FCC - TEST REPORT

Report Number	:	**68.910.23.0059.01**	Date of Issue:	2023-09-26
Model	:	**EV3420**		
Product Type	:	Robot Vacuum Cleaner		
Applicant	:	Fengcheng Epro Smart Technology Co.,Ltd		
Address	:	High-end Equipment Manufacturing No. 4 Plant, Fengcheng High-tech Industrial Development Zone, Yichun City, Jiangxi Province, China		
Manufacturer	:	Fengcheng Epro Smart Technology Co.,Ltd		
Address	:	High-end Equipment Manufacturing No. 4 Plant, Fengcheng High-tech Industrial Development Zone, Yichun City, Jiangxi Province, China		
Test Result	:	■ **Positive** ☐ **Negative**		
Total pages including Appendices	:	**63**		

Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation chapter A-3.4.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

1 Table of Contents

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

2 Details about the Test Laboratory

Details about the Test Laboratory
Test Site 1

Company name:	TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch Building 12&13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District, Shenzhen, 518052 China
FCC Designation Number:	CN5009
FCC Registration No.:	514049
Telephone:	86 755 8828 6998
Fax:	86 755 8828 5299

3 Description of the Equipment under Test

Product:	Robot Vacuum Cleaner
Model no.:	EV3420
FCC ID:	2BCXJEV3420
Ratings:	Robot Vacuum Cleaner: Input: 19VDC, 0.6A Rated voltage: 14.4VDC Rated power: 45W Power supply (SA182V-190060U): Input: 100-240VAC, 50/60Hz, 0.4A Output: 19VDC, 0.6A
RF Transmission Frequency:	2412MHz-2462MHz
No. of Operated Channel:	11 for 802.11b/g/n20 7 for 802.11n40
Modulation:	802.11b: CCK, DSSS 802.11g/n20/n40: BPSK, QPSK, 16-QAM, 64-QAM
Antenna Type:	PCB antenna
Antenna Gain:	3.8 dBi Max.
Description of the EUT:	The EUT is a Robot Vacuum Cleaner supports 2.4G WIFI function.

NOTE 1: The above EUT's information is declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2021 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators

All the test methods were according to KDB558074 D01 v05r02 DTS Measurement Guidance and ANSI C63.10 (2013).

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

5 Summary of Test Results

Technical Requirements			
FCC Part 15 Subpart C 10-1-2021 Edition			
Test Condition		Test Result	Test Site
§15.207	Conducted emission AC power port	Pass	Site 1
§15.247 (b) (3)	Conducted output power	Pass	Site 1
§15.247(e)	Power spectral density	Pass	Site 1
§15.247(a)(2)	6dB bandwidth	Pass	Site 1
§15.247(a)(1)	20dB Occupied bandwidth	N/A	--
§15.247(a)(1)	Carrier frequency separation	N/A	--
§15.247(a)(1)(iii)	Number of hopping frequencies	N/A	--
§15.247(a)(1)(iii)	Dwell Time	N/A	--
§15.247(d)	Spurious RF conducted emissions	Pass	Site 1
§15.247(d)	Band edge	Pass	Site 1
§15.247(d) & §15.209 & §15.205	Spurious radiated emissions for transmitter	Pass	Site 1
§15.203	Antenna requirement	Pass See note 1	--

Remark 1: N/A – Not Applicable.
Note 1: The EUT uses a PCB antenna, which gain is 3.8dBi. In accordance to §15.203, it is considered sufficiently to comply with the provisions of this section.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: 2BCXJEV3420, complies with Section 15.207, 15.209, 15.205, 15.247 of the FCC Part 15 Subpart C 10-1-2021 Edition.

SUMMARY:

All tests according to the regulations cited on page 6 were

■ - Performed

☐ - **Not** Performed

The Equipment under Test

■ - **Fulfills** the general approval requirements.

☐ - **Does not** fulfill the general approval requirements.

Sample Received Date: 2023-09-06

Testing Start Date: 2023-09-11

Testing End Date: 2023-09-26

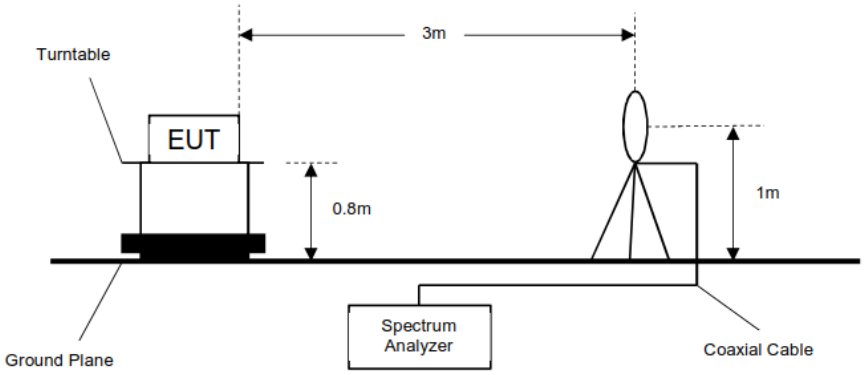
- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch –

Reviewed by:	Prepared by:	Tested by:
Jessie He Project Manager	Myron Yu Project Engineer	Carry Cai Test Engineer

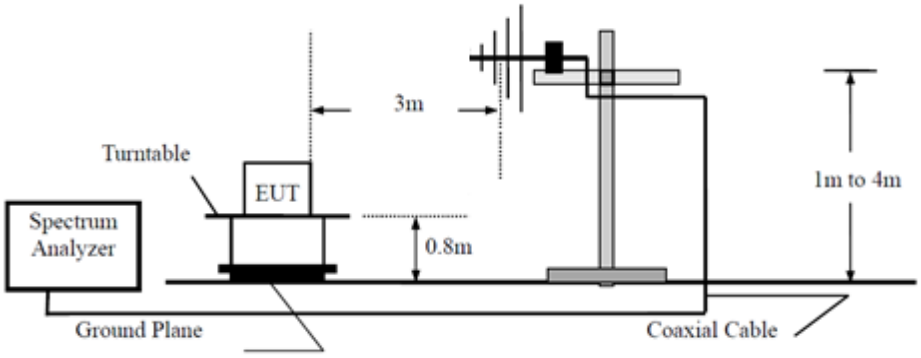
7 Test Setups

7.1 Radiated test setups

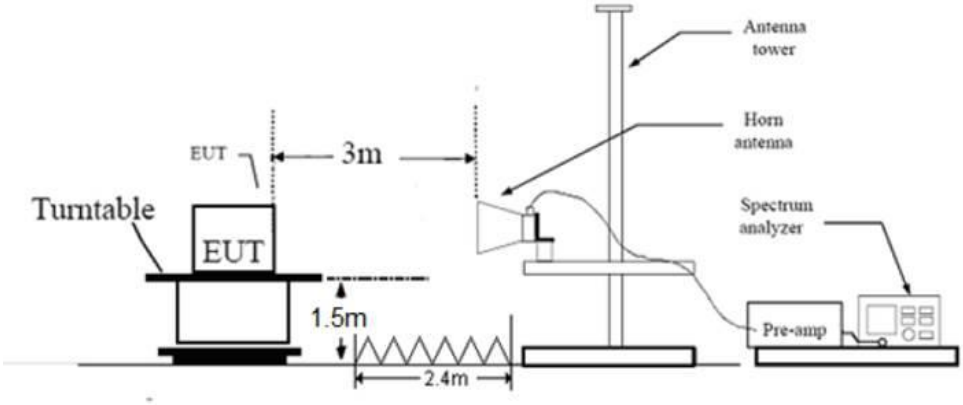
9kHz - 30MHz



Below 1GHz

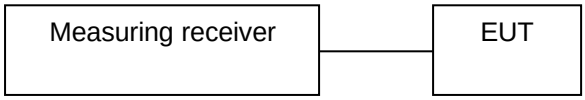


Above 1GHz

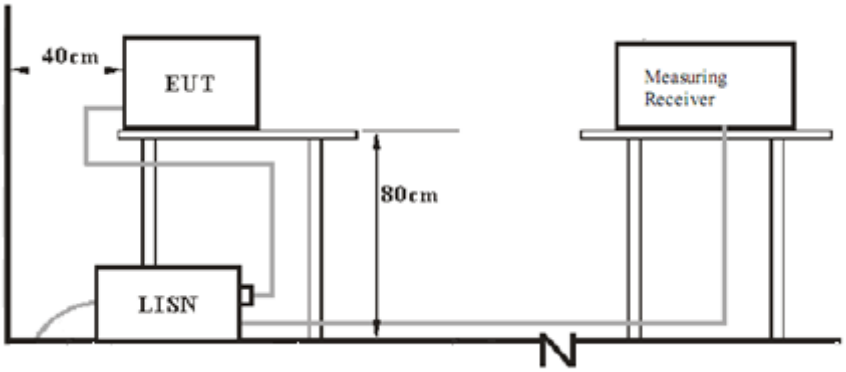


TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

7.2 Conducted RF test setups



7.3 AC Power Line Conducted Emission test setups



TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

8 Systems test configuration

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.	S/N
LAPTOP	LENOVO	X240	L34015282

The system was configured to channel 1, 6, and 11 for the test.

Test Software Information:

Test Software Version	Rft script	
Mode	Setting TX Power	Packet Type
802.11b	Power Gain: -1.5	11b LONG 1 Mbps
802.11g	Power Gain: -1.5	11g 6 Mbps
802.11n HT20	Power Gain: -1.5	MCS0 6.5 Mbps
802.11n HT40	Power Gain: -1.5	MCS0 13.5 Mbps

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

9 Technical Requirement

9.1 Conducted Emission

Test Method

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. Both sides of AC line were checked for maximum conducted interference.
6. The frequency range from 150 kHz to 30 MHz was searched.
7. 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.

Limit

According to §15.207, conducted emissions limit as below:

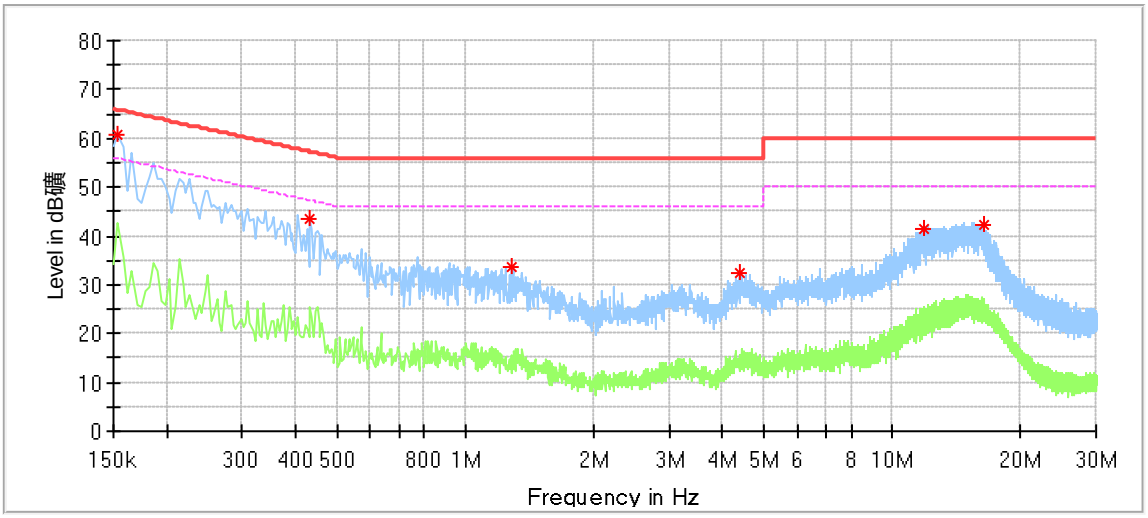
Frequency MHz	QP Limit dBµV	AV Limit dBµV
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

*Decreasing linearly with logarithm of the frequency

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

Conducted Emission

Product Type	:	Robot Vacuum Cleaner
M/N	:	EV3420
Operating Condition	:	WIFI transmission
Test Specification	:	Power Line, Live
Comment	:	AC 120V/60Hz



Critical_Freqs

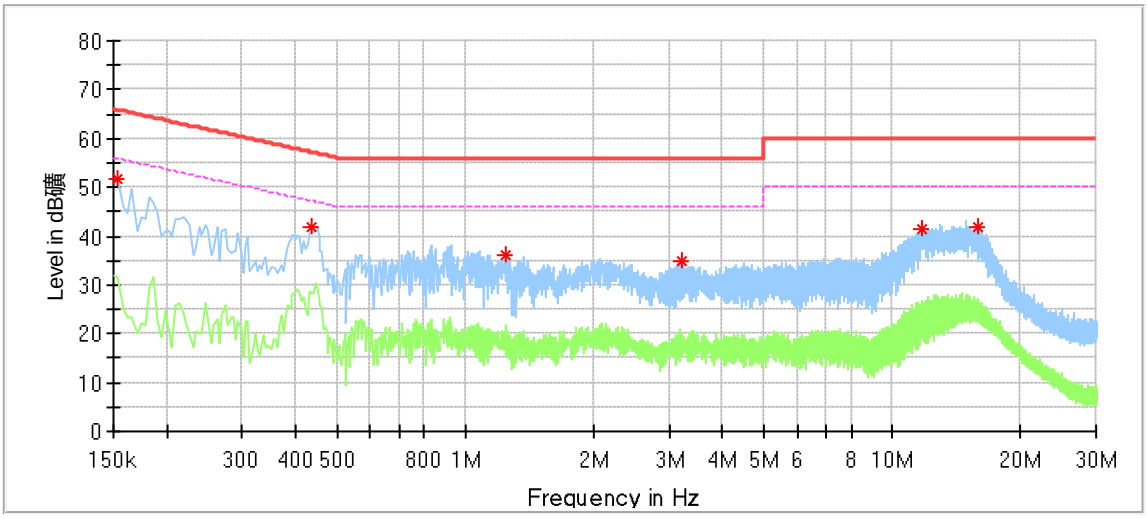
Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.154000	60.57	---	65.78	5.21	L1	9.52
0.434000	43.47	---	57.18	13.70	L1	9.58
1.282000	33.56	---	56.00	22.44	L1	9.61
4.374000	32.44	---	56.00	23.56	L1	9.72
11.890000	41.36	---	60.00	18.64	L1	9.97
16.462000	42.39	---	60.00	17.61	L1	10.00

Remark:
Level=Reading Level + Correction Factor
Correction Factor=Cable Loss + LISN Factor
(The Reading Level is recorded by software which is not shown in the sheet)

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

Conducted Emission

Product Type	:	Robot Vacuum Cleaner
M/N	:	EV3420
Operating Condition	:	WIFI transmission
Test Specification	:	Power Line, Neutral
Comment	:	AC 120V/60Hz



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.154000	51.57	---	65.78	14.21	N	9.55
0.438000	42.04	---	57.10	15.06	N	9.61
1.242000	36.18	---	56.00	19.82	N	9.63
3.202000	34.87	---	56.00	21.13	N	9.69
11.706000	41.46	---	60.00	18.54	N	9.98
15.834000	41.92	---	60.00	18.08	N	9.99

Remark:
Level=Reading Level + Correction Factor
Correction Factor=Cable Loss + LISN Factor
(The Reading Level is recorded by software which is not shown in the sheet)

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

9.2 Conducted output power

Test Method

1. The EUT was placed on 0.8m height table, the RF output of EUT was connected to the power meter by RF cable. The path loss was compensated to the results for each measurement.
2. Setting the highest output power level of the EUT
3. Record the power value.

Limits

According to §15.247 (b) (3), conducted output power limit as below:

Frequency Range MHz	Limit W	Limit dBm
2400-2483.5	≤1	≤30

Test results

Test Mode	Channel (MHz)	Conducted Output Power (dBm)	Result
11B	2412	14.10	Pass
	2437	14.00	Pass
	2462	14.10	Pass
11G	2412	14.30	Pass
	2437	14.40	Pass
	2462	14.20	Pass
11N20SISO	2412	14.30	Pass
	2437	14.30	Pass
	2462	14.20	Pass
11N40SISO	2422	13.20	Pass
	2437	13.30	Pass
	2452	13.30	Pass

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

9.3 6dB bandwidth

Test Method

1. The RF output of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
   RBW=100KHz, VBW≥3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Use the automatic bandwidth measurement capability of an instrument, use the X dB bandwidth mode with X set to 6 dB.
5. Allow the trace to stabilize, record the 6 dB Bandwidth value.

Limit

Limit [kHz]
≥500

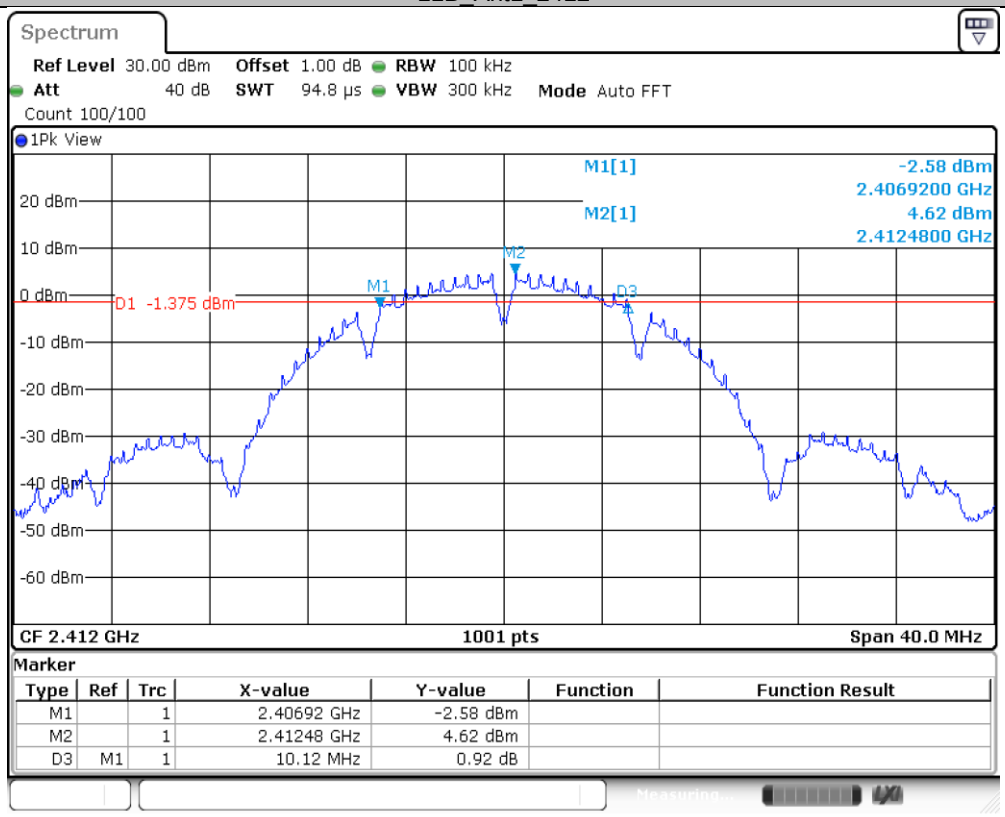
Test results

Test Mode	Channel [MHz]	DTS BW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11B	2412	10.120	2406.920	2417.040	0.5	PASS
	2437	10.120	2431.920	2442.040	0.5	PASS
	2462	10.120	2456.920	2467.040	0.5	PASS
11G	2412	16.400	2403.800	2420.200	0.5	PASS
	2437	16.400	2428.800	2445.200	0.5	PASS
	2462	16.400	2453.800	2470.200	0.5	PASS
11N20SISO	2412	17.640	2403.160	2420.800	0.5	PASS
	2437	17.640	2428.160	2445.800	0.5	PASS
	2462	17.720	2453.120	2470.840	0.5	PASS
11N40SISO	2422	35.920	2404.320	2440.240	0.5	PASS
	2437	35.920	2419.320	2455.240	0.5	PASS
	2452	35.920	2434.320	2470.240	0.5	PASS

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

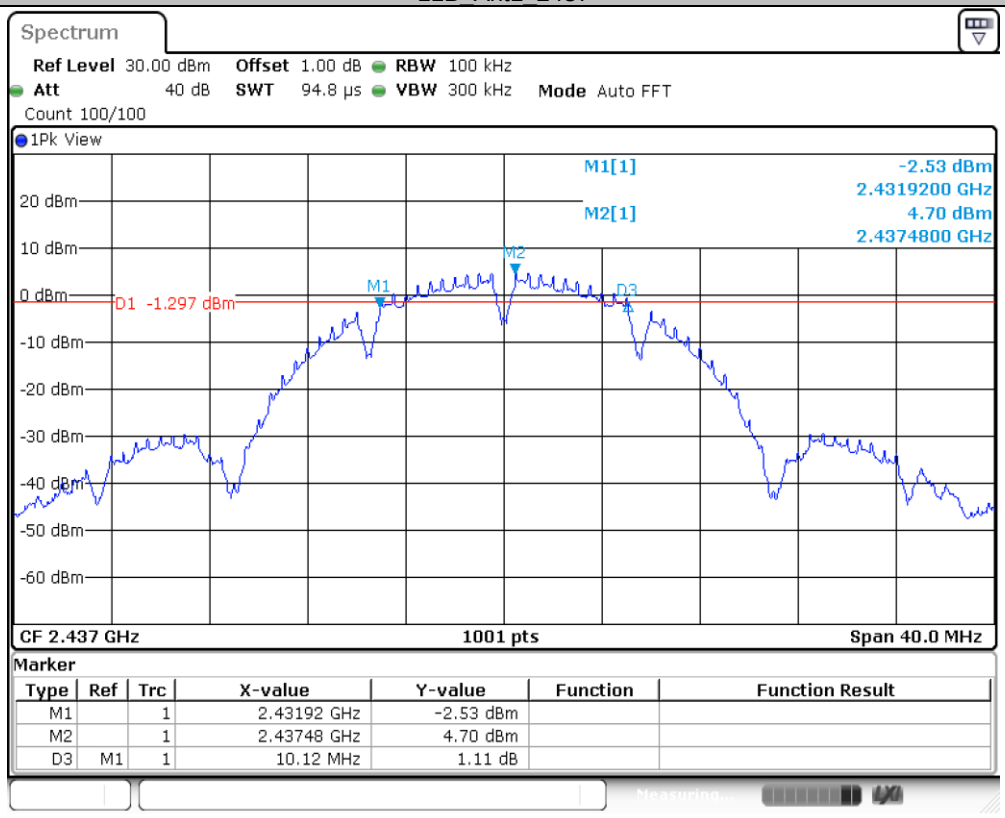
Test Graphs

11B_Ant1_2412



Date: 15.SEP.2023 15:02:51

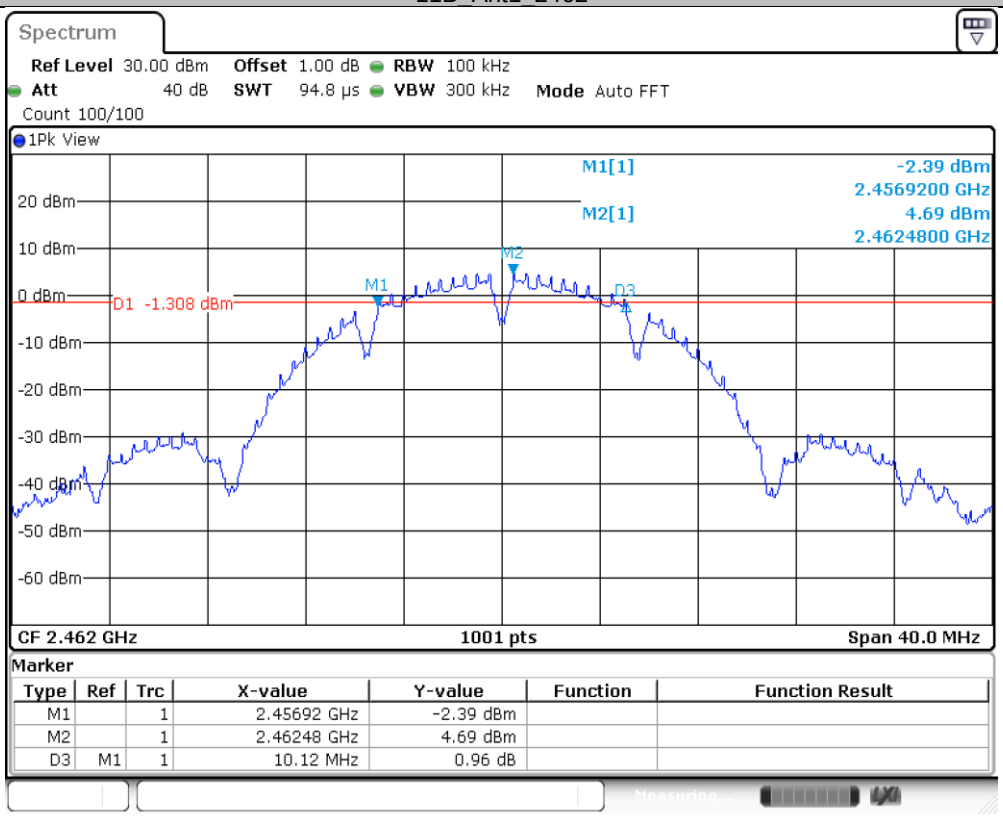
11B_Ant1_2437



Date: 15.SEP.2023 15:04:34

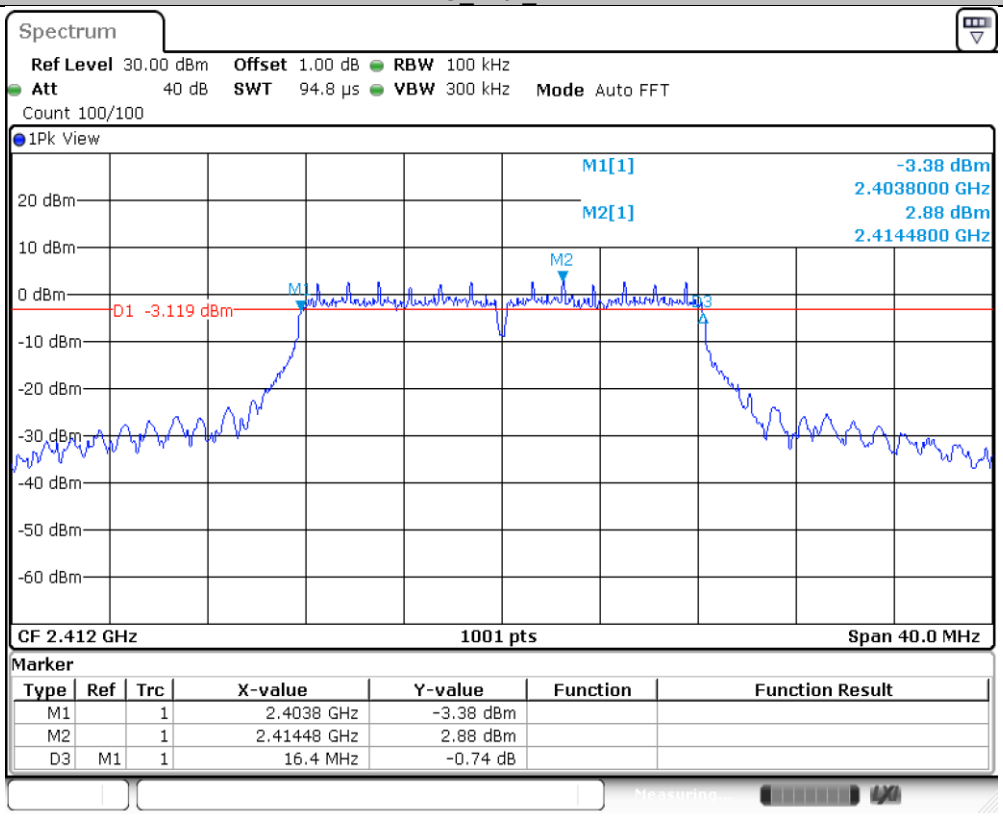
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District, Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11B_Ant1_2462



Date: 15.SEP.2023 15:06:11

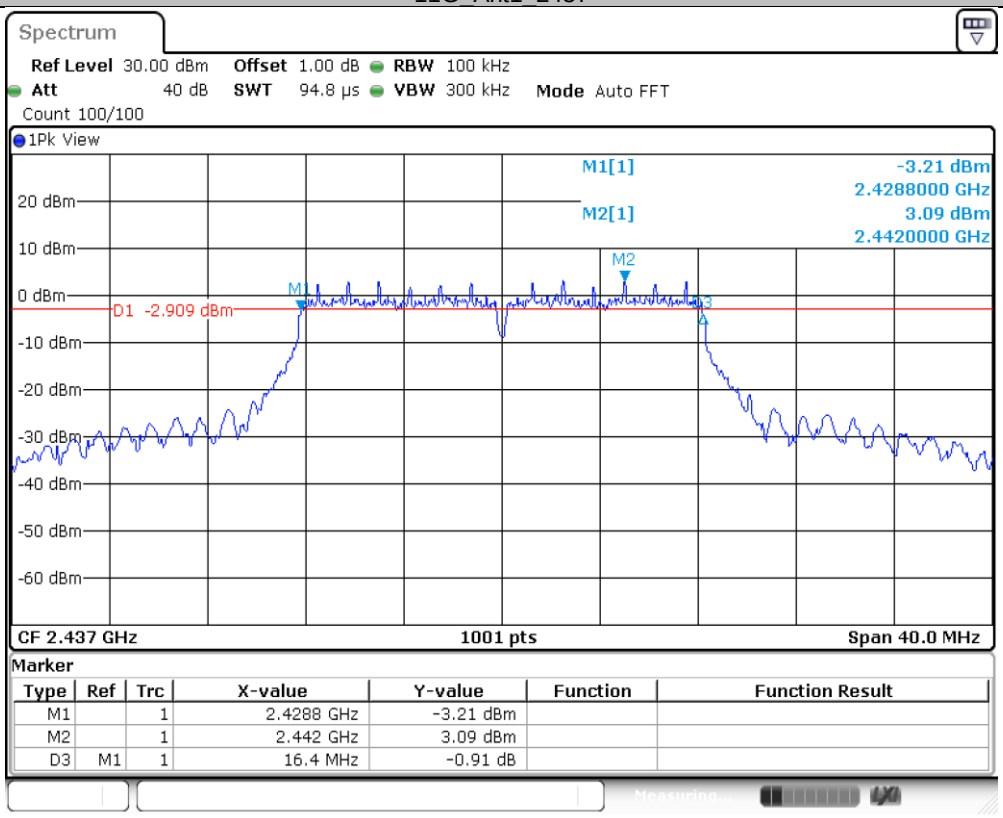
11G_Ant1_2412



Date: 15.SEP.2023 15:08:29

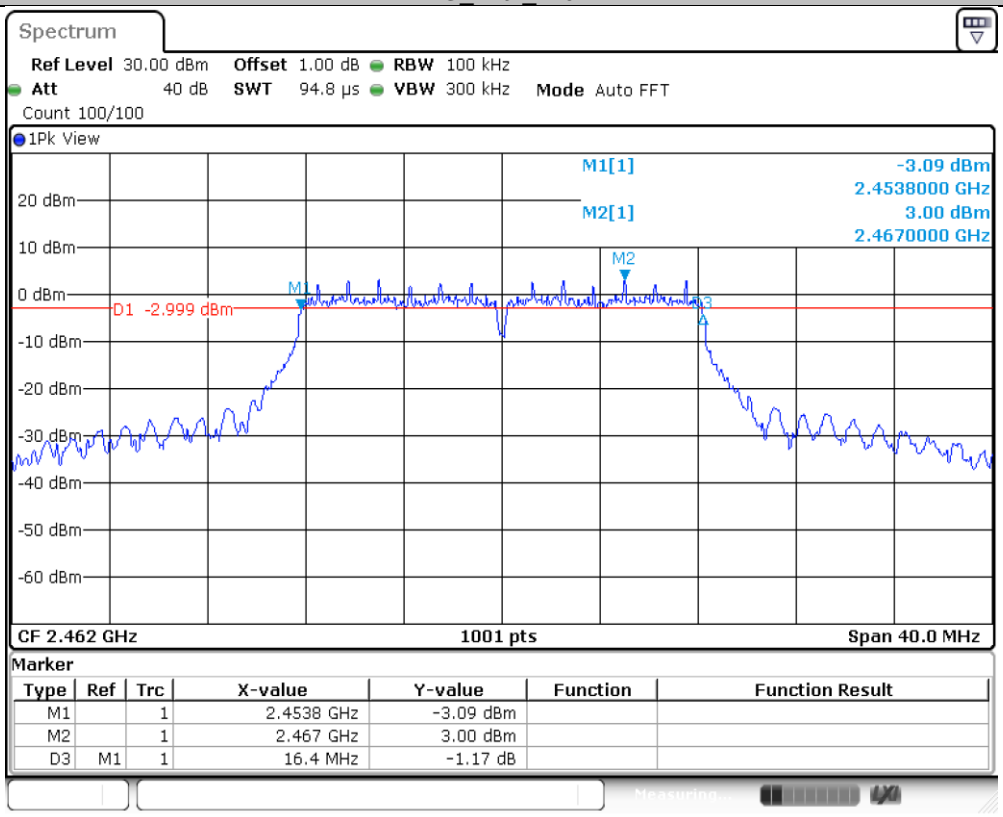
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11G_Ant1_2437



Date: 15.SEP.2023 15:10:54

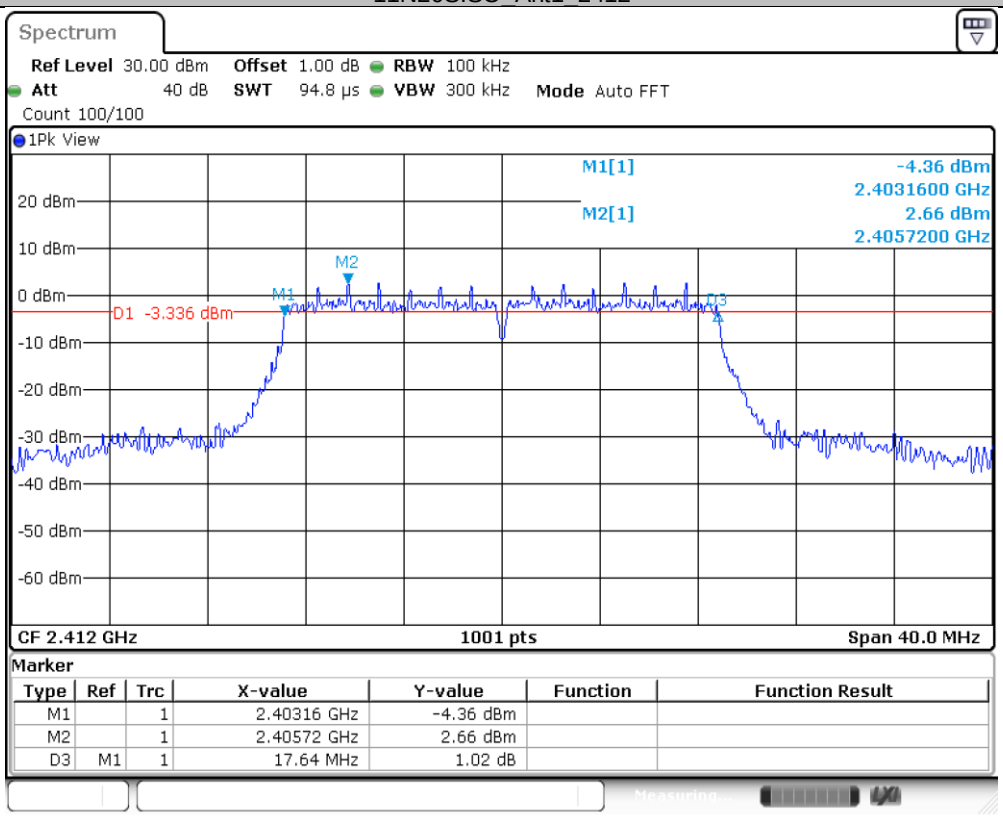
11G_Ant1_2462



Date: 15.SEP.2023 15:12:59

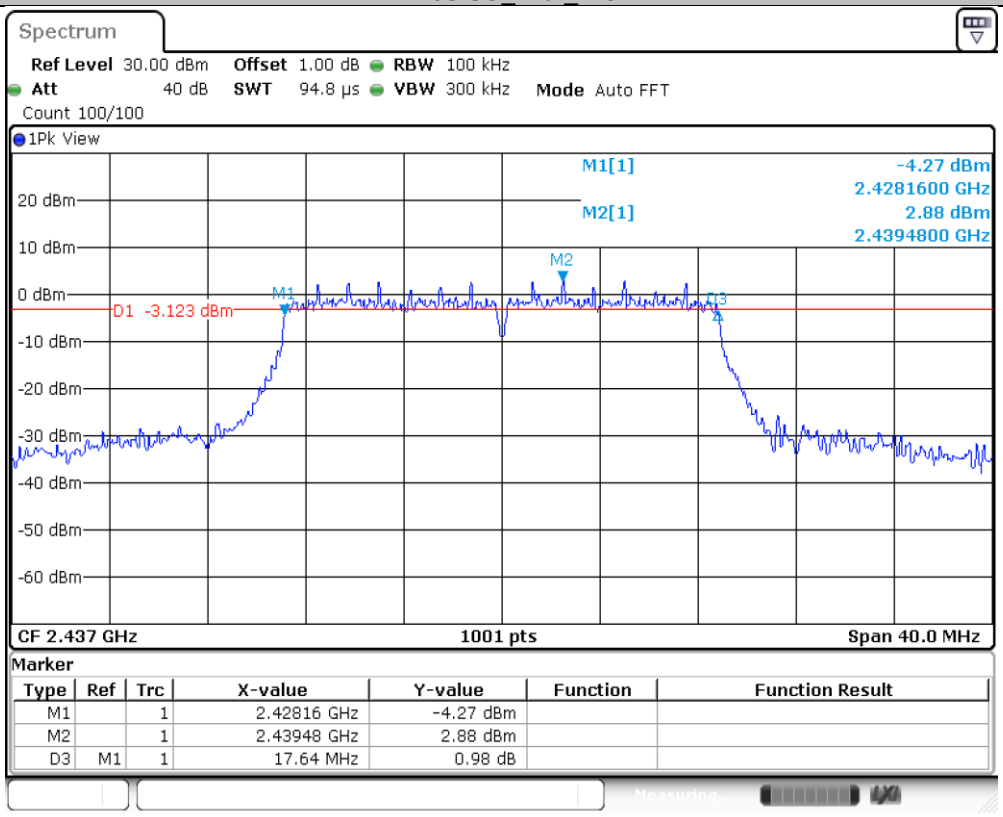
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11N20SISO_Ant1_2412



Date: 15.SEP.2023 15:14:50

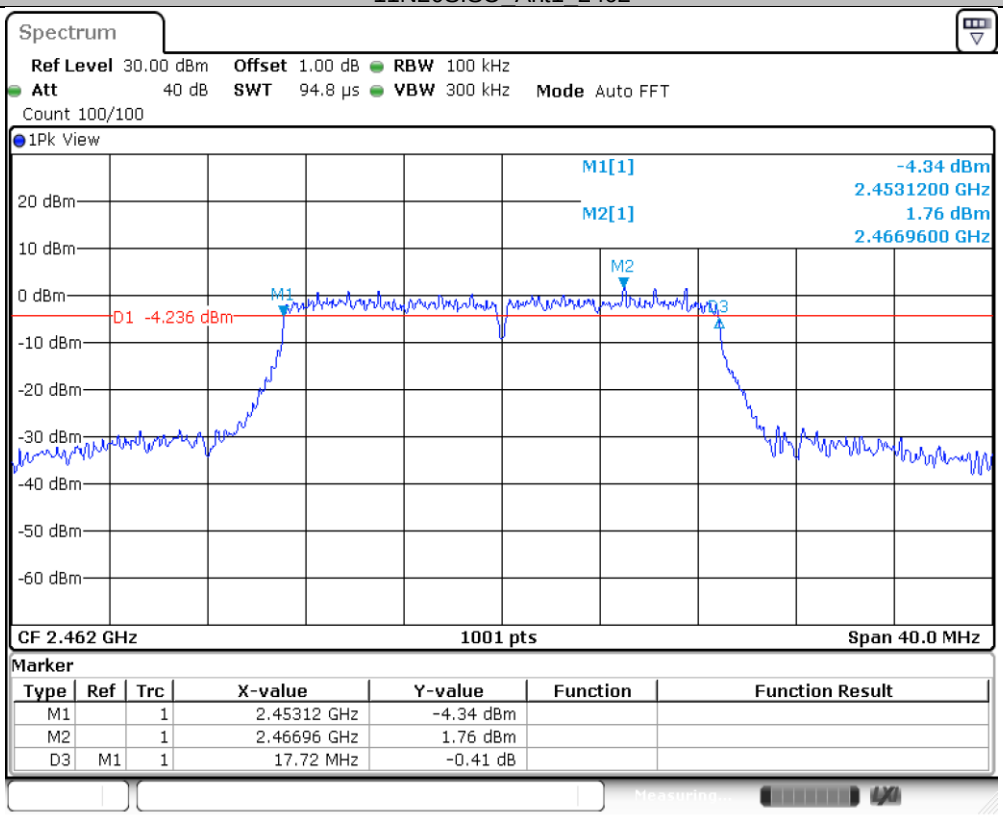
11N20SISO_Ant1_2437



Date: 15.SEP.2023 15:16:36

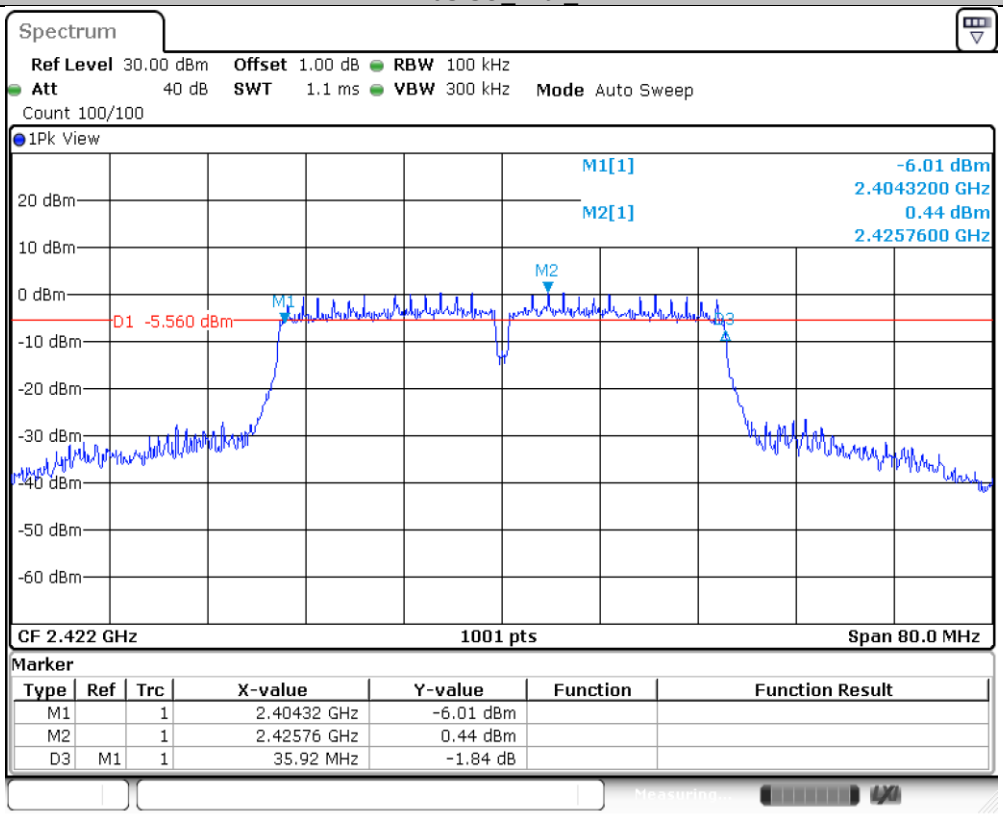
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11N20SISO_Ant1_2462



Date: 15.SEP.2023 15:18:11

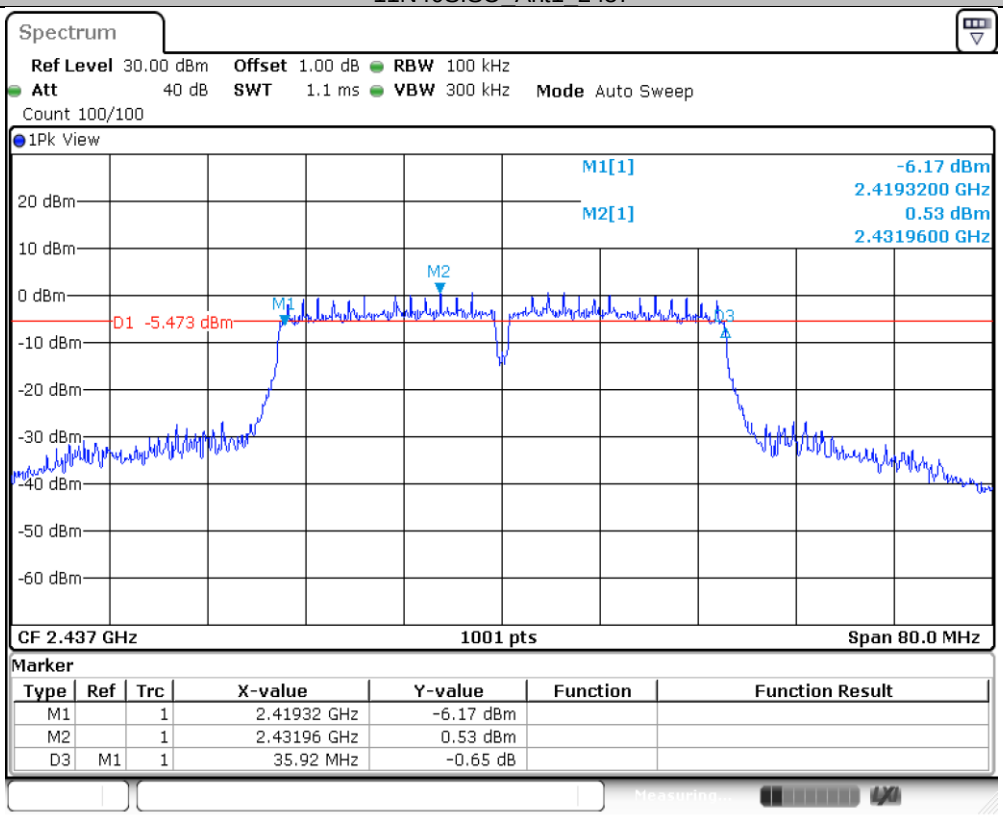
11N40SISO_Ant1_2422



Date: 15.SEP.2023 15:20:16

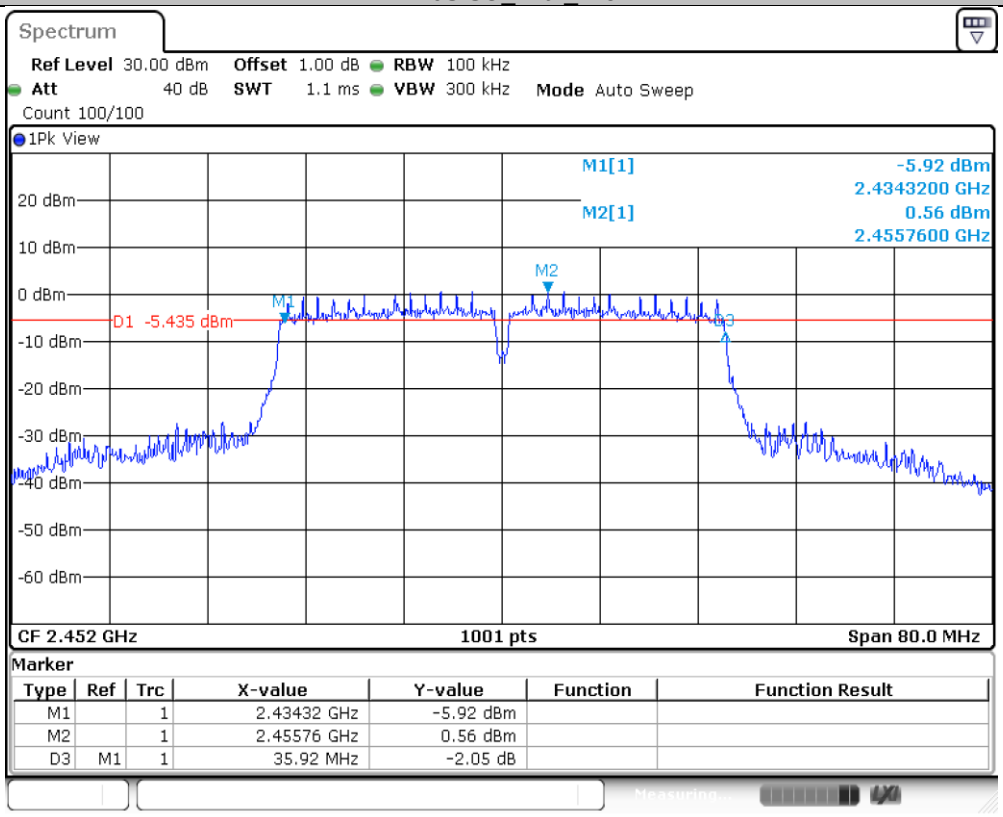
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11N40SISO_Ant1_2437



Date: 15.SEP.2023 15:22:01

11N40SISO_Ant1_2452



Date: 15.SEP.2023 15:23:45

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

9.4 Power spectral density

Test Method

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance:

1. The RF output of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
4. Set analyzer center frequency to DTS channel center frequency. RBW=3kHz, VBW≥3RBW, Span=1.5 times DTS bandwidth, Detector=Peak, Sweep=auto, Trace= max hold.
5. Allow trace to fully stabilize, use the peak marker function to determine the maximum amplitude level within the RBW.
6. Repeat above procedures until other frequencies measured were completed.

Limit

Limit [dBm/3kHz]
≤8

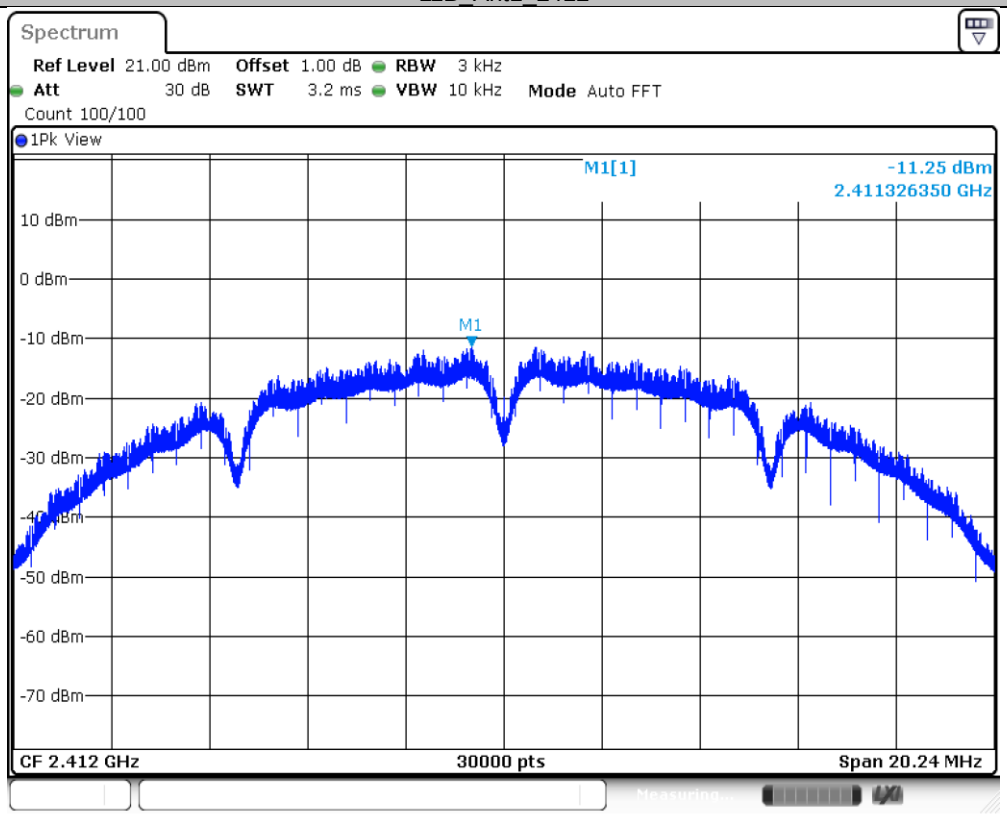
Test results

Test Mode	Channel [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	2412	-11.25	<=8	PASS
	2437	-11.51	<=8	PASS
	2462	-11.27	<=8	PASS
11G	2412	-11.93	<=8	PASS
	2437	-12.2	<=8	PASS
	2462	-12.2	<=8	PASS
11N20SISO	2412	-12.86	<=8	PASS
	2437	-12.37	<=8	PASS
	2462	-13.16	<=8	PASS
11N40SISO	2422	-15	<=8	PASS
	2437	-14.51	<=8	PASS
	2452	-14.53	<=8	PASS

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

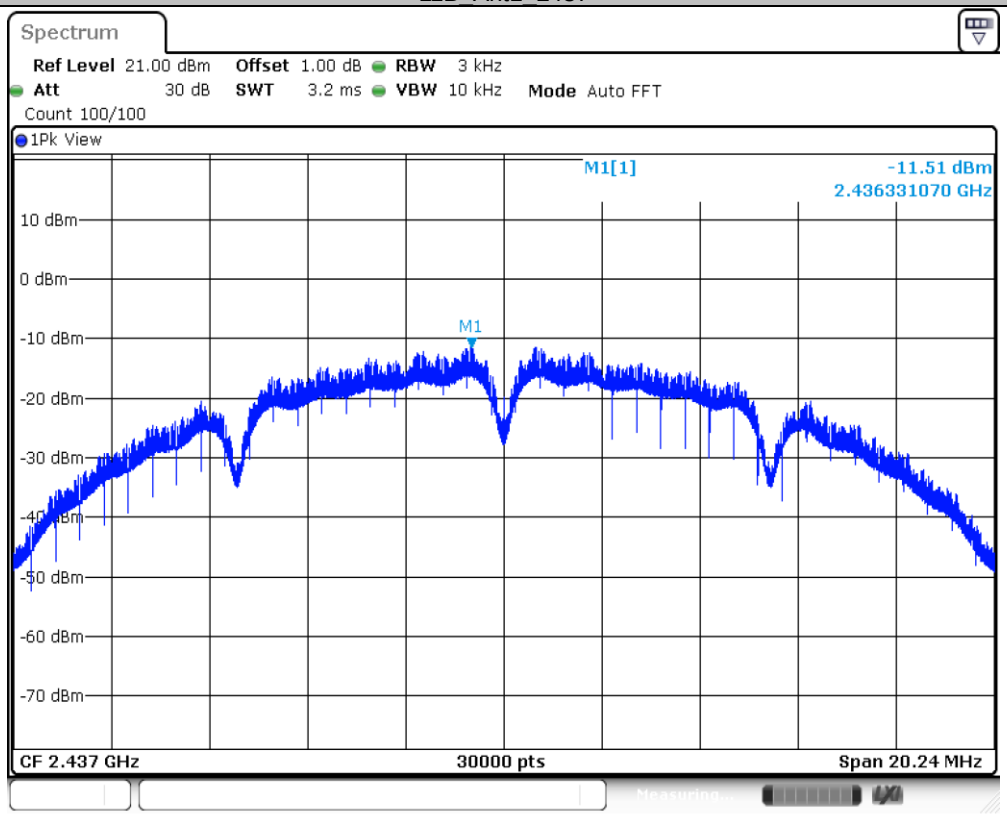
Test Graphs

11B_Ant1_2412



Date: 15.SEP.2023 15:03:08

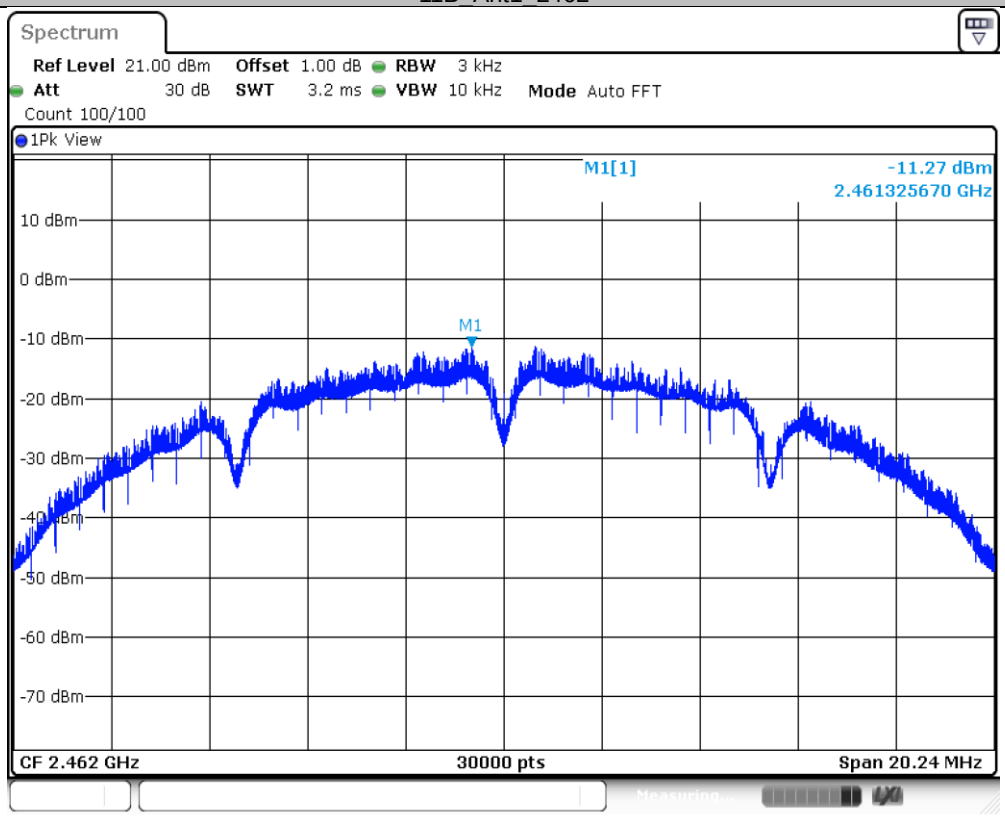
11B_Ant1_2437



Date: 15.SEP.2023 15:04:51

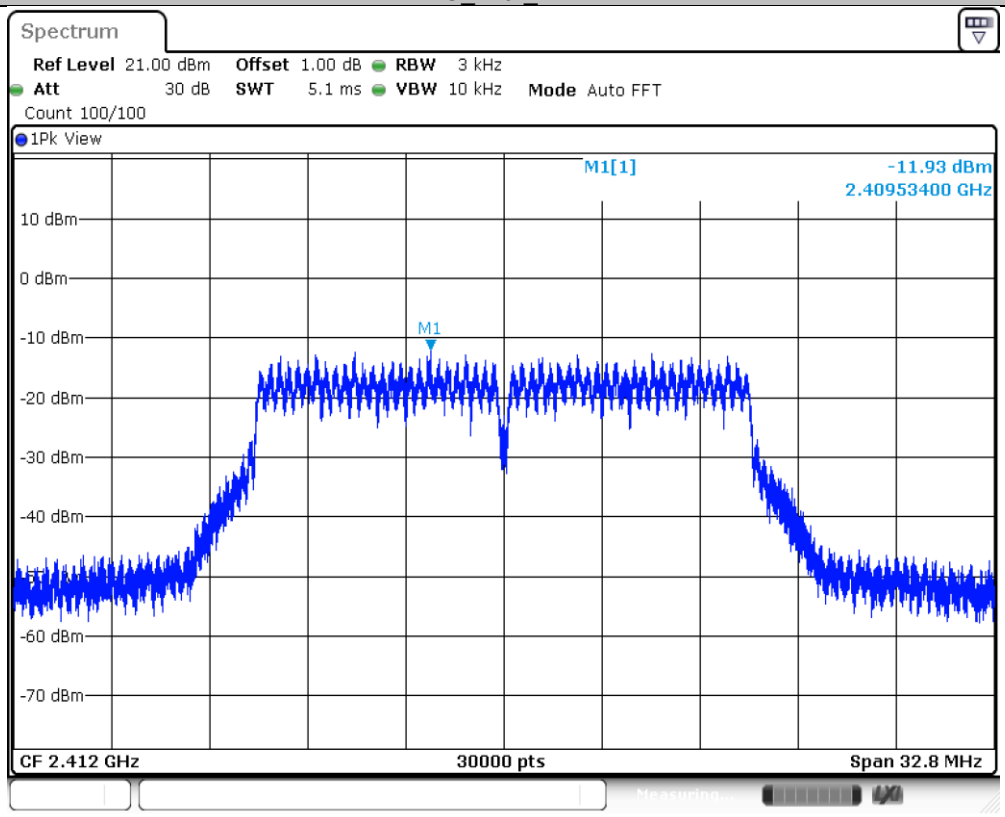
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11B_Ant1_2462



Date: 15.SEP.2023 15:06:27

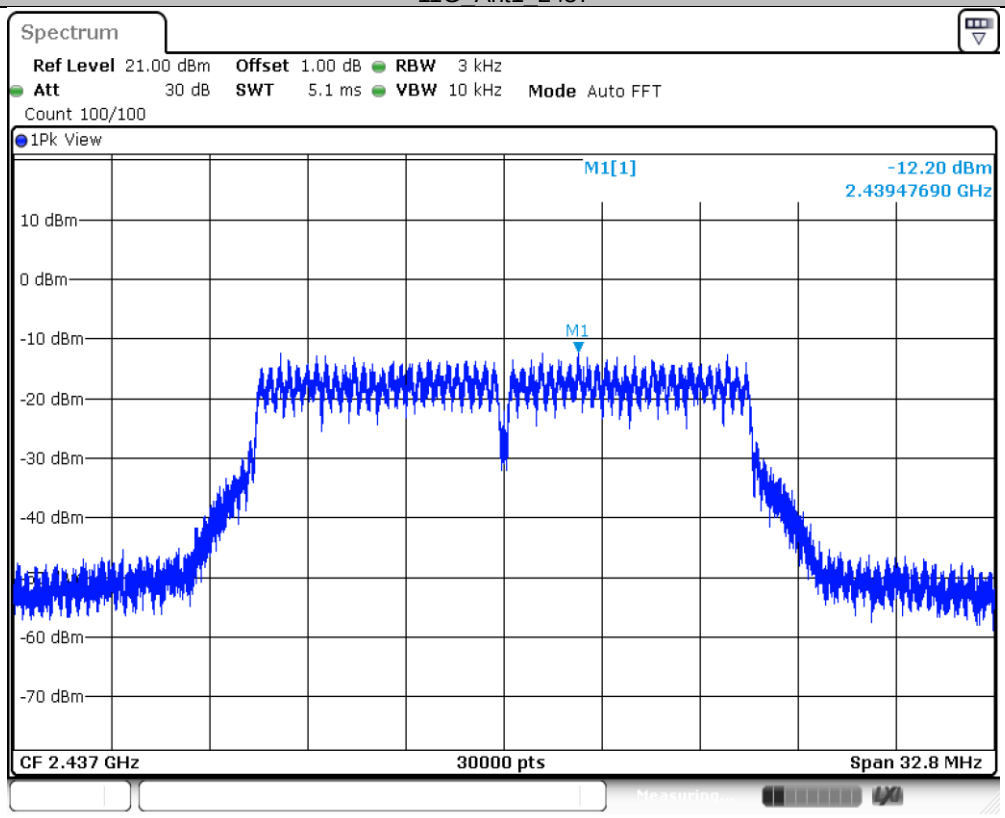
11G_Ant1_2412



Date: 15.SEP.2023 15:08:46

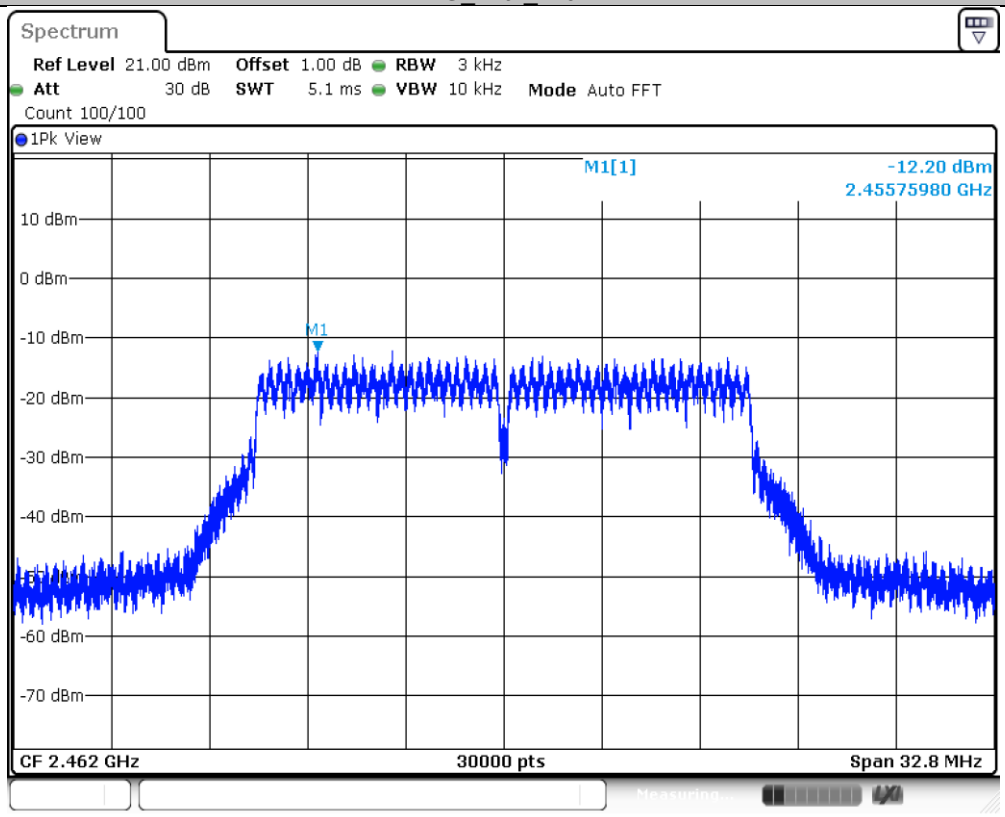
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11G_Ant1_2437



Date: 15.SEP.2023 15:11:11

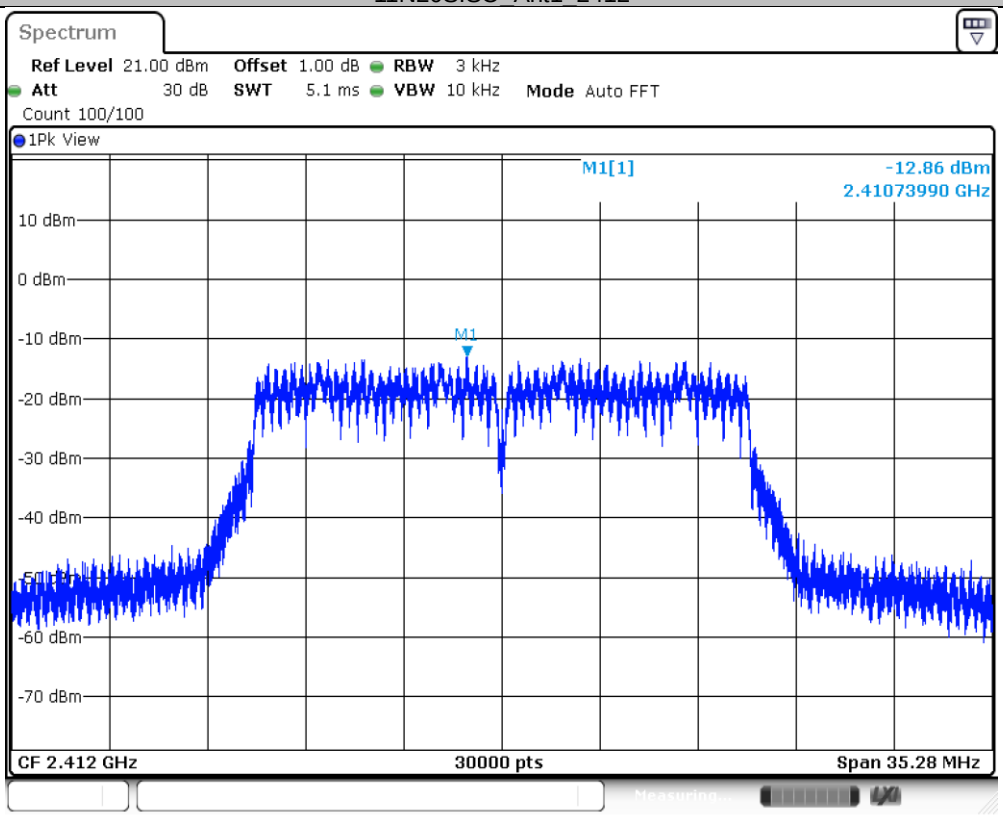
11G_Ant1_2462



Date: 15.SEP.2023 15:13:15

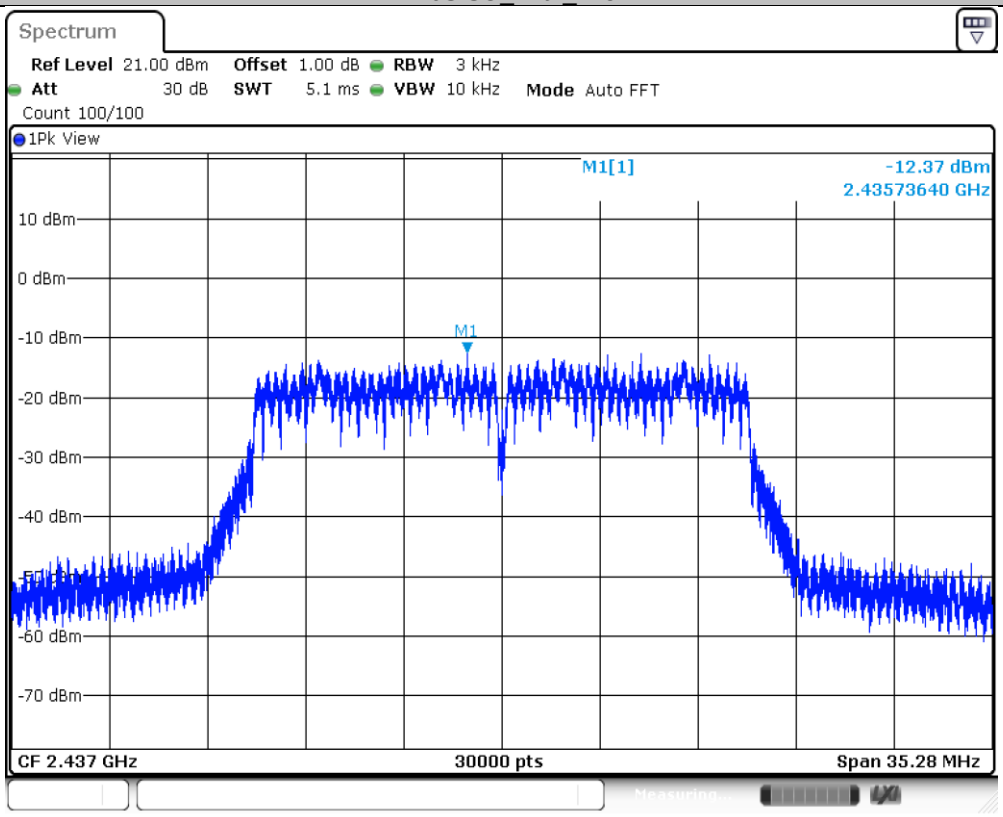
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11N20SISO_Ant1_2412



Date: 15.SEP.2023 15:15:06

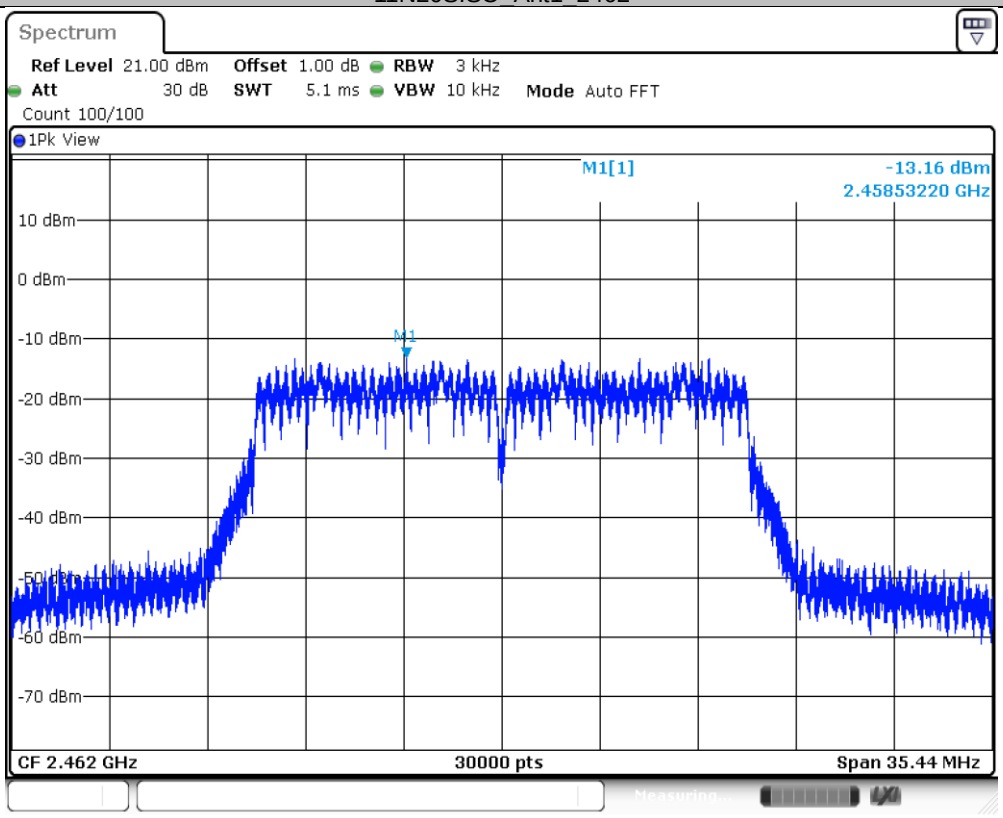
11N20SISO_Ant1_2437



Date: 15.SEP.2023 15:16:52

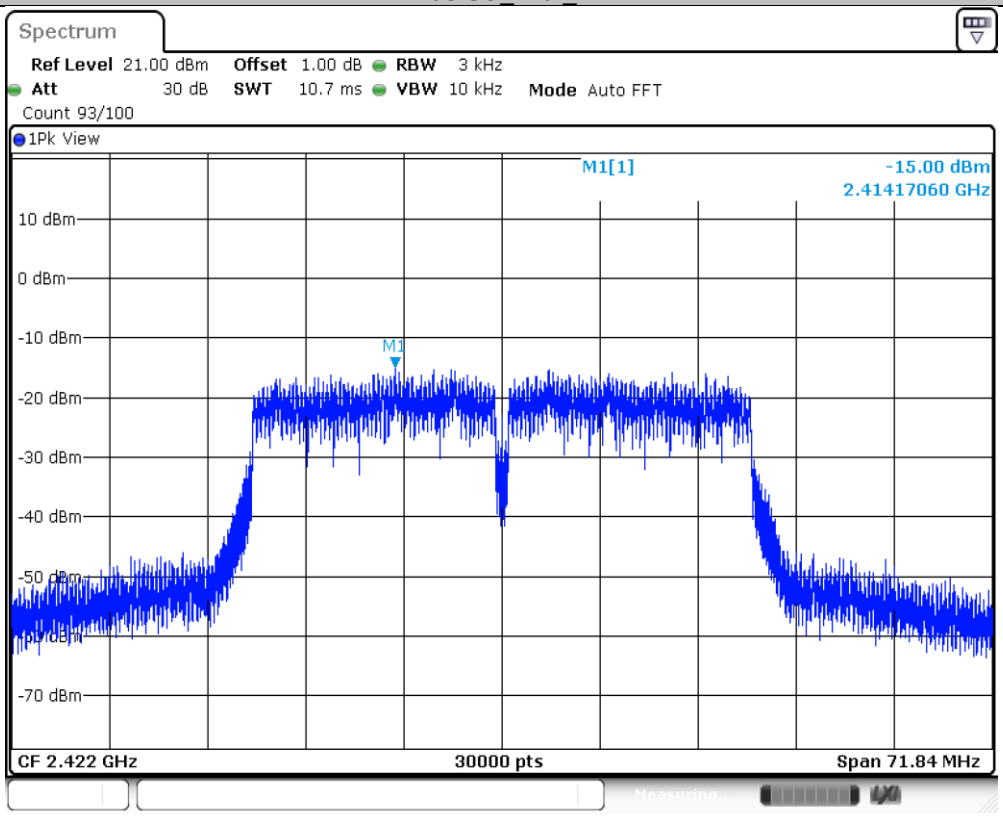
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11N20SISO_Ant1_2462



Date: 15.SEP.2023 15:18:27

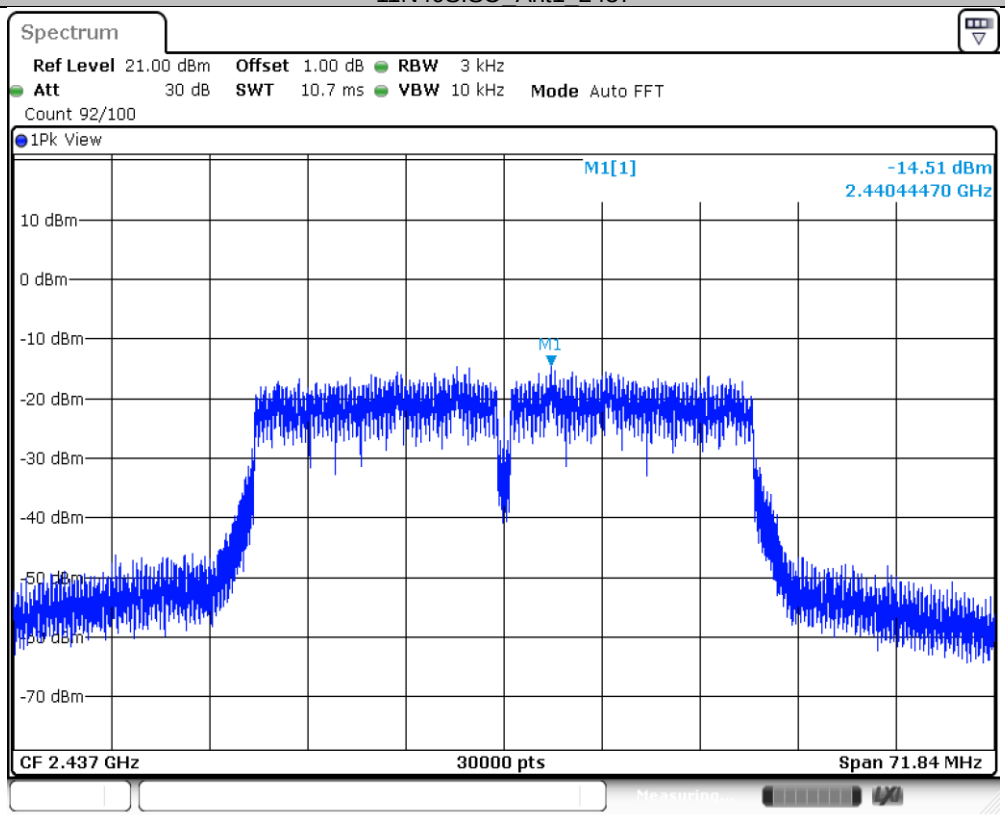
11N40SISO_Ant1_2422



Date: 15.SEP.2023 15:20:32

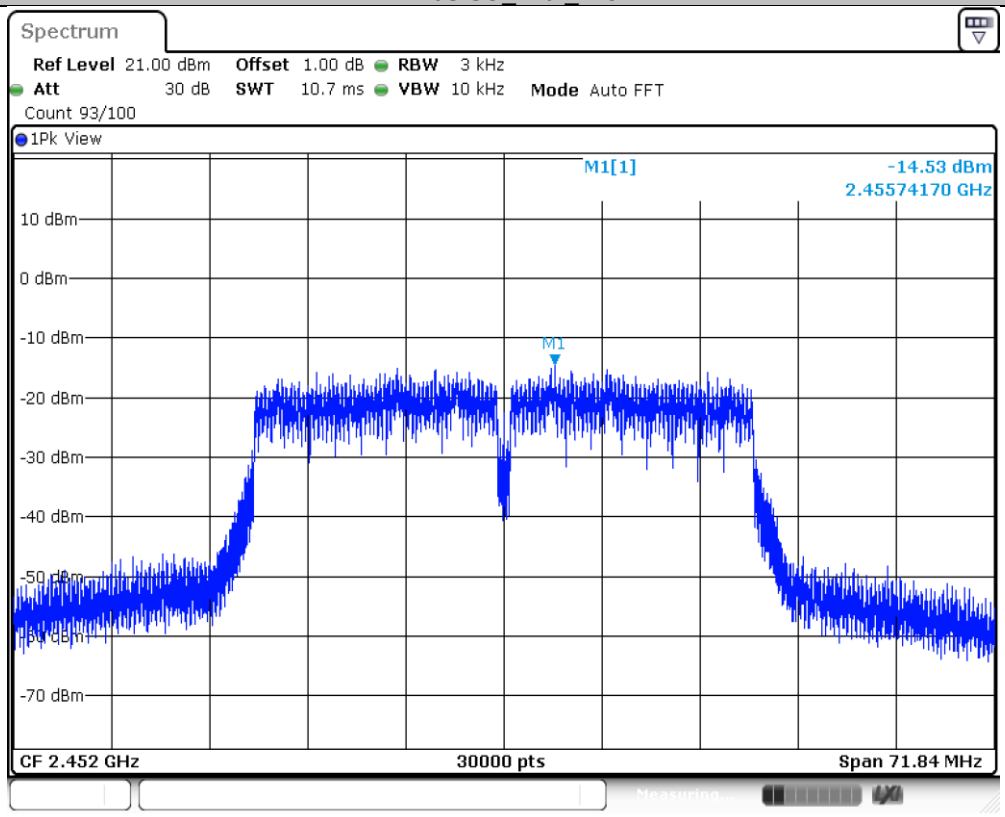
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11N40SISO_Ant1_2437



Date: 15.SEP.2023 15:22:18

11N40SISO_Ant1_2452



Date: 15.SEP.2023 15:24:02

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

9.5 Spurious RF conducted emissions

Test Method

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
   Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10^{th} harmonic. Typically, several plots are required to cover this entire span.
   RBW = 100 kHz, VBW≥3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.
5. The level displayed must comply with the limit specified in this Section. Submit these plots.
6. Repeat above procedures until all frequencies measured were complete.

Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under § 15.247(b)(3) and RSS 247 section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB.

Frequency Range MHz	Limit (dBc)
30-25000	-20

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District, Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

Test results

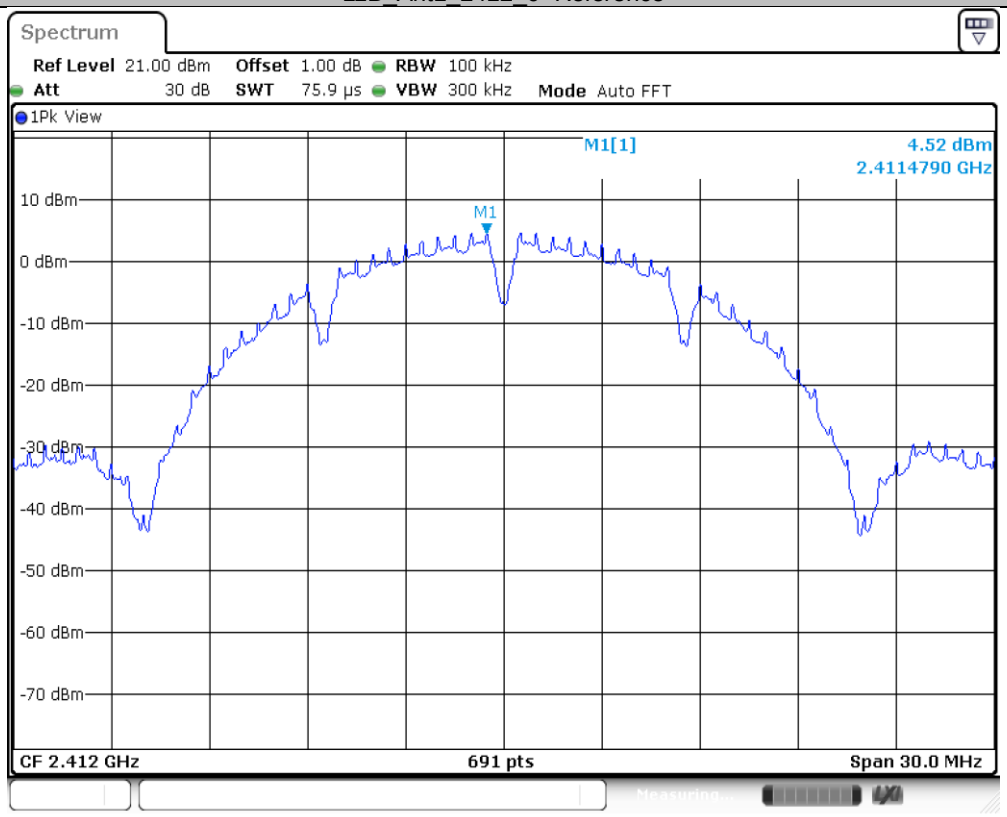
Remark: The emissions exceed limit is fundamental signal.

Test Mode	Channel [MHz]	Freq Range [MHz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	2412	Reference	4.52	4.52	---	PASS
		30~1000	---	-65.33	<=-15.48	PASS
		1000~26500	---	-29.86	<=-15.48	PASS
	2437	Reference	4.80	4.80	---	PASS
		30~1000	---	-66.92	<=-15.2	PASS
		1000~26500	---	-42.74	<=-15.2	PASS
	2462	Reference	4.69	4.69	---	PASS
		30~1000	---	-68.01	<=-15.31	PASS
		1000~26500	---	-44.65	<=-15.31	PASS
11G	2412	Reference	1.82	1.82	---	PASS
		30~1000	---	-67.97	<=-18.18	PASS
		1000~26500	---	-27.85	<=-18.18	PASS
	2437	Reference	2.82	2.82	---	PASS
		30~1000	---	-66.17	<=-17.18	PASS
		1000~26500	---	-49.79	<=-17.18	PASS
	2462	Reference	3.10	3.10	---	PASS
		30~1000	---	-68.02	<=-16.9	PASS
		1000~26500	---	-41.96	<=-16.9	PASS
11N20SISO	2412	Reference	2.15	2.15	---	PASS
		30~1000	---	-67.32	<=-17.85	PASS
		1000~26500	---	-28.9	<=-17.85	PASS
	2437	Reference	2.60	2.60	---	PASS
		30~1000	---	-67.34	<=-17.4	PASS
		1000~26500	---	-50.04	<=-17.4	PASS
	2462	Reference	1.31	1.31	---	PASS
		30~1000	---	-68	<=-18.69	PASS
		1000~26500	---	-40.21	<=-18.69	PASS
11N40SISO	2422	Reference	-0.79	-0.79	---	PASS
		30~1000	---	-68.33	<=-20.79	PASS
		1000~26500	---	-33.37	<=-20.79	PASS
	2437	Reference	-0.13	-0.13	---	PASS
		30~1000	---	-67.51	<=-20.13	PASS
		1000~26500	---	-40.22	<=-20.13	PASS
	2452	Reference	-0.17	-0.17	---	PASS
		30~1000	---	-68.57	<=-20.17	PASS
		1000~26500	---	-39.75	<=-20.17	PASS

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

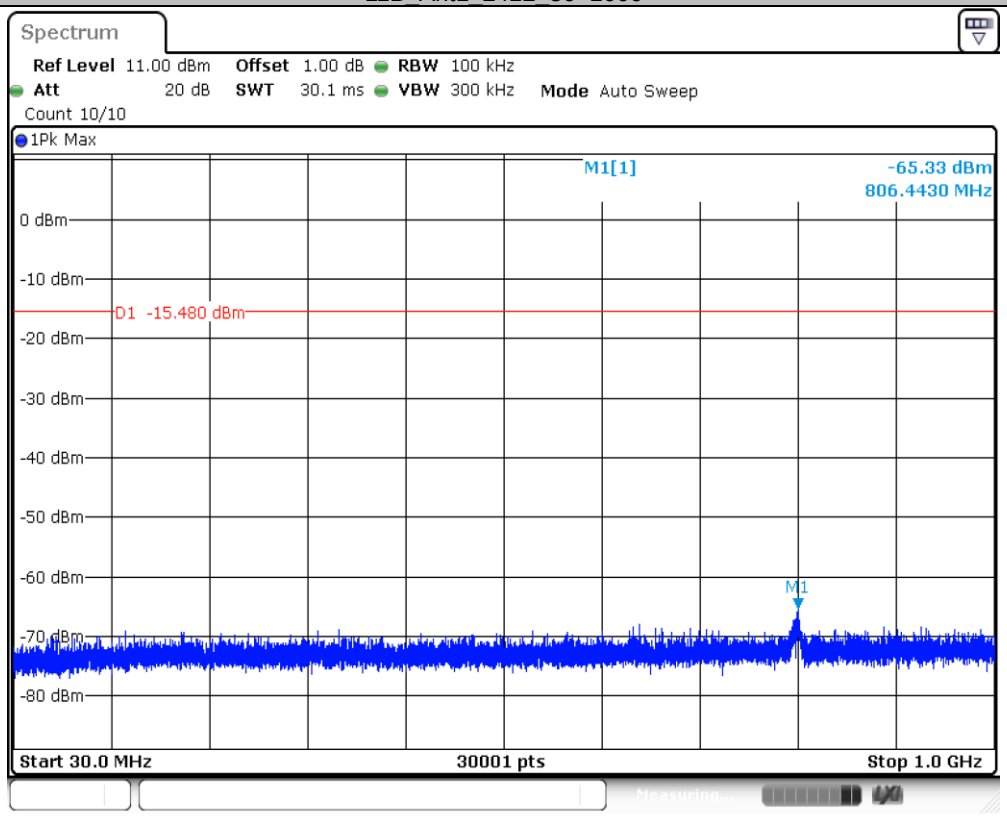
Test Graphs

11B_Ant1_2412_0~Reference



Date: 15.SEP.2023 15:03:22

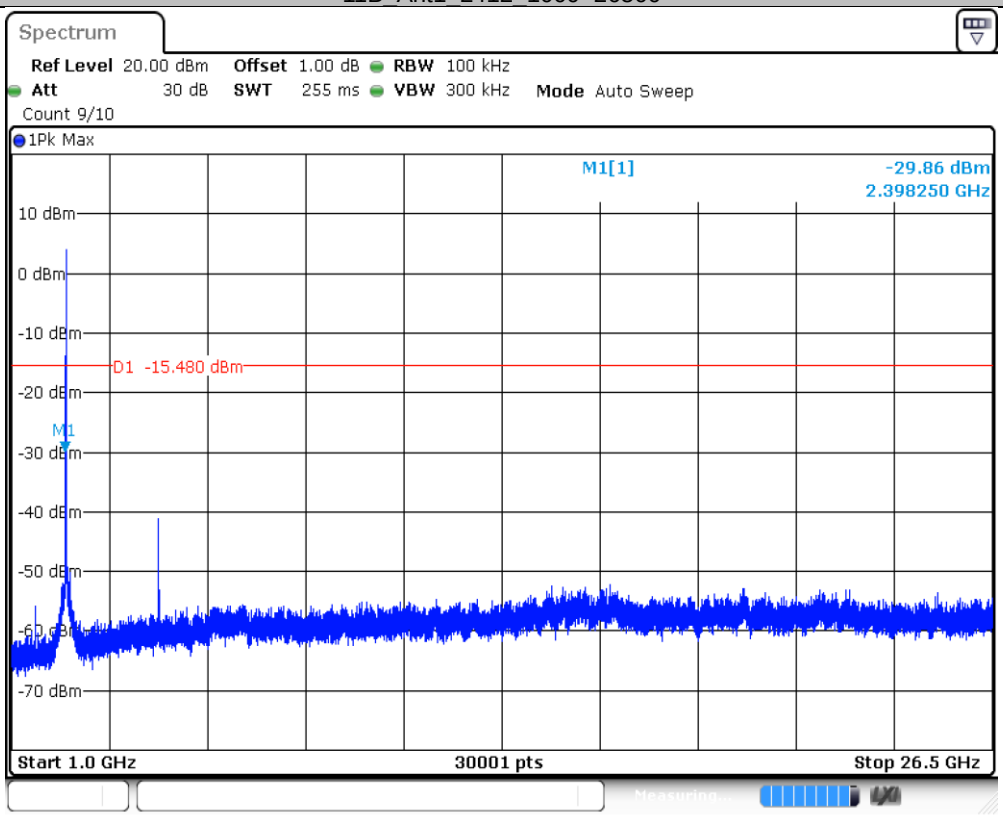
11B_Ant1_2412_30~1000



Date: 15.SEP.2023 15:03:29

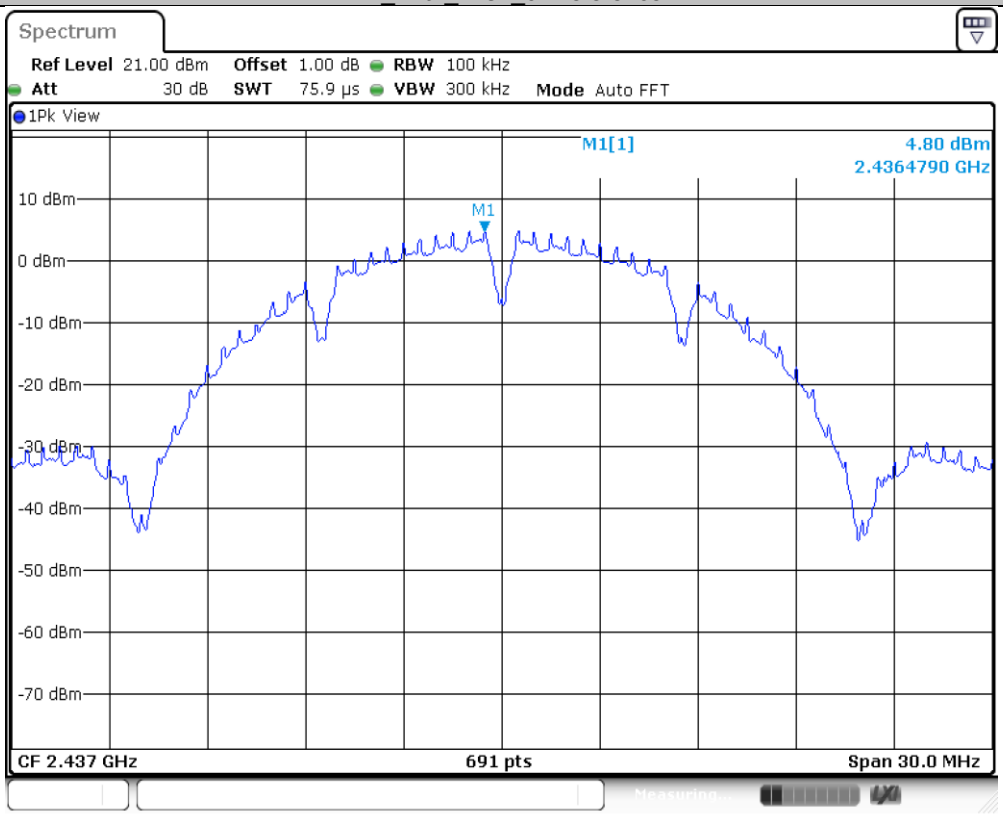
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11B_Ant1_2412_1000~26500



Date: 15.SEP.2023 15:03:36

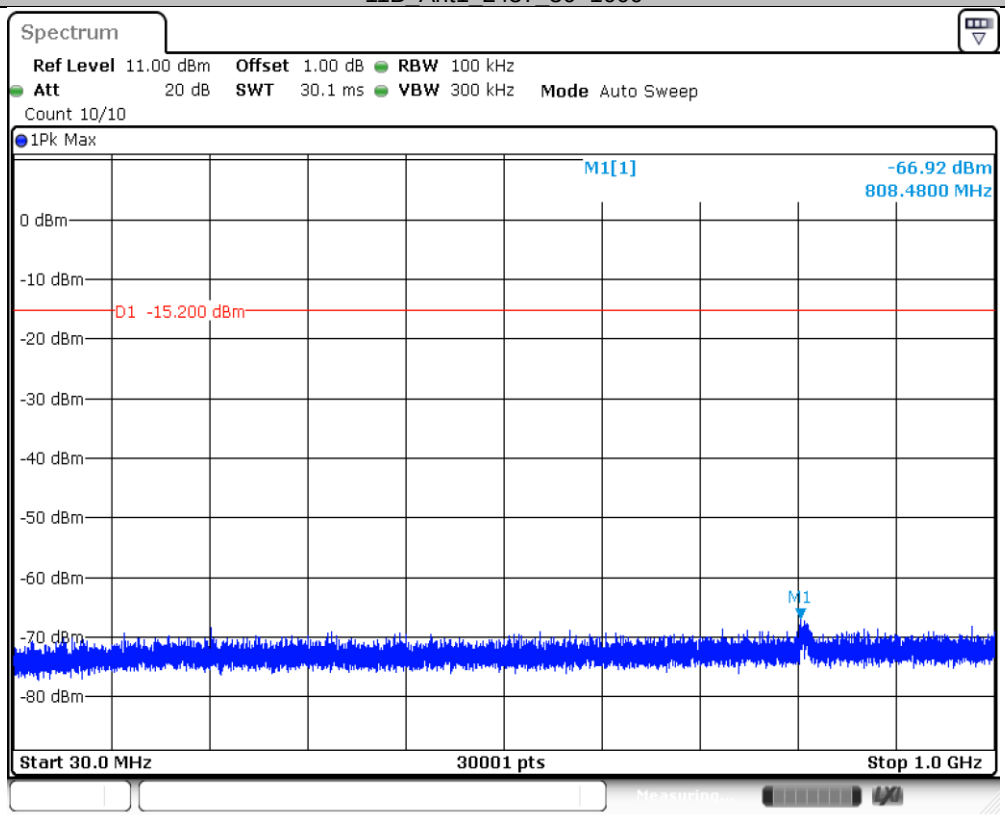
11B_Ant1_2437_0~Reference



Date: 15.SEP.2023 15:04:56

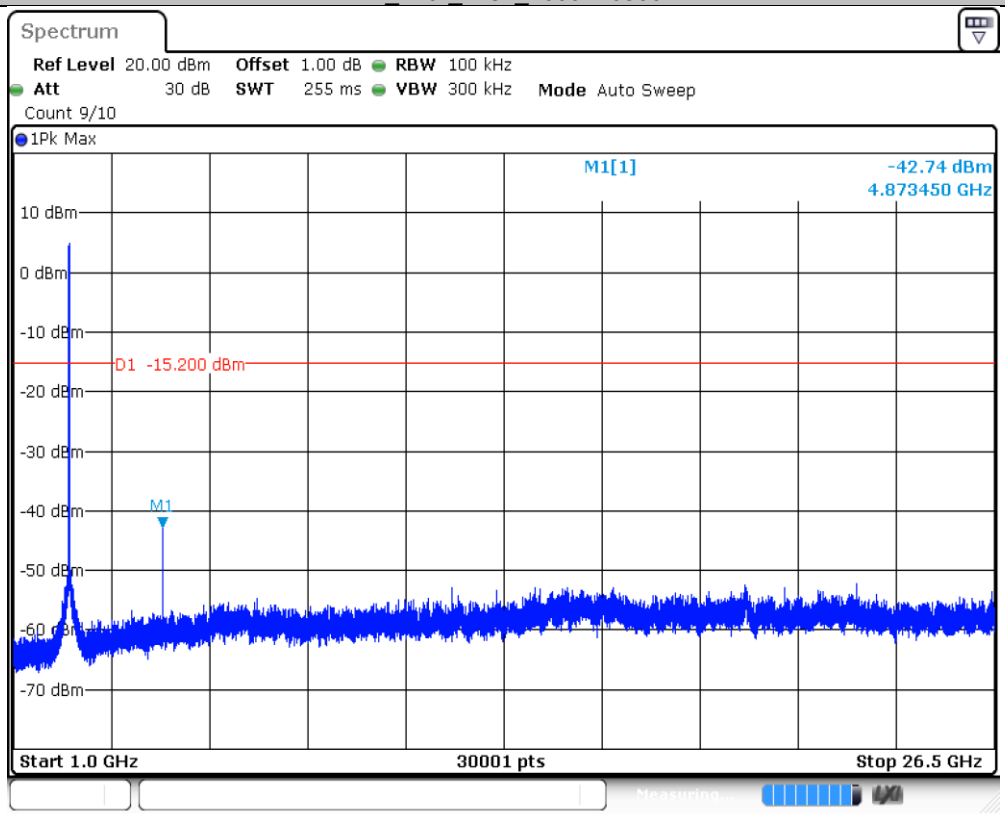
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11B_Ant1_2437_30~1000



Date: 15.SEP.2023 15:05:02

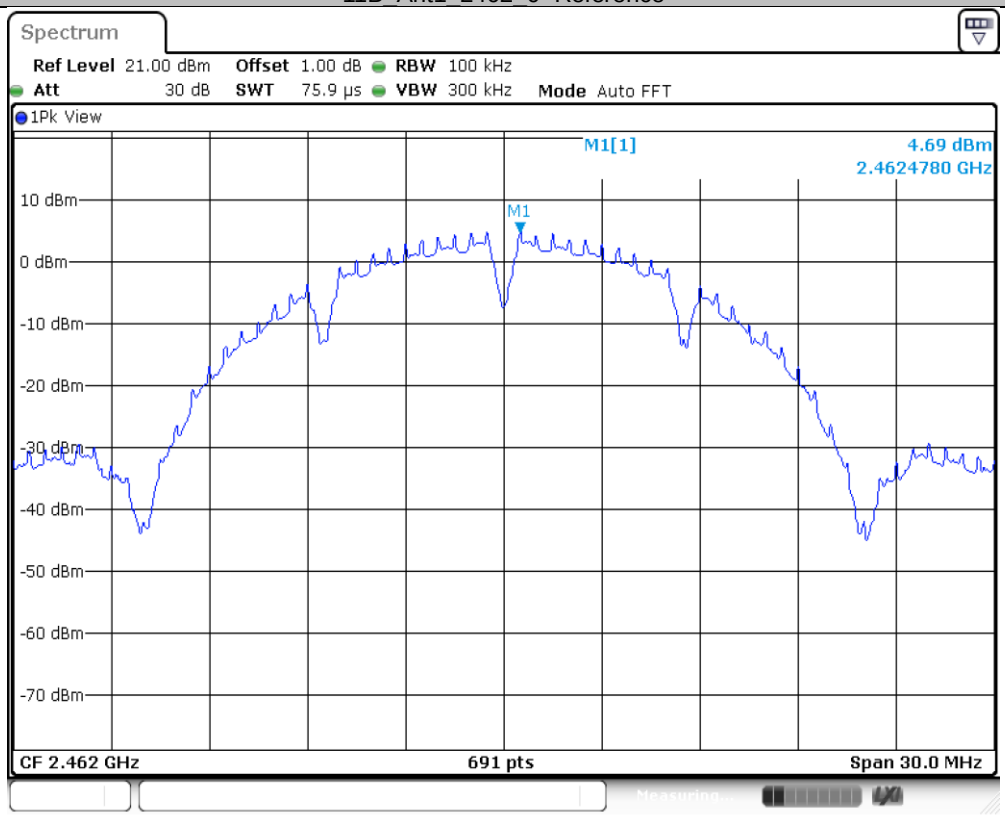
11B_Ant1_2437_1000~26500



Date: 15.SEP.2023 15:05:10

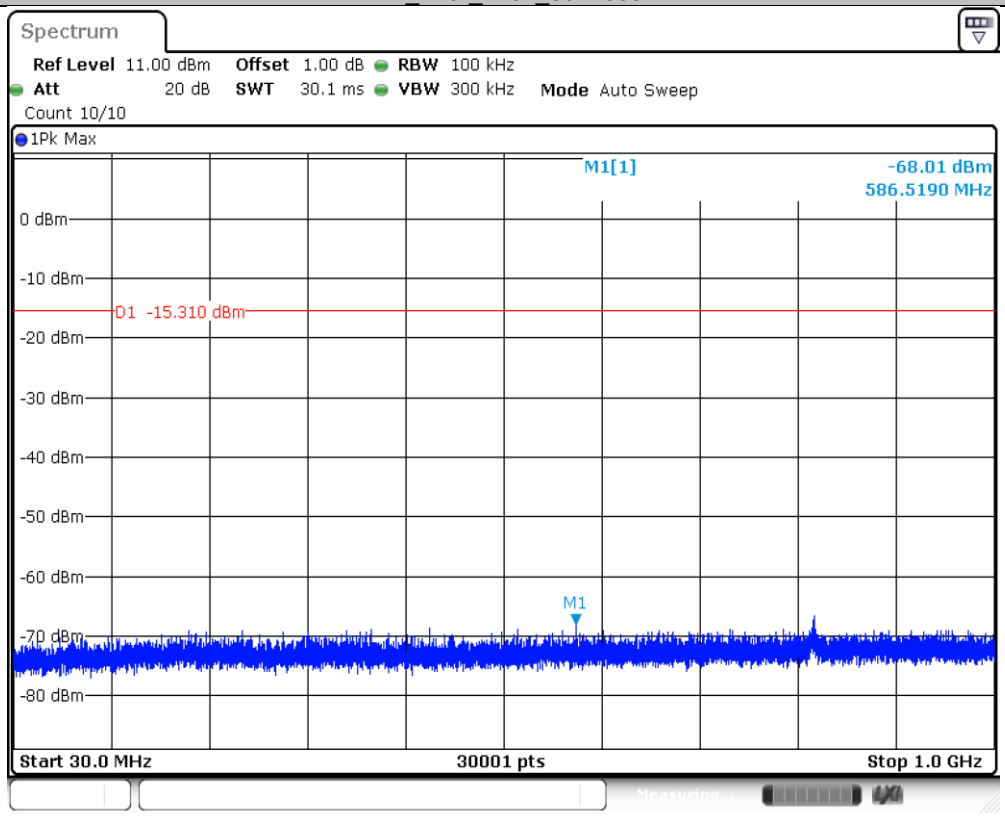
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11B_Ant1_2462_0~Reference



Date: 15.SEP.2023 15:06:42

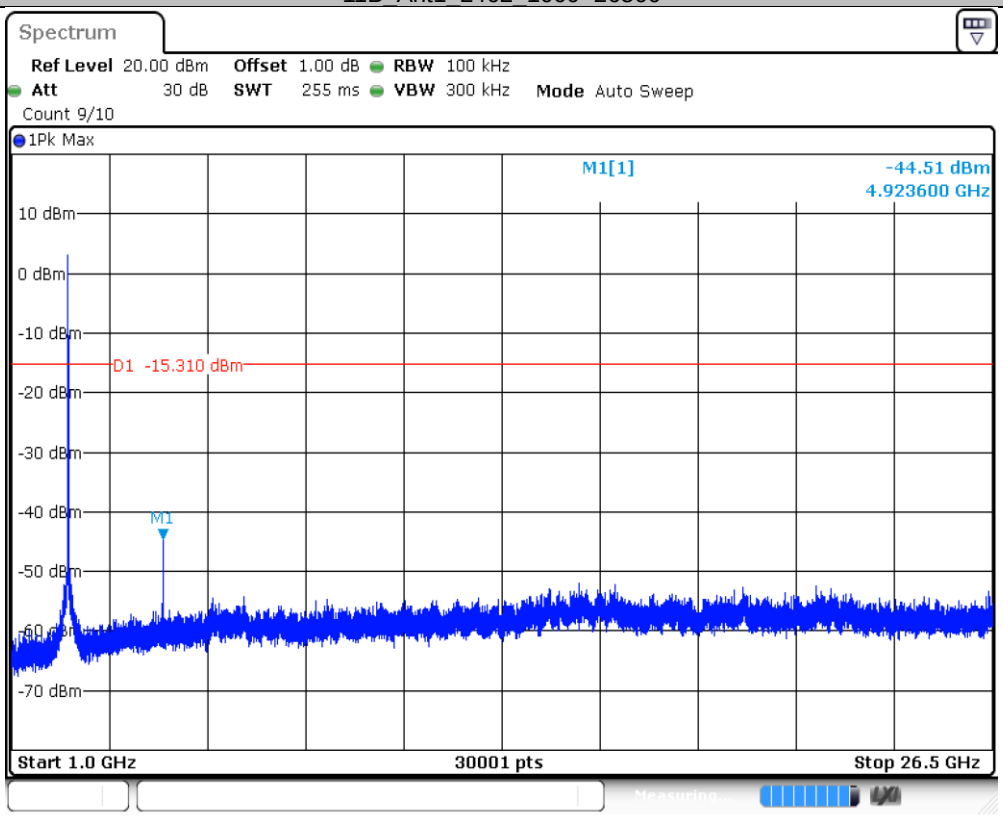
11B_Ant1_2462_30~1000



Date: 15.SEP.2023 15:06:48

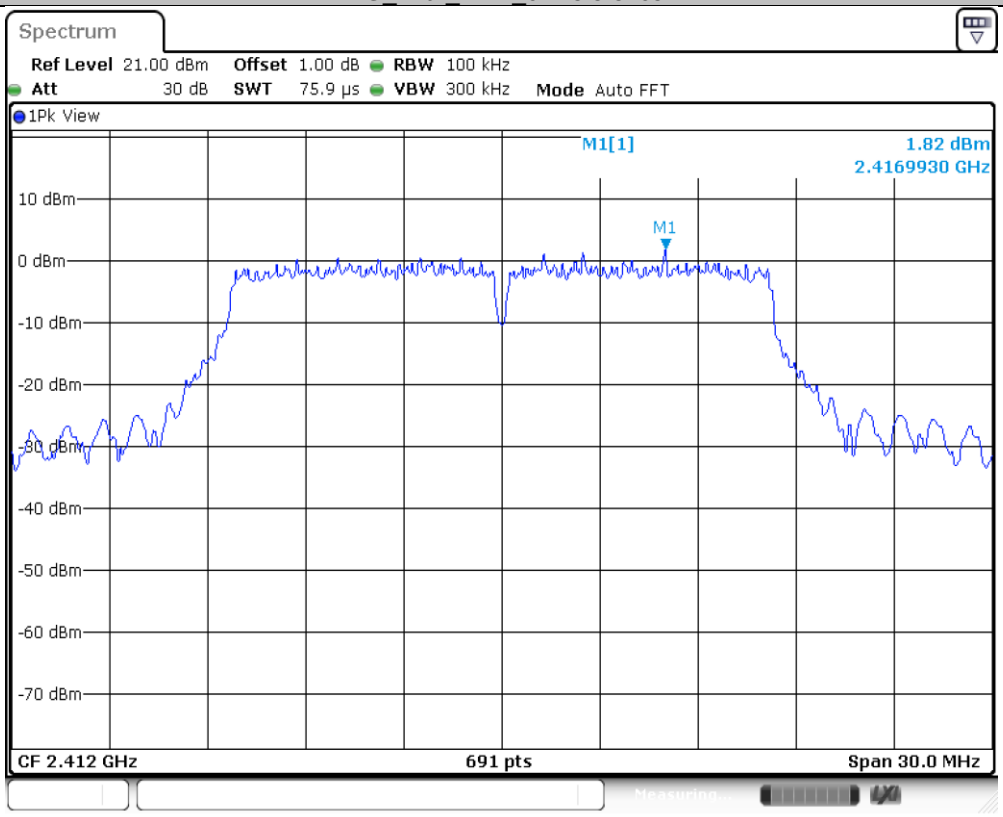
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11B_Ant1_2462_1000~26500



Date: 15.SEP.2023 15:06:56

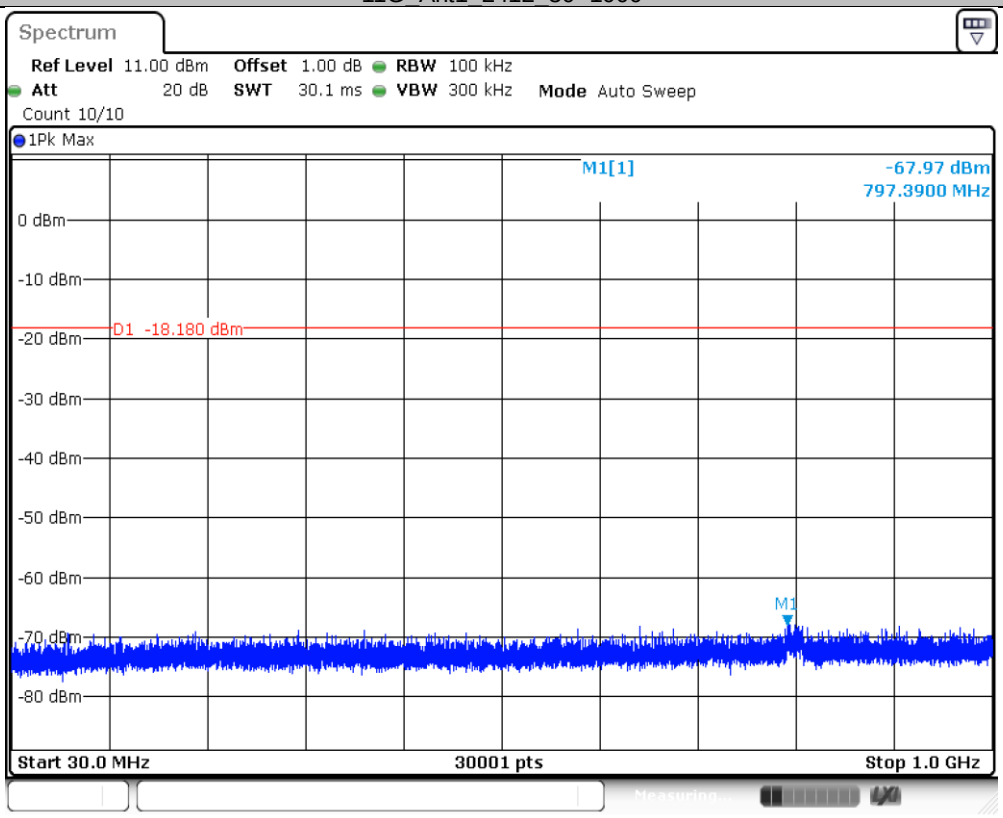
11G_Ant1_2412_0~Reference



Date: 15.SEP.2023 15:09:00

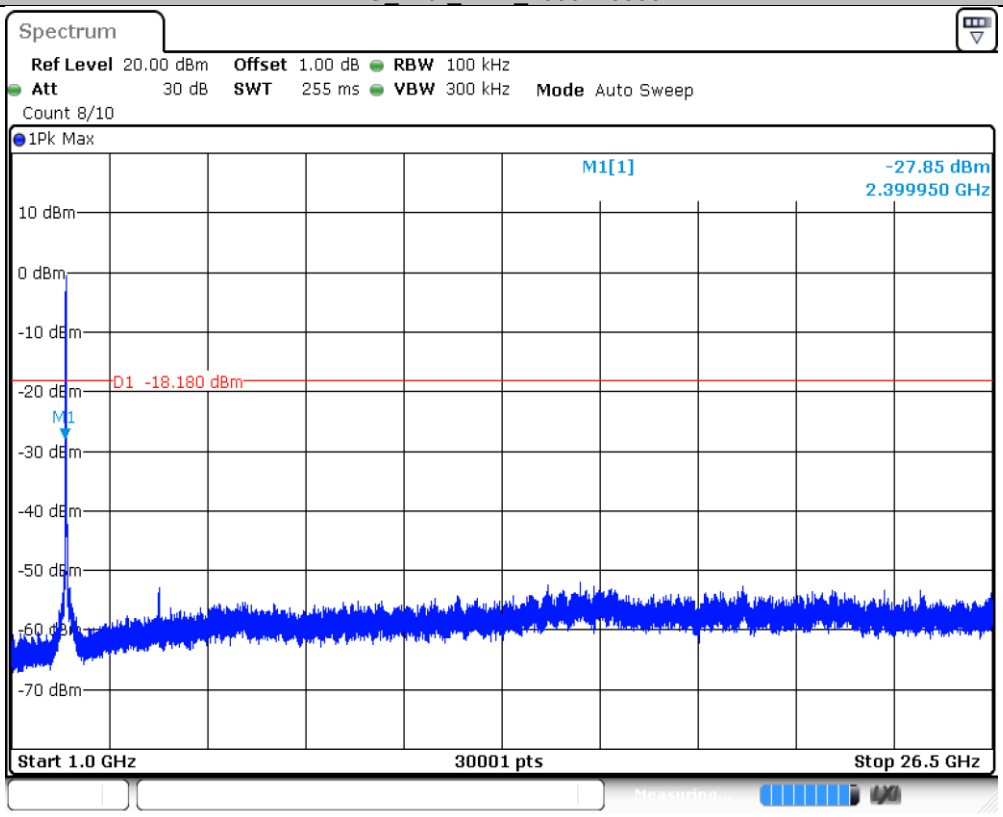
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11G_Ant1_2412_30~1000



Date: 15.SEP.2023 15:09:06

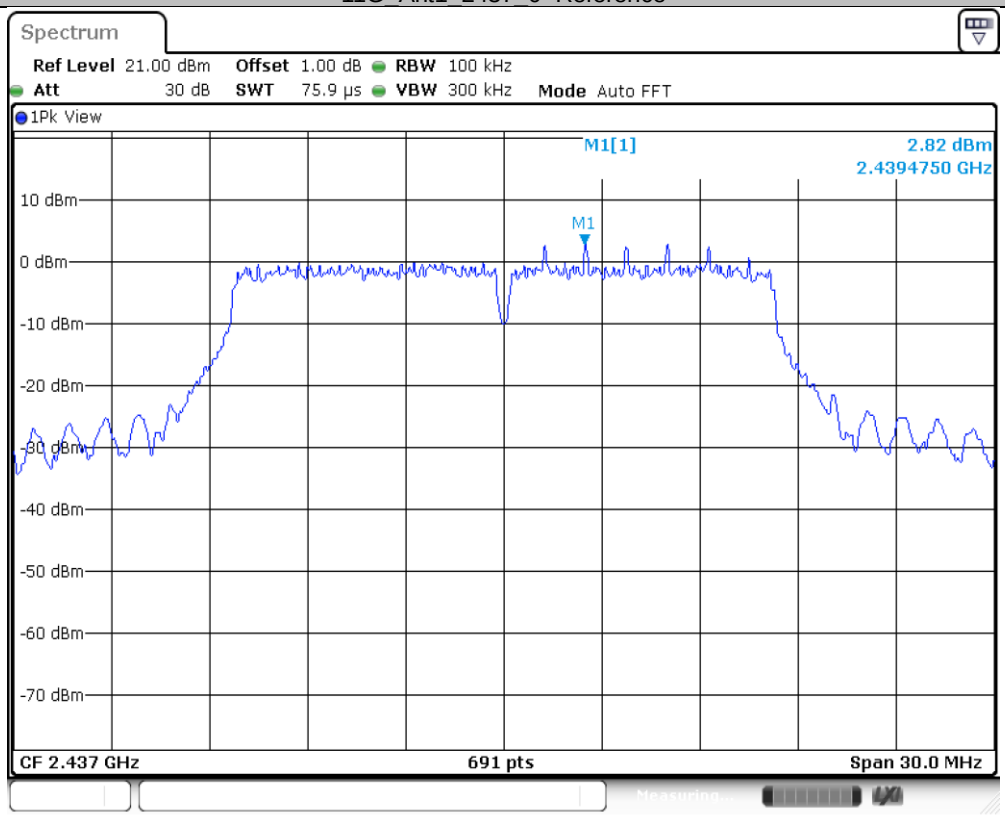
11G_Ant1_2412_1000~26500



Date: 15.SEP.2023 15:09:14

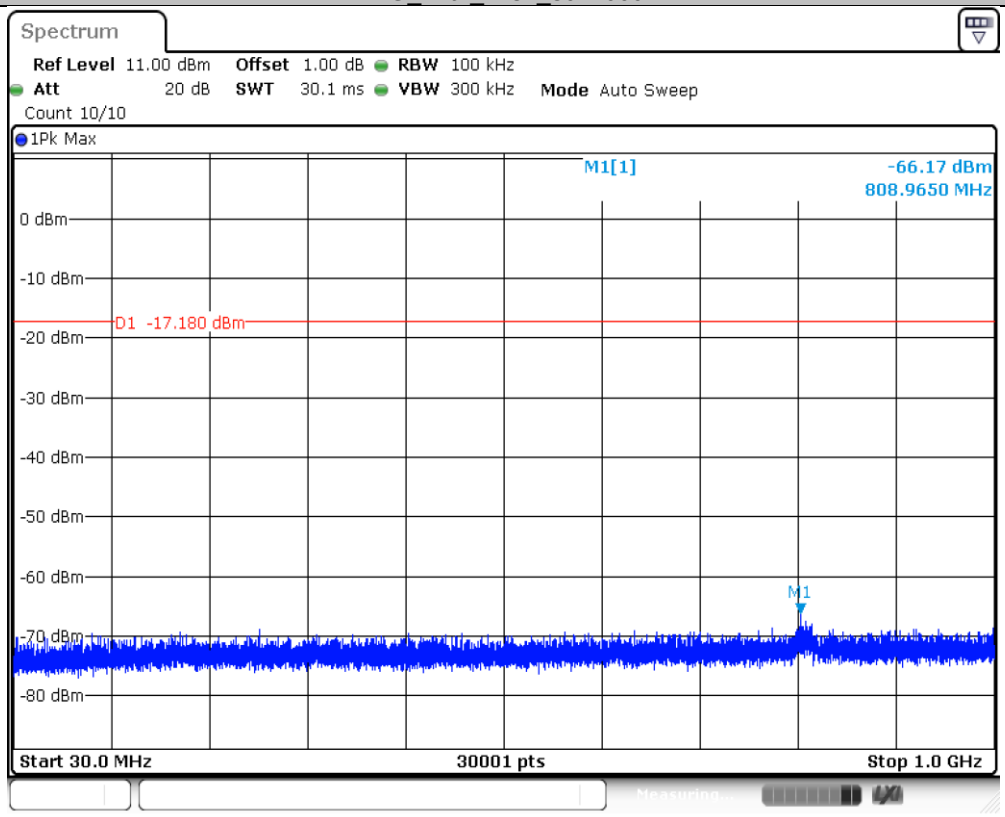
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11G_Ant1_2437_0~Reference



Date: 15.SEP.2023 15:11:16

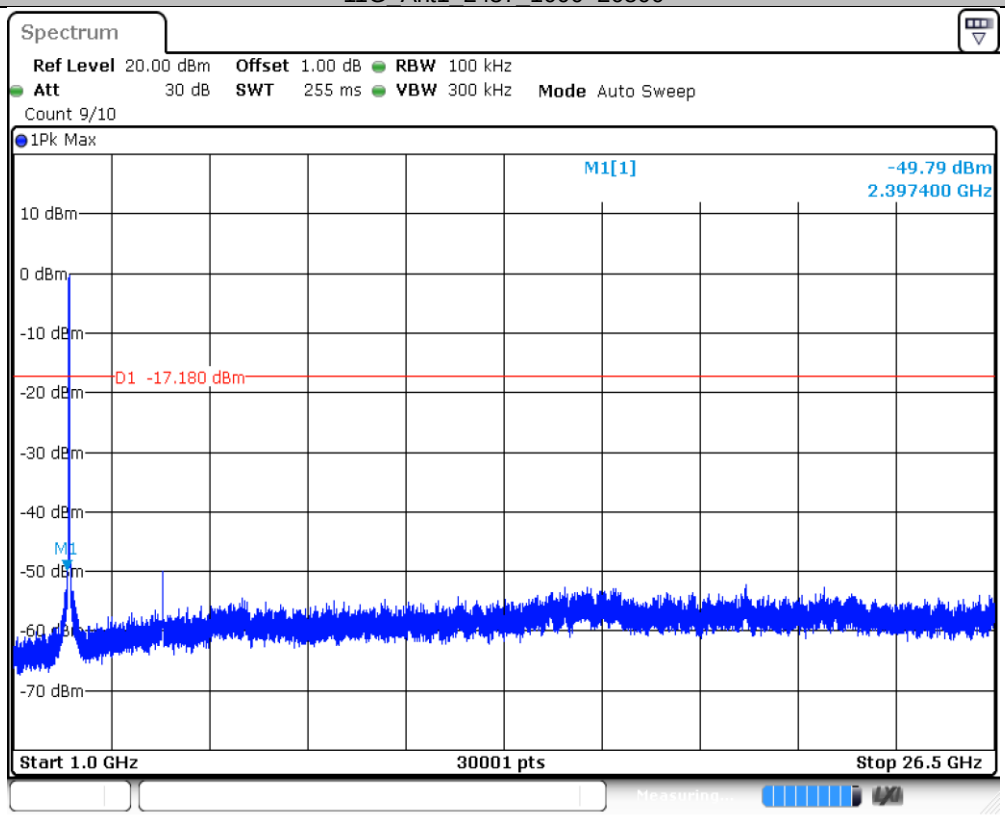
11G_Ant1_2437_30~1000



Date: 15.SEP.2023 15:11:22

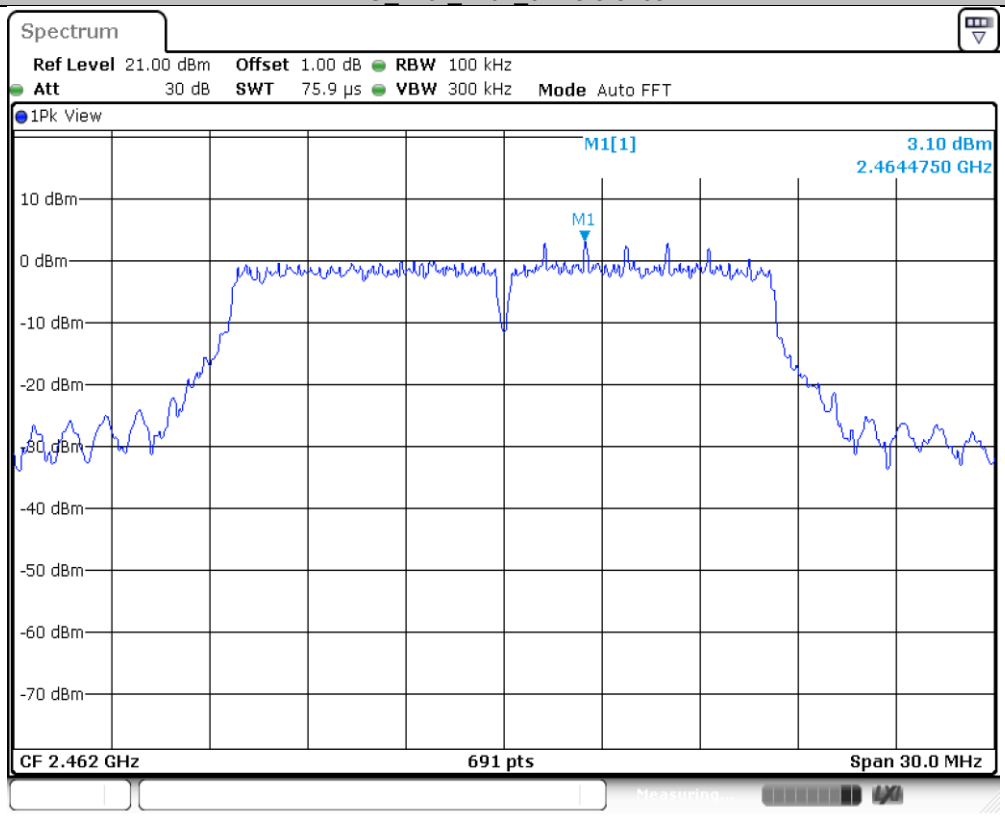
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11G_Ant1_2437_1000~26500



Date: 15.SEP.2023 15:11:30

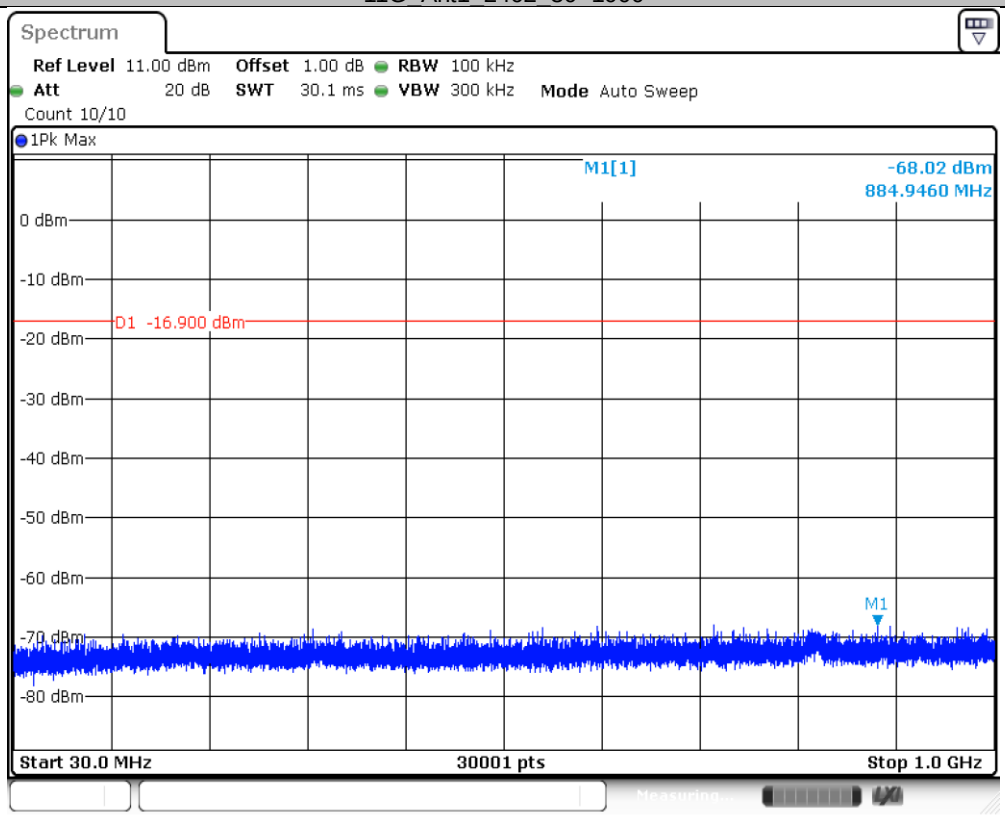
11G_Ant1_2462_0~Reference



Date: 15.SEP.2023 15:13:30

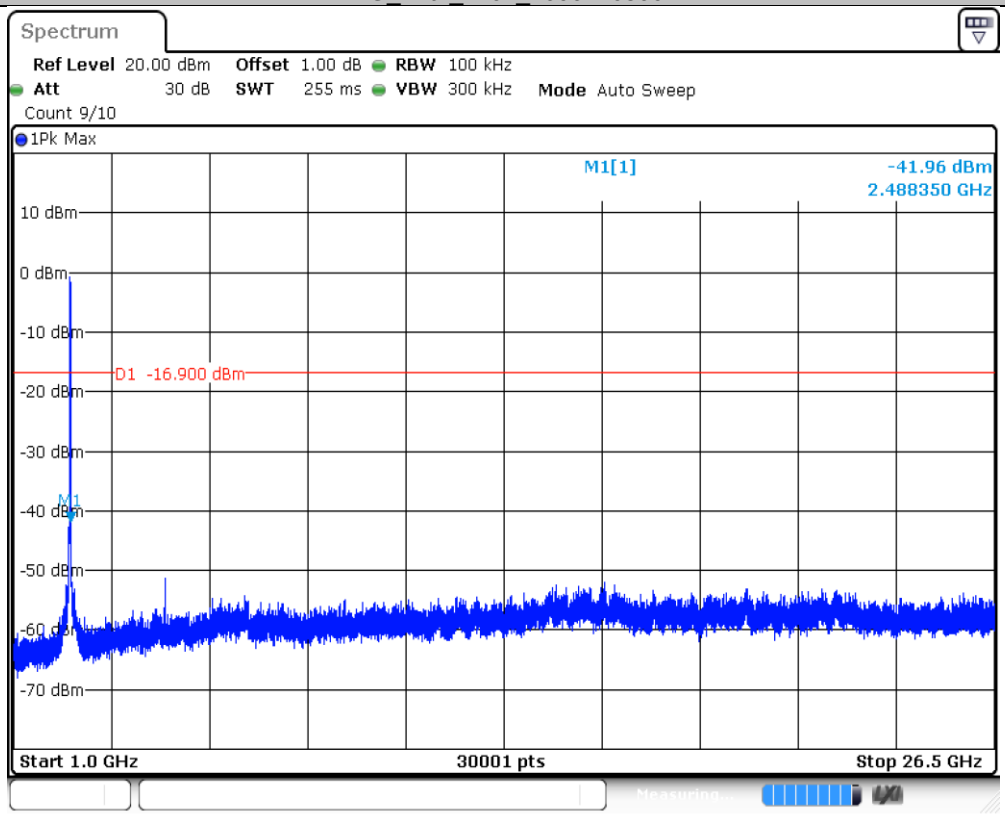
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11G_Ant1_2462_30~1000



Date: 15.SEP.2023 15:13:36

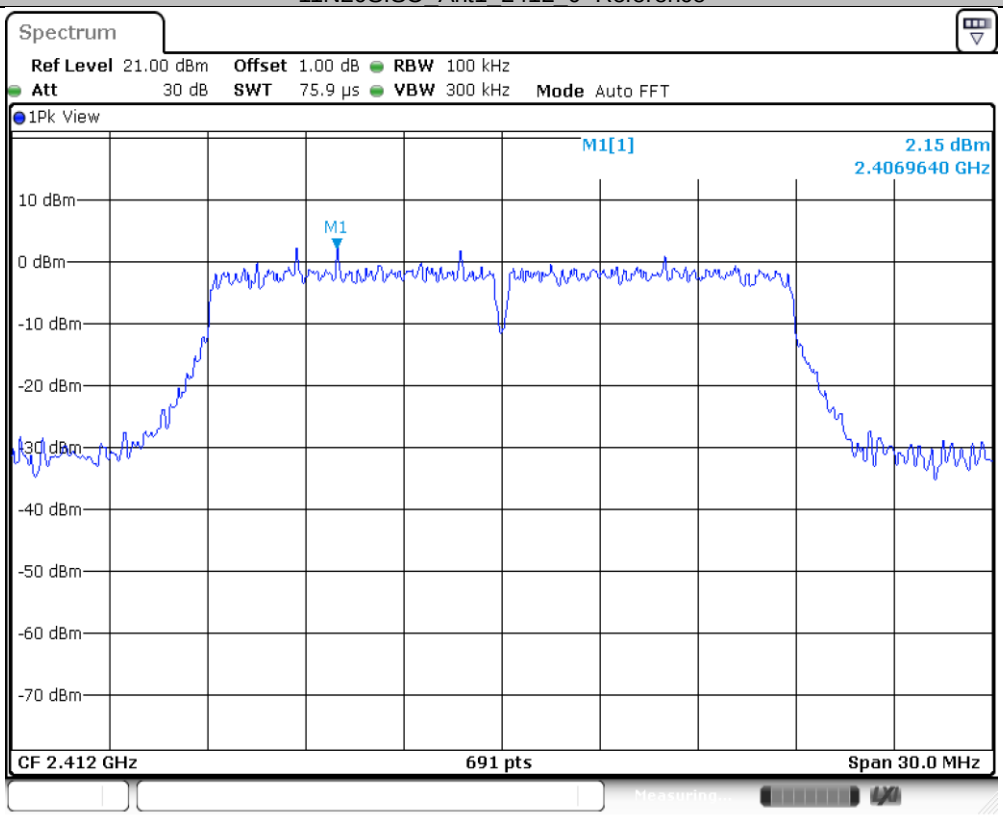
11G_Ant1_2462_1000~26500



Date: 15.SEP.2023 15:13:44

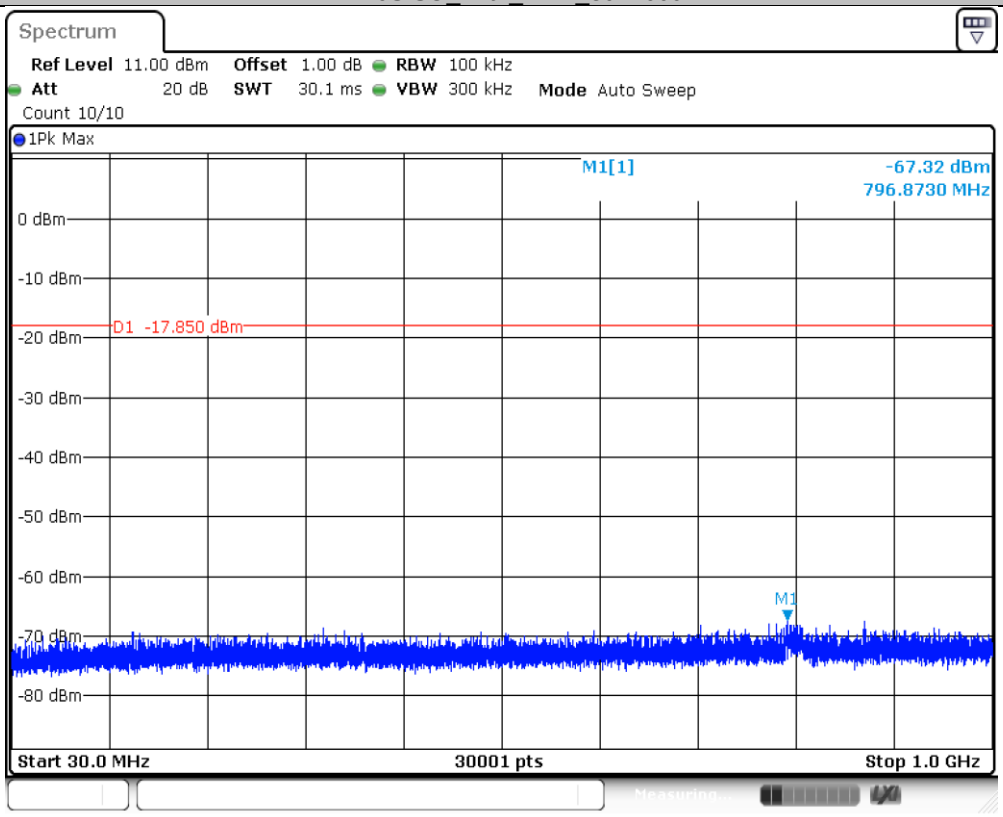
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

11N20SISO_Ant1_2412_0~Reference



Date: 15.SEP.2023 15:15:21

11N20SISO_Ant1_2412_30~1000



Date: 15.SEP.2023 15:15:27

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong 518052, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299