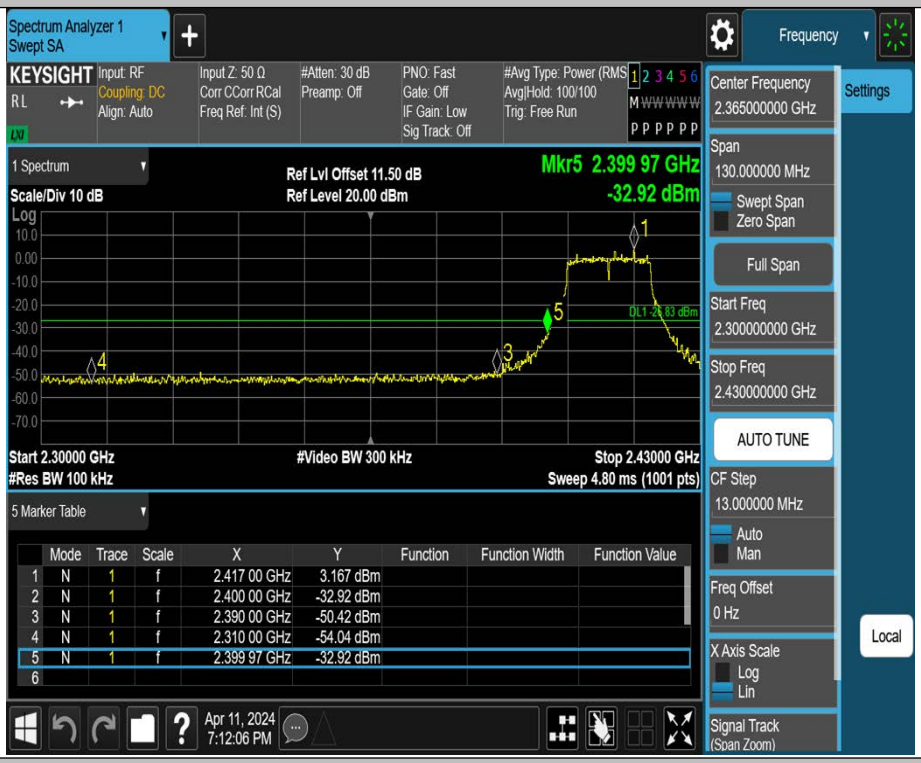
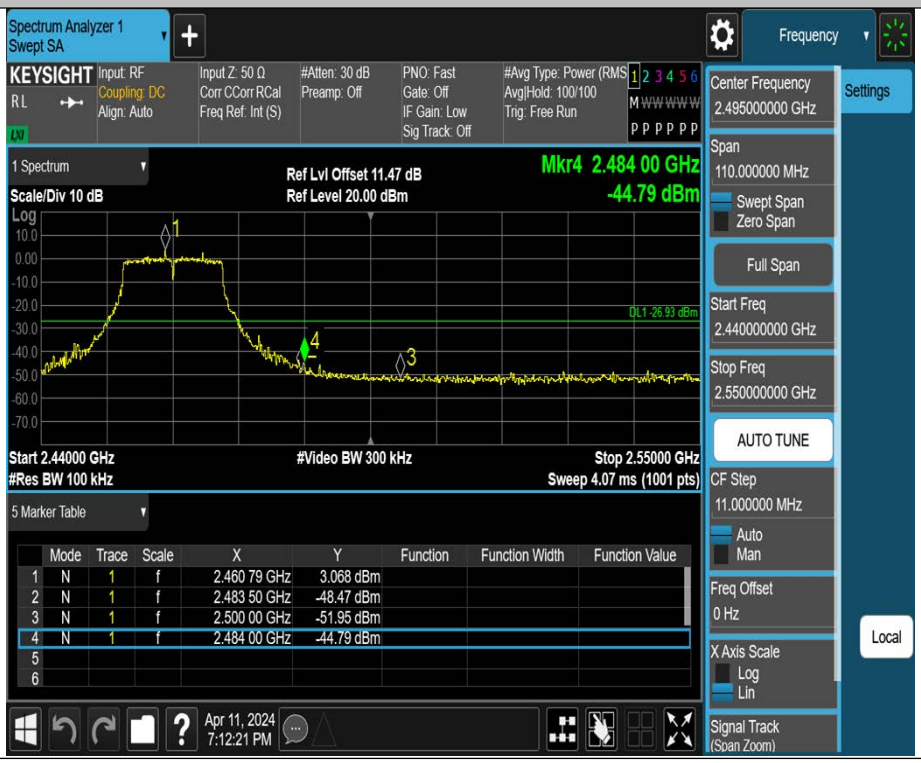
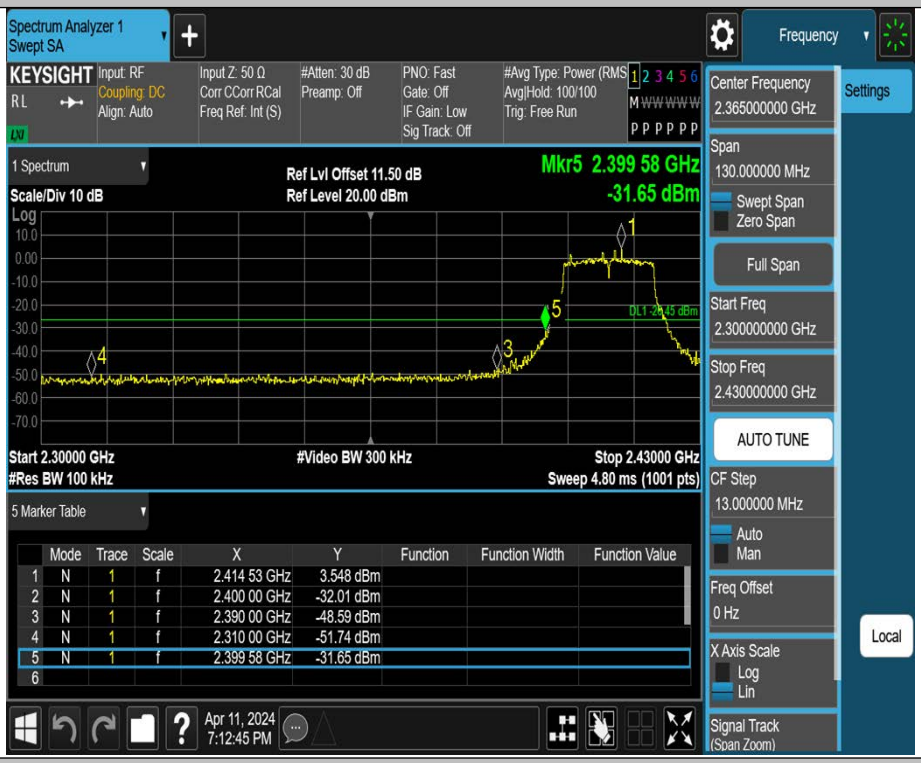
11G_Ant1_Low_2412



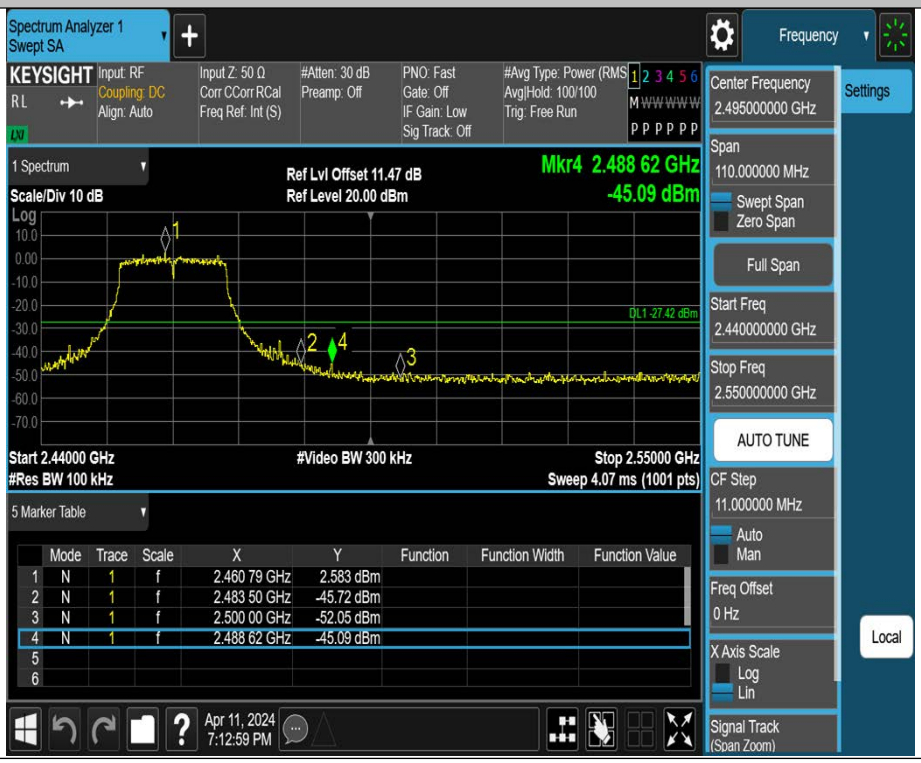
11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



3.4 6dB Bandwidth

3.4.1 Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

3.4.2 Test Procedure

Test Method	
●Conducted Measurement	○Radiated Measurement
Test Channels	
●Lowest, Middle and Highest Channel	○ Lowest and Highest Channel
Environmental conditions	
●Normal	○Normal and Extreme
Note:●:Test ○:No Test	

a) The EUT was connected to the tonscend test system, and the spectrum analyser is set as follow:

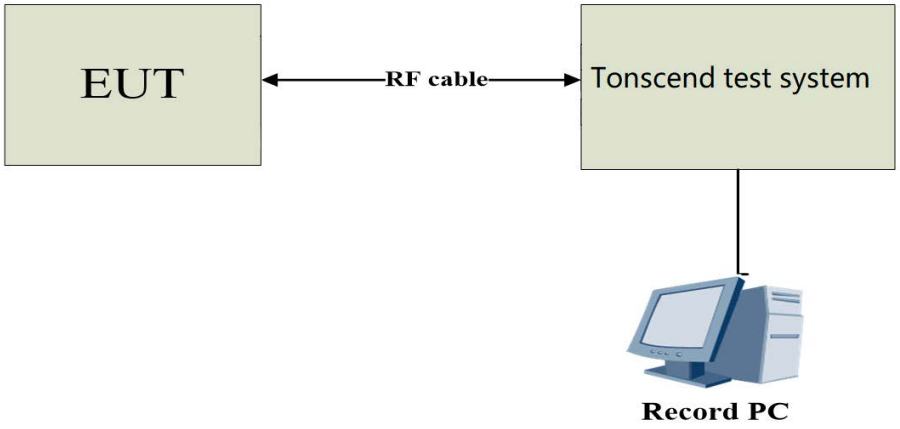
Centre Frequency	The centre frequency of the channel under test
RBW	100kHz
VBW	300kHz
Frequency span	2x Nominal Channel Bandwidth
Detector Mode	Peak
Trace Mode	Max Hold
Sweep Time	Auto Couple

b) Wait for the trace to stabilize then find the peak value of the trace and place the analyser marker on this peak.

c) Use the -6dB bandwidth function of the spectrum analyser to measure the 6dB Bandwidth of the EUT. This value shall be recorded.

d) Make sure that the power envelope is sufficiently above the noise floor of the analyser to avoid the noise signals left and right from the power envelope being taken into account by this measurement.

3.4.3 Test Setup



3.4.4 Test Result

DTS Bandwidth

Test Mode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.080	2407.520	2416.600	0.5	PASS
		2437	8.040	2433.040	2441.080	0.5	PASS
		2462	9.000	2457.560	2466.560	0.5	PASS
11G	Ant1	2412	16.360	2403.880	2420.240	0.5	PASS
		2437	16.280	2428.920	2445.200	0.5	PASS
		2462	16.360	2453.880	2470.240	0.5	PASS
11N20SISO	Ant1	2412	17.560	2403.280	2420.840	0.5	PASS
		2437	17.160	2428.640	2445.800	0.5	PASS
		2462	17.280	2453.280	2470.560	0.5	PASS

11B_Ant1_2412

11B_Ant1_2437

11B_Ant1_2462

11G_Ant1_2412

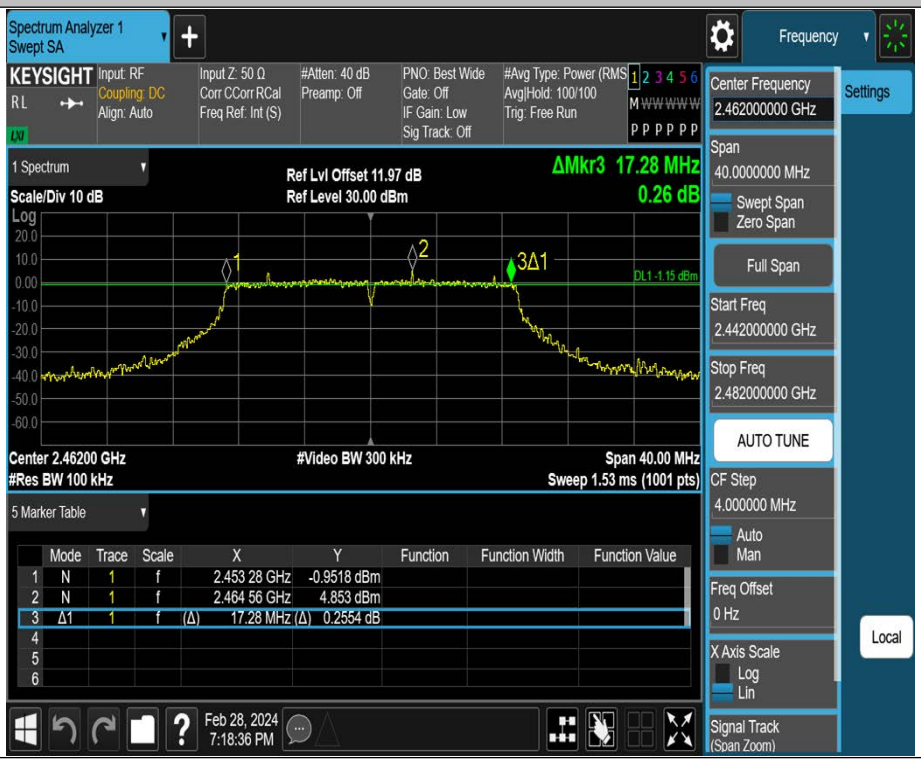
11G_Ant1_2437

11G_Ant1_2462

11N20SISO_Ant1_2412

11N20SISO_Ant1_2437

11N20SISO_Ant1_2462



Occupied Channel Bandwidth

Test Mode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	14.150	2404.9699	2419.1199	---	---
		2437	14.085	2430.0058	2444.0908	---	---
		2462	14.084	2454.9857	2469.0697	---	---
11G	Ant1	2412	17.131	2403.5134	2420.6444	---	---
		2437	17.152	2428.4506	2445.6026	---	---
		2462	17.042	2453.5066	2470.5486	---	---
11N20SISO	Ant1	2412	18.226	2402.9446	2421.1706	---	---
		2437	18.236	2427.9404	2446.1764	---	---
		2462	18.241	2452.9288	2471.1698	---	---

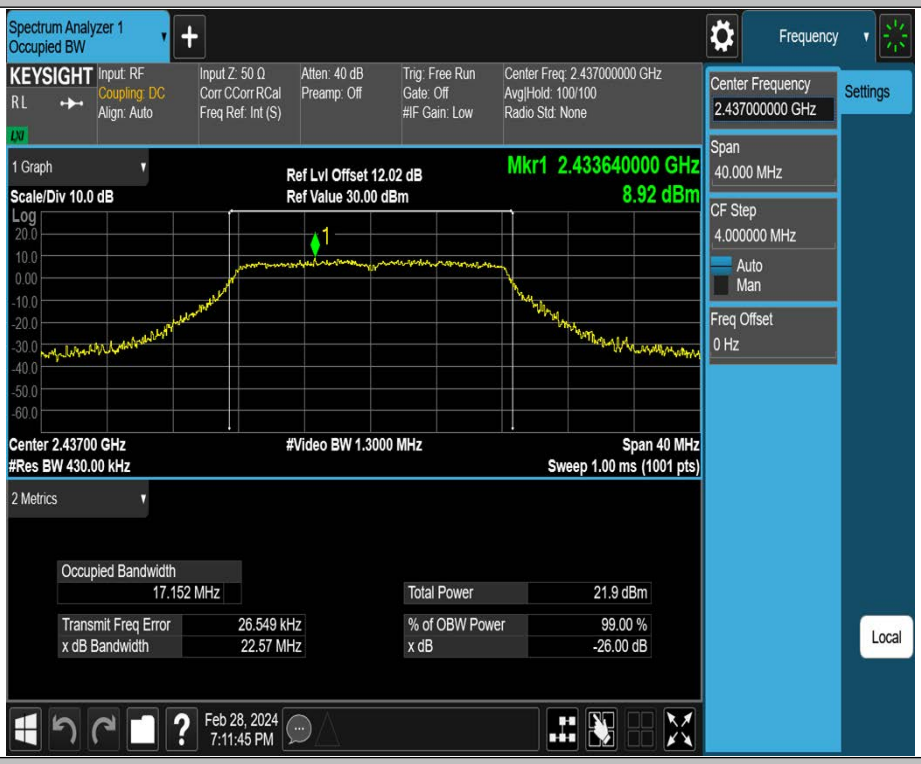
11B_Ant1_2412

11B_Ant1_2437

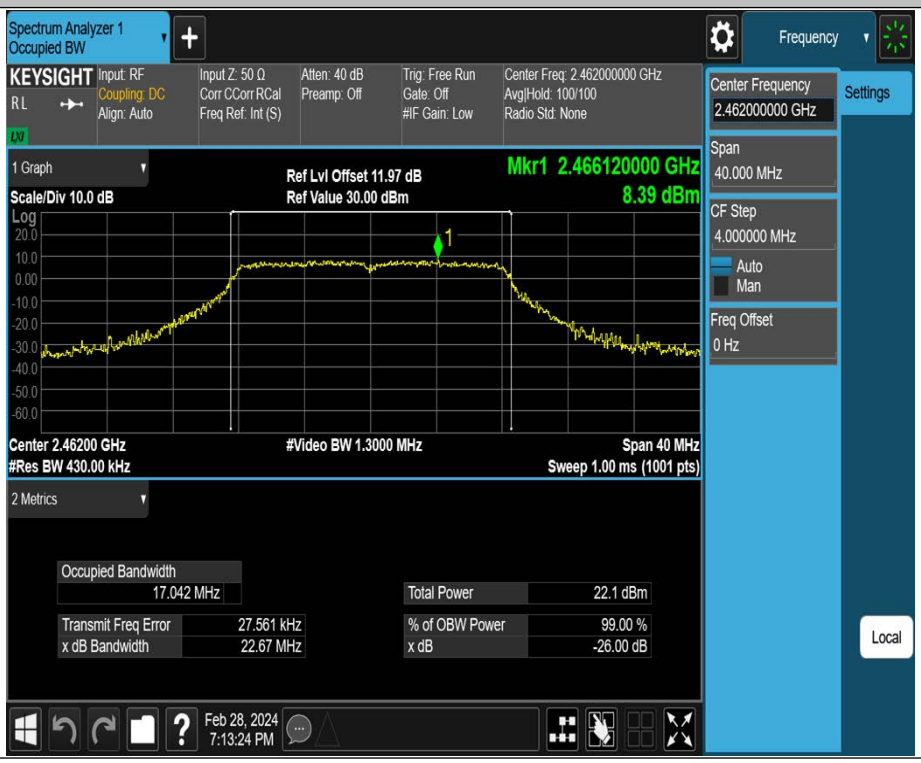
11B_Ant1_2462

11G_Ant1_2412

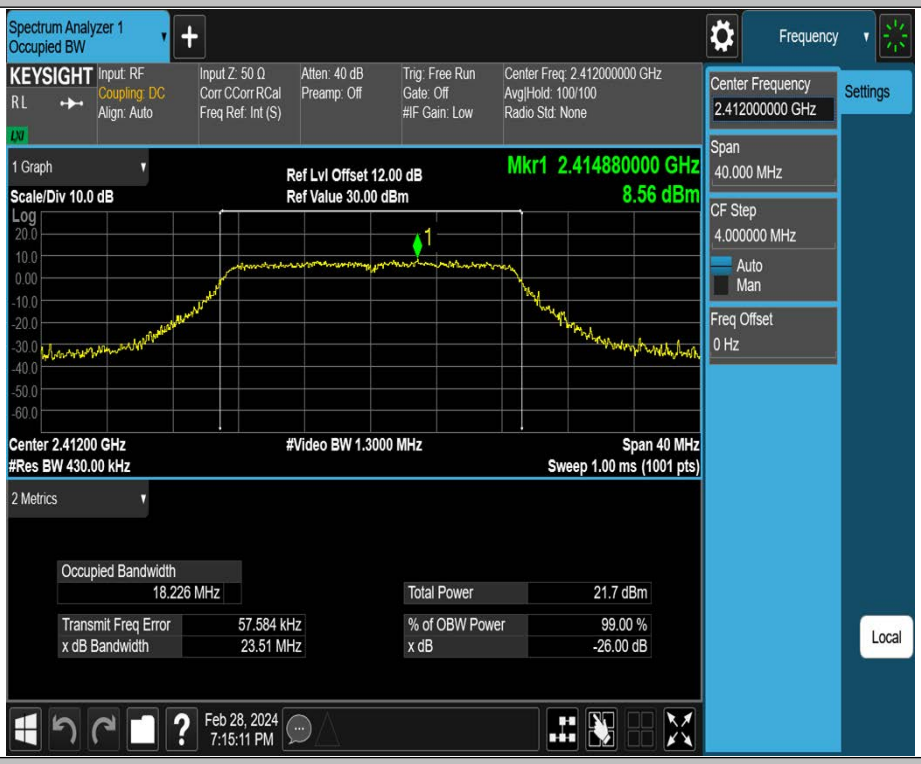
11G_Ant1_2437



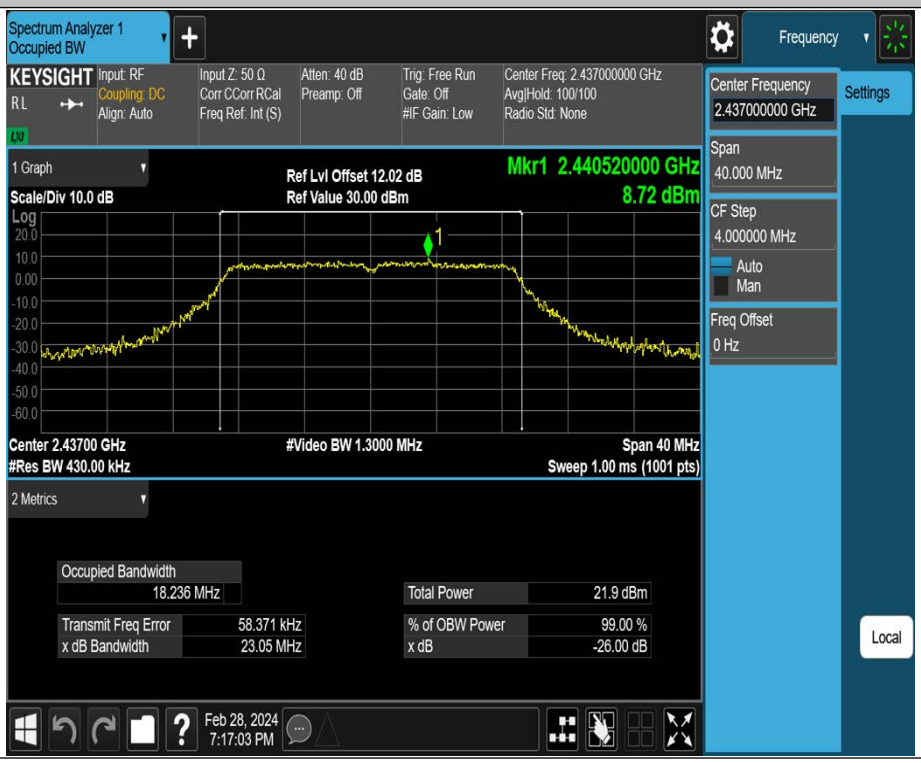
11G_Ant1_2462



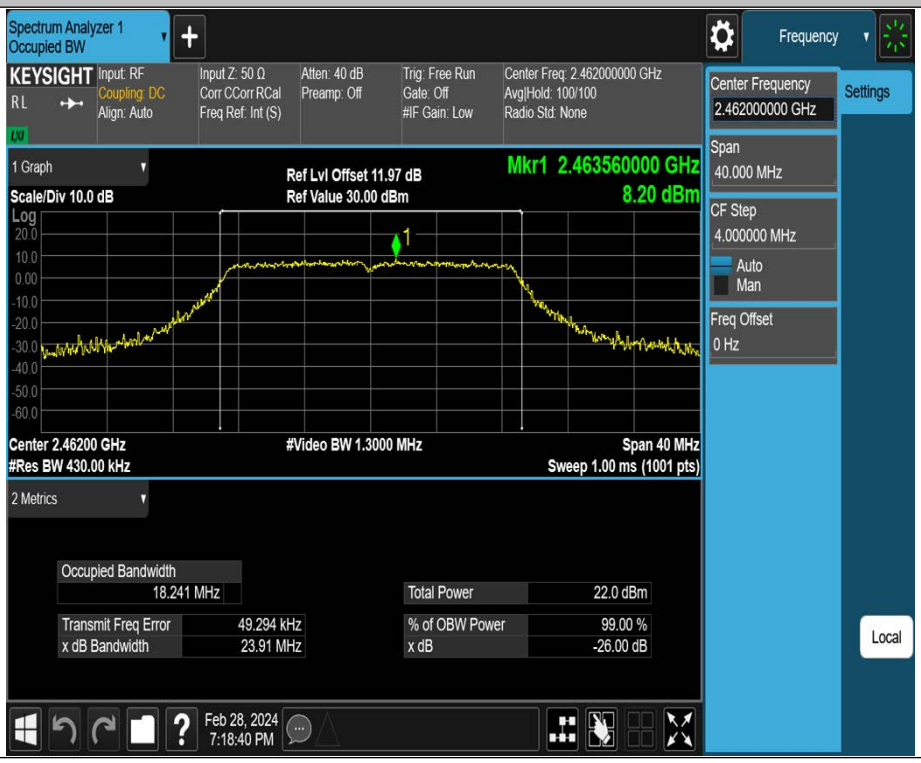
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



3.5 Maximum conducted output power

3.5.1 Limit

For systems using digital modulation in the 2400~2483.5MHz, The Maximum output Power shall not exceed 1W(30dBm)

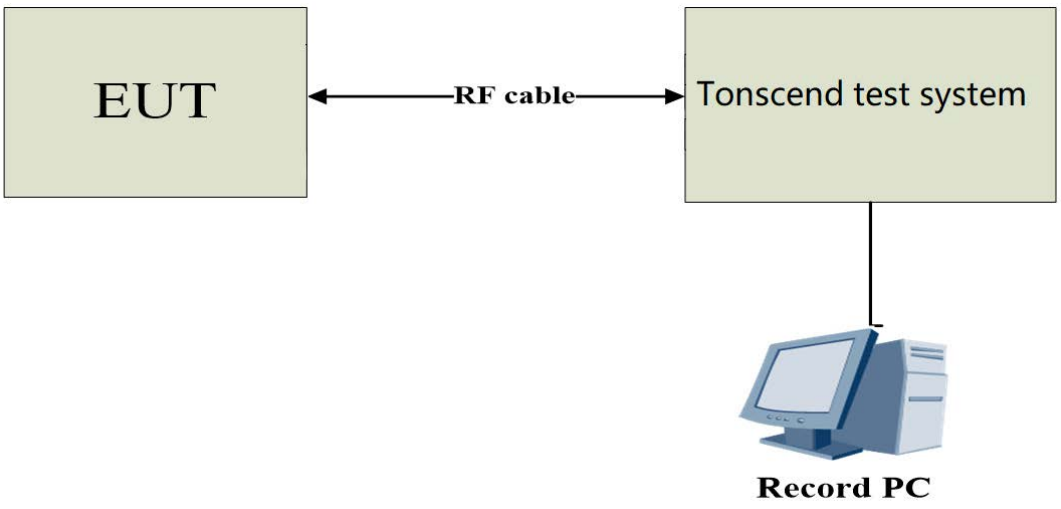
3.5.2 Test Procedure

Test Method	
●Conducted Measurement	○Radiated Measurement
Test Channels	
●Lowest, Middle and Highest Channel	○ Lowest and Highest Channel
Environmental conditions	
●Normal	○Normal and Extreme
Note:●:Test ○:No Test	

a) The EUT was directly connected to the tonscend test system and antenna output port as show in the block diagram below.

b) The maximum conducted output power was performed in accordance with method 11.9.2.3 (for average power) of ANSI C63.10-2013.

3.5.3 Test Setup



3.5.4 Table of Parameters of Text Software Setting

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

For Power setting value

Test Mode	Power Level Setting defined by Manufacturer		
Test Software Version	UI_mptool		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	84	84	84
IEEE 802.11g	90	90	90
IEEE 802.11n(20)	90	90	90

3.5.5 The Result

Test Mode	Antenna	Frequency[MHz]	Maximum conducted output Power [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	17.49	≤30.00	PASS
		2437	17.56	≤30.00	PASS
		2462	17.77	≤30.00	PASS
11G	Ant1	2412	15.68	≤30.00	PASS
		2437	15.99	≤30.00	PASS
		2462	16.08	≤30.00	PASS
11N20SISO	Ant1	2412	15.63	≤30.00	PASS
		2437	15.90	≤30.00	PASS
		2462	15.96	≤30.00	PASS

Note: The Duty Cycle Factor is compensated in the test system

3.6 Power Spectral Density

3.6.1 Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmitting.

3.6.2 Test Procedure

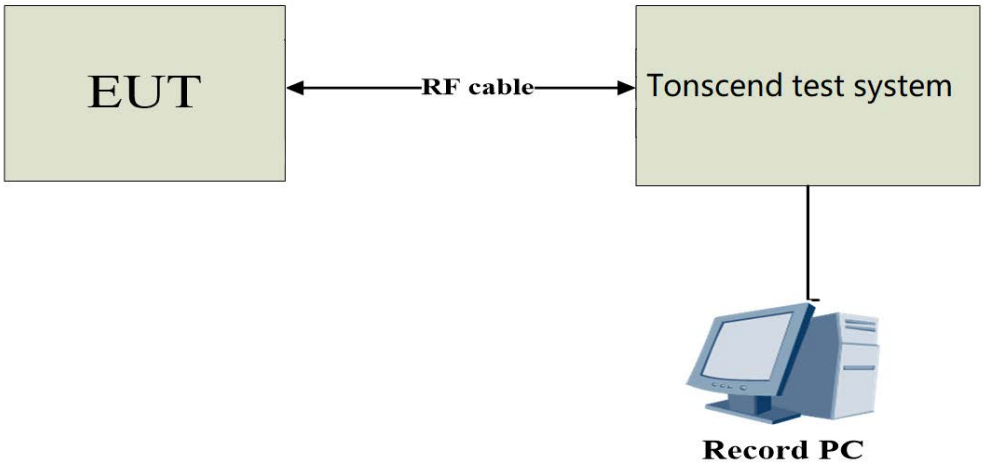
Test Method	
●Conducted Measurement	○Radiated Measurement
Test Channels	
●Lowest, Middle and Highest Channel	○ Lowest and Highest Channel
Environmental conditions	
●Normal	○Normal and Extreme
Note:●:Test ○:No Test	

a) The EUT was directly connected to the tonscend test system and antenna output port as show in the block diagram below.

b) Spectrum analyser settings as following:

Spectrum Parameters	Setting
Span Frequency	1.5 times the DTS bandwidth
RBW	3 kHz
VBW	10 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

3.6.3 Test Setup

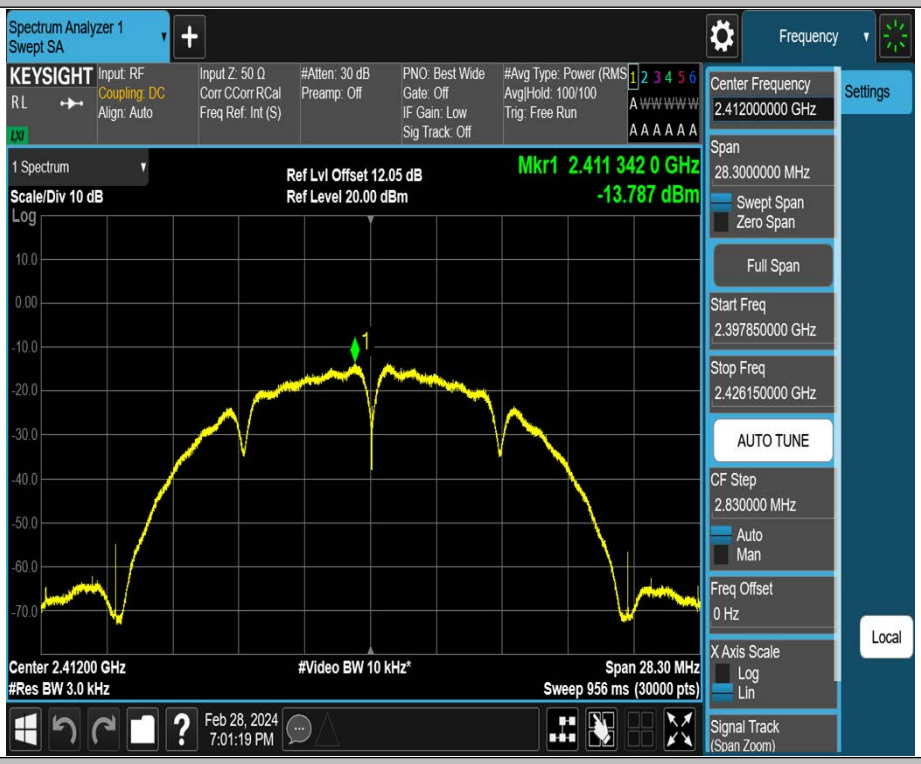


3.6.4 The Result

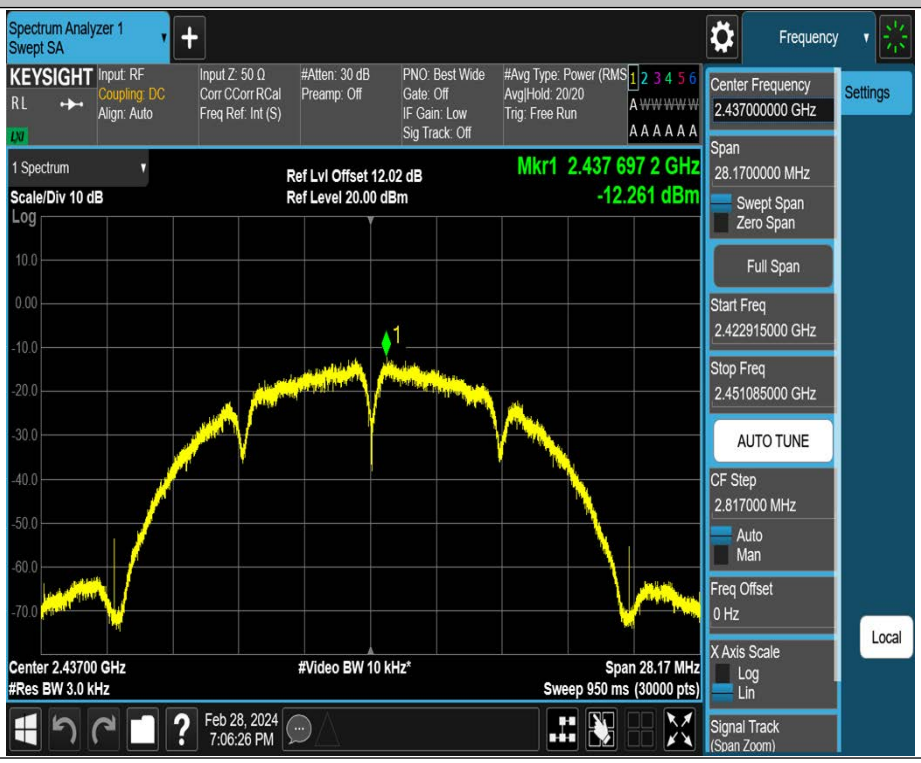
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-13.79	≤8.00	PASS
		2437	-12.26	≤8.00	PASS
		2462	-12.00	≤8.00	PASS
11G	Ant1	2412	-16.39	≤8.00	PASS
		2437	-16.10	≤8.00	PASS
		2462	-16.71	≤8.00	PASS
11N20SISO	Ant1	2412	-17.29	≤8.00	PASS
		2437	-16.77	≤8.00	PASS
		2462	-16.98	≤8.00	PASS

Note: The Duty Cycle Factor is compensated in the test system

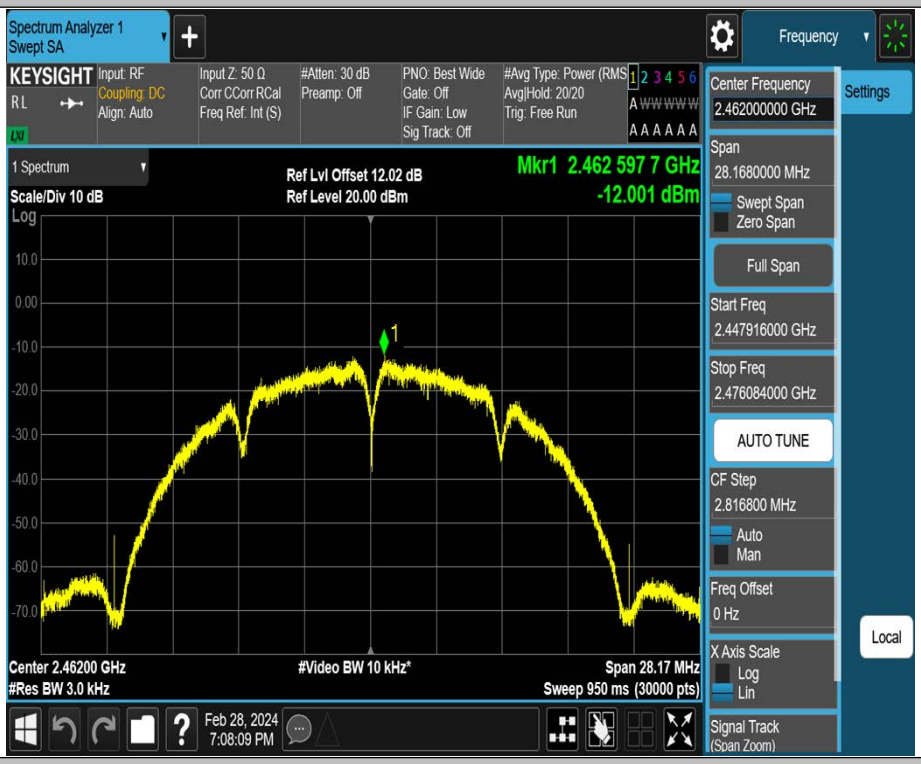
11B_Ant1_2412



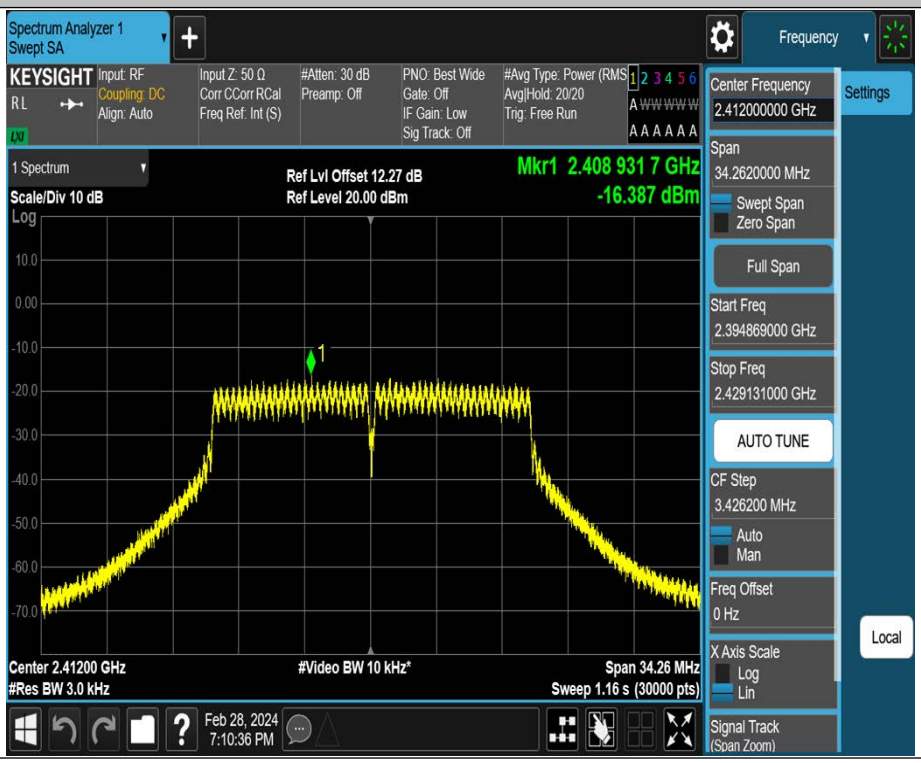
11B_Ant1_2437



11B_Ant1_2462



11G_Ant1_2412



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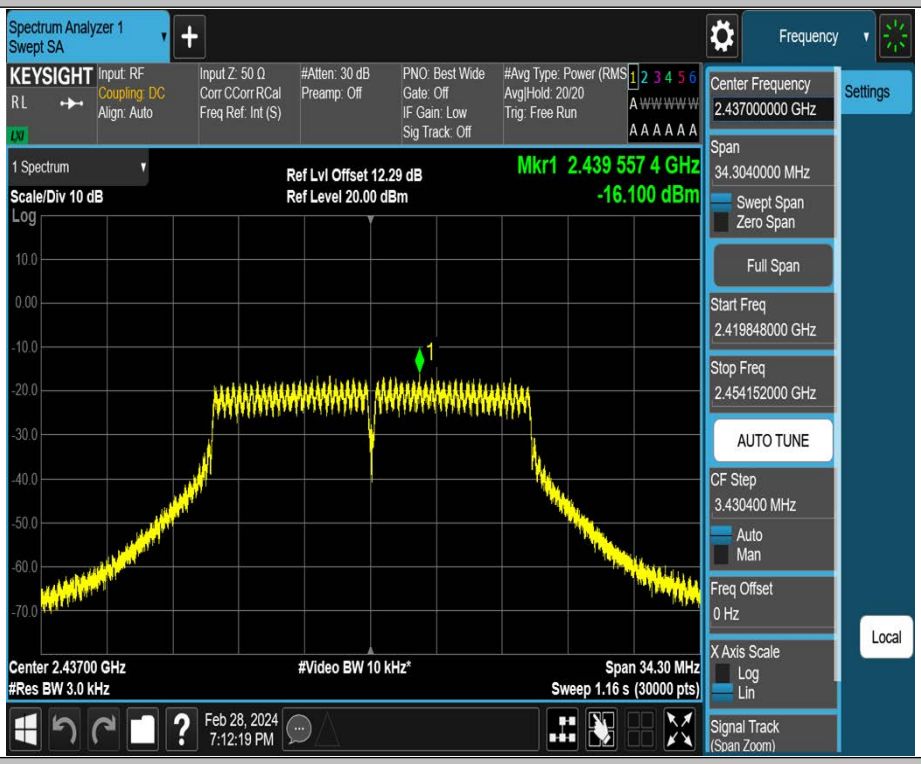
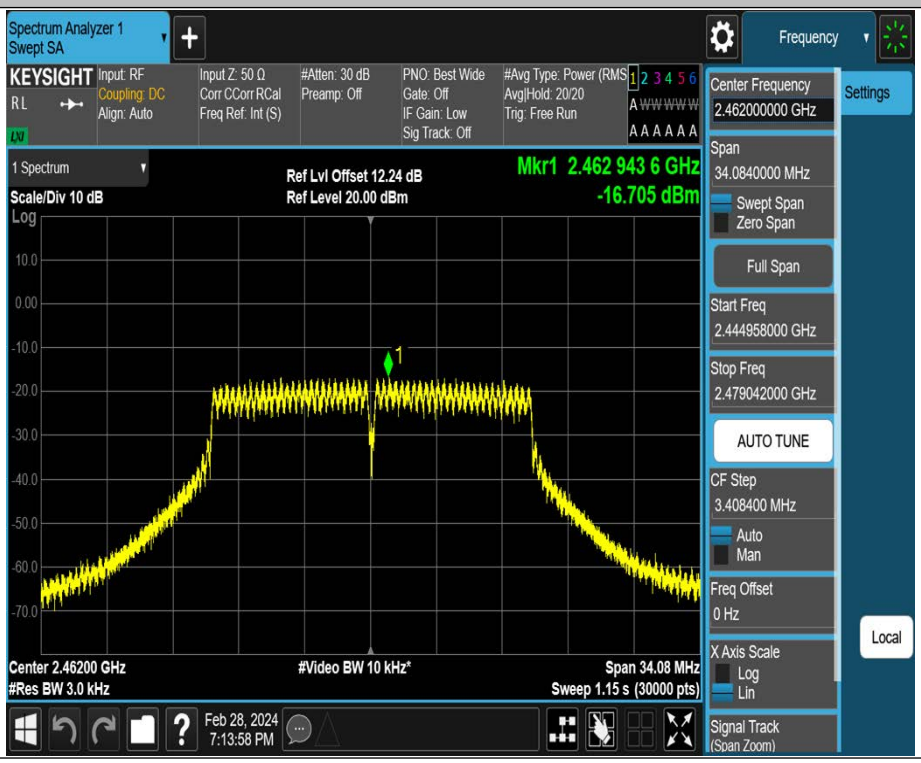


11G_Ant1_2462



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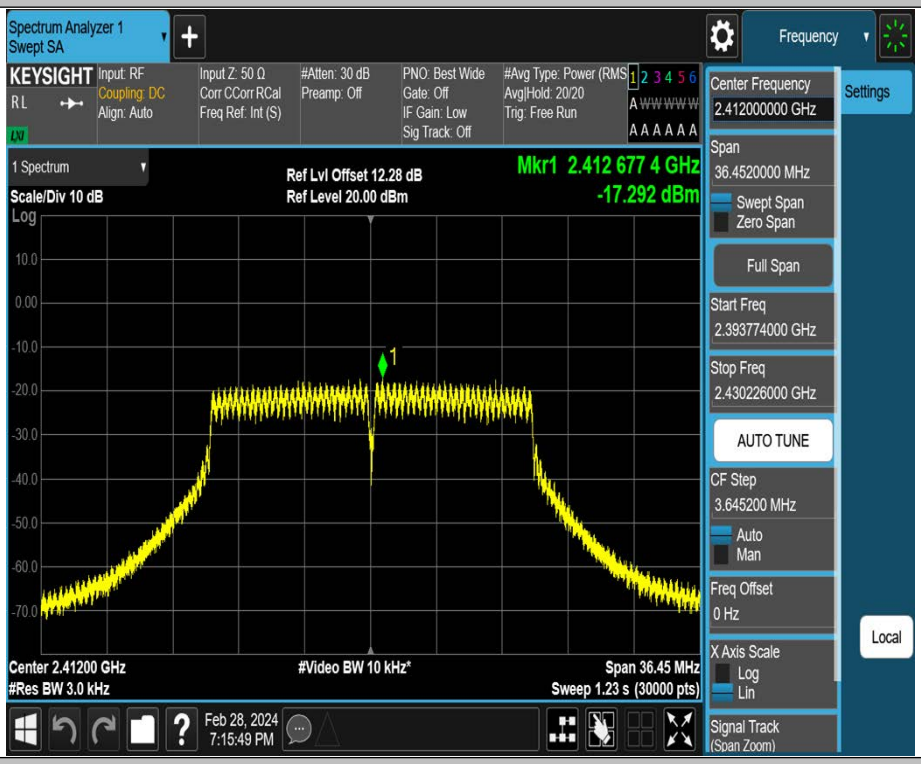
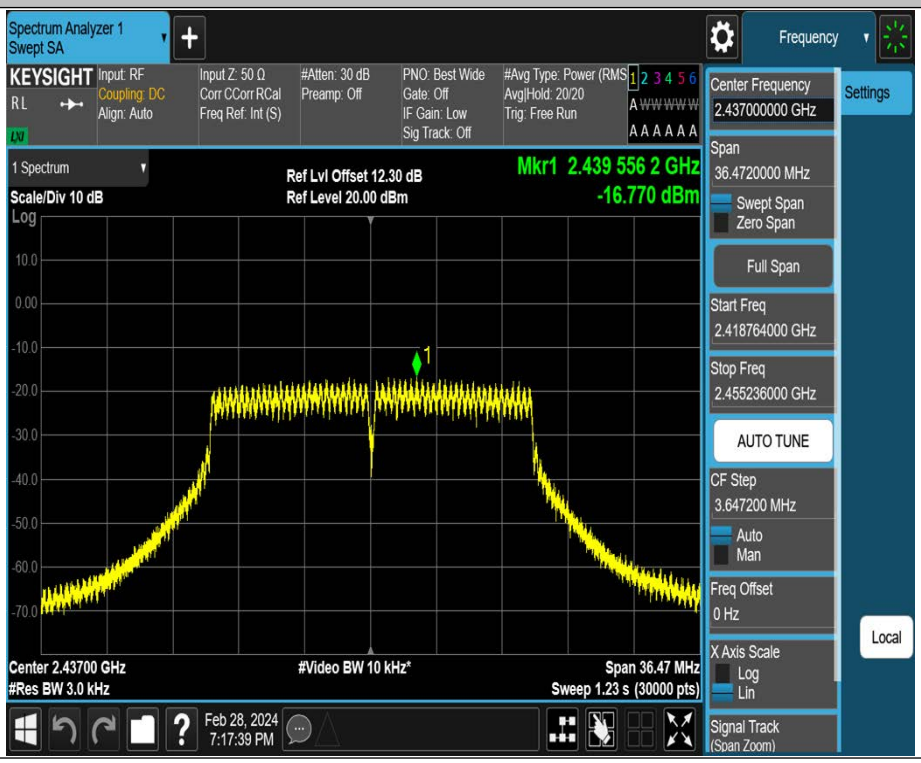


11N20SISO_Ant1_2437



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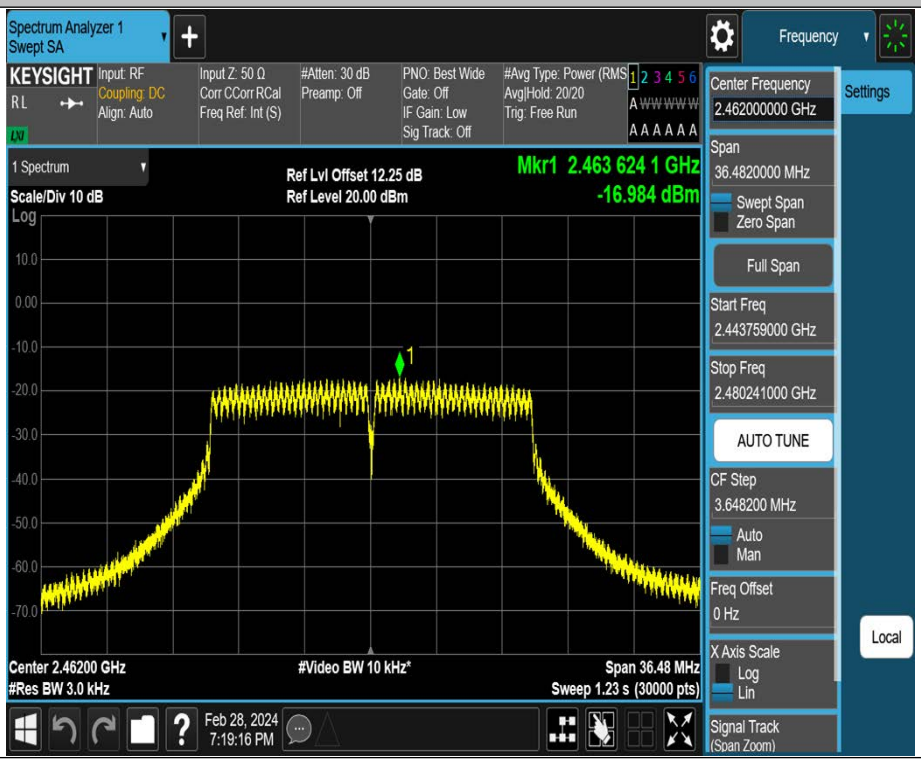

Statement

1. The report is invalid without the official seal or special seal of Shenzhen Haiyun Standard Technology Co., Ltd. (hereinafter referred to as the unit).
2. The report is invalid without the signature of the approver.
3. The report is invalid if altered arbitrarily.
4. The report shall not be partially copied without the written approval of the unit.
5. The reported test results are only valid for the tested samples.
6. If there is any objection to the test report, it shall be submitted to the test unit within 15 days from the date of receiving the report, and the overdue shall not be accepted.

Shenzhen Haiyun Standard Technology Co., Ltd.

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Tel: 0755-26024411

Email: service@hy-lab.cn

End of Test Report