

FCC RF Test Report

APPLICANT	: Motorola Mobility LLC			
EQUIPMENT	: Mobile Cellular Phone			
BRAND NAME	: Motorola			
MODEL NAME	: XT2513-1, XT2513-2, XT2513-3, XT2513V			
FCC ID	: IHDT56AT9			
STANDARD	: FCC Part 15 Subpart C §15.247			
CLASSIFICATION	: (DSS) Spread Spectrum Transmitter			
TEST DATE(S)	: Sep. 05, 2024 ~ Sep. 19, 2024			

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.

JasonJia

Approved by: Jason Jia



Sporton International Inc. (ShenZhen)

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR482618A	Rev. 01	Initial issue of report	Oct. 11, 2024



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(1)	Number of Channels	≥ 15Chs	Pass	-
3.2	15.247(a)(1)	Hopping Channel Separation	≥ 2/3 of 20dB BW	Pass	-
3.3	15.247(a)(1)	Dwell Time of Each Channel	≤ 0.4sec in 31.6sec period	Pass	-
3.4	15.247(a)(1)	20dB Bandwidth	-	Report only	-
3.4	-	99% Bandwidth	-	Report only	-
3.5	15.247(b)(1)	Peak Output Power	≤ 125 mW	Pass	-
3.6	15.247(d)	Conducted Band Edges	≤ 20dBc	Pass	-
3.7	15.247(d)	Conducted Spurious Emission	≤ 20dBc	Pass	-
3.8	3.8 15.247(d) Radiated Band Edges and Emission		15.209(a) & 15.247(d)	Pass	Under limit 14.12 dB at 869.05 MHz
3.9	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 9.21 dB at 0.53 MHz
3.10	15.203 & 15.247(b)	Antenna Requirement	15.203 & 15.247(b)	Pass	-

Conformity Assessment Condition:

 The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.

2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



1 General Description

1.1 Applicant

Motorola Mobility LLC

222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC

222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature				
Equipment	Mobile Cellular Phone			
Brand Name	Motorola			
Model Name	XT2513-1, XT2513-2, XT2513-3, XT2513V			
FCC ID IHDT56AT9				
IMEI Code Conducted: 352291420070137/352291420070145 Conduction: 352291420056433/352291420056441 Radiation: 352291420056433/35229142005642				
HW Version	DVT2			
SW Version	VVK35.48			
EUT Stage	Identical Prototype			

Remark:

- **1.** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
- 2. There are four models, the four models are for different markets and no other difference.

1.4 Product Specification of Equipment Under Test

Standard	Standards-related Product Specification				
Tx/Rx Frequency Range	2402 MHz ~ 2480 MHz				
Number of Channels	79				
Carrier Frequency of Each Channel	2402+n*1 MHz; n=0~78				
Maximum Output Power to Antenna	Bluetooth BR(1Mbps) : 13.10 dBm (0.0204 W) Bluetooth EDR (2Mbps) : 12.30 dBm (0.0170 W) Bluetooth EDR (3Mbps) : 12.40 dBm (0.0174 W)				
99% Occupied Bandwidth	Bluetooth BR(1Mbps) : 0.761MHz Bluetooth EDR (2Mbps) : 1.145MHz Bluetooth EDR (3Mbps) : 1.148MHz				
Antenna Type / Gain	PIFA Antenna type with gain -4.5 dBi				
Type of Modulation	Bluetooth BR (1Mbps) : GFSK Bluetooth EDR (2Mbps) :π/4-DQPSK Bluetooth EDR (3Mbps) : 8-DPSK				



1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Location

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (Shenzhen)						
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595						
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.				
	CO01-SZ TH01-SZ	CN1256	421272				
Test Firm	Sporton International Inc. (Shenzhen)						
Test Site Location	101, 1st Floor, Block B, B	Building 1, No. 2, Tengfeng et, Baoan District, Shenzhe s Republic of China					
	101, 1st Floor, Block B, B Community, Fuyong Stre Province 518103 People' TEL: +86-755-86066985	et, Baoan District, Shenzhe s Republic of China					
	101, 1st Floor, Block B, B Community, Fuyong Stree Province 518103 People'	et, Baoan District, Shenzhe	n City, Guangdong				

1.7 Test Software

ltem	Site	Manufacturer	Name	Version
1.	03CH03-SZ	AUDIX	E3	6.2009-8-24
2.	CO01-SZ	AUDIX	E3	6.120613b



1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 15 Subpart C §15.247
- FCC KDB 558074 D01 15.247 Meas Guidance v05r02
- ANSI C63.10-2013

Remark:

- 1. All test items were verified and recorded according to the standards and without any deviation during the test.
- 2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

1.9 Specification of Accessory

Specification of Accessory						
AC Adapter 1	Brand Name	Motorola(AOHAI)	Model Name	MC-201L		
AC Adapter 2	Brand Name	Motorola(Salcomp)	Model Name	MC-201L		
USB Cable 1	Brand Name	Motorola(WASHIN)	Model Name	HX-TL-04		
USB Cable 2	Brand Name	Motorola(SAIBAO)	Model Name	STN-A131A		
USB Cable 3	Brand Name	Motorola(WASHIN)	Model Name	HX-TL-07		
USB Cable 4	Brand Name	Motorola(SAIBAO)	Model Name	STN-A132A		
Battery 1	Brand Name	Motorola(CosMX)	Model Name	RA50		
Battery 2	Brand Name	Motorola(ATL)	Model Name	RA50		



2 Test Configuration of Equipment Under Test

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
	0	2402	27	2429	54	2456
	1	2403	28	2430	55	2457
	2	2404	29	2431	56	2458
	3	2405	30	2432	57	2459
	4	2406	31	2433	58	2460
	5	2407	32	2434	59	2461
	6	2408	33	2435	60	2462
	7	2409	34	2436	61	2463
	8	2410	35	2437	62	2464
	9	2411	36	2438	63	2465
	10	2412	37	2439	64	2466
	11	2413	38	2440	65	2467
	12	2414	39	2441	66	2468
2400-2483.5 MHz	13	2415	40	2442	67	2469
	14	2416	41	2443	68	2470
	15	2417	42	2444	69	2471
	16	2418	43	2445	70	2472
	17	2419	44	2446	71	2473
	18	2420	45	2447	72	2474
	19	2421	46	2448	73	2475
	20	2422	47	2449	74	2476
	21	2423	48	2450	75	2477
	22	2424	49	2451	76	2478
	23	2425	50	2452	77	2479
	24	2426	51	2453	78	2480
	25	2427	52	2454	-	-
	26	2428	53	2455	-	-



2.2 Test Mode

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Z plane) were recorded in this report, and the worst mode of radiated spurious emissions is Bluetooth 1Mbps mode, and recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

Summary table of Test Cases						
		Data Rate / Modulation				
Test Item	Bluetooth BR 1Mbps	Bluetooth EDR 2Mbps	Bluetooth EDR 3Mbps			
	GFSK	π/4-DQPSK	8-DPSK			
Conducted	Mode 1: CH00_2402 MHz	Mode 4: CH00_2402 MHz	Mode 7: CH00_2402 MHz			
Test Cases	Mode 2: CH39_2441 MHz	Mode 5: CH39_2441 MHz	Mode 8: CH39_2441 MHz			
Test Cases	Mode 3: CH78_2480 MHz	Mode 6: CH78_2480 MHz	Mode 9: CH78_2480 MHz			
		Bluetooth BR 1Mbps GFSK				
Radiated		Mode 1: CH00_2402 MHz				
Test Cases		Mode 2: CH39_2441 MHz				
AC		Dhuataath Link a Adaptar 4				
Conducted		Bluetooth Link + Adapter 1 -	+ USB Cable + Battery 1 +			
Emission	Earphone					
Remark:						
1. For radiate	1. For radiated test cases, the worst mode data rate 1Mbps was reported only, because this data rate					
has the hig	ghest RF output power at prelir	ninary tests, and no other sign	ificantly frequencies found in			
conducted	conducted spurious emission.					

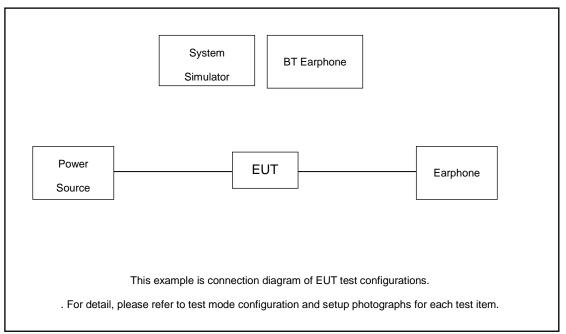
The following summary table is showing all test modes to demonstrate in compliance with the standard.

2. For Radiated Test Cases, The tests were performed with Adapter 1, Earphone and USB Cable1 .

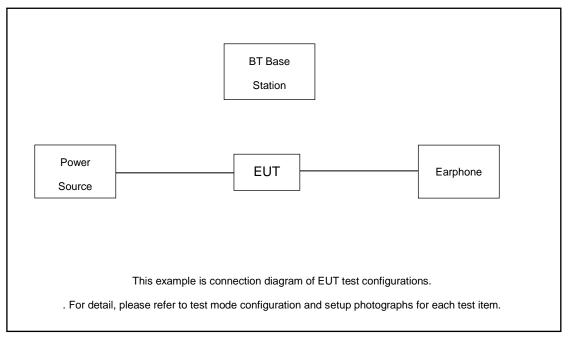


2.3 Connection Diagram of Test System

AC Conducted Emission:



Radiated Emission:



Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	Earphone	apple	N/A	N/A	N/A	N/A
3.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A
4.	Bluetooth Base Station	R&S	СВТ	N/A	N/A	Unshielded,1.8m

2.4 Support Unit used in test configuration and system

2.5 EUT Operation Test Setup

For Bluetooth function, the engineering test program was provided and enabled to make EUT connect with Bluetooth base station to continuous transmit.

For AC power line conducted emissions, the EUT was set to connect with the Bluetooth Earpohone under large package sizes transmission.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 2.20 dB and 10dB attenuator.

 $Offset(dB) = RF \ cable \ loss(dB) + attenuator \ factor(dB).$ = 2.20 + 10 = 12.20 (dB)



3 Test Result

3.1 Number of Channel Measurement

3.1.1 Limits of Number of Hopping Frequency

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedure

- 1. The testing follows ANSI C63.10-2013 clause 7.8.3.
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Enable the EUT hopping function.
- Use the following spectrum analyzer settings: Span = the frequency band of operation;
 RBW = 300kHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold.
- 6. The number of hopping frequency used is defined as the number of total channel.
- 7. Record the measurement data derived from spectrum analyzer.

3.1.4 Test Setup



Spectrum Analyzer

3.1.5 Test Result of Number of Hopping Frequency



3.2 Hopping Channel Separation Measurement

3.2.1 Limit of Hopping Channel Separation

Frequency hopping systems operating in the 2400-2483.5 MHz band 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.

3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

- 1. The testing follows ANSI C63.10-2013 clause 7.8.2.
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Enable the EUT hopping function.
- Use the following spectrum analyzer settings:
 Span = wide enough to capture the peaks of two adjacent channels;
 RBW = 300kHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold.
- 6. Measure and record the results in the test report.

3.2.4 Test Setup



Spectrum Analyzer

3.2.5 Test Result of Hopping Channel Separation



3.3 Dwell Time Measurement

3.3.1 Limit of Dwell Time

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.

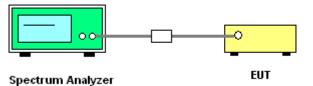
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

- 1. The testing follows ANSI C63.10-2013 clause 7.8.4.
- The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Enable the EUT hopping function.
- 5. Use the following spectrum analyzer settings: Span = zero span, centered on a hopping channel; RBW = 1 MHz; VBW ≥ RBW; Sweep = as necessary to capture the entire dwell time per hopping channel; Detector function = peak; Trace = max hold.
- 6. Measure and record the results in the test report.

3.3.4 Test Setup



3.3.5 Test Result of Dwell Time



3.4 20dB and 99% Bandwidth Measurement

3.4.1 Limit of 20dB and 99% Bandwidth

Reporting only

3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

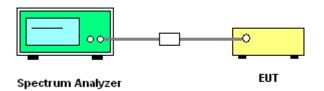
3.4.3 Test Procedures

- 1. The testing follows ANSI C63.10-2013 clause 6.9.2 and 6.9.3.
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- Use the following spectrum analyzer settings for 20dB Bandwidth measurement.
 Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a hopping channel;
 The RBW is set to 1% to 5% of the 99% OBW, the VBW is set to 3 times the RBW;
 Sweep = auto; Detector function = peak;
 Trace = max hold.
- 5. Use the following spectrum analyzer settings for 99 % Bandwidth measurement.
 Span = approximately 1.5 to 5 times the 99% bandwidth, centered on a hopping channel; The RBW is set to 1% to 5% of the 99% OBW, the VBW is set to 3 times the RBW; Sweep = auto; Detector function = peak;

Trace = max hold.

6. Measure and record the results in the test report.

3.4.4 Test Setup



3.4.5 Test Result of 20dB and 99% Occupied Bandwidth



3.5 Output Power Measurement

3.5.1 Limit of Output Power

The maximum peak conducted output power of the intentional radiator shall not exceed the following: For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band 0.125 watts.

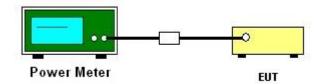
3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

- 1. The testing follows ANSI C63.10-2013 clause 7.8.5.
- 2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Measure the conducted output power with cable loss and record the results in the test report.
- 5. Measure and record the results in the test report.

3.5.4 Test Setup







3.5.5 Test Result of Peak Output Power

DH	CH.	NTX	Peak Power (dBm)	Power Level	Power Limit (dBm)	Test Result
	0	1	13.00	Default	20.97	Pass
DH5	39	1	12.80	Default	20.97	Pass
	78	1	13.10	Default	20.97	Pass
2DH5	0	1	12.10	Default	20.97	Pass
	39	1	12.00	Default	20.97	Pass
	78	1	12.30	Default	20.97	Pass
	0	1	12.20	Default	20.97	Pass
3DH5	39	1	12.10	Default	20.97	Pass
	78	1	12.40	Default	20.97	Pass

3.5.6 Test Result of Average Output Power (Reporting Only)

DH	CH.	NTX	Average Power	Duty Factor
DU	Сп.		(dBm)	(dB)
	0	1	12.10	1.14
DH5	39	1	12.00	1.14
	78	1	12.30	1.14
	0	1	9.20	1.14
2DH5	39	1	9.00	1.14
	78	1	9.30	1.14
	0	1	9.20	1.14
3DH5	39	1	9.00	1.14
	78	1	9.30	1.14



3.6 Conducted Band Edges Measurement

3.6.1 Limit of Band Edges

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.

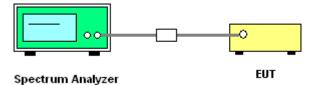
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

- 1. The testing follows ANSI C63.10-2013 clause 7.8.6.
- 2. Set to the maximum power setting and enable the EUT transmit continuously.
- 3. Set RBW = 100kHz, VBW = 300kHz. Band edge emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100kHz RBW. The attenuation shall be 30 dB instead of 20 dB when RMS conducted output power procedure is used.
- 4. Enable hopping function of the EUT and then repeat step 2. and 3.
- 5. Measure and record the results in the test report.

3.6.4 Test Setup



3.6.5 Test Result of Conducted Band Edges

Please refer to Appendix A.

3.6.6 Test Result of Conducted Hopping Mode Band Edges



3.7 Conducted Spurious Emission Measurement

3.7.1 Limit of Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.

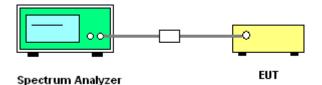
3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.7.3 Test Procedure

- 1. The testing follows ANSI C63.10-2013 clause 7.8.8.
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- Set RBW = 100 kHz, VBW = 300kHz, scan up through 10th harmonic. All harmonics / spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.
- 5. Measure and record the results in the test report.
- 6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.7.4 Test Setup



3.7.5 Test Result of Conducted Spurious Emission



3.8 Radiated Band Edges and Spurious Emission Measurement

3.8.1 Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency	Field Strength	Measurement Distance	
(MHz)	(microvolts/meter)	(meters)	
0.009 - 0.490	2400/F(kHz)	300	
0.490 – 1.705	24000/F(kHz)	30	
1.705 – 30.0	30	30	
30 - 88	100	3	
88 – 216	150	3	
216 - 960	200	3	
Above 960	500	3	

3.8.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.



3.8.3 Test Procedures

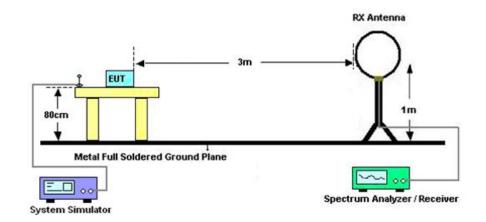
- 1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
- 2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 3. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
- 4. Set to the maximum power setting and enable the EUT transmit continuously.
- 5. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for f < 1 GHz, RBW=1MHz for f>1GHz ; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold for peak
 - (3) For average measurement: use duty cycle correction factor method per 15.35(c). Duty cycle = On time/100 milliseconds On time = N₁*L₁+N₂*L₂+...+N_{n-1}*LN_{n-1}+N_n*L_n Where N₁ is number of type 1 pulses, L₁ is length of type 1 pulses, etc. Average Emission Level = Peak Emission Level + 20*log(Duty cycle)
- 6. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level
- 7. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
- 8. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Note: The average levels were calculated from the peak level corrected with duty cycle correction factor (-24.79dB) derived from 20log (dwell time/100ms). This correction is only for signals that hop with the fundamental signal, such as band-edge and harmonic. Other spurious signals that are independent of the hopping signal would not use this correction.

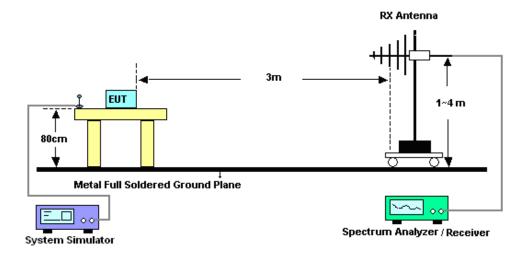


3.8.4 Test Setup

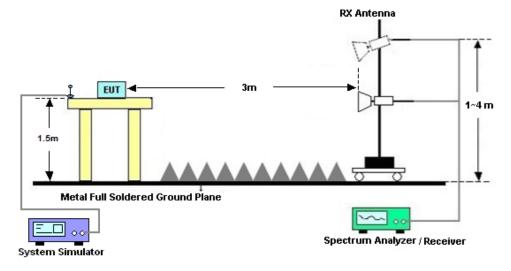
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz







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3.8.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.8.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.8.7 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix C.

3.8.8 Duty cycle correction factor for average measurement



3.9 AC Conducted Emission Measurement

3.9.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBµV)			
Frequency of emission (MHZ)	Quasi-peak	Average		
0.15-0.5	66 to 56*	56 to 46*		
0.5-5	56	46		
5-30	60	50		

*Decreases with the logarithm of the frequency.

3.9.2 Measuring Instruments

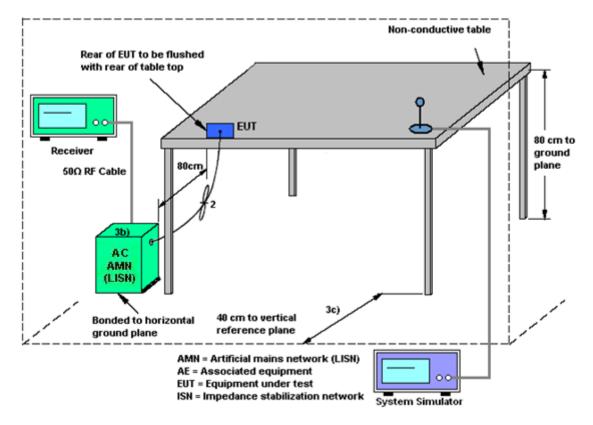
The measuring equipment is listed in the section 4 of this test report.

3.9.3 Test Procedures

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- 3. All the support units are connecting to the other LISN.
- 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- 5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- 6. Both sides of AC line were checked for maximum conducted interference.
- 7. The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.



3.9.4 Test Setup



3.9.5 Test Result of AC Conducted Emission



3.10 Antenna Requirements

3.10.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.10.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.10.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY544500 83	20Hz~8.4GHz	Apr. 09, 2024	Sep. 13, 2024~ Sep. 19, 2024	Apr. 08, 2025	Radiation (03CH03-SZ)
EXA Spectrum Anaiyzer	KEYSIGHT	N9010A	MY551502 46	10Hz~44GHz;	Apr. 09, 2024	Sep. 13, 2024~ Sep. 19, 2024	Apr. 08, 2025	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 29, 2023	Sep. 13, 2024~ Sep. 19, 2024	Dec. 28, 2024	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	Aug. 20, 2023	Sep. 13, 2024~ Sep. 19, 2024	Aug. 19, 2025	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBE CK	BBHA9120D	9120D-135 5	1GHz~18GHz	Apr. 09, 2024	Sep. 13, 2024~ Sep. 19, 2024	Apr. 08, 2025	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35- HG	1871923	18GHz~40GHz	Jul. 03, 2024	Sep. 13, 2024~ Sep. 19, 2024	Jul.02, 2025	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 09, 2024	Sep. 13, 2024~ Sep. 19, 2024	Apr. 08, 2025	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 18, 2023	Sep. 13, 2024~ Sep. 19, 2024	Oct. 17, 2024	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-0010 1800-30-10P- R	1943528	1GHz~18GHz	Oct. 18, 2023	Sep. 13, 2024~ Sep. 19, 2024	Oct. 17, 2024	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY395013 02	500MHz~26.5G Hz	Dec. 27, 2023	Sep. 13, 2024~ Sep. 19, 2024	Dec. 26, 2024	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010002 729	N/A	Oct. 18, 2023	Sep. 13, 2024~ Sep. 19, 2024	Oct. 17, 2024	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Sep. 13, 2024~ Sep. 19, 2024	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Sep. 13, 2024~ Sep. 19, 2024	NCR	Radiation (03CH03-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Jul. 04, 2024	Sep. 05, 2024	Jul. 03, 2025	Conduction (CO01-SZ)
AC LISN	R&S	ENV216	100063	9kHz~30MHz	Jul. 04, 2024	Sep. 05, 2024	Jul. 03, 2025	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 16, 2023	Sep. 05, 2024	Oct. 15, 2024	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000 891	100Vac~250Vac	Aug. 14, 2024	Sep. 05, 2024	Aug. 13, 2025	Conduction (CO01-SZ)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 09, 2024	Sep. 07, 2024	Apr. 08, 2025	Conducted (TH01-SZ)
Power Sensor	Anritsu	MA24440A	11707	50MHz-40GHz	Dec. 27, 2023	Sep. 07, 2024	Dec. 26, 2024	Conducted (TH01-SZ)
Thermo meter	Anymetre	JR593	#7	- 10℃ ~ 50℃ 10%RH~99%R H	Apr. 09, 2024	Sep. 07, 2024	Apr. 08, 2025	Conducted (TH01-SZ)

NCR: No Calibration Required



5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Spurious Emission & Bandedge	±1.34 dB
Occupied Channel Bandwidth	±0.012 MHz
Conducted Power	±1.34 dB
Conducted Power Spectral Density	±1.32 dB
Frequency	±1.3 Hz

Uncertainty of AC Conducted Emission Measurement (0.15 MHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence	2.5 dB
of 95% (U = 2Uc(y))	2.5 dB

Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence	5.0 dB
of 95% (U = 2Uc(y))	5.0 dB

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence	5.0 dB
of 95% (U = 2Uc(y))	5.0 dB

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.9 dB
--	--------

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence	5.0 dB
of 95% (U = 2Uc(y))	5.0 dB

----- THE END ------



Appendix A. Conducted Test Results



Ambient Condition: <u>24~26</u> ℃, <u>45~65</u>%RH

According Standard: ■Part15C

Test Date: 2024-9-7

Test Engineer: Jason Zhang

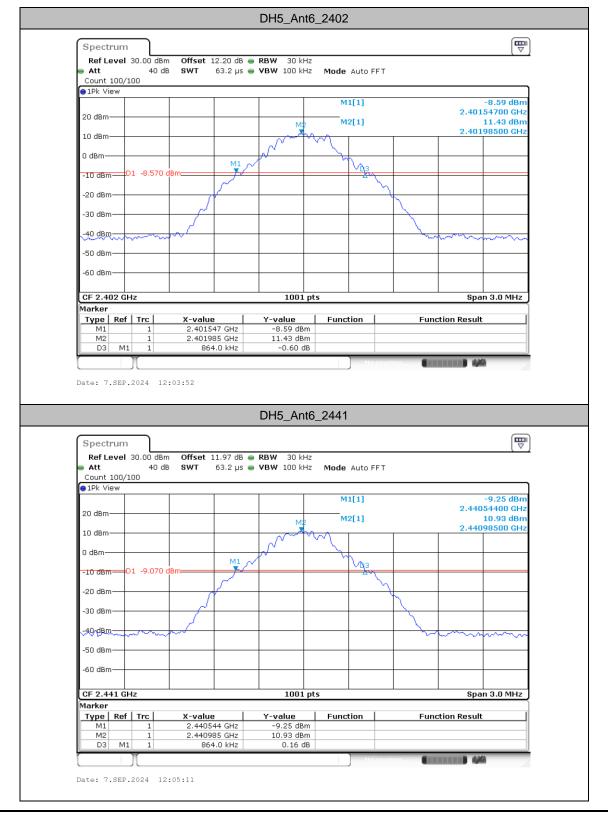
20dB Emission Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]
		2402	0.86	2401.55	2402.41
DH5	Ant6	2441	0.86	2440.54	2441.41
		2480	0.87	2479.54	2480.41
		2402	1.26	2401.37	2402.63
2DH5	Ant6	2441	1.26	2440.37	2441.63
		2480	1.26	2479.37	2480.62
		2402	1.27	2401.36	2402.63
3DH5	Ant6	2441	1.27	2440.36	2441.63
		2480	1.27	2479.36	2480.62

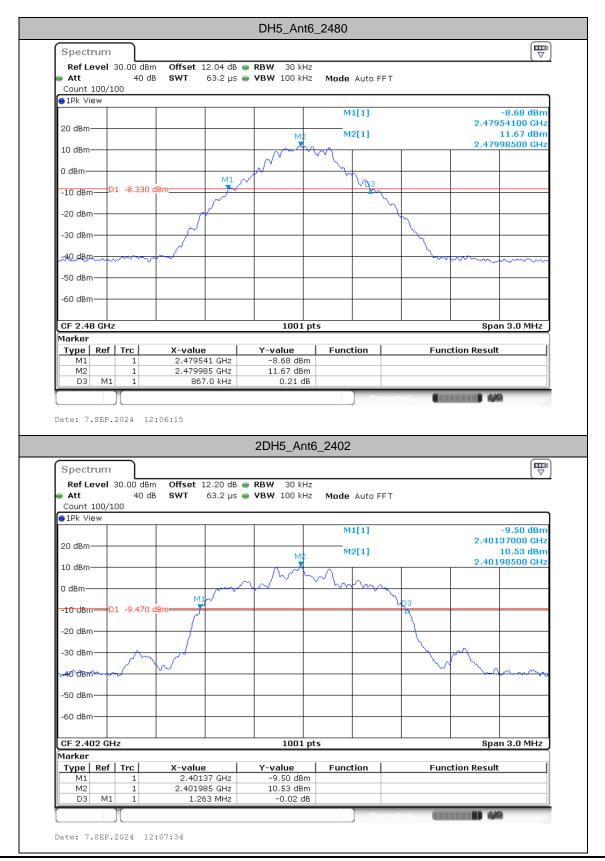


Test Graphs



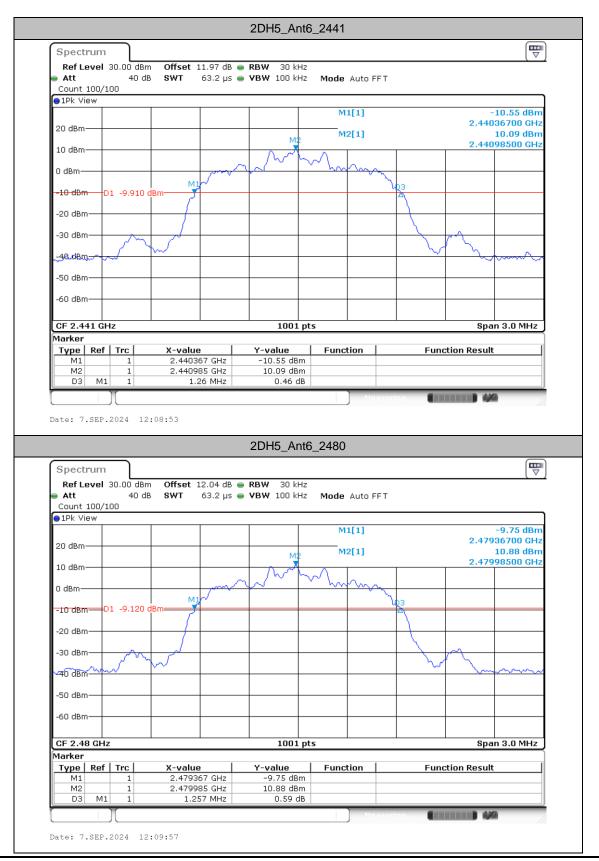
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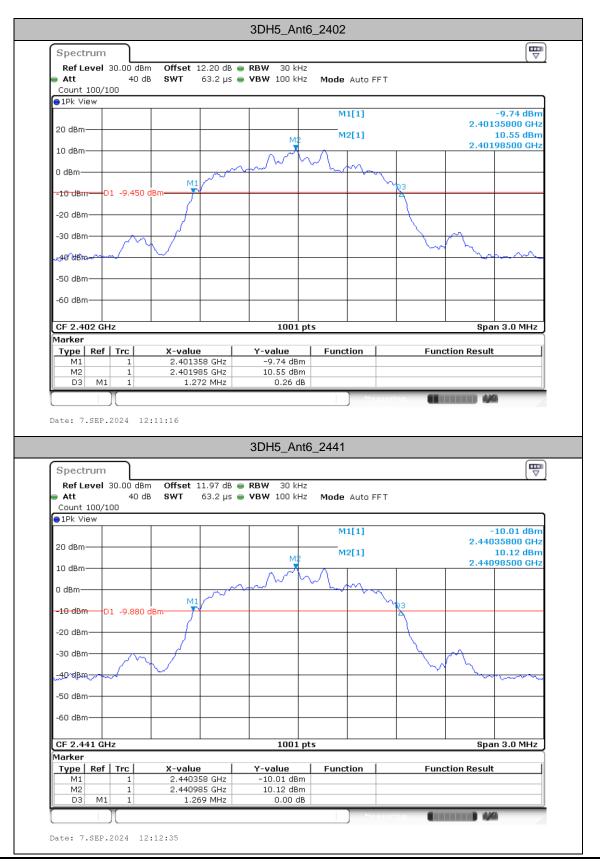
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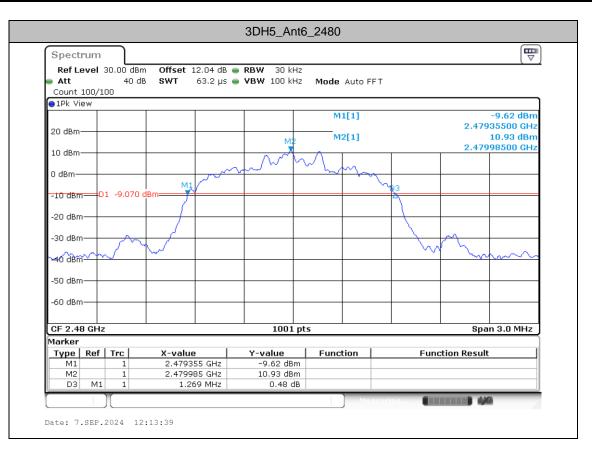
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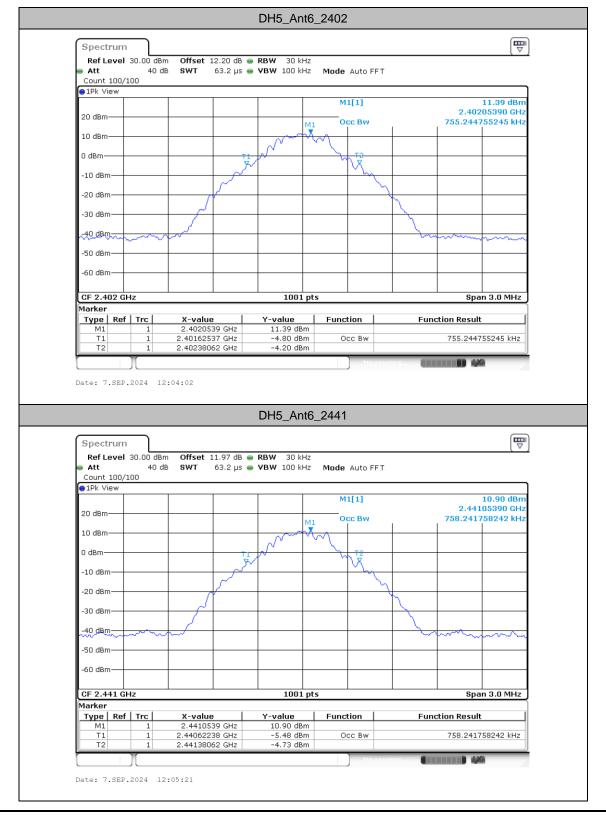
Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]
DH5	Ant6	2402	0.755	2401.6254	2402.3806
		2441	0.758	2440.6224	2441.3806
		2480	0.761	2479.6194	2480.3806
2DH5	Ant6	2402	1.142	2401.4246	2402.5664
		2441	1.145	2440.4216	2441.5664
		2480	1.145	2479.4216	2480.5664
3DH5	Ant6	2402	1.148	2401.4276	2402.5754
		2441	1.148	2440.4276	2441.5754
		2480	1.148	2479.4246	2480.5724

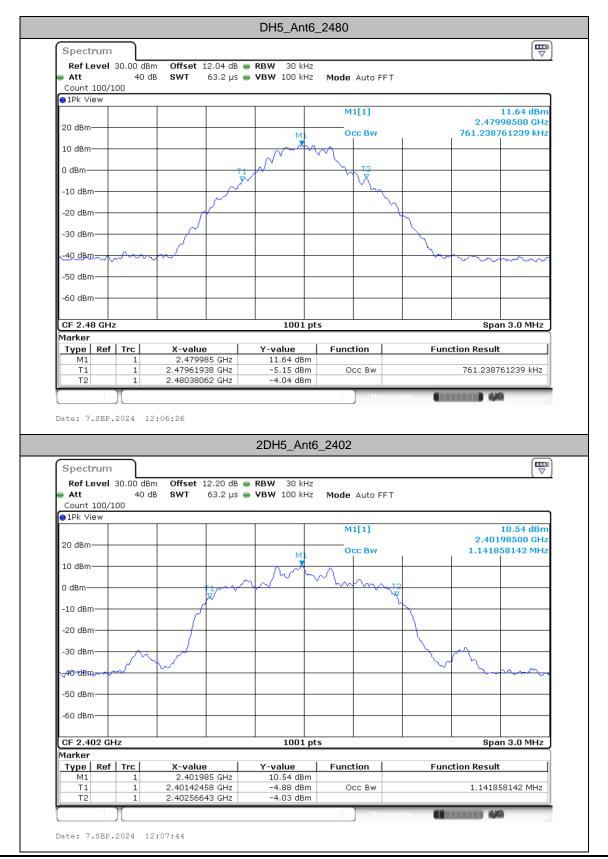


Test Graphs



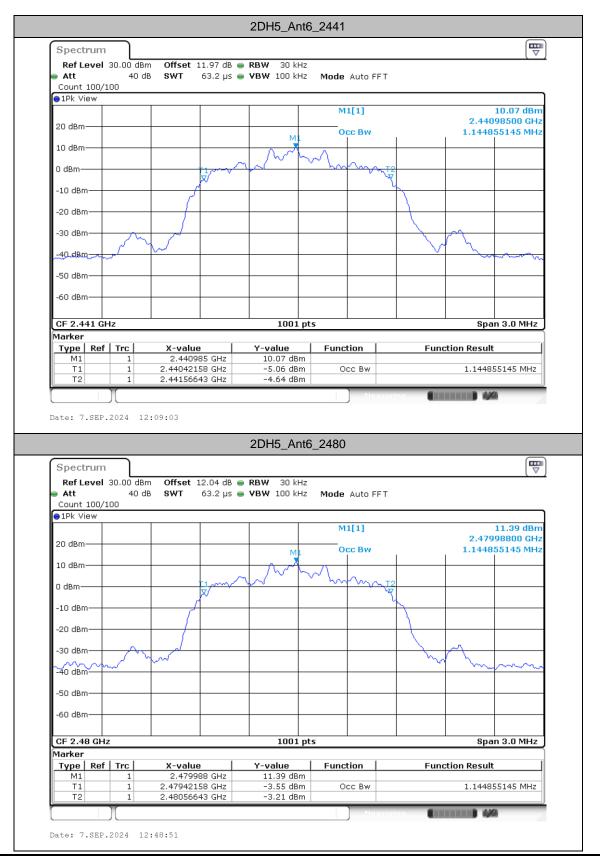
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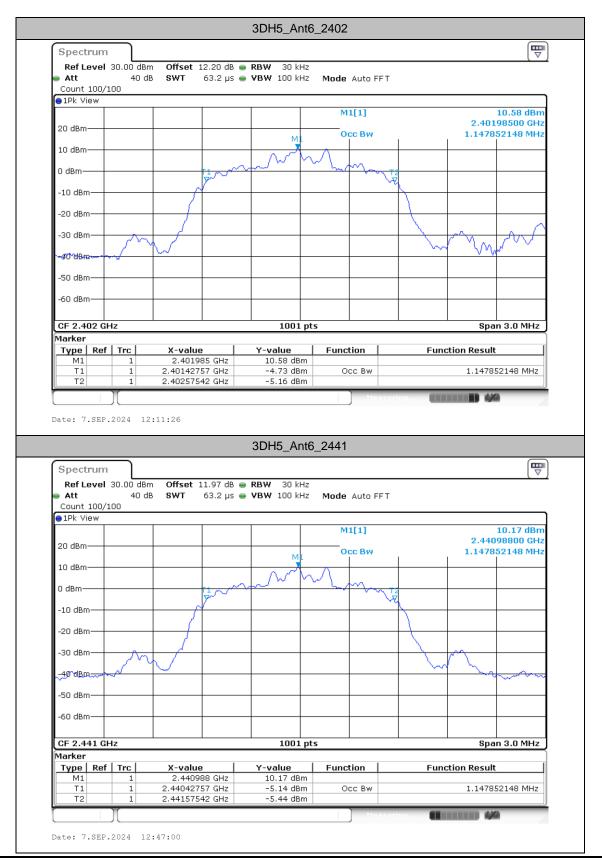
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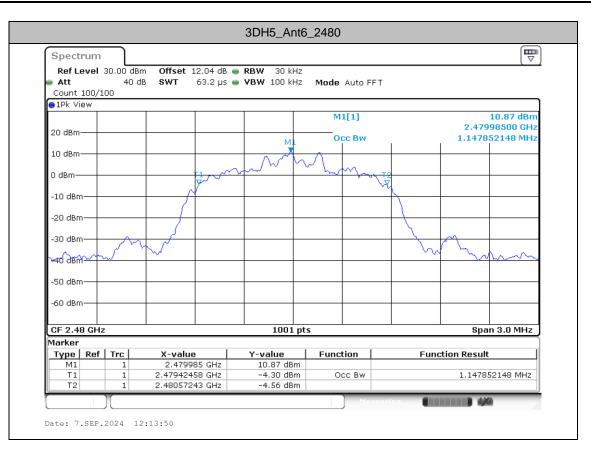
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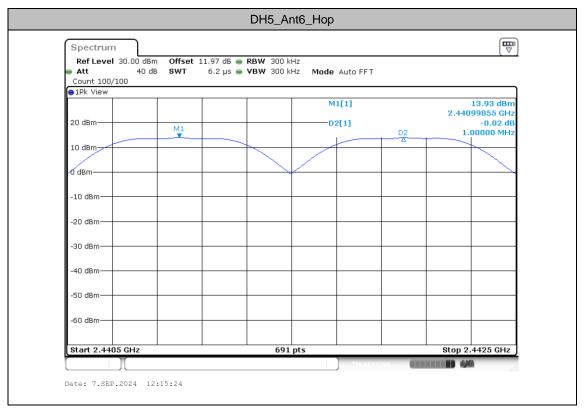


Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant6	Нор	1	≥0.580	PASS
2DH5	Ant6	Нор	1.003	≥0.840	PASS
3DH5	Ant6	Нор	1.003	≥0.847	PASS

Test Graphs





			2DH5_An	100_1100		
Spectrum Ref Level)ffset 11.97 dB 🖷	PRW 300 kH	7		
 Att Count 100/1 	40 dB 🛚 S			z Mode Auto FFT		
 1Pk View 	.00					
				M1[1]		12.69 dBm 2.44083623 GHz
20 dBm				D2[1]		0.11 dB
10 db-	M1					1.00290 MHz
10 dBm						
0 dBm						
-10 dBm						
-10 0.011						
-20 dBm						
-30 dBm						
-40 dBm						
-50 dBm						
-60 dBm						
Start 2.440	5 GHz		691 p	ts	8	top 2.4425 GHz
	Y			Measuri		
Date: 7.55P.	2024 12:39:	49	3DH5 An	it6 Hop		
Bate: 7.5EP.	2024 12:39:	49	3DH5_An	t6_Hop		[1
Spectrum Ref Level 30.0 Att Count 100/100	1	set 11.97 dB 👄		z		[1
Spectrum Ref Level 30.0 Att	D0 dBm Offs	set 11.97 dB 👄	RBW 300 kH	z		13.07 df
Spectrum Ref Level 30.0 Att Count 100/100	D0 dBm Offs	set 11.97 dB 👄	RBW 300 kH	z z Mode Auto FFT M1[1]		
Spectrum Ref Level 30.(Att Count 100/100 1Pk View	D0 dBm Offs	set 11.97 dB 👄	RBW 300 kH	z z Mode Auto FFT		13.07 df 2.44115797 G 0.04 D2 1.00290 M
Spectrum Ref Level 30.(Att Count 100/100 1Pk View	D0 dBm Offs	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	z z Mode Auto FFT M1[1]		13.07 df 2.44115797 G 0.04
Spectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm	D0 dBm Offs	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	z z Mode Auto FFT M1[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M
Bectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm	D0 dBm Offs	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	z z Mode Auto FFT M1[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M
Bectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm	D0 dBm Offs	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	z z Mode Auto FFT M1[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M
Bpectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm dBm 10 dBm	D0 dBm Offs	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	z z Mode Auto FFT M1[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M
Spectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm	D0 dBm Offs	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	z z Mode Auto FFT M1[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M
Bpectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm 10 dBm	D0 dBm Offs	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	z z Mode Auto FFT M1[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M
Bpectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm 0 dBm 10 dBm 10 dBm 20 dBm 30 dBm	D0 dBm Offs	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	z z Mode Auto FFT M1[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M
Bpectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm 10 dBm 20 dBm	D0 dBm Offs	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	z z Mode Auto FFT M1[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M
Bpectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm 0 dBm 10 dBm 10 dBm 20 dBm 30 dBm	D0 dBm Offs	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	z z Mode Auto FFT M1[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M
Bpectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm 0 dBm 20 dBm 10 dBm 20 dBm 30 dBm 40 dBm	D0 dBm Offs	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	z z Mode Auto FFT M1[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M
Bpectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm 0 dBm 20 dBm 10 dBm 20 dBm 30 dBm 40 dBm	D0 dBm Offs	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	z z Mode Auto FFT M1[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M
Bpectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm 50 dBm 50 dBm	J0 dBm Offs 40 dB SW1	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH VBW 300 kH	Z Mode Auto FFT M1[1] D2[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M A
Bpectrum Ref Level 30.0 Att Count 100/100 1Pk View 0 dBm 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm 50 dBm	J0 dBm Offs 40 dB SW1	set 11.97 dB ● T 6.2 µs ●	RBW 300 kH	Z Mode Auto FFT M1[1] D2[1]		13.07 df 2.44115797 G 0.04 D2 1.00290 M



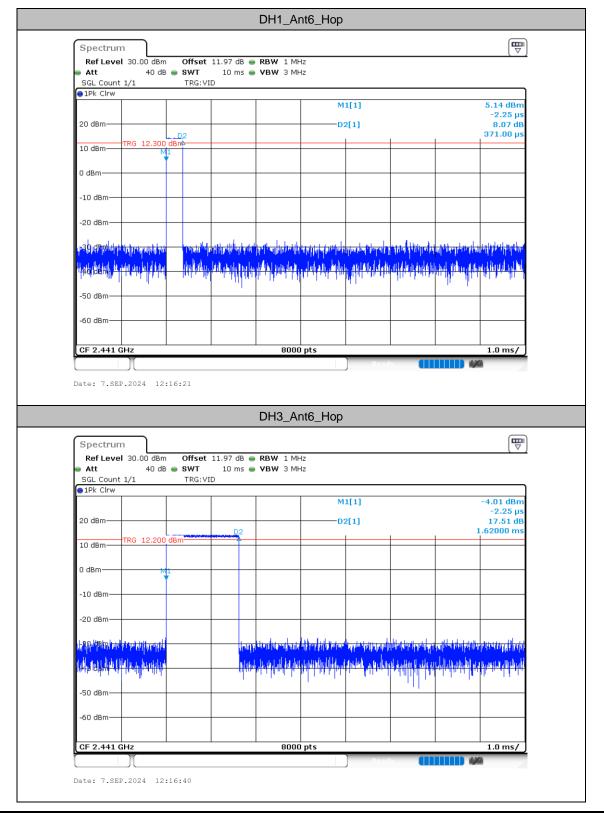
Time of occupancy

Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant6	Нор	0.371	320	0.119	≤0.4	PASS
DH3	Ant6	Нор	1.620	160	0.259	≤0.4	PASS
DH5	Ant6	Нор	2.860	106.67	0.305	≤0.4	PASS
2DH1	Ant6	Нор	0.380	320	0.122	≤0.4	PASS
2DH3	Ant6	Нор	1.624	160	0.26	≤0.4	PASS
2DH5	Ant6	Нор	2.864	106.67	0.306	≤0.4	PASS
3DH1	Ant6	Нор	0.379	320	0.121	≤0.4	PASS
3DH3	Ant6	Нор	1.623	160	0.26	≤0.4	PASS
3DH5	Ant6	Нор	2.865	106.67	0.306	≤0.4	PASS

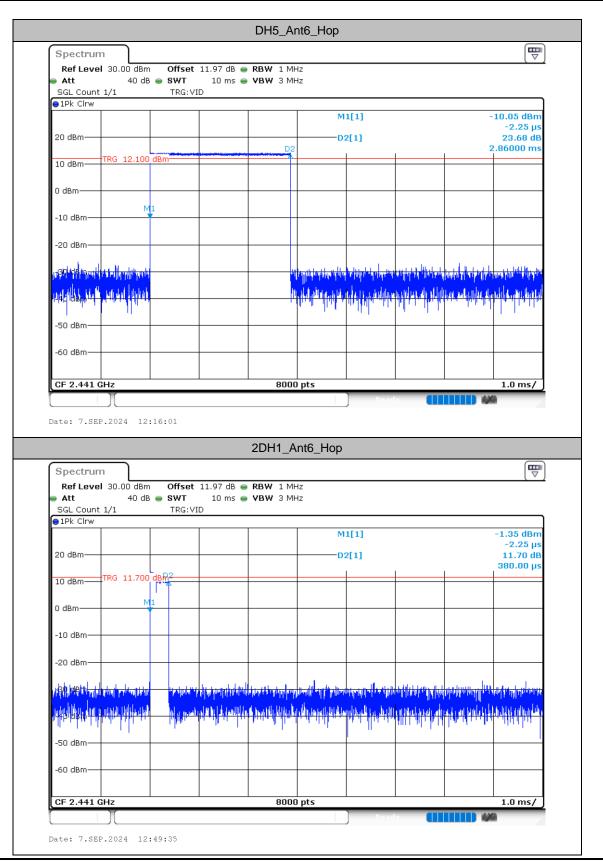


Test Graphs



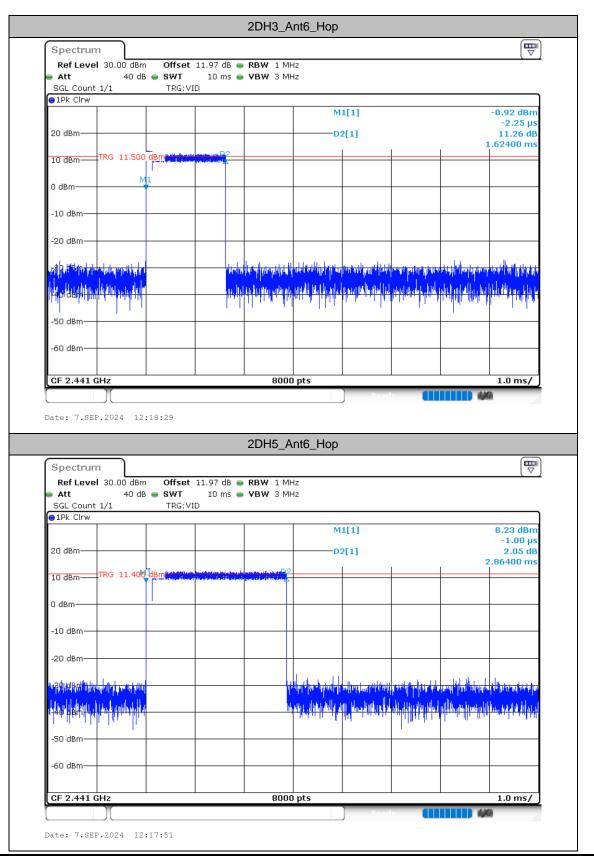
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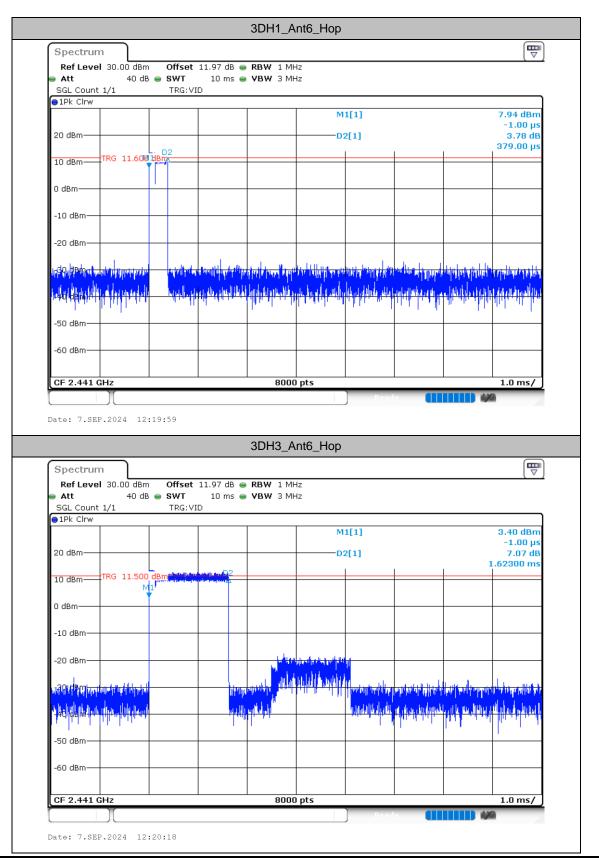
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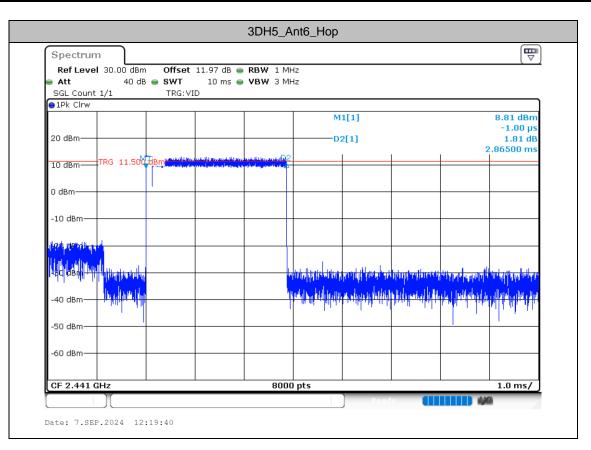
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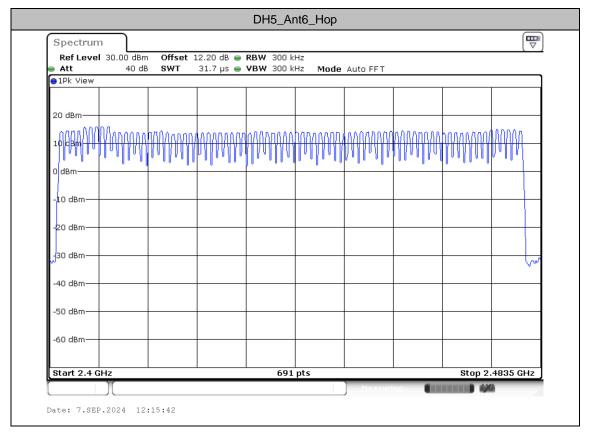


Number of hopping channels

Test Result

TestMode	Antenna	Freq(MHz)	Result[Num]	Limit[Num]	Verdict
DH5	Ant6	Нор	79	≥15	PASS

Test Graphs





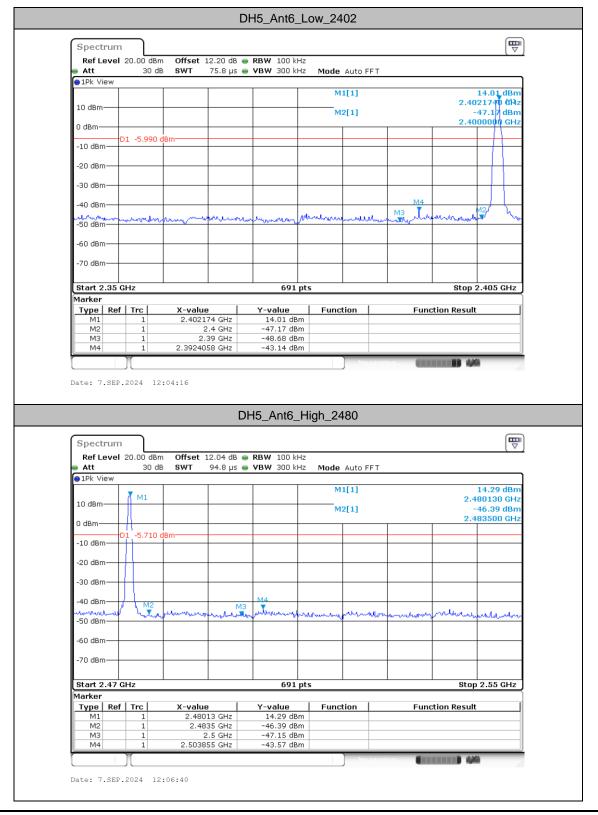
Band edge measurements

Test Result

TestMode	Antenna	ChName		RefLevel	Result	Limit	Verdict
restiviode	Antenna	Criname	Freq(MHz)	[dBm]	[dBm]	[dBm]	verdict
		Low	2402	14.01	-43.14	≤-5.99	PASS
DH5	Ant6	High	2480	14.29	-43.57	≤-5.71	PASS
DHD	Anto	Low	Hop_2402	14.04	-44.85	≤-5.96	PASS
		High	Hop_2480	14.39	-43.82	≤-5.61	PASS
		Low	2402	13.39	-44.48	≤-6.61	PASS
2DH5	Ant6	High	2480	13.72	-44.64	≤-6.28	PASS
2003	Anto	Low	Hop_2402	11.28	-44.39	≤-8.72	PASS
		High	Hop_2480	12.31	-44.76	≤-7.69	PASS
		Low	2402	13.38	-44.64	≤-6.62	PASS
3DH5	Ant6	High	2480	13.90	-44.28	≤-6.1	PASS
3010	Anto	Low	Hop_2402	10.68	-44.46	≤-9.32	PASS
		High	Hop_2480	12.88	-44.65	≤-7.12	PASS



Test Graphs



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				15_Ant6_Lo	"_nop_2	102			
Spectrum									
Ref Level Att	20.00 dBr 30 di			● RBW 100 kH ● VBW 300 kH		Auto FFT			
● 1Pk View	50 0	5 5111	70.0 µs (- + D 11 300 KI	2 Houe	Autorri			
					M	1[1]			14.04 dBm
10 dBm				_	M	2[1]			49600 GHz 47.08 dBm
0 dBm						2[1]		2.40	00000 0Hz
	01 -5.960	dBm							1474
-10 dBm									
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-40 dBm							M2 M4		M2
-50 dBm	monor	wanter	mount	monteringer	marpor	muturen	M3 Mr	munu	ж.
-50 dbiii									
-60 dBm									
-70 dBm									
Start 2.35 (GHz			691 j	ots			Stop 2	2.405 GHz
Marker	1 - 1		1		1 -	. 1	-		
Type Ref	1	X-value 2.4049	6 GHz	<u>Y-value</u> 14.04 dBr	Funct	tion	Fund	tion Result	
M2	1	2.	4 GHz	-47.08 dBr	n				
M3 M4	1	2.3 2.392485	9 GHz 5 GHz	-48.12 dBr -44.85 dBr					
	1					, · · · ·			2
ate: 7.SEP	.2024 12	:15:00	DH	15_Ant6_Hig	h_Hop_2	2480			
Spectrum		:15:00	DH	I5_Ant6_Hig	h_Hop_2	2480			
Spectrum						2480			
		n Offset 1:	1.99 dB (15_Ant6_Hig RBW 100 kH VBW 300 kH	z	2480 Auto FFT			
Spectrum Ref Level	20.00 dBr	n Offset 1:	1.99 dB (■ RBW 100 kH	z z Mode	Auto FFT			
Spectrum Ref Level Att	20.00 dBr	n Offset 1:	1.99 dB (■ RBW 100 kH	z z Mode				14.39 dBm
Spectrum Ref Level Att	20.00 dBr	n Offset 1:	1.99 dB (■ RBW 100 kH	z Mode M	Auto FFT		2.4	
Spectrum Ref Level Att 1Pk View	20.00 dBr 30 dl	n Offset 1:	1.99 dB (■ RBW 100 kH	z Mode M	Auto FFT		2.4	14.39 dBm 75150 GHz
Spectrum Ref Level Att 10 dem	20.00 dBr	n Offset 1: 3 SWT	1.99 dB (■ RBW 100 kH	z Mode M	Auto FFT		2.4	14.39 dBm 75150 GHz 46.89 dBm
Spectrum Ref Level Att 1Pk View 10 dem	20.00 dBr 30 dl	n Offset 1: 3 SWT	1.99 dB (■ RBW 100 kH	z Mode M	Auto FFT		2.4	14.39 dBm 75150 GHz 46.89 dBm
Spectrum Ref Level Att 1Pk View	20.00 dBr 30 dl	n Offset 1: 3 SWT	1.99 dB (■ RBW 100 kH	z Mode M	Auto FFT		2.4	14.39 dBm 75150 GHz 46.89 dBm
Spectrum Ref Level Att 1Pk View 10 dBm -10 dBm	20.00 dBr 30 dl	n Offset 1: 3 SWT	1.99 dB (■ RBW 100 kH	z Mode M	Auto FFT		2.4	14.39 dBm 75150 GHz 46.89 dBm
Spectrum Ref Level Att 1Pk View 10 dBm -10 dBm -20 dBm -30 dBm	20.00 dBr 30 dl	n Offset 1: 3 SWT	1.99 dB (■ RBW 100 kH	z Mode M	Auto FFT		2.4	14.39 dBm 75150 GHz 46.89 dBm
Spectrum Ref Level Att 10 dBm 10 dBm -10 dBm -20 dBm	20.00 dBr 30 dl	n Offset 1: 3 SWT 1 dBm	1.99 dB (94.8 μs (■ RBW 100 kH ■ VBW 300 kH	z Mode M: M:	Auto FFT 1[1] 2[1]		2.4	14.39 dBm 75150 GHz 46.89 dBm 83500 GHz
Spectrum Ref Level Att 1Pk View 10 dBm -10 dBm -20 dBm -30 dBm	20.00 dBr 30 dl	n Offset 1: 3 SWT 1 dBm	1.99 dВ (94.8 µs (■ RBW 100 kH ■ VBW 300 kH	z Mode M: M:	Auto FFT 1[1] 2[1]		2.4	14.39 dBm 75150 GHz 46.89 dBm
Spectrum Ref Level Att 1Pk View 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	20.00 dBr 30 dl	n Offset 1: 3 SWT 1 dBm	1.99 dB (94.8 μs (■ RBW 100 kH ■ VBW 300 kH	z Mode M: M:	Auto FFT 1[1] 2[1]		2.4	14.39 dBm 75150 GHz 46.89 dBm 83500 GHz
Spectrum Ref Level Att 10 BBm 10 BBm -10 dBm -20 dBm -20 dBm -40 dBm -50 dBm -60 dBm	20.00 dBr 30 dl	n Offset 1: 3 SWT 1 dBm	1.99 dB (94.8 μs (■ RBW 100 kH ■ VBW 300 kH	z Mode M: M:	Auto FFT 1[1] 2[1]		2.4	14.39 dBm 75150 GHz 46.89 dBm 83500 GHz
Spectrum Ref Level Att 1Pk View 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	20.00 dBr 30 dl	n Offset 1: 3 SWT 1 dBm	1.99 dB (94.8 μs (■ RBW 100 kH ■ VBW 300 kH	z Mode M: M:	Auto FFT 1[1] 2[1]		2.4	14.39 dBm 75150 GHz 46.89 dBm 83500 GHz
Spectrum Ref Level Att 1 Pk View 10 BBm -10 dBm -20 dBm -20 dBm -40 dBm -50 dBm -60 dBm -70 dBm	20.00 dBr 30 dl	n Offset 1: 3 SWT 1 dBm	1.99 dB (94.8 μs (RBW 100 kH	z Mode	Auto FFT 1[1] 2[1]		2.4 - 2.4	14.39 dBm 75150 GHz 46.89 dBm 83500 GHz
Spectrum Ref Level Att 1Pk View 10 88m -10 d8m -20 d8m -20 d8m -40 d8m -50 d8m -60 d8m -70 d8m Start 2.47	20.00 dBr 30 dl	n Offset 1: 3 SWT 1 dBm	1.99 dB (94.8 μs (■ RBW 100 kH ■ VBW 300 kH	z Mode	Auto FFT 1[1] 2[1]		2.4 - 2.4	14.39 dBm 75150 GHz 46.89 dBm 83500 GHz
Spectrum Ref Level Att IPk View Id dem -10 dem -20 dem -20 dem -20 dem -30 dem -50 dem -50 dem -70 dem -70 dem Start 2.47 dem	20.00 dBr 30 dl	n Offset 1: 3 SWT	1.99 dВ (94.8 µs (RBW 100 kH VBW 300 kH	z Mode	Auto FFT 1[1] 2[1]		2.4 - 2.4	14.39 dBm 75150 GHz 46.89 dBm 83500 GHz
Spectrum Ref Level Att 1Pk View 10 66m -10 68m -20 d8m -20 d8m -20 d8m -40 d8m -50 d8m -70 d8m -70 d8m Start 2.47 C Marker Type Ref M1	20.00 dBr 30 dl 	A Offset 1: 3 SWT A A B A B A B A B A B A B A B A	1.99 dB (94.8 µs (м м м м м м м м м м м м м м м м л м	RBW 100 kH VBW 300 kH	z Mode M: M: M: M: Sts	Auto FFT 1[1] 2[1]		2.4 	14.39 dBm 75150 GHz 46.89 dBm 83500 GHz
Spectrum Ref Level Att 1Pk View 10 d8m -10 d8m -20 d8m -20 d8m -40 d8m -50 d8m -60 d8m -70	20.00 dBr 30 dl	n Offset 1: 3 SWT	1.99 dВ (94.8 µs (RBW 100 kH VBW 300 kH	z Mode	Auto FFT 1[1] 2[1]		2.4 	14.39 dBm 75150 GHz 46.89 dBm 83500 GHz
Spectrum Ref Level Att 1Pk View 10 dBm -10 dBm -20 dBm -20 dBm -40 dBm -50 dBm -60 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm -80 dBm -80 dBm -70	20.00 dBr 30 dl 1 -5.610 4 	n Offset 1: 3 SWT	1.99 dB 94.8 µs 94.8 µ	RBW 100 kH VBW 300 kH 100 kH 300 kH 100 kH 300 kH 100 kH 300 kH 14 300 kH	z z M: M: M: M: M: M: M: M: M: M:	Auto FFT 1[1] 2[1]		2.4 	14.39 dBm 75150 GHz 46.89 dBm 83500 GHz

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On a share				2DH5_Ant6_					
Spectrum	1 L 20.00 dBr	» Offcot 1	10 00 dB	RBW 100 kH	-				
Att	20.00 UB 30 d			• VBW 300 kH		Auto FFT			
●1Pk View									
					M	1[1]			13.39 dBm
10 dBm					M	2[1]			21740 GHz 46.14 dBm
0 dBm						-1-1			00000 GHz
	D1 -6.610	dem							
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-50 dBm		a downigy							
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01	011-							Otara	105 011-
Start 2.35 Marker	GHZ			691	JUS			stop :	2.405 GHz
Type Ref	Trc	X-value	.	Y-value	Func	tion	Fund	tion Result	1
M1	1	2.4021		13.39 dBr					
M2 M3	1		39 GHz	-46.14 dBr -47.18 dBr					
M4	1	2.39997		-44.48 dBr					
									74.
ate: 7.SEP	.2024 12	2:07:58	2	2DH5 Ant6	High 24	.80			
Date: 7.SEP	.2024 12	2:07:58	2	2DH5_Ant6_	High_24	80			
ate: 7.SEP Spectrum	_	2:07:58	2	2DH5_Ant6_	High_24	80			
Spectrum Ref Level	1 20.00 dBr	n Offset 1	L2.04 dB (RBW 100 kH	z				
Spectrum Ref Level Att	·	n Offset 1	L2.04 dB (z	80 Auto FFT			
Spectrum Ref Level	20.00 dBr	n Offset 1	L2.04 dB (RBW 100 kH	z z Mode	Auto FFT			(∀
Spectrum Ref Level Att 1Pk View	20.00 dBr	n Offset 1	L2.04 dB (RBW 100 kH	z z Mode				13.72 dBm 80130 GHz
Spectrum Ref Level Att	20.00 dBi 30 d	n Offset 1	L2.04 dB (RBW 100 kH	z Z Mode M	Auto FFT		2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 1Pk View 10 dBm 0 dBm	20.00 dBi 30 d	n Offset 3 B SWT	L2.04 dB (RBW 100 kH	z Z Mode M	Auto FFT		2.4	(∇ 13.72 dBm 80130 GHz
Spectrum Ref Level Att 1Pk View 10 dBm 0 dBm	20.00 dBi 30 d	n Offset 3 B SWT	L2.04 dB (RBW 100 kH	z Z Mode M	Auto FFT		2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 1Pk View 10 dBm 0 dBm -10 dBm	20.00 dBi 30 d	n Offset 3 B SWT	L2.04 dB (RBW 100 kH	z Z Mode M	Auto FFT		2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 1Pk View 10 dBm 0 dBm	20.00 dBi 30 d	n Offset 3 B SWT	L2.04 dB (RBW 100 kH	z Z Mode M	Auto FFT		2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 1Pk View 10 dBm 0 dBm -10 dBm	20.00 dBi 30 d	n Offset 3 B SWT	L2.04 dB (RBW 100 kH	z Z Mode M	Auto FFT		2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	20.00 dBi 30 d	n Offset 3 B SWT	L2.04 dB (RBW 100 kH	z Z Mode M	Auto FFT		2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	20.00 dBi 30 d	n Offset 1 B SWT	2.04 dB (94.8 μs (RBW 100 kH VBW 300 kH	z Mode M M	Auto FF T 1[1] 2[1]		2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	20.00 dBi 30 d	n Offset 1 B SWT	94.8 µs (RBW 100 kH VBW 300 kH	z Mode M M	Auto FF T 1[1] 2[1]		2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	20.00 dBi 30 d	n Offset 1 B SWT	2.04 dB (94.8 μs (RBW 100 kH VBW 300 kH	z Mode M M	Auto FF T 1[1] 2[1]		2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	20.00 dBi 30 d	n Offset 1 B SWT	2.04 dB (94.8 μs (RBW 100 kH VBW 300 kH	z Mode M M	Auto FF T 1[1] 2[1]		2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	20.00 dBi 30 d	n Offset 1 B SWT	2.04 dB (94.8 μs (RBW 100 kH VBW 300 kH	z Mode M M	Auto FF T 1[1] 2[1]		2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm	20.00 dBi 30 d	n Offset 1 B SWT	2.04 dB (94.8 μs (RBW 100 kH VBW 300 kH	z Mode M M	Auto FF T 1[1] 2[1]		2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 10 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm	20.00 dBa 30 d	n Offset 1 B SWT	2.04 dB (94.8 μs (RBW 100 kH VBW 300 kH	IZ Z Mode M M	Auto FF T 1[1] 2[1]		2.4 - 2.4	(▼ 13.72 dBm 80130 GHz 47.57 dBm
Spectrum Ref Level Att 10 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm Start 2.47 Marker	20.00 dBi 30 d	n Offset 1 B SWT	12.04 dB (94.8 µs (RBW 100 kH VBW 300 kH	z Mode M M	Auto FFT 1[1] 2[1]		2.4 	(♥ 13.72 dBm 80130 GHz 47.57 dBm 83500 GHz
Spectrum Ref Level ▲ Att ● 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm Start 2.47 Marker Type	20.00 dBi 30 d M1 D1 -6.280 M2 M2 GHz	n Offset 1 B SWT	12.04 dB (94.8 µs (RBW 100 kH VBW 300 kH	Z Mode M M	Auto FFT 1[1] 2[1]		2.4 - 2.4	(♥ 13.72 dBm 80130 GHz 47.57 dBm 83500 GHz
Spectrum Ref Level Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm Start 2.47 Marker Type Ref M1 M2	20.00 dBa 30 d M1 D1 -6.280 M2 M2 M2 M5 M2 1 1	n Offset 1 B SWT dBm dBm dBm dBm dBm dBm dBm	12.04 dB (94.8 µs (RBW 100 kH VBW 300 kH 300 kH 691	IZ Z Mode M M M M Sts Sts	Auto FFT 1[1] 2[1]		2.4 	(♥ 13.72 dBm 80130 GHz 47.57 dBm 83500 GHz
Spectrum Ref Level Att 1Pk View 10 dBm 0 dBm -20 dBm -20 dBm -30 dBm -30 dBm -40 dBm -50 dBm -70 dBm -70 dBm Start 2.47 Marker Type Ref M1	20.00 dBi 30 d M1 D1 -6.280 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2	m Offset 1 8 SWT	12.04 dB (94.8 µs ()))))))))))))))))))	RBW 100 kH VBW 300 kH	الا ت الا ت ال الا ت ال ال ت ال ت ال ال ت ال ت ال ت ال ت ال ت ت ت ت ت ت ت ت ت ت ت ت ت ت	Auto FFT 1[1] 2[1]		2.4 	(♥ 13.72 dBm 80130 GHz 47.57 dBm 83500 GHz

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Spectrur	n								
-	el 20.00 dB	m Offset :	12.20 dB 🧉	RBW 100 kH	z				(*
Att	30 d	B SWT	75.8 µs 🧉	VBW 300 kH	z Mode A	Auto FFT			
⊖1Pk View				· · · · ·					
					M1	[1]			11.28 dBm 40050 GMz
10 dBm				+ +	M2	[1]			47.26 dBm
0.40m								2.40	00000 GHz
0 dBm——									
-10 dBm-	D1 -8.720	dBm=====							
-20 dBm—									
-30 dBm				+ +					
-40 dBm—			M41				M3		ма
-50 dBm-	mound	munum	Musehan	mound	monor	how when	mon	method	r ≢J
-60 dBm—				+ +					
-70 dBm									
-70 ubiii									
Start 2.35	CH2			691	nts			Stor	2.405 GHz
Marker				091				atop	2.403 GHZ
Type Re	ef Trc	X-value	e	Y-value	Functi	on	Func	tion Result	. 1
M1	1	2.4040	05 GHz	11.28 dBr	n		,		
M2	1		2.4 GHz	-47.26 dBr					
M3 M4	1	2.2.2.3670	39 GHz	-47.85 dBr -44.39 dBr					
	7	210010		11105 001					
ate: 7.SE	P.2024 1	2:17:08	2DH	15_Ant6_Hi	gh_Hop_2	2480			
		2:17:08	2DH	I5_Ant6_Hi	gh_Hop_2	2480			
Spectrur	n				-	2480			
Spectrur Ref Leve	n 1 20.00 dB	m Offset :	11.99 dB 🖷	• RBW 100 kH	z				
Spectrur Ref Leve Att	n	m Offset :	11.99 dB 🖷		z	2480 Auto FFT			
Spectrur Ref Leve	n 1 20.00 dB 30 d	m Offset :	11.99 dB 🖷	• RBW 100 kH	iz iz Mode A	Auto FFT	DO		(▽
Spectrur Ref Leve Att 1Pk View	m 1 20.00 dB 30 d	m Offset :	11.99 dB 🖷	• RBW 100 kH	z	Auto FFT			
Spectrur Ref Leve Att 1Pk View	m 1 20.00 dB 30 d	m Offset :	11.99 dB 🖷	• RBW 100 kH	iz iz Mode A	Auto FFT		2.4	▼ 12.31 dBm 78970 GHz 47.65 dBm
Spectrur Ref Leve Att 1Pk View	m •I 20.00 dB 30 d	m Offset :	11.99 dB 🖷	• RBW 100 kH	z Iz Mode A M1	Auto FFT		2.4	[▽ 12.31 dBm 78970 GHz
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Spectrur Ref Leve Att 1Pk View	m •I 20.00 dB 30 d	m Offset : B SWT	11.99 dB 🖷	• RBW 100 kH	z Iz Mode A M1	Auto FFT		2.4	▼ 12.31 dBm 78970 GHz 47.65 dBm
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Spectrur Ref Leve Att 10 dBm 0 dBm -10 dBm -20 dBm	n 20.00 dB 30 d	m Offset : B SWT	11.99 dB 94.8 µs	RBW 100 kH VBW 300 kH	Z Mode 4 M1 M2	Auto FFT		2.4	▼ 12.31 dBm 78970 GHz 47.65 dBm
Spectrur Ref Leve Att 1Pk View 10 dBm -10 dBm -20 dBm -30 dBm	n 1 20.00 dB 30 d 1 7.690	m Offset : B SWT	11.99 dB е 94.8 µs е	RBW 100 kH VBW 300 kH	Z Mode 4 M1 M2	Auto FF T [1] [1]		2.4	▼ 12.31 dBm 78970 GHz 47.65 dBm 83500 GHz
Spectrur Ref Leve Att 1Pk View 10 dBm -10 dBm -20 dBm -30 dBm	n 1 20.00 dB 30 d 1 7.690	m Offset : B SWT	11.99 dB е 94.8 µs е	RBW 100 kH VBW 300 kH	Z Mode 4 M1 M2	Auto FFT		2.4	▼ 12.31 dBm 78970 GHz 47.65 dBm
Spectrur Ref Leve Att 1Pk View 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	n 1 20.00 dB 30 d 1 7.690	m Offset : B SWT	11.99 dB е 94.8 µs е	RBW 100 kH VBW 300 kH	2 Z Mode 4 M1 M2	Auto FF T [1] [1]		2.4	▼ 12.31 dBm 78970 GHz 47.65 dBm 83500 GHz
Spectrur Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm	n 1 20.00 dB 30 d 1 7.690	m Offset : B SWT	11.99 dB е 94.8 µs е	RBW 100 kH VBW 300 kH	2 Z Mode 4 M1 M2	Auto FF T [1] [1]		2.4	▼ 12.31 dBm 78970 GHz 47.65 dBm 83500 GHz
Spectrur Ref Leve Att 1Pk View 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	n 1 20.00 dB 30 d 1 7.690	m Offset : B SWT	11.99 dB е 94.8 µs е	RBW 100 kH VBW 300 kH	2 Z Mode 4 M1 M2	Auto FF T [1] [1]		2.4	▼ 12.31 dBm 78970 GHz 47.65 dBm 83500 GHz
Spectrur Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	n 1 20.00 dB 30 d 1 7.690	m Offset : B SWT	11.99 dB е 94.8 µs е	RBW 100 kH VBW 300 kH	2 Z Mode 4 M1 M2	Auto FF T [1] [1]		2.4	▼ 12.31 dBm 78970 GHz 47.65 dBm 83500 GHz
Spectrur Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	1 20.00 dB 30 c	m Offset : B SWT	11.99 dB е 94.8 µs е	RBW 100 kH VBW 300 kH	z M1 M2 M2	Auto FF T [1] [1]		2.4 - 2.4	▼ 12.31 dBm 78970 GHz 47.65 dBm 83500 GHz
Spectrur Ref Leve Att 1Pk View 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm Start 2.47 Marker	m 1 20.00 dB 30 d 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	m Offset : B SWT	11.99 dB 94.8 µs	RBW 100 kH VBW 300 kH	Z Mode 4 M1 M2	Auto FFT [1] [1] [1] [1]		2.4 	(♥ 12.31 dBm 78970 GHz 47.65 dBm 83500 GHz
Spectrur Ref Leve Att 1Pk View 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70 dBm -70 dBm Start 2.47 Marker Type Ref	m 20.00 dB 30 c M1 D1 -7.690 D1 -7.690 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2	m Offset : B SWT	11.99 dB • 94.8 µs •	RBW 100 kH VBW 300 kH MM	Z Mode A M1 M2	Auto FFT [1] [1] [1] [1]		2.4 - 2.4	(♥ 12.31 dBm 78970 GHz 47.65 dBm 83500 GHz
Spectrur Ref Leve Att 1Pk View 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -50 dBm -50 dBm -70 dBm -70 dBm Start 2.47 Marker Type Ref M1	m 20.00 dB 30 c M1 D1 -7.690 D1 -7.690 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2	m Offset : B SWT	11.99 dB = 94.8 µs = 	RBW 100 kH VBW 300 kH Soot kH	2 2 M1 M2 M2 0 0 0 0 0 0 0 0 0 0 0 0 0	Auto FFT [1] [1] [1] [1]		2.4 	(♥ 12.31 dBm 78970 GHz 47.65 dBm 83500 GHz
Spectrur Ref Leve Att 1Pk View 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70 dBm -70 dBm Start 2.47 Marker Type Ref	m 20.00 dB 30 c M1 D1 -7.690 D1 -7.690 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2	m Offset : B SWT dBm dBm dBm x-value 2.478 2.48	11.99 dB • 94.8 µs •	RBW 100 kH VBW 300 kH MM	2 2 M1 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2	Auto FFT [1] [1] [1] [1]		2.4 	(♥ 12.31 dBm 78970 GHz 47.65 dBm 83500 GHz
Spectrur Ref Leve Att 1Pk View 10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 d	M1 1 20.00 dB 30 c M1 D1 -7.690 D1 -7.690 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2	m Offset : B SWT dBm dBm dBm x-value 2.478 2.478 2.478	11.99 dB 94.8 µs 94.8 µs 94.8 µs 94.8 µs 94.8 µs 94.8 µs 97.6	RBW 100 kH VBW 300 kH 000 kH 0	2 Mode 4 M1 M2 M2 M2 M2 M2 M2 M2 M2 M2 M2	Auto FFT [1] [1] [1] [1]		2.4 	(♥ 12.31 dBm 78970 GHz 47.65 dBm 83500 GHz

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	_		5	DH5_Ant6_	_LOW_24	02			
Spectrun									
Ref Leve Att	20.00 dBr 1 30 d			RBW 100 kH VBW 300 kH		Auto FFT			
●1Pk View	00 4		1010 μ5 🧉	1011 000 10	ie mode	Adtorri			
					М	1[1]			13.38 dBm
10 dBm					M	2[1]			21740 GHz 46.38 dBm
					IVI	2[1]			40.38 uBm
0 dBm									
-10 dBm	D1 -6.620	dBm							
-20 dBm—									
-30 dBm									
MC dDee									14
-440 dBm		a all			b. p		M3	norman	M2 m
-50 dBm	m	hand	monthal	howworking	un munul	munuhun	Jus - www	- man the second	
-60 dBm									
-00 UDITI									
-70 dBm—									
Start 2.35	GHz			691	pts			Stop	2.405 GHz
Marker	6 Tun		1	M	1	•! 1	F		. 1
Type Re M1	1 1rc	2.4021		<u>Y-value</u> 13.38 dB	Func		Fund	tion Result	
M2	1		.4 GHz	-46.38 dB					
M3	1		39 GHz	-48.06 dB					
M4	1	2.351275	54 GHZ	-44.64 dB	m				
ate: 7.SE	2.2024 12	2:11:40				Measuri	ing		
Date: 7.SE	2.2024 12	2:11:40	3[DH5_Ant6_	_High_24	Measur 180			
		2:11:40	3[DH5_Ant6_	_High_24	Measuri 180	in G		
Spectrun	n					Measuri 180	ing		
Spectrum Ref Leve	n I 20.00 dBr	n Offset 1	.2.04 dB 👄	RBW 100 kł	+z				
Spectrun Ref Leve Att	n	n Offset 1	.2.04 dB 👄		+z	80 Auto FFT			
Spectrun Ref Leve Att	n I 20.00 dBr 30 d	n Offset 1	.2.04 dB 👄	RBW 100 kł	Iz Iz Mode				13.90 dBm
Spectrun Ref Leve Att	n I 20.00 dBr	n Offset 1	.2.04 dB 👄	RBW 100 kł	Hz Hz Mode M	Auto FFT		2.4	13.90 dBm 80130 GHz
Spectrun Ref Leve Att 1Pk View 10 dBm-	n I 20.00 dBr 30 d	n Offset 1	.2.04 dB 👄	RBW 100 kł	Hz Hz Mode M	Auto FFT		2.4	13.90 dBm
Spectrum Ref Leve Att 1Pk View	n I 20.00 dBr 30 d	n Offset 1 B SWT	.2.04 dB 👄	RBW 100 kł	Hz Hz Mode M	Auto FFT		2.4	13.90 dBm 80130 GHz 45.55 dBm
Spectrun Ref Leve Att 1Pk View 10 dBm-	n I 20.00 dBr 30 d	n Offset 1 B SWT	.2.04 dB 👄	RBW 100 kł	Hz Hz Mode M	Auto FFT		2.4	13.90 dBm 80130 GHz 45.55 dBm
Spectrum Ref Leve Att 1Pk View 10 dBm	n I 20.00 dBr 30 d	n Offset 1 B SWT	.2.04 dB 👄	RBW 100 kł	Hz Hz Mode M	Auto FFT		2.4	13.90 dBm 80130 GHz 45.55 dBm
Spectrum Ref Leve Att 1Pk View 10 dBm	n I 20.00 dBr 30 d	n Offset 1 B SWT	.2.04 dB 👄	RBW 100 kł	Hz Hz Mode M	Auto FFT		2.4	13.90 dBm 80130 GHz 45.55 dBm
Spectrum Ref Leve Att 1Pk View 10 dBm	n I 20.00 dBr 30 d	n Offset 1 B SWT	.2.04 dB 👄	RBW 100 kł	Hz Hz Mode M	Auto FFT		2.4	13.90 dBm 80130 GHz 45.55 dBm
Spectrum Ref Leve Att 1Pk View 10 dBm	n 1 20.00 dBr 30 d	n Offset 1 B SWT	.2.04 dB 👄	RBW 100 kł	Hz Hz Mode M	Auto FFT		2.4	13.90 dBm 80130 GHz 45.55 dBm
Spectrum Ref Leve Att 1Pk View 10 dBm	n I 20.00 dBr 30 d	n Offset 1 B SWT	2.04 dB ● 94.8 µs ●	RBW 100 kł VBW 300 kł	łz Mode M M	Auto FFT 1[1] 2[1]		2.4	13.90 dBm 80130 GHz 45.55 dBm 83500 GHz
Spectrum Ref Leve Att 1Pk View 10 dBm	n 1 20.00 dBr 30 d	n Offset 1 B SWT	2.04 dB ● 94.8 µs ●	RBW 100 kł	łz Mode M M	Auto FFT 1[1] 2[1]		2.4	13.90 dBm 80130 GHz 45.55 dBm 83500 GHz
Spectrum Ref Leve Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	n I 20.00 dBr 30 d	n Offset 1 B SWT	2.04 dB ● 94.8 µs ●	RBW 100 kł VBW 300 kł	łz Mode M M	Auto FFT 1[1] 2[1]		2.4	13.90 dBm 80130 GHz 45.55 dBm 83500 GHz
Spectrum Ref Leve Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	n I 20.00 dBr 30 d	n Offset 1 B SWT	2.04 dB ● 94.8 µs ●	RBW 100 kł VBW 300 kł	łz Mode M M	Auto FFT 1[1] 2[1]		2.4	13.90 dBm 80130 GHz 45.55 dBm 83500 GHz
Spectrum Ref Leve Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	n I 20.00 dBr 30 d	n Offset 1 B SWT	2.04 dB ● 94.8 µs ●	RBW 100 kł VBW 300 kł	łz łz Mode M	Auto FFT 1[1] 2[1]		2.4	13.90 dBm 80130 GHz 45.55 dBm 83500 GHz
Spectrum Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm	n I 20.00 dBr 30 d	n Offset 1 B SWT	2.04 dB ● 94.8 µs ●	RBW 100 kł VBW 300 kł	łz łz Mode M	Auto FFT 1[1] 2[1]		2.4	13.90 dBm 80130 GHz 45.55 dBm 83500 GHz
Spectrum Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -50 dBm -70 dBm Start 2.47	n I 20.00 dBr 30 d M1 (D1 -6.100 (M2 (M2	n Offset 1 B SWT	2.04 dB ● 94.8 µs ●	RBW 100 kł VBW 300 kł	Iz Mode M M	Auto FFT 1[1] 2[1]		2.4 - 2.4	13.90 dBm 80130 GHz 45.55 dBm 83500 GHz
Spectrum Ref Leve Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70 dBm Start 2.47 Marker	M1 01 -6.100 01 -6.100 01 -6.100 01 -6.100	m Offset 1 B SWT dBm dBm M1 www.www.	2.04 dB • 94.8 µs •	RBW 100 kł VBW 300 kł Image: start st	וז איז איז איז איז איז איז איז איז איז אי	Auto FFT 1[1] 2[1]		2.4 	13.90 dBm 80130 GHz 45.55 dBm 83500 GHz
Spectrum Ref Leve Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm Type Ref	n I 20.00 dBr 30 d M1 D1 -6.100 M2 GHz f Trc	n Offset 1 B SWT	2.04 dB ● 94.8 µs ● 	RBW 100 kł VBW 300 kł Image: start star	12 12 M M M pts Func	Auto FFT 1[1] 2[1]		2.4 - 2.4	13.90 dBm 80130 GHz 45.55 dBm 83500 GHz
Spectrum Ref Leve Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70 dBm Start 2.47 Marker	M1 01 -6.100 01 -6.100 01 -6.100 01 -6.100	n Offset 1 B SWT dBm	2.04 dB • 94.8 µs •	RBW 100 kł VBW 300 kł Image: start st	12 12 Mode M M M Pts Func m	Auto FFT 1[1] 2[1]		2.4 	13.90 dBm 80130 GHz 45.55 dBm 83500 GHz
Spectrum Ref Leve Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -50 dBm -70 dBm -70 dBm Start 2.47 Marker Type Re M1	M1 1 20.00 dBr 30 d M1 D1 -6.100 M2 GHz GHz f Trc 1	m Offset 1 B SWT	2.04 dB • 94.8 µs • • • • • • • • • • • • • • • • • • •	RBW 100 kł VBW 300 kł I	וער איז	Auto FFT 1[1] 2[1]		2.4 	13.90 dBm 80130 GHz 45.55 dBm 83500 GHz

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Spectrur	n								
Ref Leve	l 20.00 d	Bm Offset :	12.20 dB 👄	RBW 100 k	Hz				('
Att	30	dB SWT	75.8 µs 👄	VBW 300 k	Hz Mode	Auto FFT			
●1Pk View			1		N	11[1]			10.68 <u>d</u> Bm
10 dBm									28110 GHz
TO UBIII-					M	12[1]			47.00 ABM
0 dBm								2.40	00000 6442
-10 dBm-	01 .0 22	0.d8m							
-10 ubiii—	01 -9.52	o ubiii							
-20 dBm—									
-30 dBm									
-oo abiii									
-#GldBm							M3		Ma
-50 dBm	molline	menun	monor	unound	monorman	nellounio	moun	manshuor	M2 X
00 000									
-60 dBm—						+			
-70 dBm									
Start 2.35	GHz			691	pts		I	Stop	2.405 GHz
Marker									
Type Re		X-value		Y-value		tion	Fund	ction Result	
M1 M2	1	2.4028	2.4 GHz	10.68 dB -47.00 dB					
MЗ	1	2.	39 GHz	-47.87 dB	m				
M4	1	2.35151	45 GHz	-44.46 dB	m				
ate: 7.SE	P.2024	12:18:57	3DH	5 Ant6 H	igh Hop	2480			
Date: 7.SE		12:18:57	3DH	5_Ant6_H	igh_Hop_	_2480			
Spectrur	n				-	_2480			
Spectrur Ref Leve	n 1 20.00 d	Bm Offset :	11.99 dB 👄	RBW 100 k	Hz		ind		
Spectrur	n	Bm Offset :	11.99 dB 👄		Hz	_2480			The second secon
Spectrur Ref Leve Att	n 1 20.00 d	Bm Offset :	11.99 dB 👄	RBW 100 k	Hz Hz Mode				12.88 dBm
Spectrur Ref Leve Att 1Pk View M1	n 1 20.00 d 30	Bm Offset :	11.99 dB 👄	RBW 100 k	Hz Hz Mode	• Auto FFT		2.4	12.88 dBm 75960 GHz
Spectrur Ref Leve Att 1Pk View M1 10 dBm	n 1 20.00 d 30	Bm Offset :	11.99 dB 👄	RBW 100 k	Hz Hz Mode	e Auto FFT		2.4	12.88 dBm 75960 GHz 47.89 dBm
Spectrur Ref Leve Att 1Pk View M1	n 1 20.00 d 30	Bm Offset : dB SWT	11.99 dB 👄	RBW 100 k	Hz Hz Mode	• Auto FFT		2.4	12.88 dBm 75960 GHz
Spectrur Ref Leve Att 1Pk View M1 10 dBm	n 1 20.00 d 30	Bm Offset : dB SWT	11.99 dB 👄	RBW 100 k	Hz Hz Mode	• Auto FFT		2.4	12.88 dBm 75960 GHz 47.89 dBm
Spectrur Ref Leve Att 1Pk View 10 dBm 0 dBm -10 dBm	n 1 20.00 d 30	Bm Offset : dB SWT	11.99 dB 👄	RBW 100 k	Hz Hz Mode	• Auto FFT		2.4	12.88 dBm 75960 GHz 47.89 dBm
Spectrur Ref Leve Att 1Pk View 1Pk View 0 dBm	n 1 20.00 d 30	Bm Offset : dB SWT	11.99 dB 👄	RBW 100 k	Hz Hz Mode	• Auto FFT		2.4	12.88 dBm 75960 GHz 47.89 dBm
Spectrur Ref Leve Att 1Pk View 10 dBm 0 dBm -10 dBm	n 1 20.00 d 30	Bm Offset : dB SWT	11.99 dB 👄	RBW 100 k	Hz Hz Mode	• Auto FFT		2.4	12.88 dBm 75960 GHz 47.89 dBm
Spectrur Ref Leve Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	n 1 20.00 d 30	Bm Offset : dB SWT	11.99 dB 👄	RBW 100 k	Hz Hz Mode	• Auto FFT		2.4	12.88 dBm 75960 GHz 47.89 dBm
Spectrur Ref Leve Att 1Pk View M1 10 dBm 0 dBm -10 dBm -20 dBm	n	Bm Offset : dB SWT	11.99 dB 94.8 μs	RBW 100 k YBW 300 k	Hz Hz Mode	Auto FFT		2.4	12.88 dBm 75960 GHz 47.89 dBm 83500 GHz
Spectrur Ref Leve Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	n	Bm Offset : dB SWT	94.8 μs ●	RBW 100 k YBW 300 k	Hz Hz Mode	• Auto FFT		2.4	12.88 dBm 75960 GHz 47.89 dBm 83500 GHz
Spectrur Ref Leve Att 1Pk View 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	n	Bm Offset : dB SWT	11.99 dB 94.8 μs	RBW 100 k YBW 300 k	Hz Hz Mode	Auto FFT		2.4	12.88 dBm 75960 GHz 47.89 dBm 83500 GHz
Spectrur Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm	n	Bm Offset : dB SWT	11.99 dB 94.8 μs	RBW 100 k YBW 300 k	Hz Hz Mode	Auto FFT		2.4	12.88 dBm 75960 GHz 47.89 dBm 83500 GHz
Spectrur Ref Leve Att 1Pk View 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	n	Bm Offset : dB SWT	11.99 dB 94.8 μs	RBW 100 k YBW 300 k	Hz Hz Mode	Auto FFT		2.4	12.88 dBm 75960 GHz 47.89 dBm 83500 GHz
Spectrur Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -50 dBm -50 dBm -70 dBm	n 1 20.00 d 30	Bm Offset : dB SWT	11.99 dB 94.8 μs	RBW 100 k VBW 300 k	Hz Hz Mode	Auto FFT		2.4 - 2.4	12.88 dBm 75960 GHz 47.89 dBm 83500 GHz
Spectrur Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm -70 dBm	n 1 20.00 d 30	Bm Offset : dB SWT	11.99 dB 94.8 μs	RBW 100 k YBW 300 k	Hz Hz Mode	Auto FFT		2.4 - 2.4	12.88 dBm 75960 GHz 47.89 dBm 83500 GHz
Spectrur Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -50 dBm -70 dBm -70 dBm	n 1 20.00 d 30 	Bm Offset : dB SWT D dBm M M M M M M M M M	11.99 dB • 94.8 µs •	RBW 100 k VBW 300 k	Hz Hz Mode	Auto FFT		2.4 	12.88 dBm 75960 GHz 47.89 dBm 83500 GHz
Spectrur Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -50 dBm -70 dBm -70 dBm	n 1 20.00 d 30 01 -7.12 01 -7.12 0 01 -7.12 0	Bm Offset : dB SWT D dBm D dBm X-value	11.99 dB • 94.8 µs •	RBW 100 k VBW 300 k	Hz Hz Mode	Auto FFT		2.4 - 2.4	12.88 dBm 75960 GHz 47.89 dBm 83500 GHz
Spectrur Ref Leve Att 1Pk View M1 10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm M1 M2	n 1 20.00 d 30 	Bm Offset : dB SWT 0 dBm 0	11.99 dB ● 94.8 µs ● ///////////////////////////////////	RBW 100 k VBW 300 k	Hz Hz Mode	Auto FFT		2.4 	12.88 dBm 75960 GHz 47.89 dBm 83500 GHz
Spectrur Ref Leve Att 1Pk View 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -50 dBm -50 dBm -70 dBm -70 dBm Start 2.47 Marker Type Ref M1	n 1 20.00 d 30 01 -7.12 01 -7.12 0 01 -7.12 0	Bm Offset : dB SWT 0 dBm 0	11.99 dB • 94.8 µs • • • • • • • • • • • • • • • • • • •	RBW 100 k VBW 300 k	Hz Hz Mode // // // // // // // // // // // // //	Auto FFT		2.4 	12.88 dBm 75960 GHz 47.89 dBm 83500 GHz

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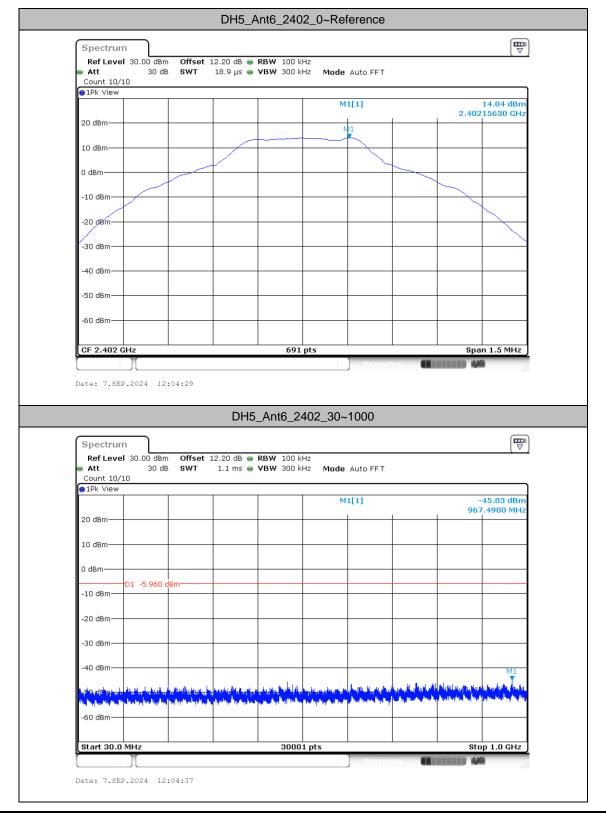
Conducted Spurious Emission

Test Result

TeetMede	Antonna		FreqRange	RefLevel	Result	Limit	Verdiet
TestMode	Antenna	Freq(MHz)	[MHz]	[dBm]	[dBm]	[dBm]	Verdict
			Reference	14.04	14.04		PASS
		2402	30~1000	14.04	-45.03	≤-5.96	PASS
			1000~26500	14.04	-36.07	≤-5.96	PASS
			Reference	13.55	13.55		PASS
DH5	Ant6	2441	30~1000	13.55	-44.87	≤-6.45	PASS
			1000~26500	13.55	-35.81	≤-6.45	PASS
			Reference	14.27	14.27		PASS
		2480	30~1000	14.27	-46	≤-5.73	PASS
			1000~26500	14.27	-35.59	≤-5.73	PASS
			Reference	13.43	13.43		PASS
		2402	30~1000	13.43	-45.78	≤-6.57	PASS
			1000~26500	13.43	-36.15	≤-6.57	PASS
			Reference	12.94	12.94		PASS
2DH5	Ant6	2441	30~1000	12.94	-45.94	≤-7.06	PASS
			1000~26500	12.94	-36.44	≤-7.06	PASS
			Reference	13.77	13.77		PASS
		2480	30~1000	13.77	-45.04	≤-6.23	PASS
			1000~26500	13.77	-35.97	≤-6.23	PASS
			Reference	13.56	13.56		PASS
		2402	30~1000	13.56	-45.99	≤-6.44	PASS
			1000~26500	13.56	-36.23	≤-6.44	PASS
			Reference	13.05	13.05		PASS
3DH5	Ant6	2441	30~1000	13.05	-45.68	≤-6.95	PASS
			1000~26500	13.05	-35.71	≤-6.95	PASS
			Reference	13.83	13.83		PASS
		2480	30~1000	13.83	-45.88	≤-6.17	PASS
			1000~26500	13.83	-36.28	≤-6.17	PASS

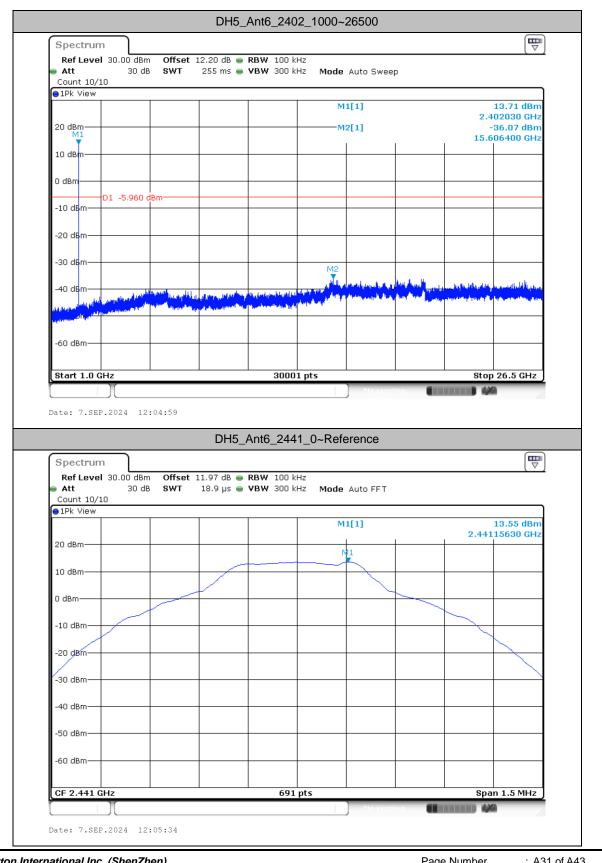


Test Graphs



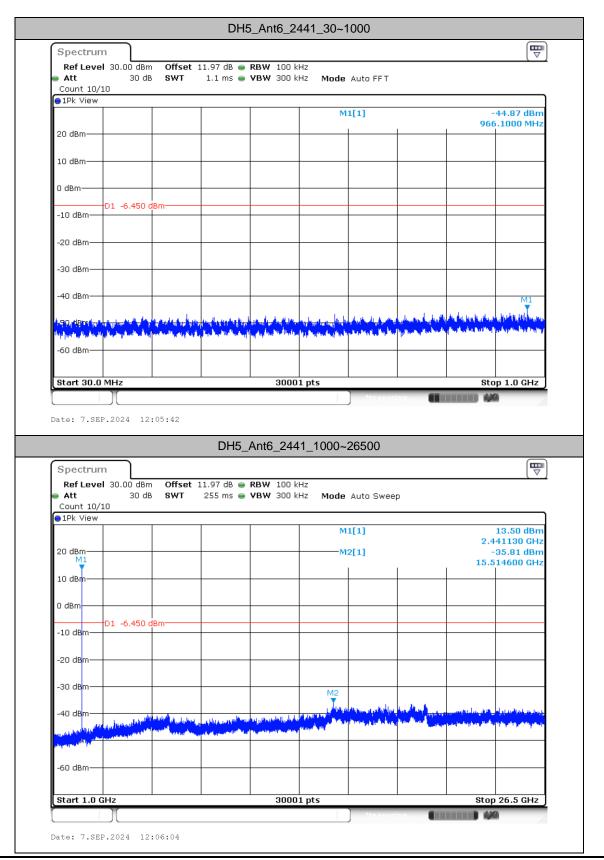
Sporton International Inc. (ShenZhen) TEL : +86-755-8637-9589 FAX : +86-755-8637-9595 FCC ID: IHDT56AT9 Page Number : A30 of A43





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