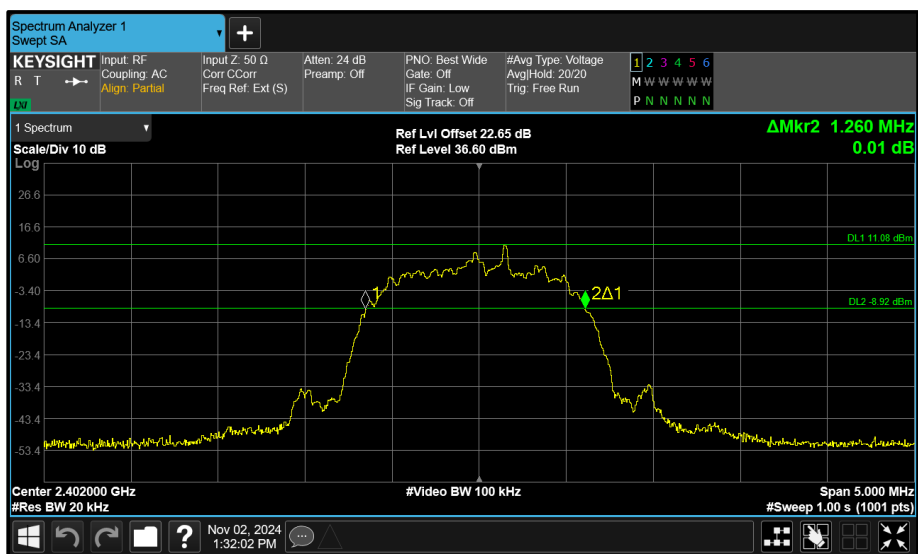
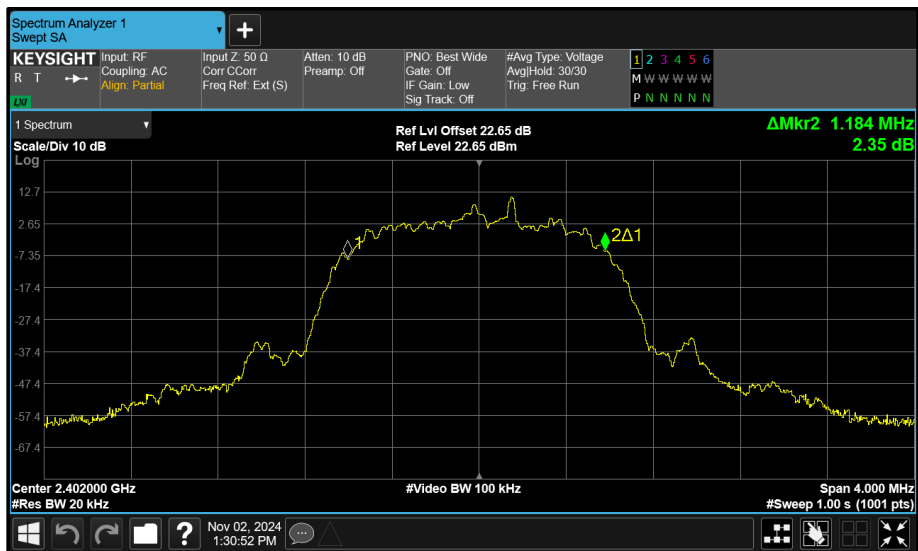
DUT Configuration			
Mode:	ePA 8-DPSK (3-DH5)	Duty Cycle (%):	-
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (Core 0 + Core 1)	Peak Antenna Gain (dBi):	-

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

Table 56 - 20 dB Bandwidth Results

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

Table 57 - 99% Bandwidth Results



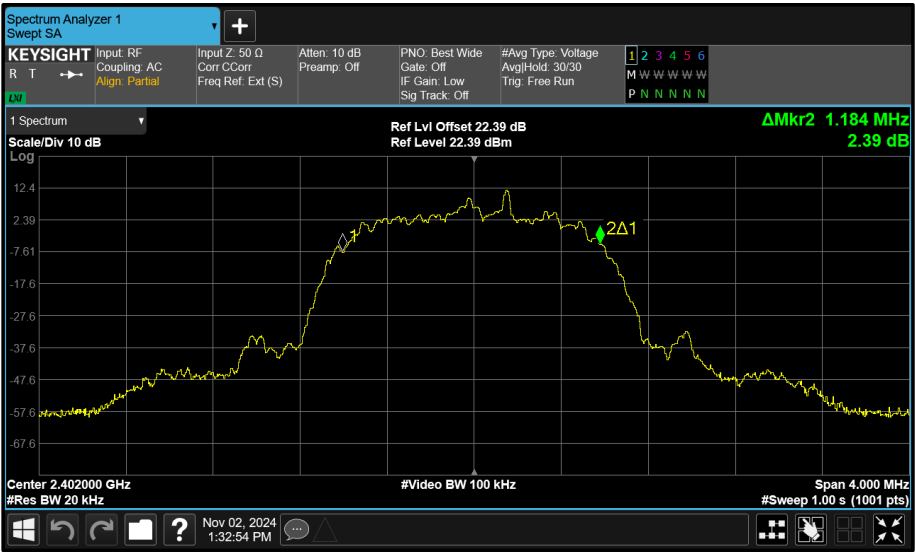


Figure 87 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

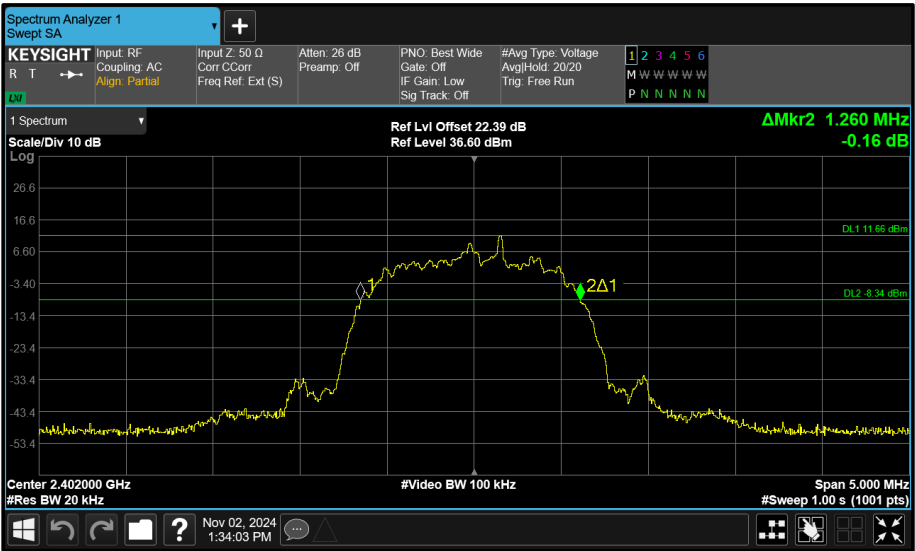


Figure 88 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

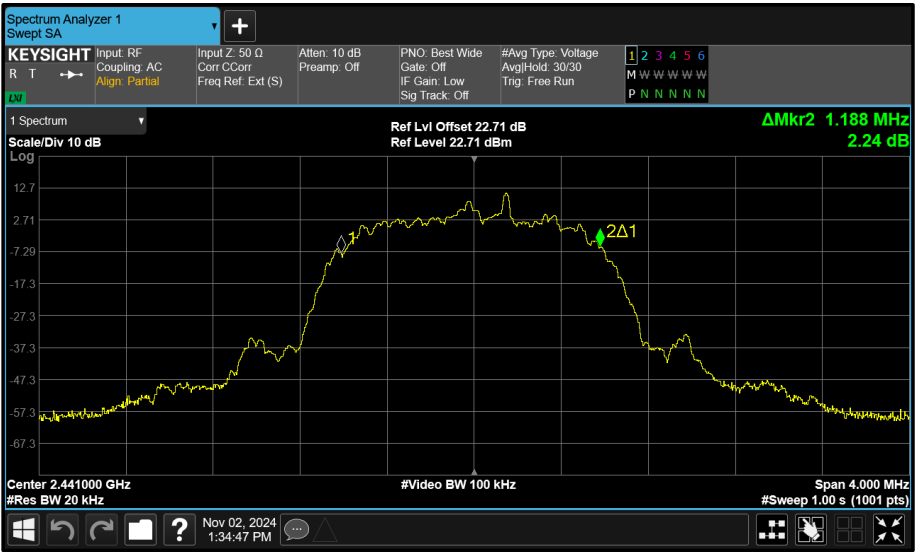


Figure 89 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

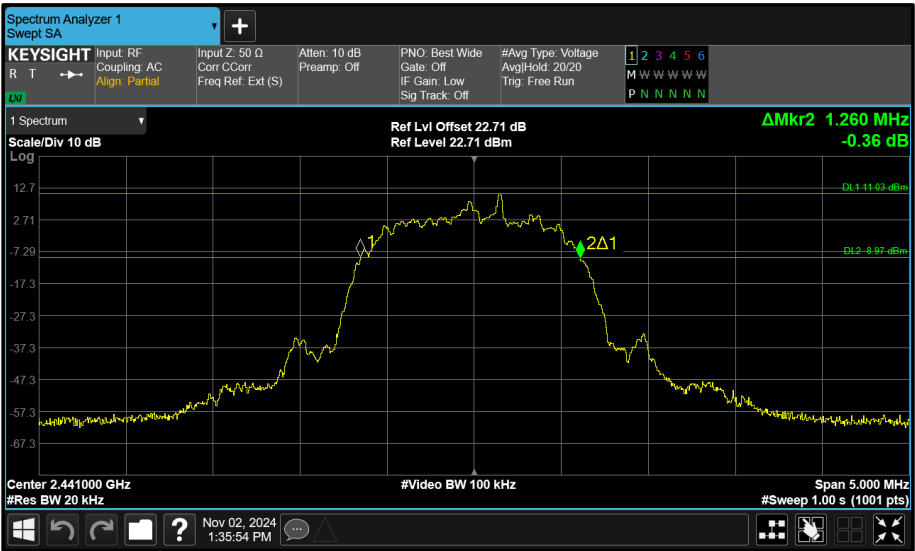


Figure 90 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

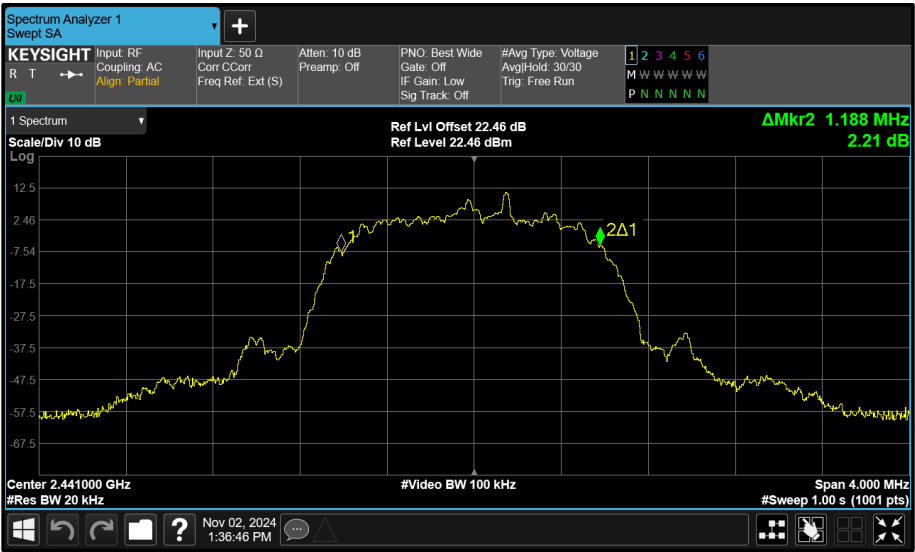


Figure 91 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

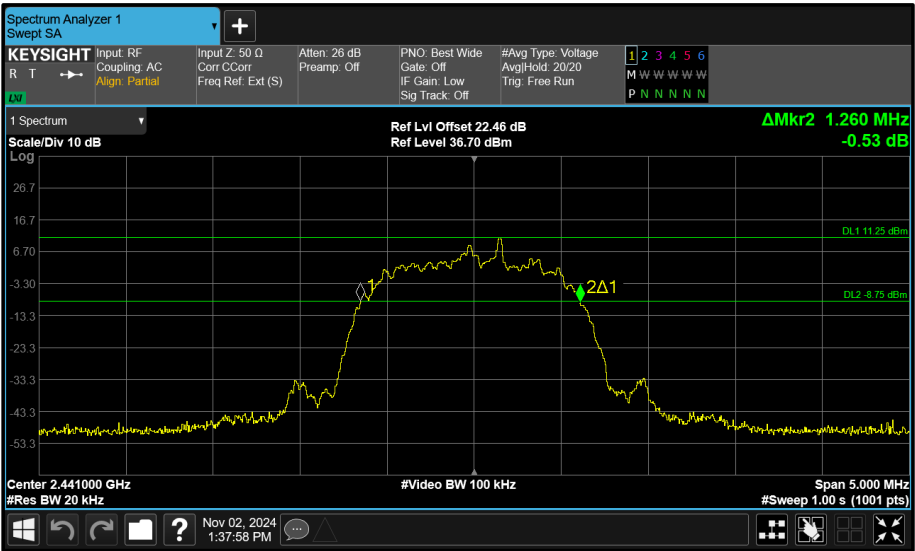


Figure 92 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

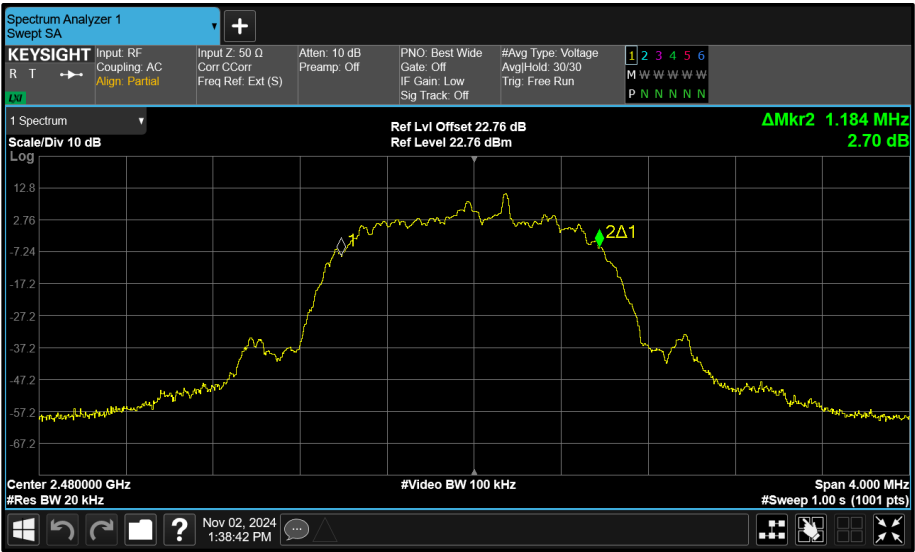


Figure 93 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

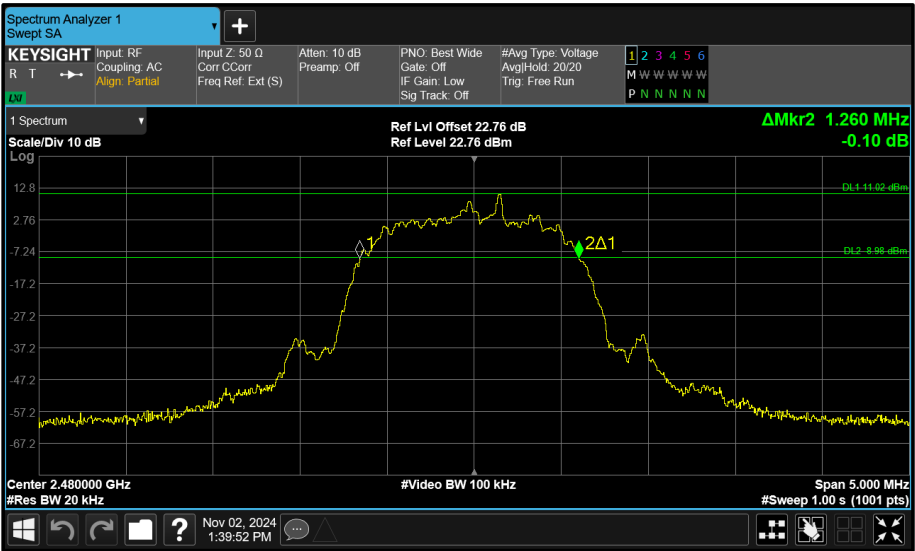


Figure 94 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

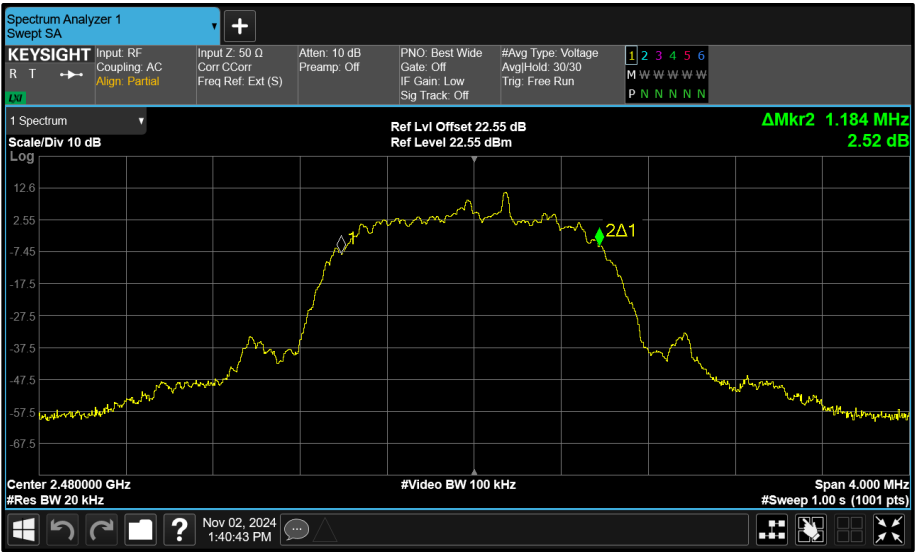


Figure 95 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

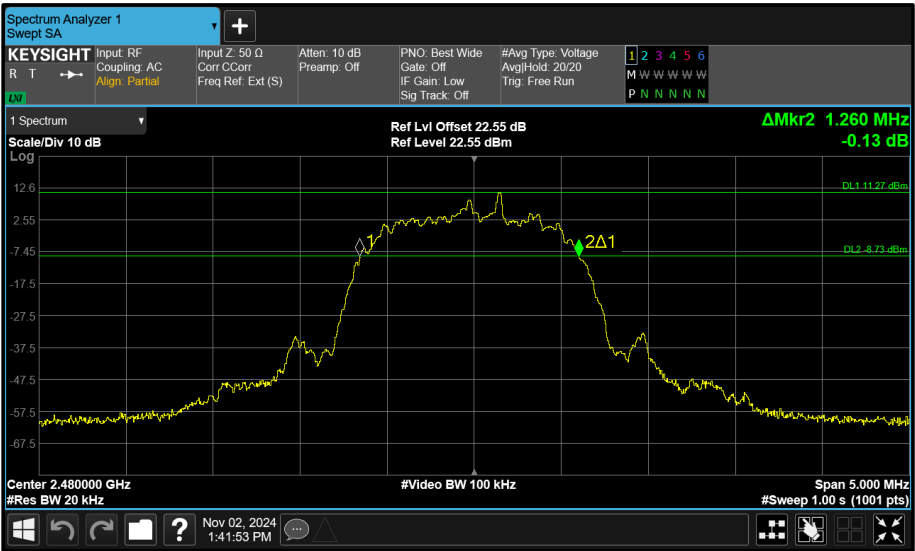


Figure 96 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth



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 6.9.3 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 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

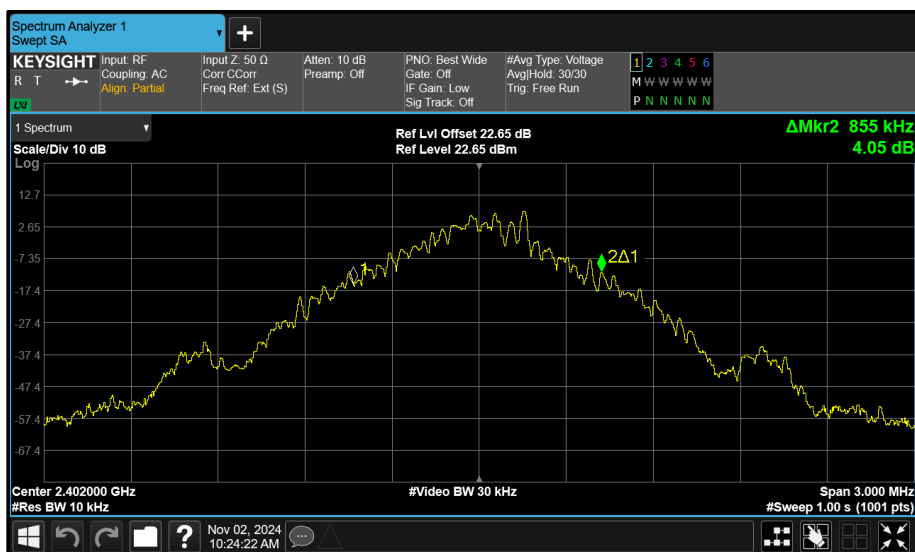


Figure 97 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

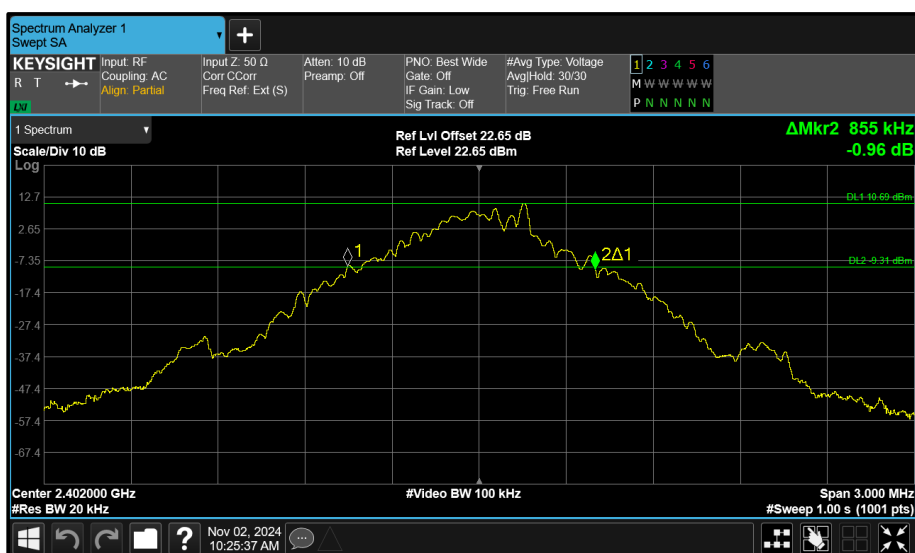


Figure 98 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

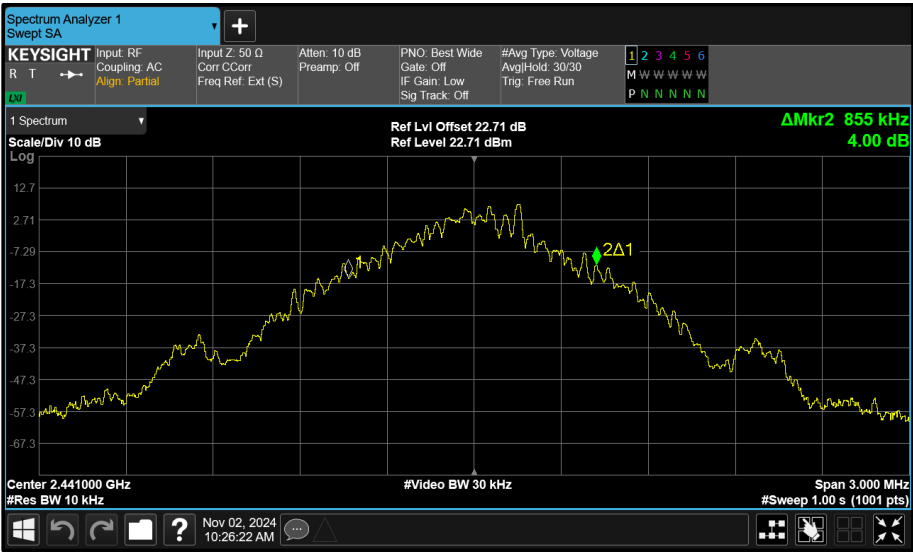


Figure 99 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

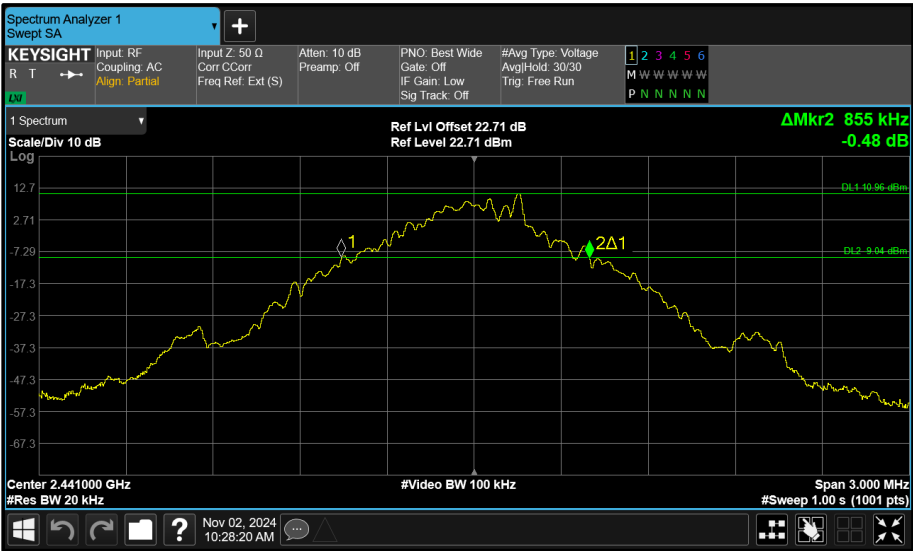


Figure 100 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

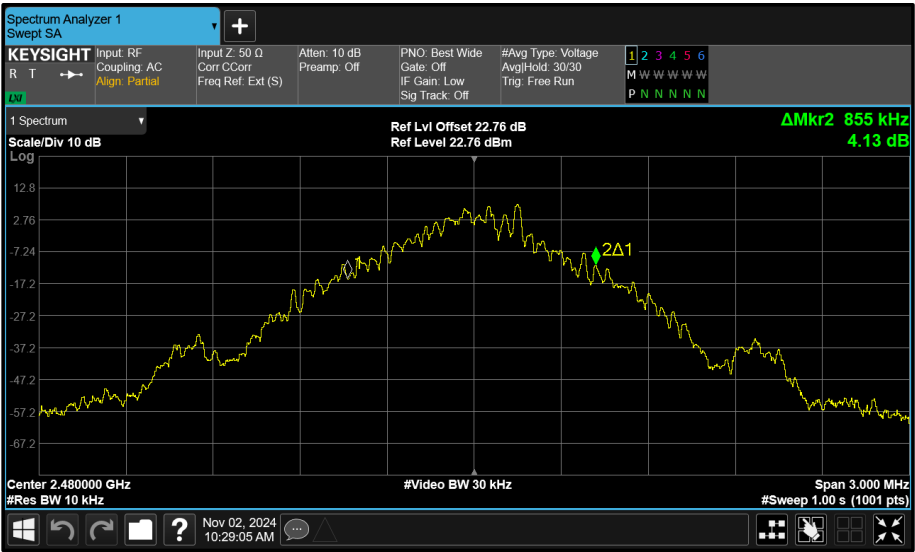


Figure 101 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

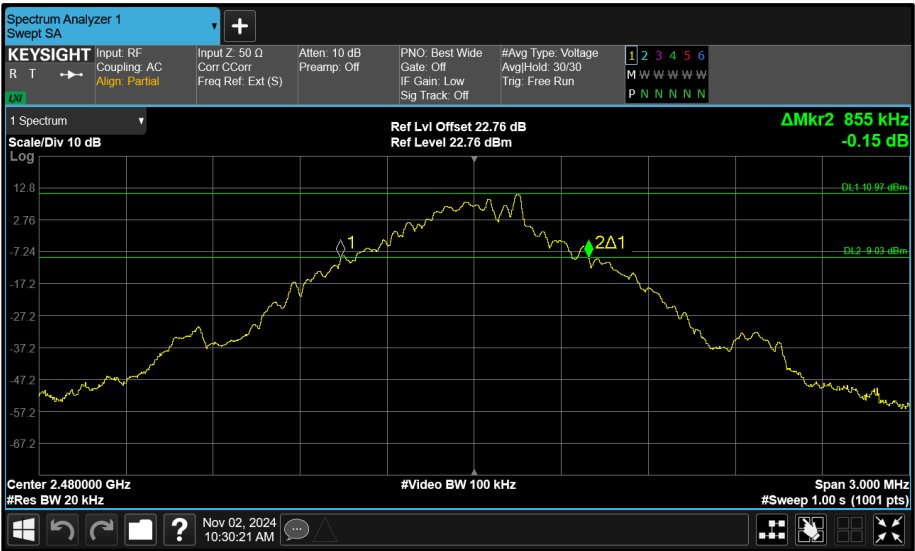


Figure 102 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth



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 6.9.3 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	0.858	0.855	-	-
2441	0.855	0.855	-	-
2480	0.855	0.855	-	-

Table 60 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	0.856	0.858	-	-	-
2441	0.855	0.861	-	-	-
2480	0.855	0.861	-	-	-

Table 61 - 99% Bandwidth Results

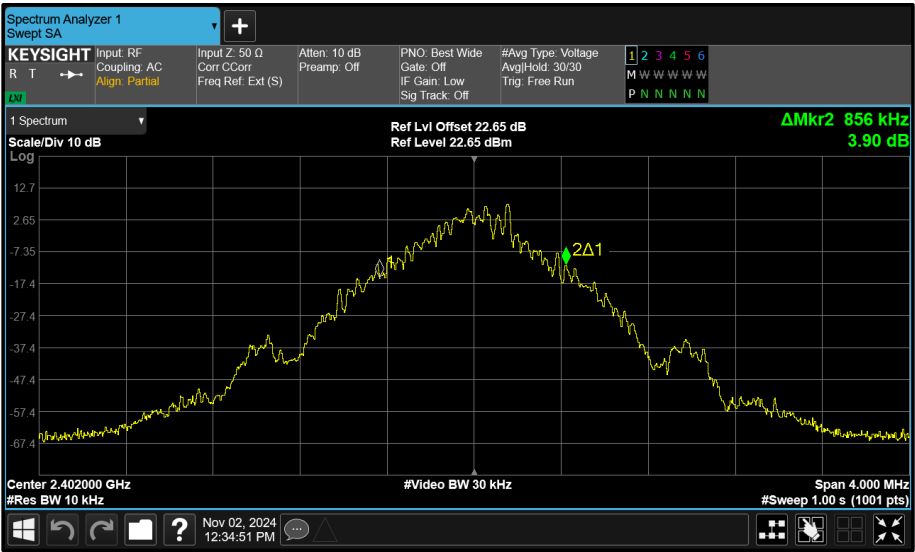


Figure 103 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

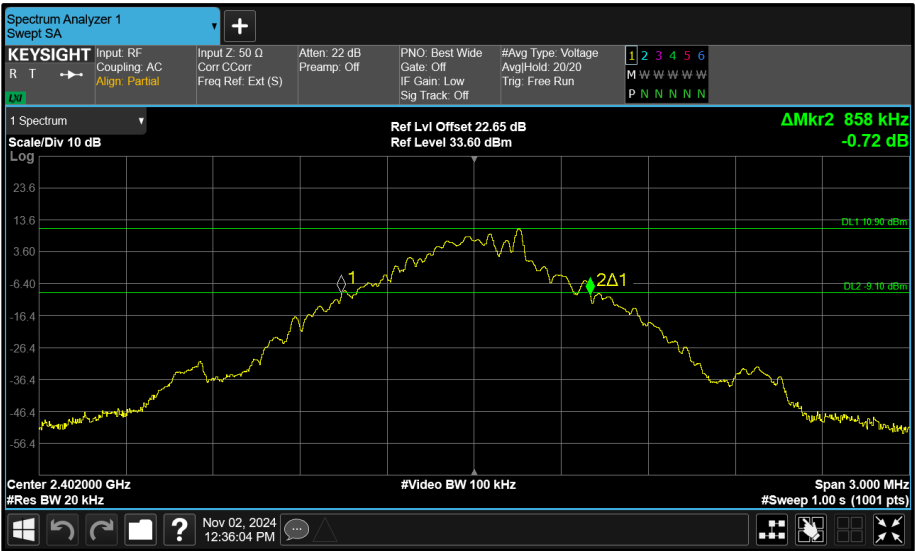


Figure 104 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

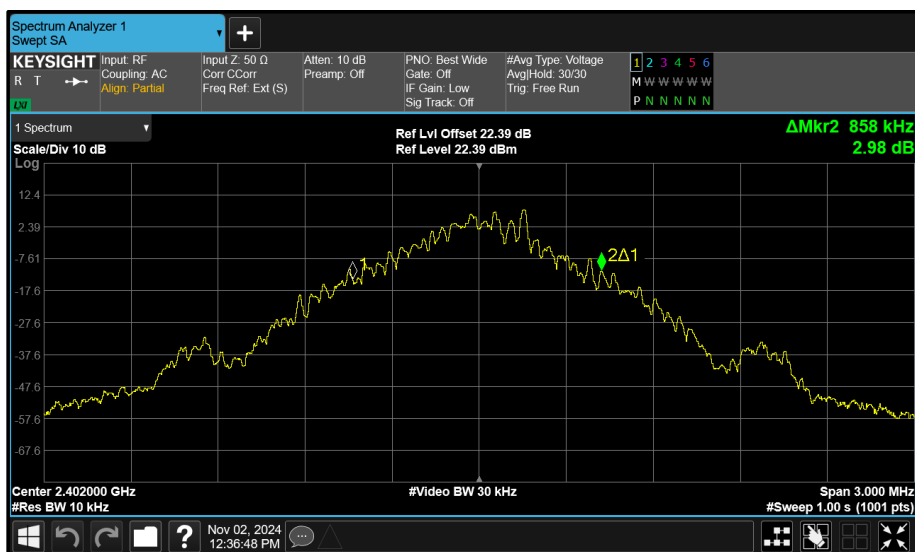


Figure 105 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

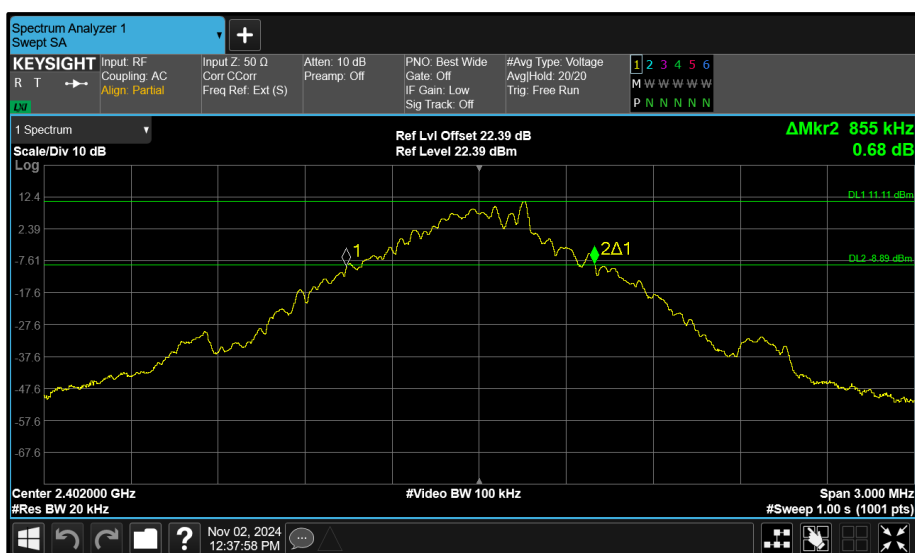


Figure 106 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

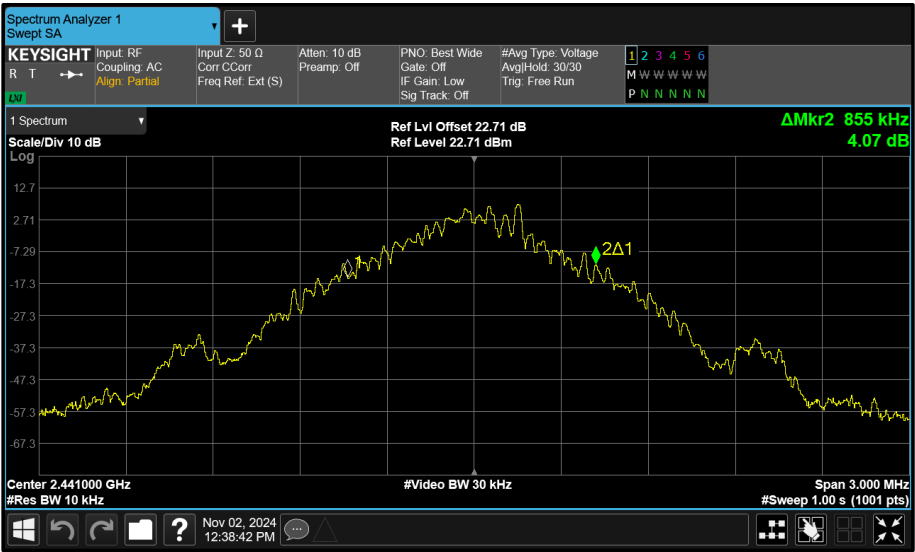


Figure 107 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

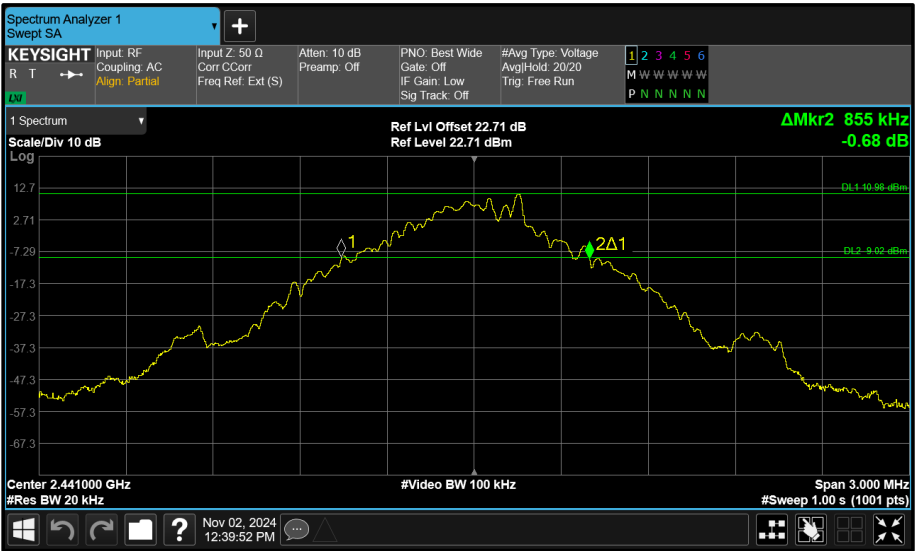
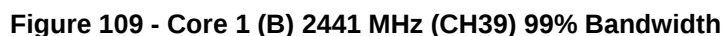


Figure 108 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth



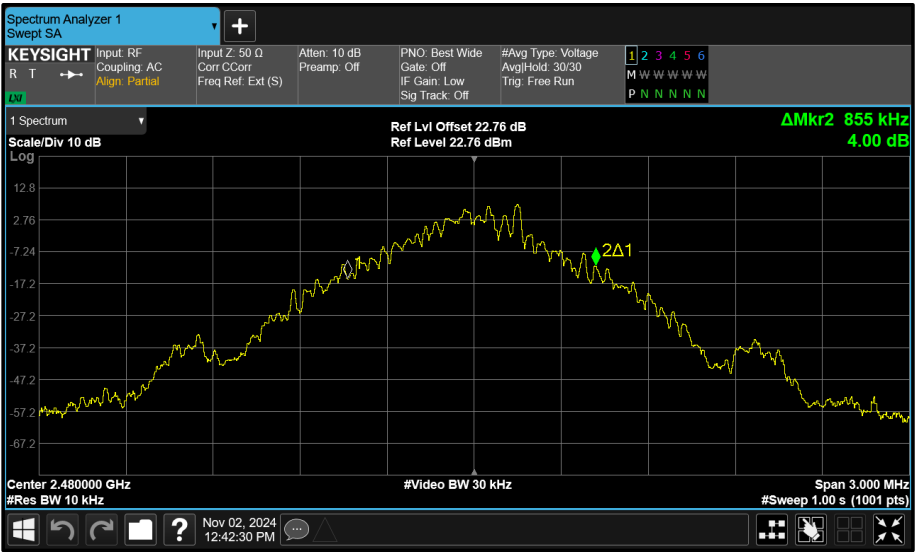


Figure 111 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

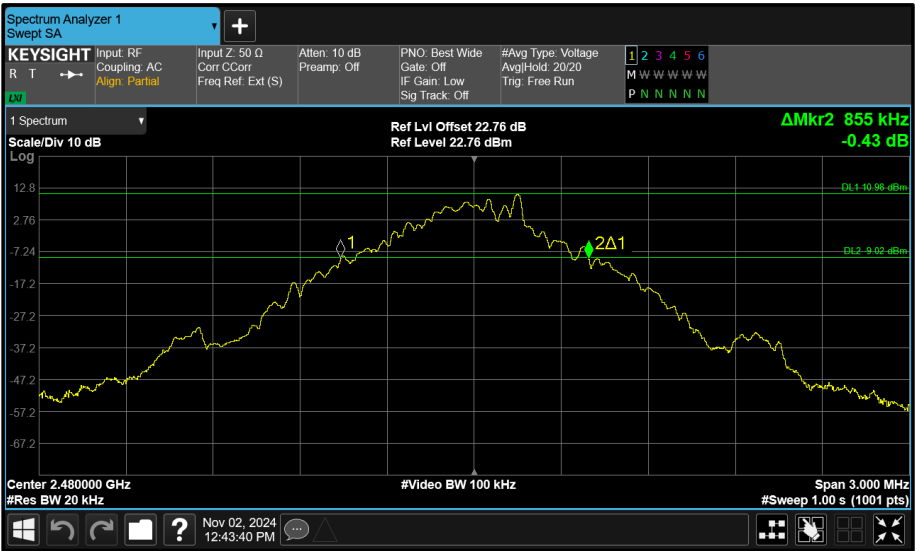


Figure 112 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

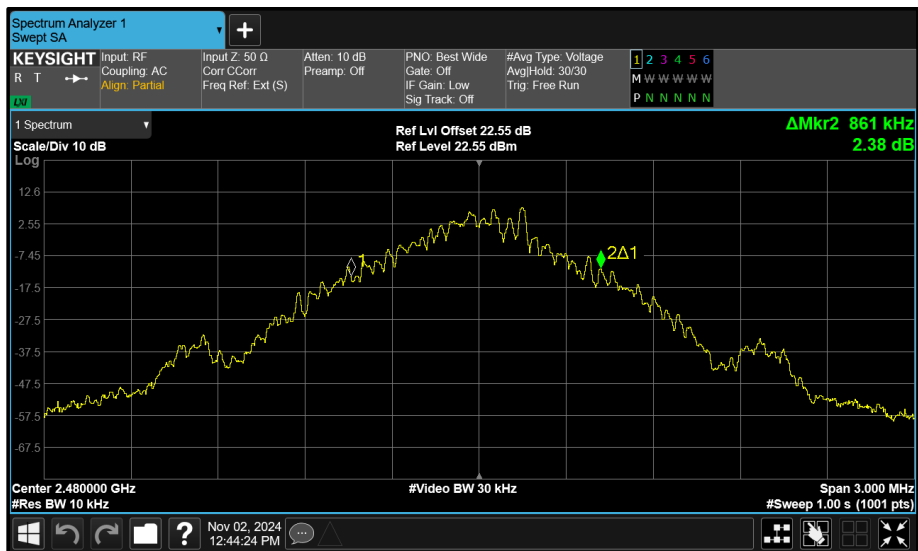


Figure 113 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

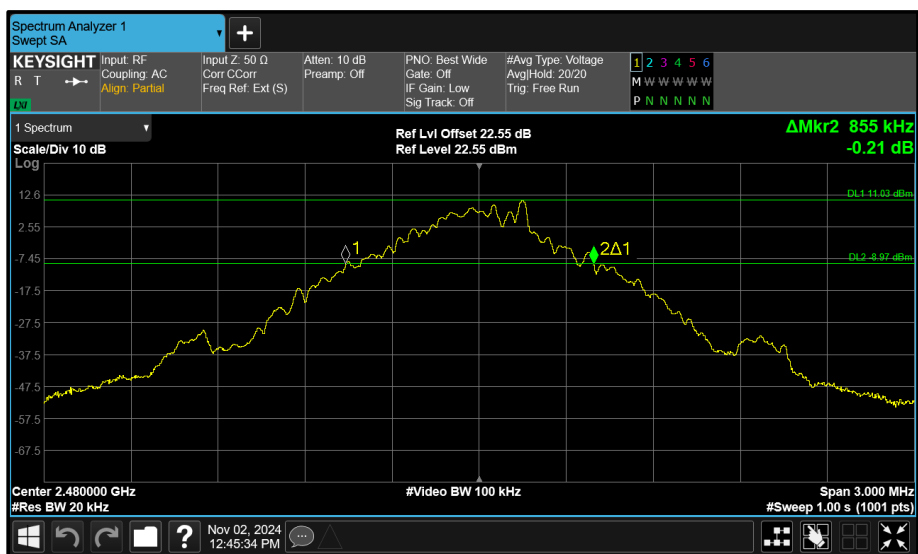


Figure 114 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth



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 6.9.3 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	1.325	-	-	-
2441	1.330	-	-	-
2480	1.325	-	-	-

Table 62 - 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 63 - 99% Bandwidth Results

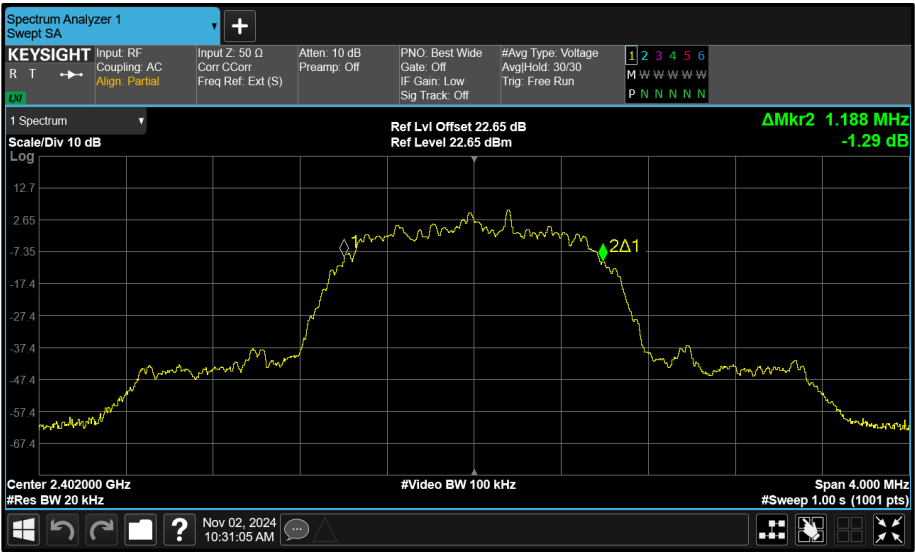


Figure 115 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

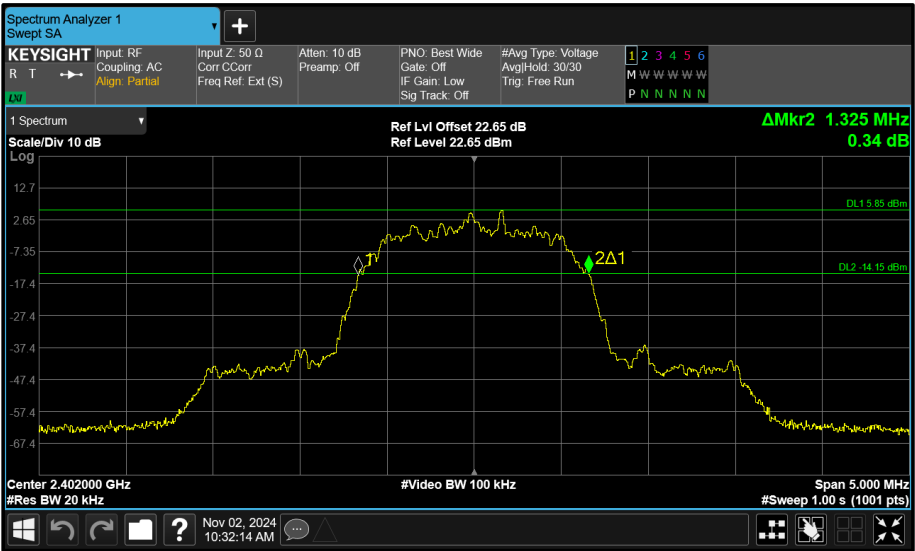


Figure 116 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

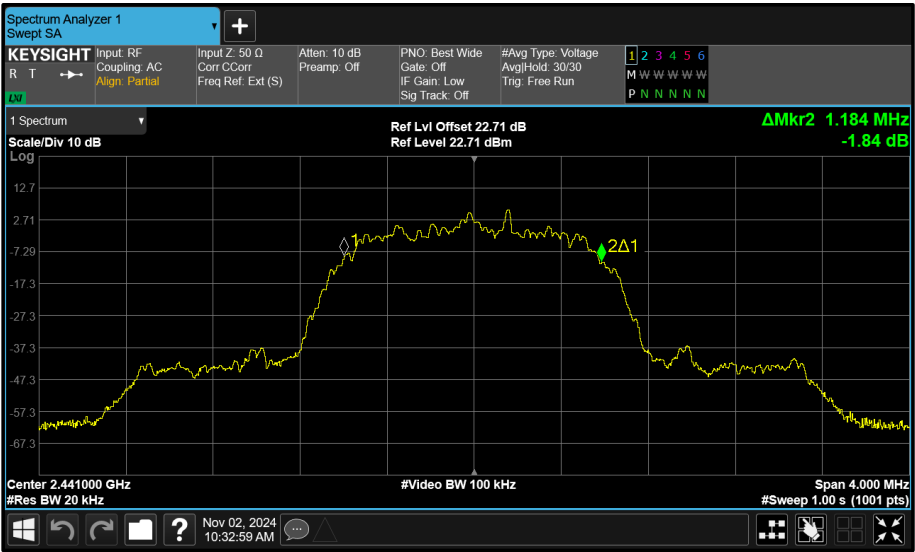


Figure 117 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

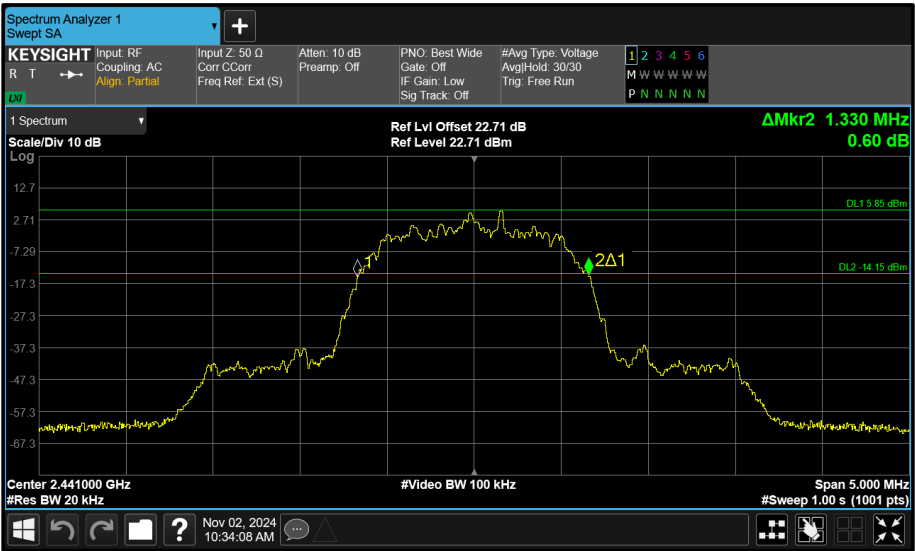


Figure 118 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

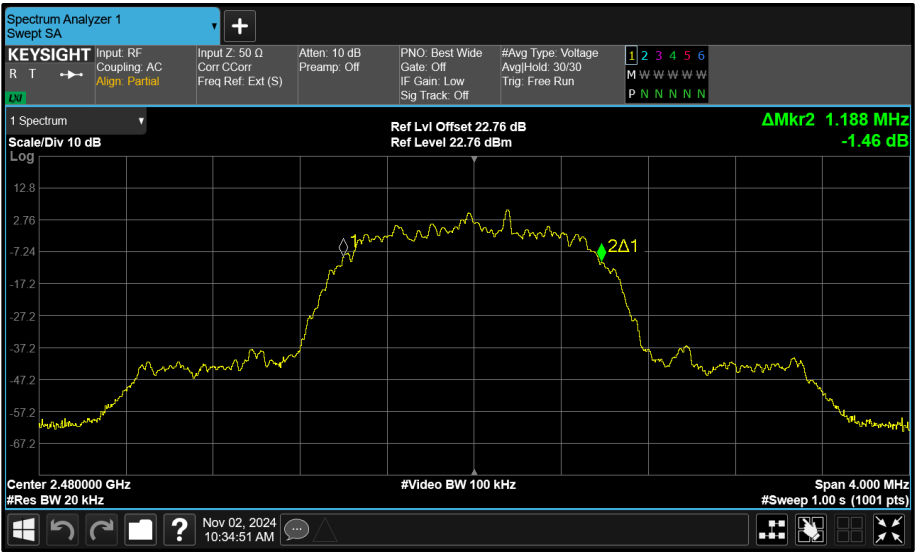


Figure 119 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

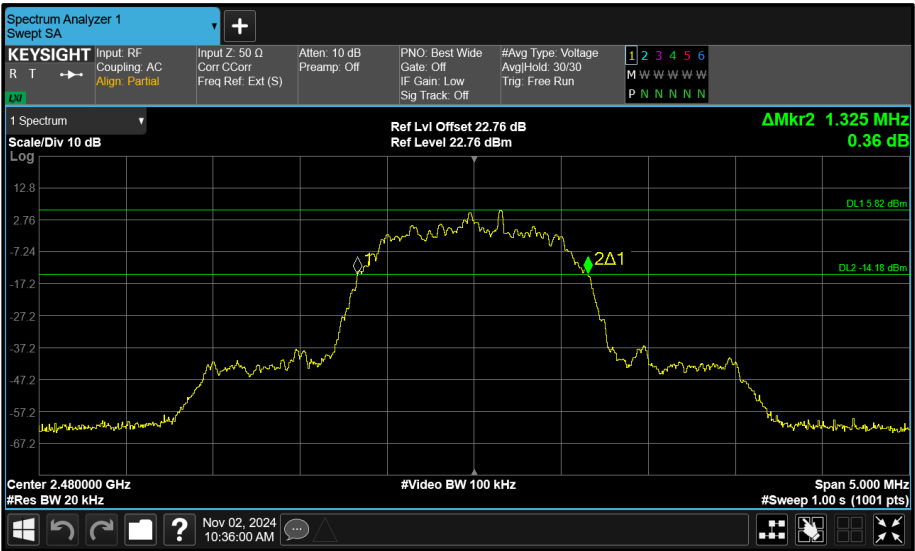


Figure 120 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth



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 6.9.3 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 64 - 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 65 - 99% Bandwidth Results

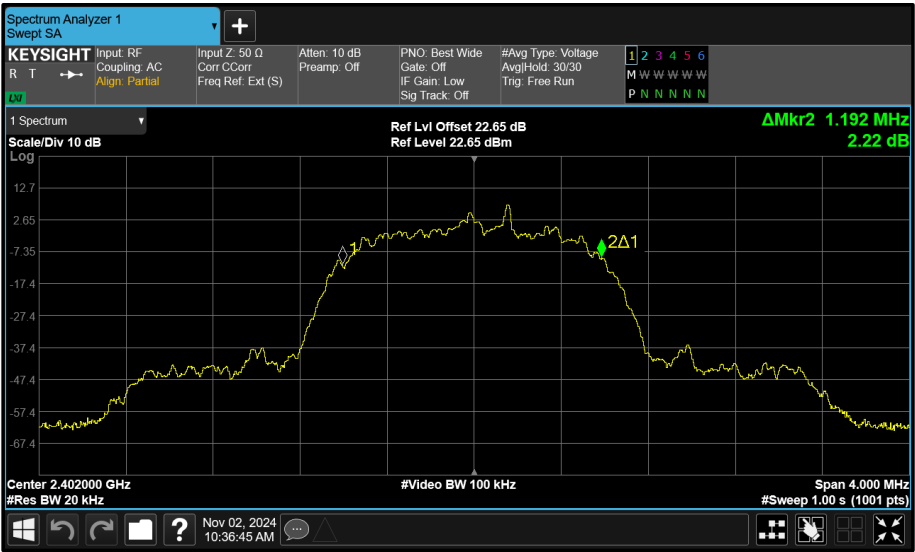


Figure 121 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

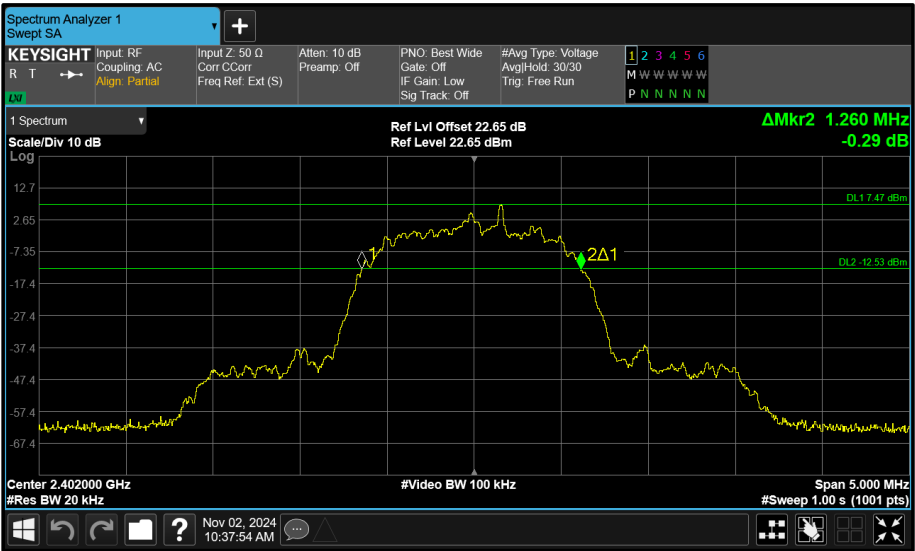


Figure 122 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

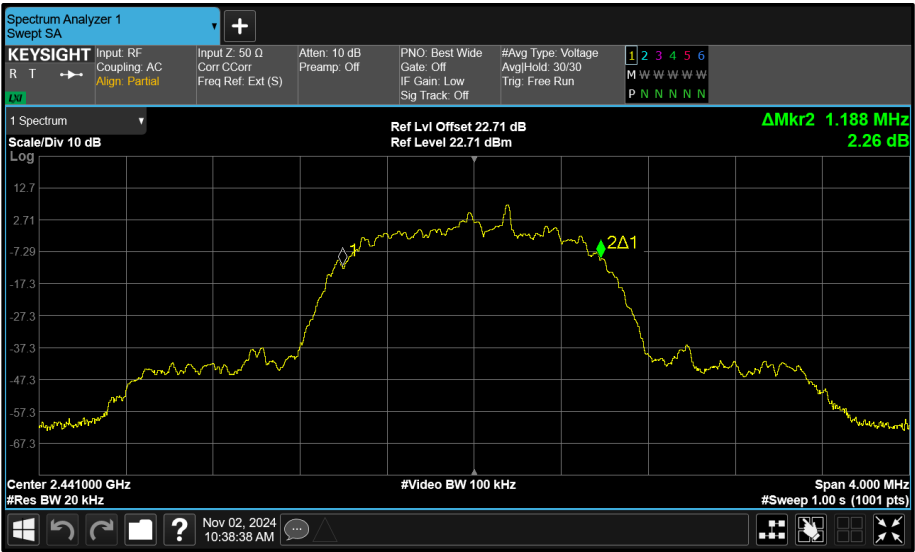


Figure 123 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

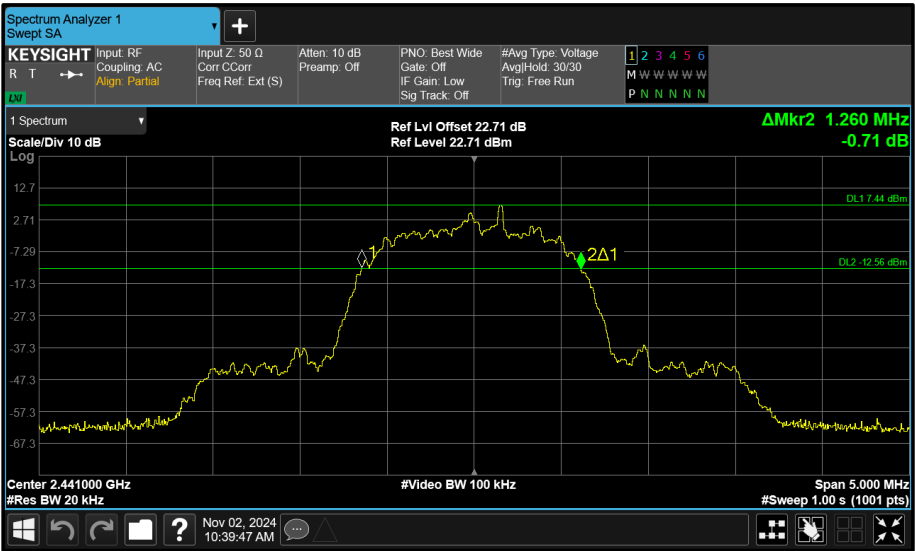


Figure 124 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

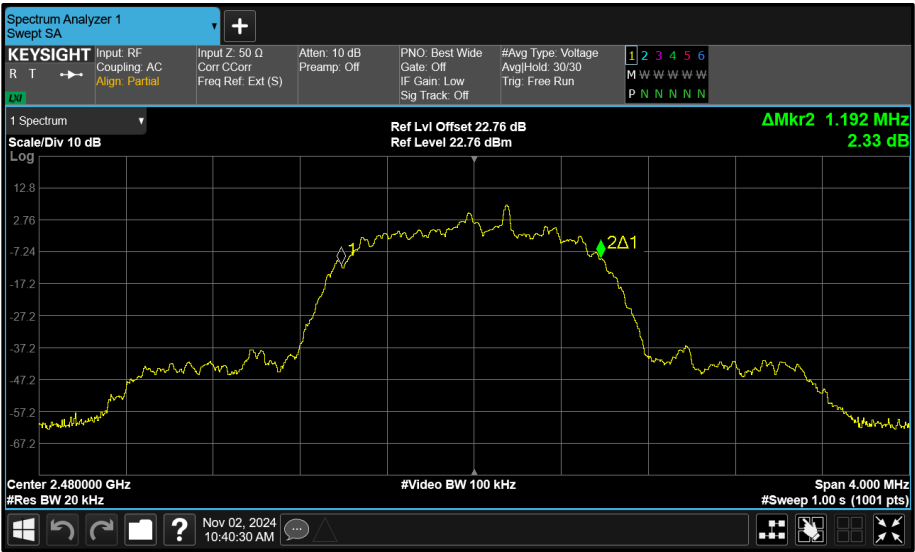


Figure 125 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

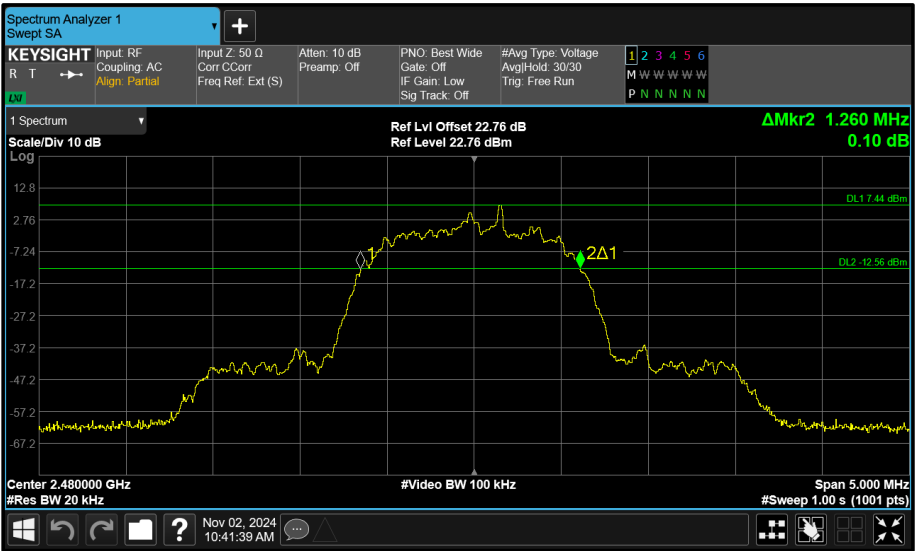


Figure 126 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth



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 6.9.3 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	1.325	-	-
2441	1.330	1.330	-	-
2480	1.325	1.325	-	-

Table 66 - 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	1.184	1.188	-	-	-

Table 67 - 99% Bandwidth Results

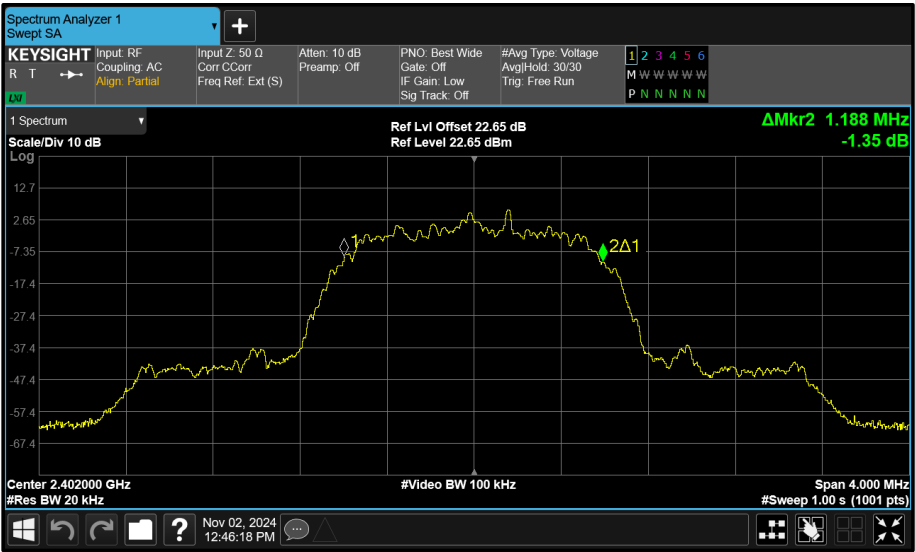


Figure 127 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

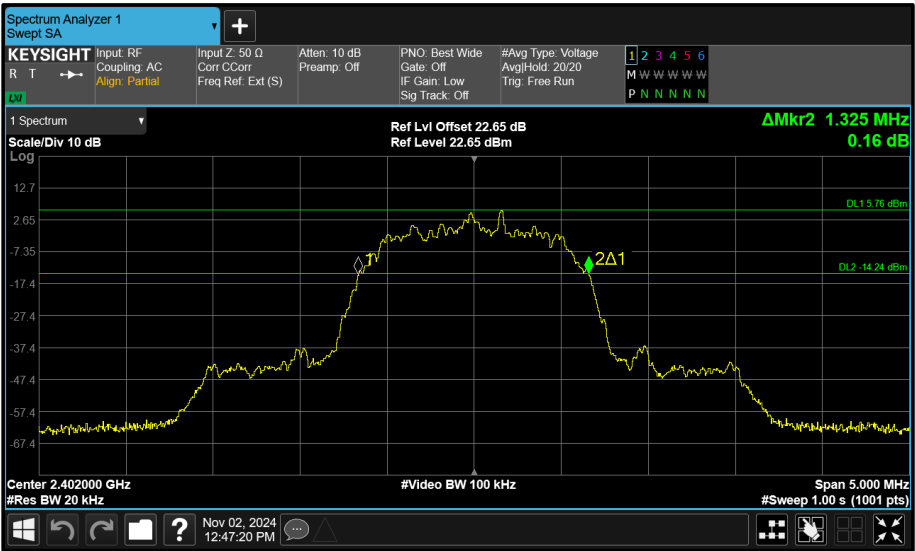


Figure 128 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

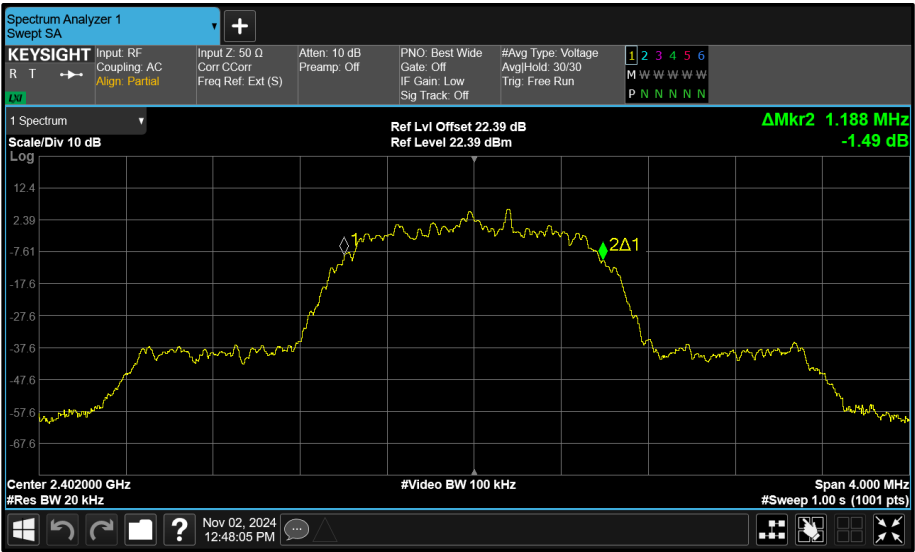


Figure 129 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

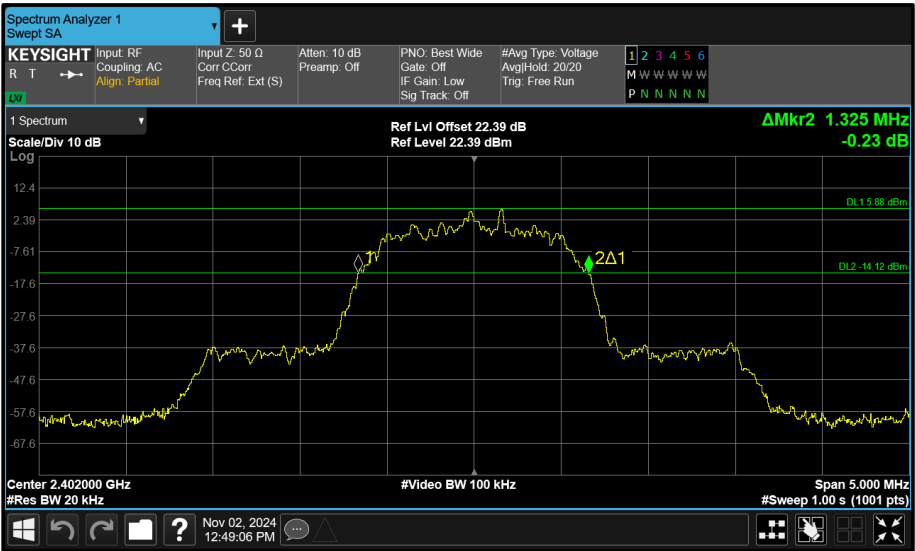


Figure 130 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

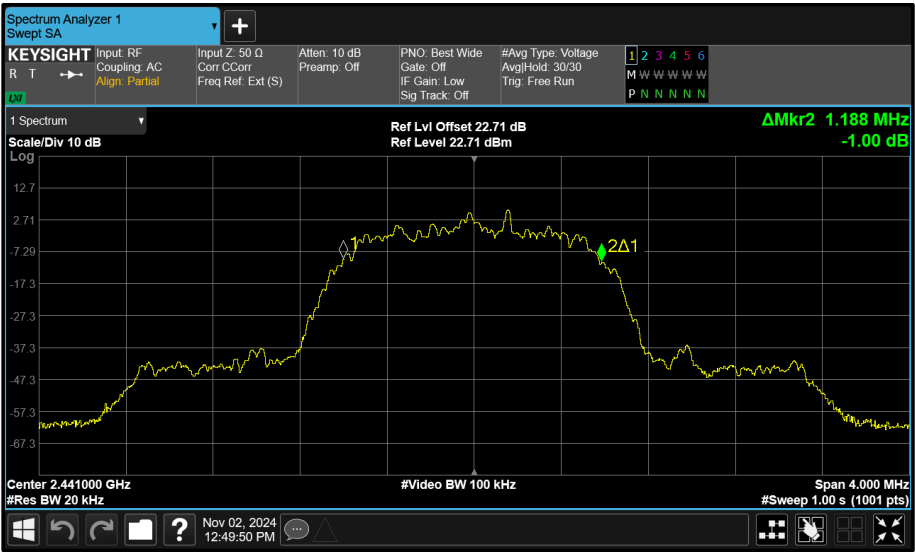


Figure 131 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

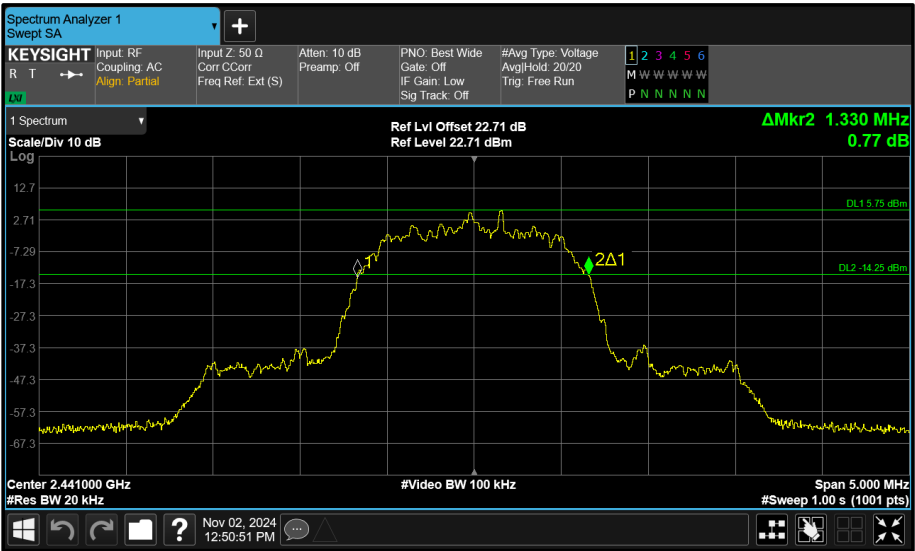


Figure 132 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

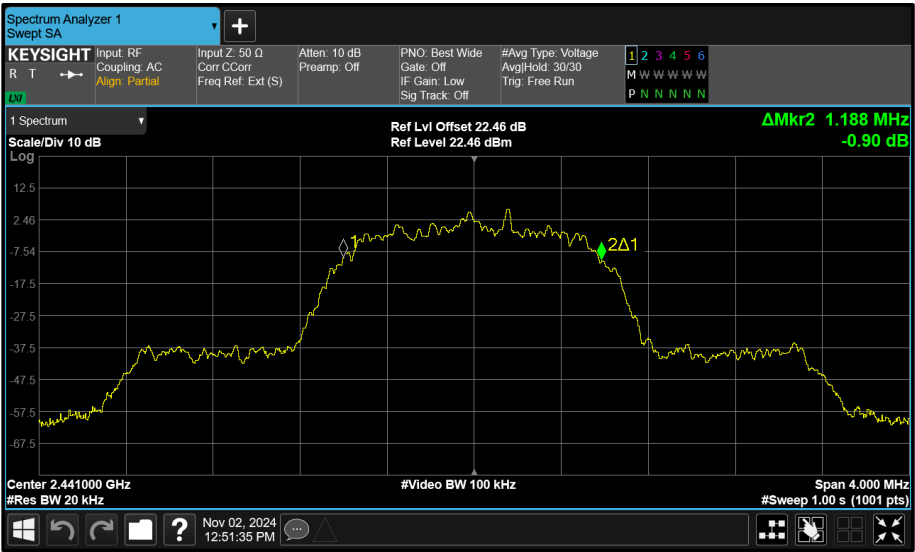


Figure 133 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

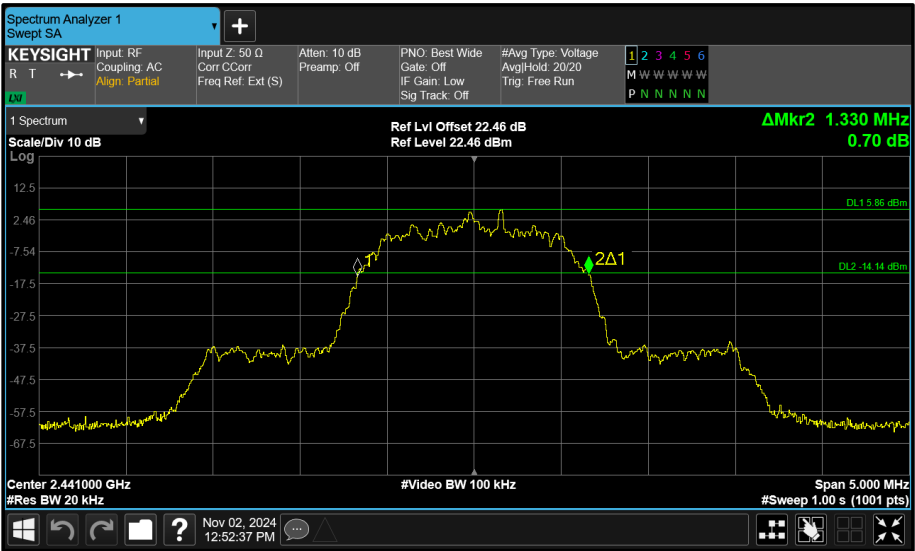


Figure 134 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

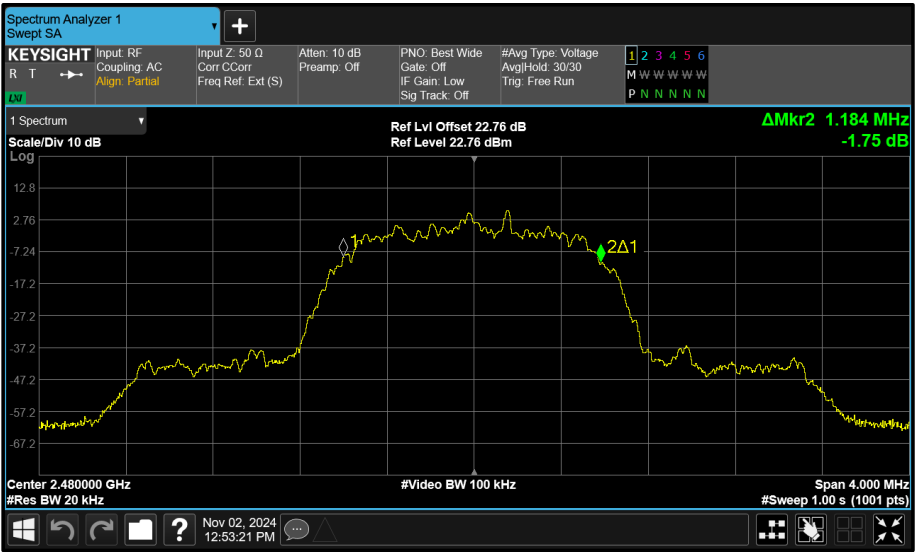


Figure 135 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

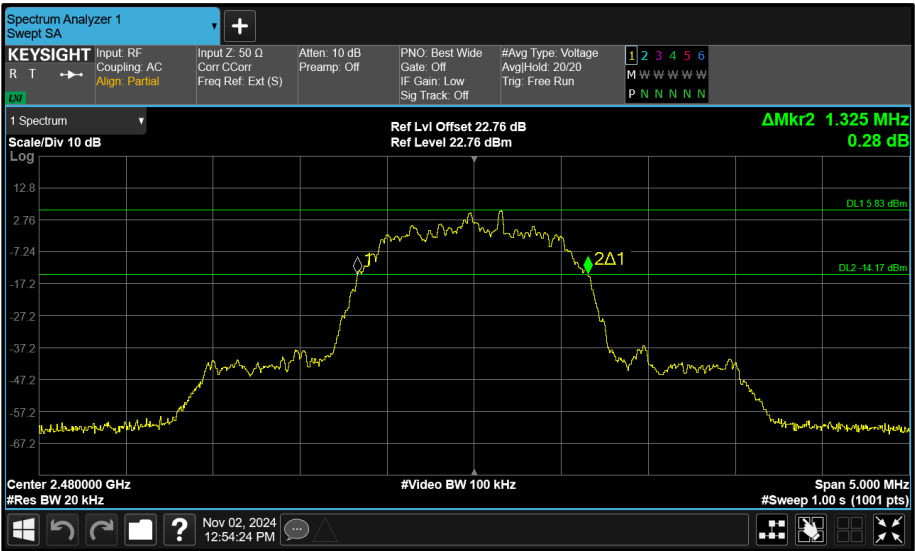


Figure 136 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

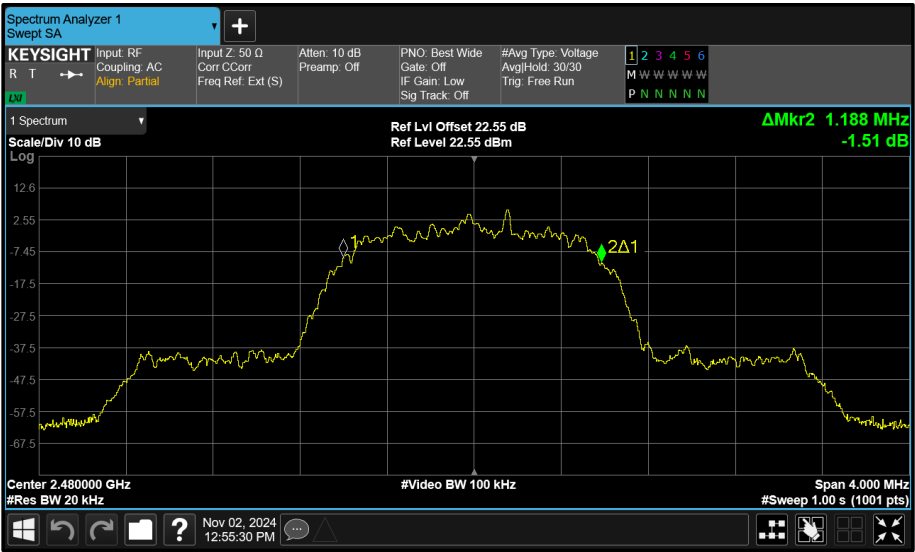


Figure 137 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

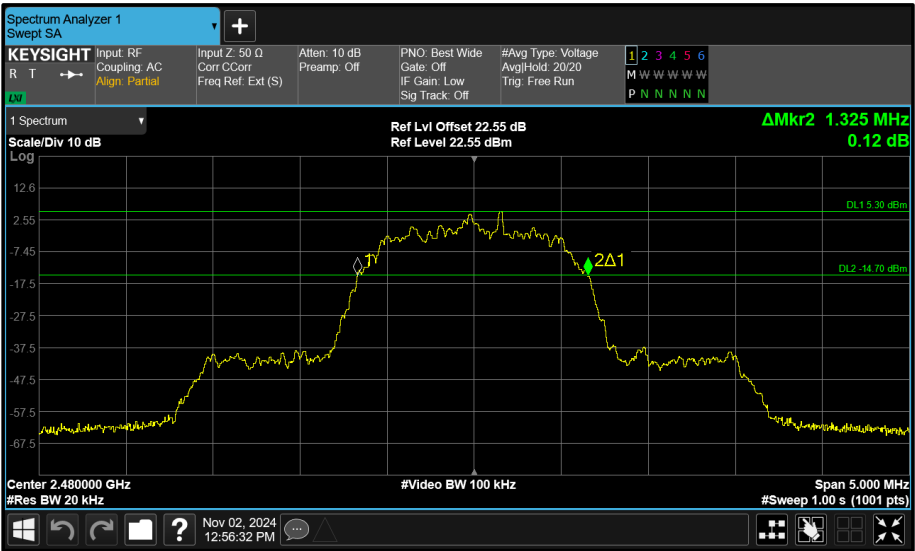


Figure 138 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth



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 6.9.3 C63.10 6.9.2
Additional Reference(s):	-		

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

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

Table 68 - 20 dB Bandwidth Results

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

Table 69 - 99% Bandwidth Results

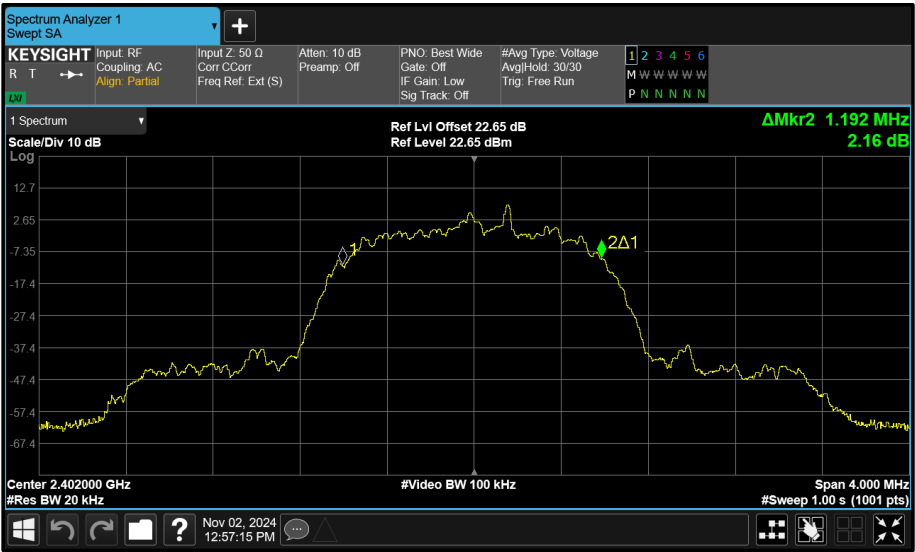


Figure 139 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

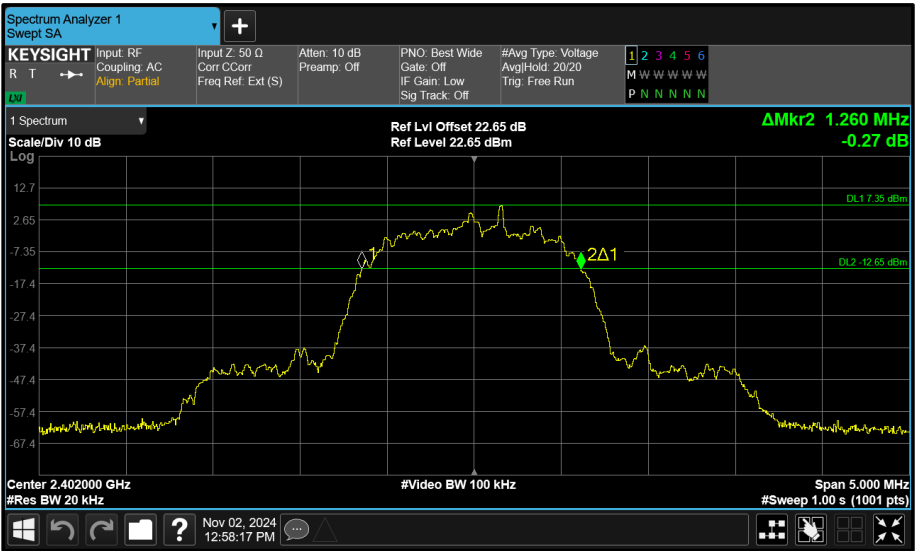


Figure 140 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

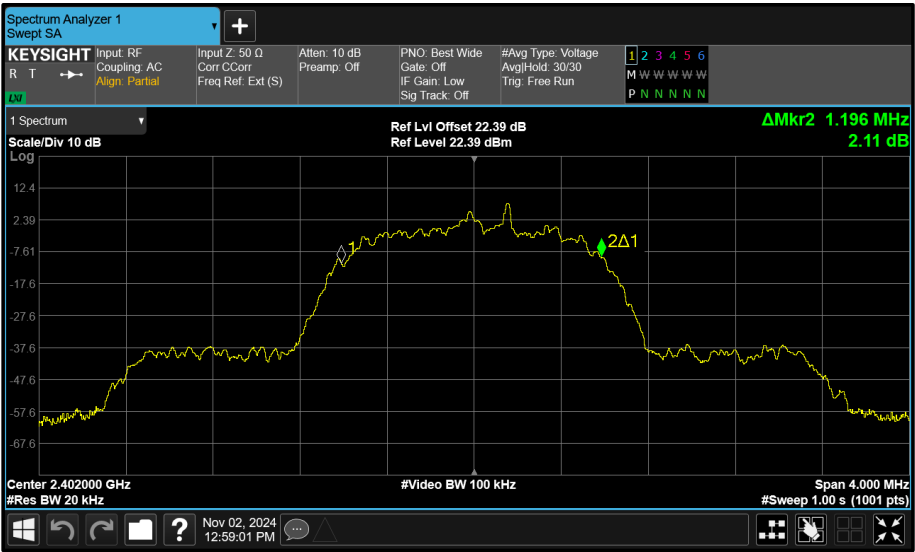


Figure 141 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

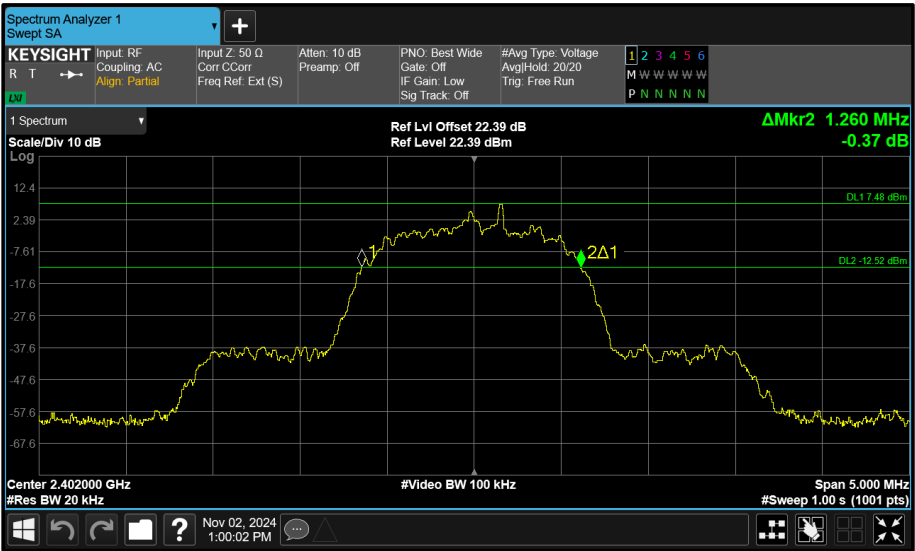


Figure 142 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

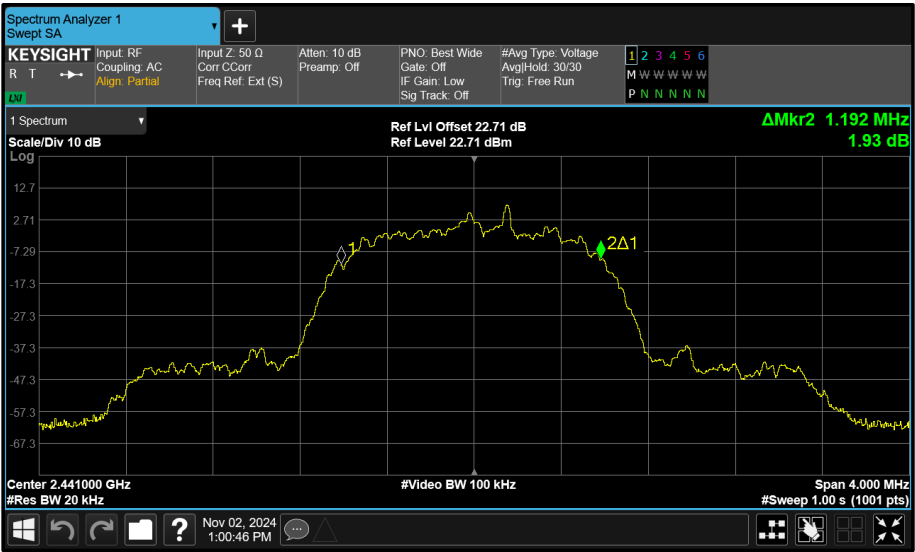


Figure 143 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

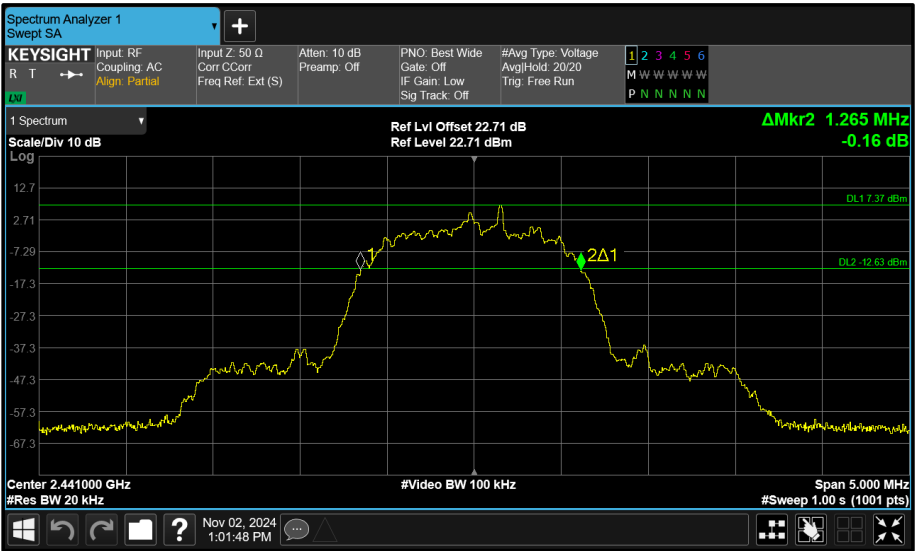


Figure 144 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

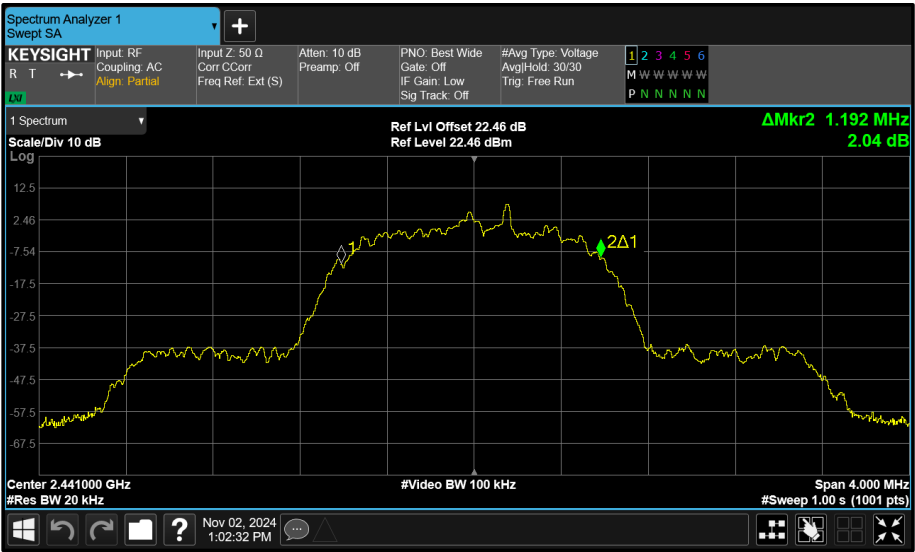


Figure 145 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

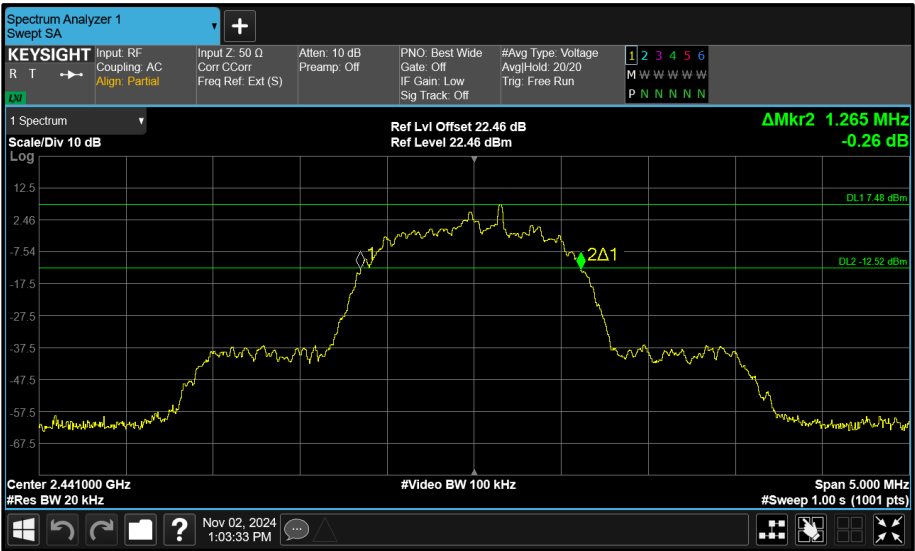


Figure 146 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

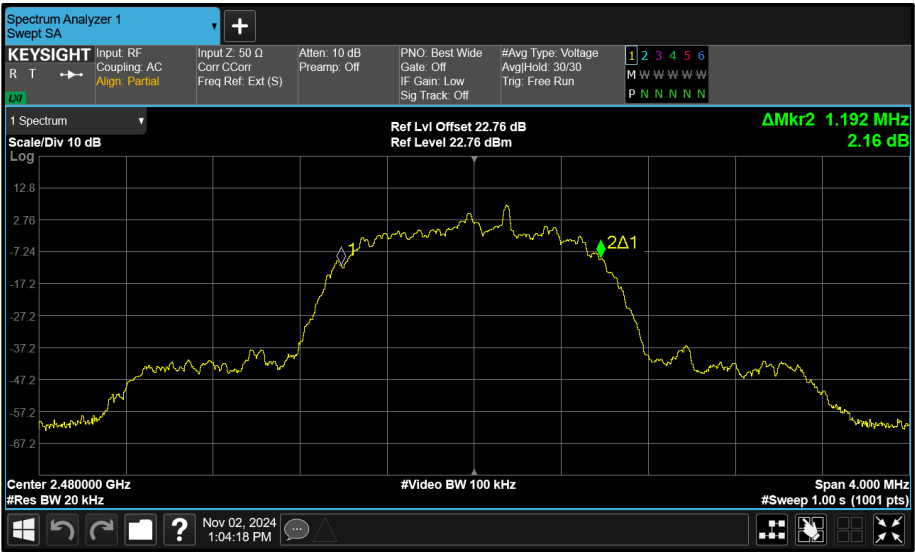


Figure 147 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

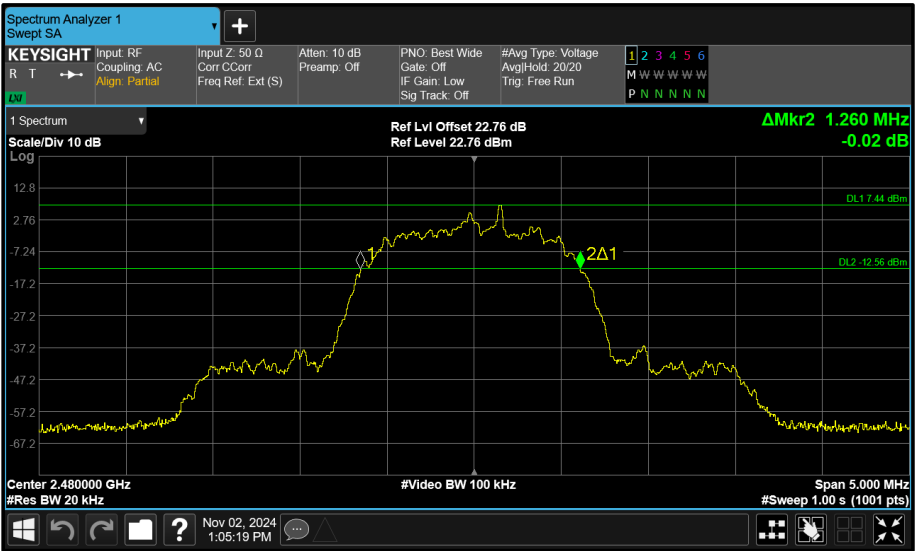


Figure 148 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

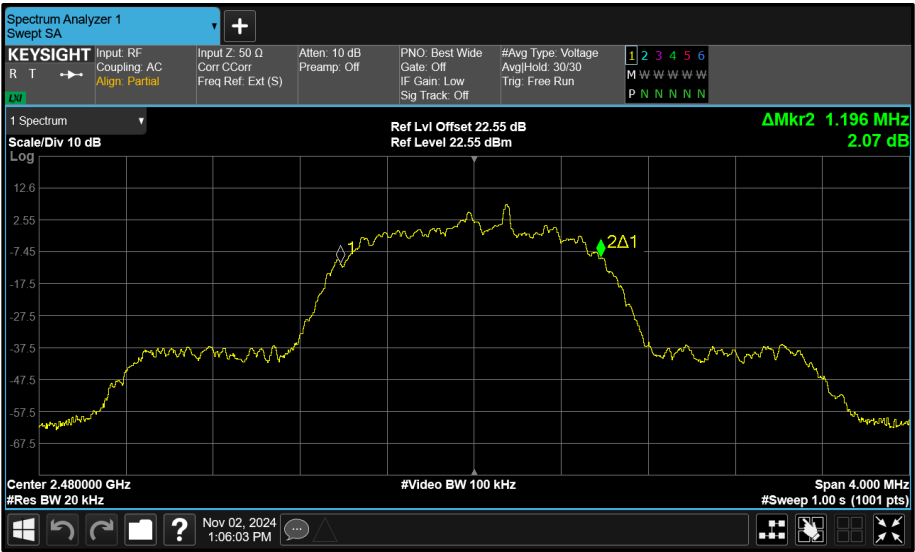


Figure 149 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

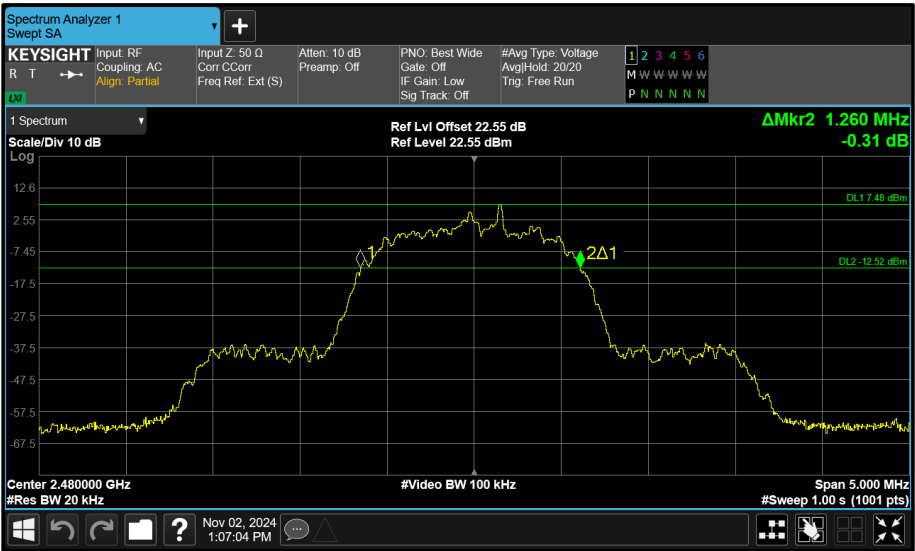


Figure 150 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

FCC 47 CFR Part 15 and ISCED RSS-247 Limit Clause

None specified.



2.5.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 2.

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

Table 70

O/P Mon - Output Monitored using calibrated equipment



2.6 Maximum Conducted Output Power

2.6.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (b)
ISED RSS-247, Clause 5.4
ISED RSS-GEN, Clause 6.12

2.6.2 Equipment Under Test and Modification State

A3241, S/N: FWKQMY7GHY - Modification State 0

2.6.3 Date of Test

02-November-2024

2.6.4 Test Method

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

MIMO output port summing was performed in accordance with KDB 662911 D01, with the Beamforming results Directional Gain being calculated in accordance with clause F)2)d)(i)

2.6.5 Environmental Conditions

Ambient Temperature	21.0 °C
Relative Humidity	50.9 %



2.6.6 Test Results

2.4 GHz Bluetooth BDR/EDR

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(1) RSS-247 5.4 b)	Test Method(s):	C63.10 7.8.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA $\pi/4$ DQPSK (2-DH5)	Duty Cycle (%):	76.9
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Core 0)	Peak Antenna Gain (dBi):	5.40

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	Σ		
2402	19.03	-	-	-	19.03	30.00	-10.97
2441	18.96	-	-	-	18.96	30.00	-11.04
2480	18.94	-	-	-	18.94	30.00	-11.06

Table 71 - FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	Σ					
2402	19.03	-	-	-	19.03	30.00	-10.97	24.43	36.00	-11.57
2441	18.96	-	-	-	18.96	30.00	-11.04	24.36	36.00	-11.64
2480	18.94	-	-	-	18.94	30.00	-11.06	24.34	36.00	-11.66

Table 72 - ISED Maximum Conducted (peak) Output Power Results