

FCC and ISED Test Report

Apple Inc
Model: A3545



In accordance with FCC 47 CFR Part 15C
ISED RSS-247 and ISED RSS-GEN
(2.4 GHz Bluetooth FHSS)

Prepared for: Apple Inc
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SIGNATURE

NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
Steve Marshall	Senior Engineer	Authorised Signatory	28 July 2026

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules.

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC 47 CFR Part 15C, ISED RSS-247 and ISED RSS-GEN. The sample tested was found to comply with the requirements defined in the applied rules.

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Report Generation	Malwina Kowalska	28 July 2026	

FCC Accreditation

553713/UK2026 Concorde Park, Fareham Test Laboratory

ISED Accreditation

28798/UK0003 Concorde Park, Fareham Test Laboratory

EXECUTIVE SUMMARY

A sample of this product was tested and found to be compliant with FCC 47 CFR Part 15C: 2024, ISED RSS-247: Issue 4 (2025-07) and ISED RSS-GEN: Issue 5 (2018-04) + A2 (2021-02) for the tests detailed in section 1.3.



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1 Report Summary

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
1	First Issue	28 July 2026

Table 1

1.2 Introduction

Applicant	Apple Inc
Manufacturer	Apple Inc
EUT/Sample Identification	Refer to section 1.6
Test Specification/Issue/Date	FCC 47 CFR Part 15C: 2024 ISED RSS-247: Issue 4 (2025-07) ISED RSS-GEN: Issue 5 (2018-04) + A2 (2021-02)
Start of Test	26-April-2026
Finish of Test	17-July-2026
Name of Engineer(s)	Zeeshan Zia, Gridi Bilali, Dulanjan Witharamalage, Ahmed Al Derdiri, Arjun Sasikumar, Joshua O'Donnell, Elliot Callender
Related Document(s)	ANSI C63.4 (2014) ANSI C63.10-2020 +Cor.1-2023+C63.10a-2024 KDB 662911 D01 v02r01



1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 15C, ISED RSS-247 and ISED RSS-GEN is shown below.

Section	Specification Clause			Test Description	Result	Comments/Base Standard
	FCC Part 15C	RSS-247	RSS-GEN			
Configuration and Mode: 2.4 GHz Bluetooth FHSS BDR						
-	15.203	-	-	Antenna Requirement	N/T	The device complies with the provisions of this section, as it uses permanently attached integral antennas.
2.1	15.205	2.4	8.10	Restricted Band Edges	Pass	ANSI C63.10-2020 +Cor.1-2023+C63.10a-2024
2.2	15.247 (a)(1)	6.2.3.1	-	Frequency Hopping Systems - Average Time of Occupancy	Pass	ANSI C63.10-2020 +Cor.1-2023+C63.10a-2024
2.3	15.247 (a)(1)	6.2.3.1	-	Frequency Hopping Systems - Channel Separation	Pass	ANSI C63.10-2020 +Cor.1-2023+C63.10a-2024
2.4	15.247 (a)(1)	6.2.3.1	-	Frequency Hopping Systems - Number of Hopping Channels	Pass	ANSI C63.10-2020 +Cor.1-2023+C63.10a-2024
2.5	15.247 (a)(1)	6.2.3.1	6.7	Frequency Hopping Systems - 20 dB Bandwidth	Pass	ANSI C63.10-2020 +Cor.1-2023+C63.10a-2024
2.6	15.247 (b)	6.2.3.2	6.12	Maximum Conducted Output Power	Pass	ANSI C63.10-2020 +Cor.1-2023+C63.10a-2024
2.7	15.247 (d)	6.6	-	Authorised Band Edges	Pass	ANSI C63.10-2020 +Cor.1-2023+C63.10a-2024
2.8	15.209 and 15.247 (d)	2.4 and 6.6	6.13 and 8.9	Spurious Radiated Emissions	Pass	ANSI C63.10-2020 +Cor.1-2023+C63.10a-2024

Table 2



1.4 Product Information

1.4.1 Technical Description

The equipment under test (EUT) was a desktop computer

1.4.2 Test Modes

The EUT's 2.4 GHz Bluetooth radio supports SISO (Single Input/Single Output) operation on three different cores (Core 0, Core 1 and Core 2). It also supports MIMO (Multiple Input/Multiple Output) beamforming operation on Core 0 + Core 1.

The EUT uses different output powers per core dependent on how many cores are used.

The EUT supports Basic Rate modes for FHSS operation on two power settings: low power "iPA" and high power "ePA", with operation on Core 2 being limited to low power "iPA".

After preliminary investigations were performed, the EUT was tested in the following worst-case modes during conducted transmitter tests.

SISO modes (Core 0, Core 1 and Core 2):

- DH5 - iPA
- DH5 - ePA

MIMO modes (Core 0 + Core 1):

- DH5 - iPA
- DH5 - ePA

Spurious Radiated Emissions tests were limited to the modes shown below, with the device configured to operate at maximum output power. As this was deemed to be worst case.

MIMO modes (Core 0 + Core 1):

- DH5 – iPA
- DH5 – ePA

SISO modes (Core 2):

- DH5 - iPA

1.4.3 Test Setup

For conducted tests the EUT antennas were disconnected and replaced with U. FL to SMA test cables to enable conducted testing on each core. The loss of these test cables were known and compensated for in any conducted measurements.

For all tests the EUT was put into a continuous transmit/receive test mode with the chipset manufacturer's test commands. These ran the specified modulation types on either a fixed single channel or in Hopping mode, to ensure the measured signals were representative.

All testing was performed with the EUT powered via a 120 V AC, 60 Hz source.



1.4.4 Antenna Gain Table

Antenna Port	Frequency Range (MHz)	Peak Gain (dBi)	Conducted Cable Loss (dB)
Core 0 (WF1)	2402	1.2	0.71
	2441	1.1	0.71
	2480	0.7	0.71
Core 1 (WF3)	2402	1.4	0.71
	2441	1.1	0.71
	2480	0.4	0.71
Core 2 (WF2)	2402	1.0	0.71
	2441	0.4	0.71
	2480	-0.3	0.71

Table 3

1.5 Deviations from the Standard

No deviations from the applicable test standard were made during testing.

1.6 Identification of the EUT

The table below details identification of the EUT(s) that have been used to carry out the testing within this report.

Model: A3545		
Serial Number	Hardware Version	Software Version
CQ4KHF6M2W	REV1.0	26A322
H2DG9Y7XQ4	REV1.0	26A322

Table 4

1.7 EUT Modification Record

The table below details modifications made to the EUT during the test programme.

The modifications incorporated during each test are recorded on the appropriate test pages.

Modification State	Description of Modification still fitted to EUT	Modification Fitted By	Date Modification Fitted
Model: A3545, Serial Number: CQ4KHF6M2W			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A3545, Serial Number: H2DG9Y7XQ4			
0	As supplied by the customer	Not Applicable	Not Applicable

Table 5



1.8 Test Location

TÜV SÜD conducted the following tests at our Concorde Park Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
Configuration and Mode: 2.4 GHz Bluetooth - FHSS		
Restricted Band Edges	Zeeshan Zia, Gridi Bilali, Ahmed Al Derdiri	UKAS
Frequency Hopping Systems - Average Time of Occupancy	Elliot Callender, Arjun Sasikumar, Joshua O'Donnell	UKAS
Frequency Hopping Systems - Channel Separation	Elliot Callender, Arjun Sasikumar, Joshua O'Donnell	UKAS
Frequency Hopping Systems - Number of Hopping Channels	Elliot Callender, Arjun Sasikumar, Joshua O'Donnell	UKAS
Frequency Hopping Systems - 20 dB Bandwidth	Elliot Callender, Arjun Sasikumar, Joshua O'Donnell	UKAS
Maximum Conducted Output Power	Elliot Callender, Arjun Sasikumar, Joshua O'Donnell	UKAS
Authorised Band Edges	Zeeshan Zia, Gridi Bilali, Ahmed Al Derdiri	UKAS
Spurious Radiated Emissions	Zeeshan Zia , Gridi Bilali and Dulanjan Witharamalage	UKAS

Table 6

Office Address:

TÜV SÜD
Concorde Park
Concorde Way
Fareham
Hampshire
PO15 5FG
United Kingdom



2 Test Details

2.1 Restricted Band Edges

2.1.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.205
ISED RSS-247, Clause 2.4
ISED RSS-GEN, Clause 8.10

2.1.2 Equipment Under Test and Modification State

A3545, S/N: CQ4KHF6M2W - Modification State 0

2.1.3 Date of Test

26-April-2026 to 27-April-2026

2.1.4 Test Method

This test was performed in accordance with ANSI C63.10, clause 6.10.5.

Plots for average measurements were taken in accordance with ANSI C63.10, clause 4.1.5.2.6.

These are shown for information purposes and were used to determine the worst-case measurement point. Final average measurements were then taken in accordance with ANSI C63.10, clause 4.1.4.2.2 to obtain the measurement result recorded in the test results tables.

The following conversion can be applied to convert from dB μ V/m to μ V/m:
 $10^{\frac{dB\mu V/m - 20}{20}}$ (Field Strength in dB μ V/m/20).

2.1.5 Environmental Conditions

Ambient Temperature	20.0 - 23.1 °C
Relative Humidity	34.2 - 46.9 %

2.1.6 Test Results

2.4 GHz Bluetooth – FHSS

iPA - Core 0 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBμV/m)
Static	DH5	2402	2390	54.82	39.69
Static	DH5	2480	2483.5	53.94	41.82

Table 7 - SISO Restricted Band Edge Results

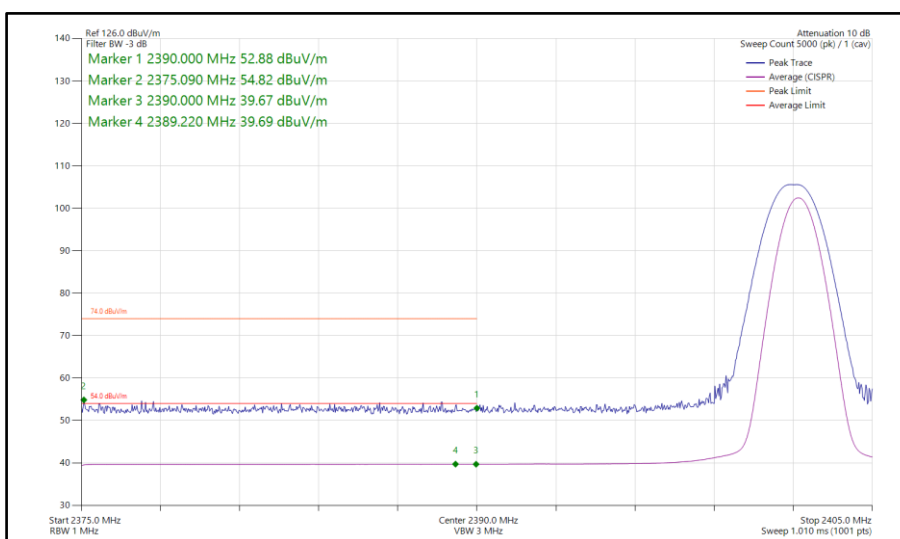


**Table 8 - Bluetooth DH5, SISO, Core 0 - 2402 MHz
Band Edge Frequency 2390 MHz**

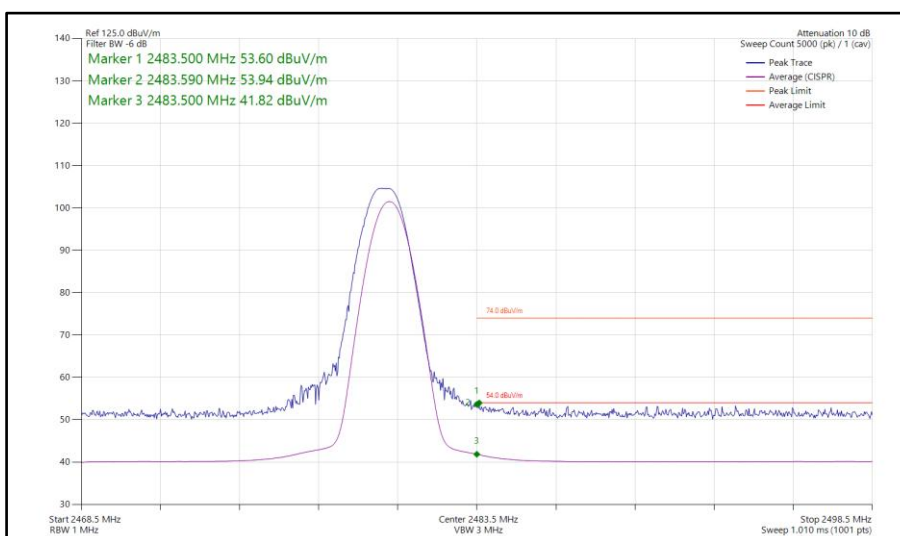


**Table 9 - Bluetooth DH5, SISO, Core 0 - 2480 MHz
Band Edge Frequency 2483.5 MHz**

iPA - Core 1 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBμV/m)
Static	DH5	2402	2390	54.14	39.64
Static	DH5	2480	2483.5	53.14	40.45

Table 10 - SISO Restricted Band Edge Results

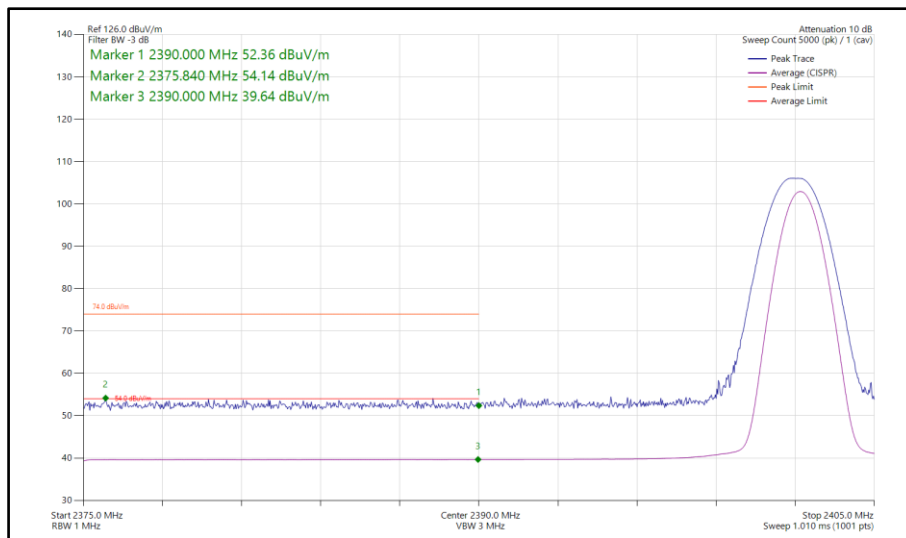


**Table 11 - Bluetooth DH5, SISO, Core 1 - 2402 MHz
Band Edge Frequency 2390 MHz**

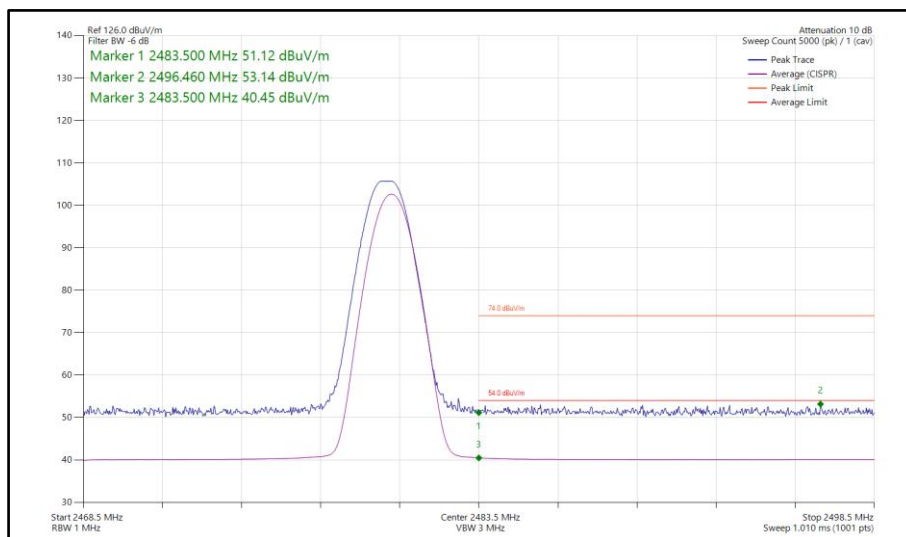


**Table 12 - Bluetooth DH5, SISO, Core 1 - 2480 MHz
Band Edge Frequency 2483.5 MHz**

iPA - Core 2 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBμV/m)
Static	DH5	2402	2390	54.72	39.69
Static	DH5	2480	2483.5	58.77	42.47

Table 13 - SISO Restricted Band Edge Results

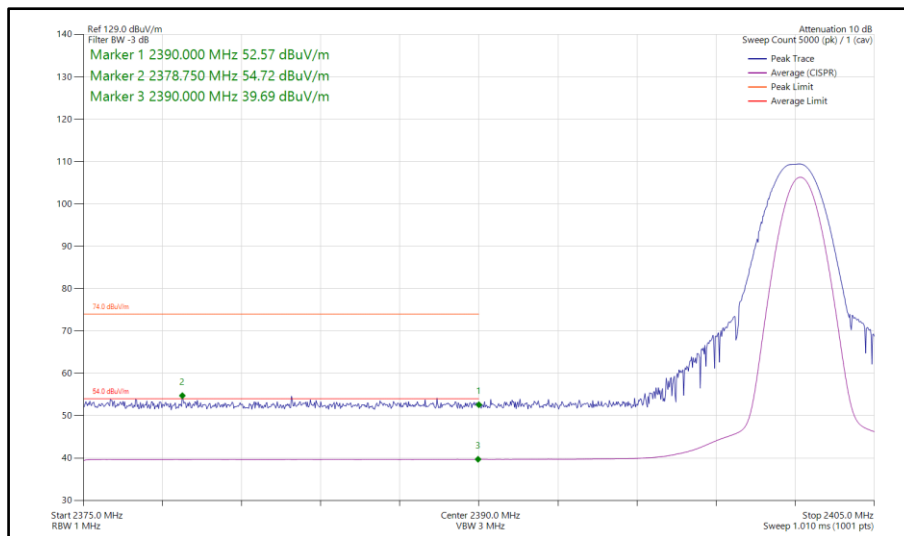


**Table 14 - Bluetooth DH5, SISO, Core 2 - 2402 MHz
Band Edge Frequency 2390 MHz**

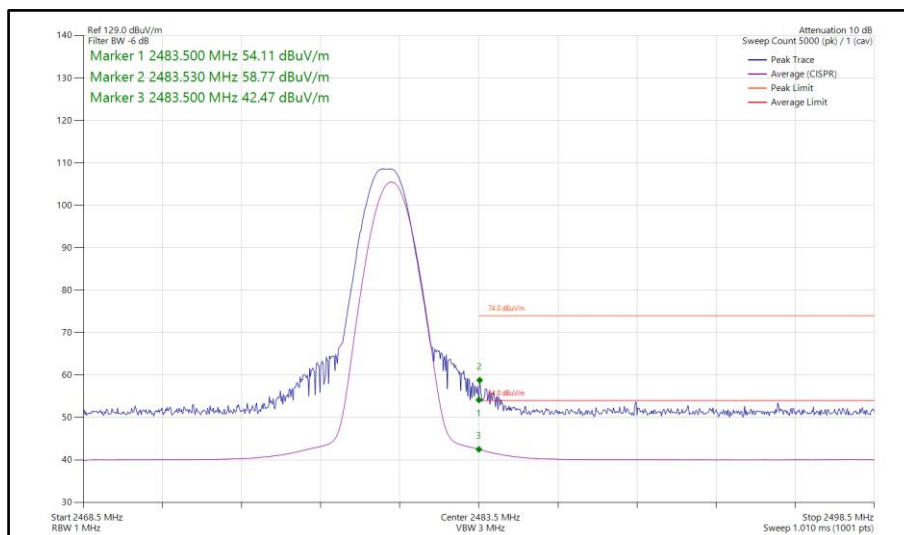


**Table 15 - Bluetooth DH5, SISO, Core 2 - 2480 MHz
Band Edge Frequency 2483.5 MHz**

iPA - Core 0-1 (MIMO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBμV/m)
Static	DH5	2402	2390	54.47	39.68
Static	DH5	2480	2483.5	53.38	41.47

Table 16 - MIMO Restricted Band Edge Results

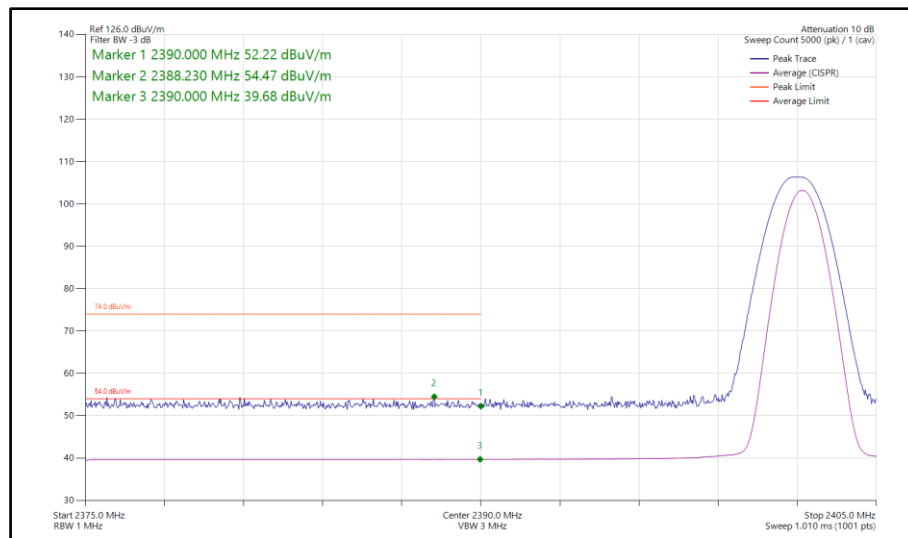


**Table 17 - Bluetooth DH5, MIMO, Core 0-1 - 2402 MHz
Band Edge Frequency 2390 MHz**

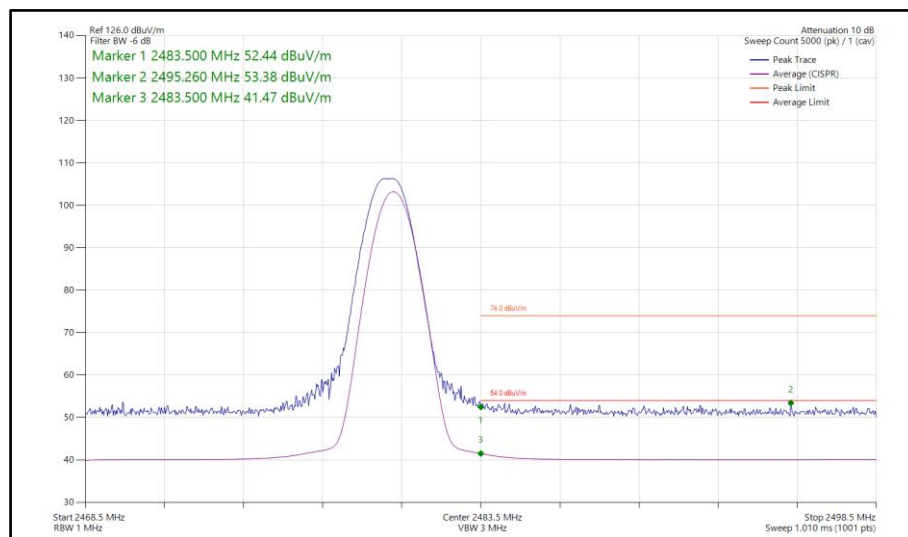


**Table 18 - Bluetooth DH5, MIMO, Core 0-1 - 2480 MHz
Band Edge Frequency 2483.5 MHz**

ePA - Core 0 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBμV/m)
Static	DH5	2402	2390	55.89	40.52
Static	DH5	2480	2483.5	56.30	43.66

Table 19 - SISO Restricted Band Edge Results

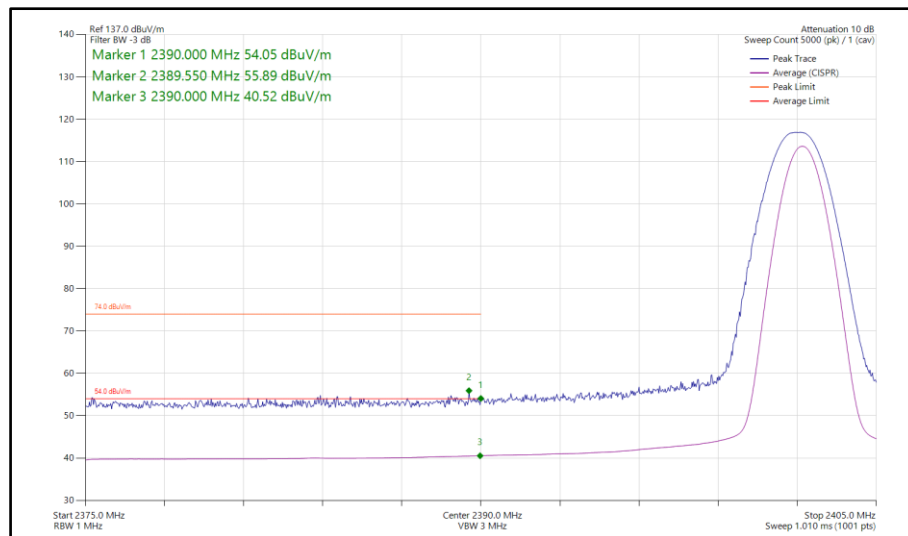


**Table 20 - Bluetooth DH5, SISO, Core 0 - 2402 MHz
Band Edge Frequency 2390 MHz**

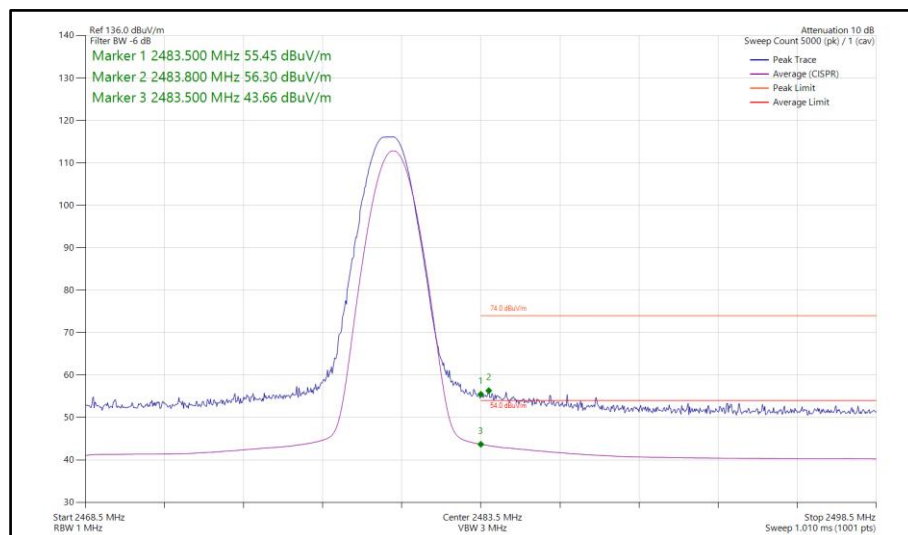


**Table 21 - Bluetooth DH5, SISO, Core 0 - 2480 MHz
Band Edge Frequency 2483.5 MHz**



ePA - Core 1 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBμV/m)
Static	DH5	2402	2390	55.34	40.64
Static	DH5	2480	2483.5	56.49	43.71

Table 22 - SISO Restricted Band Edge Results

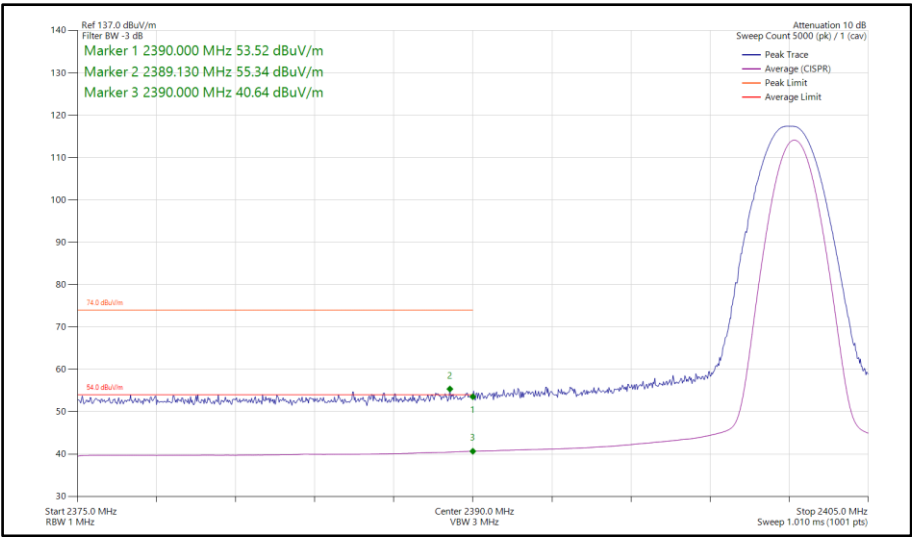


Table 23 - Bluetooth DH5, SISO, Core 1 - 2402 MHz
Band Edge Frequency 2390 MHz

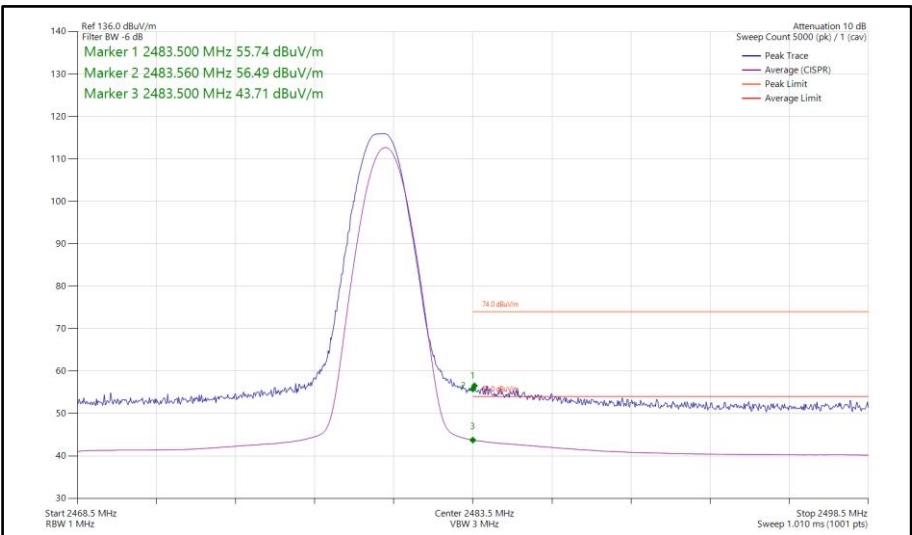


Table 24 - Bluetooth DH5, SISO, Core 1 - 2480 MHz
Band Edge Frequency 2483.5 MHz

ePA - Core 0-1 (MIMO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBμV/m)
Static	DH5	2402	2390	54.65	40.29
Static	DH5	2480	2483.5	55.12	43.03

Table 25 - MIMO Restricted Band Edge Results

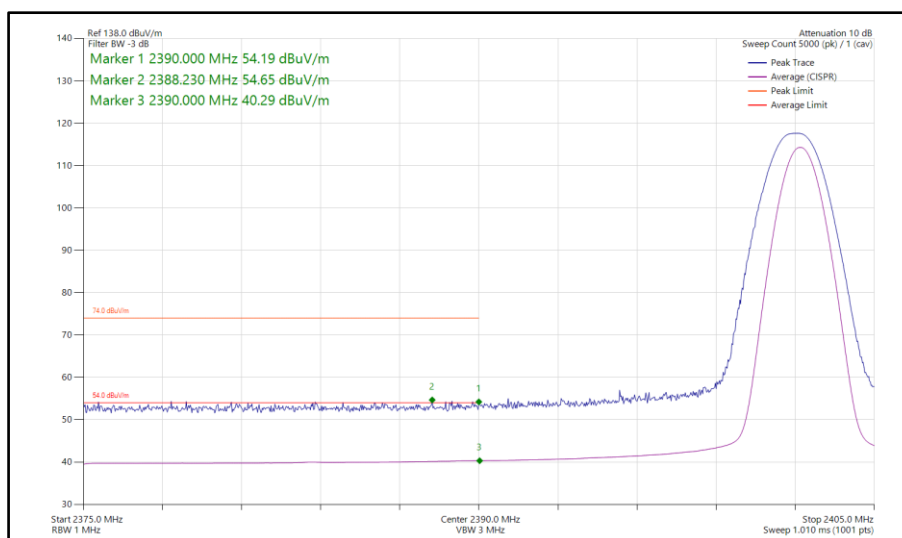


Table 26 - Bluetooth DH5, MIMO, Core 0-1 - 2402 MHz
Band Edge Frequency 2390 MHz

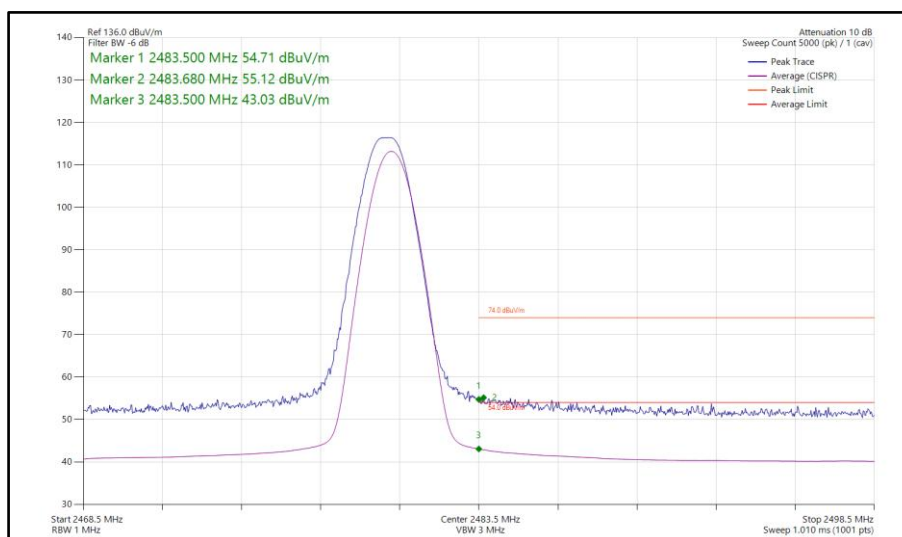


Table 27 - Bluetooth DH5, MIMO, Core 0-1 - 2480 MHz
Band Edge Frequency 2483.5 MHz



FCC 47 CFR Part 15, Limit Clause 15.209

Frequency (MHz)	Field Strength ($\mu\text{V}/\text{m}$ at 3 m)
30 to 88	100
88 to 216	150
216 to 960	200
Above 960	500

Table 28

ISED RSS-GEN, Limit Clause 8.9

Frequency (MHz)	Field Strength ($\mu\text{V}/\text{m}$ at 3 m)
30 to 88	100
88 to 216	150
216 to 960	200
Above 960*	500

Table 29

*Unless otherwise specified, for all frequencies greater than 1 GHz, the radiated emission limits for licence-exempt radio apparatus stated in applicable RSSs (including RSS-Gen) are based on measurements using a linear average detector function having a minimum resolution bandwidth of 1 MHz. If an average limit is specified for the EUT, then the peak emission shall also be measured with instrumentation properly adjusted for such factors as pulse desensitization to ensure the peak emission is less than 20 dB above the average limit.



2.1.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 17.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
Emissions Software	TUV SUD	EmX V3.6.3 V.	5125	-	O/P Mon
Cable (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	6018	12	12-Jun-2026
EMI Test Receiver	Rohde & Schwarz	ESW44	6294	12	23-Mar-2027
USB Spectrum Analyser	Signal Hound	SA124B	6298	-	TU
Digital Multimeter	Fluke	115	6345	12	24-Jul-2026
SAC Switch Unit	TUV SUD	TUV_SSU_004 PLC	6349	12	18-May-2026
Horn Antenna (1–10.5 GHz)	Schwarzbeck	BBHA 9120 B	6457	12	14-Sep-2026
AC Power Supply	iTech	IT7324	6657	-	O/P Mon
3m Semi-Anechoic Chamber	Albatross Projects	RF Chamber 17	6658	36	07-May-2028
Mast and Turntable Controller	Maturo Gmbh	FCU3.0	6659	-	TU
Tilt Antenna Mast	Maturo Gmbh	BAM4.5-P	6660	-	TU
Turntable	Maturo Gmbh	TT1.5SI	6661	-	TU
Handheld Hygrometer	Fluke	971	6837	12	16-Sep-2026
8m SMA-Type Cable	Junkosha	MWX221-08000AMSAMS/B	6846	12	23-Oct-2026
Cable Assembly	Pasternack	PE300-60	6859	-	TU
Cable Assembly	Pasternack	PE300-60	6860	-	TU
RF Amplifier BROADBAND AMPL/SMA/RoHS	Mini-Circuits	ZX60-83LN12+	6979	12	O/P Mon

Table 30

TU - Traceability Unscheduled

O/P Mon - Output Monitored using calibrated equipment



2.2 Frequency Hopping Systems - Average Time of Occupancy

2.2.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (a)(1)
ISED RSS-247, Clause 6.2.3.1

2.2.2 Equipment Under Test and Modification State

A3545, S/N: H2DG9Y7XQ4 - Modification State 0

2.2.3 Date of Test

11-June-2026 to 17-July-2026

2.2.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 7.8.4.

2.2.5 Environmental Conditions

Ambient Temperature	21.8 - 23.3 °C
Relative Humidity	45.0 - 56.0 %



2.2.6 Test Results

2.4 GHz Bluetooth - FHSS

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1)(iii) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.4
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA GFSK (DH5)	Duty Cycle (%):	76.4
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Core 0)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	Time of Occupancy			Limit (ms)
	Dwell Time (ms)	Number of Transmissions	Time of Occupancy (ms)	
2402	2.877	112	322.2	400.0
2480	2.877	110	316.5	400.0

Table 31 - Time of Occupancy Results



Figure 1 - GFSK - 2402 MHz Accumulated Transmit Time

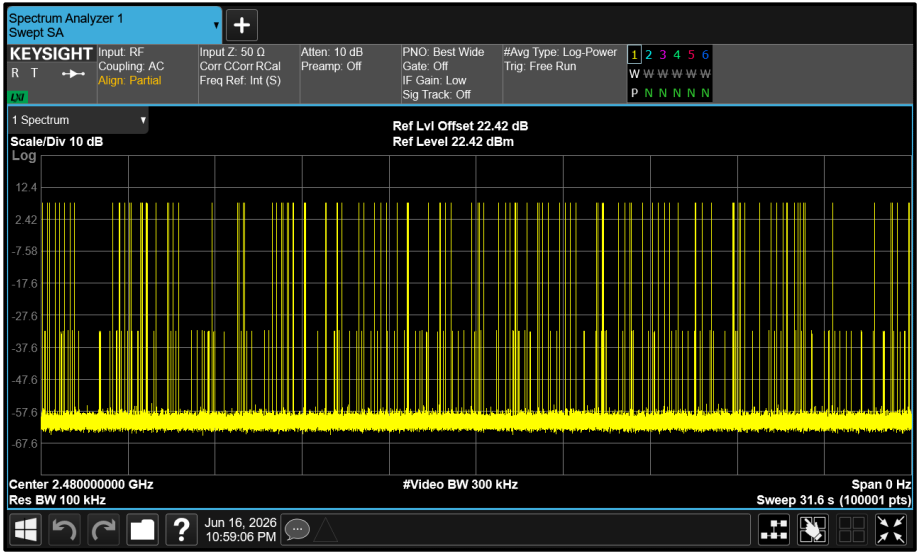


Figure 2 - GFSK - 2480 MHz Accumulated Transmit Time



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1)(iii) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.4
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA GFSK (DH5)	Duty Cycle (%):	76.4
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	Time of Occupancy			Limit (ms)
	Dwell Time (ms)	Number of Transmissions	Time of Occupancy (ms)	
2402	2.877	113	325.1	400.0
2480	2.877	104	299.2	400.0

Table 32 - Time of Occupancy Results



Figure 3 - GFSK - 2402 MHz Accumulated Transmit Time

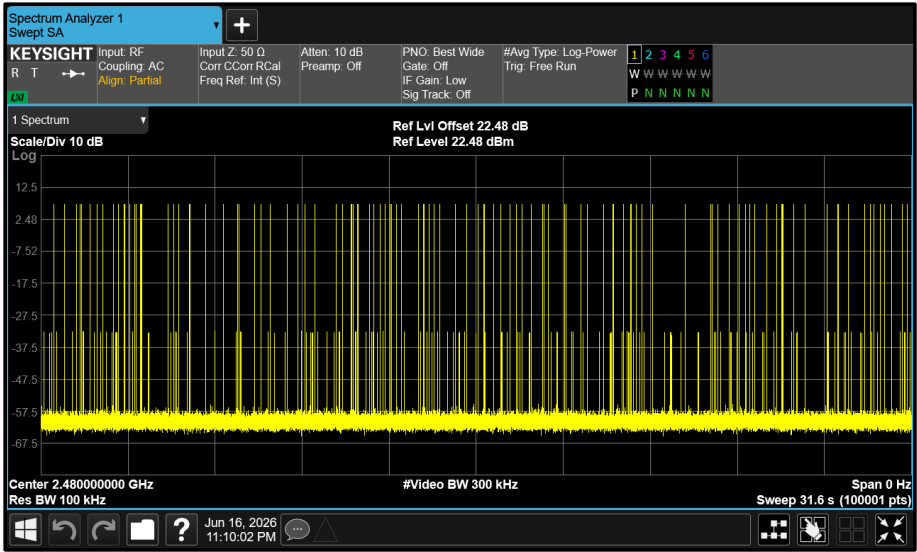


Figure 4 - GFSK - 2480 MHz Accumulated Transmit Time



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1)(iii) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.4
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA GFSK (DH5)	Duty Cycle (%):	76.4
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	C (Core 2)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	Time of Occupancy			Limit (ms)
	Dwell Time (ms)	Number of Transmissions	Time of Occupancy (ms)	
2402	2.878	112	322.3	400.0
2480	2.878	94	270.5	400.0

Table 33 - Time of Occupancy Results

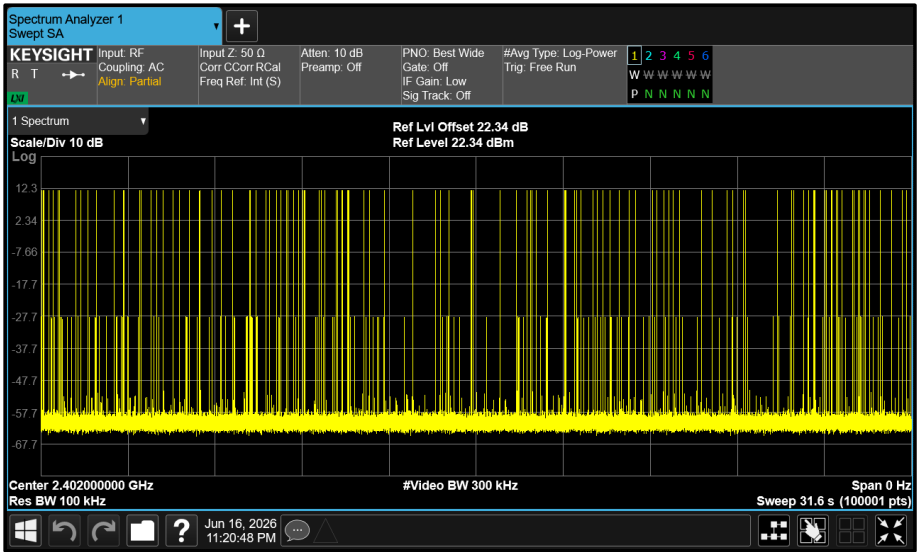


Figure 5 - GFSK - 2402 MHz Accumulated Transmit Time



Figure 6 - GFSK - 2480 MHz Accumulated Transmit Time



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1)(iii) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.4
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA GFSK (DH5)	Duty Cycle (%):	76.5
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Core 0)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	Time of Occupancy			Limit (ms)
	Dwell Time (ms)	Number of Transmissions	Time of Occupancy (ms)	
2402	2.882	101	291.1	400.0
2480	2.882	116	334.3	400.0

Table 34 - Time of Occupancy Results

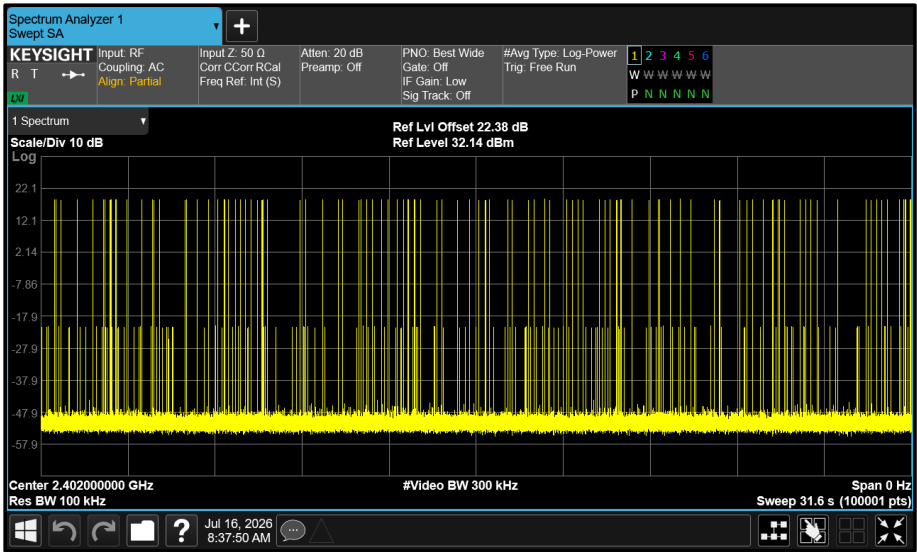


Figure 7 - GFSK - 2402 MHz Accumulated Transmit Time

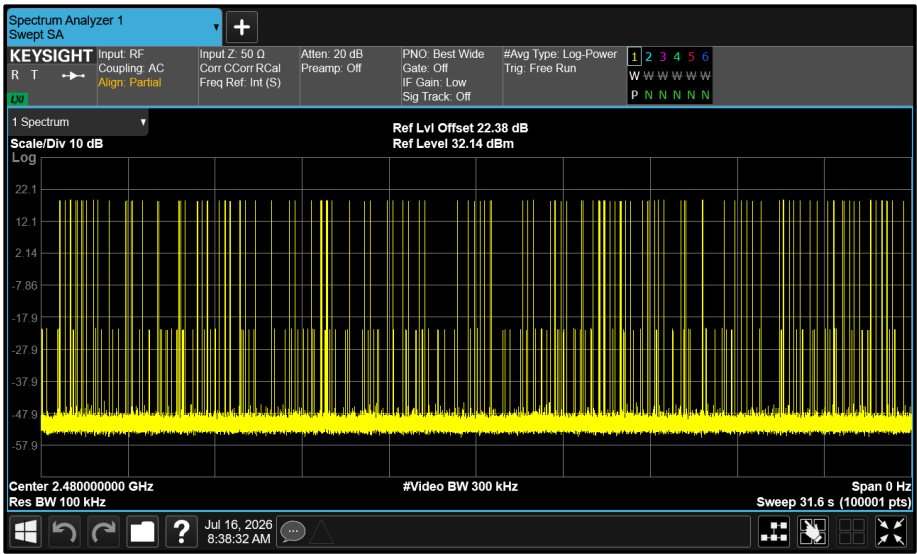


Figure 8 - GFSK - 2480 MHz Accumulated Transmit Time



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1)(iii) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.4
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA GFSK (DH5)	Duty Cycle (%):	76.4
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	B (Core 1)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	Time of Occupancy			Limit (ms)
	Dwell Time (ms)	Number of Transmissions	Time of Occupancy (ms)	
2402	2.878	103	296.4	400.0
2480	2.878	117	336.7	400.0

Table 35 - Time of Occupancy Results



Figure 9 - GFSK - 2402 MHz Accumulated Transmit Time

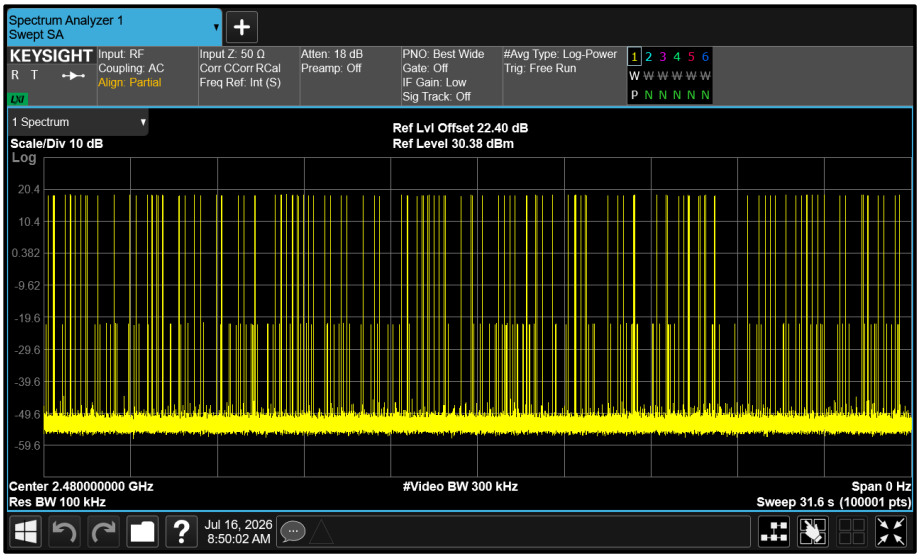


Figure 10 - GFSK - 2480 MHz Accumulated Transmit Time



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1)(iii) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.4
Additional Reference(s):	-		

DUT Configuration			
Mode:	iPA GFSK (DH5)	Duty Cycle (%):	76.4
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (Core 0+Core 1)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	Time of Occupancy			Limit (ms)
	Dwell Time (ms)	Number of Transmissions	Time of Occupancy (ms)	
2402	2.877	100	287.7	400.0
2480	2.877	89	256.1	400.0

Table 36 - Time of Occupancy Results



Figure 11 - GFSK - 2402 MHz Accumulated Transmit Time



Figure 12 - GFSK - 2480 MHz Accumulated Transmit Time



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1)(iii) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.4
Additional Reference(s):	-		

DUT Configuration			
Mode:	ePA GFSK (DH5)	Duty Cycle (%):	76.5
Antenna Configuration:	Beamforming	DCCF (dB):	-
Active Port(s):	A+B (Core 0+Core 1)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	Time of Occupancy			Limit (ms)
	Dwell Time (ms)	Number of Transmissions	Time of Occupancy (ms)	
2402	2.882	111	319.9	400.0
2480	2.882	112	322.8	400.0

Table 37 - Time of Occupancy Results



Figure 13 - GFSK - 2402 MHz Accumulated Transmit Time



Figure 14 - GFSK - 2480 MHz Accumulated Transmit Time

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

Frequency hopping systems operating in the band 2400-2483.5 MHz shall use at least 15 hopping channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Transmissions on particular hopping frequencies may be avoided or suppressed provided that a minimum of 15 hopping channels are used.

Industry Canada RSS-247, Limit Clause 6.2.3.1 (b)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds, multiplied by the number of hopping channels employed.



2.2.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 14.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
AC Programmable Power Supply	iTech	IT7324	5227	-	O/P Mon
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	5759	12	05-Mar-2027
USB Power Sensor	Boonton	RTP5008	5830	12	05-Mar-2027
USB Power Sensor	Boonton	RTP5008	5832	12	05-Mar-2027
MXA Signal Analyser	Keysight Technologies	N9020B	5919	24	31-Mar-2027
Humidity & Temperature meter	R.S Components	1364	6148	12	28-Aug-2026
MXA Signal Analyzer	Keysight Technologies	N9020B	6416	24	07-May-2027
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6518	12	25-Feb-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6529	12	25-Feb-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6530	12	25-Feb-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6531	12	25-Feb-2027
USB Wideband Power Sensor	Boonton	RTP5008	6587	12	25-Feb-2027
USB Wideband Power Sensor	Boonton	RTP5008	6588	12	25-Feb-2027
USB Wideband Power Sensor	Boonton	RTP5008	6589	12	25-Feb-2027
USB Wideband Power Sensor	Boonton	RTP5008	6592	12	05-Mar-2027
AC Programmable Power Supply	iTech	IT7324	6662	-	O/P Mon
DC Power Module	Keysight Technologies	N6754A	6663	-	O/P Mon
Modular Power System Mainframe	Keysight Technologies	N6701C	6664	-	O/P Mon
Digital Thermometer	R.S Components	RS 5511	6739	12	02-Mar-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6903	12	05-Mar-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6904	12	05-Mar-2027
Humidity & Temperature meter	Fluke	971	7103	12	05-Aug-2026
Multimeter	Fluke	115	7115	12	13-Aug-2026
6dB Attenuator cable assembly for SCU.	TUV SUD	SPECTRUM_SCU_CA	7214	12	05-Mar-2027
Thermostatic Chamber	Weiss Technik	LabEvent T/500/50/3	7316	24	O/P Mon

Table 38

O/P Mon - Output Monitored using calibrated equipment



2.3 Frequency Hopping Systems - Channel Separation

2.3.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (a)(1)
ISED RSS-247, Clause 6.2.3.1

2.3.2 Equipment Under Test and Modification State

A3545, S/N: H2DG9Y7XQ4 - Modification State 0

2.3.3 Date of Test

11-June-2026 to 17-July-2026

2.3.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 7.8.2.

2.3.5 Environmental Conditions

Ambient Temperature	21.8 - 23.3 °C
Relative Humidity	45.0 - 56.0 %



2.3.6 Test Results

2.4 GHz Bluetooth - FHSS

Test Configuration					
Frequency Range:		2400-2483.5 MHz		Band:	2.4 GHz
Limit Clause(s):		FCC 15.247(a)(1) RSS-247 6.2.3.1		Test Method(s):	C63.10 7.8.2
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)	Carrier Frequency Separation (MHz)			Limit (kHz)
		F1C	F2C	FHS	
2441	0.942	2441.003	2442.003	0.99960	≥628.0

Table 39 - Carrier Frequency Separation Results

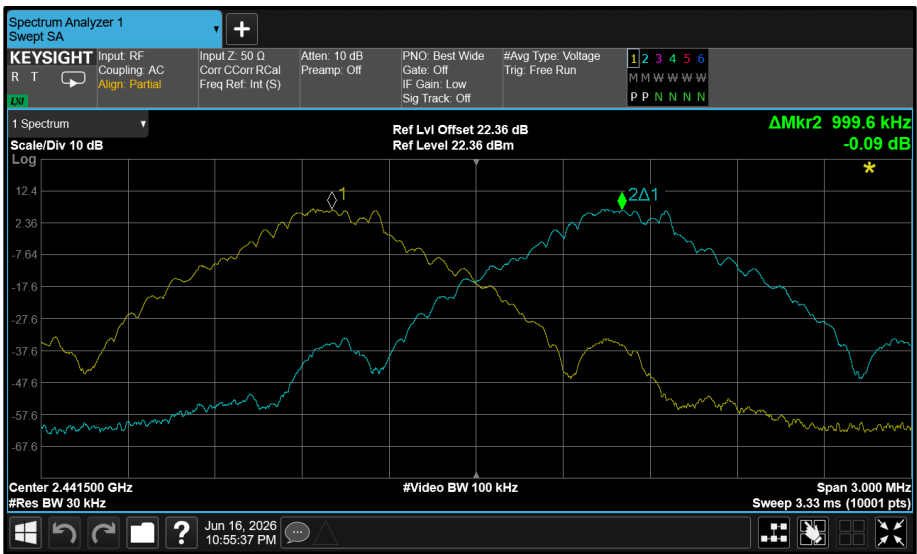


Figure 15 - GFSK - 2441 MHz (CH39)



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.2
Additional Reference(s):	-		

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

Test Frequency (MHz)	20 dB Bandwidth (MHz)	Carrier Frequency Separation (MHz)			Limit (kHz)
		F1C	F2C	FHS	
2441	0.940	2441.003	2442.003	0.9999	≥626.4

Table 40 - Carrier Frequency Separation Results

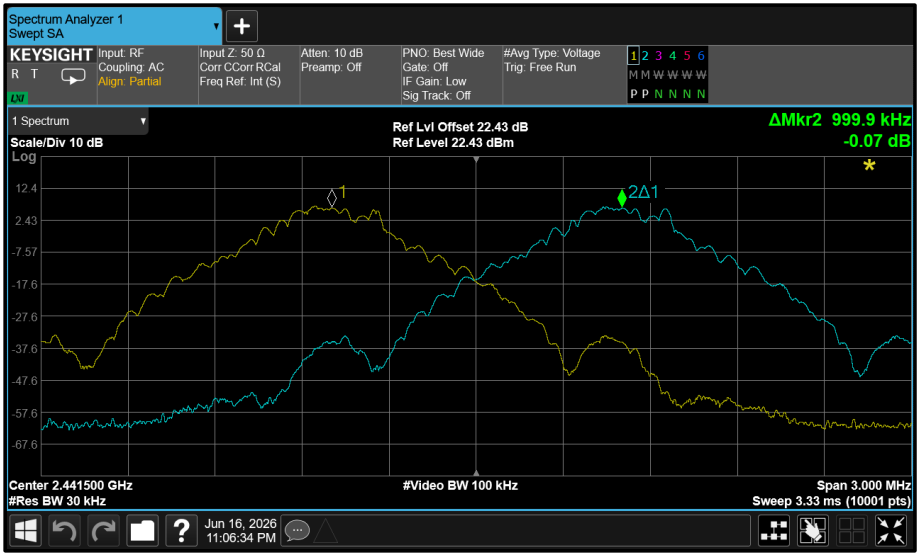


Figure 16 - GFSK - 2441 MHz (CH39)



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.2
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)	Carrier Frequency Separation (MHz)			Limit (kHz)
		F1C	F2C	FHS	
2441	0.940	2441.003	2442.001	0.9986	≥626.6

Table 41 - Carrier Frequency Separation Results

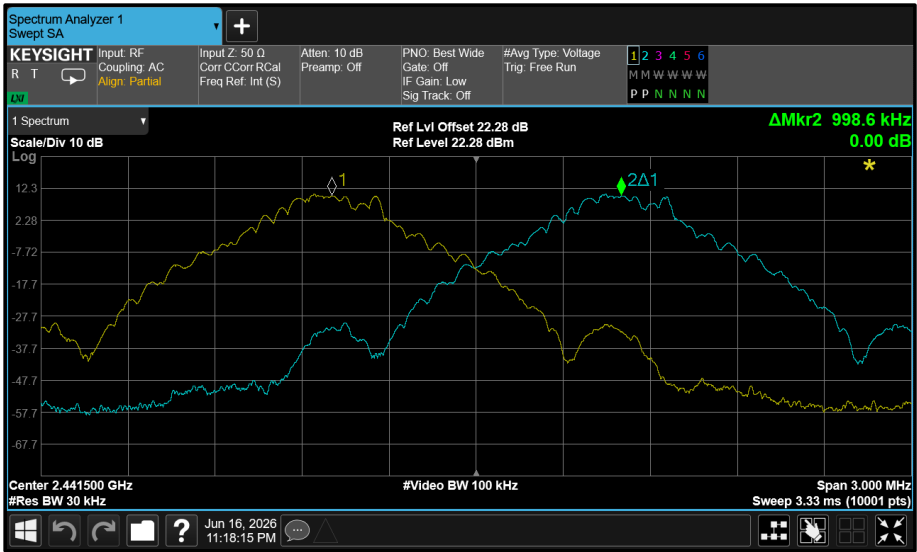


Figure 17 - GFSK - 2441 MHz (CH39)



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.2
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)	Carrier Frequency Separation (MHz)			Limit (kHz)
		F1C	F2C	FHS	
2441	0.941	2441.001	2442.001	1.00065	≥627.0

Table 42 - Carrier Frequency Separation Results

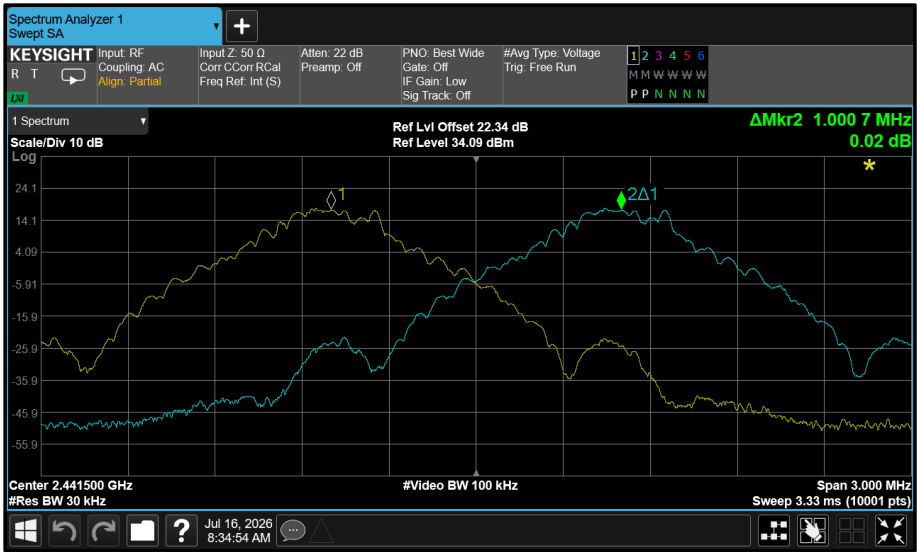


Figure 18 - GFSK - 2441 MHz (CH39)



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.2
Additional Reference(s):	-		

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

Test Frequency (MHz)	20 dB Bandwidth (MHz)	Carrier Frequency Separation (MHz)			Limit (kHz)
		F1C	F2C	FHS	
2441	0.939	2440.966	2442.001	1.03458	≥626.2

Table 43 - Carrier Frequency Separation Results

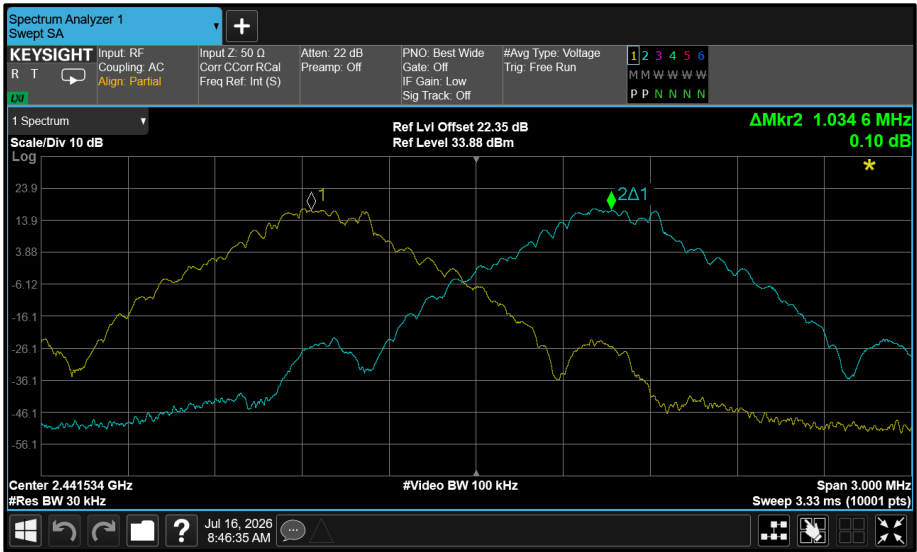


Figure 19 - GFSK - 2441 MHz (CH39)



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.2
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)	Carrier Frequency Separation (MHz)			Limit (kHz)
		F1C	F2C	FHS	
2441	0.941	2441.003	2442.003	1.0007	≥627.0

Table 44 - Carrier Frequency Separation Results

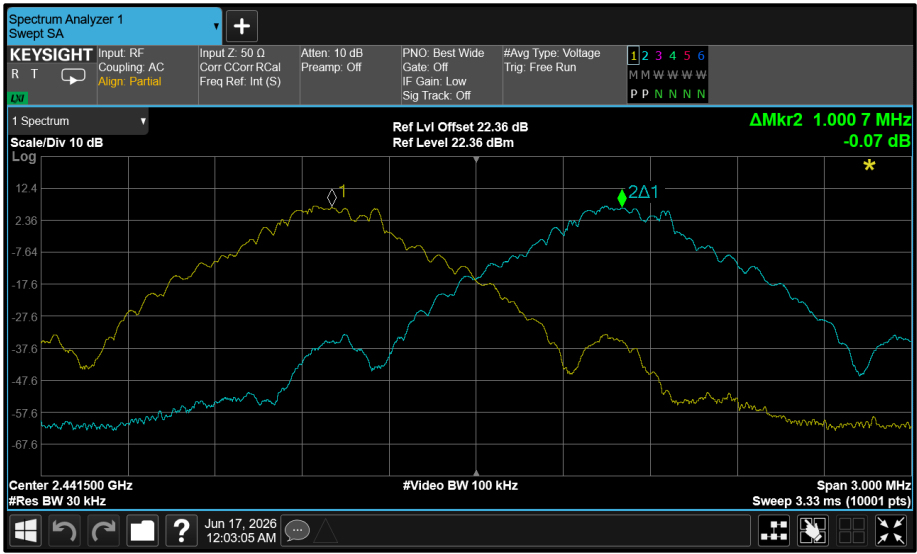


Figure 20 - GFSK - 2441 MHz (CH39)



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1) RSS-247 6.2.3.1	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	0.947	2441.000	2441.999	0.99975	≥631.6

Table 45 - Carrier Frequency Separation Results

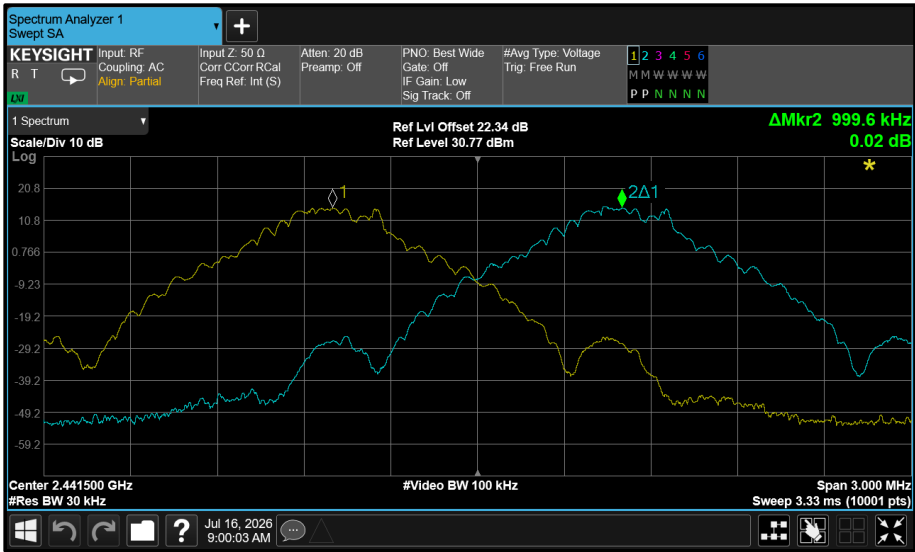


Figure 21 - GFSK - 2441 MHz (CH39)



2.3.7 Test Location and Test Equipment Used

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

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
AC Programmable Power Supply	iTech	IT7324	5227	-	O/P Mon
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	5759	12	05-Mar-2027
USB Power Sensor	Boonton	RTP5008	5830	12	05-Mar-2027
USB Power Sensor	Boonton	RTP5008	5832	12	05-Mar-2027
MXA Signal Analyser	Keysight Technologies	N9020B	5919	24	31-Mar-2027
Humidity & Temperature meter	R.S Components	1364	6148	12	28-Aug-2026
MXA Signal Analyzer	Keysight Technologies	N9020B	6416	24	07-May-2027
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6518	12	25-Feb-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6529	12	25-Feb-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6530	12	25-Feb-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6531	12	25-Feb-2027
USB Wideband Power Sensor	Boonton	RTP5008	6587	12	25-Feb-2027
USB Wideband Power Sensor	Boonton	RTP5008	6588	12	25-Feb-2027
USB Wideband Power Sensor	Boonton	RTP5008	6589	12	25-Feb-2027
USB Wideband Power Sensor	Boonton	RTP5008	6592	12	05-Mar-2027
AC Programmable Power Supply	iTech	IT7324	6662	-	O/P Mon
DC Power Module	Keysight Technologies	N6754A	6663	-	O/P Mon
Modular Power System Mainframe	Keysight Technologies	N6701C	6664	-	O/P Mon
Digital Thermometer	R.S Components	RS 5511	6739	12	02-Mar-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6903	12	05-Mar-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6904	12	05-Mar-2027
Humidity & Temperature meter	Fluke	971	7103	12	05-Aug-2026
Multimeter	Fluke	115	7115	12	13-Aug-2026
6dB Attenuator cable assembly for SCU.	TUV SUD	SPECTRUM_SCU_CA	7214	12	05-Mar-2027
Thermostatic Chamber	Weiss Technik	LabEvent T/500/50/3	7316	24	O/P Mon

Table 46

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 6.2.3.1

2.4.2 Equipment Under Test and Modification State

A3545, S/N: H2DG9Y7XQ4 - Modification State 0

2.4.3 Date of Test

11-June-2026 to 17-July-2026

2.4.4 Test Method

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

2.4.5 Environmental Conditions

Ambient Temperature	21.8 - 23.3 °C
Relative Humidity	45.0 - 56.0 %



2.4.6 Test Results

2.4 GHz Bluetooth - FHSS

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 6.2.3.1	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 47 - Number of Hopping Frequencies Results

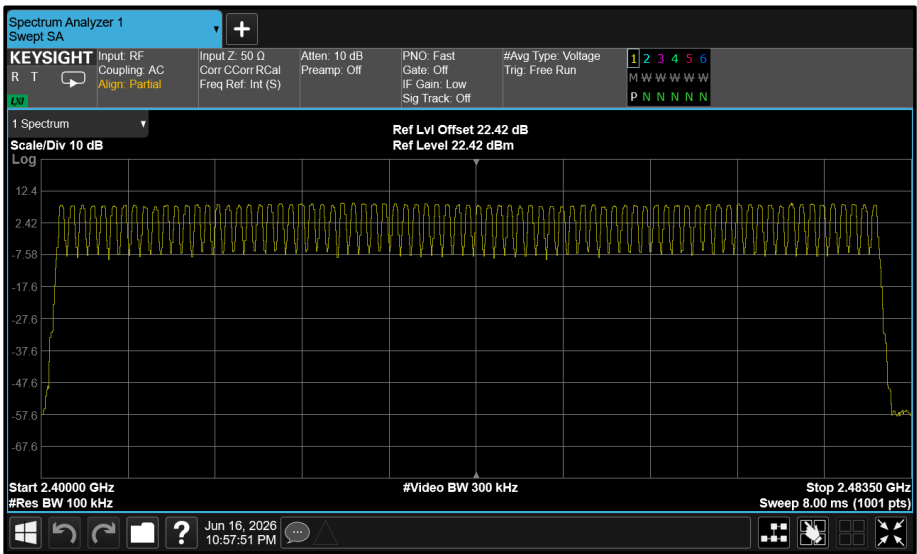


Figure 22 - GFSK (DH5) - Number of Hopping Channels



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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

Number of Hopping Frequencies	Limit
79	≥15.0

Table 48 - Number of Hopping Frequencies Results

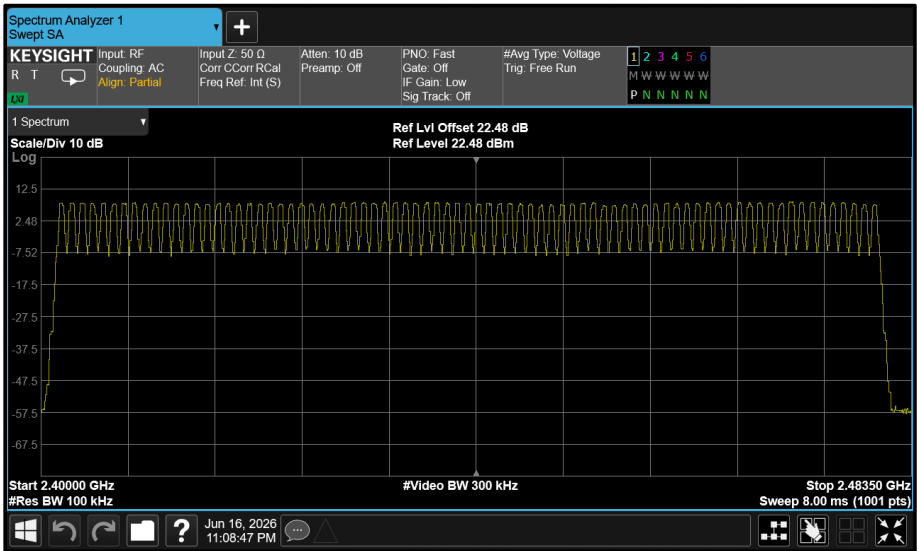


Figure 23 - GFSK (DH5) - Number of Hopping Channels



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 6.2.3.1	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 49 - Number of Hopping Frequencies Results

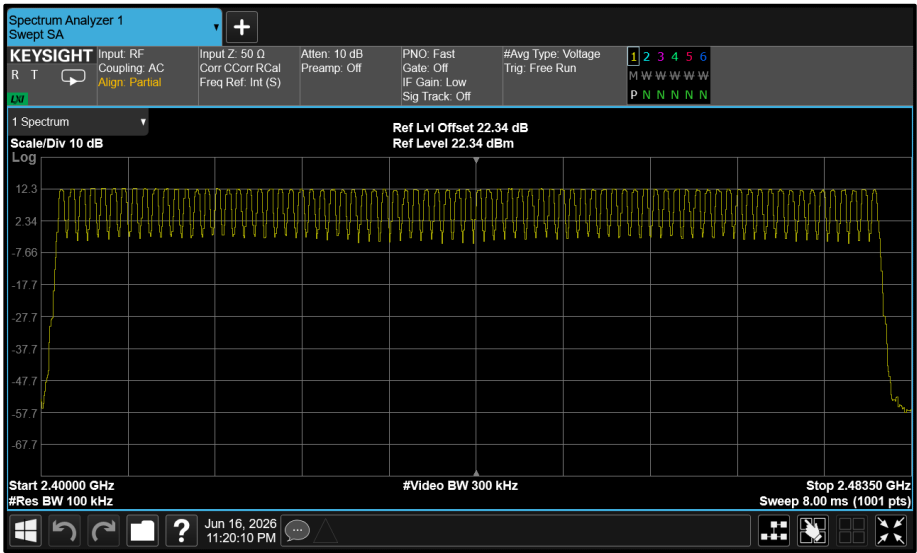


Figure 24 - GFSK (DH5) - Number of Hopping Channels



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 6.2.3.1	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 50 - Number of Hopping Frequencies Results

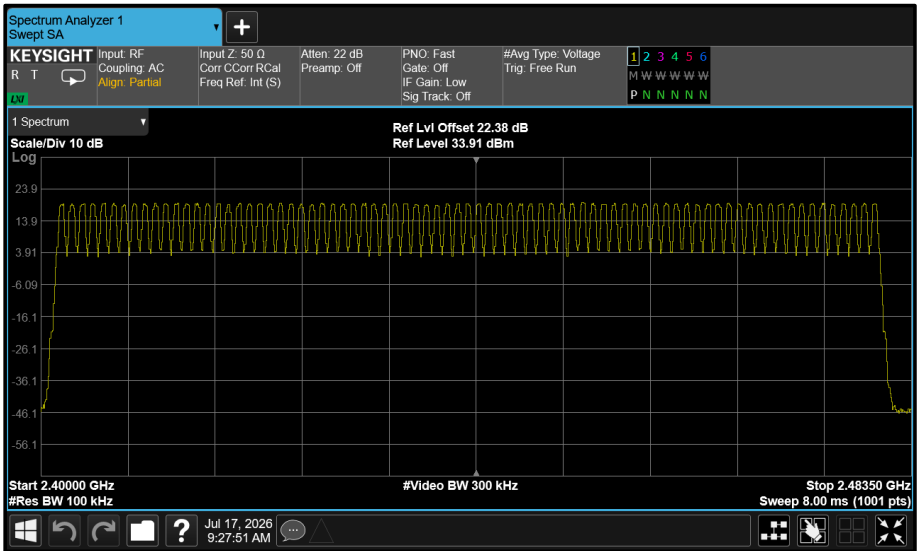


Figure 25 - GFSK (DH5) - Number of Hopping Channels



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 6.2.3.1	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):	B (Core 1)	Peak Antenna Gain (dBi):	-

Number of Hopping Frequencies	Limit
79	≥15.0

Table 51 - Number of Hopping Frequencies Results

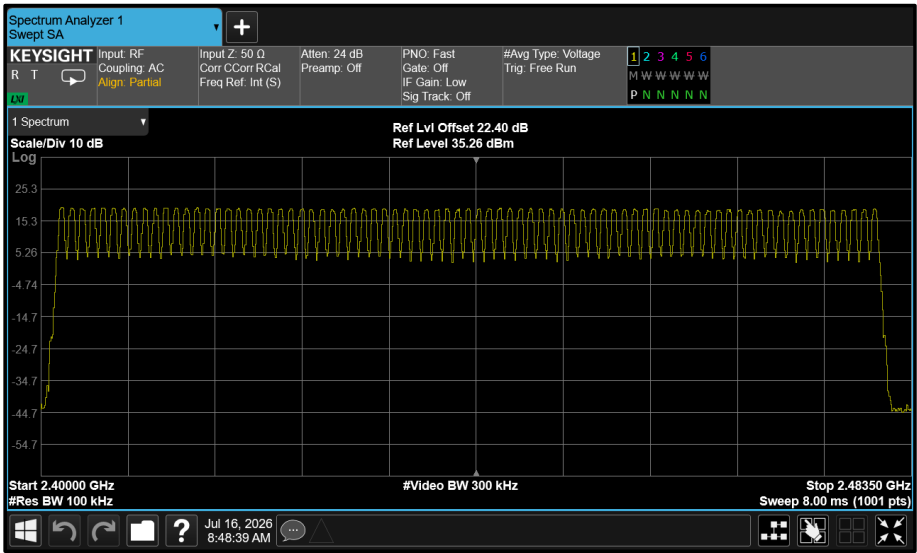


Figure 26 - GFSK (DH5) - Number of Hopping Channels



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 6.2.3.1	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

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

Number of Hopping Frequencies	Limit
79	≥15.0

Table 52 - Number of Hopping Frequencies Results

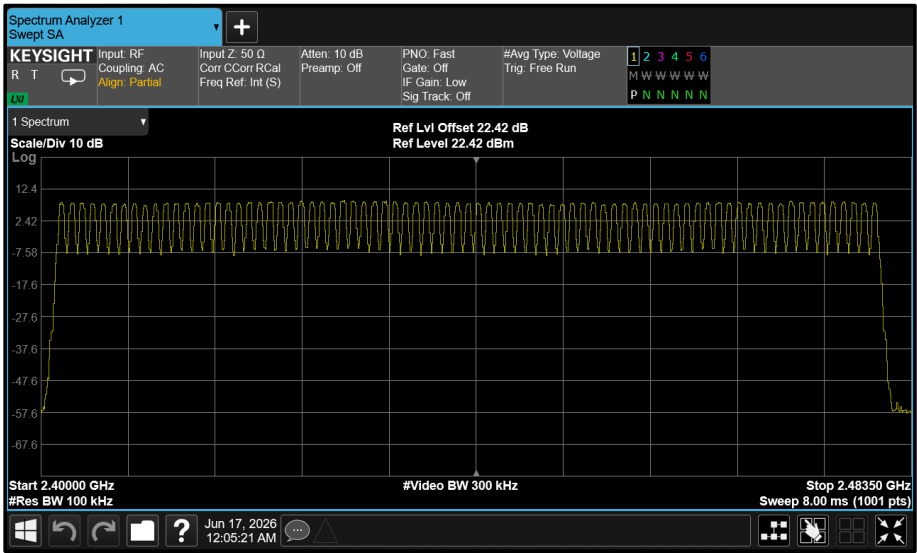


Figure 27 - GFSK (DH5) - Number of Hopping Channels



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	FCC 15.247(a)(1)(iii) RSS-247 6.2.3.1	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 53 - Number of Hopping Frequencies Results

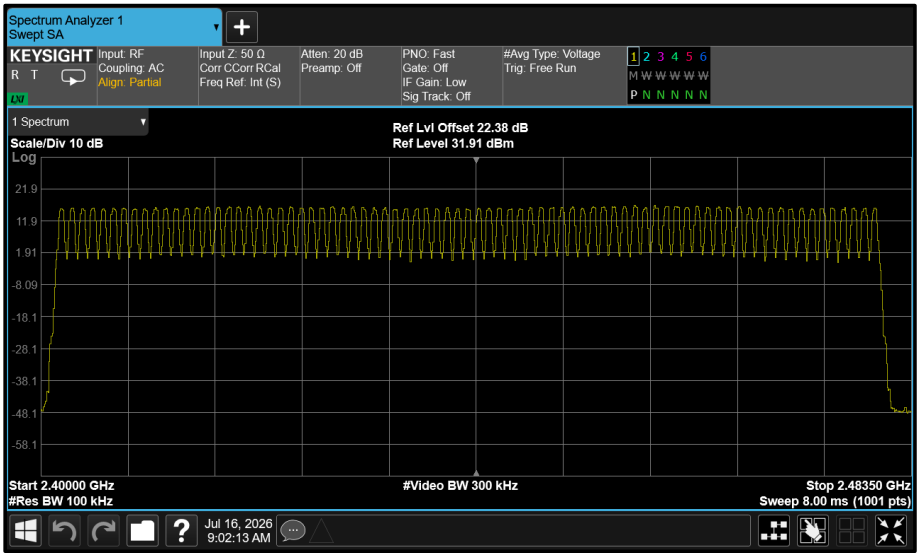


Figure 28 - GFSK (DH5) - Number of Hopping Channels

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

≥ 15 channels

ISED RSS-247, Limit Clause 6.2.3.1 (b)

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

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
AC Programmable Power Supply	iTech	IT7324	5227	-	O/P Mon
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	5759	12	05-Mar-2027
USB Power Sensor	Boonton	RTP5008	5830	12	05-Mar-2027
USB Power Sensor	Boonton	RTP5008	5832	12	05-Mar-2027
MXA Signal Analyser	Keysight Technologies	N9020B	5919	24	31-Mar-2027
Humidity & Temperature meter	R.S Components	1364	6148	12	28-Aug-2026
MXA Signal Analyzer	Keysight Technologies	N9020B	6416	24	07-May-2027
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6518	12	25-Feb-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6529	12	25-Feb-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6530	12	25-Feb-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6531	12	25-Feb-2027
USB Wideband Power Sensor	Boonton	RTP5008	6587	12	25-Feb-2027
USB Wideband Power Sensor	Boonton	RTP5008	6588	12	25-Feb-2027
USB Wideband Power Sensor	Boonton	RTP5008	6589	12	25-Feb-2027
USB Wideband Power Sensor	Boonton	RTP5008	6592	12	05-Mar-2027
AC Programmable Power Supply	iTech	IT7324	6662	-	O/P Mon
DC Power Module	Keysight Technologies	N6754A	6663	-	O/P Mon
Modular Power System Mainframe	Keysight Technologies	N6701C	6664	-	O/P Mon
Digital Thermometer	R.S Components	RS 5511	6739	12	02-Mar-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6903	12	05-Mar-2027
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6904	12	05-Mar-2027
Humidity & Temperature meter	Fluke	971	7103	12	05-Aug-2026
Multimeter	Fluke	115	7115	12	13-Aug-2026
6dB Attenuator cable assembly for SCU.	TUV SUD	SPECTRUM_SCU_CA	7214	12	05-Mar-2027
Thermostatic Chamber	Weiss Technik	LabEvent T/500/50/3	7316	24	O/P Mon

Table 54

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 6.2.3.1
ISED RSS-GEN, Clause 6.7

2.5.2 Equipment Under Test and Modification State

A3545, S/N: H2DG9Y7XQ4 - Modification State 0

2.5.3 Date of Test

11-June-2026 to 17-July-2026

2.5.4 Test Method

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

2.5.5 Environmental Conditions

Ambient Temperature	21.8 - 23.3 °C
Relative Humidity	45.0 - 56.0 %



2.5.6 Test Results

2.4 GHz Bluetooth - FHSS

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2) RSS-247 6.2.3	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	0.891	-	-	-
2441	0.891	-	-	-
2480	0.891	-	-	-

Table 55 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	0.825	-	-	-	-
2441	0.828	-	-	-	-
2480	0.828	-	-	-	-

Table 56 - 99% Bandwidth Results

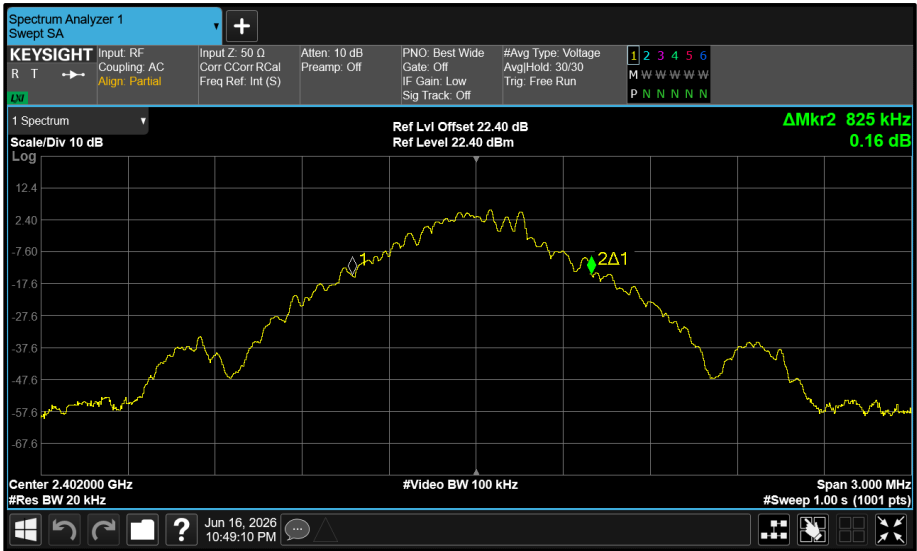


Figure 29 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

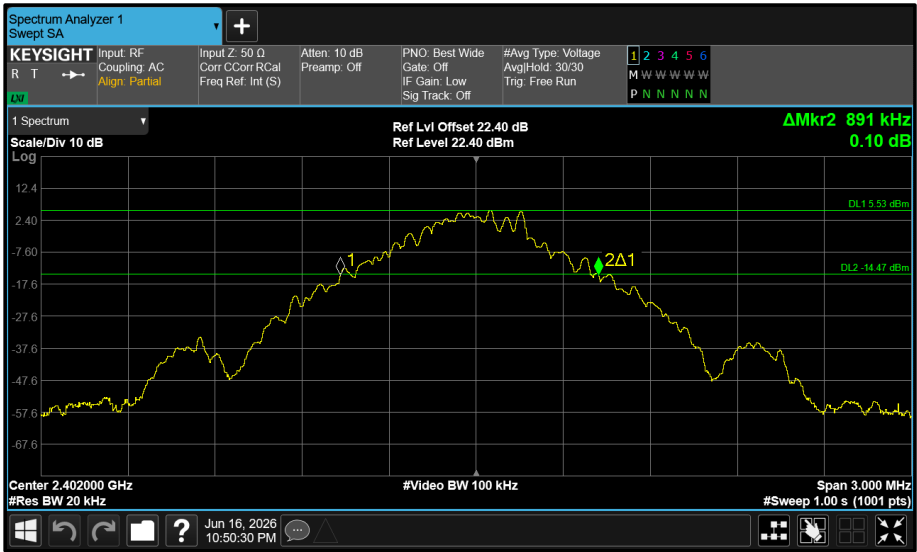


Figure 30 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

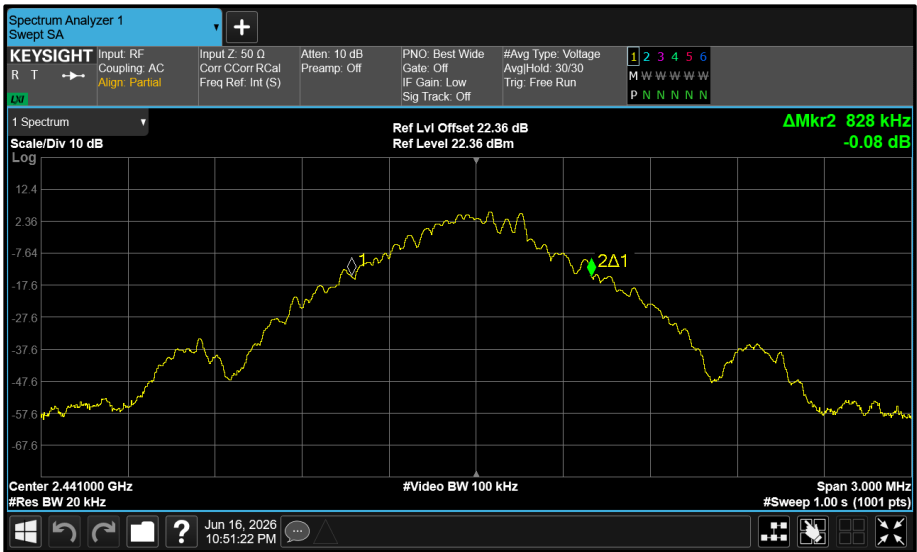


Figure 31 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

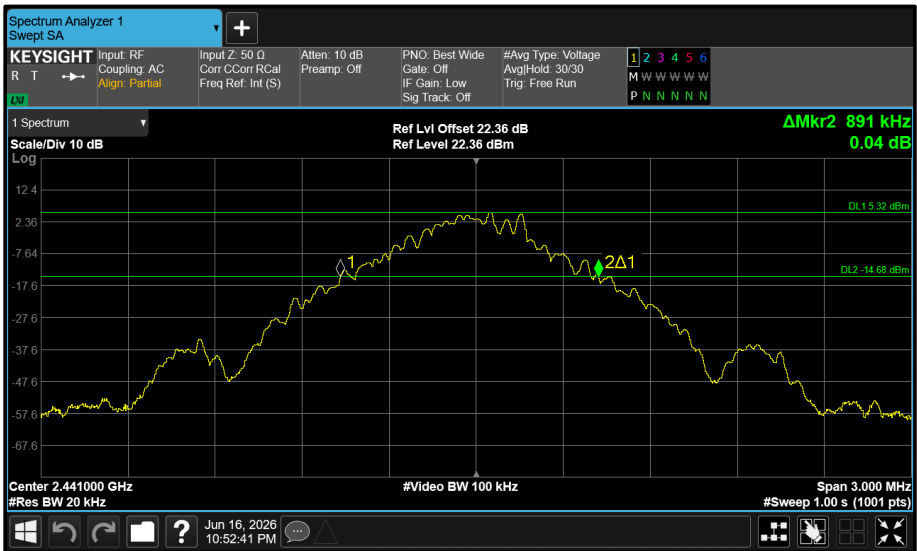


Figure 32 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

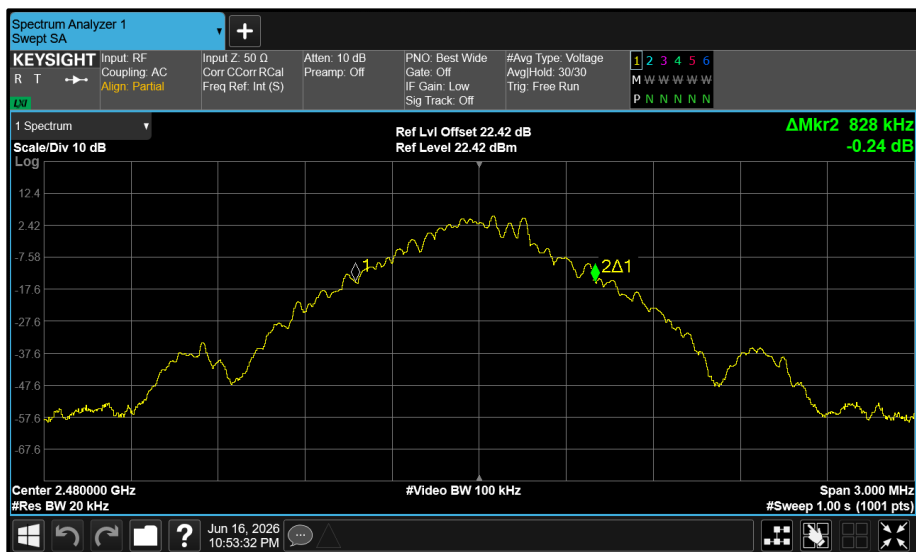


Figure 33 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

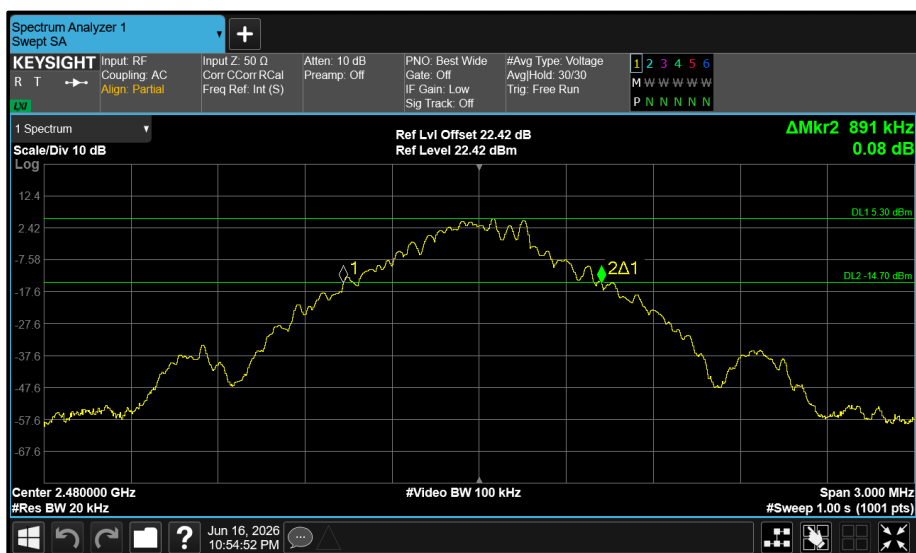


Figure 34 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2) RSS-247 6.2.3	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):	B (Core 1)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	-	0.891	-	-
2441	-	0.891	-	-
2480	-	0.891	-	-

Table 57 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	-	0.825	-	-	-
2441	-	0.828	-	-	-
2480	-	0.828	-	-	-

Table 58 - 99% Bandwidth Results

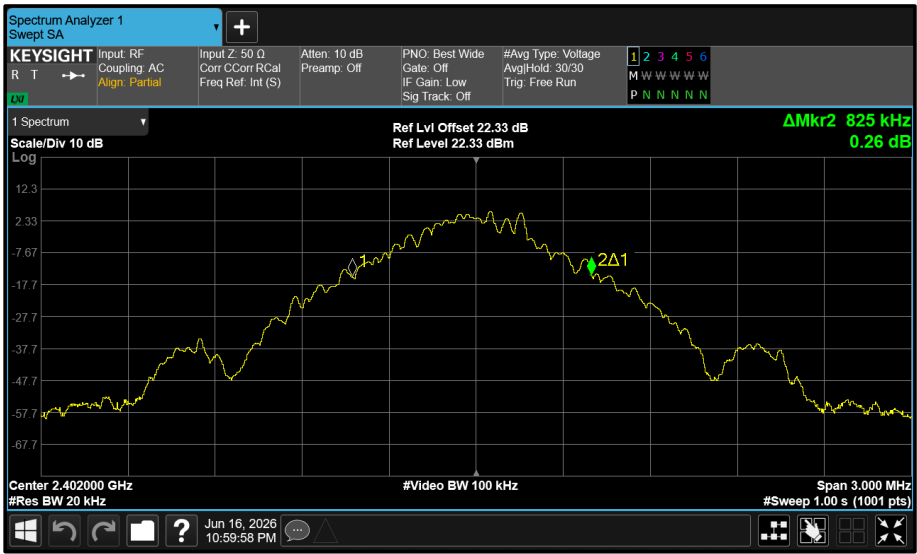


Figure 35 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

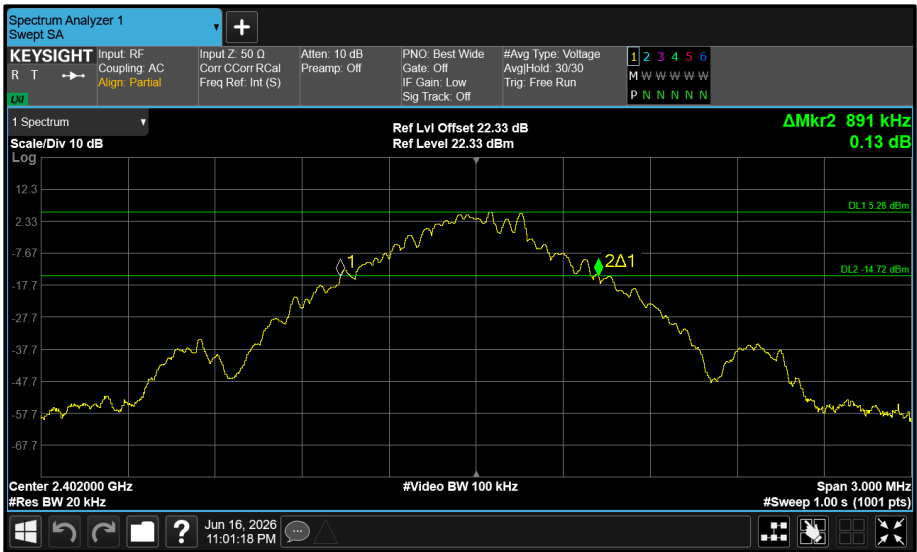


Figure 36 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

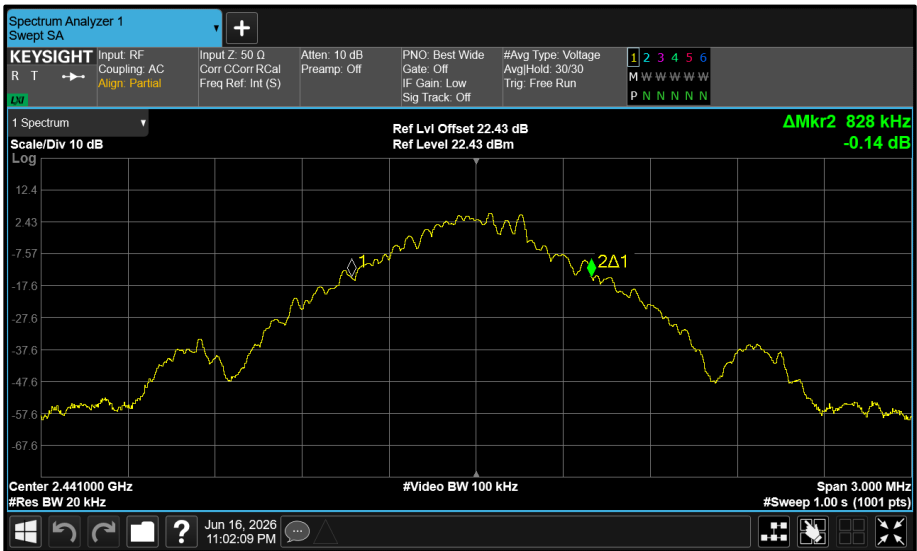


Figure 37 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

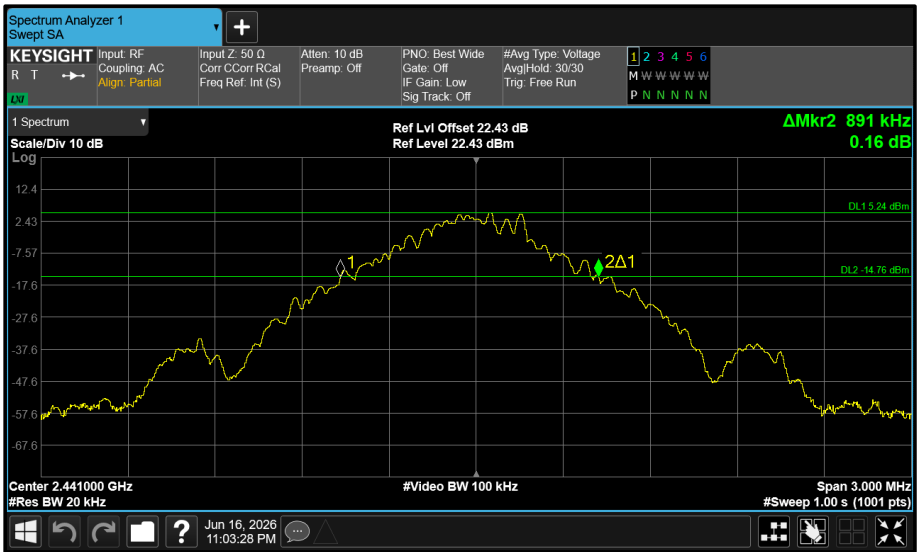


Figure 38 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

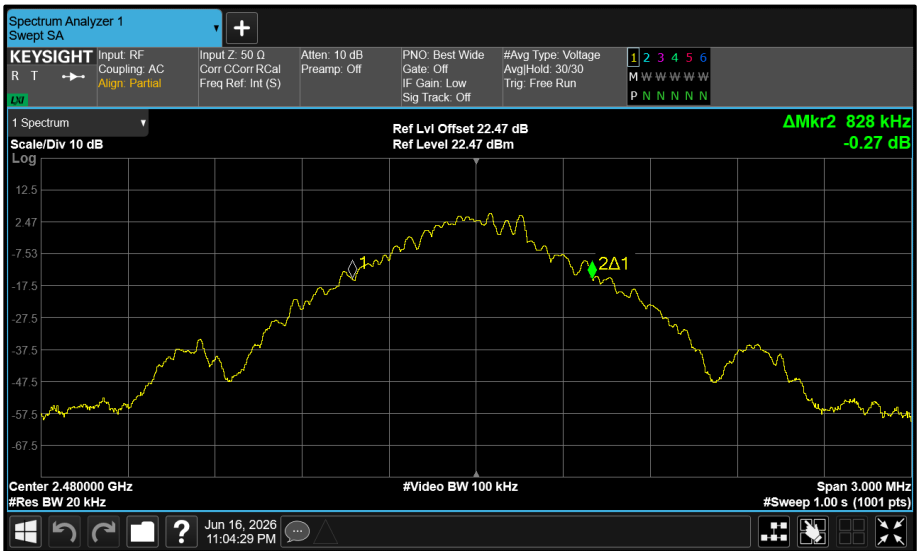


Figure 39 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

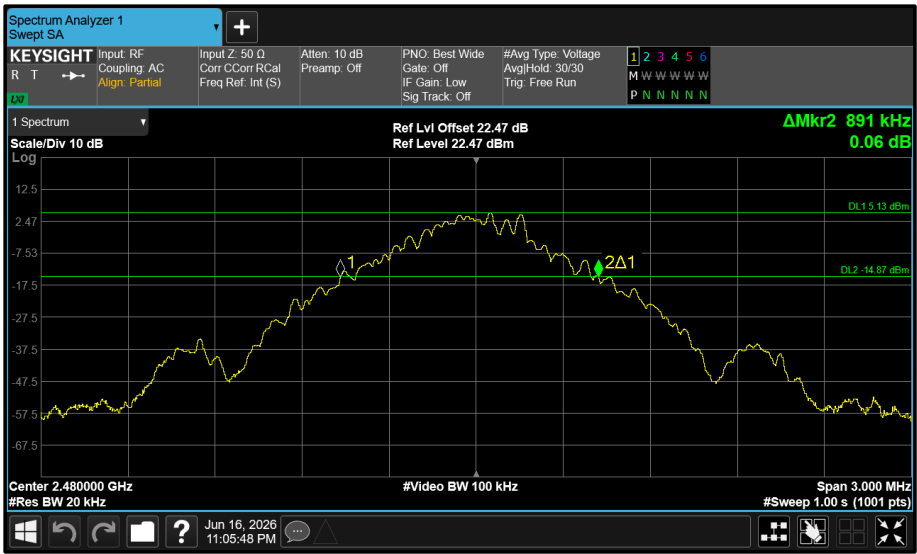


Figure 40 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2) RSS-247 6.2.3	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):	C (Core 2)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	-	-	0.891	-
2441	-	-	0.891	-
2480	-	-	0.891	-

Table 59 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	-	-	0.822	-	-
2441	-	-	0.822	-	-
2480	-	-	0.825	-	-

Table 60 - 99% Bandwidth Results

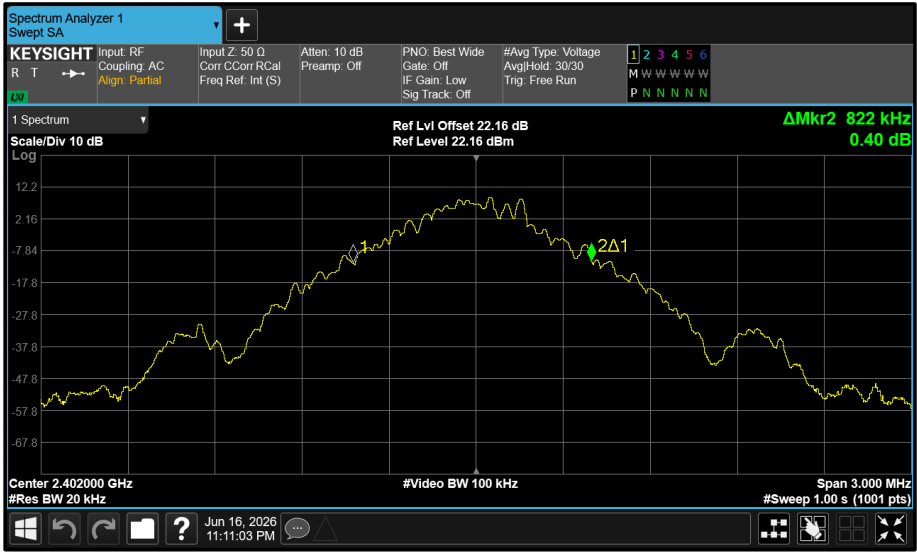


Figure 41 - Core 2 (C) 2402 MHz (CH0) 99% Bandwidth

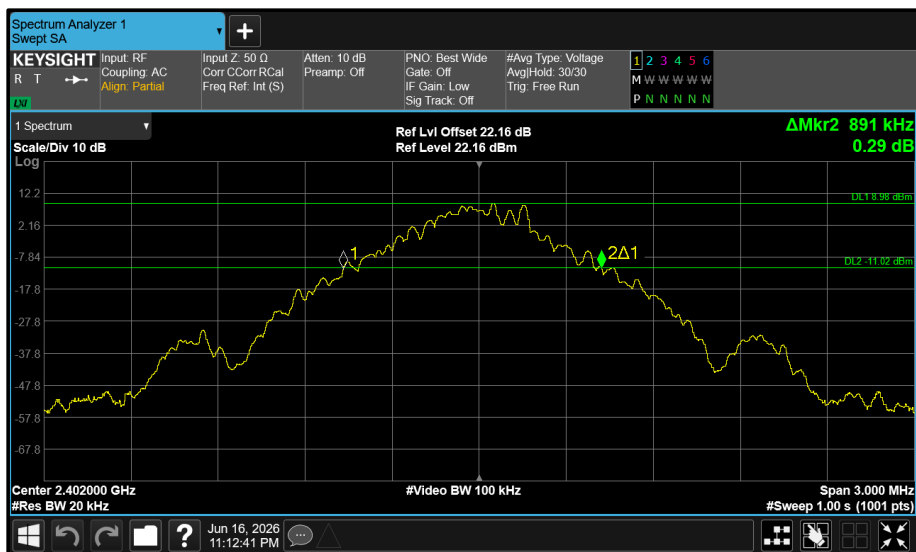


Figure 42 - Core 2 (C) 2402 MHz (CH0) 20 dB Bandwidth

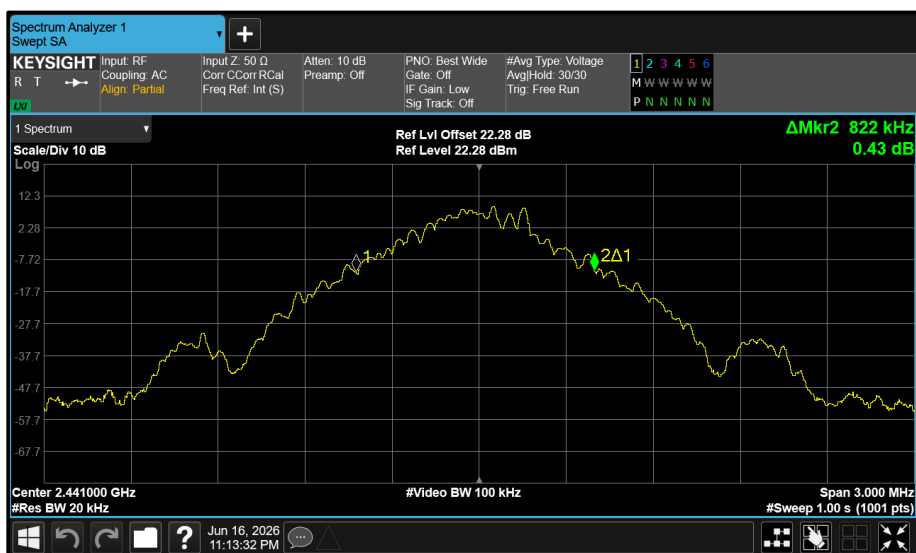


Figure 43 - Core 2 (C) 2441 MHz (CH39) 99% Bandwidth

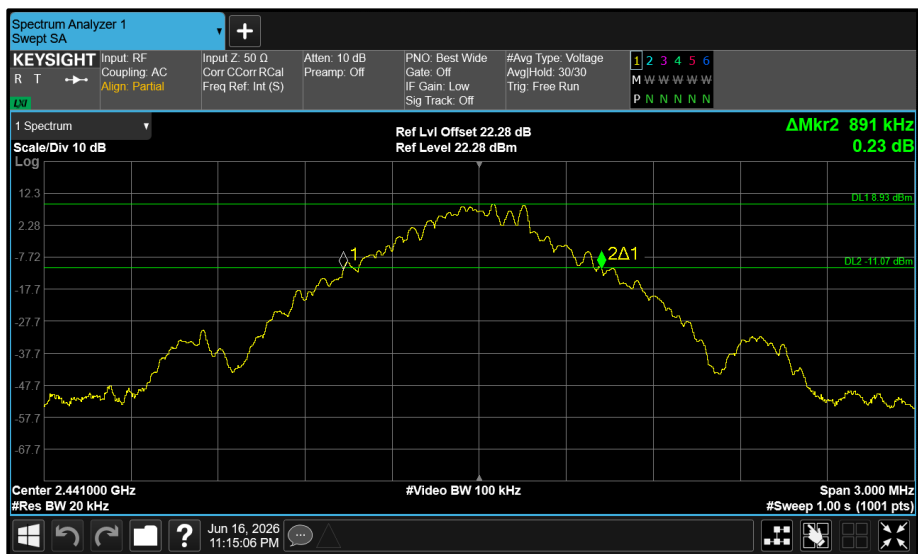


Figure 44 - Core 2 (C) 2441 MHz (CH39) 20 dB Bandwidth

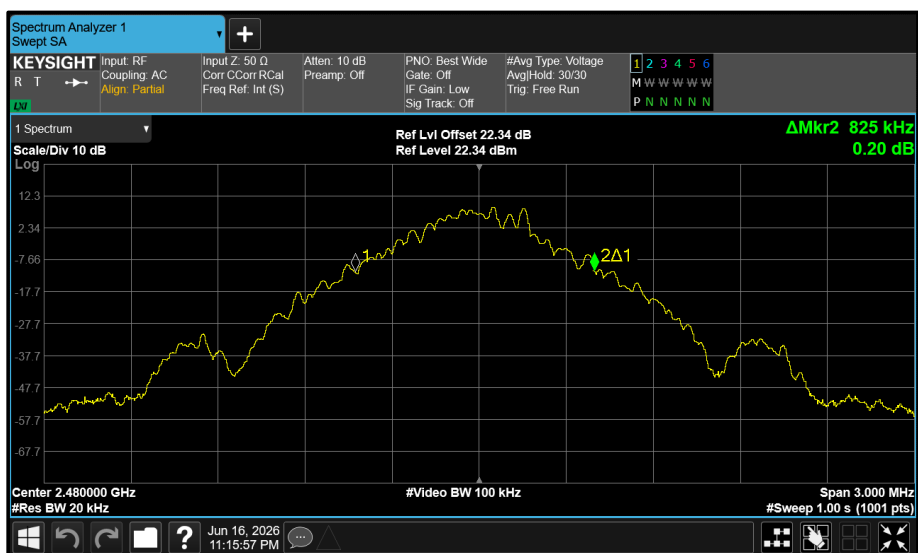


Figure 45 - Core 2 (C) 2480 MHz (CH78) 99% Bandwidth

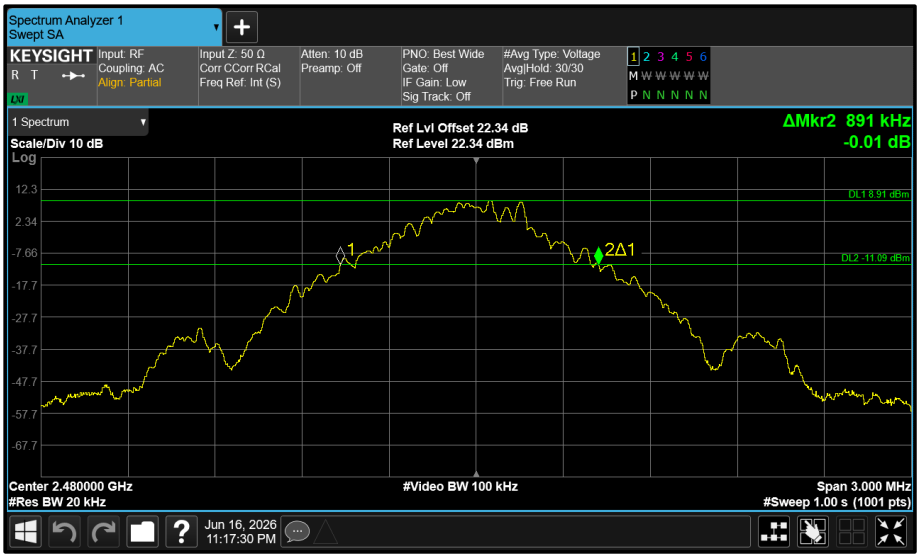


Figure 46 - Core 2 (C) 2480 MHz (CH78) 20 dB Bandwidth



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2) RSS-247 6.2.3	Test Method(s):	C63.10 6.9.3 C63.10 6.9.2
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	0.888	-	-	-
2441	0.891	-	-	-
2480	0.891	-	-	-

Table 61 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	0.825	-	-	-	-
2441	0.825	-	-	-	-
2480	0.825	-	-	-	-

Table 62 - 99% Bandwidth Results

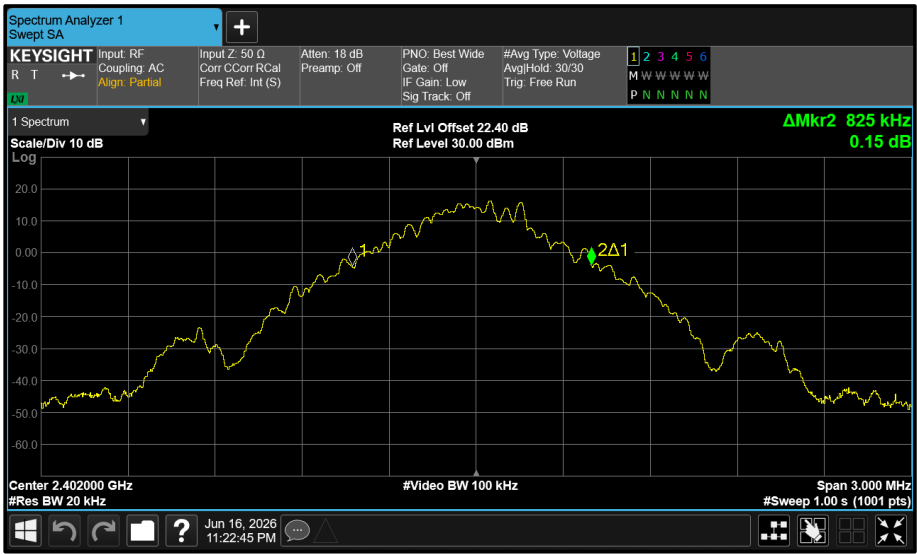


Figure 47 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

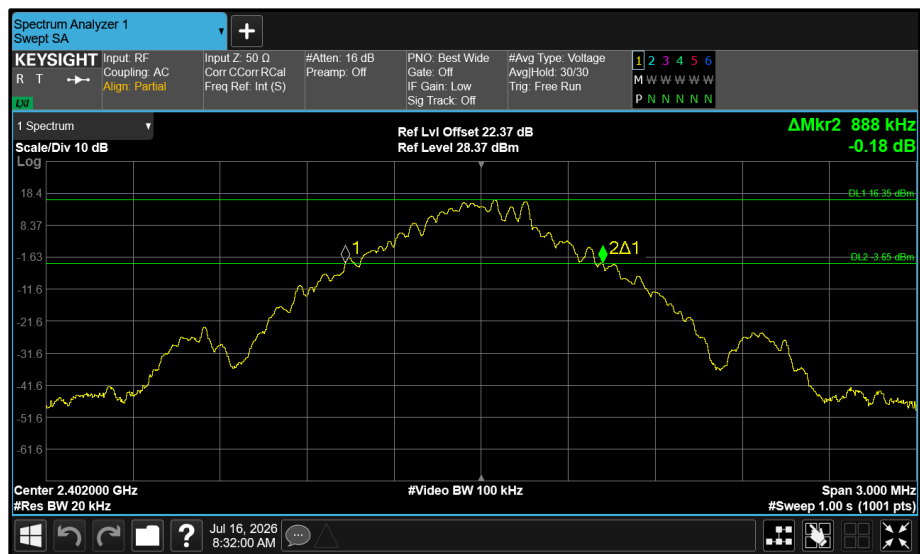


Figure 48 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

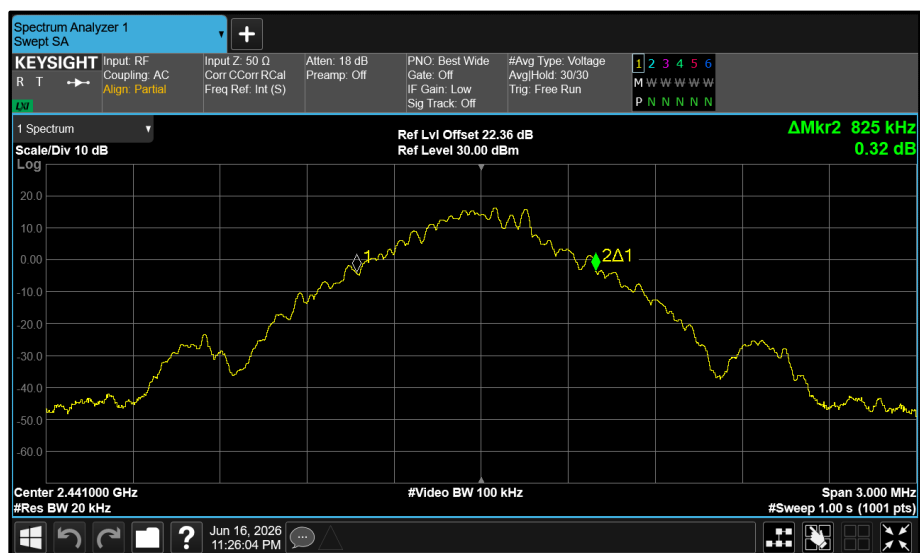


Figure 49 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

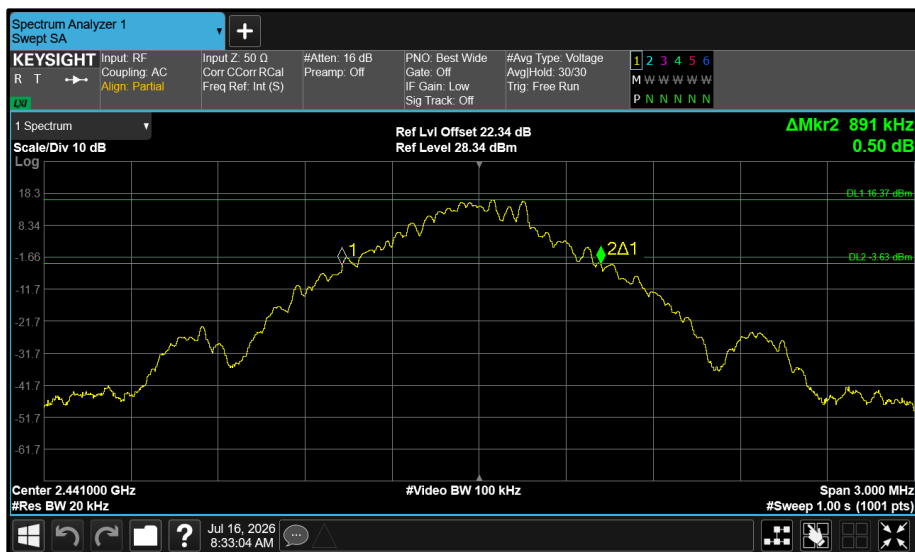


Figure 50 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

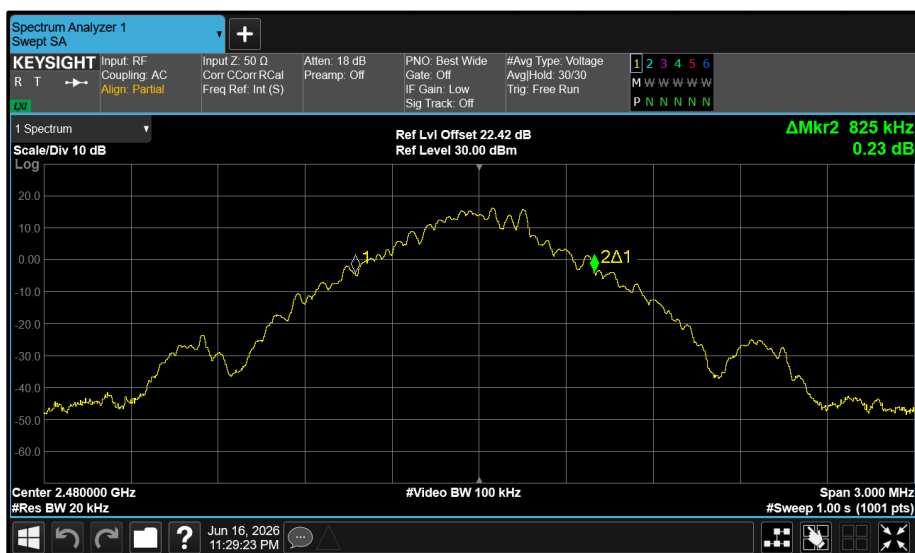


Figure 51 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

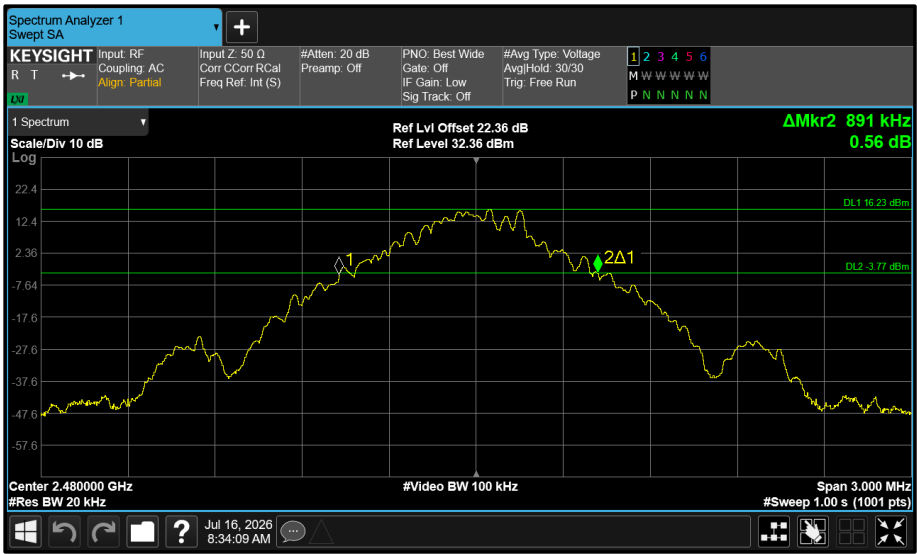


Figure 52 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2) RSS-247 6.2.3	Test Method(s):	C63.10 6.9.3 C63.10 6.9.2
Additional Reference(s):	-		

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

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	-	0.891	-	-
2441	-	0.891	-	-
2480	-	0.891	-	-

Table 63 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	-	0.828	-	-	-
2441	-	0.828	-	-	-
2480	-	0.825	-	-	-

Table 64 - 99% Bandwidth Results

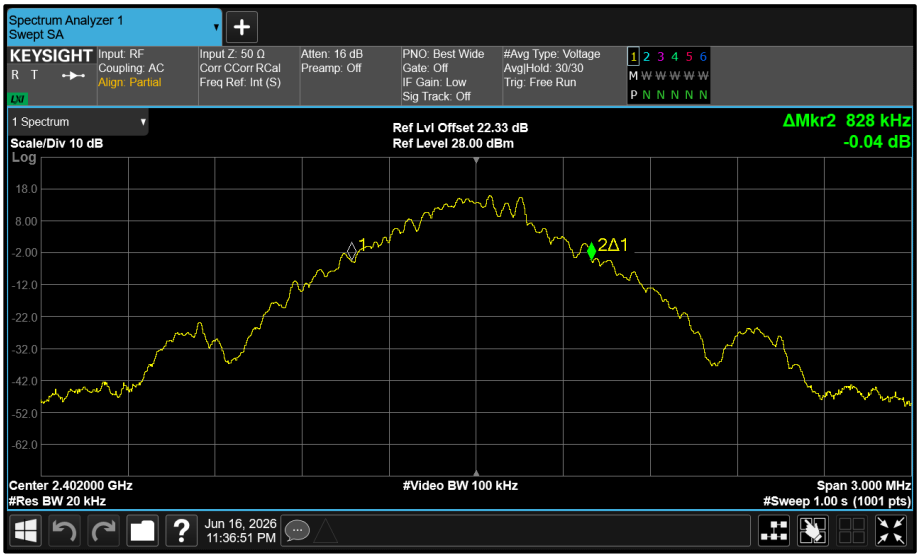


Figure 53 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

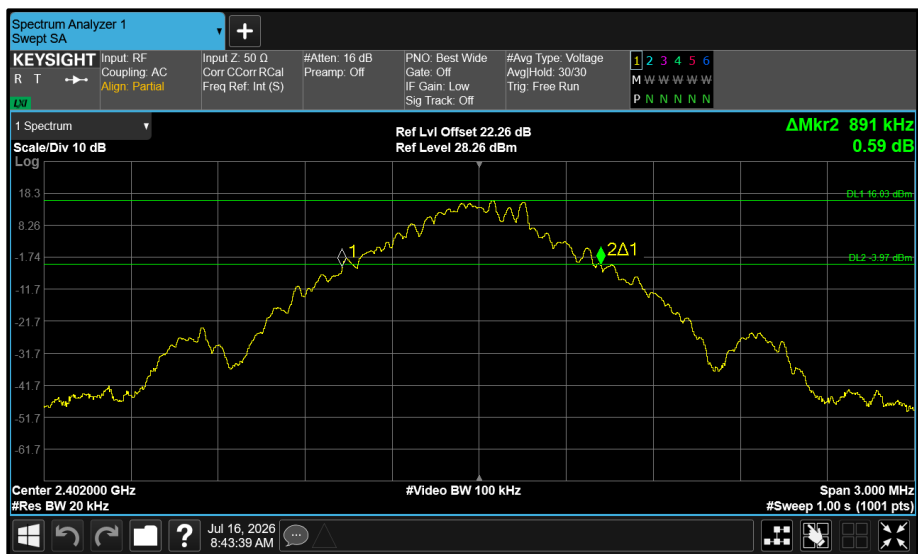


Figure 54 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

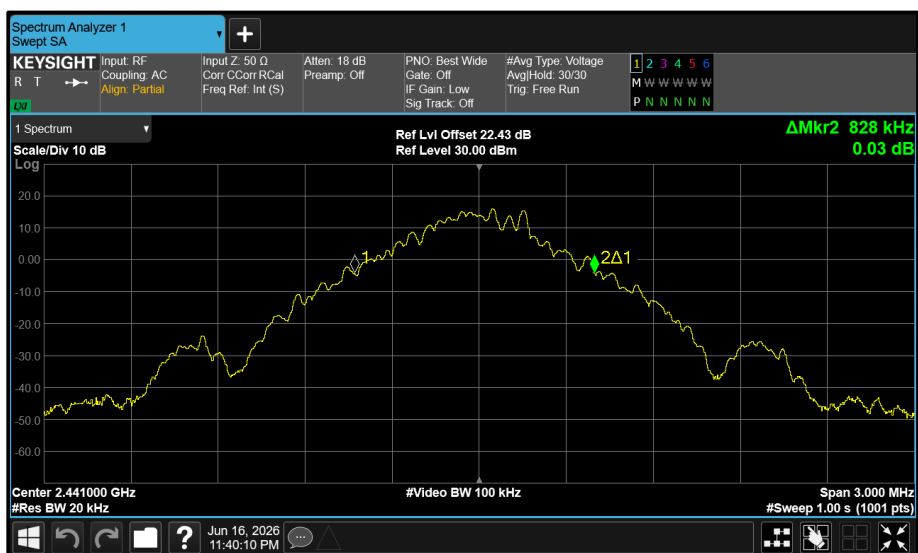


Figure 55 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

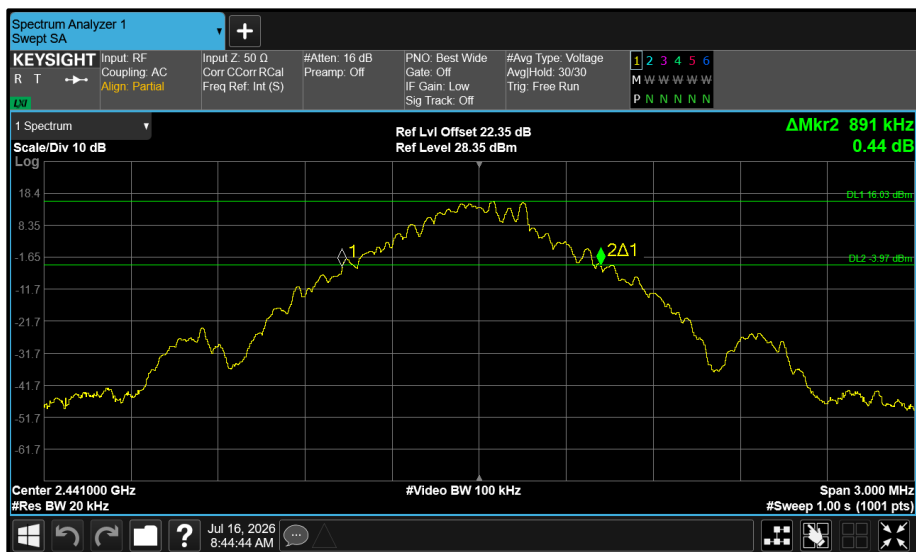


Figure 56 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

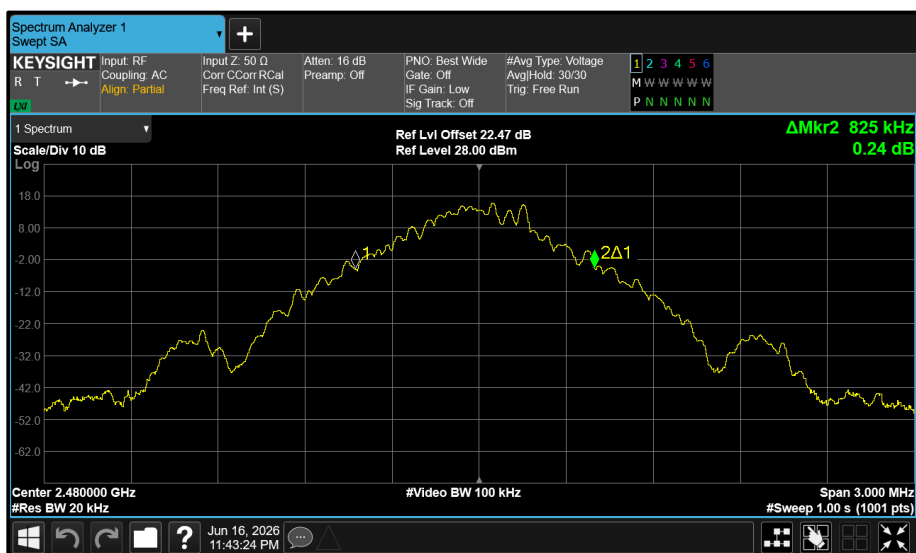


Figure 57 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

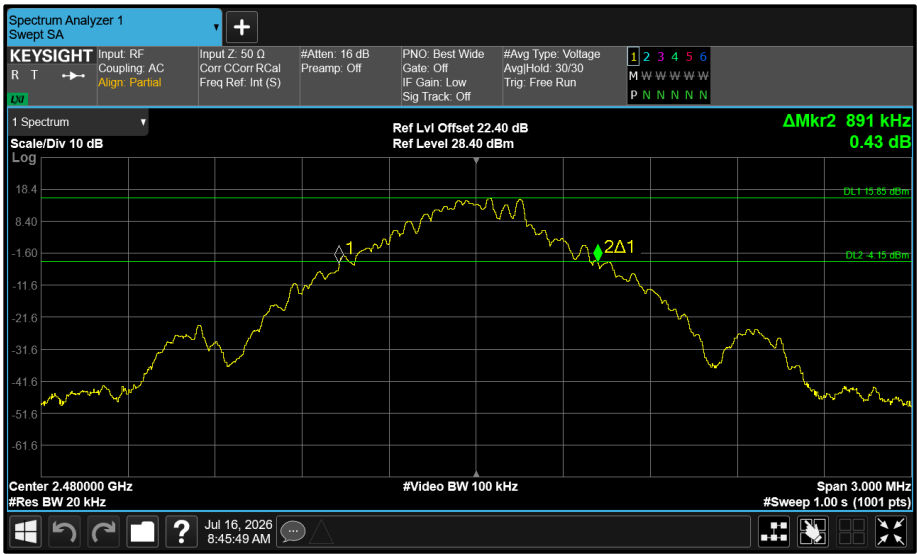


Figure 58 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2) RSS-247 6.2.3	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	0.891	0.891	-	-
2441	0.888	0.891	-	-
2480	0.891	0.891	-	-

Table 65 - 20 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2402	0.828	0.828	-	-	-
2441	0.828	0.828	-	-	-
2480	0.828	0.828	-	-	-

Table 66 - 99% Bandwidth Results

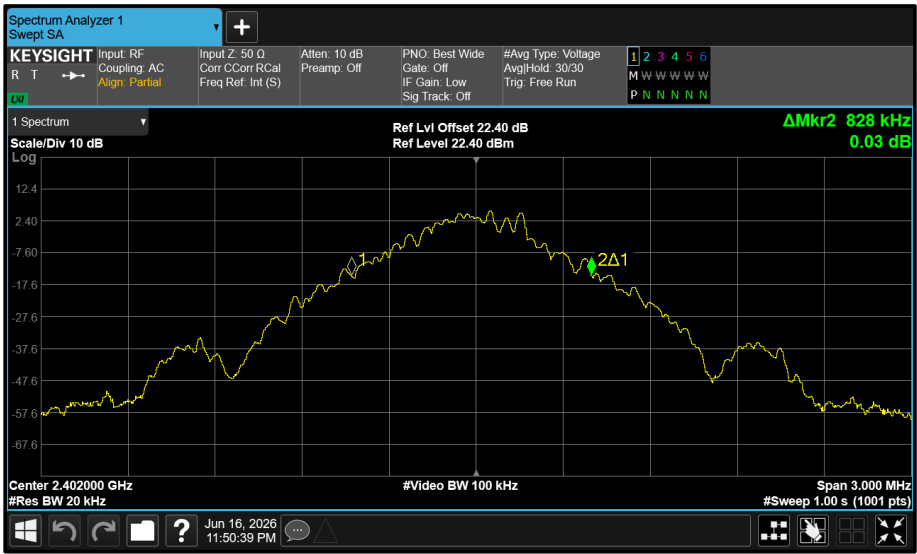


Figure 59 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

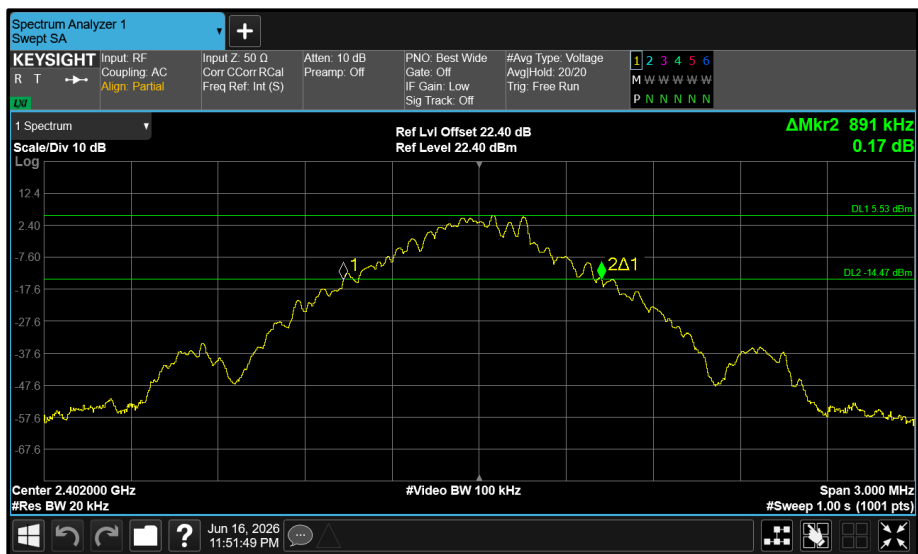


Figure 60 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

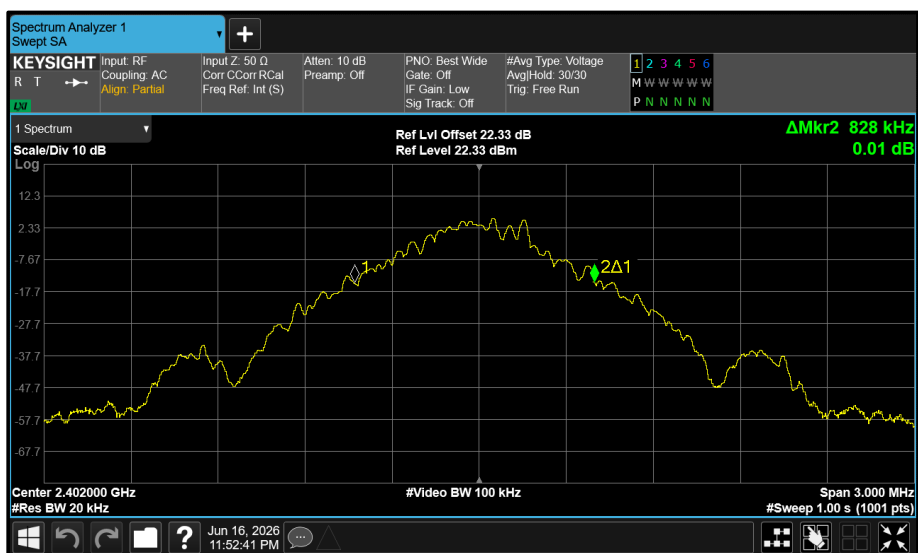


Figure 61 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth