

FCC and ISED Test Report

Apple Inc
Model: A3589



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

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Document 75967127-13 Issue 01



SIGNATURE			
NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
Steven White	Senior Technical Specialist	Authorised Signatory	19 June 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	George Capps	19 June 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	19 June 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	28-March-2026
Finish of Test	27-May-2026
Name of Engineer(s)	Zeeshan Zia, Ahmed Al Derdiri, Nathan Ocom, Morsalin Hossain, Vineeth Nagaraj, Akhil Rajendran Bhaskaran Nair, Ian Hart, Marius Vasii, Elliot Callender, Mahmud Chowdhury, Ian Hart, Ahmed Al Derdiri
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 (WF2)	2402	1.7	1.37
	2441	1.7	1.37
	2480	1.4	1.37
Core 1 (WF1)	2402	1.7	1.32
	2441	1.7	1.32
	2480	2.7	1.32
Core 2 (WF3)	2402	2.1	1.31
	2441	2.1	1.31
	2480	2.6	1.31

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: A3589		
Serial Number	Hardware Version	Software Version
KHM3W2DDV2	REV1.0	26A322
LQ92DX7F6M	REV1.0	26A322
CGXFMC66XH	REV1.0	26A322
KR9CWW5FPP	REV1.0	26A285

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: A3589, Serial Number: CGXFMC66XH			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A3589, Serial Number: MHJ59WH0CN			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A3589, Serial Number: HJH9D62QY3			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A3589, Serial Number: KHM3W2DDV2			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A3589, Serial Number: LQ92DX7F6M			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A3589, Serial Number: KR9CWW5FPP			
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	Akhil Rajendran Bhaskaran Nair, Vineeth Nagaraj, Ian Hart, Ahmed Al Derdiri	UKAS
Frequency Hopping Systems - Average Time of Occupancy	Elliot Callender, Mahmud Chowdhury	UKAS
Frequency Hopping Systems - Channel Separation	Elliot Callender, Mahmud Chowdhury	UKAS
Frequency Hopping Systems - Number of Hopping Channels	Elliot Callender, Mahmud Chowdhury	UKAS
Frequency Hopping Systems - 20 dB Bandwidth	Elliot Callender, Mahmud Chowdhury	UKAS
Maximum Conducted Output Power	Elliot Callender, Mahmud Chowdhury	UKAS
Authorised Band Edges	Akhil Rajendran Bhaskaran Nair, Vineeth Nagaraj, Ian Hart, Ahmed Al Derdiri	UKAS
Spurious Radiated Emissions	Zeeshan Zia, Ahmed Al Derdiri, Nathan Ocom, Morsalin Hossain, Vineeth Nagaraj, Akhil Rajendran Bhaskaran Nair, Ian Hart, Marius Vasii	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

A3589, S/N: CGXFMC66XH - Modification State 0

2.1.3 Date of Test

28-March-2026 to 23-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:
 $10^{\frac{dB\mu V}{20}}$ (Field Strength in dB μ V/m/20).

2.1.5 Environmental Conditions

Ambient Temperature	22.3 - 23.2 °C
Relative Humidity	30.1 - 38.6 %

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	55.65	40.97
Static	DH5	2480	2483.5	57.28	42.70

Table 7 - SISO Restricted Band Edge Results

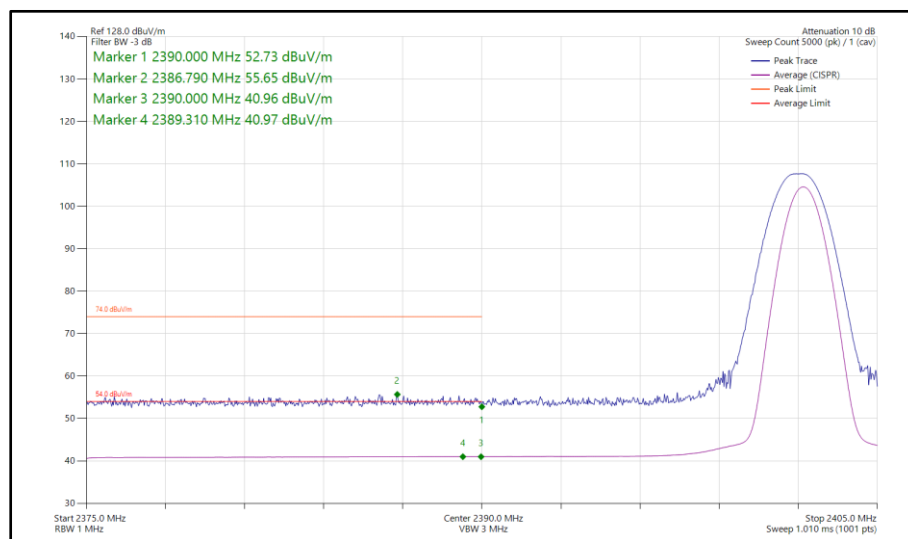


**Figure 1 - Bluetooth DH5, SISO, Core 0 - 2402 MHz
Band Edge Frequency 2390 MHz**

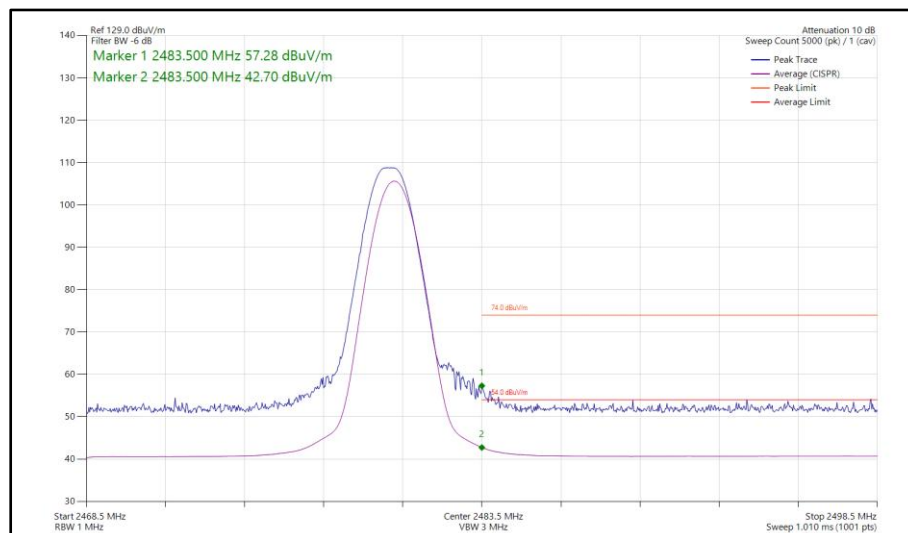


**Figure 2 - Bluetooth DH5, SISO, Core 0 - 2480 MHz
Band Edge Frequency 2483.5 MHz**

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	55.60	40.98
Static	DH5	2480	2483.5	55.31	42.73

Table 8 - SISO Restricted Band Edge Results

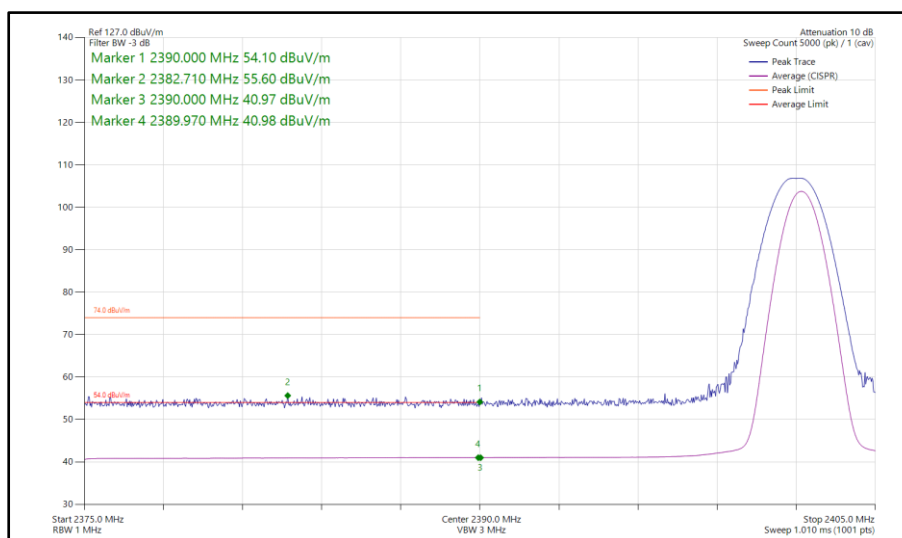


**Figure 3 - Bluetooth DH5, SISO, Core 1 - 2402 MHz
Band Edge Frequency 2390 MHz**

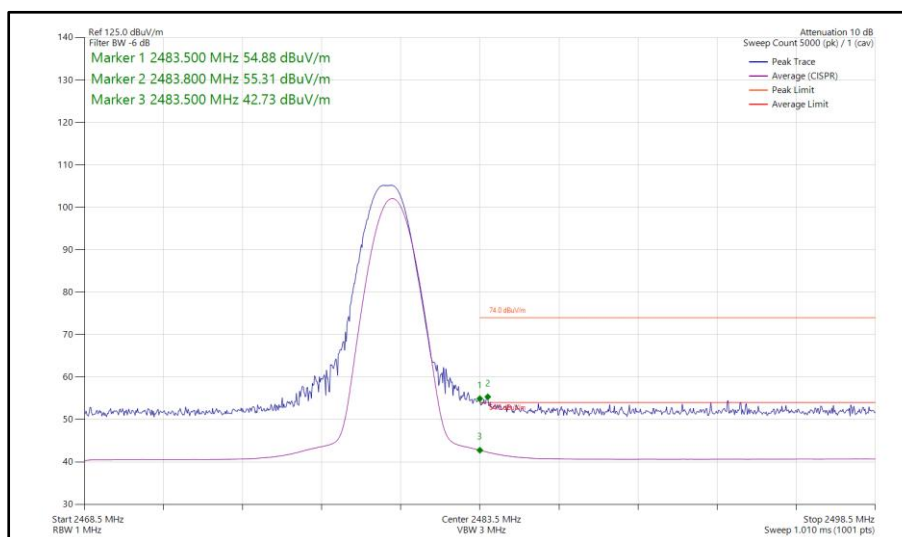


**Figure 4 - Bluetooth DH5, SISO, Core 1 - 2480 MHz
Band Edge Frequency 2483.5 MHz**

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	55.61	40.89
Static	DH5	2480	2483.5	59.51	43.81

Table 9 - SISO Restricted Band Edge Results

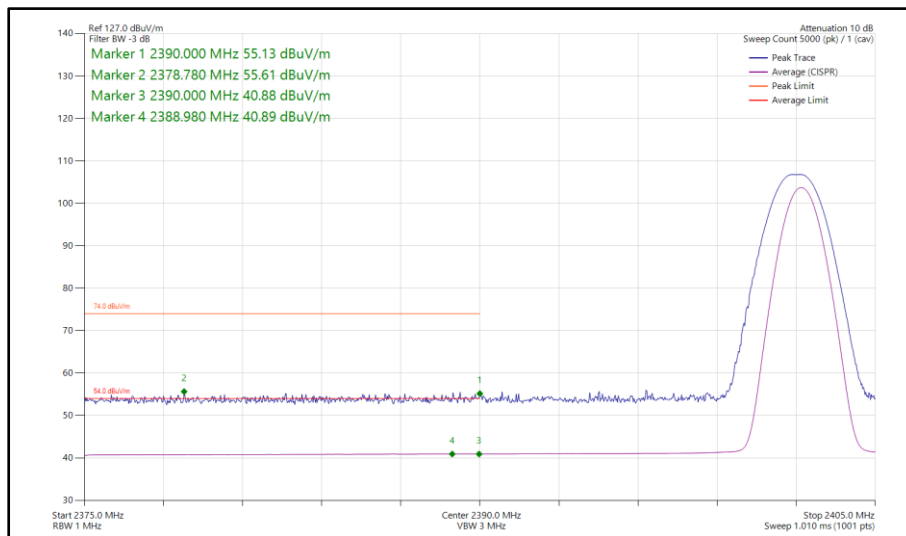


**Figure 5 - Bluetooth DH5, SISO, Core 2 - 2402 MHz
Band Edge Frequency 2390 MHz**

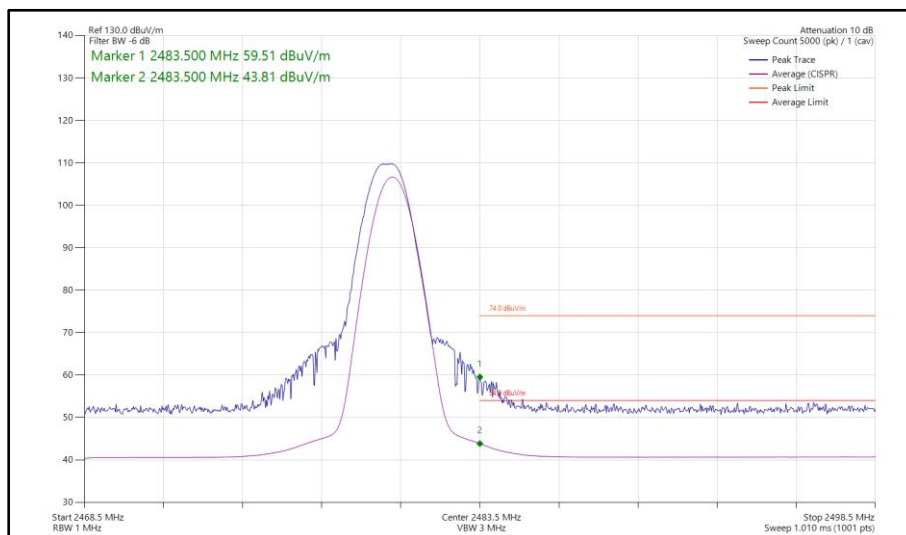


**Figure 6 - Bluetooth DH5, SISO, Core 2 - 2480 MHz
Band Edge Frequency 2483.5 MHz**

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	55.92	41.00
Static	DH5	2480	2483.5	55.58	42.29

Table 10 - MIMO Restricted Band Edge Results

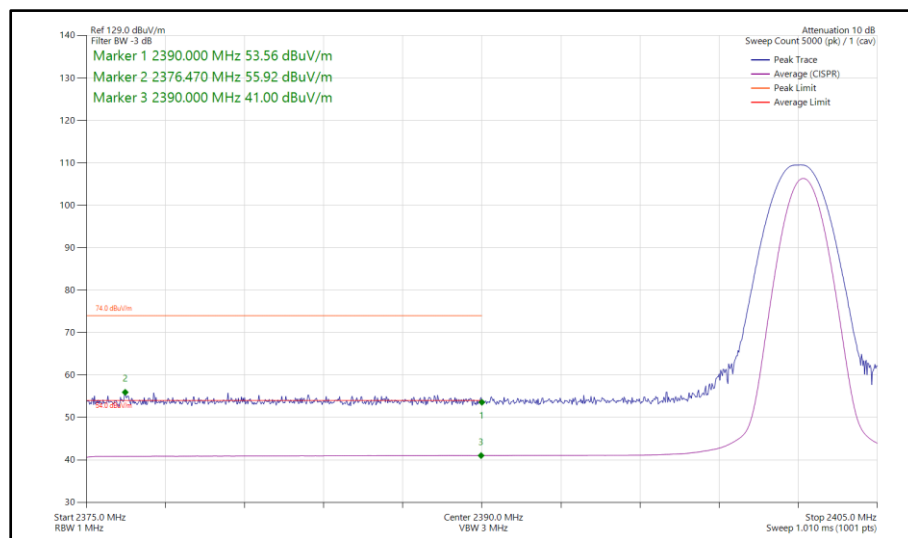


**Figure 7 - Bluetooth DH5, MIMO, Core 0-1 - 2402 MHz
Band Edge Frequency 2390 MHz**

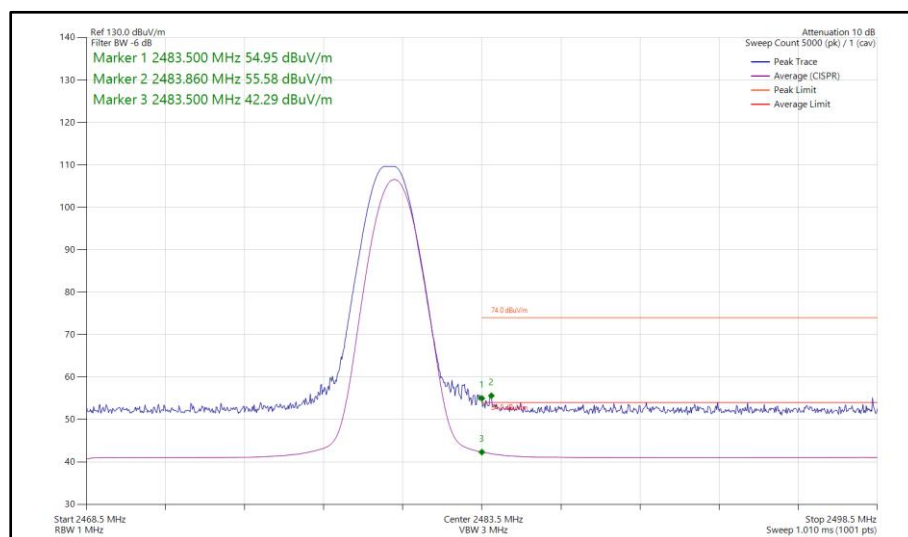


**Figure 8 - Bluetooth DH5, MIMO, Core 0-1 - 2480 MHz
Band Edge Frequency 2483.5 MHz**

ePA - Core 0 (SISO)

Mode	Packet Type	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)
Static	DH5	2402	2390	56.05	41.95
Static	DH5	2480	2483.5	59.77	45.84

Table 11 - SISO Restricted Band Edge Results

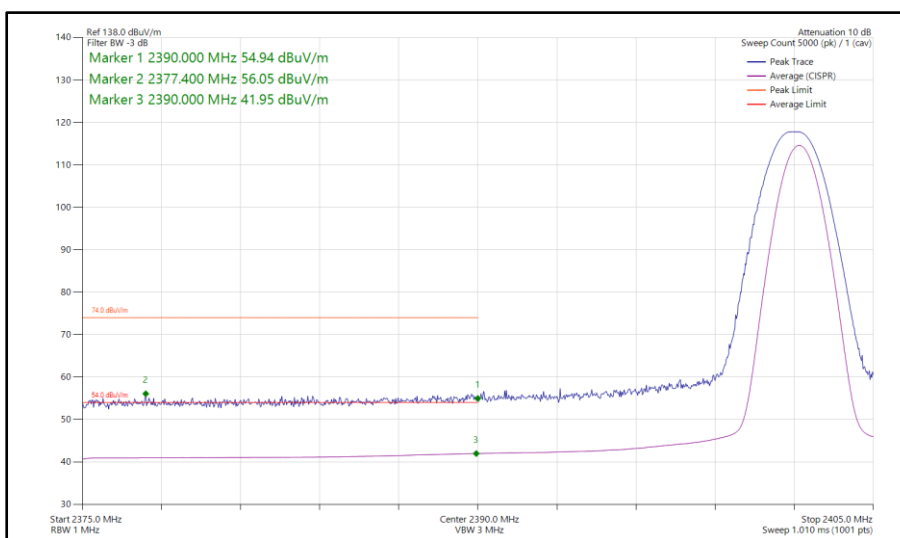


Figure 9 - Bluetooth DH5, SISO, Core 0 - 2402 MHz
Band Edge Frequency 2390 MHz

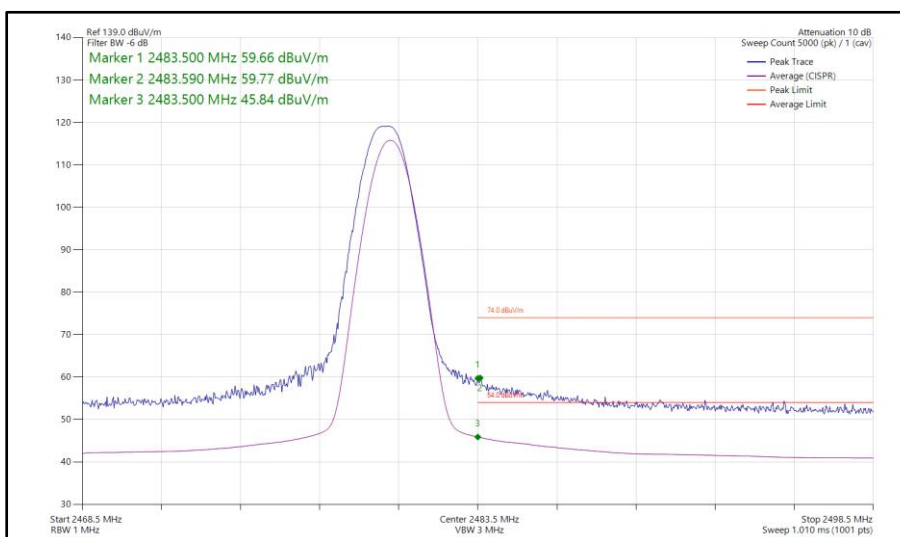


Figure 10 - Bluetooth DH5, SISO, Core 0 - 2480 MHz
Band Edge Frequency 2483.5 MHz

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	56.14	42.04
Static	DH5	2480	2483.5	57.52	45.31

Table 12 - SISO Restricted Band Edge Results

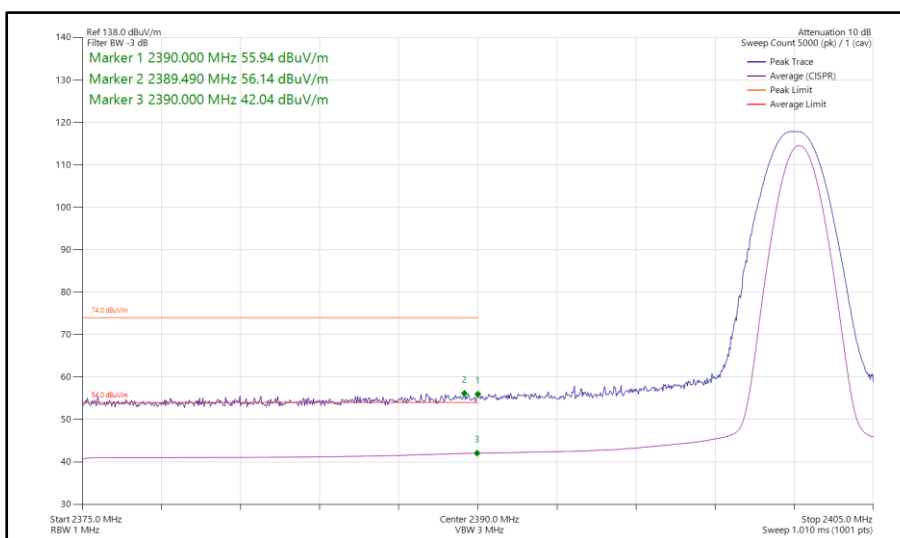


**Figure 11 - Bluetooth DH5, SISO, Core 1 - 2402 MHz
Band Edge Frequency 2390 MHz**

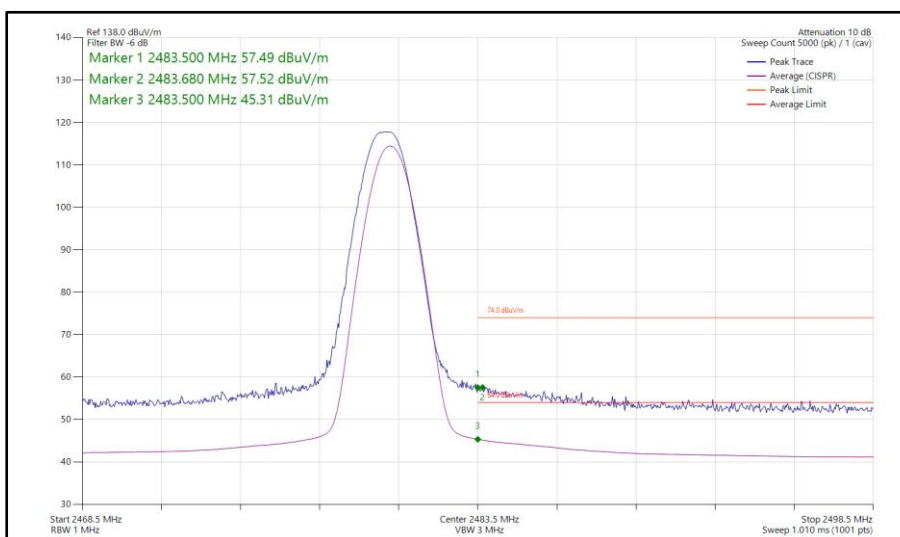


**Figure 12 - Bluetooth DH5, SISO, Core 1 - 2480 MHz
Band Edge Frequency 2483.5 MHz**

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	56.89	42.05
Static	DH5	2480	2483.5	58.59	46.17

Table 13 - MIMO Restricted Band Edge Results

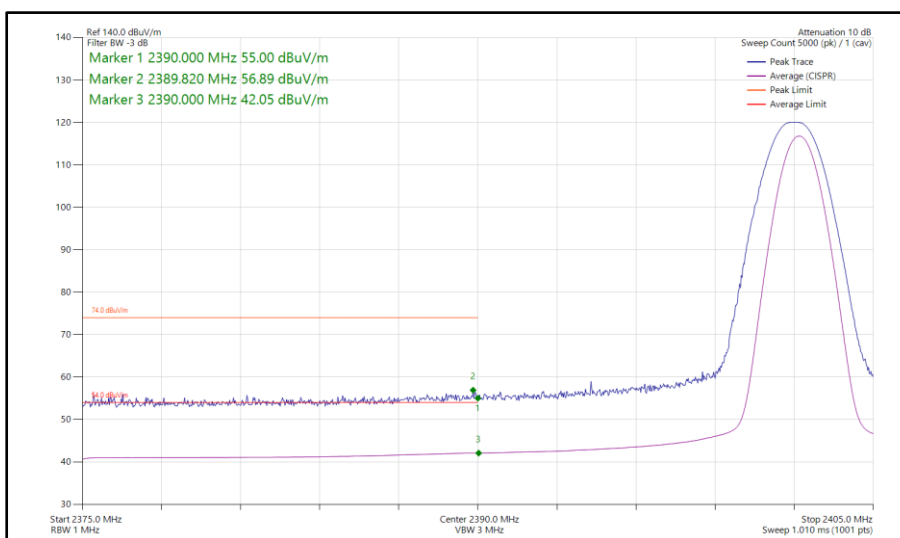


Figure 13 - Bluetooth DH5, MIMO, Core 0-1 - 2402 MHz
Band Edge Frequency 2390 MHz

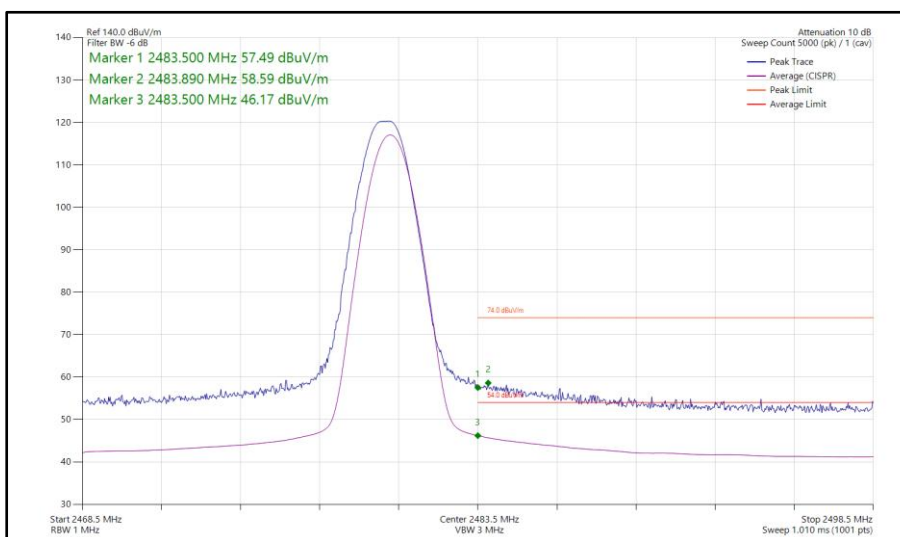


Figure 14 - Bluetooth DH5, MIMO, Core 0-1 - 2480 MHz
Band Edge Frequency 2483.5 MHz



FCC 47 CFR Part 15, Limit Clause 15.209

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

Table 14

ISED RSS-GEN, Limit Clause 8.9

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

Table 15

*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 14 and RF Chamber 18.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
Emissions Software	TUV SUD	EmX V3.6.1 V.	5125	-	O/P Mon
EMI Test Receiver	Rohde & Schwarz	ESW44	5911	12	29-Oct-2026
EMI Test Receiver	Rohde & Schwarz	ESW44	5912	12	04-Sep-2026
1500W (300V 12A) AC Power Supply	iTech	IT7324	5955	-	O/P Mon
5m Semi-Anechoic Chamber (Dual-Axis)	Albatross Projects	RF Chamber 14	5958	36	23-Apr-2028
Compact Antenna Mast	Maturo Gmbh	CAM4.0-P	5959	-	TU
Mast & Turntable Controller	Maturo Gmbh	FCU3.0	5960	-	TU
Tilt Antenna Mast	Maturo Gmbh	BAM4.5-P	5961	-	TU
Turntable	Maturo Gmbh	TT1.5SI	5962	-	TU
Cable (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	6007	12	06-Jun-2026
Cable (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	6008	12	23-May-2026
Horn Antenna (1-10.5 GHz)	Schwarzbeck	BBHA9120B	6140	12	14-Sep-2026
Digital Multimeter	Fluke	115	6145	12	06-Jun-2026
Digital Multimeter	Fluke	115	6147	12	05-Jun-2026
Humidity & Temperature meter	R.S Components	1364	6149	12	28-Aug-2026
SAC Switch Unit	TUV SUD	TUV_SSU_001	6190	12	11-Dec-2026
Cable (SMA to SMA 1m)	Junkosha	MWX221/B	6305	12	23-May-2026
3m Semi-Anechoic Chamber	Albatross Projects	Chamber 18	6597	36	08-May-2028
Mast & Turntable Controller	Maturo Gmbh	FCU3.0	6795	-	TU



Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
Tilt Antenna Mast	Maturo Gmbh	BAM4.5-P	6796	-	TU
Turntable	Maturo Gmbh	TT1.5SI	6797	-	TU
AC Programmable Power Supply	iTech	IT7324	6812	-	O/P Mon
Broad-Band Horn Antenna 1-10GHz N	Schwarzbeck	BBHA9120B	6825	12	14-Sep-2026
Handheld Hygrometer	Fluke	971	6838	12	16-Sep-2026
1m SMA-Type Cable	Junkosha	MWX221-01000AMSAMS/B	6841	12	23-Sep-2026
8m SMA-Type Cable	Junkosha	MWX221-08000AMSAMS/B	6848	12	23-Oct-2026
8m SMA-Type Cable	Junkosha	MWX221-08000AMSAMS/B	6850	12	23-Oct-2026
SAC Switch Unit	TUV SUD	TUV_SSU_004 PLC	6886	12	02-Dec-2026

Table 16

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

A3589, S/N: KHM3W2DDV2 - Modification State 0
A3589, S/N: LQ92DX7F6M - Modification State 0

2.2.3 Date of Test

06-May-2026 to 27-May-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	21.9 - 23.8 °C
Relative Humidity	39.2 - 53.1 %



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	102	293.5	400.0
2480	2.877	105	302.1	400.0

Table 17 - Time of Occupancy Results

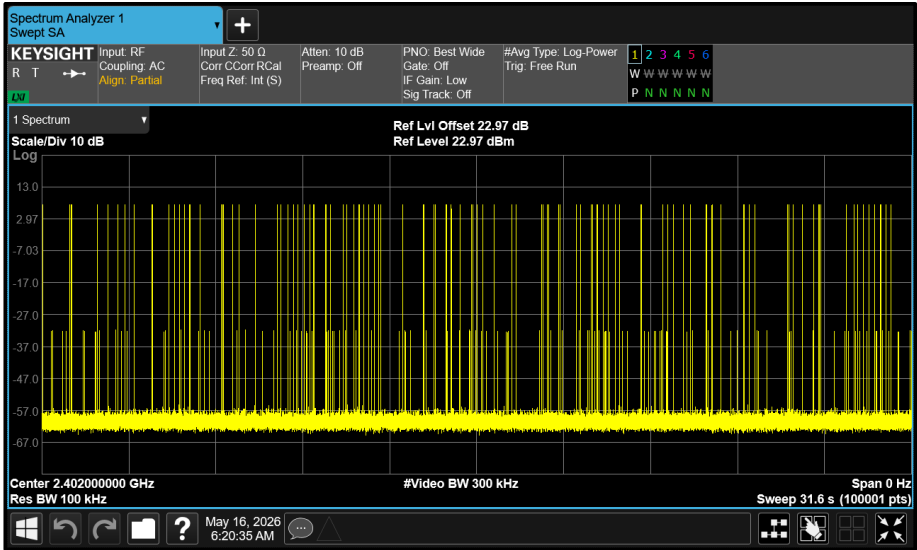


Figure 15 - GFSK - 2402 MHz Accumulated Transmit Time

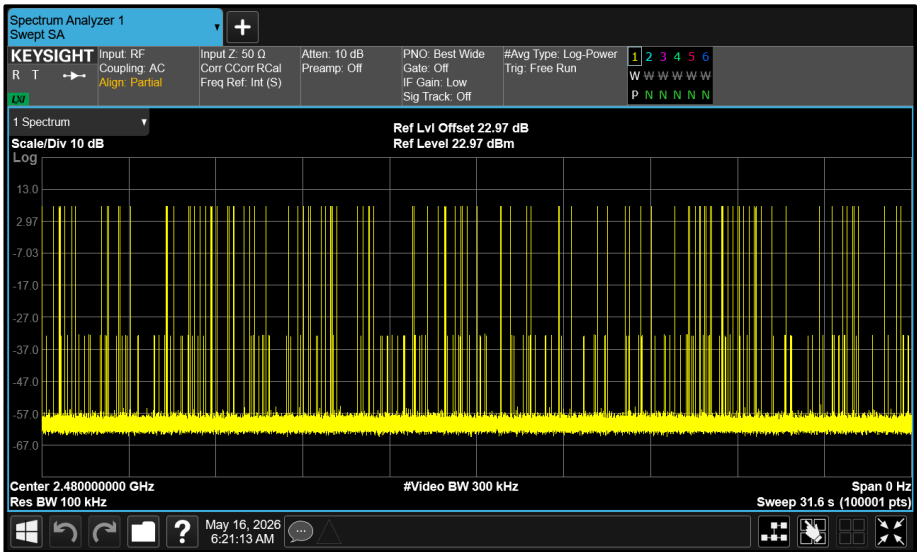


Figure 16 - GFSK - 2480 MHz Accumulated Transmit Time



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	2.878	111	319.4	400.0
2480	2.878	122	351.1	400.0

Table 18 - Time of Occupancy Results



Figure 17 - GFSK - 2402 MHz Accumulated Transmit Time



Figure 18 - 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	2.877	109	313.6	400.0
2480	2.877	117	336.6	400.0

Table 19 - Time of Occupancy Results

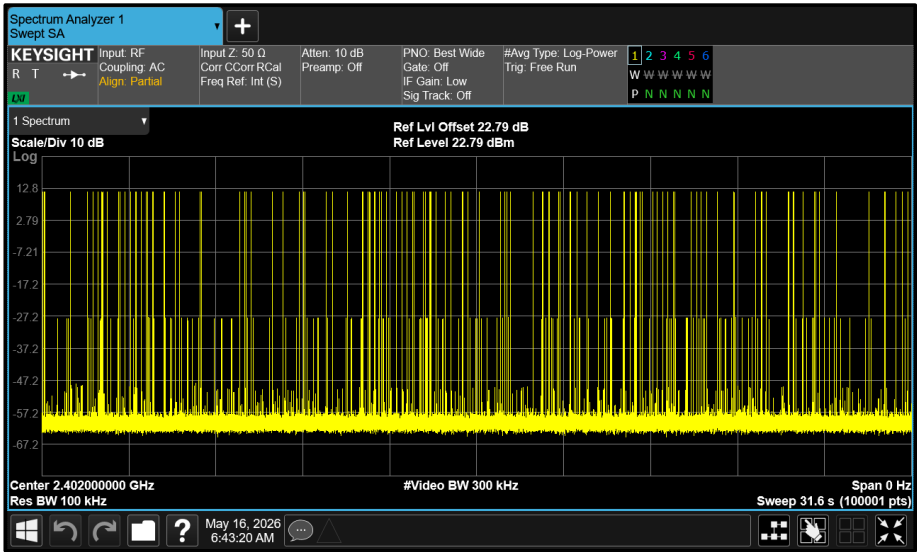


Figure 19 - GFSK - 2402 MHz Accumulated Transmit Time

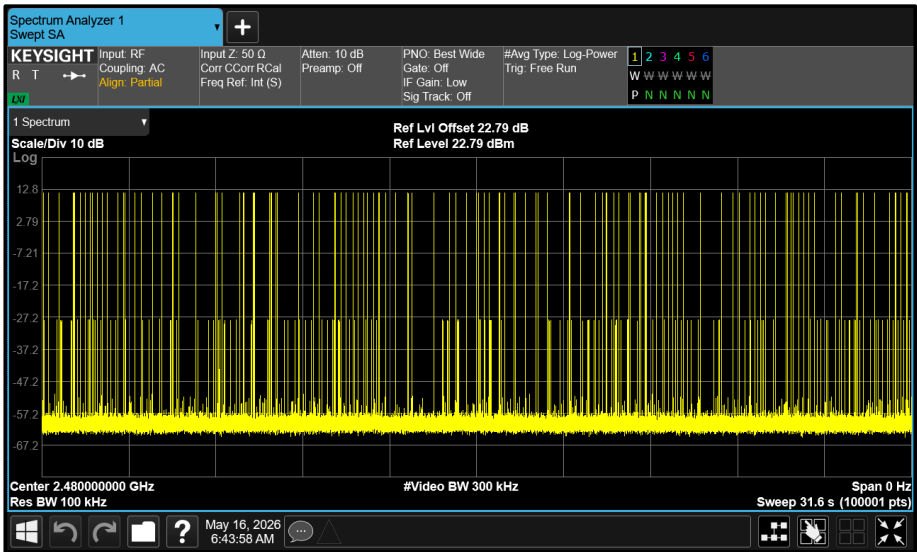


Figure 20 - GFSK - 2480 MHz Accumulated Transmit Time



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	2.883	100	288.3	400.0
2480	2.883	105	302.7	400.0

Table 20 - Time of Occupancy Results

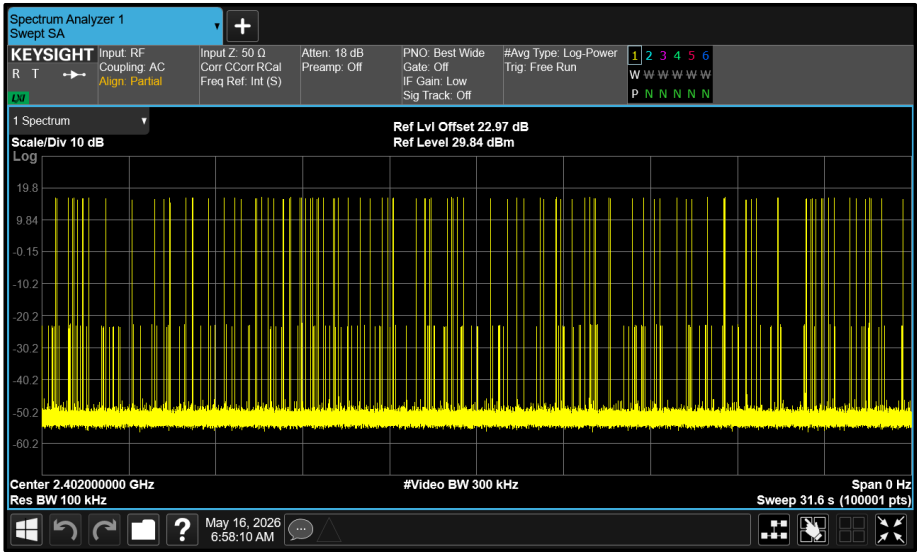


Figure 21 - GFSK - 2402 MHz Accumulated Transmit Time

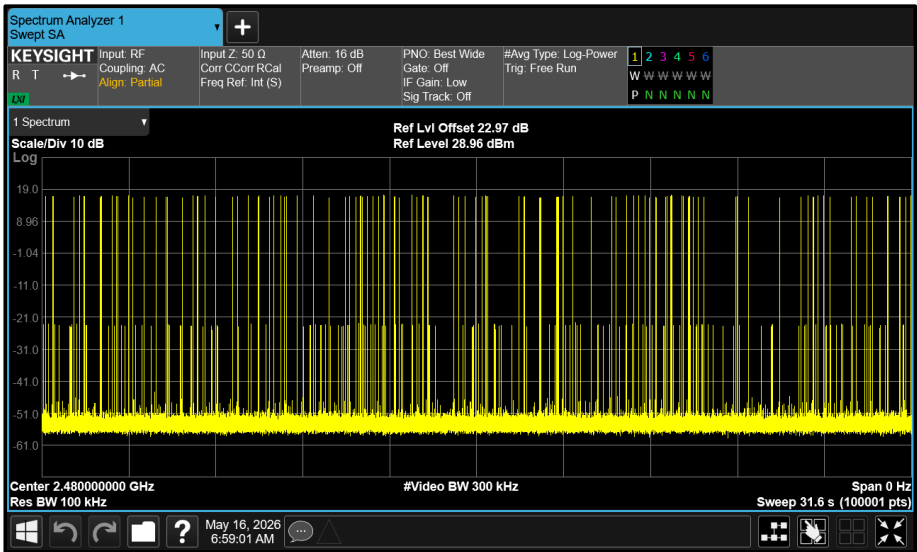


Figure 22 - GFSK - 2480 MHz Accumulated Transmit Time



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	2.880	109	313.9	400.0
2480	2.880	103	296.6	400.0

Table 21 - Time of Occupancy Results

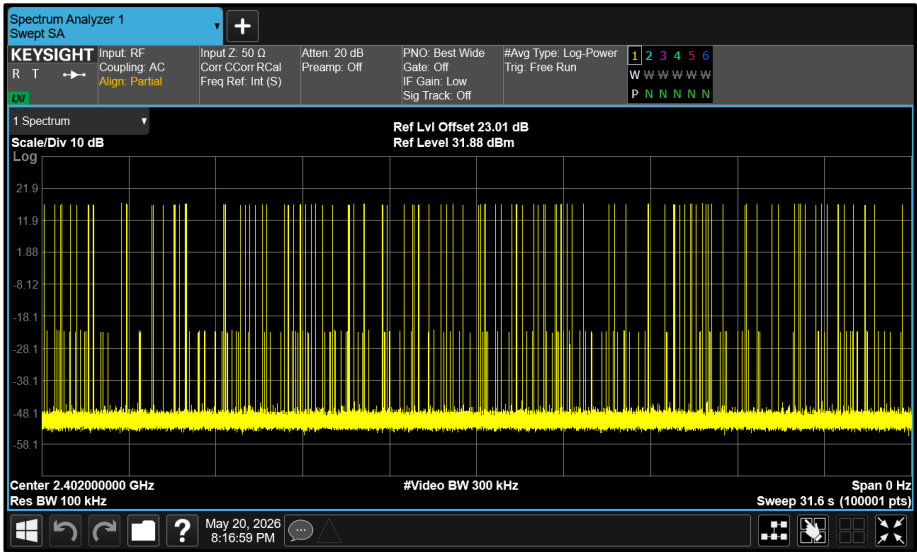


Figure 23 - GFSK - 2402 MHz Accumulated Transmit Time

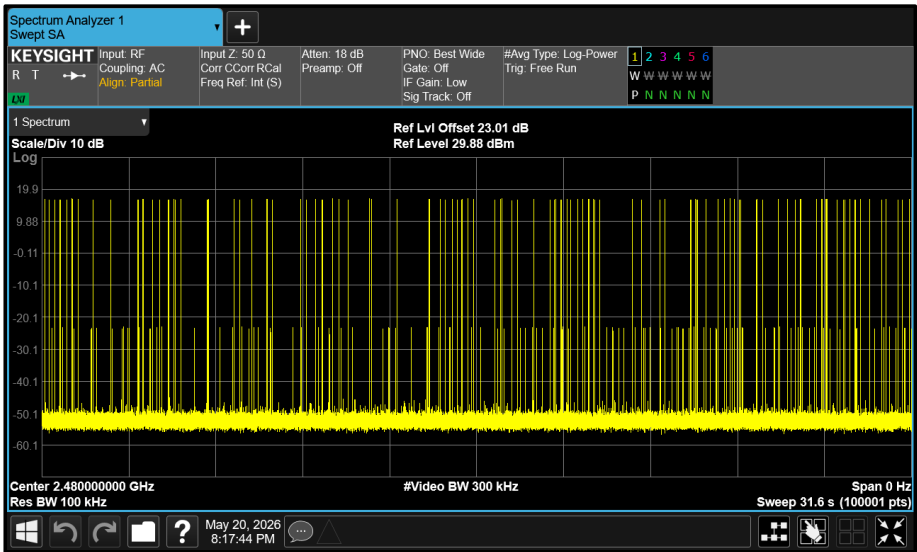


Figure 24 - GFSK - 2480 MHz Accumulated Transmit Time



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	110	316.5	400.0
2480	2.877	111	319.4	400.0

Table 22 - Time of Occupancy Results



Figure 25 - GFSK - 2402 MHz Accumulated Transmit Time



Figure 26 - 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:	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	2.878	107	308.0	400.0
2480	2.878	113	325.3	400.0

Table 23 - Time of Occupancy Results



Figure 27 - GFSK - 2402 MHz Accumulated Transmit Time



Figure 28 - 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 18.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
1500VA AC Power Supply	iTech	IT7324	5907	-	O/P Mon
USB Power Sensors, 50MHz to 8GHz	Boonton	RTP5008	5921	12	29-Nov-2026
USB Power Sensors, 50MHz to 8GHz	Boonton	RTP5008	5922	12	29-Nov-2026
USB Power Sensors, 50MHz to 8GHz	Boonton	RTP5008	5923	12	29-Nov-2026
Modular Power System Mainframe	Keysight Technologies	N6701C	5969	-	O/P Mon
DC Power Module 60V 20A 300W	Keysight Technologies	N6754A	5970	-	O/P Mon
Humidity & Temperature meter	R.S Components	1364	6148	12	28-Aug-2026
MXA Signal Analyser	Keysight Technologies	N9020B	6417	24	14-Oct-2027
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6519	12	29-Nov-2026
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6520	12	29-Nov-2026
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6521	12	29-Nov-2026
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6522	12	29-Nov-2026
Digital Thermometer	R.S Components	RS 5511	6739	12	02-Mar-2027
Multimeter	Fluke	115	7115	12	13-Aug-2026

Table 24

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

A3589, S/N: KHM3W2DDV2 - Modification State 0
A3589, S/N: LQ92DX7F6M - Modification State 0

2.3.3 Date of Test

06-May-2026 to 27-May-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	21.9 - 23.8 °C
Relative Humidity	39.2 - 53.1 %



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	0.941	2441.001	2442.001	0.99975	≥627.0

Table 25 - Carrier Frequency Separation Results

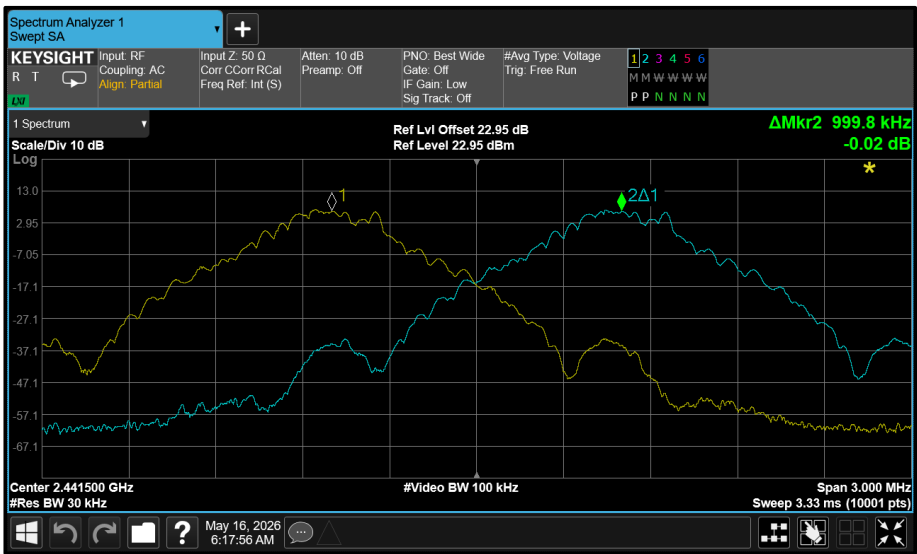


Figure 29 - GFSK - 2441 MHz (CH39)



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	0.941	2441.001	2442.002	1.0005	≥627.2

Table 26 - Carrier Frequency Separation Results

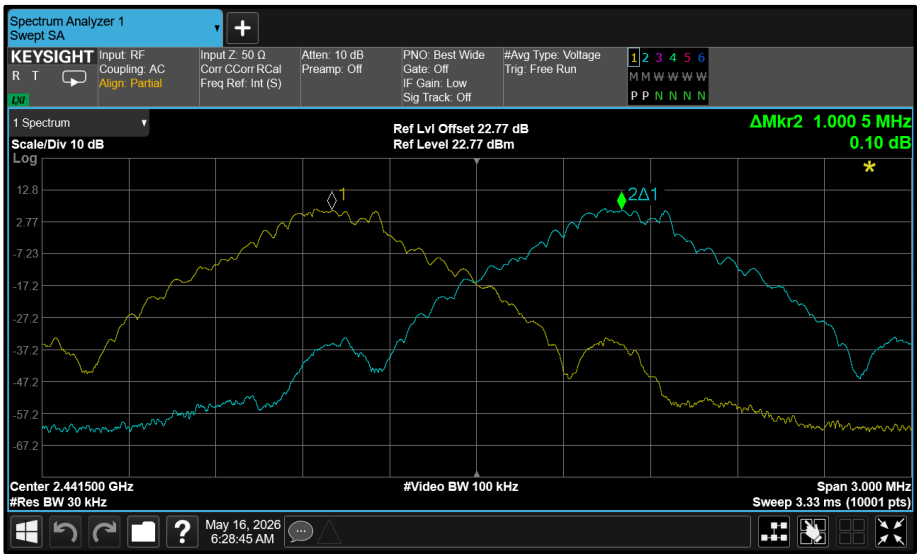


Figure 30 - GFSK - 2441 MHz (CH39)



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	2441.002	2442.001	0.9996	≥626.8

Table 27 - Carrier Frequency Separation Results

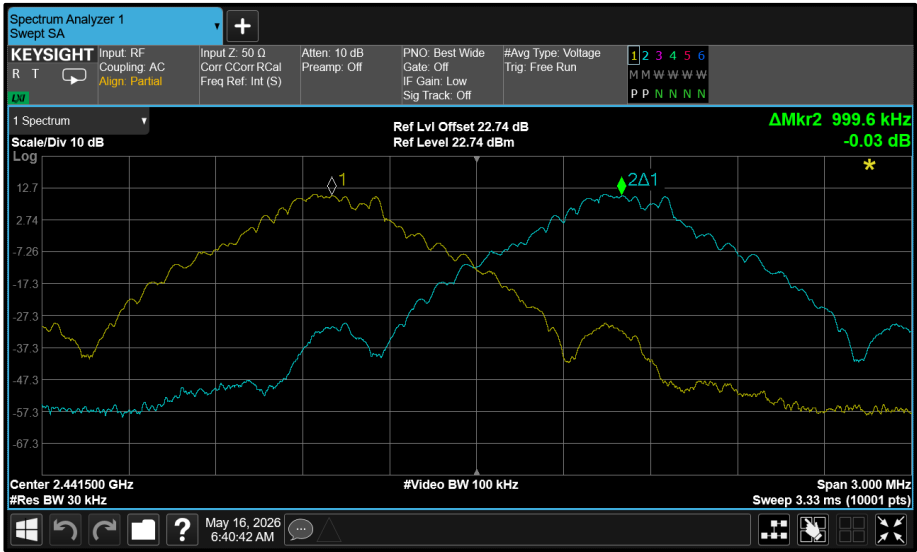


Figure 31 - GFSK - 2441 MHz (CH39)



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	0.891	2440.997	2441.997	1.00005	≥594.0

Table 28 - Carrier Frequency Separation Results

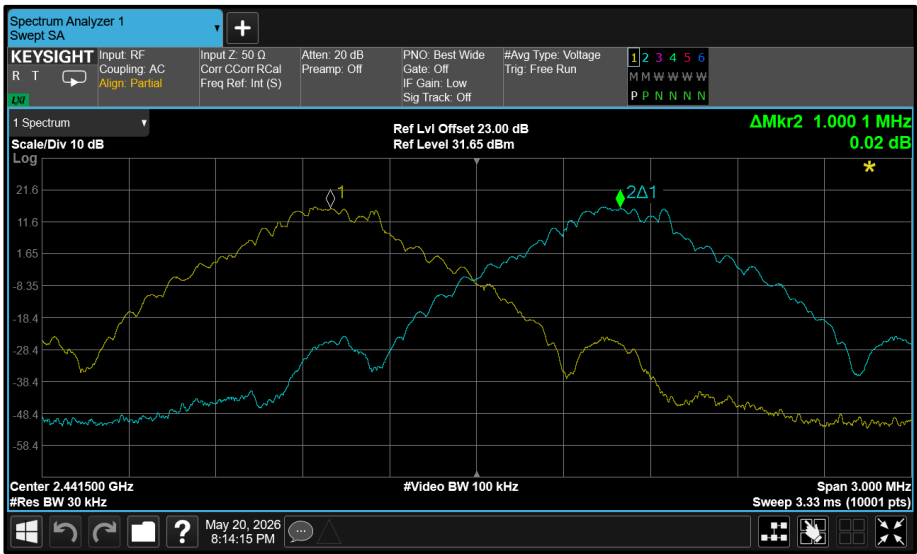


Figure 32 - GFSK - 2441 MHz (CH39)



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	0.941	2441.000	2442.000	1.00065	≥627.6

Table 29 - Carrier Frequency Separation Results

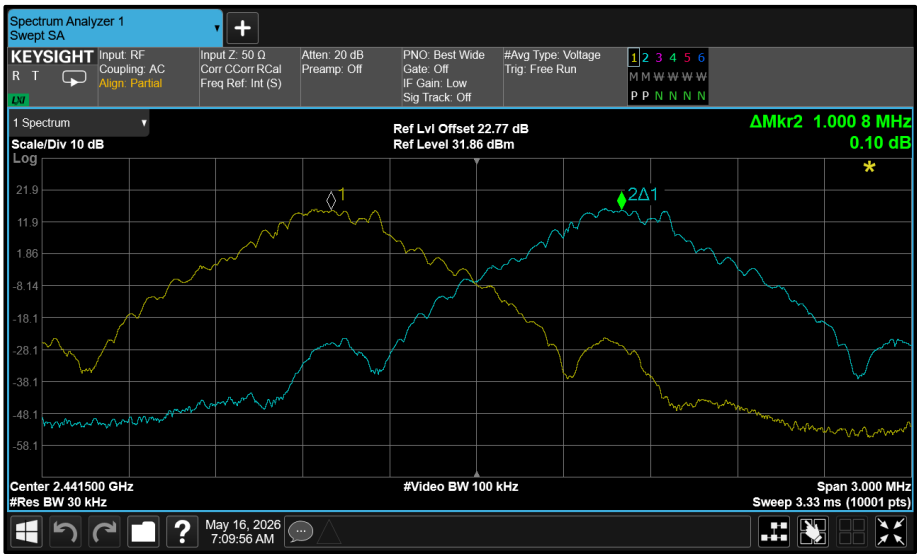


Figure 33 - GFSK - 2441 MHz (CH39)



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	0.940	2441.001	2442.001	1.0002	≥626.6

Table 30 - Carrier Frequency Separation Results

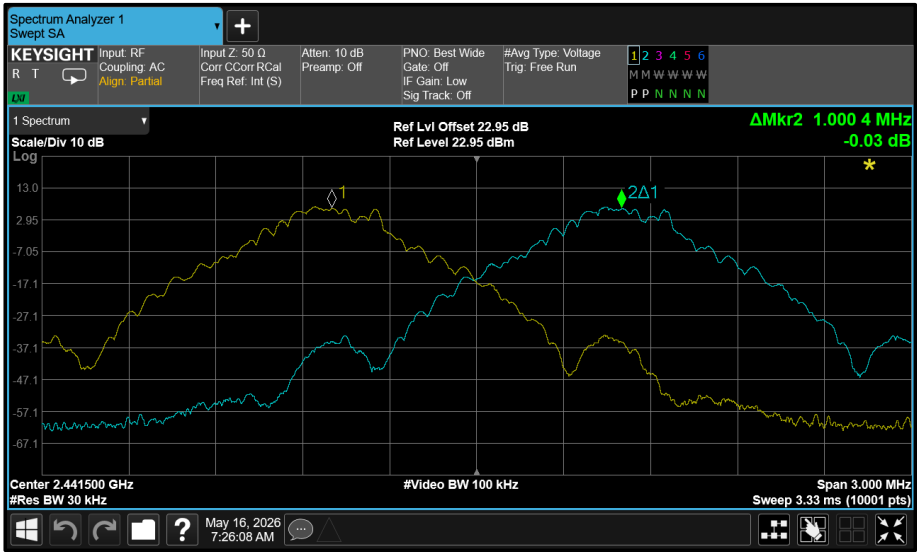


Figure 34 - GFSK - 2441 MHz (CH39)



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	0.939	2440.999	2441.999	1.00005	≥626.0

Table 31 - Carrier Frequency Separation Results

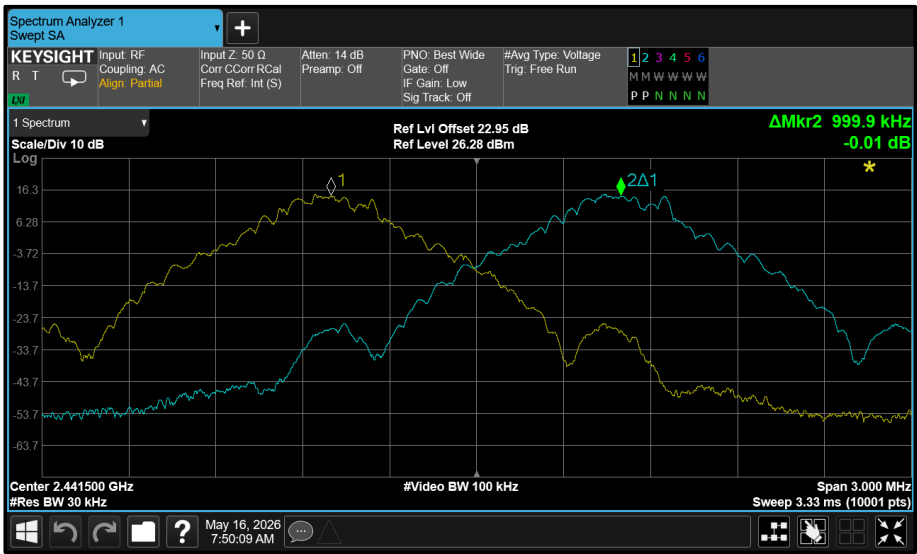


Figure 35 - GFSK - 2441 MHz (CH39)



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 6.2.3.1 (a)

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 Laboratory 18.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
1500VA AC Power Supply	iTech	IT7324	5907	-	O/P Mon
USB Power Sensors, 50MHz to 8GHz	Boonton	RTP5008	5921	12	29-Nov-2026
USB Power Sensors, 50MHz to 8GHz	Boonton	RTP5008	5922	12	29-Nov-2026
USB Power Sensors, 50MHz to 8GHz	Boonton	RTP5008	5923	12	29-Nov-2026
Modular Power System Mainframe	Keysight Technologies	N6701C	5969	-	O/P Mon
DC Power Module 60V 20A 300W	Keysight Technologies	N6754A	5970	-	O/P Mon
Humidity & Temperature meter	R.S Components	1364	6148	12	28-Aug-2026
MXA Signal Analyser	Keysight Technologies	N9020B	6417	24	14-Oct-2027
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6519	12	29-Nov-2026
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6520	12	29-Nov-2026
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6521	12	29-Nov-2026
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6522	12	29-Nov-2026
Digital Thermometer	R.S Components	RS 5511	6739	12	02-Mar-2027
Multimeter	Fluke	115	7115	12	13-Aug-2026

Table 32

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

A3589, S/N: KHM3W2DDV2 - Modification State 0
A3589, S/N: LQ92DX7F6M - Modification State 0

2.4.3 Date of Test

06-May-2026 to 27-May-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	21.9 - 23.8 °C
Relative Humidity	39.2 - 53.1 %



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 33 - Number of Hopping Frequencies Results

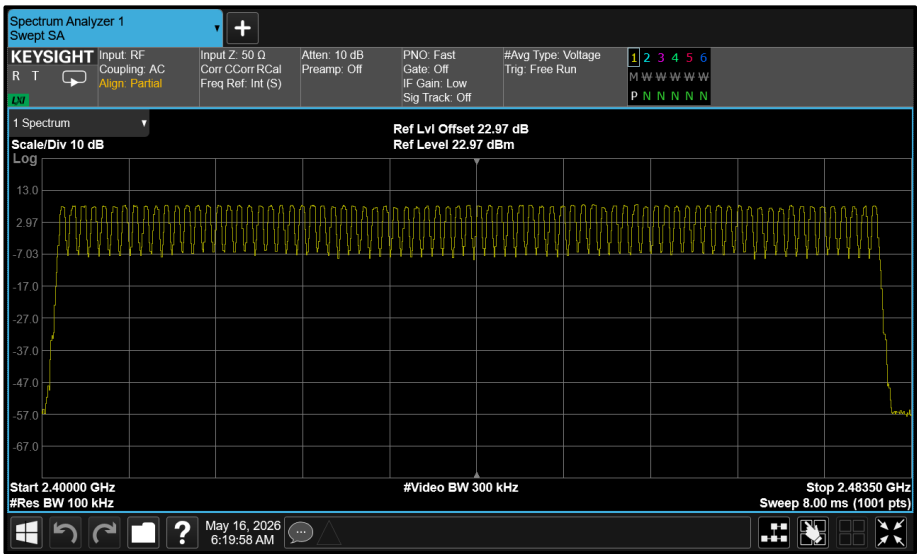


Figure 36 - GFSK (DH5) - Number of Hopping Channels



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 34 - Number of Hopping Frequencies Results

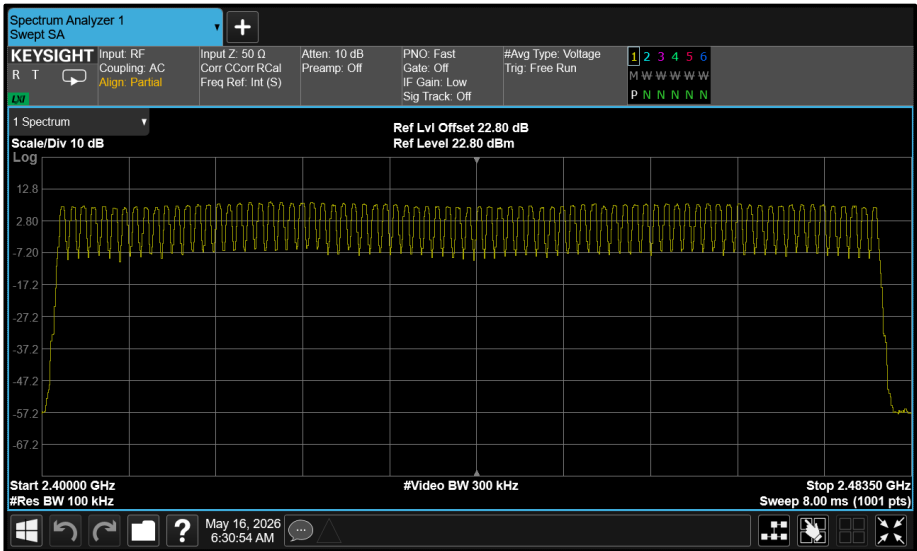


Figure 37 - GFSK (DH5) - Number of Hopping Channels



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 35 - Number of Hopping Frequencies Results

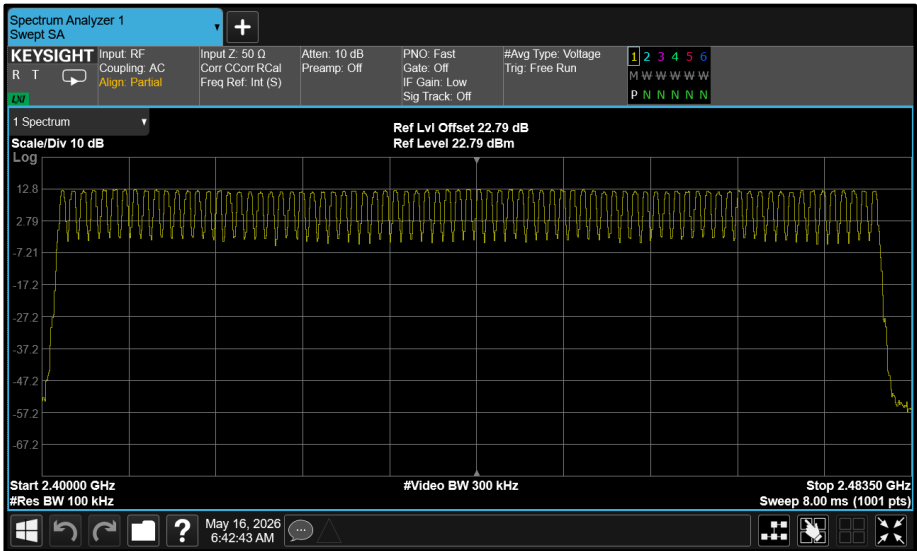


Figure 38 - GFSK (DH5) - Number of Hopping Channels



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 36 - Number of Hopping Frequencies Results

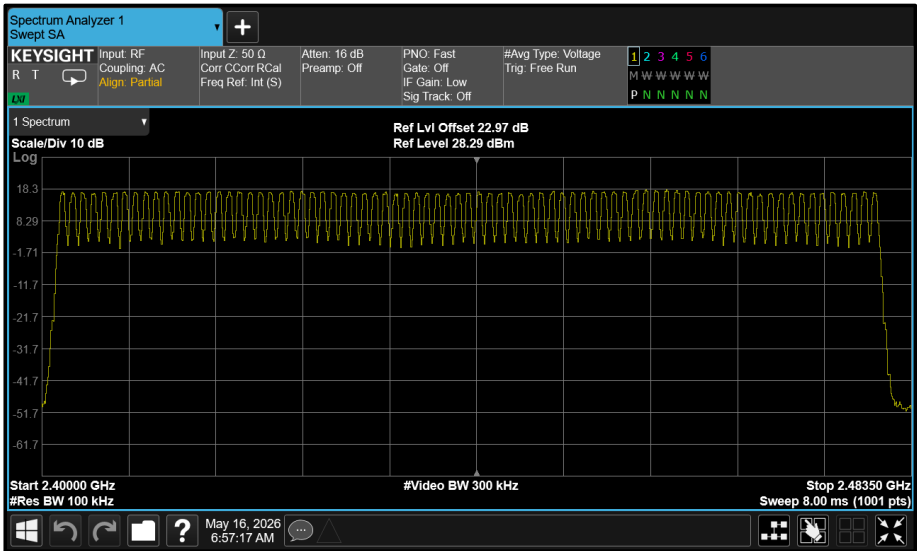


Figure 39 - GFSK (DH5) - Number of Hopping Channels



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 37 - Number of Hopping Frequencies Results

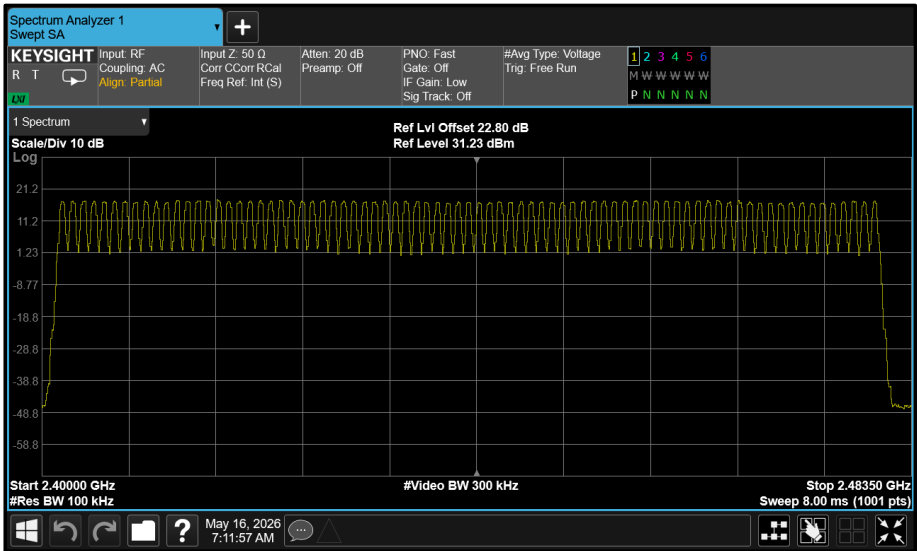


Figure 40 - GFSK (DH5) - Number of Hopping Channels



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 38 - Number of Hopping Frequencies Results

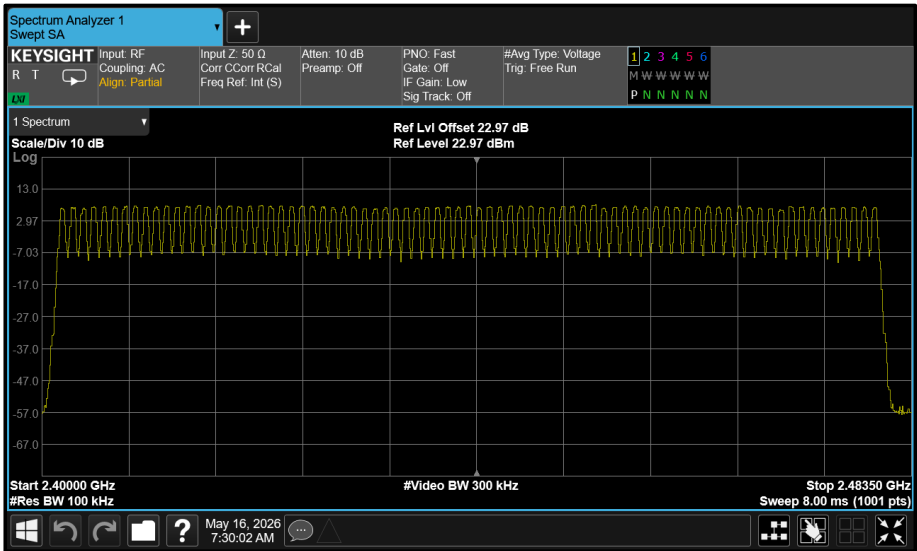


Figure 41 - GFSK (DH5) - Number of Hopping Channels



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 39 - Number of Hopping Frequencies Results

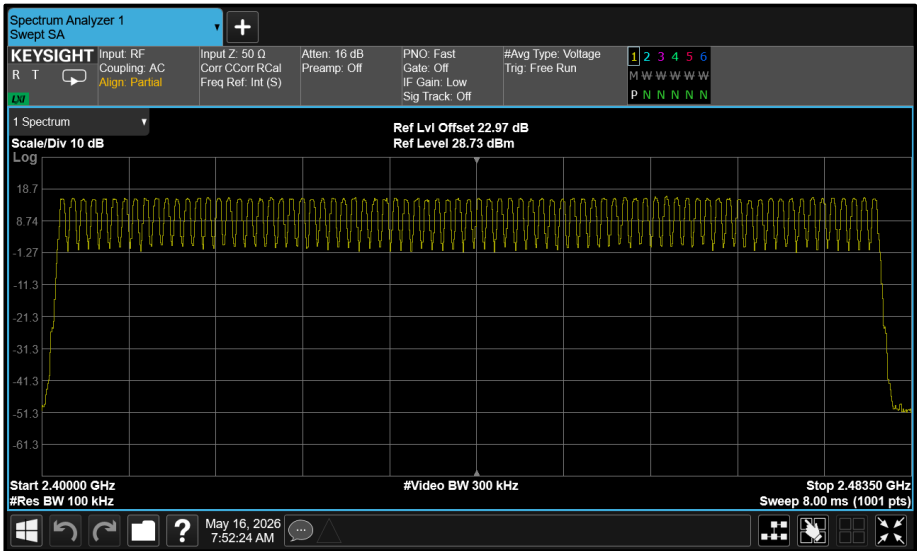


Figure 42 - GFSK (DH5) - Number of Hopping Channels



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

This test was carried out in RF Laboratory 18.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
1500VA AC Power Supply	iTech	IT7324	5907	-	O/P Mon
USB Power Sensors, 50MHz to 8GHz	Boonton	RTP5008	5921	12	29-Nov-2026
USB Power Sensors, 50MHz to 8GHz	Boonton	RTP5008	5922	12	29-Nov-2026
USB Power Sensors, 50MHz to 8GHz	Boonton	RTP5008	5923	12	29-Nov-2026
Modular Power System Mainframe	Keysight Technologies	N6701C	5969	-	O/P Mon
DC Power Module 60V 20A 300W	Keysight Technologies	N6754A	5970	-	O/P Mon
Humidity & Temperature meter	R.S Components	1364	6148	12	28-Aug-2026
MXA Signal Analyser	Keysight Technologies	N9020B	6417	24	14-Oct-2027
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6519	12	29-Nov-2026
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6520	12	29-Nov-2026
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6521	12	29-Nov-2026
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6522	12	29-Nov-2026
Digital Thermometer	R.S Components	RS 5511	6739	12	2-Mar-2027
Multimeter	Fluke	115	7115	12	13-Aug-2026

Table 40

O/P Mon - Output Monitored using calibrated equipment



2.5 Frequency Hopping Systems - 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

A3589, S/N: KHM3W2DDV2 - Modification State 0
A3589, S/N: LQ92DX7F6M - Modification State 0

2.5.3 Date of Test

06-May-2026 to 27-May-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	21.9 - 23.8 °C
Relative Humidity	39.2 - 53.1 %



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)(1) RSS-247 6.2.3.1	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	0.891	-	-	-
2441	0.891	-	-	-
2480	0.891	-	-	-

Table 41 - 20 dB Bandwidth Results

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

Table 42 - 99% Bandwidth Results

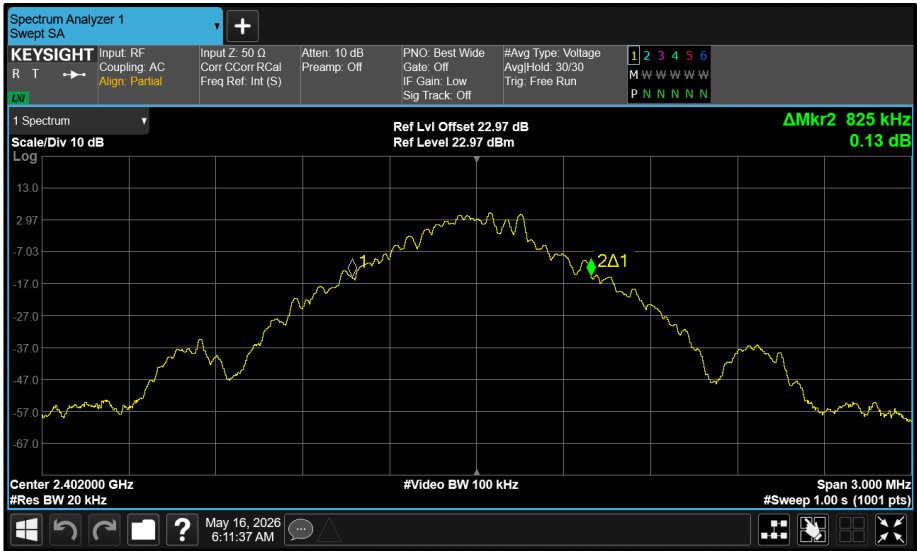


Figure 43 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

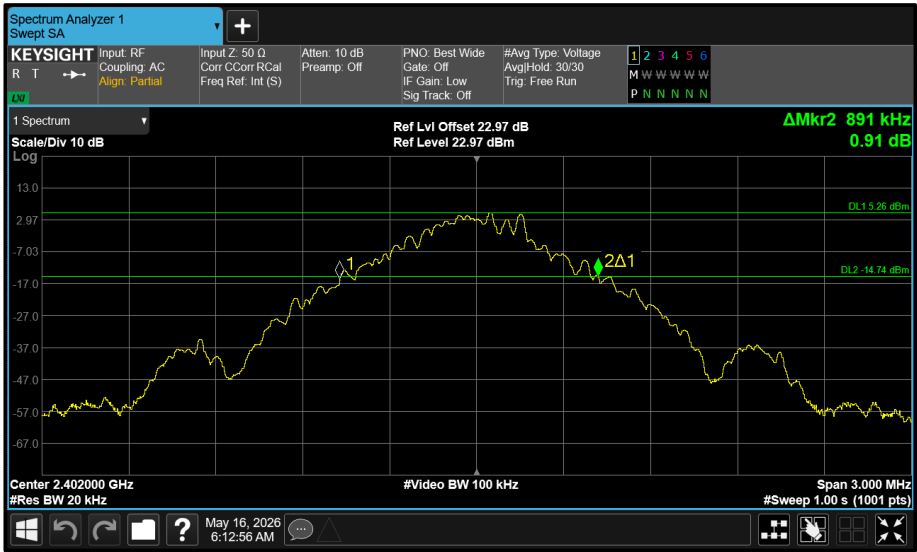


Figure 44 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

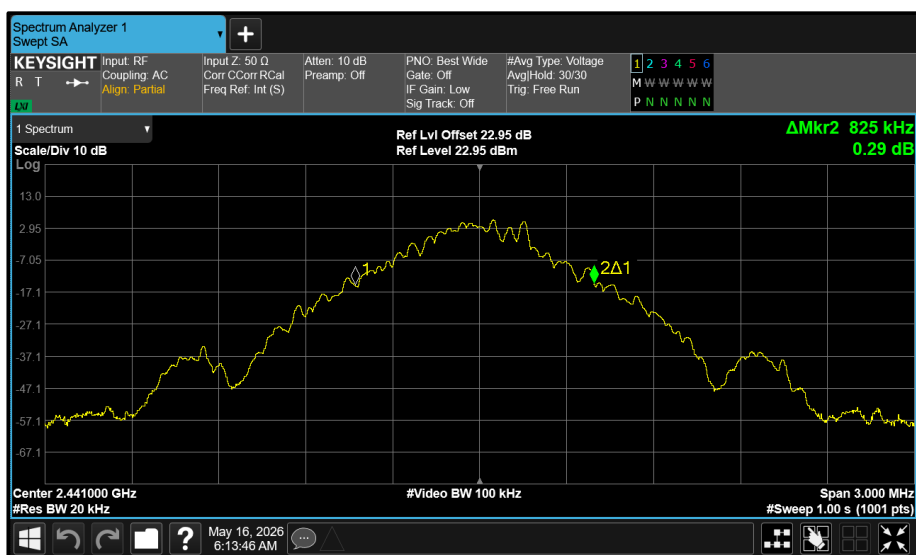


Figure 45 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

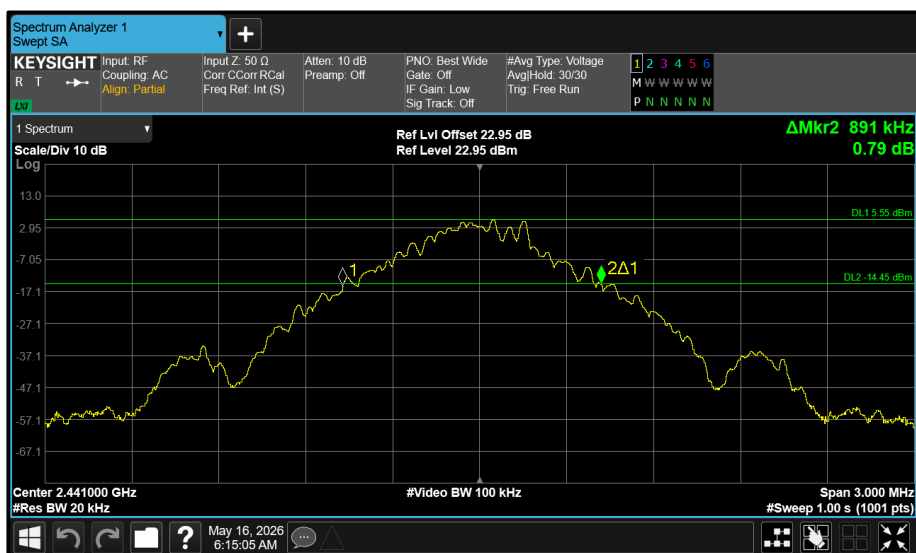


Figure 46 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

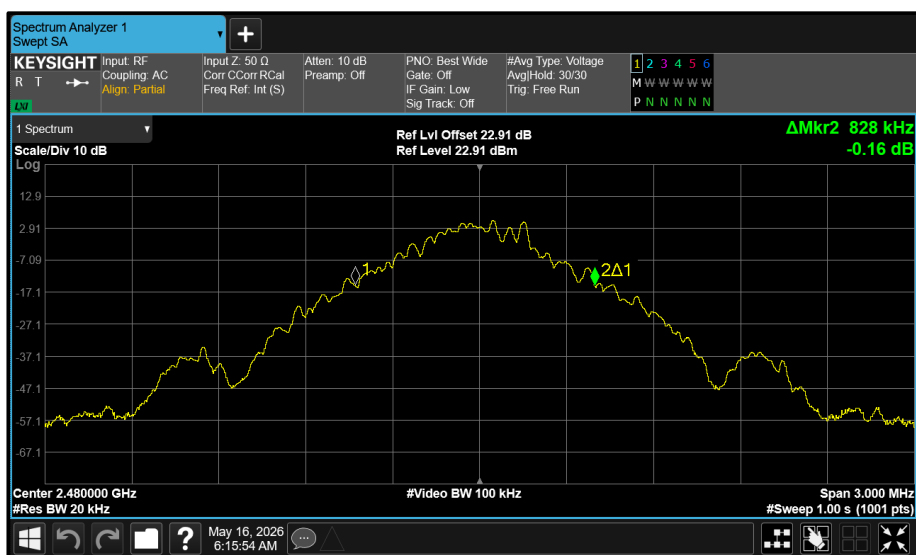


Figure 47 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

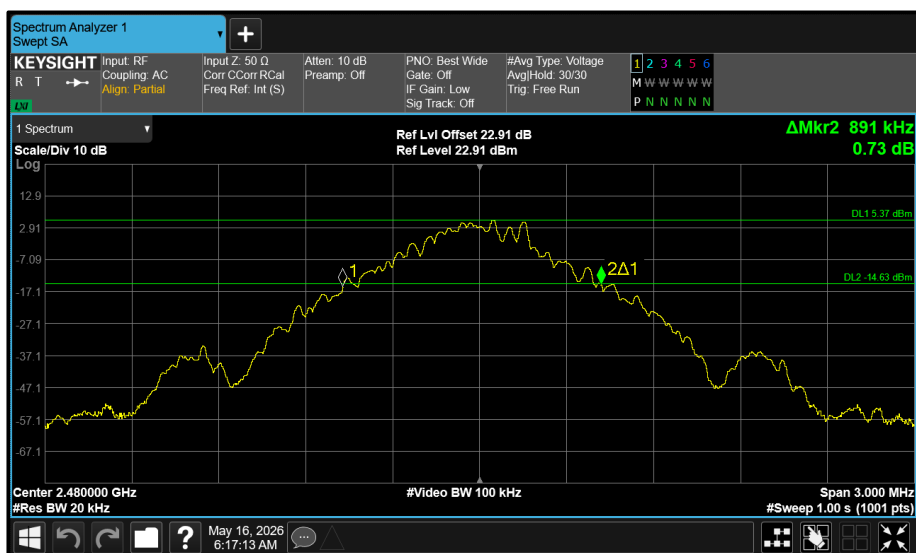


Figure 48 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth



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

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	-	0.888	-	-
2441	-	0.888	-	-
2480	-	0.891	-	-

Table 43 - 20 dB Bandwidth Results

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

Table 44 - 99% Bandwidth Results

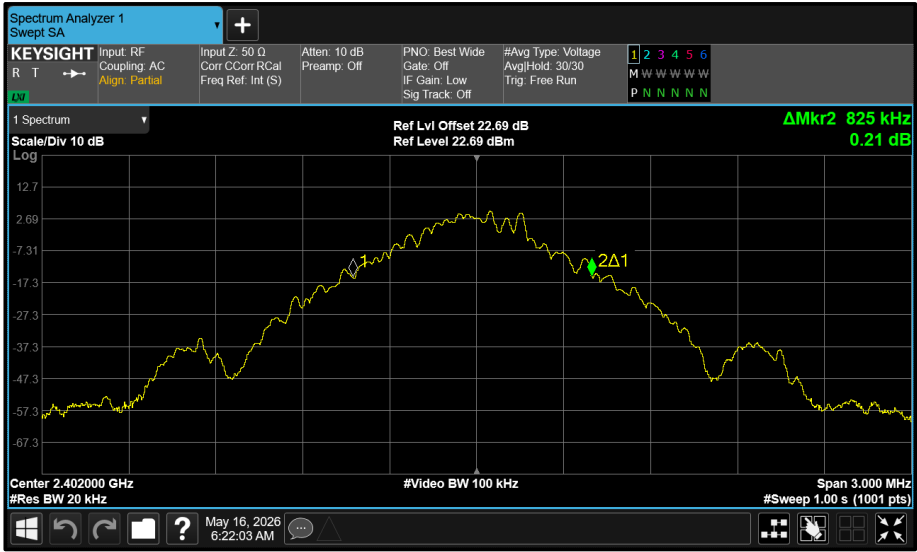


Figure 49 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

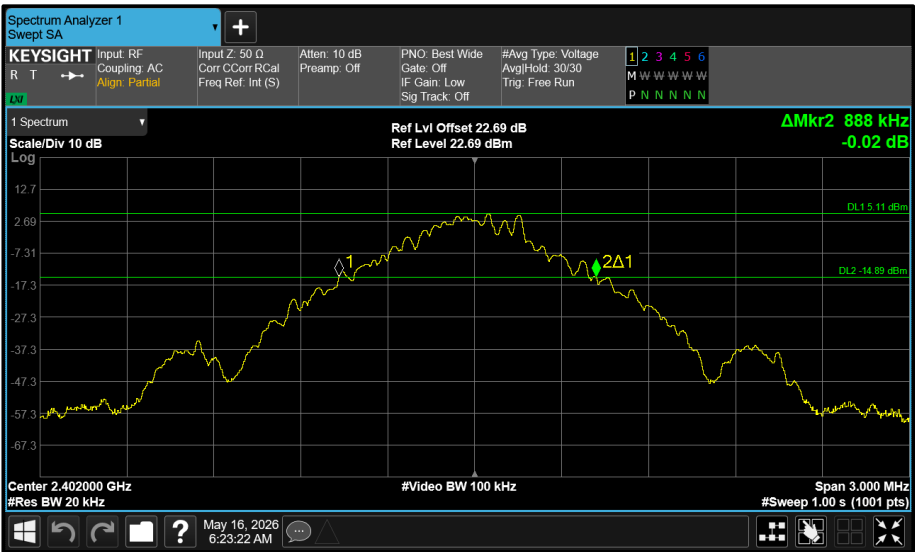


Figure 50 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

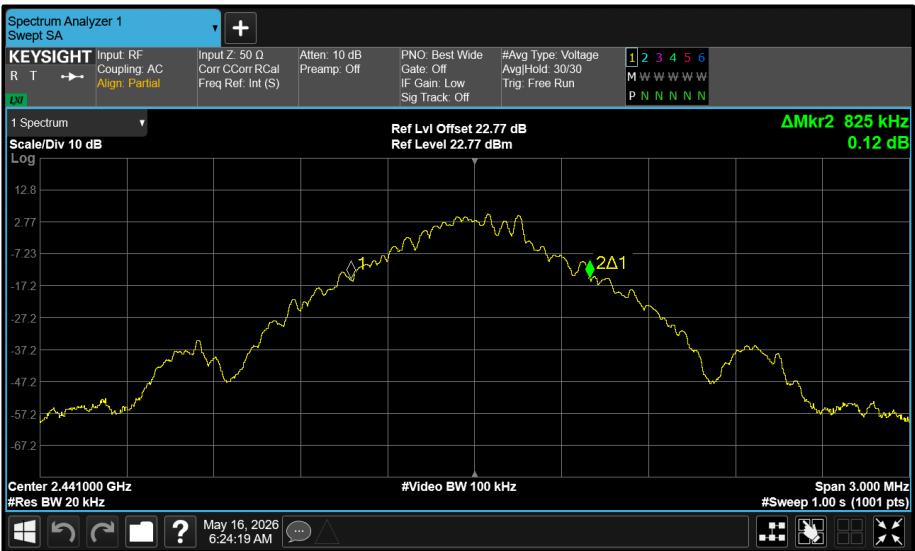


Figure 51 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

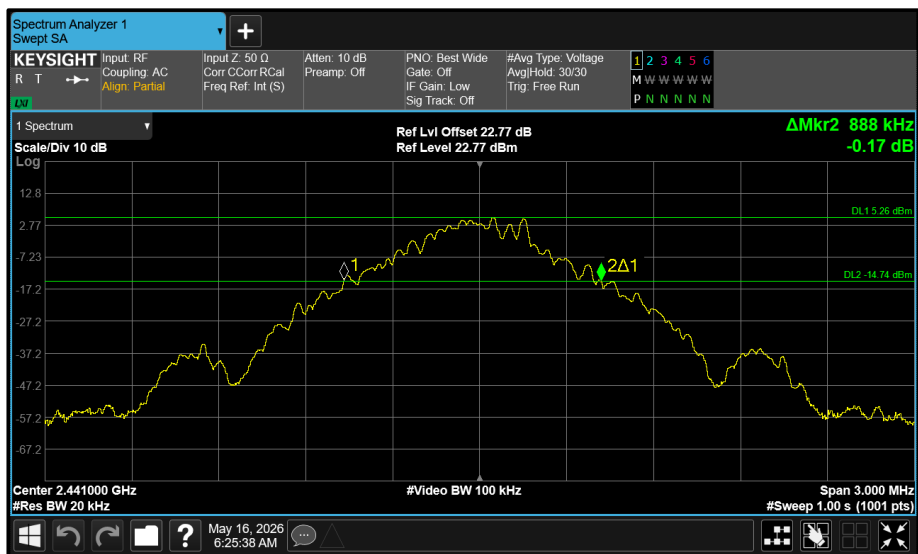


Figure 52 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

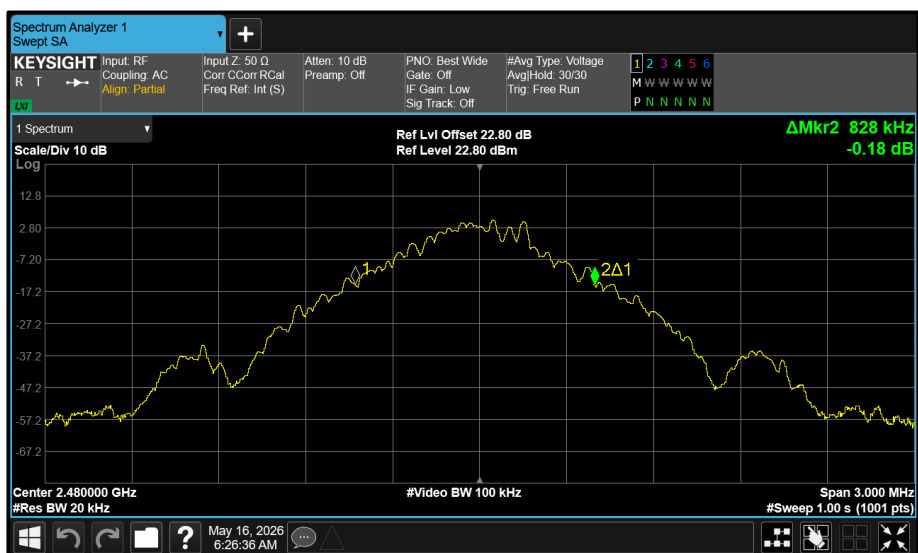


Figure 53 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

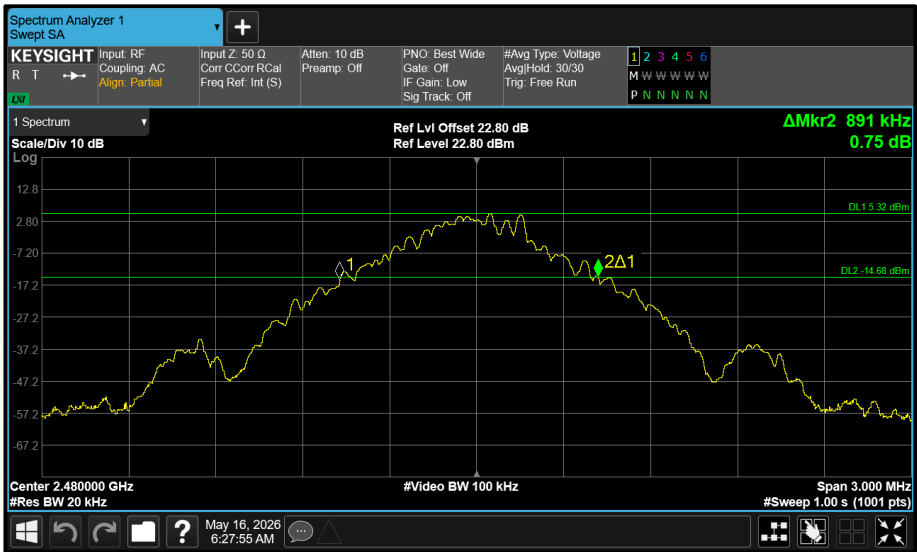


Figure 54 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(1) RSS-247 6.2.3.1	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):	C (Core 2)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	20 dB Bandwidth (MHz)			
	A	B	C	D
2402	-	-	0.888	-
2441	-	-	0.888	-
2480	-	-	0.891	-

Table 45 - 20 dB Bandwidth Results

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

Table 46 - 99% Bandwidth Results

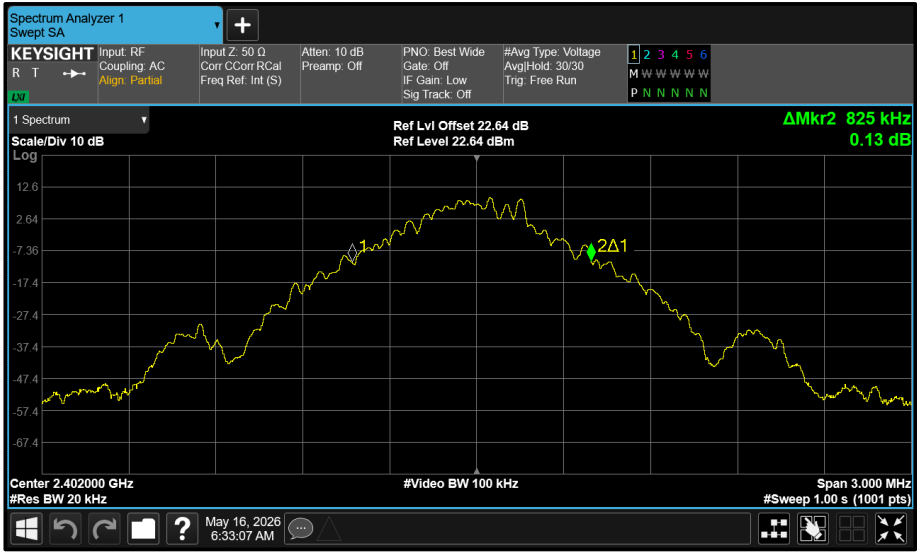


Figure 55 - Core 2 (C) 2402 MHz (CH0) 99% Bandwidth

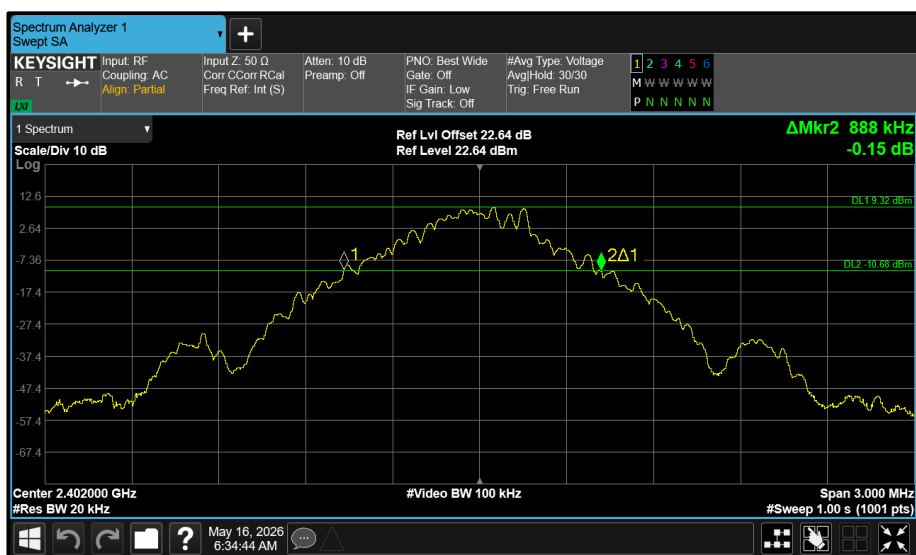


Figure 56 - Core 2 (C) 2402 MHz (CH0) 20 dB Bandwidth

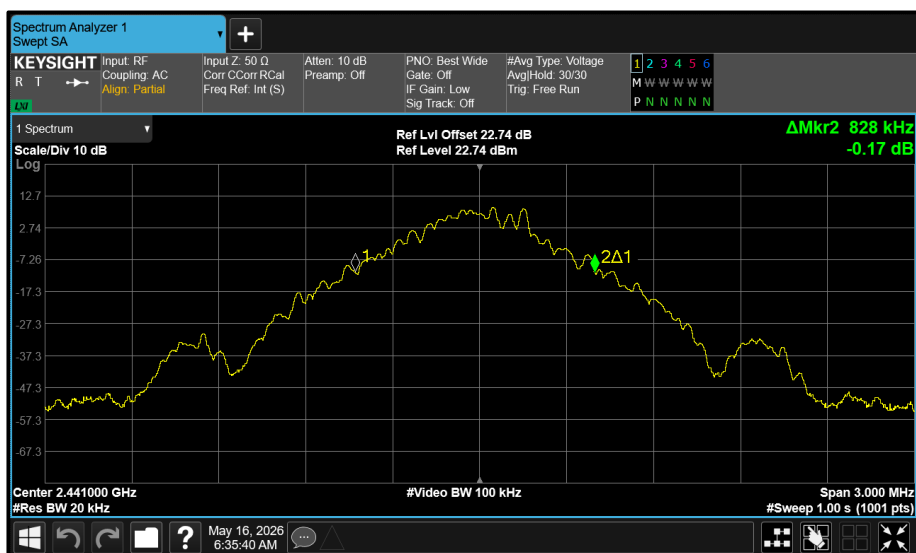


Figure 57 - Core 2 (C) 2441 MHz (CH39) 99% Bandwidth

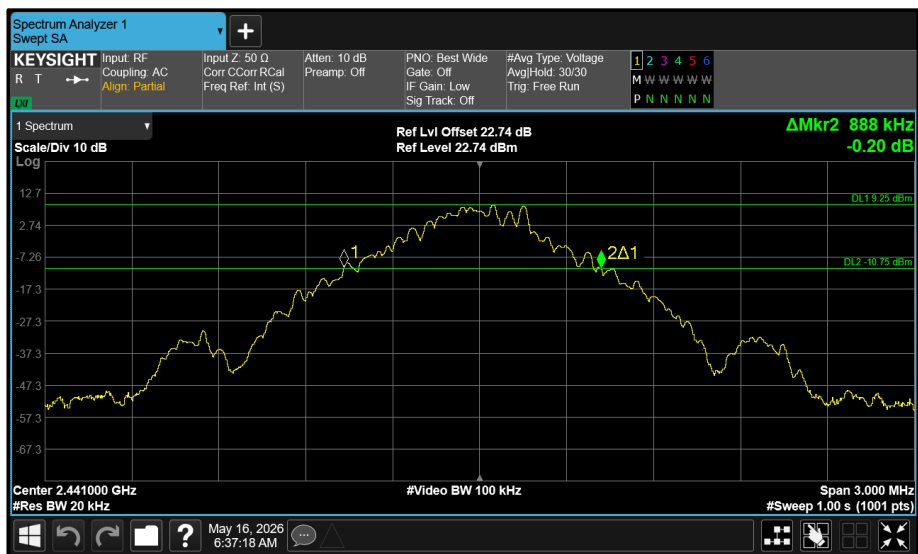


Figure 58 - Core 2 (C) 2441 MHz (CH39) 20 dB Bandwidth

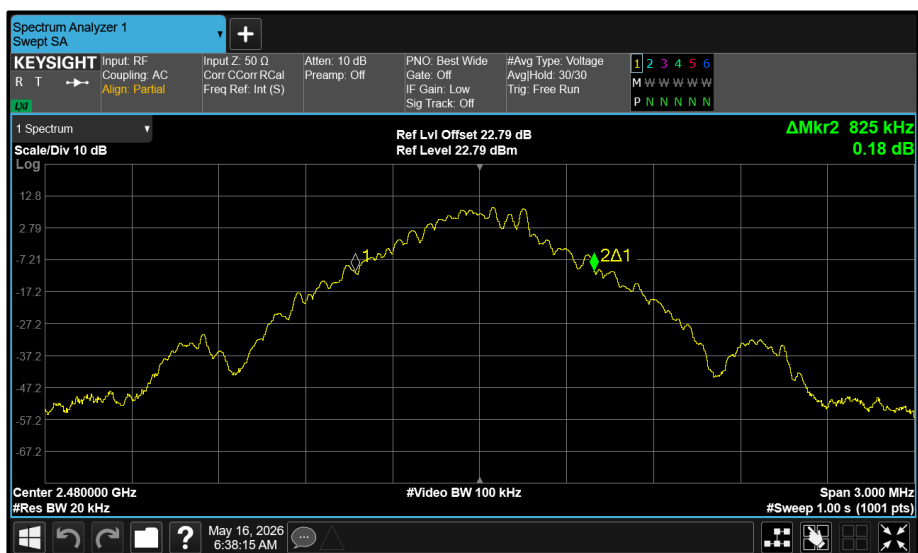


Figure 59 - Core 2 (C) 2480 MHz (CH78) 99% Bandwidth

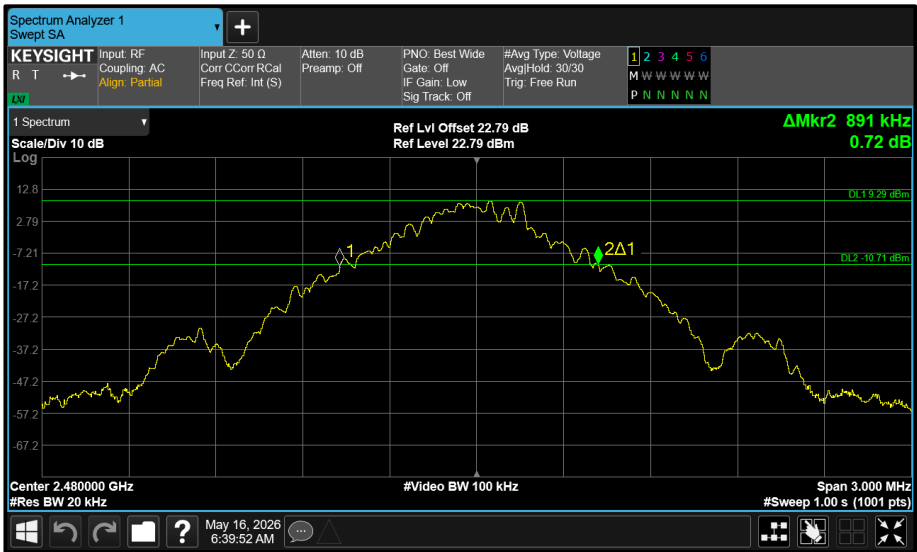


Figure 60 - Core 2 (C) 2480 MHz (CH78) 20 dB Bandwidth



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(1) RSS-247 6.2.3.1	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	0.891	-	-	-
2441	0.891	-	-	-
2480	0.888	-	-	-

Table 47 - 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 48 - 99% Bandwidth Results

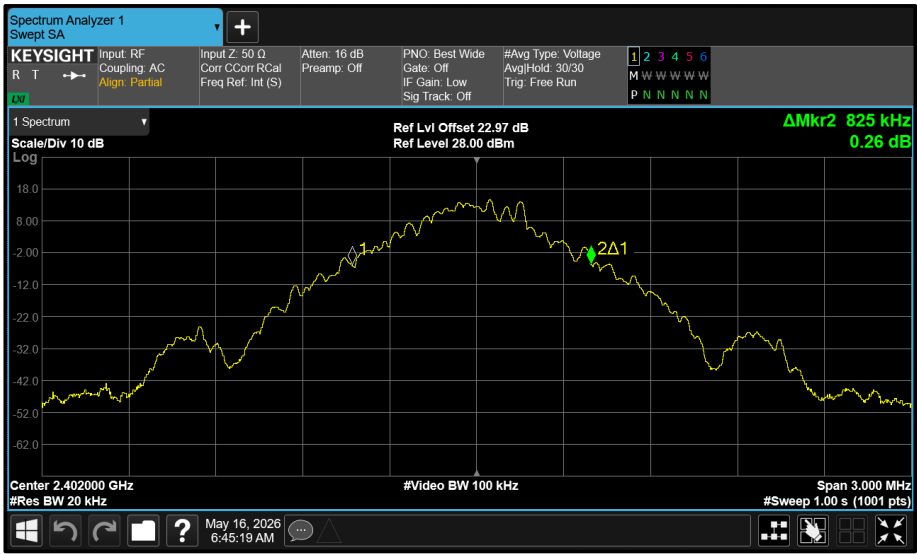


Figure 61 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

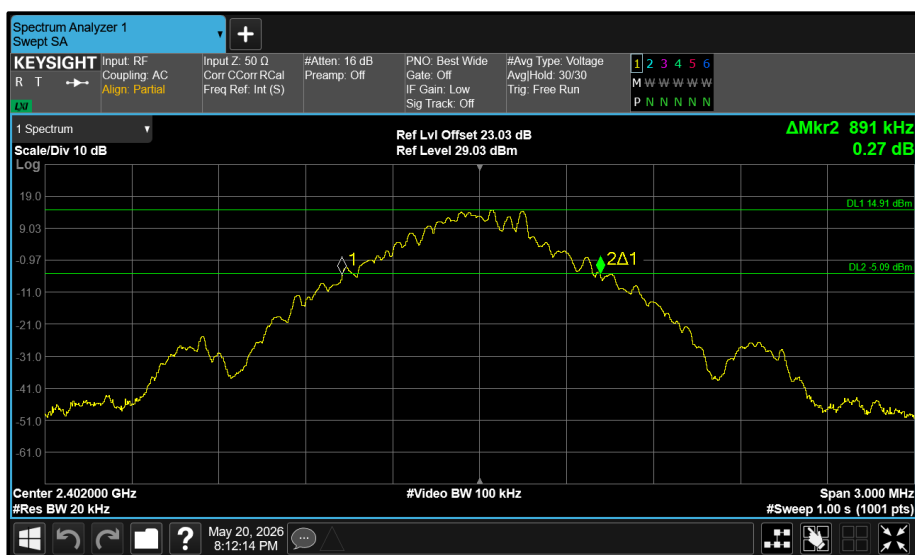


Figure 62 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

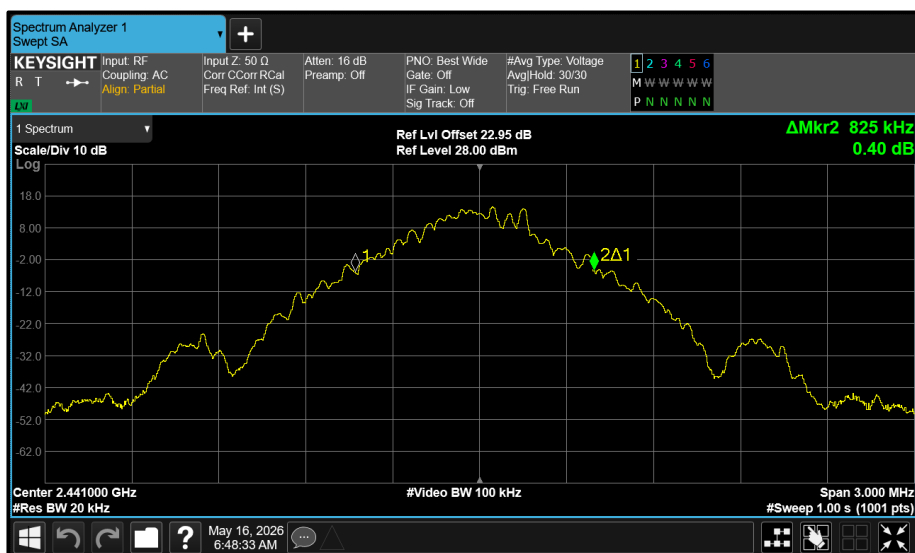


Figure 63 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

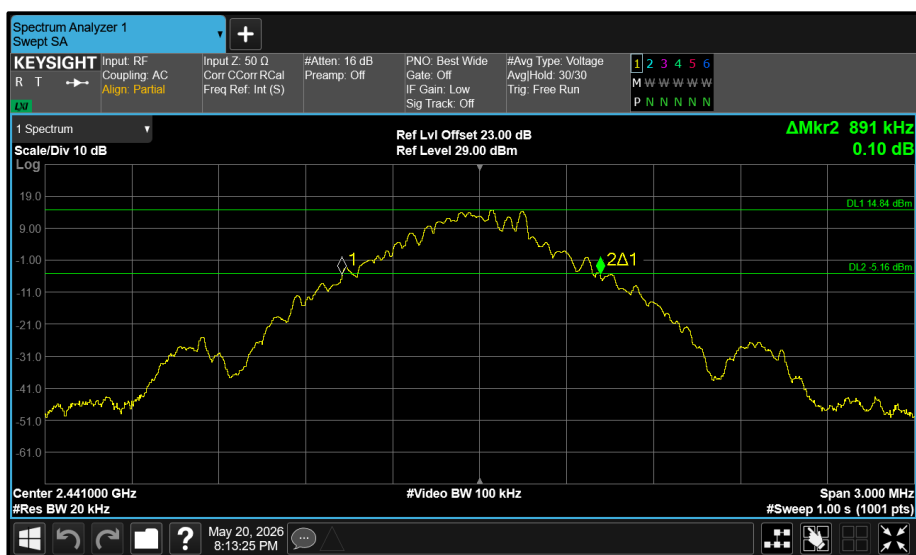


Figure 64 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

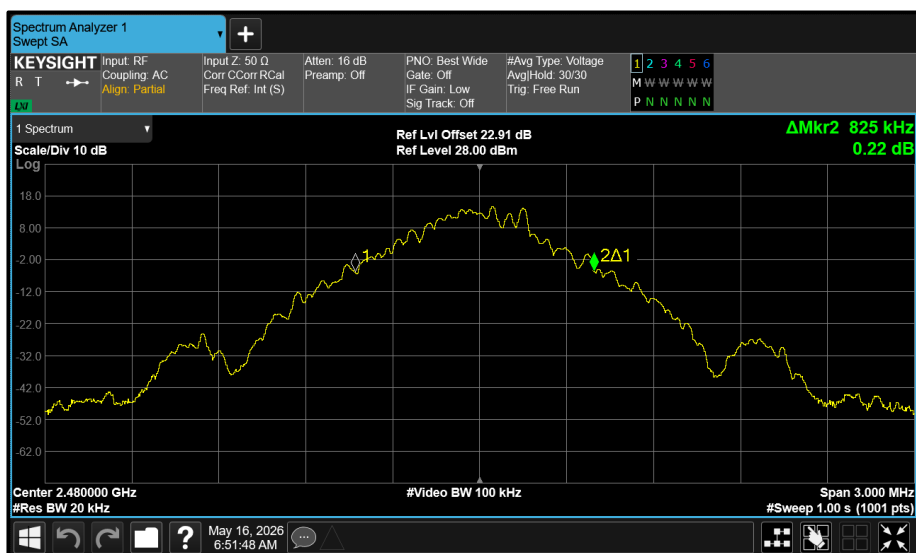


Figure 65 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

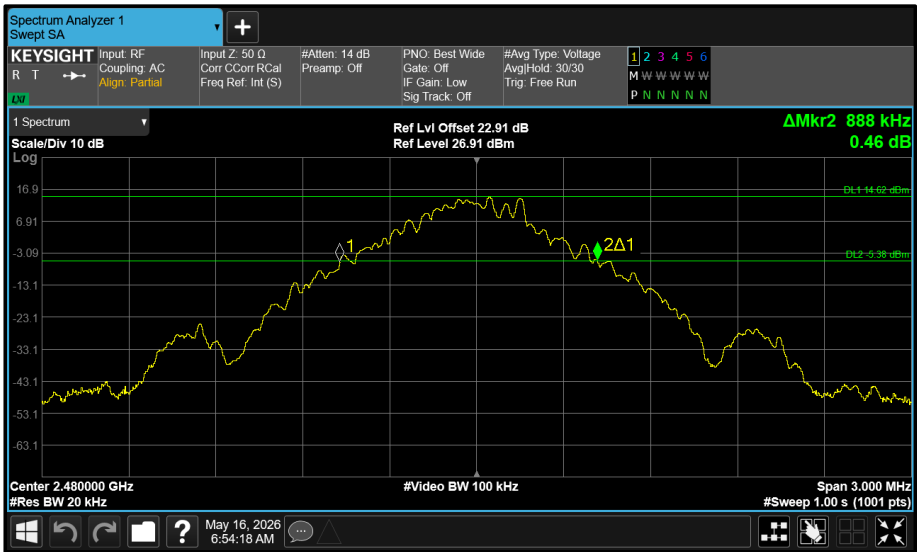


Figure 66 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(1) RSS-247 6.2.3.1	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 49 - 20 dB Bandwidth Results

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

Table 50 - 99% Bandwidth Results

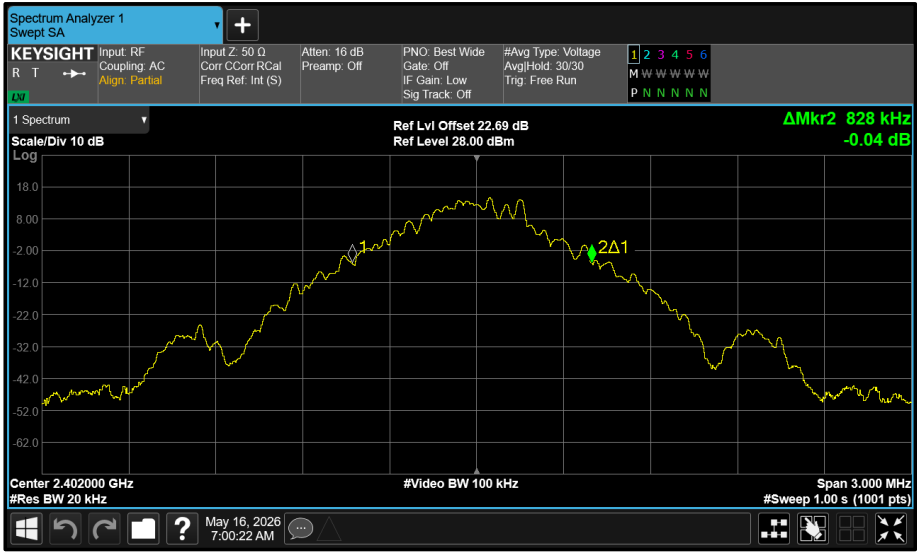


Figure 67 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

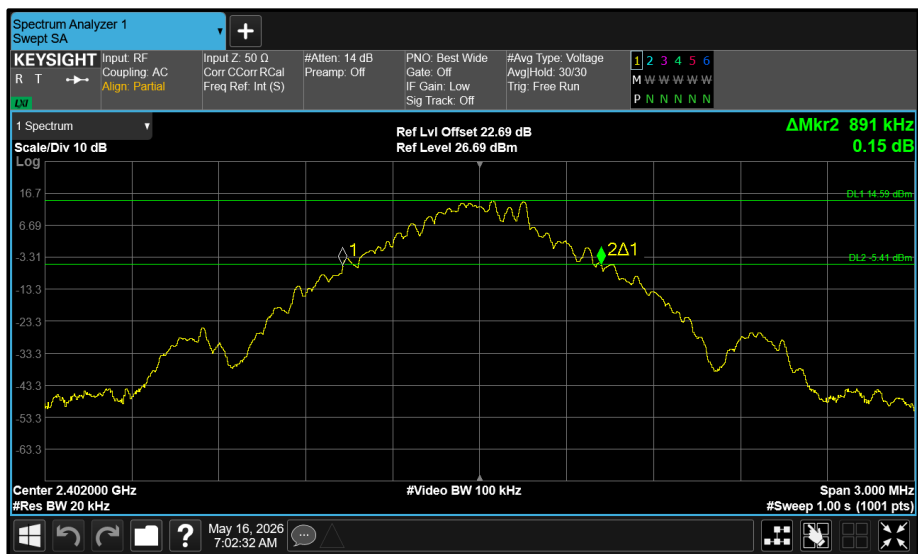


Figure 68 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

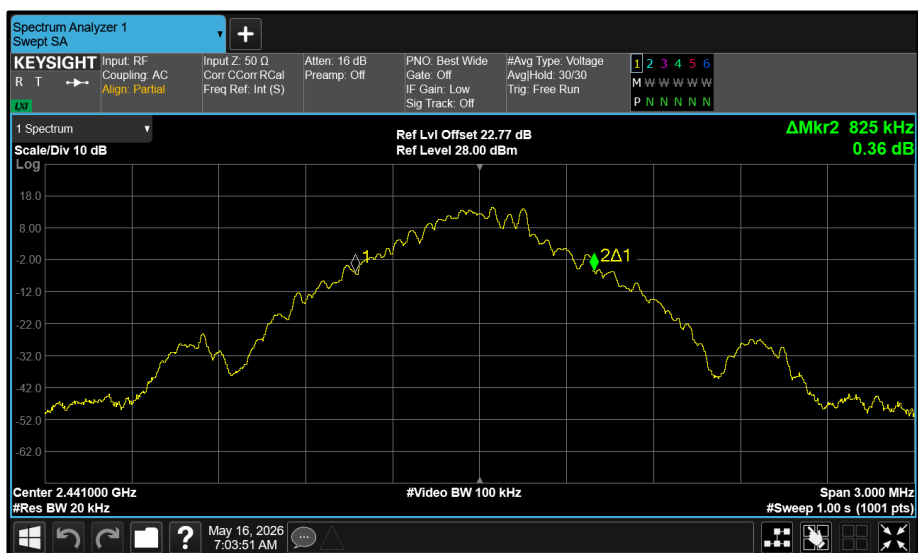


Figure 69 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

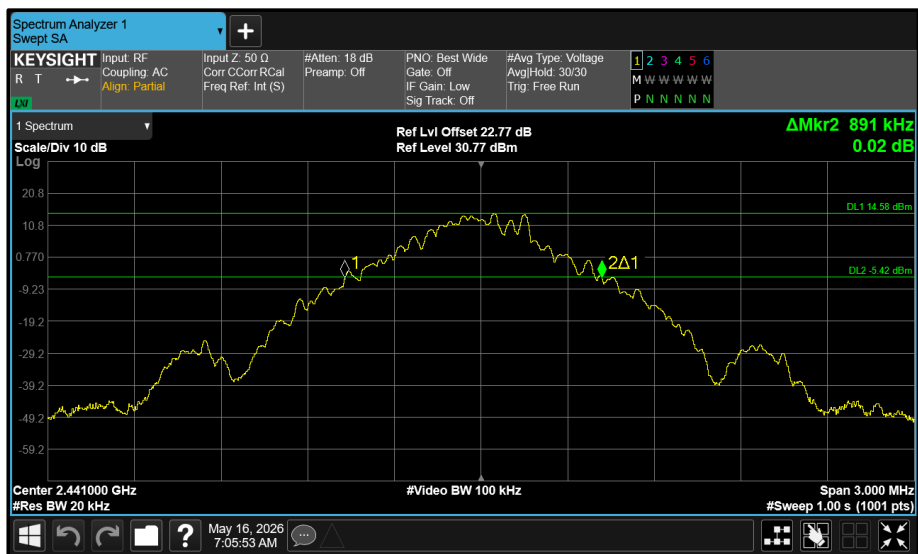


Figure 70 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

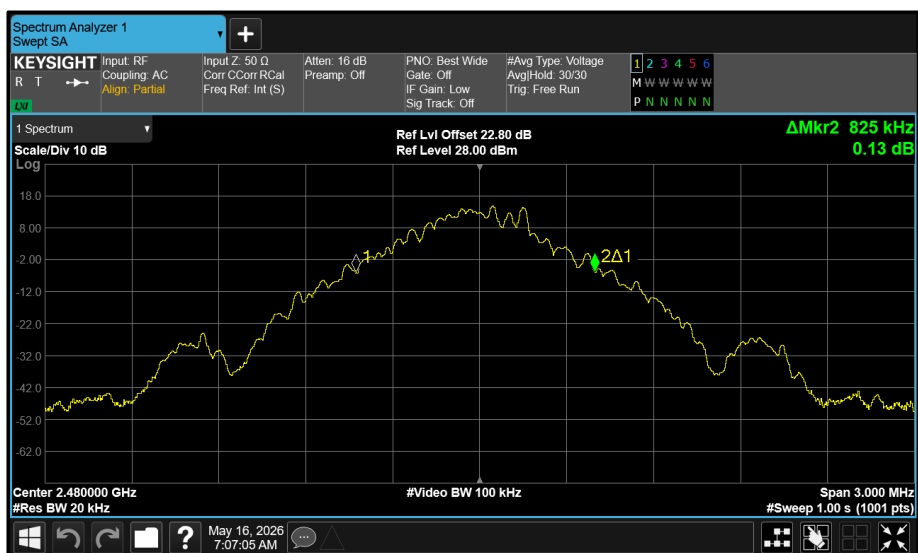


Figure 71 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

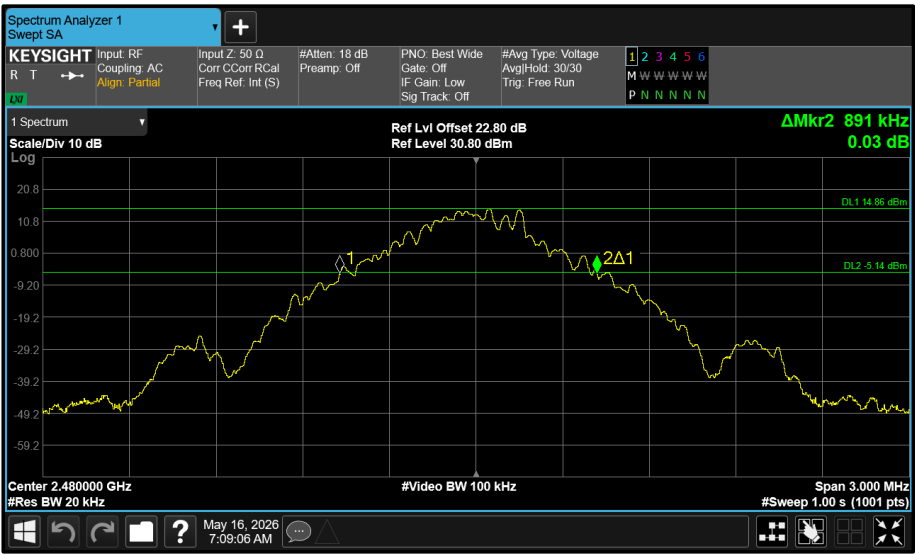


Figure 72 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(1) RSS-247 6.2.3.1	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	0.891	0.891	-	-
2441	0.891	0.891	-	-
2480	0.891	0.891	-	-

Table 51 - 20 dB Bandwidth Results

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

Table 52 - 99% Bandwidth Results

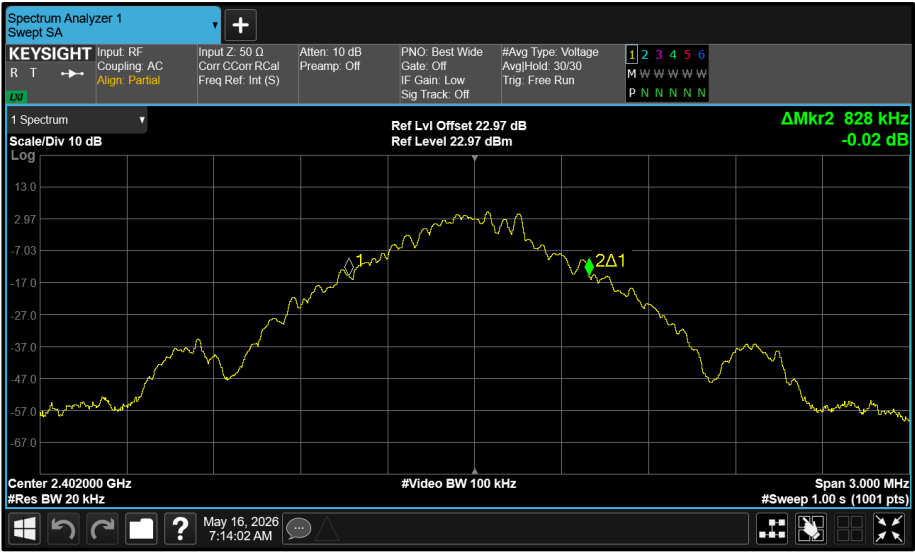


Figure 73 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

