

Prüfbericht-Nr.: Test report no.:	CN26H16Z 001	Auftrags-Nr.: Order no.:	27219344	Page 1 of 24 Seite 1 von 24
Kunden-Referenz-Nr.: Client reference no.:	N/A	Auftragsdatum: Order date:	2026-04-08	
Auftraggeber: Client:	Harman International Industries, Inc 8500 Balboa Blvd, Northridge, California, 91329, United States			
Prüfgegenstand: Test item:	CAR HEAD UNIT			
Bezeichnung / Typ-Nr.: Identification / Type no.:	JBLCELEBRITY350 (Trademark: JBL)			
Auftrags-Inhalt: Order content:	Type test			
Prüfgrundlage: Test specification:	CFR47 FCC Part 15: Subpart C Section 15.247	RSS-247 Issue 4 July 24 2025		
	CFR47 FCC Part 15: Subpart C Section 15.209	RSS-Gen Issue 5 February 2021		
Wareneingangsdatum: Date of sample receipt:	2026-02-10	Refer to photos document		
Prüfmuster-Nr.: Test sample no.:	A004207505			
Prüfzeitraum: Testing period:	2026-02-10 – 2026-03-09			
Ort der Prüfung: Place of testing:	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von: tested by:	 Signed by: Harry W. C. Wu		genehmigt von: authorized by:	 Signed by: Alex Lan
Datum: Date:	2026-04-16		Ausstellungsdatum: Issue date:	2026-04-16
Stellung / Position:	Project Manager		Stellung / Position:	Authorizer
Sonstiges / Other:	FCC ID: APICELE350 IC: 6132A-CELE350 HVIN: JBLCELEBRITY350			
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged			
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
* Legend:	P(ass) = passed a.m. test specification(s)	F(ail) = failed a.m. test specification(s)	N/A = not applicable	N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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Remarks
Anmerkungen

1	The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request. <i>Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben.</i> <i>Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</i>
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3	Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report. Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report. <i>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</i>
4	The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019. <i>Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019.</i>

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Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 MAXIMUM CONDUCTED OUTPUT POWER

RESULT: Pass

5.1.3 99% BANDWIDTH

RESULT: Pass

5.1.4 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 kHz BANDWIDTH

RESULT: Pass

5.1.5 RADIATED SPURIOUS EMISSION

RESULT: Pass

5.1.6 20dB BANDWIDTH

RESULT: Pass

5.1.7 CARRIER FREQUENCY SEPARATION

RESULT: Pass

5.1.8 FREQUENCY STABILITY

RESULT: Pass

5.1.9 NUMBER OF HOPPING FREQUENCY

RESULT: Pass

5.1.10 TIME OF OCCUPANCY

RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

Appendix B: Test Results of Classic Bluetooth.

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

2-3F, 101 & 102, No.2, Nuclear Power Industrial Park, Fuming Community, Fucheng Street, Longhua District, Shenzhen 518000, People's Republic of China

FCC Registration No.: CN1260

IC Registration No.: 25069 and the CAB identifier is CN0078.

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2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Radio Spectrum Testing				
Equipment	Manufacturer	Model	Serial No.	Cal. until
Wireless Connectivity Tester	R&S	CMW270	101375	22.09.2026
Signal Analyzer	R&S	FSV 40	101441	22.09.2026
Vector Signal Generator	R&S	SMBV100A	263301	29.10.2026
Signal Generator	R&S	SMB100A	115186	22.09.2026
OSP	R&S	OSP 150	101017	29.10.2026
Control PC	DELL	OptiPlex 7050	FTJZ9P2	N/A
Test Software	R&S	WMS32 (V11.00.00)	N/A	N/A
Power Meter	R&S	NRP2	107105	29.10.2026
Power Sensor	R&S	NRP-Z81	105677	22.09.2026
High Low Temperature Test Chamber	KOWINTEST	TH-30FJX	KW-21040497	22.09.2026
Shielding Room	Albatross	SR1	APC17151-SR1	13.09.2027
Unwanted Emission Testing				
Equipment	Manufacturer	Model	Serial No.	Cal. until
EMI Test Receiver	R&S	ESR 7	102021	21.09.2026
Signal Analyzer	R&S	FSV 40	101439	21.09.2026
System Controller Interface	R&S	SCI-100	S10010038	N/A
Filterbank	R&S	Wlan	100759	21.09.2026
OSP	R&S	OSP 120	102040	N/A
Pre-amplifier	R&S	SCU08F1	08320031	21.09.2026
Amplifier	R&S	SCU-18F	180070	21.09.2026
Amplifier	R&S	SCU40A	100475	21.09.2026
Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	27.09.2026
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	27.09.2026
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	27.09.2026
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	27.09.2026
Test software	R&S	EMC32 (V10.60.10)	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NV9P2	N/A
3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	13.09.2027

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2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table

Parameter	Uncertainty (k=2)
Occupied Channel Bandwidth	± 2.08 %
RF output power, conducted	± 0.99 dB
RF power density, conducted	± 0.99 dB
Unwanted Emissions, conducted	± 0.89 dB
All emissions, radiated	± 4.17 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at 2-3F, 101 & 102, No.2, Nuclear Power Industrial Park, Fuming Community, Fucheng Street, Longhua District, Shenzhen 518000, People's Republic of China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The product is a CAR HEAD UNIT, and it supports Bluetooth dual mode technology.

The Classical Bluetooth and Bluetooth low energy can't transmit at the same time.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	CAR HEAD UNIT
Type Designation	JBLCELEBRITY350
Trademark	JBL
FCC ID	APICELE350
IC	6132A-CELE350
HVIN	JBLCELEBRITY350
Extreme Temperature Range	0°C to +70°C
Operating Voltage	DC 12V, 9A
Technical Specification of Classical Bluetooth	
Operating Frequency band	2402 ~ 2480 MHz
Channel Number	79 channels
Channel separation	1MHz
Modulation	GFSK, $\pi/4$ DQPSK
Antenna Type	FPC antenna
Antenna Gain	3.29 dBi (Provided by the Client)
Technical Specification of Bluetooth Low Energy	
Operating Frequency band	2402 – 2480 MHz
Channel Number	40 channels
Channel separation	2MHz
Data rate	1Mbps, 2Mbps
Modulation	GFSK
Antenna Type	FPC antenna
Antenna Gain	3.29 dBi (Provided by the Client)

Table 3: RF Channel and Frequency of Classic Bluetooth

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
00	2402.00	20	2422.00	40	2442.00	60	2462.00
01	2403.00	21	2423.00	41	2443.00	61	2463.00
02	2404.00	22	2424.00	42	2444.00	62	2464.00
03	2405.00	23	2425.00	43	2445.00	63	2465.00
04	2406.00	24	2426.00	44	2446.00	64	2466.00
05	2407.00	25	2427.00	45	2447.00	65	2467.00
06	2408.00	26	2428.00	46	2448.00	66	2468.00
07	2409.00	27	2429.00	47	2449.00	67	2469.00
08	2410.00	28	2430.00	48	2450.00	68	2470.00
09	2411.00	29	2431.00	49	2451.00	69	2471.00
10	2412.00	30	2432.00	50	2452.00	70	2472.00
11	2413.00	31	2433.00	51	2453.00	71	2473.00
12	2414.00	32	2434.00	52	2454.00	72	2474.00
13	2415.00	33	2435.00	53	2455.00	73	2475.00
14	2416.00	34	2436.00	54	2456.00	74	2476.00
15	2417.00	35	2437.00	55	2457.00	75	2477.00
16	2418.00	36	2438.00	56	2458.00	76	2478.00
17	2419.00	37	2439.00	57	2459.00	77	2479.00
18	2420.00	38	2440.00	58	2460.00	78	2480.00
19	2421.00	39	2441.00	59	2461.00	--	--

Table 4: RF Channel and Frequency of Bluetooth Low Energy

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
00	2402.00	10	2422.00	20	2442.00	30	2462.00
01	2404.00	11	2424.00	21	2444.00	31	2464.00
02	2406.00	12	2426.00	22	2446.00	32	2466.00
03	2408.00	13	2428.00	23	2448.00	33	2468.00
04	2410.00	14	2430.00	24	2450.00	34	2470.00
05	2412.00	15	2432.00	25	2452.00	35	2472.00
06	2414.00	16	2434.00	26	2454.00	36	2474.00
07	2416.00	17	2436.00	27	2456.00	37	2476.00
08	2418.00	18	2438.00	28	2458.00	38	2478.00
09	2420.00	19	2440.00	29	2460.00	39	2480.00

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3.3 Independent Operation Modes

The basic operation modes are:

- A. On
 - 1. Bluetooth transmitting mode (BR & EDR mode)
 - a) Low Channel
 - b) Middle Channel
 - c) High Channel
- B. On, Transmitting on Hopping channel
- C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- Block Diagram
- Schematics
- Technical Description
- FCC/IC Label and Location Info
- Photo Document
- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.10-2020, ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024.

4.3 Special Accessories and Auxiliary Equipment

Table 5: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N or Rating
Laptop	Lenovo	T480	PF-16A6N8
DC Power Supply	Keysight	E3642A	MY61276100

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 30MHz)

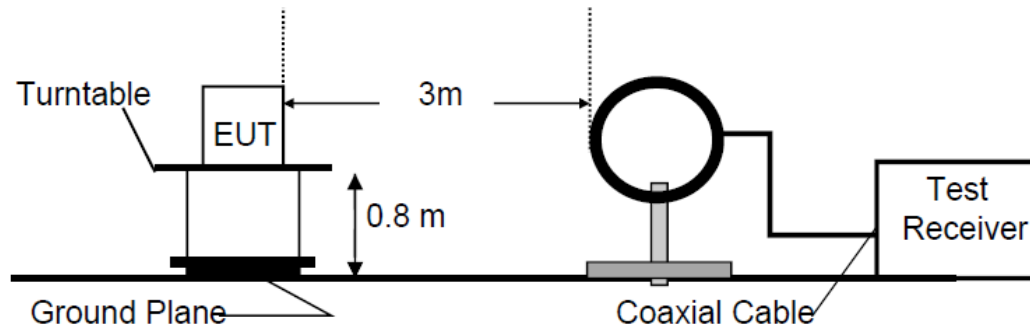


Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

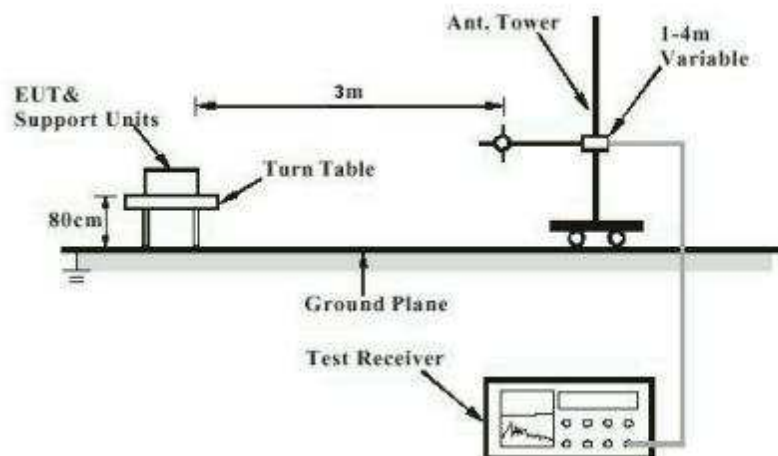


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

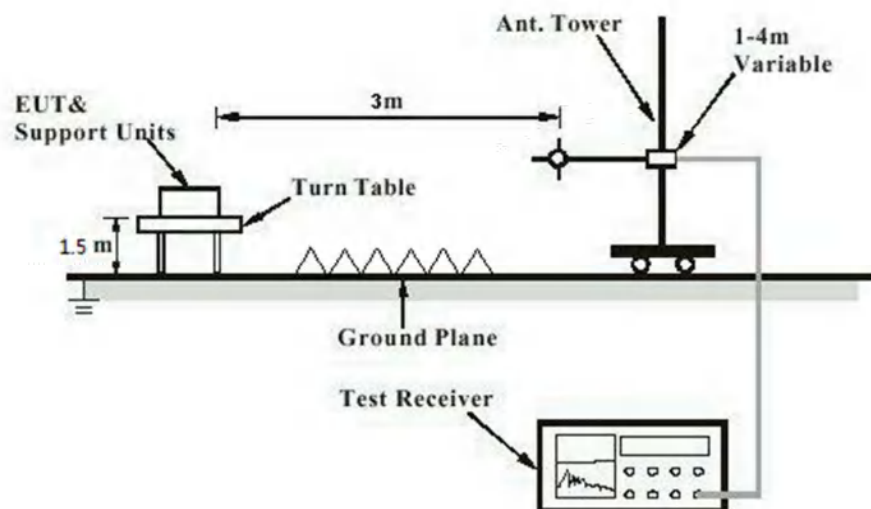
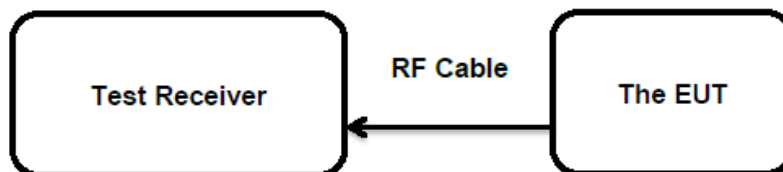


Diagram of Measurement Configuration for Conducted Transmitter Measurement



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5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:

Pass

Test Specification

Test standard : FCC Part 15.247(b)(4) and Part 15.203
RSS-Gen Clause 8.3

According to the manufacturer declared, the EUT has one FPC antenna, the directional gain of antennas is 3.29 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

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5.1.2 Maximum Conducted Output Power

RESULT:
Pass
Test Specification

Test standard	FCC Part 15.247(b)(1) RSS-247 Clause 6.2.3.2
Basic standard	ANSI C63.10-2020, ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024
Limits	FHSS<0.125W(Maximum peak conducted output power) < 4 W (e.i.r.p.)
Kind of test site	Shielded Room

Test Setup

Date of testing	2026-02-10 to 2026-03-06
Input voltage	DC 12V
Operation mode	A.1
Test channel	Low / Middle / High
Ambient temperature	22.3 °C
Relative humidity	50 %
Atmospheric pressure	101 kPa

Table 6: Test Result of Maximum Conducted Output Power

Test Mode	Channel Frequency (MHz)	Measured Peak Output Power		Limit (W)
		(dBm)	(W)	
BR	2402	-4.4	0.00036	< 0.125
	2441	-3.2	0.00048	
	2480	-0.8	0.00083	
EDR	2402	-3.0	0.00050	
	2441	-1.8	0.00066	
	2480	0.5	0.00112	
Maximum Measured Value		0.5	0.00112	

Note: The cable loss is taken into account in results and the maximum e.i.r.p. is 3.79dBm less than 4W(36dBm).

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5.1.3 99% Bandwidth

RESULT:
Pass
Test Specification

Test standard : RSS-Gen Clause 6.7
Basic standard : ANSI C63.10-2020, ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024
Kind of test site : Shielded Room

Test Setup

Date of testing : 2026-02-10 to 2026-03-06
Input voltage : DC 12V
Operation mode : A.1
Test channel : Low / Middle / High
Ambient temperature : 22.3 °C
Relative humidity : 50 %
Atmospheric pressure : 101 kPa

For the measurement records, refer to the appendix B

Table 7: Test Result of 99% Bandwidth

Test Mode	Channel Frequency (MHz)	Measured 99% Bandwidth	Limit
		(MHz)	
BR	2402	0.863	/
	2441	0.863	
	2480	0.869	
EDR	2402	1.175	/
	2441	1.175	
	2480	1.181	

Note: The fundamental emissions stay within the allocated band 2400-2483.5MHz.

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5.1.4 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

RESULT: Pass**Test Specification**

Test standard : FCC Part 15.247(d)
RSS-247 Clause 6.6

Basic standard : ANSI C63.10-2020, ANSI C63.10-2020+Cor. 1-
2023+C63.10a-2024

Limits : 20dB (below that in the 100kHz bandwidth within the band
that contains the highest level of the desired power);

Kind of test site : Shielded Room

Test Setup

Date of testing : 2026-02-10 to 2026-03-06

Input voltage : DC 12V

Operation mode : A.1

Test channel : Low / Middle / High

Ambient temperature : 22.3 °C

Relative humidity : 50 %

Atmospheric pressure : 101 kPa

Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to following test plot, and compliance is achieved as well.

For the measurement records, refer to the appendix B

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5.1.5 Radiated Spurious Emission

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.247(d) & FCC Part 15.205 RSS-247 Clause 6.6
Basic standard	: ANSI C63.10-2020, ANSI C63.10-2020+Cor. 1- 2023+C63.10a-2024
Limits	: Refer to 15.209(a) of FCC part 15.247(d) RSS-Gen Table 6 & Table 7
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: 2026-02-10 to 2026-03-06
Input voltage	: DC 12V
Operation mode	: A.1
Test channel	: Low / Middle / High
Ambient temperature	: Refer to test result
Relative humidity	: Refer to test result
Atmospheric pressure	: 101 kPa

Remark:

During the pretest the EUT was rotated through three orthogonal axes to determine the attitude that maximizes the emissions. After that the EUT was manually handled to find the orientation that has the maximum emission, which is the orientation shown in the test set-up photos.

Testing was carried out within frequency range 9kHz to the tenth harmonics.

For the measurement records, refer to the appendix B

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5.1.6 20dB Bandwidth

RESULT:
Pass
Test Specification

Test standard : FCC Part 15.247(a)(1)
RSS-247 Clause 6.2.1

Basic standard : ANSI C63.10-2020, ANSI C63.10-2020+Cor. 1-
2023+C63.10a-2024

Kind of test site : Shielded Room

Test Setup

Date of testing : 2026-02-10 to 2026-03-06

Input voltage : DC 12V

Operation mode : A.1

Test channel : Low / Middle / High

Ambient temperature : 22.3 °C

Relative humidity : 50 %

Atmospheric pressure : 101 kPa

For the measurement records, refer to the appendix B

Table 8: Test Result of -20dB Bandwidth

Test Mode	Channel Frequency (MHz)	20dB Bandwidth (MHz)	2/3 of 20dB Bandwidth (MHz)	Limit (MHz)
BR	2402	0.925	0.617	/
	2441	0.925	0.617	
	2480	0.925	0.617	
EDR	2402	1.250	0.833	/
	2441	1.250	0.833	
	2480	1.250	0.833	

Prüfbericht-Nr.: CN26H16Z 001
Test report no.:

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5.1.7 Carrier Frequency Separation

RESULT:
Pass
Test Specification

Test standard : FCC Part 15.247(a)(1)
RSS-247 Clause 6.2.3.1 (a)

Basic standard : ANSI C63.10-2020, ANSI C63.10-2020+Cor. 1-
2023+C63.10a-2024

Limits : $\geq 25\text{kHz}$ or 2/3 of 20dB bandwidth, whichever is greater

Kind of test site : Shielded Room

Test Setup

Date of testing : 2026-02-10 to 2026-03-06

Input voltage : DC 12V

Operation mode : B

Test channel : Low / Middle / High

Ambient temperature : 22.3 °C

Relative humidity : 50 %

Atmospheric pressure : 101 kPa

For the measurement records, refer to the appendix B

Table 9: Test Result of Carrier Frequency Separation

Test Mode	Channel	Result[MHz]	Limit[MHz]	Verdict
BR-DH5	Hop	1.0004	≥ 0.617	PASS
EDR-2DH5	Hop	1.0028	≥ 0.833	PASS

Prüfbericht-Nr.: CN26H16Z 001
Test report no.:

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5.1.8 Frequency stability

RESULT:

Pass

Test Specification

Test standard	: RSS-Gen Clause 8.11
Basic standard	: ANSI C63.10-2020, ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024
Limits	: within at least the central 80% of its permitted operating frequency band (2400-2483.5MHz)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2026-02-10 to 2026-03-06
Input voltage	: DC 12V
Operation mode	: B
Ambient temperature	: 22.3 °C
Relative humidity	: 50 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix B

Prüfbericht-Nr.: CN26H16Z 001
Test report no.:

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5.1.9 Number of Hopping Frequency

RESULT:
Pass
Test Specification

Test standard : FCC part 15.247(a)(1)(iii)
RSS-247 Clause 6.2.3.1 (b)

Basic standard : ANSI C63.10-2020, ANSI C63.10-2020+Cor. 1-
2023+C63.10a-2024

Limits : ≥ 15 non-overlapping channels

Kind of test site : Shielded Room

Test Setup

Date of testing : 2026-02-10 to 2026-03-06

Input voltage : DC 12V

Operation mode : B

Ambient temperature : 22.3 °C

Relative humidity : 50 %

Atmospheric pressure : 101 kPa

For the measurement records, refer to the appendix B.

Table 10: Test Result of Number of Hopping Frequency

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥ 15	PASS
3DH5	Ant1	Hop	79	≥ 15	PASS

Prüfbericht-Nr.: CN26H16Z 001
Test report no.:

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5.1.10 Time of Occupancy

RESULT:

Pass

Test Specification

Test standard : FCC part 15.247(a)(1)(iii)
RSS-247 Clause 6.2.3
Basic standard : ANSI C63.10-2020, ANSI C63.10-2020+Cor. 1-
2023+C63.10a-2024
Limits : < 0.4s
Kind of test site : Shielded Room

Test Setup

Date of testing : 2026-02-10 to 2026-03-06
Input voltage : DC 12V
Operation mode : B
Test channel : Low / Middle / High
Ambient temperature : 22.3 °C
Relative humidity : 50 %
Atmospheric pressure : 101 kPa

For the measurement records, refer to the appendix B .

6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

7 List of Tables

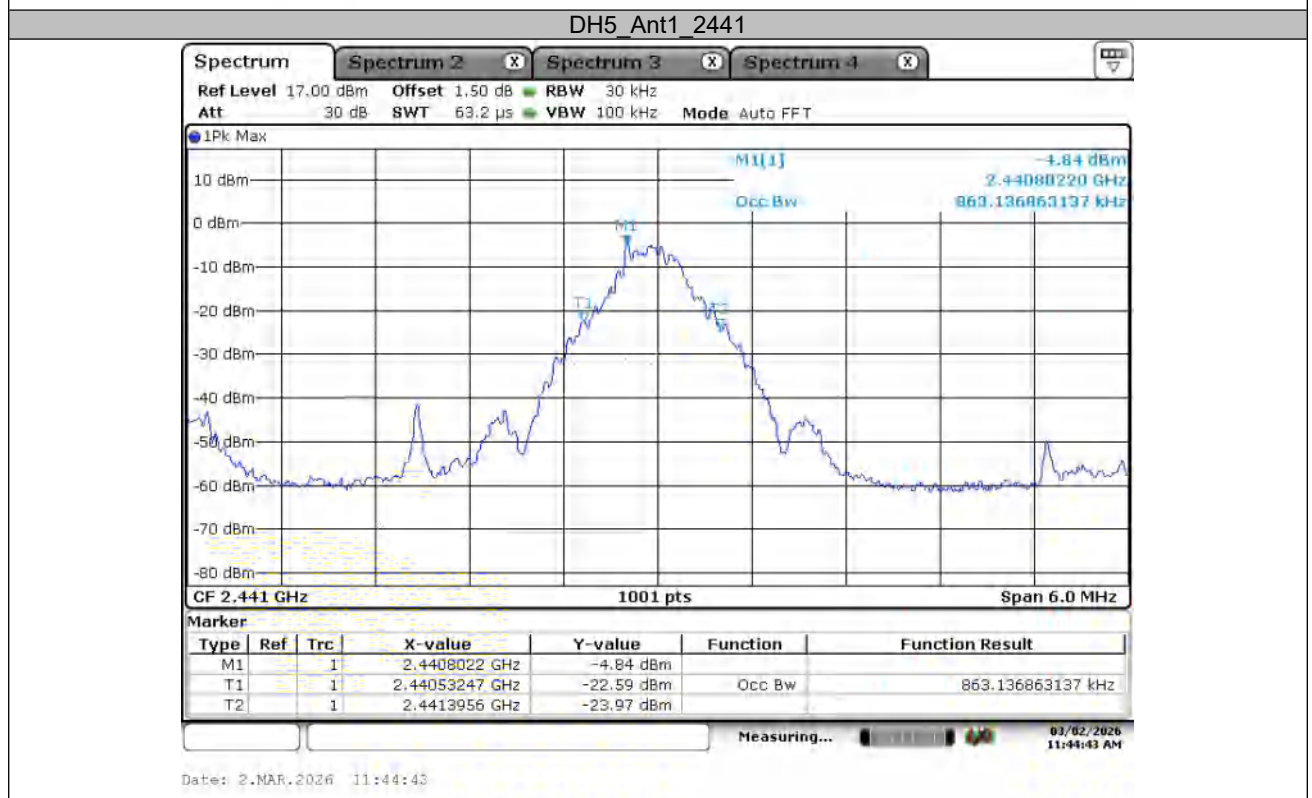
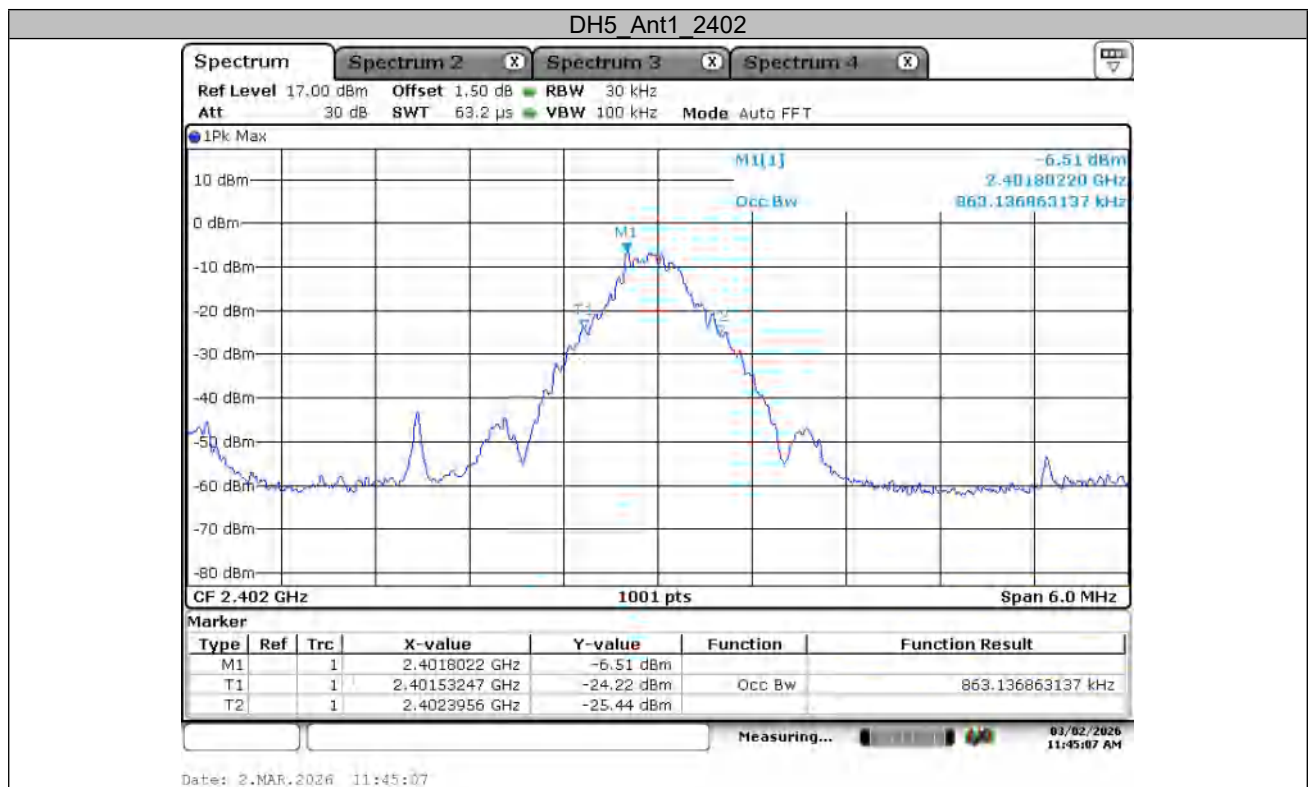
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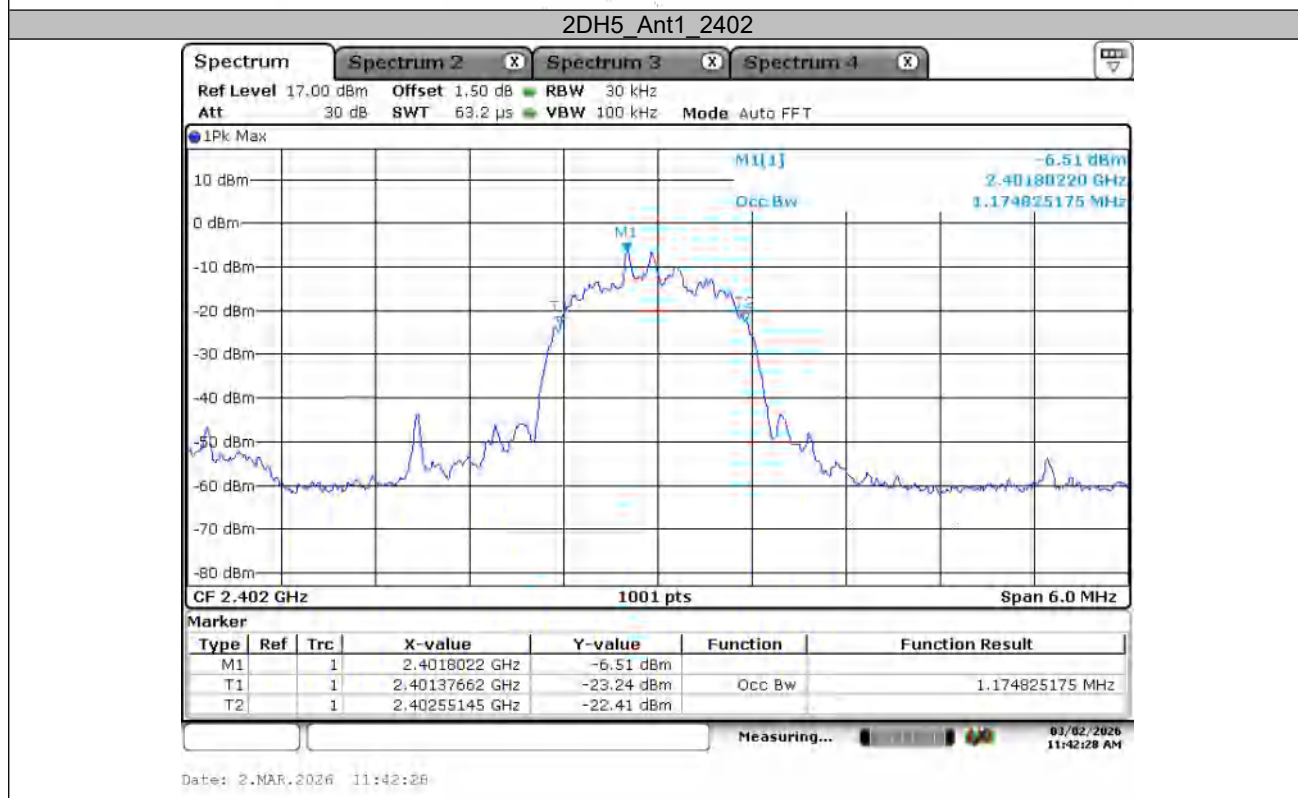
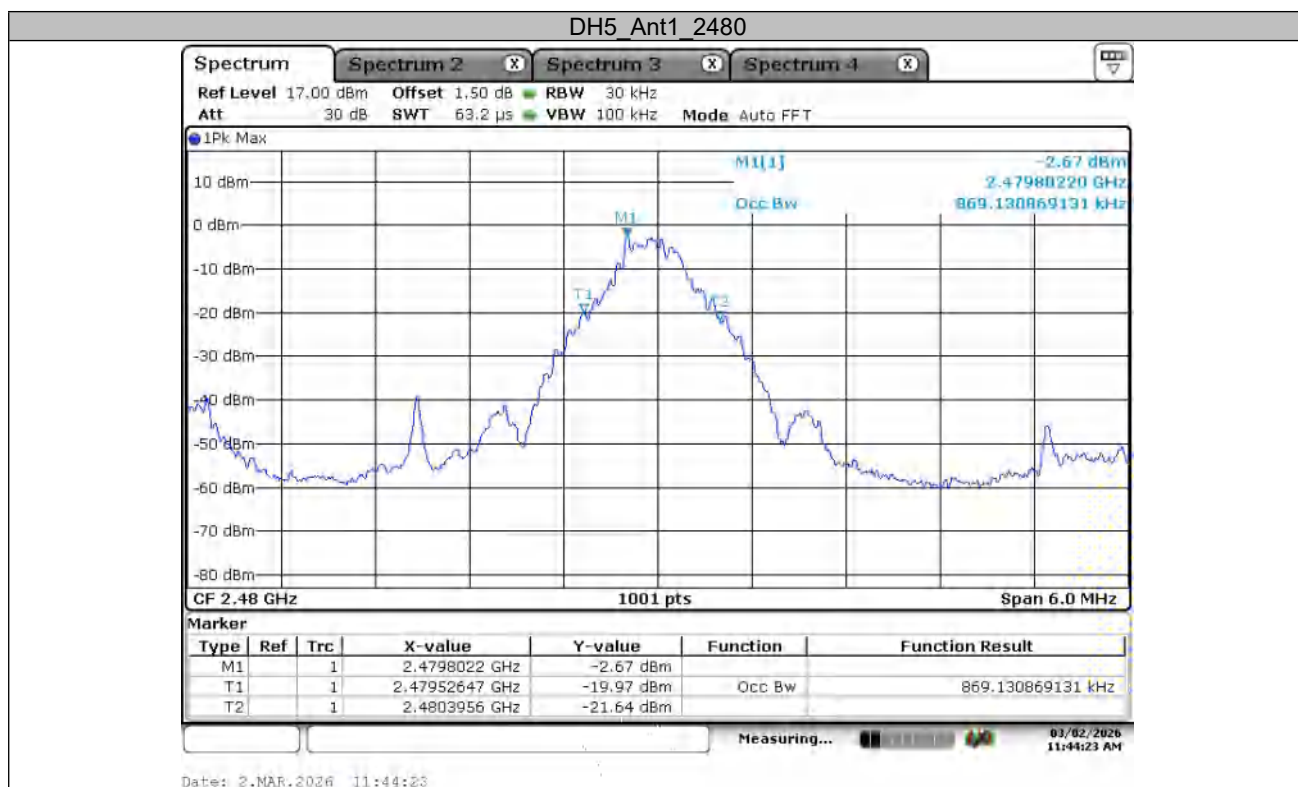
Appendix B: Test Results of Bluetooth BR & EDR

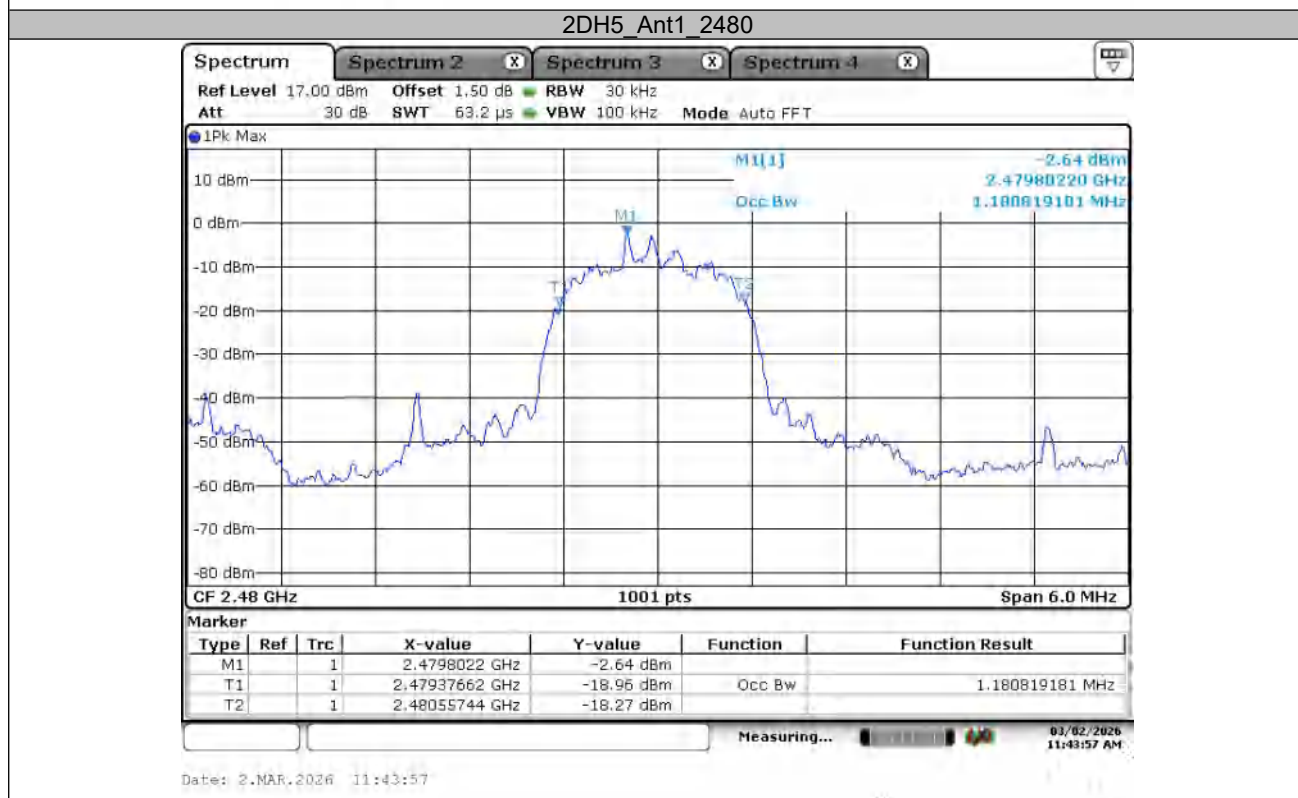
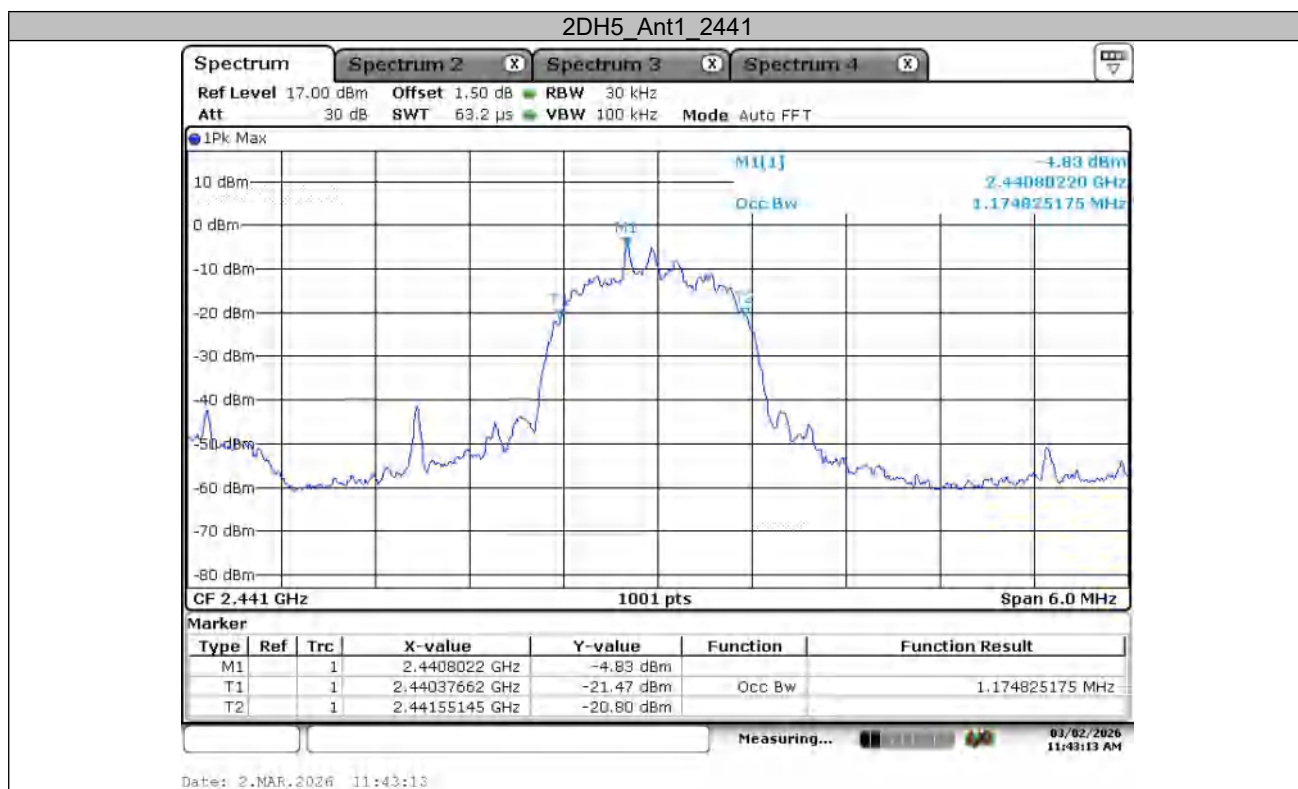
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Appendix B.1: Test Results of 99% Bandwidth

Test Mode	Channel Frequency (MHz)	Measured 99% Bandwidth	Limit
		(MHz)	
BR	2402	0.863	/
	2441	0.863	
	2480	0.869	
EDR	2402	1.175	/
	2441	1.175	
	2480	1.181	





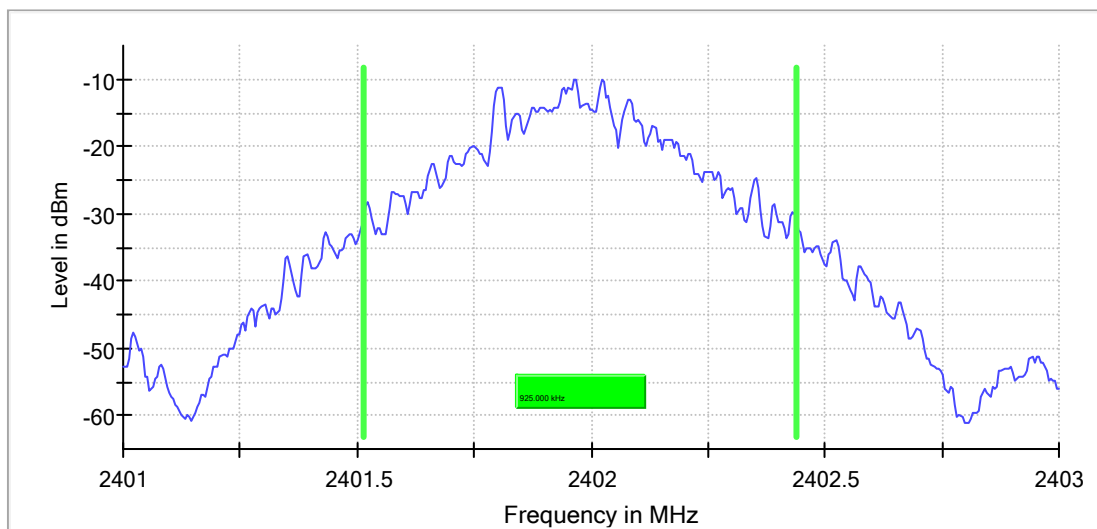


Appendix B.2: Test Results of 20dB Bandwidth

Test Mode	Channel Frequency (MHz)	20dB Bandwidth (MHz)	2/3 of 20dB Bandwidth (MHz)	Limit (MHz)
BR	2402	0.925	0.617	/
	2441	0.925	0.617	
	2480	0.925	0.617	
EDR	2402	1.250	0.833	/
	2441	1.250	0.833	
	2480	1.250	0.833	

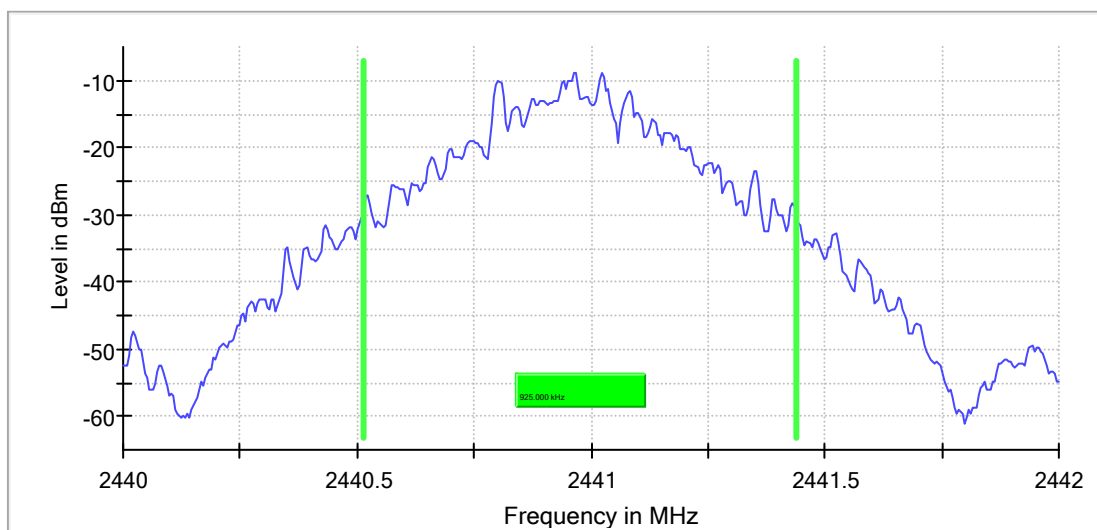
DH5_Ant1_2402

20 dB Bandwidth



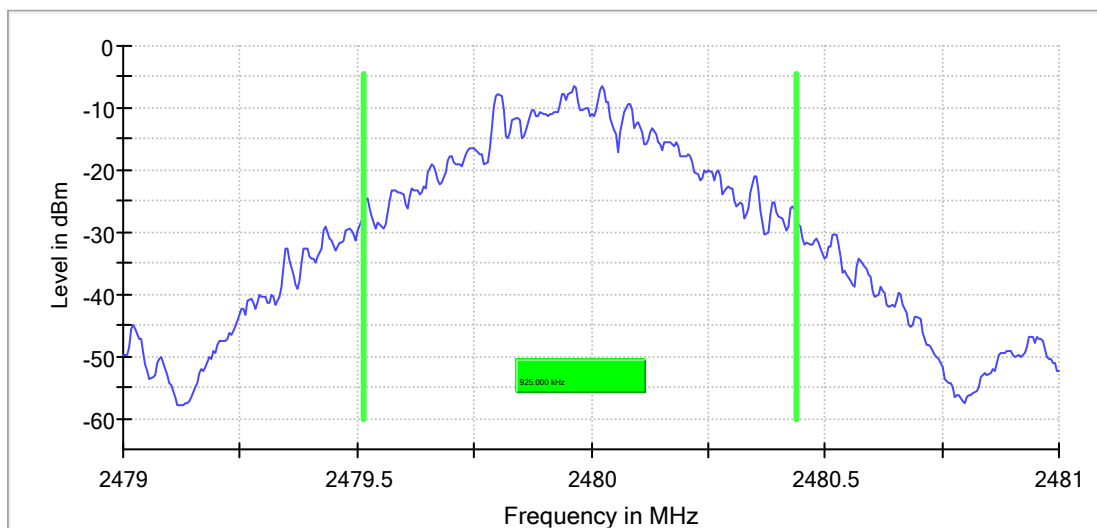
DH5_Ant1_2441

20 dB Bandwidth



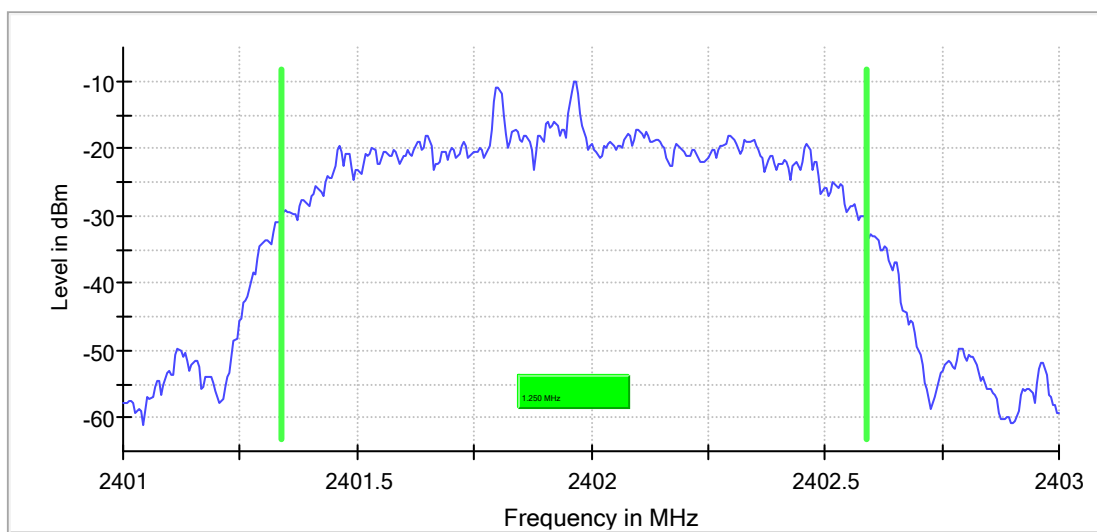
DH5_Ant1_2480

20 dB Bandwidth



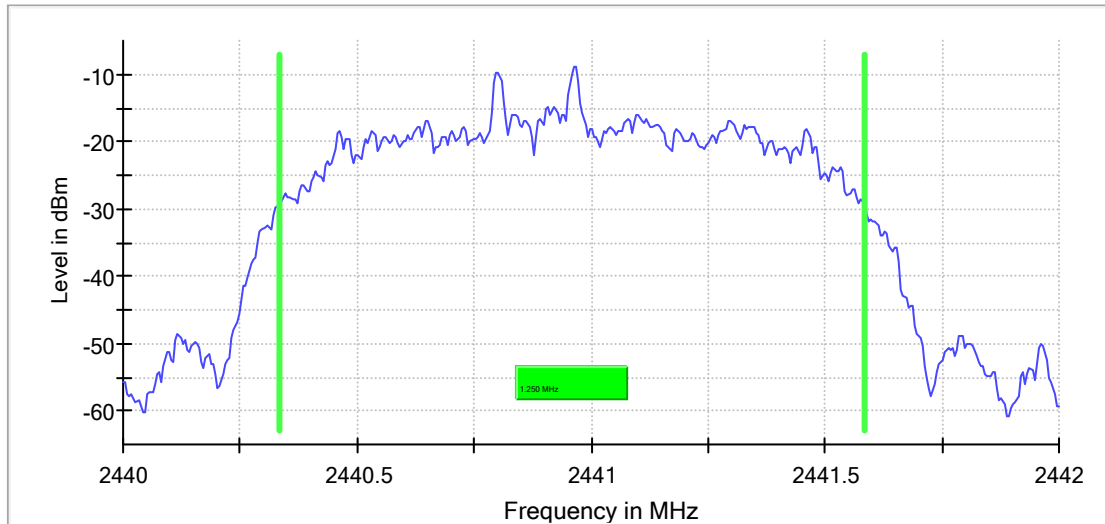
2DH5_Ant1_2402

20 dB Bandwidth



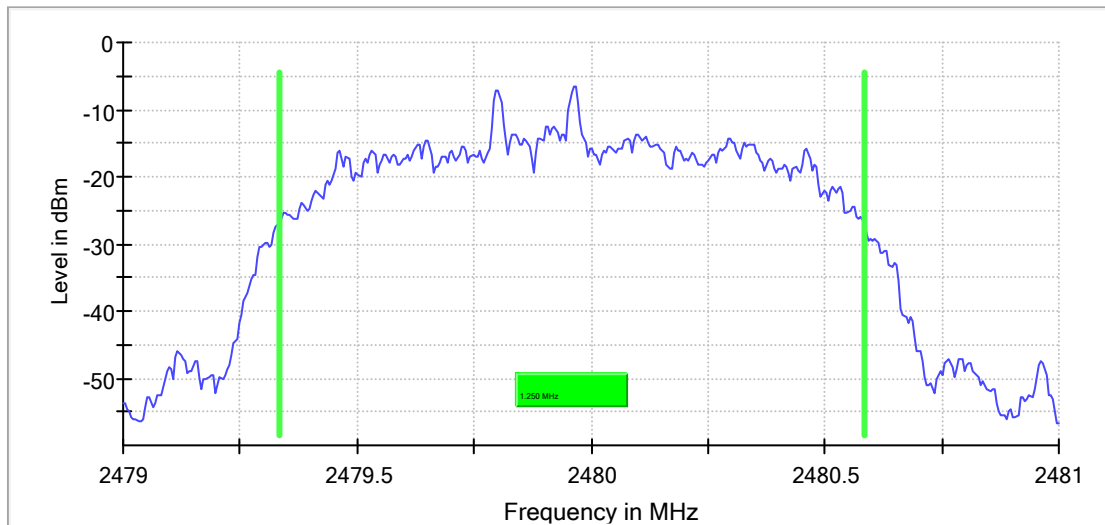
2DH5_Ant1_2441

20 dB Bandwidth



2DH5_Ant1_2480

20 dB Bandwidth



Measurement

Setting	Instrument Value
Span	2.000 MHz
RBW	10.000 kHz
VBW	30.000 kHz
SweepPoints	400
SweepTime	189.648 µs
Reference Level	0.000 dBm
Attenuation	20.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	FFT

Appendix B.3: Test Results of Carrier Frequency Separation

Test Mode	Channel	Result[MHz]	Limit[MHz]	Verdict
BR-DH5	Hop	1.0004	≥0.617	PASS
EDR-2DH5	Hop	1.0028	≥0.833	PASS



Appendix B.4: Test Results of Frequency stability

Test Channel (MHz)	2402
-----------------------	------

Test result of frequency tolerance of voltage variation

Voltage	Test result (MHz)	Deviation Frequency (KHz)	Test result (ppm)	Limit (ppm)
DC 12V	2401.988	-12	-5.00	10
DC 10.8V	2401.989	-11	-4.58	
DC 13.2V	2401.988	-12	-5.00	

Test result of frequency tolerance of temperature variation

Temperature (°C)	Test result (MHz)	Deviation Frequency (KHz)	Test result (ppm)	Limit (ppm)
-20	2401.982	-18	-7.49	10
-10	2401.986	-14	-5.83	
0	2401.985	-15	-6.24	
10	2401.987	-13	-5.41	
20	2401.988	-12	-5.00	
30	2401.988	-12	-5.00	
40	2401.988	-12	-5.00	
50	2401.989	-11	-4.58	
60	2401.990	-10	-4.16	
70	2401.992	-8	-3.33	

Test Channel (MHz)	2441
-----------------------	------

Test result of frequency tolerance of voltage variation

Voltage	Test result (MHz)	Deviation Frequency (KHz)	Test result (ppm)	Limit (ppm)
DC 12V	2440.997	-3	-1.23	10
DC 10.8V	2440.997	-3	-1.23	
DC 13.2V	2440.995	-5	-2.05	

Test result of frequency tolerance of temperature variation

Temperature (°C)	Test result (MHz)	Deviation Frequency (KHz)	Test result (ppm)	Limit (ppm)
-20	2440.993	-7	-2.87	10
-10	2440.992	-8	-3.28	
0	2440.991	-9	-3.69	
10	2440.993	-7	-2.87	
20	2440.994	-6	-2.46	
30	2440.997	-3	-1.23	
40	2440.995	-5	-2.05	
50	2440.996	-4	-1.64	
60	2440.992	-8	-3.28	
70	2440.993	-7	-2.87	

Test Channel (MHz)	2480
-----------------------	------

Test result of frequency tolerance of voltage variation

Voltage	Test result (MHz)	Deviation Frequency (KHz)	Test result (ppm)	Limit (ppm)
DC 12V	2479.998	-2	-0.81	10
DC 10.8V	2479.997	-3	-1.21	
DC 13.2V	2479.996	-4	-1.61	

Test result of frequency tolerance of temperature variation

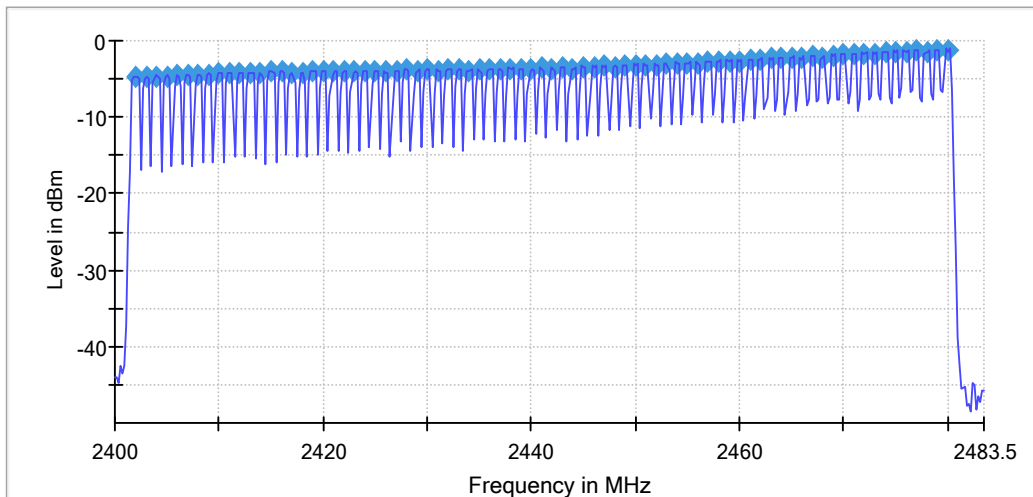
Temperature (°C)	Test result (MHz)	Deviation Frequency (KHz)	Test result (ppm)	Limit (ppm)
-20	2479.994	-6	-2.42	10
-10	2479.995	-5	-2.02	
0	2479.996	-4	-1.61	
10	2479.992	-8	-3.23	
20	2479.997	-3	-1.21	
30	2479.998	-2	-0.81	
40	2479.998	-2	-0.81	
50	2479.993	-7	-2.82	
60	2479.995	-5	-2.02	
70	2479.997	-3	-1.21	

Appendix B.5: Test Results of Number of Hopping Frequency

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS

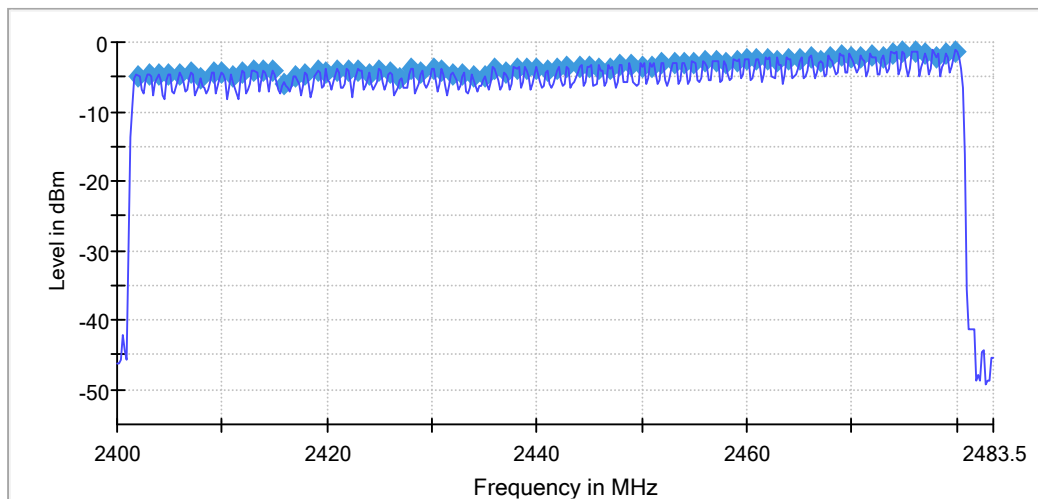
DH5_Ant1_Hop

Sequence



2DH5_Ant1_Hop

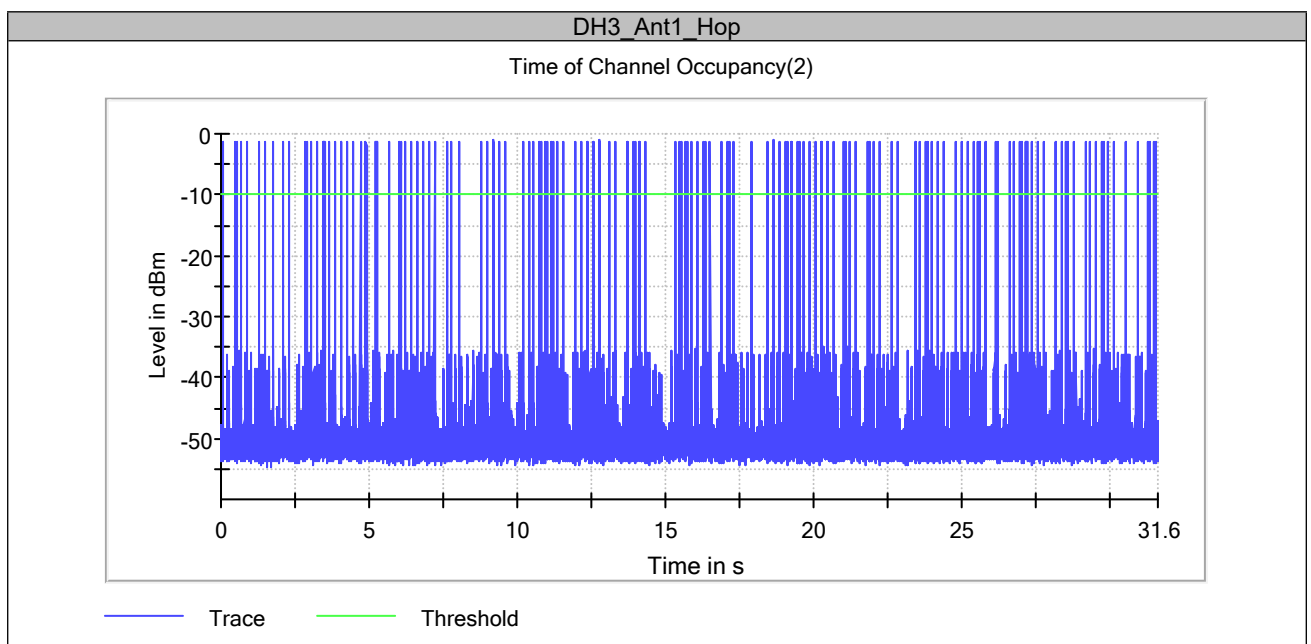
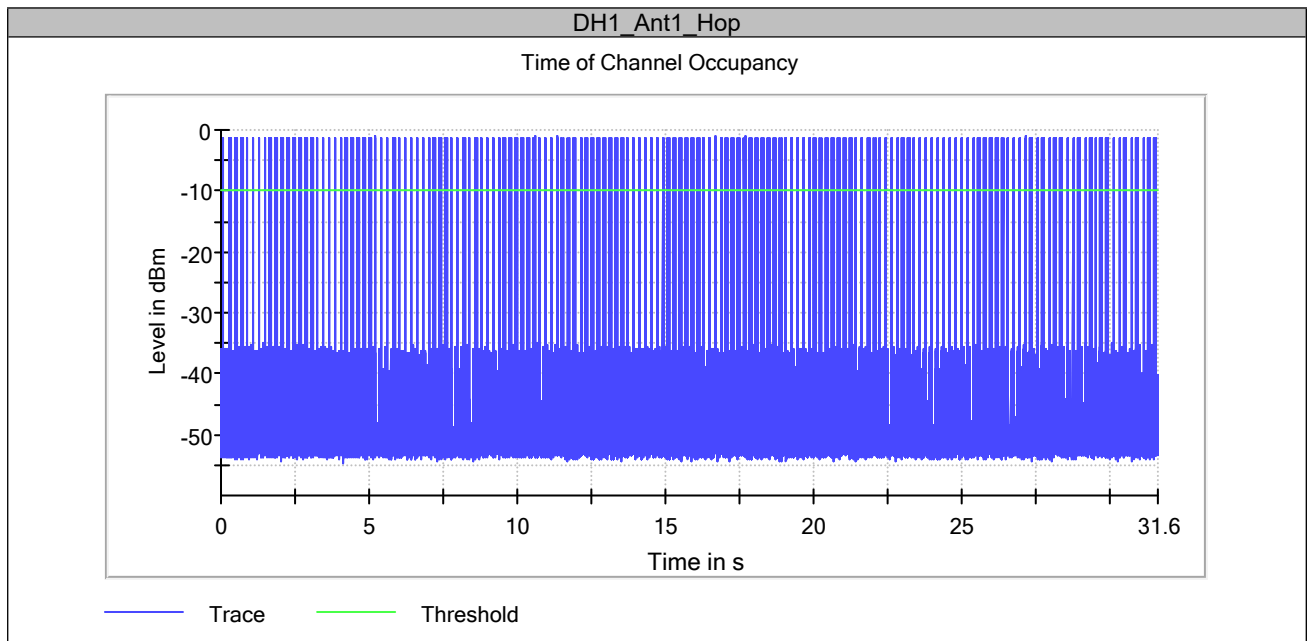
Sequence



Setting	Instrument Value
Start Frequency	2.40000 GHz
Stop Frequency	2.48350 GHz
Span	83.500 MHz
RBW	200.000 kHz
VBW	200.000 kHz
SweepPoints	418
SweepTime	1.060 ms
Reference Level	0.000 dBm
Attenuation	20.000 dB
Detector	MaxPeak

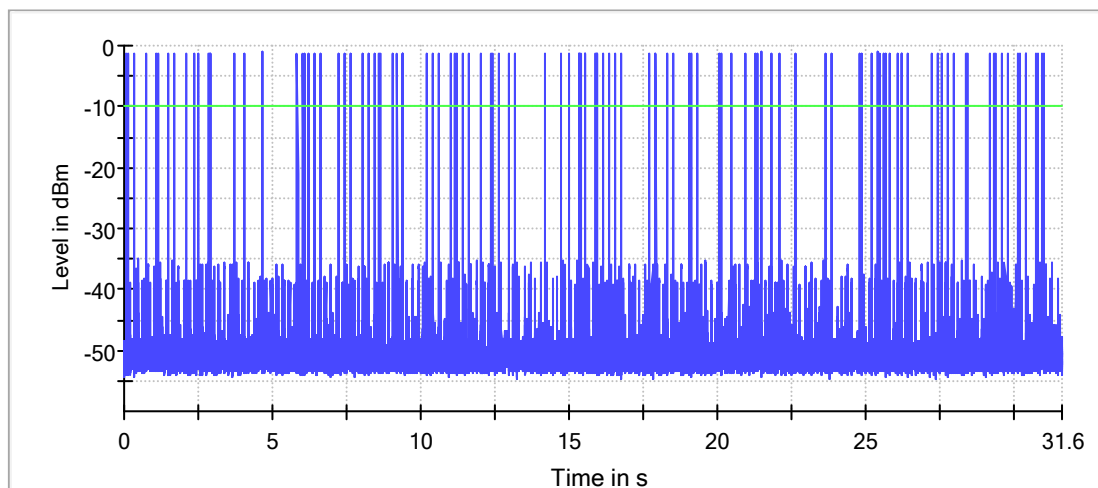
Appendix B.6: Test Results of Time of Occupancy

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.386	319	0.123	≤0.4	PASS
DH3	Ant1	Hop	1.642	163	0.268	≤0.4	PASS
DH5	Ant1	Hop	2.890	108	0.312	≤0.4	PASS
2DH1	Ant1	Hop	0.350	317	0.111	≤0.4	PASS
2DH3	Ant1	Hop	1.398	159	0.222	≤0.4	PASS
2DH5	Ant1	Hop	2.427	108	0.262	≤0.4	PASS



DH5_Ant1_Hop

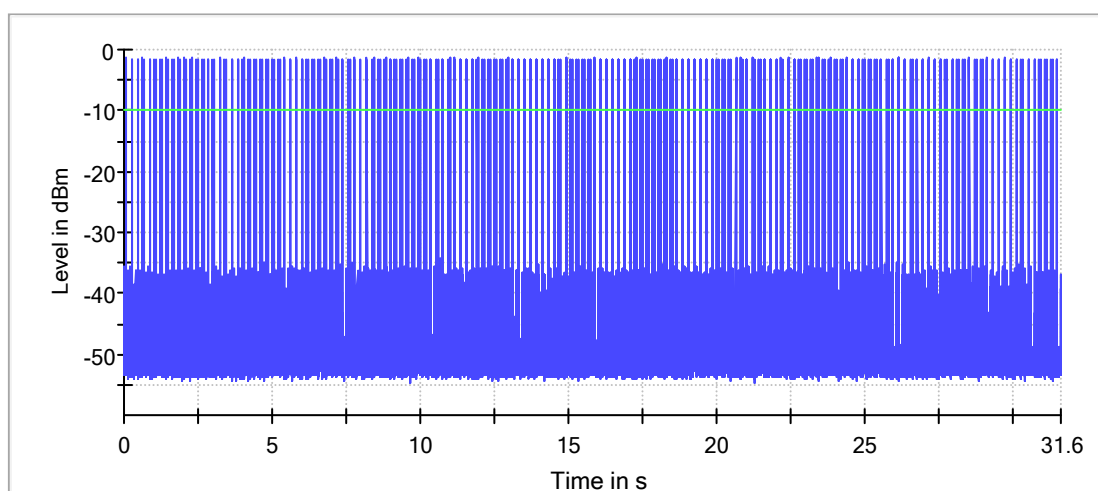
Time of Channel Occupancy(3)



Trace Threshold

2DH1_Ant1_Hop

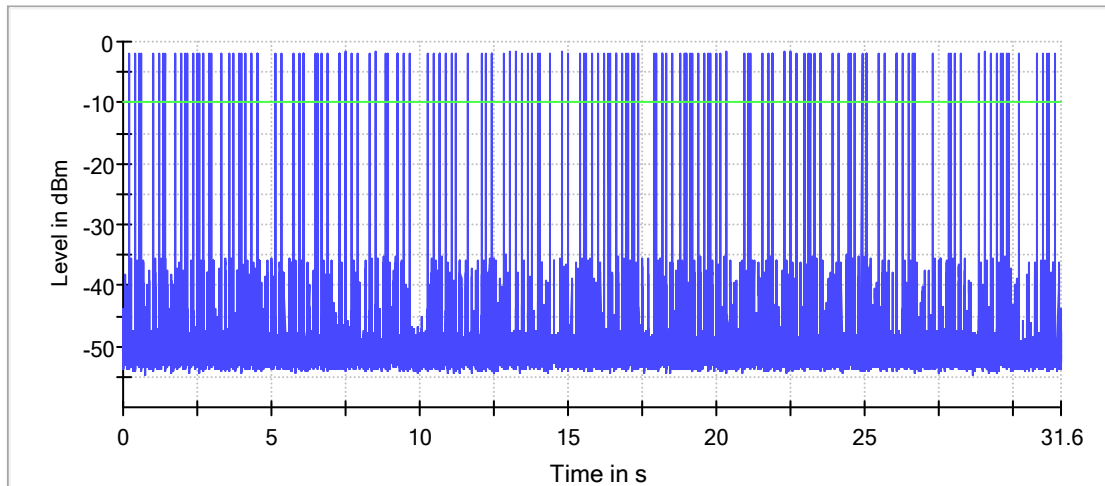
Time of Channel Occupancy



Trace Threshold

2DH3_Ant1_Hop

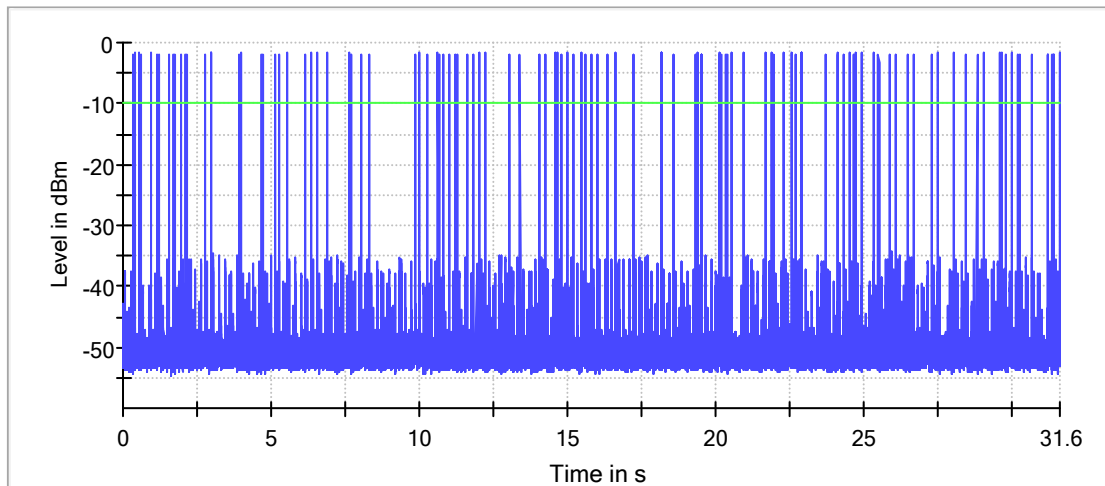
Time of Channel Occupancy(2)



Trace Threshold

2DH5_Ant1_Hop

Time of Channel Occupancy(3)



Trace Threshold

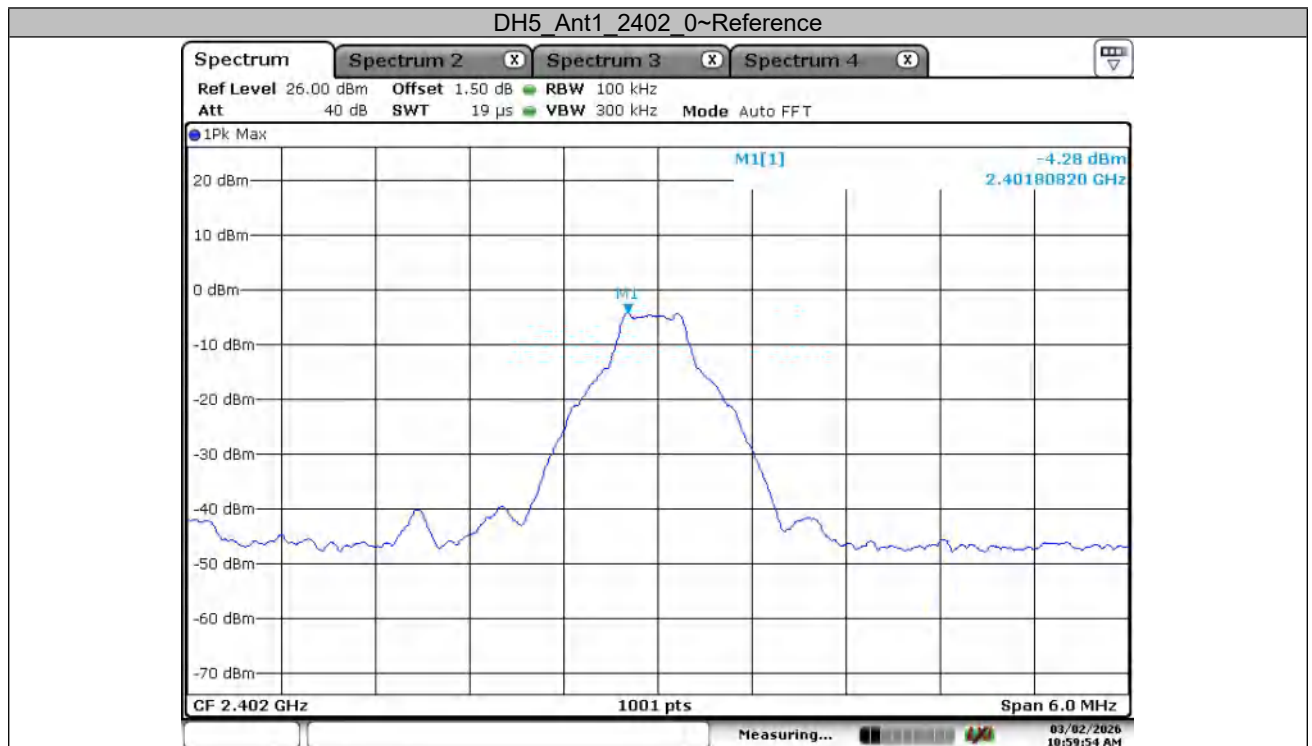
Measurement

Setting	Instrument Value
Center Frequency	2.44100 GHz
Span	ZeroSpan
RBW	500.000 kHz
VBW	1.000 MHz
SweepPoints	30001
SweepTime	31.600 s
Reference Level	-10.000 dBm
Attenuation	0.000 dB
Detector	MaxPeak

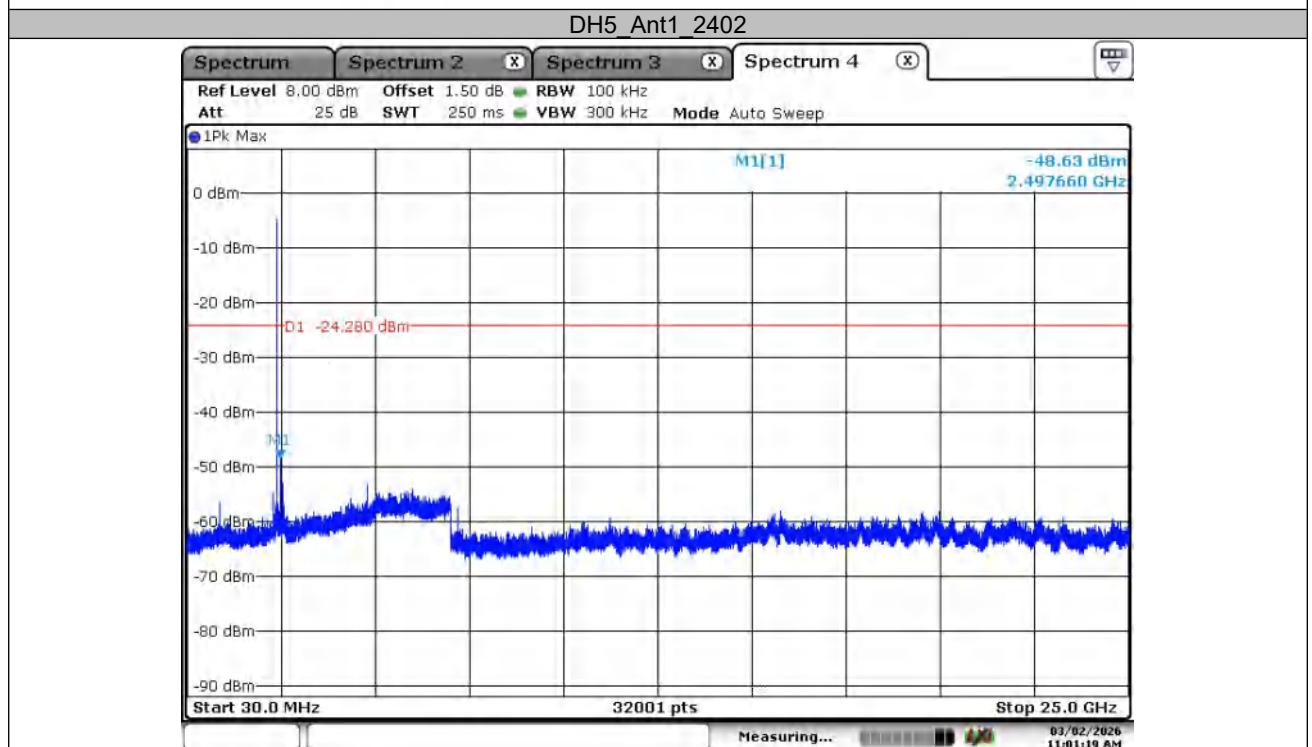
Appendix B.7: Test Results of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

Conducted measurements

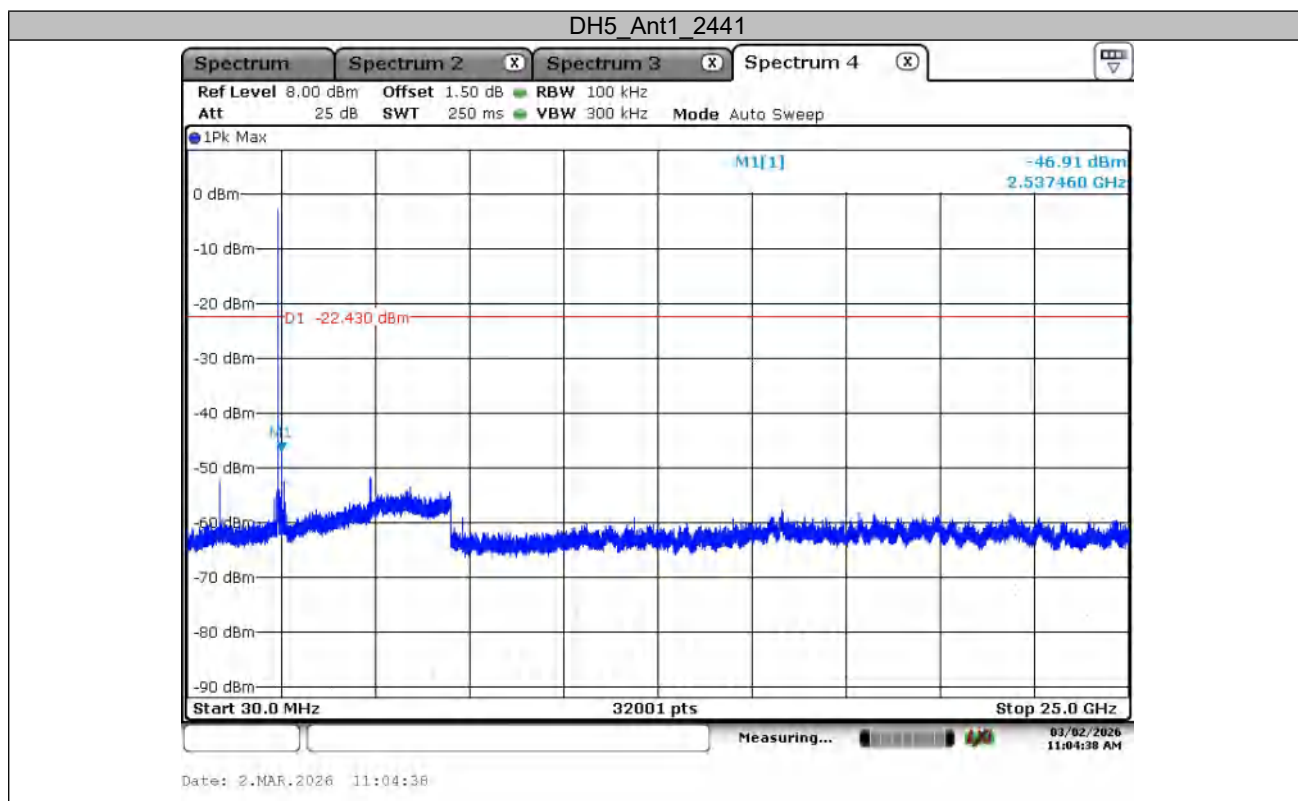
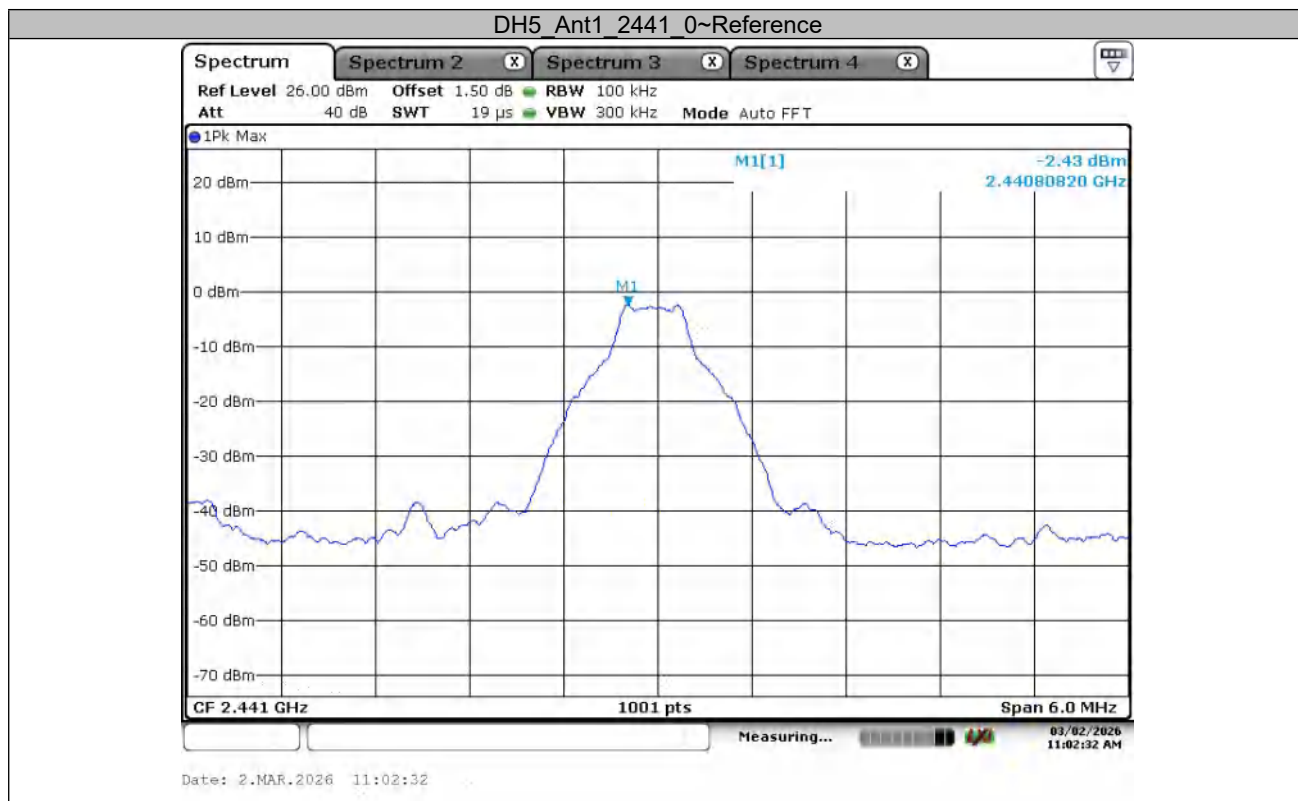
Antenna	TestMode	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
Ant1	DH5	2402	30~25000	-4.28	-48.63	≤-24.28	PASS
		2441	30~25000	-2.43	-46.91	≤-22.43	PASS
		2480	30~25000	-0.44	-47.72	≤-20.44	PASS
	2DH5	2402	30~25000	-4.29	-48.27	≤-24.29	PASS
		2441	30~25000	-2.45	-47.72	≤-22.45	PASS
		2480	30~25000	-0.46	-50.26	≤-20.46	PASS

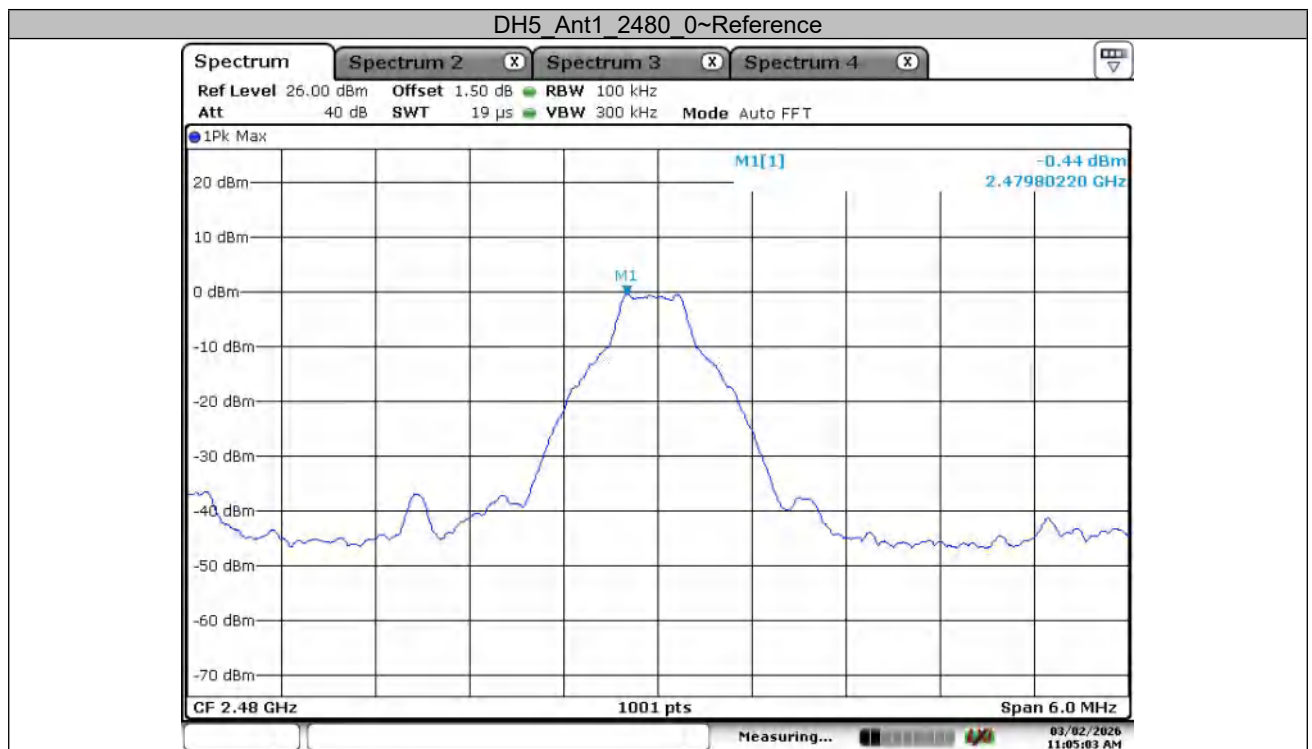


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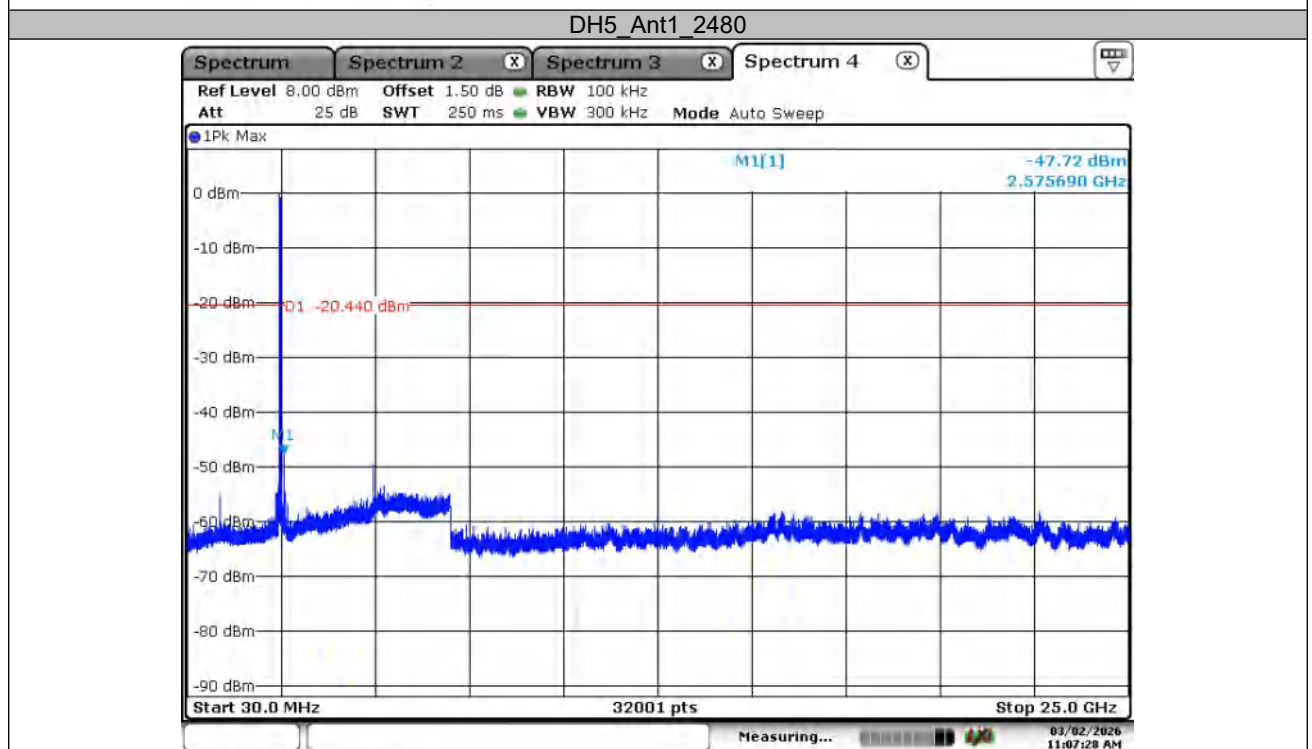


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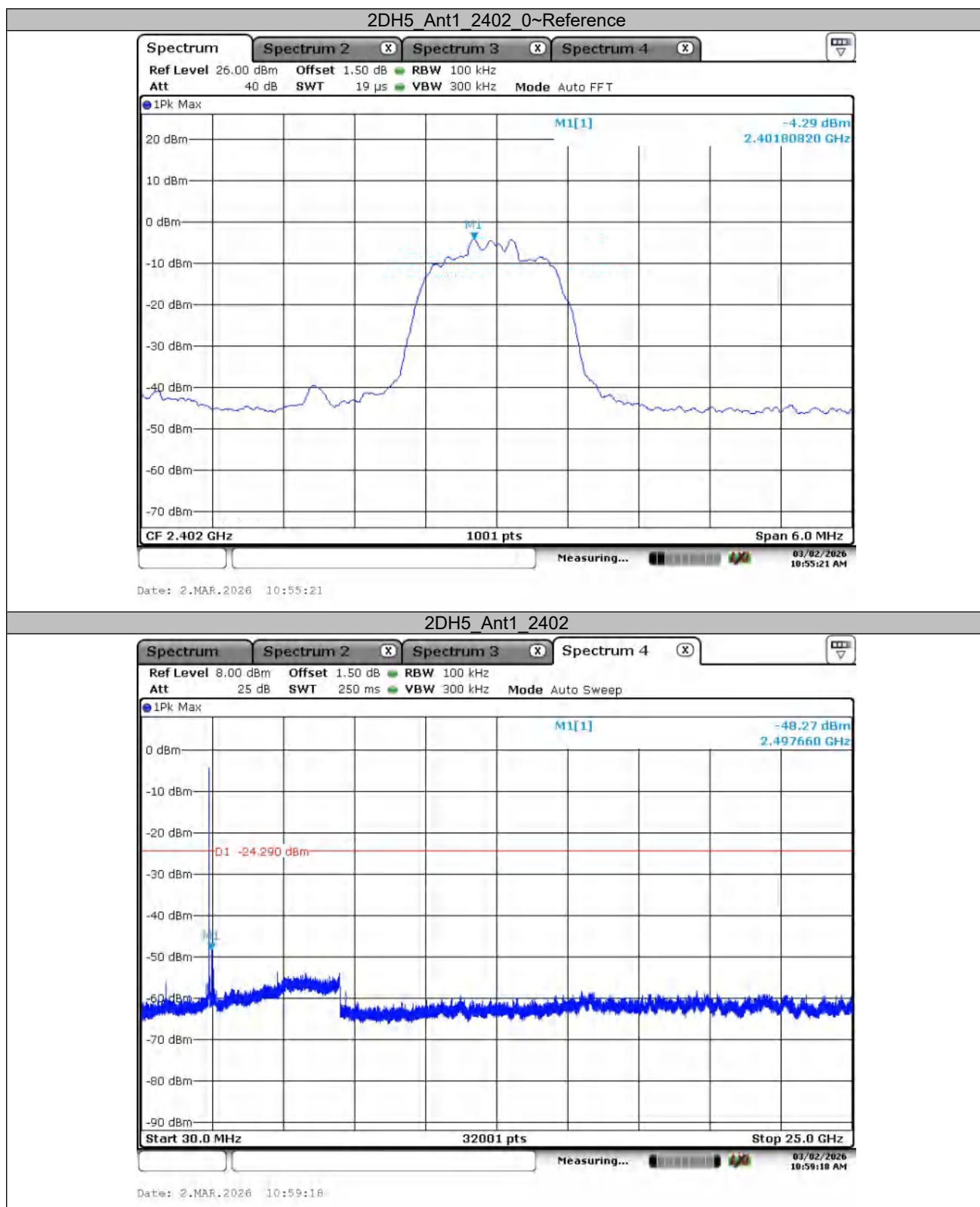


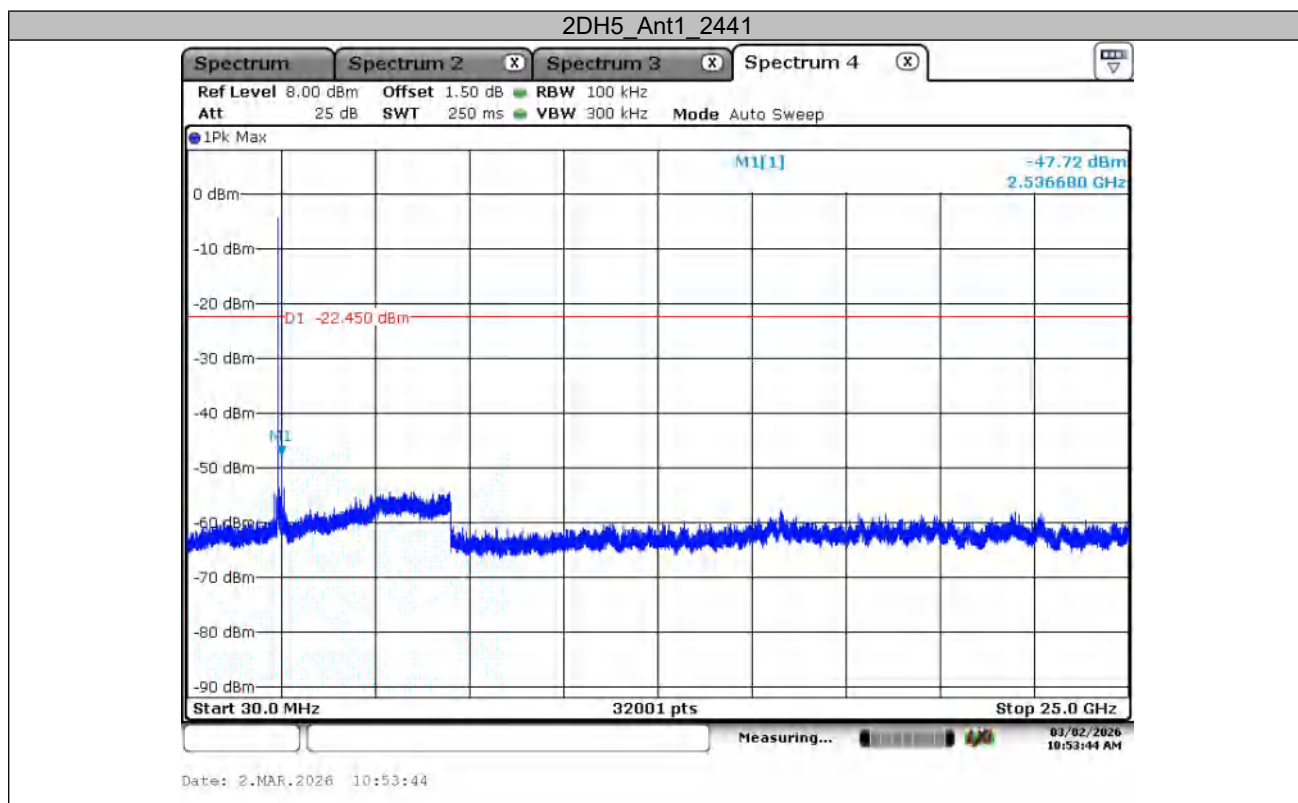
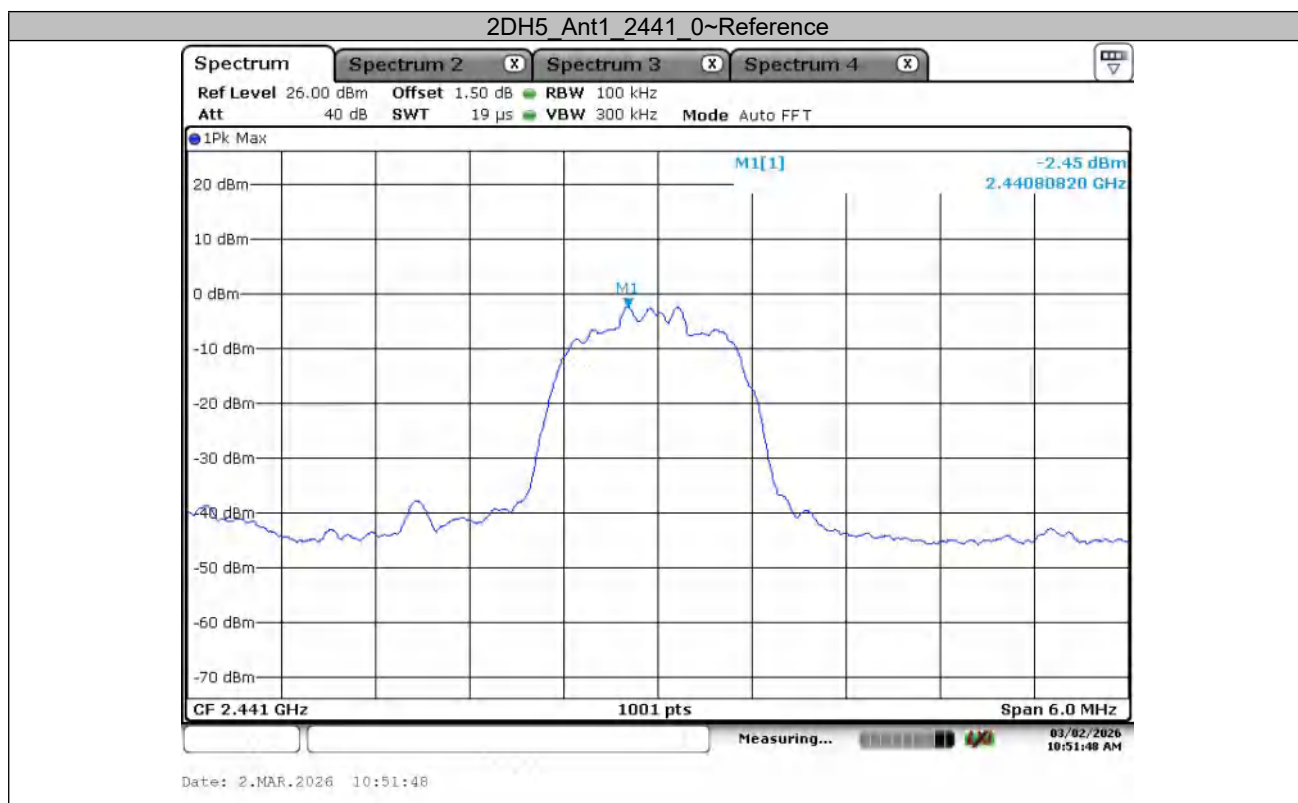


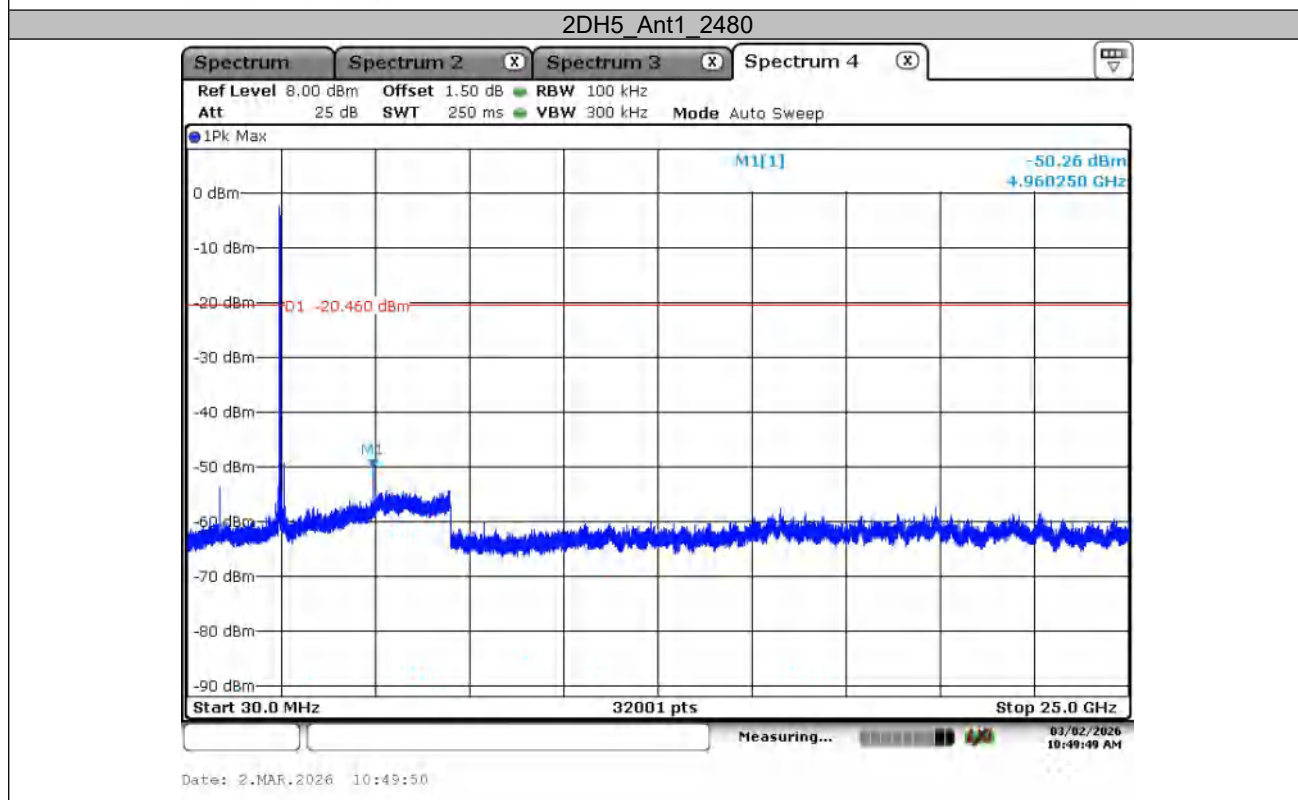
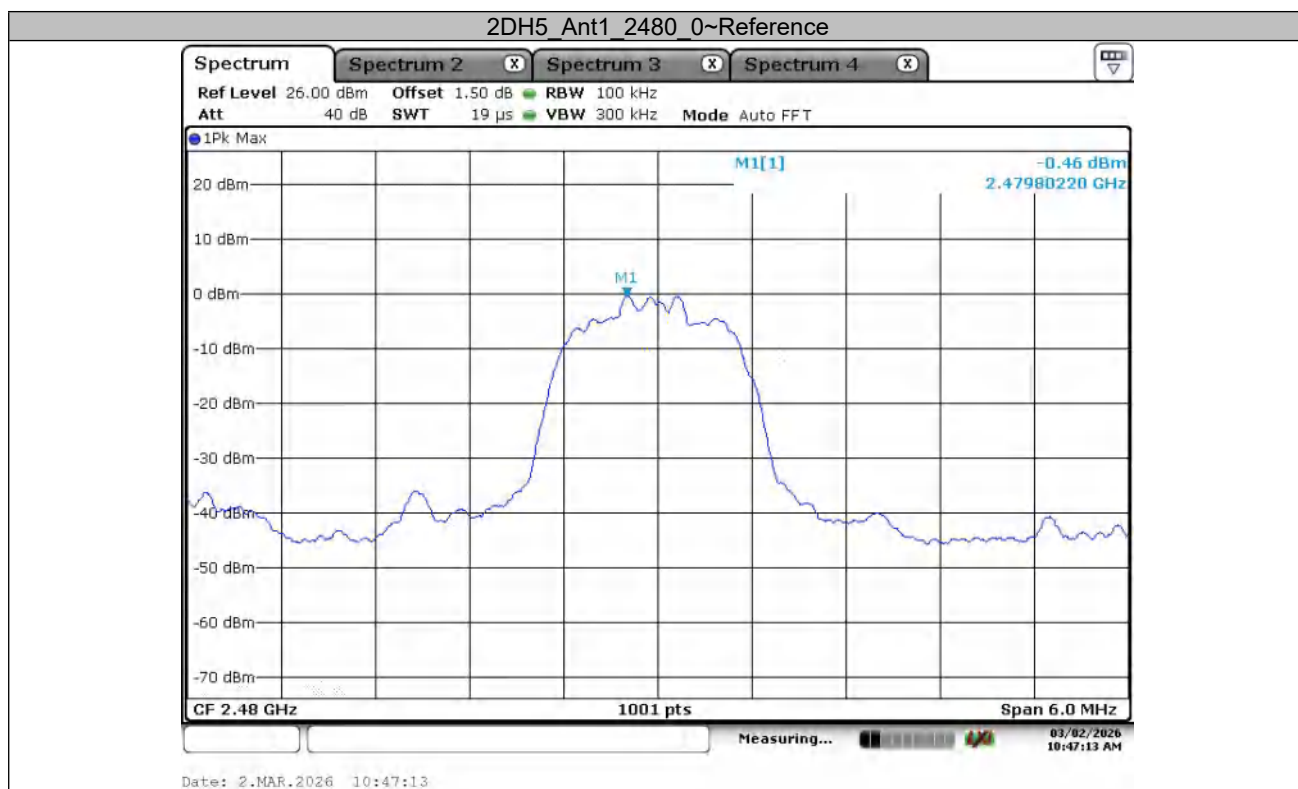
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Date: 2.MAR.2026 11:07:28

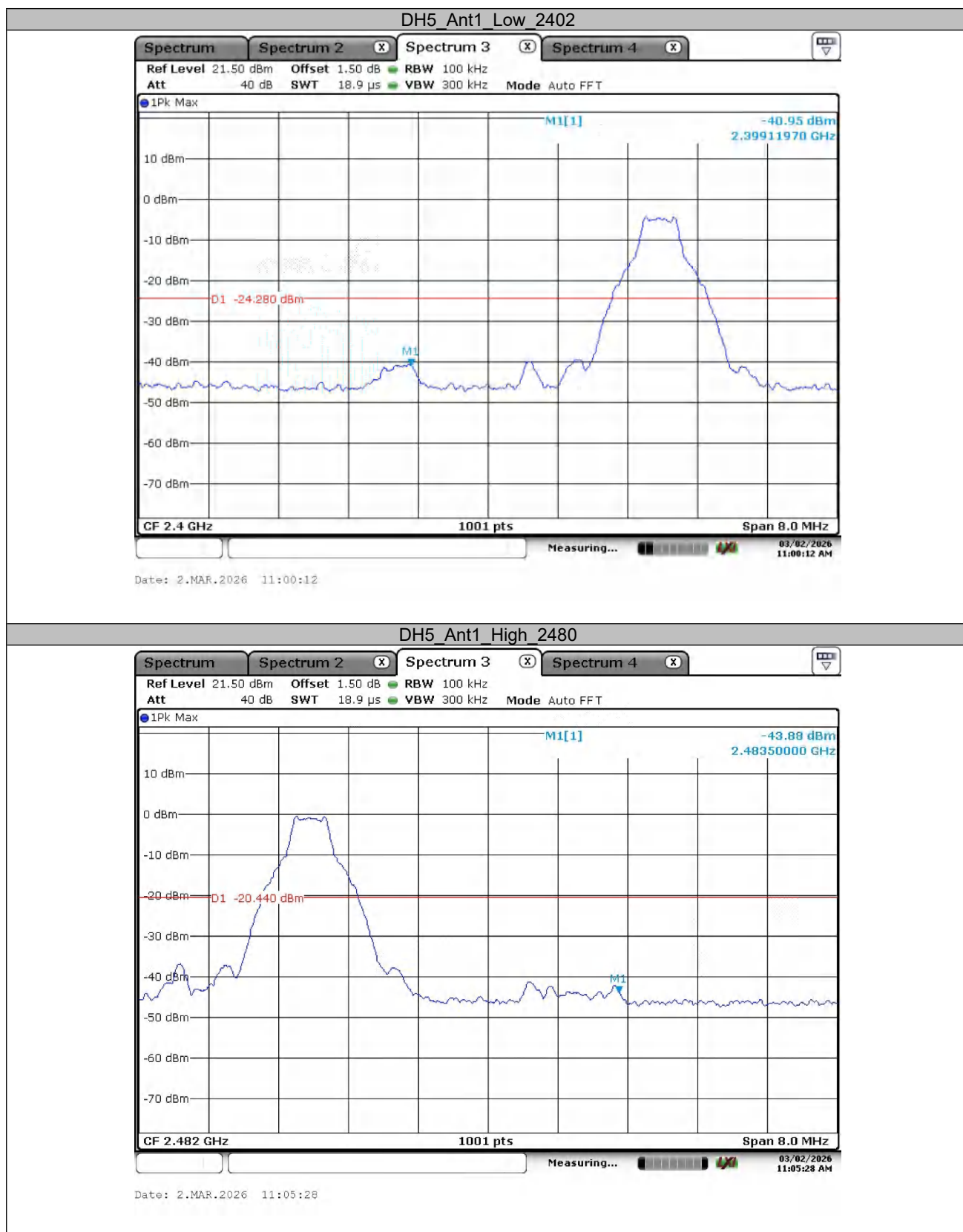


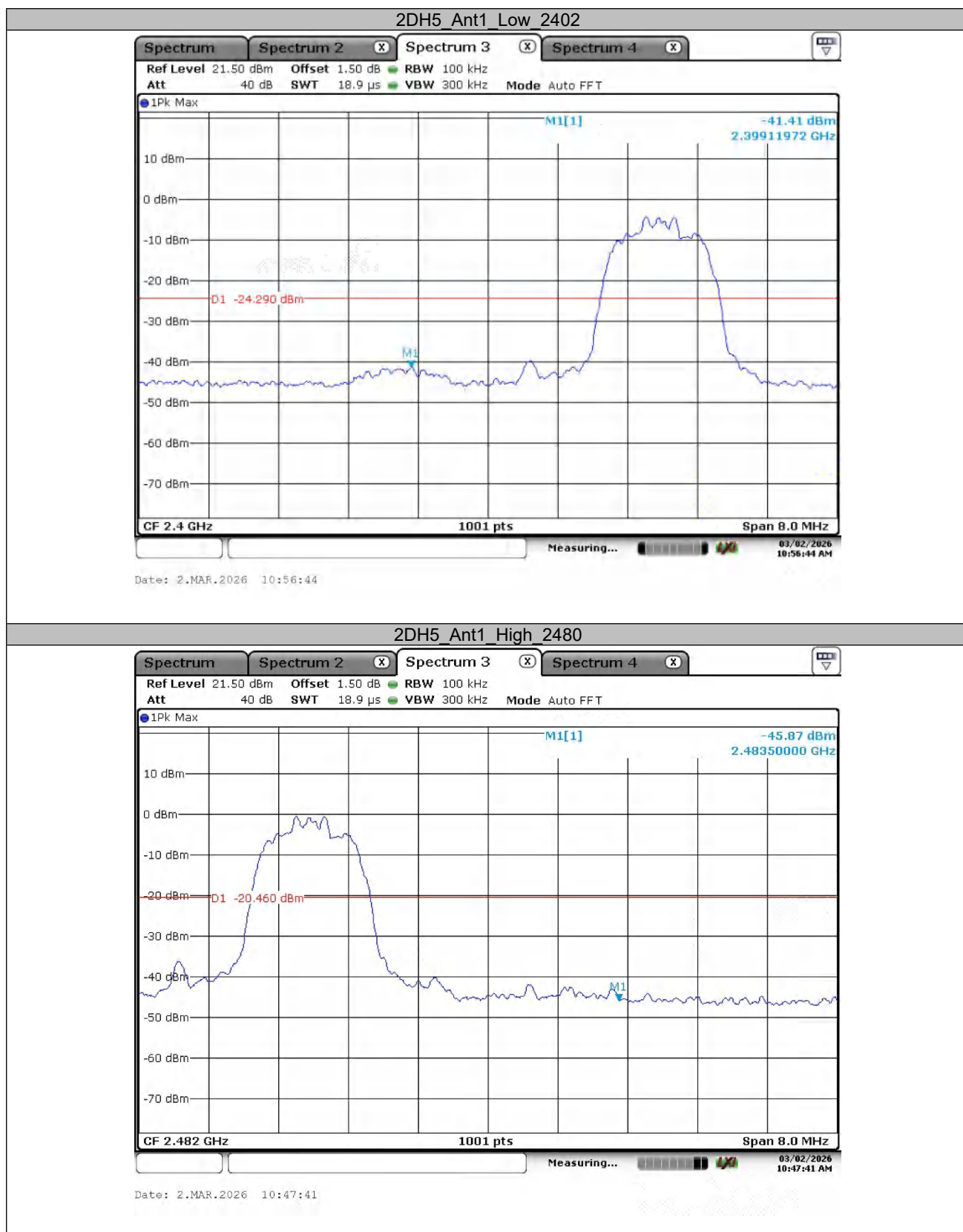


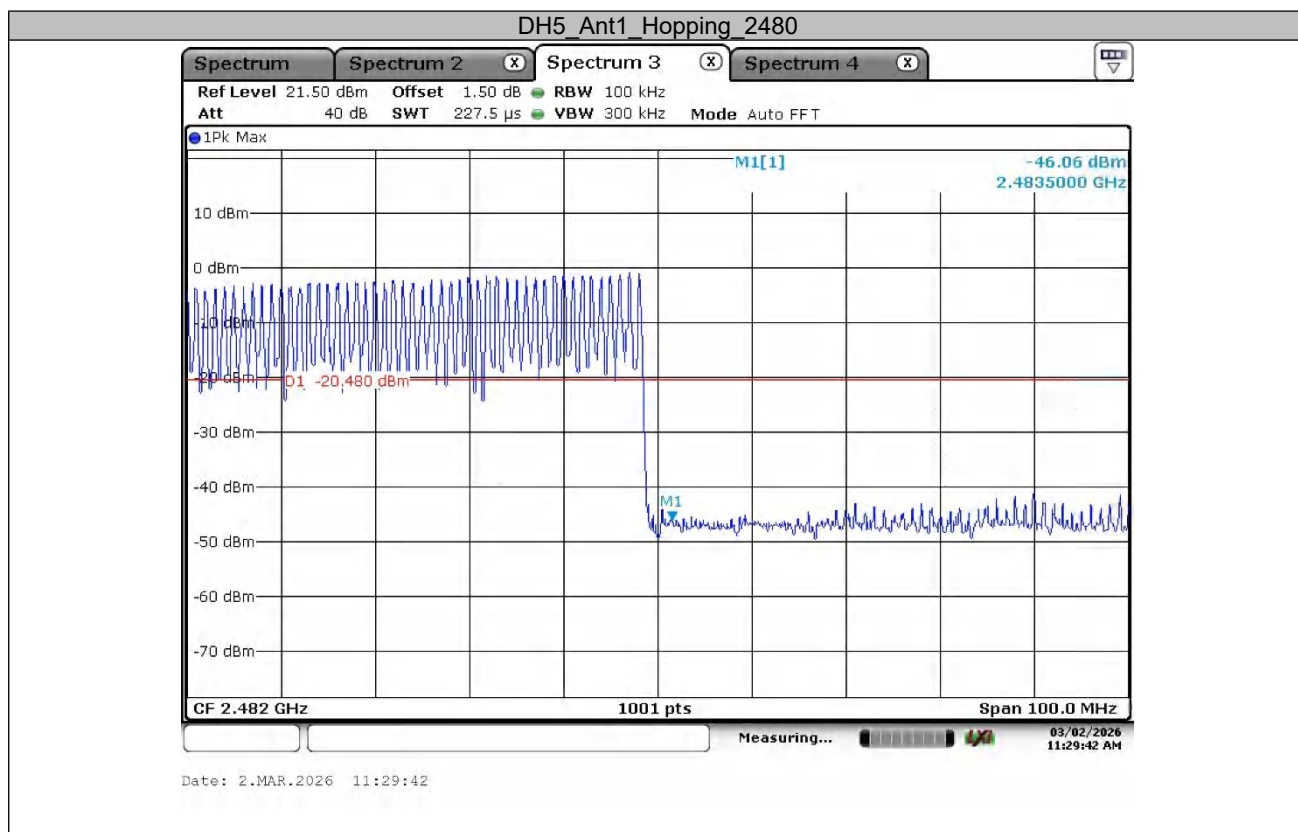
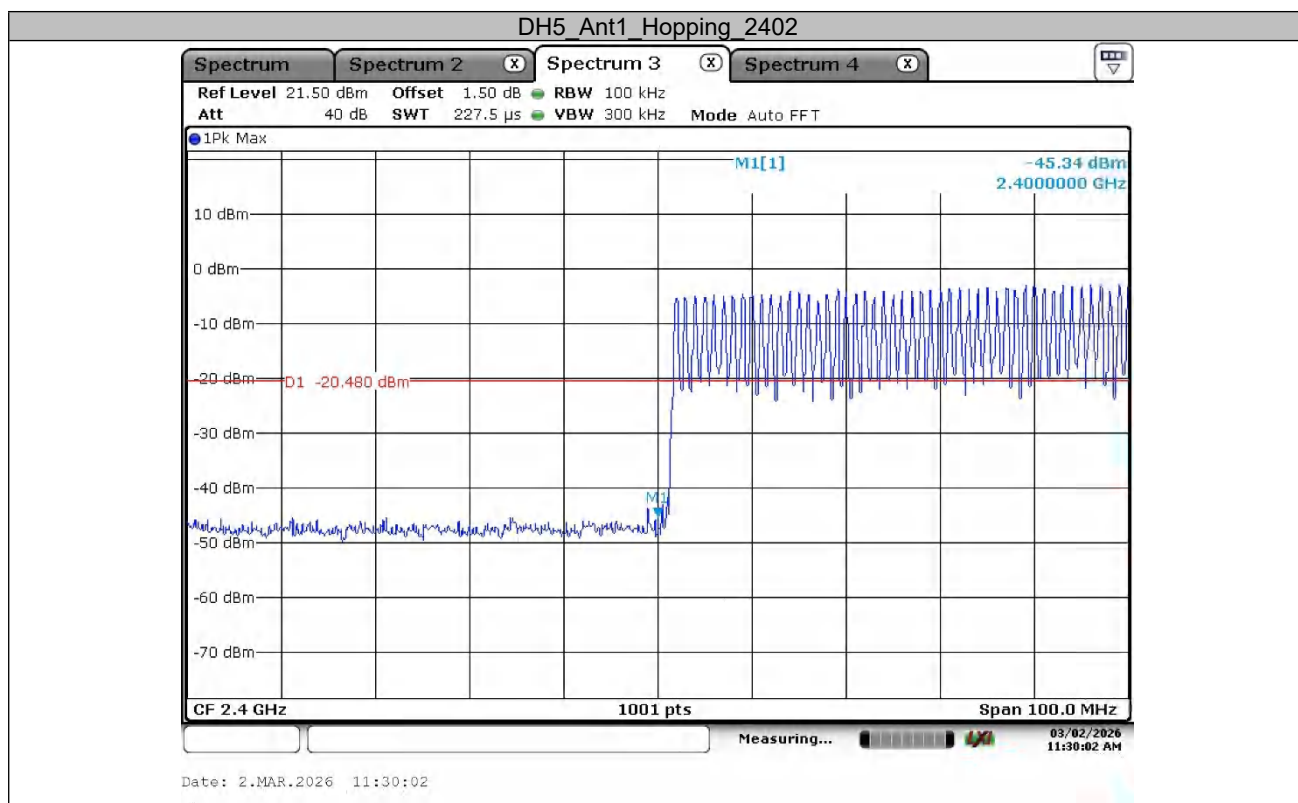


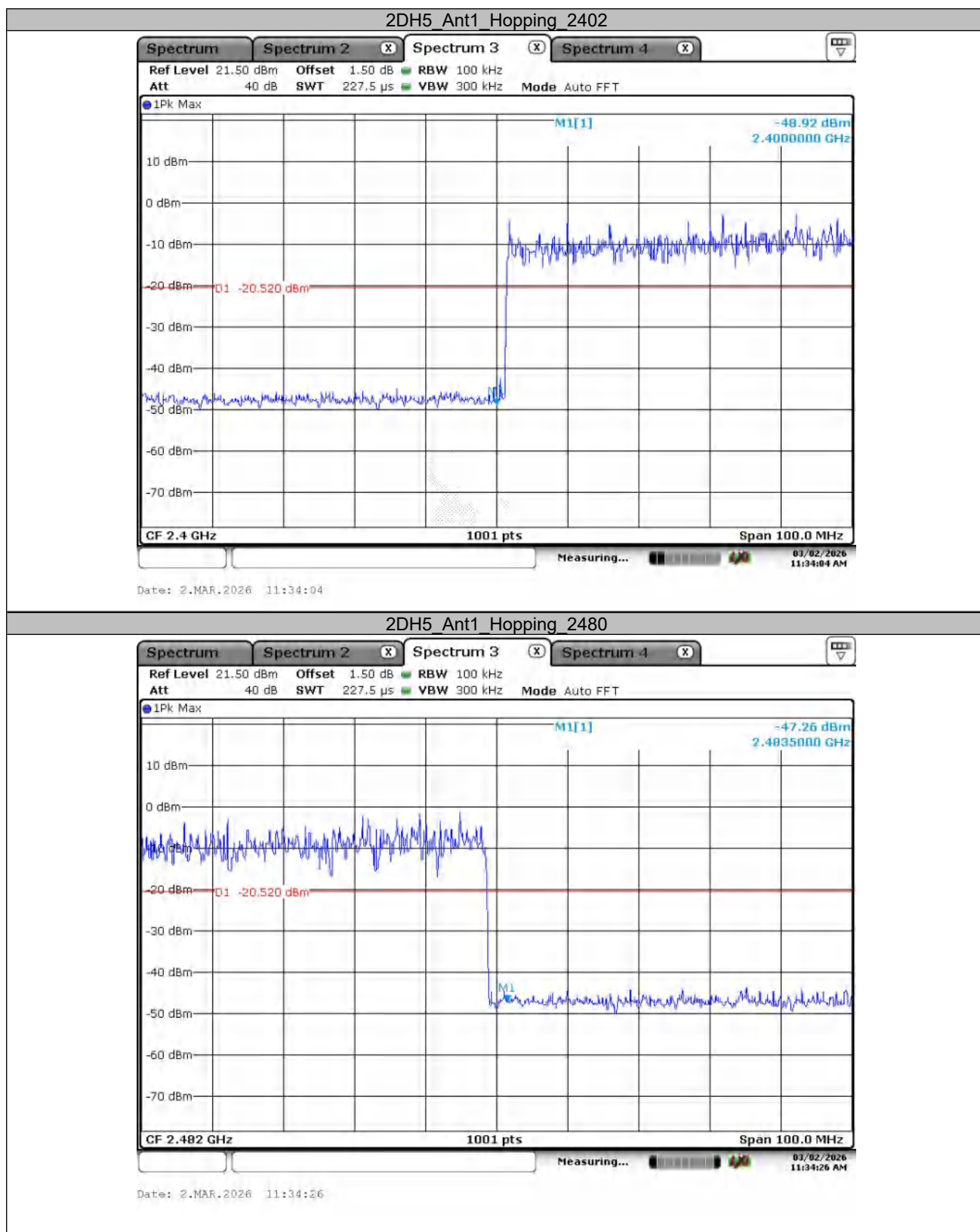
Band edge measurements

TestMode	Antenna	ChName	Channel	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-40.95	≤-24.28	PASS
		High	2480	-43.88	≤-20.44	PASS
2DH5	Ant1	Low	2402	-41.41	≤-24.29	PASS
		High	2480	-45.87	≤-20.46	PASS
DH5	Ant1	Hopping	2402	-45.34	≤-20.48	PASS
		Hopping	2480	-46.06	≤-20.48	PASS
2DH5	Ant1	Hopping	2402	-48.92	≤-20.52	PASS
		Hopping	2480	-47.26	≤-20.52	PASS









Appendix B.8: Test Results of Radiated Spurious Emissions

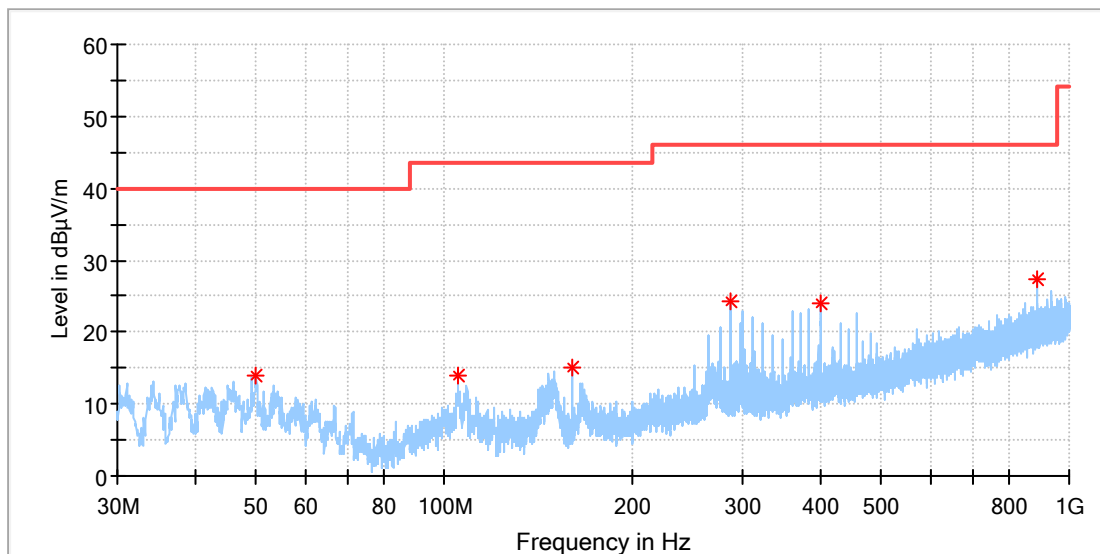
Note:

- 1) This testing was carried out on different modulations, but only the worst case was presented in this report.
- 2) Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

30MHz - 1GHz

EUT Information

EUT Name:	CAR HEAD UNIT
Model:	JBLCELEBRITY350
Test Mode:	BR DH5_Mid channel
Order No/Sample No:	A004207505-026
Test Voltage::	DC 5V From USB
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

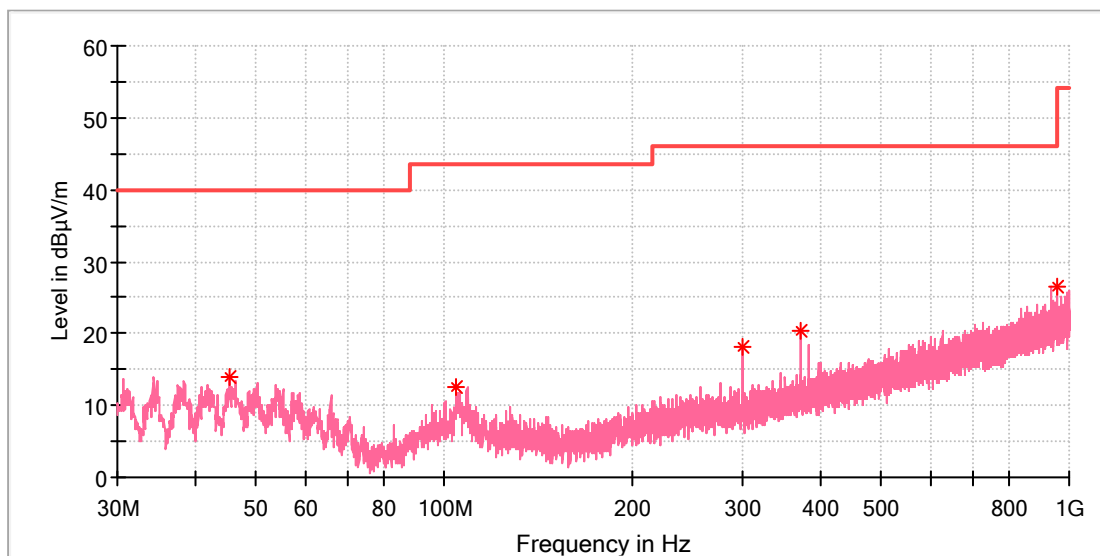
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.938889	14.07	40.00	25.93	100.0	H	327.0	-18.4
105.013333	13.84	43.50	29.66	100.0	H	321.0	-18.9
160.087778	15.16	43.50	28.34	100.0	H	252.0	-21.8
288.020000	24.18	46.00	21.82	100.0	H	312.0	-16.6
399.947222	23.92	46.00	22.08	100.0	H	86.0	-13.8
890.982778	27.29	46.00	18.71	100.0	H	138.0	-4.9

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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EUT Information

EUT Name:	CAR HEAD UNIT
Model:	JBLCELEBRITY350
Test Mode:	BR DH5_Mid channel
Order No/Sample No:	A004207505-026
Test Voltage::	DC 5V From USB
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
45.304444	13.84	40.00	26.16	100.0	V	94.0	-18.9
104.743889	12.57	43.50	30.93	100.0	V	0.0	-18.9
300.037222	18.18	46.00	27.82	100.0	V	308.0	-16.3
371.978889	20.49	46.00	25.51	100.0	V	0.0	-14.4
960.014444	26.42	54.00	27.58	100.0	V	164.0	-4.1

Final Result

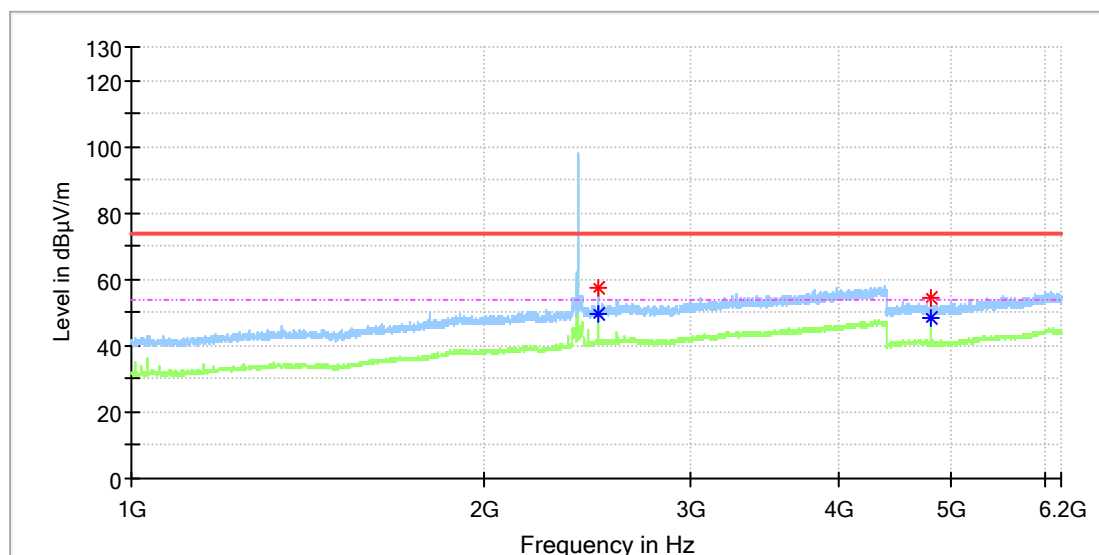
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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1GHz - 18GHz

Note: The highest waveform in the figure is Bluetooth Fundamental.

EUT Information

EUT Name:	CAR HEAD UNIT
Model:	JBLCELEBRITY350
Test Mode:	BR DH5_Low channel
Order No/Sample No:	A004207505-026
Test Voltage::	DC 5V From USB
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2497.000000	57.26	---	74.00	16.74	150.0	H	354.0	9.0
2498.000000	---	49.64	54.00	4.36	150.0	H	358.0	9.0
4803.500000	---	48.49	54.00	5.51	150.0	H	346.0	13.3
4804.000000	54.20	---	74.00	19.80	150.0	H	333.0	13.3

Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
100.000	100.000	100.000	100.000	100.000	100.000		100.000	100.000

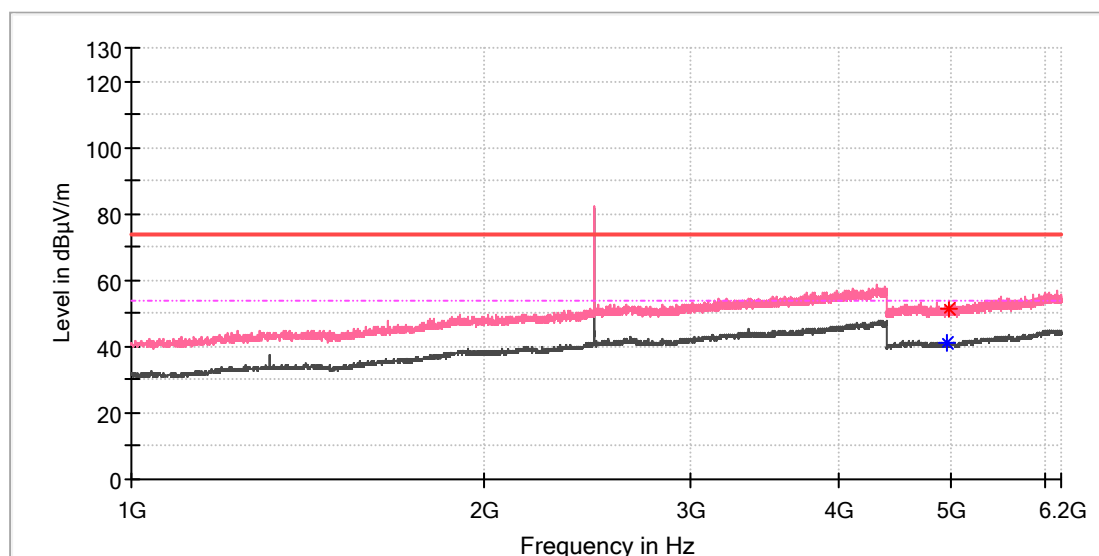
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
93.7	59.5	59.5	59.5	0.0	1.0	0	0	0

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
93.750000	120.000000	110.000000	120.000000	0.000000	100.000000	000	000	000

EUT Information

EUT Name:	CAR HEAD UNIT
Model:	JBLCELEBRITY350
Test Mode:	BR DH5_High channel
Order No/Sample No:	A004207505-026
Test Voltage::	DC 5V From USB
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4959.500000	---	41.23	54.00	12.77	150.0	V	357.0	13.3
4969.000000	51.69	---	74.00	22.31	150.0	V	304.0	13.3

Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
93.7	122.0	118.0	120.0	2.0	30.0	V	135.0	0.0

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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