

RF TEST REPORT

FCC ID: 2AVIM-HCS01

Test Report No.....: RF260427003-01-001

Product(s) Name.....: Notebook Computer

Model(s).....: Chromebook HCS01, Chromebook HCS****, HC****, HNB-EC****

(* uses 0-9, A-Z, a-z, - "or blank, Indicating different appearance colors, different sales channels and sales regions codes, while the rest are exactly the same, this does not affect safety and electromagnetic compatibility)

Trade Mark.....: Haitech

Applicant.....: CHINA HAINERGY NEW ENERGY CORP.,LIMITED

Address.....: Unit 1908, 19/F, Harbour Centre, 25 Harbour Road, Wan Chai, HongKong, China

Receipt Date.....: 2026.07.03

Test Date.....: 2026.07.06~2026.09.20

Issued Date.....: 2026.09.22

Standards.....: 47 CFR FCC Part 15, Subpart C(Section 15.247);
ANSI C63.10-2020+Cor. 1-2023

Testing Laboratory.....: Shenzhen Haiyun Standard Technical Co., Ltd.

Prepared By:	Checked By:	Approved By:	
Lemon He	Black Ding	Tim Zhang	
Lemon He	Black Ding	Tim Zhang	

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History of this test report

Original Report Issue Date: 2026.09.22

☒ No additional attachment

☐ Additional attachments were issued following record

Attachment No.	Issue Date	Description

1. General Information

1.1 Applicant

CHINA HAINERGY NEW ENERGY CORP.,LIMITED

Unit 1908, 19/F, Harbour Centre, 25 Harbour Road, Wan Chai, HongKong, China

1.2 Manufacturer

Qingdao Hainergy Technology Corp., Ltd

Room 309 (A), Baotai Office Building, No. 45, Beijing Road, Qianwan Bonded Port Area, Qingdao Zone, China (Shandong) Pilot Free Trade Zone

1.3 Basic Description of Equipment Under Test

Sample No.	POC260427003-S001	
Product Name	Notebook Computer	
Model name	Chromebook HCS01, Chromebook HCS****, HC****, HNB-EC**** (* uses 0-9, A-Z, a-z, - "or blank, Indicating different appearance colors, different sales channels and sales regions codes, while the rest are exactly the same, this does not affect safety and electromagnetic compatibility)	
Test model	Chromebook HCS01	
Model difference	Only the model name and appearance colors are different	
Trade Mark	Haitech	
Power Supply	DC 15V from adapter or DC 7.7V from battery	
Operate temperature	-10℃~45℃	
EUT Stage	☐ Product Unit	☒ Final-Sample
Operating Band	2400MHz ~ 2483.5MHz	
Product Type	IEEE 802.11b/g/n/ax: WLAN(MIMO)	
Nominal Bandwidth	20MHz / 40MHz	
Modulation	DSSS, OFDM, OFDMA	
Data Rate (Mbps)	IEEE 802.11b mode: 1/2/5.5/11 IEEE 802.11g mode: 6/9/12/18/24/36/48/54 IEEE 802.11n mode: up to 300 IEEE 802.11ax mode: up to 573.5	
Antenna gain	Ant1: 2.86dBi, Ant2: 2.59dBi	
Antenna type	PIFA antenna	

Eleven channels are provided for 802.11b, 802.11g, 802.11n (20MHz), 802.11ax (20MHz):

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400MHz ~ 2483.5MHz	01	2412MHz	08	2447MHz
	02	2417MHz	09	2452MHz
	03	2422MHz	10	2457MHz
	04	2427MHz	11	2462MHz
	05	2432MHz	/	/
	06	2437MHz	/	/
	07	2442MHz	/	/

Seven channels are provided for 802.11n (40MHz), 802.11ax (40MHz):

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400MHz ~ 2483.5 MHz	03	2422 MHz	08	2447MHz
	04	2427MHz	09	2452MHz
	05	2432MHz	/	/
	06	2437MHz	/	/
	07	2442MHz	/	/

Note: For 802.11ax mode only support full RU mode.

1.4 Transmit Operating Mode

Transmit Operating Mode					Transmit Multiple Antennas					
☐	Operating mode 1 (single antenna)				☐	1TX				
☒	Operating mode 2 (multiple antenna, no beam forming)				☒	2TX	☐	3TX	☐	4TX
☐	Operating mode 3 (multiple antenna, with beam forming)				☐	2TX	☐	3TX	☐	4TX
☒	802.11b	Operating mode	☐	1TX	☒	2TX	☐	3TX	☐	4TX
☒	802.11g	Operating mode	☐	1TX	☒	2TX	☐	3TX	☐	4TX
☒	802.11n(20MHz)	Operating mode	☐	1TX	☒	2TX	☐	3TX	☐	4TX
☒	802.11n(40MHz)	Operating mode	☐	1TX	☒	2TX	☐	3TX	☐	4TX
☒	802.11ax(20MHz)	Operating mode	☐	1TX	☒	2TX	☐	3TX	☐	4TX
☒	802.11ax(40MHz)	Operating mode	☐	1TX	☒	2TX	☐	3TX	☐	4TX

2. Summary of Test Results

2.1 Summary of Test Items

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Test item	FCC Clause	Results	Remarks
AC Power Conducted Emission	15.207	Pass	Meet the requirement of the limit
Radiated Emission and Band Edge Measurement	15.205/15.209 /15.247(d)	Pass	Meet the requirement of the limit
Spurious Emission at Antenna Port	15.247(d)	Note2	Meet the requirement of the limit
6dB Bandwidth	15.247(a)(2)	Pass	Meet the requirement of the limit
Maximum Conducted Power	15.247(b)	Pass	Meet the requirement of the limit
Power Spectral Density	15.247(e)	Note2	Meet the requirement of the limit
Antenna Requirements	15.203	Compliance	Note1
Note: 1.The EUT has two PIFA antennas arrangement which was permanently attached. 2. For test data, please refer to the report RF200317E01. 3. Module report RF200317E01 (FCC ID: RAS-MT7921), this module is used for Notebook Computer with change in antenna type. Therefore, the maximum conducted power and radiated emission and band edge and AC power conducted emission were tested with reference to the original report, while the rest remained unchanged. 4. For MIMO mode, Directional gain=2.86dBi; for PSD, Directional gain=2.86 + 10og2=5.87dBi, the final test results for PSD remain PASS			

2.2 Application of Standard

47 CFR FCC Part 15, Subpart C (Section 15.247)

KDB 558074 D01 15.247 Meas Guidance v05r02

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2020+Cor. 1-2023

2.3 Test Instruments

No.	Name of Equipment	Manufacturer	Model Number	Serial Number	Inventory No.	Last Calibration	Due Calibration
Radiated Emission							
1	Test receiver	Rohde&Schwarz	ESU	100184	JLE011	2026/2/27	2027/2/26
2	Log periodic antenna	Schwarzbeck	VULB 9168	1151	JLE012	2025/4/12	2028/4/11
3	Low frequency amplifier	/	LNA 0920N	2014	JLE023	2026/2/27	2027/2/26
4	High frequency amplifier	Schwarzbeck	BBV 9718	9718-284	JLE024	2026/2/27	2027/2/26
5	Horn Antenna	SCHWARZBECK	BBHA 9120 D	02670	JLE028	2025/4/12	2028/4/11
6	Temp&Humidity Recorder	Meideshi	JR900	/	JLE021	2026/4/8	2027/4/7
7	Horn Antenna	SCHWARZBECK	BBHA 9170	9170#685	JLE029	2024/7/15	2027/7/14
8	Loop Antenna	SCHWARZBECK	FMZB1519B	00029	JLE030	2024/7/15	2027/7/14
9	Broadband preamplifier	Schwarzbeck	BBV9721	9721-019	JLE025	2026/2/27	2027/2/26
10	Filter	dsusoft	ZBSF6-C5170-5330-544	07227557	/	N/A	N/A
11	Filter	dsusoft	ZBSF6-C5495-5705-1309	07227558	/	N/A	N/A
12	Filter	dsusoft	ZBSF6-C5745-5830-1310	07227559	/	N/A	N/A
13	Filter	dsusoft	ZBSF6-C2400-2483.5-543	07227559	/	N/A	N/A
14	10dB attenuator	dsusoft	10dB	/	/	N/A	N/A
15	Filter	dsusoft	ZBSF6-C3000-18000-174	07227597	/	N/A	N/A
16	Filter	dsusoft	ZBSF6-C6500-18000-547	07227595	/	N/A	N/A
17	Test software	Farad Technology Co., Ltd	EZ-EMC Ver.TW-03A2				
Conducted Emission							
1	LISN	Rohde&Schwarz	ENV216	100075	JLE002	2026/2/27	2027/2/26
2	ISN	Schwarzbeck	CATE 5 8158	#171	JLE003	2026/2/27	2027/2/26
3	ISN	Schwarzbeck	CAT 3 8158	00187	JLE032	2026/2/27	2027/2/26
4	Test receiver	Rohde&Schwarz	ESCI	100718	JLE010	2026/2/27	2027/2/26
5	Pulse limiter	Rohde&Schwarz	ESH3-Z2	102299	JLE047	2026/2/27	2027/2/26
6	Temp&Humidity Recorder	Meideshi	JR900	/	JLE020	2026/4/8	2027/4/7
7	Test software	Farad Technology Co., Ltd	EZ-EMC Ver.TW-03A2				
RF Conducted Emissions							
1	MXA Signal Analyzer	Keysight	N9010A	MY51440158	JLE087	2026/9/10	2027/9/9
2	Spectrum Analyzer	Rohde&Schwarz	FSP	6625-01-522-9603	JLE121	2026/1/19	2027/1/18
3	RF Control Unit	dsusoft	JS0806-2	21G8060449	JLE053	2026/2/27	2027/2/26
4	power supply unit	dsusoft	JS0806-4ADC	N/A	JLE055	2026/2/27	2027/2/26
5	VXG Signal Generator	Keysight	N5182B	MY59100855	JLE068	2026/4/11	2027/4/10
6	EXG Analog Signal Generator	Keysight	N5173B	MY59101282	JLE052	2026/2/27	2027/2/26
7	Wideband Radio Communication Tester	Rohde&Schwarz	CMW500	1201.0002K5 0-116064-Dt	JLE054	2026/2/27	2027/2/26
8	Test software	dsusoft	JS1120-3 Ver.3.2.22.0				

2.4 Test Mode

Test Items	Mode	Data Rate	Channel
Radiated Emission above 1GHz and Band Edge Measurement	802.11AX20MIMO	MCS0	01/06/11
Radiated Emission below 1GHz and AC Power Conducted Emission	802.11B-CDD	1Mbps	06
6dB Bandwidth	802.11B-CDD	1Mbps	01/06/11
	802.11G-CDD	6Mbps	01/06/11
	802.11N20MIMO	MCS0	01/06/11
	802.11N40MIMO	MCS0	03/06/09
	802.11AX20MIMO	MCS0	01/06/11
	802.11AX40MIMO	MCS0	03/06/09
Maximum Conducted Power	802.11B-CDD	1Mbps	01/06/11
	802.11G-CDD	6Mbps	01/06/11
	802.11N20MIMO	MCS0	01/06/11
	802.11N40MIMO	MCS0	03/06/09
	802.11AX20MIMO	MCS0	01/06/11
	802.11AX40MIMO	MCS0	03/06/09

Note: 1. For AC Power Conducted Emission, and Radiated Emission and Band Edge, only worst case was recorded.

2.5 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Uncertainty	
Parameter	Uncertainty
Occupied Channel Bandwidth	±102kHz
RF power conducted	±0.243dB
Power Spectral Density	±0.743dB
Conducted Spurious Emission	±1.328dB
Conducted emission(9kHz~30MHz) AC main	±2.68dB
Radiated emission(9kHz~30MHz)	±3.50dB
Radiated emission (30MHz~1GHz)	±4.20dB
Radiated emission (1GHz~18GHz)	±5.10dB
Radiated emission (18GHz~40GHz)	±5.26dB

2.6 Test Condition

Applicable to	Environmental conditions	Input Power	Tested by
AC Power Conducted Emission	23.7°C, 49% RH	AC 120V/60Hz	Keith Huang
Radiated Emission and Band Edge Measurement	24.2°C, 49% RH	AC 120V/60Hz	Keith Huang
6dB Bandwidth	23.1°C, 50% RH	DC 7.7V	Elio Lin
Maximum Conducted Power	23.5°C, 52% RH	DC 7.7V	Elio Lin

Note: The applicant declare the operating environment of EUT as below:

Normal conditions: 120V AC, 0~45°C

2.7 Duty Cycle of Test Signal

Test result: PASS

Note: For test data, please refer to the report RF200317E01.

2.8 Test Location

Company:	Shenzhen Haiyun Standard Technical Co., Ltd.
Address:	No. 110-113, 115, 116, Block B, Jinyuan Business Building, Bao'an District, Shenzhen, China
CNAS Registration Number:	CNAS L18252
FCC Designation Number	CN1340
CAB identifier	CN0145
A2LA Certificate Number	6823.01

2.9 SUPPORT UNITS

Support Equipment				
No.	Equipment	Model Name	Manufacturer	Remarks
1	Mouse	HP KM10L	HP	9GLCKM25071307
2	keyboard	PW11	LENOVO	/
3	USB Disk	/	Kingston	/
4	Earphone	/	/	/
5	Adapter	AS24PD-0503000EUC	Guangbao	/

2.10 Deviation from Standards

None

3. Test Procedure And Results

3.1 AC Power Line Conducted Emission

3.1.1 Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μ V)	Average Level dB(μ V)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

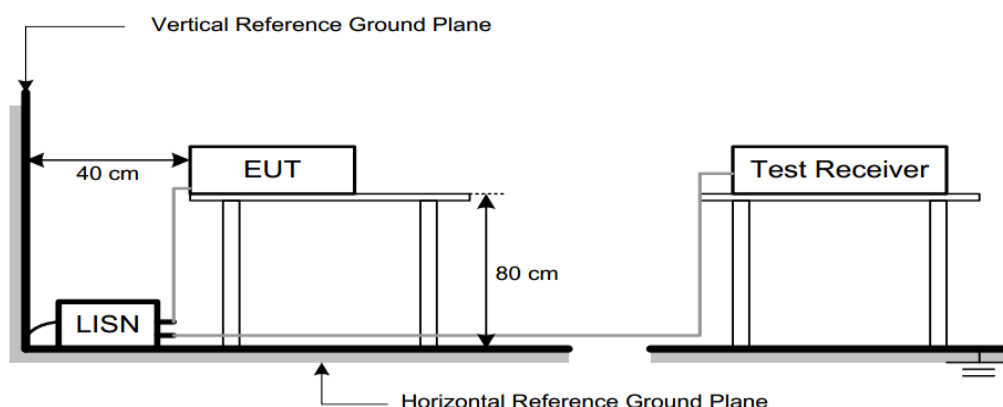
3.1.2 Test Procedure

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

- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

3.1.3 Test Setup

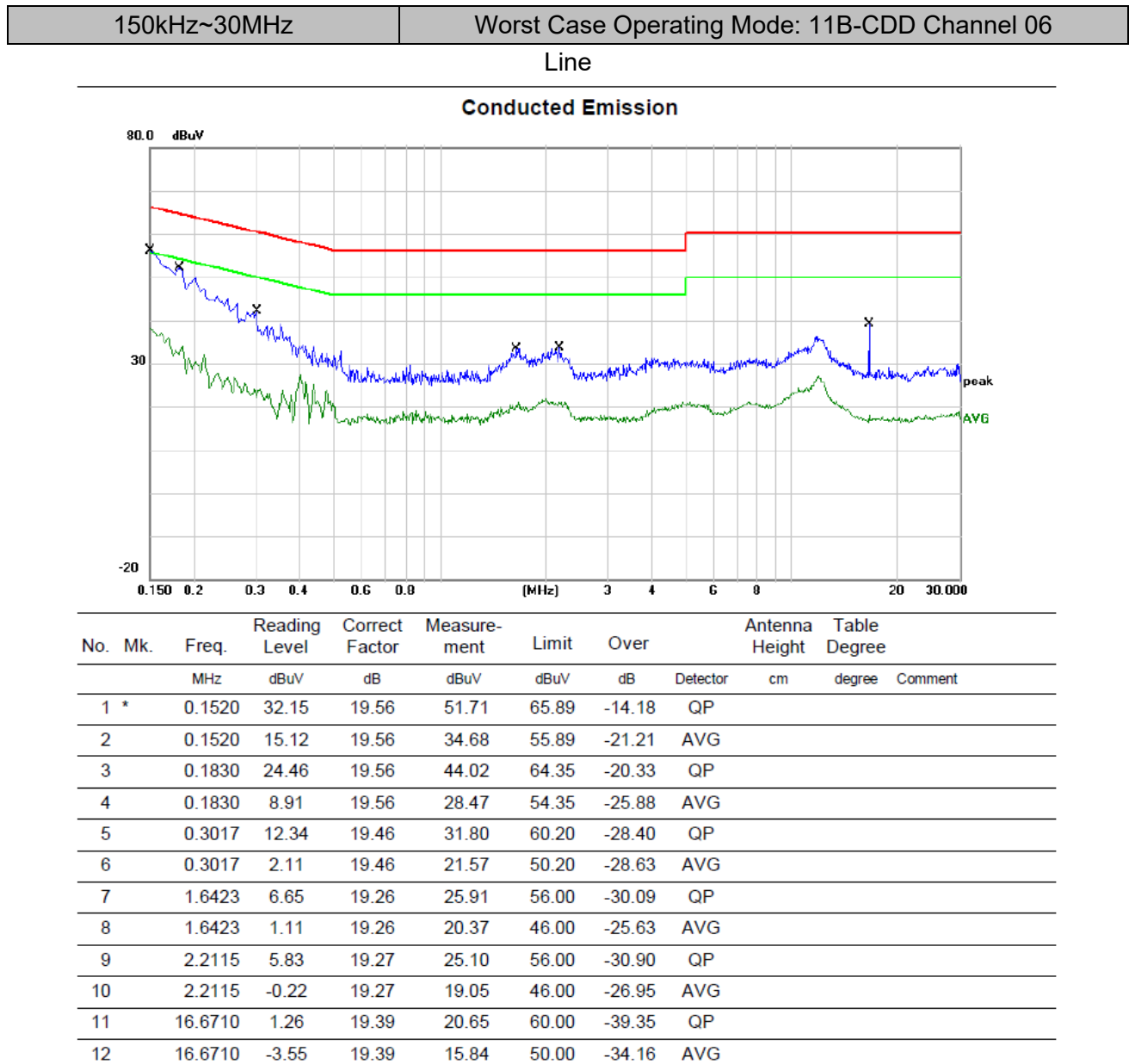


3.1.4 Test Result

Note:

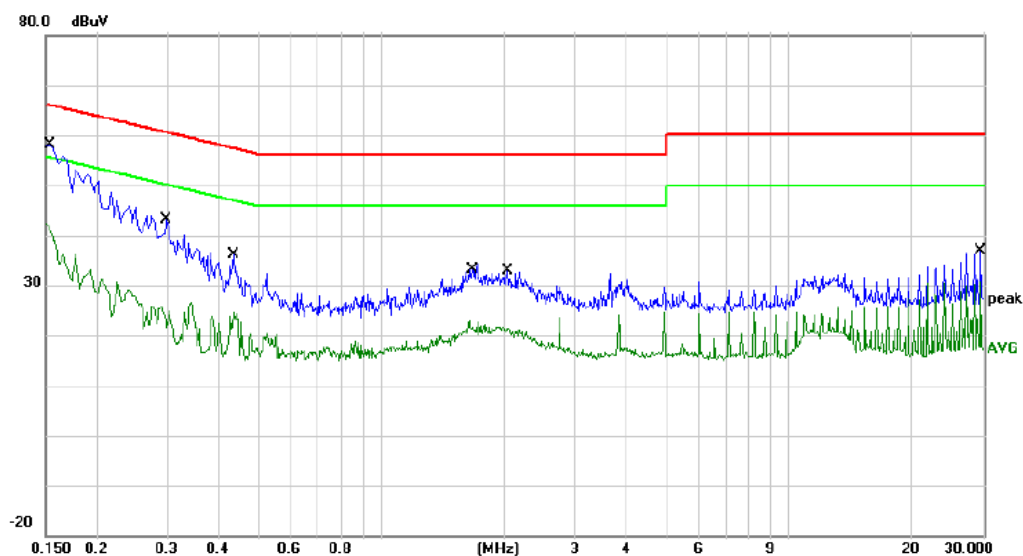
1. Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor, the value was added to Original Receiver Reading by the software automatically.
2. Measurement = Reading + Correct Factor.
3. Over = Measurement – Limit

We only recorded the data of the worst mode. Please see the following:



Neutral

Conducted Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	cm	degree	Comment
1	*	0.1532	34.75	19.47	54.22	65.82	-11.60	QP		
2		0.1532	16.75	19.47	36.22	55.82	-19.60	AVG		
3		0.2960	16.05	19.56	35.61	60.35	-24.74	QP		
4		0.2960	3.62	19.56	23.18	50.35	-27.17	AVG		
5		0.4344	9.67	19.56	29.23	57.17	-27.94	QP		
6		0.4344	2.76	19.56	22.32	47.17	-24.85	AVG		
7		1.6784	8.67	19.53	28.20	56.00	-27.80	QP		
8		1.6784	1.28	19.53	20.81	46.00	-25.19	AVG		
9		2.0391	6.23	19.56	25.79	56.00	-30.21	QP		
10		2.0391	0.62	19.56	20.18	46.00	-25.82	AVG		
11		29.5960	15.29	19.88	35.17	60.00	-24.83	QP		
12		29.5960	10.42	19.88	30.30	50.00	-19.70	AVG		

3.2 Radiated Emission and Band Edge

3.2.1 Limit

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequency (MHz)	Distance Meters(m)	Field Strength Limit	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
0.009 – 0.49	300	$2400/\text{F}(\text{kHz})$	-
0.490 – 1.705	30	$24000/\text{F}(\text{kHz})$	-
1.705 – 30	30	30	-
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0
Above 1000	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

Note: (1) Emission level $\text{dB}\mu\text{V} = 20 \log \text{Emission level } \mu\text{V}/\text{m}$

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.2.2 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	

- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- The measuring distance of 3 m or 1.5m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

- d) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e) The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- f) The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g) All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1 GHz)
- h) All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- i) For the actual test configuration, please refer to the related Item -EUT Test Photos.

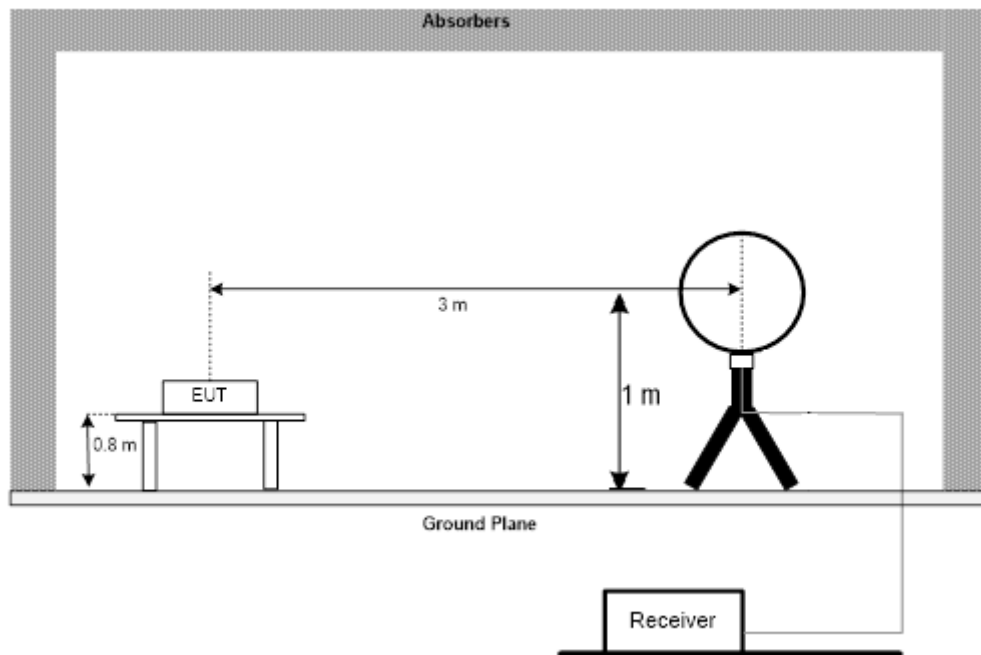
The following table is the setting of the receiver:

Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~150 kHz for RBW 200 Hz
Start ~ Stop Frequency	0.15 MHz~30 MHz for RBW 9 kHz
Start ~ Stop Frequency	30 MHz~1000 MHz for RBW 100 kHz

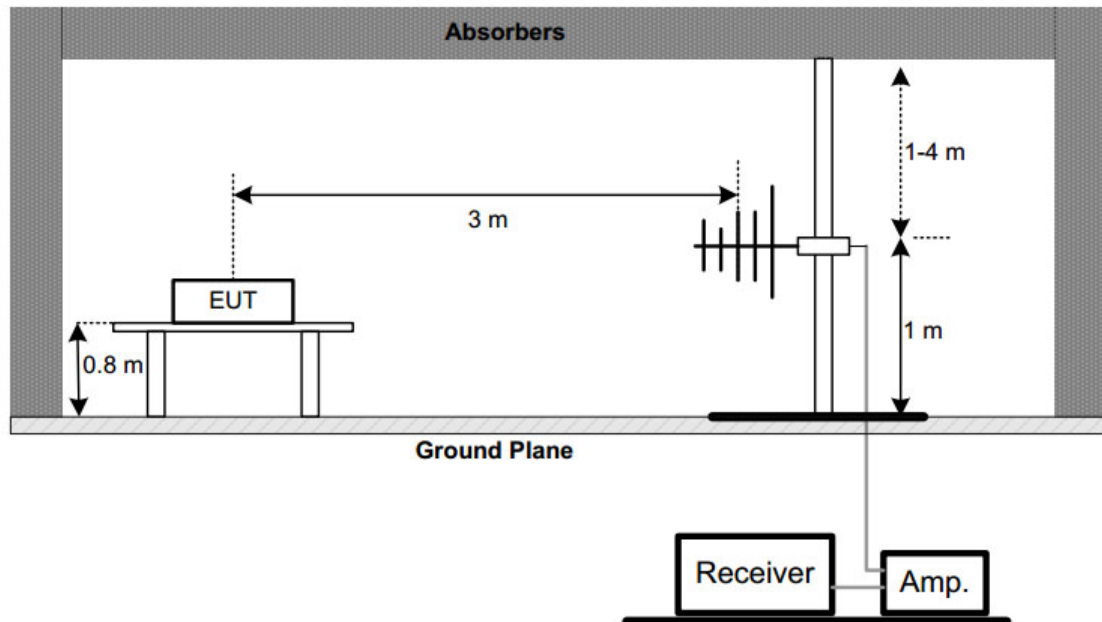
Spectrum Parameters	Setting
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1 MHz / 3 MHz for PK value 1 MHz / 1/T Hz for AVG value

3.2.3 Test Setup

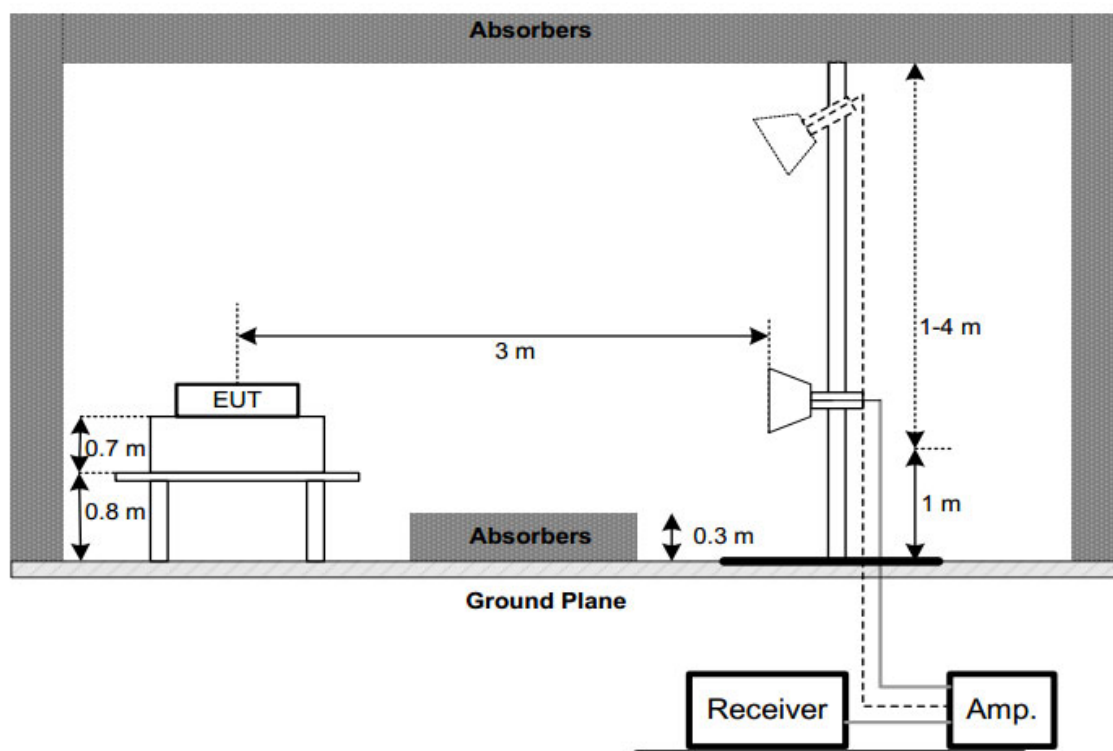
(A) Radiated Emission Test Set-Up Frequency Below 30MHz



(B) Radiated Emission Test Set-Up Frequency 30 MHz-1000 MHz



(C) Radiated Emission Test Set-Up Frequency Above 1 GHz



3.2.4 Test Result

1) Radiated emission: 9kHz-30MHz

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 recorded in this report.

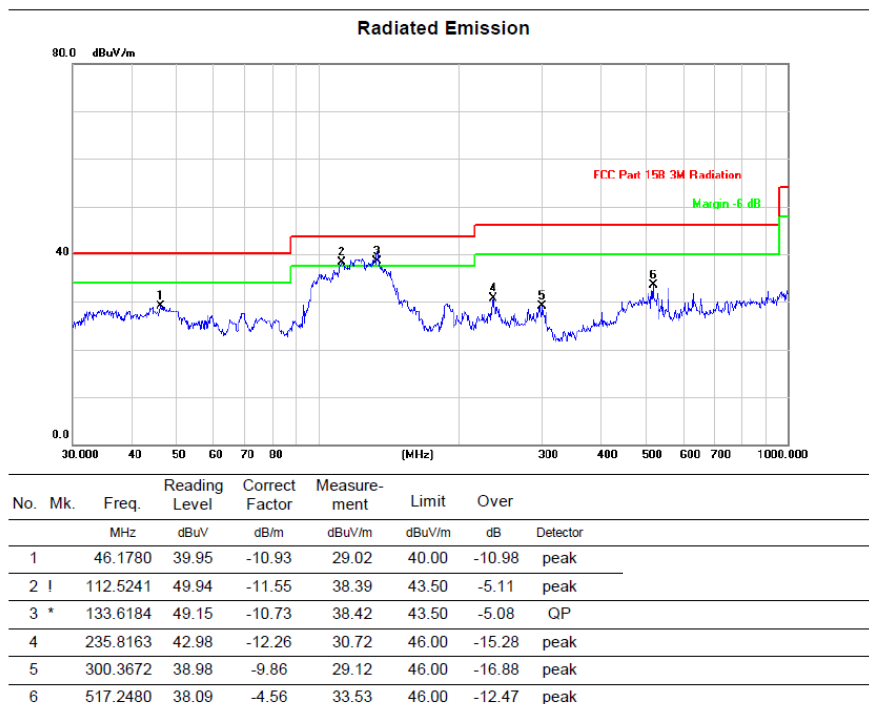
2) Radiated emission: 30MHz-1GHz

Note:

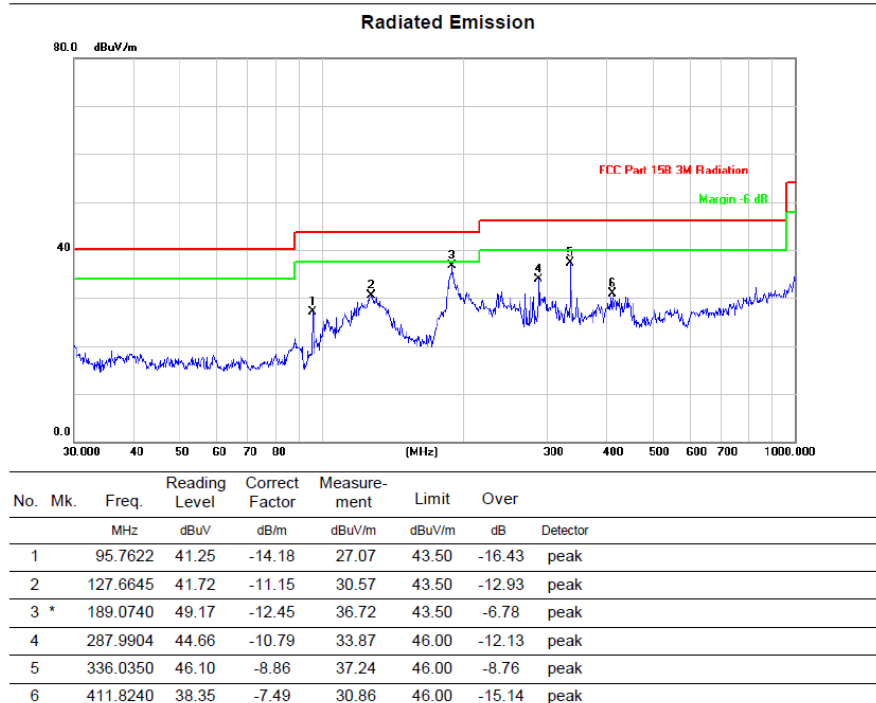
1. Measurement = Reading + Correct Factor.
2. Over = Measurement – Limit

We only recorded the data of the worst mode. Please see the following:

VERTICAL



HORIZONTAL



3) Radiated emission: Above 1GHz

Frequency (MHz)	Read Level (dBμV)	Polarization	Factor (dB/m)	Measurement (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
11AX20MIMO TX CH01							
4824.00	54.61	H	-4.12	50.49	74.00	23.51	peak
2310.00	46.45	H	-1.98	44.47	74.00	29.53	peak
2390.00	52.87	H	-1.58	51.29	74.00	22.71	peak
4824.00	56.97	V	-4.12	52.85	74.00	21.15	peak
2310.00	46.62	V	-1.98	44.64	74.00	29.36	peak
2390.00	55.11	V	-1.58	53.53	74.00	20.47	peak
11AX20MIMO TX CH06							
4874.00	54.40	H	-4.04	50.36	74.00	23.64	peak
4874.00	56.77	V	-4.04	52.73	74.00	21.27	peak
11AX20MIMO TX CH11							
4924.00	54.04	H	-3.82	50.22	74.00	23.78	peak
2483.50	52.00	H	-0.62	51.38	74.00	22.62	peak
2500.00	49.66	H	-0.45	49.21	74.00	24.79	peak
4924.00	56.26	V	-3.82	52.44	74.00	21.56	peak
2483.50	54.54	V	-0.62	53.92	74.00	20.08	peak
2500.00	51.70	V	-0.45	51.25	74.00	22.75	peak

Note: 1. The other emission levels were very low against the limit.

2. Measurement = Reading Level+ Correct Factor, Margin = Limit- Measurement

3.3 Spurious Emission at Antenna Port

3.3.1 Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator 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 the transmitter demonstrates compliance with the peak Output Power limits. If the transmitter complies with the Output Power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

3.3.2 Test Procedure

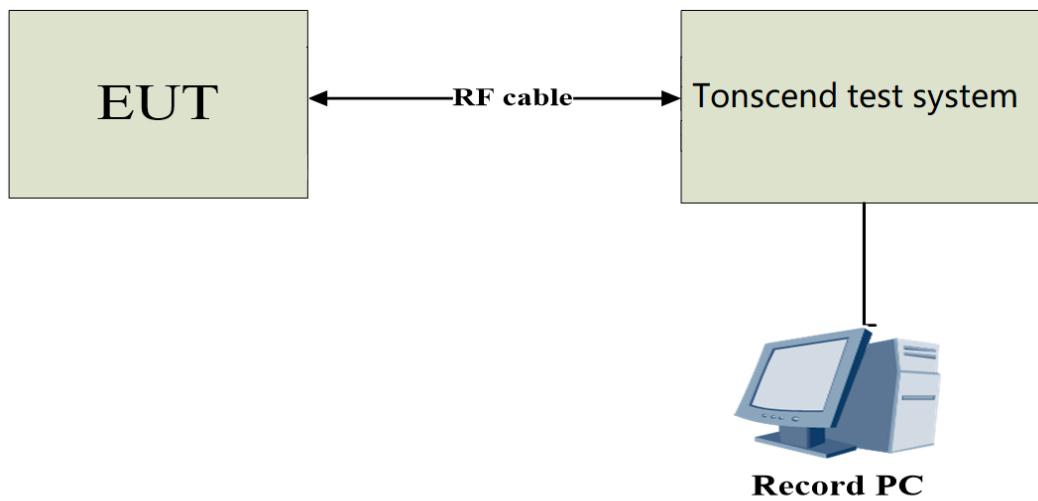
Test Method	
☒ Conducted Measurement	☐ Radiated Measurement
Test Channels	
☒ Lowest, Middle and Highest Channel	☐ Lowest and Highest Channel
Environmental conditions	
☒ Normal	☐ Normal and Extreme
Note: ☒ : Test ☐ : No Test	

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

b) Spectrum Setting as below:

Centre Frequency	The centre frequency of the channel under test
Spectrum Parameters	Setting
Start Frequency	30 MHz
Stop Frequency	26.5 GHz
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

3.3.3 Test Setup



3.3.4 The Result

3.3.4.1 Conducted Spurious Emission

Test result: PASS

Note: For test data, please refer to the report RF200317E01.

3.3.4.2 Band edge

Test result: PASS

Note: For test data, please refer to the report RF200317E01.

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:

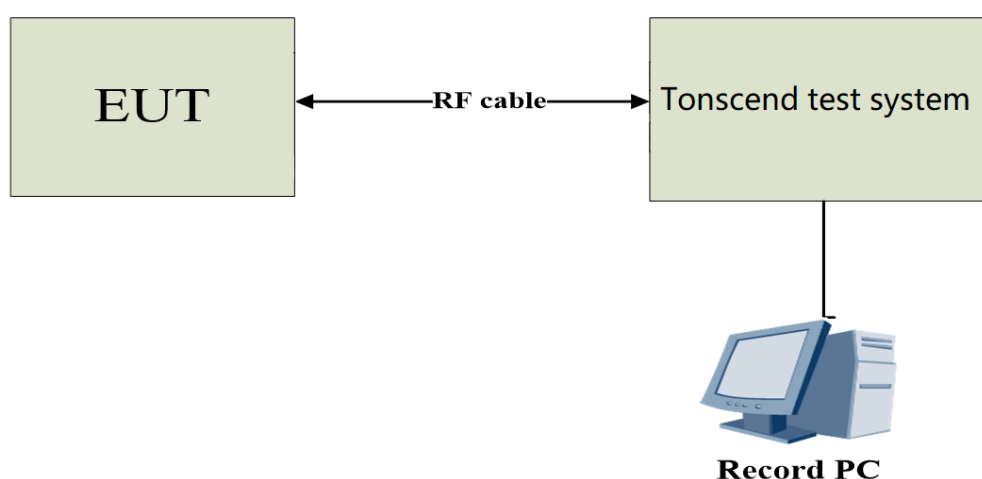
Centre Frequency	The centre frequency of the channel under test
RBW	1%~5% OBW but not less than 100 kHz.
VBW	≥ 3 RBW
Frequency span	2x Nominal Channel Bandwidth
Detector Mode	Peak
Trace Mode	Max Hold
Sweep Time	Auto Couple

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

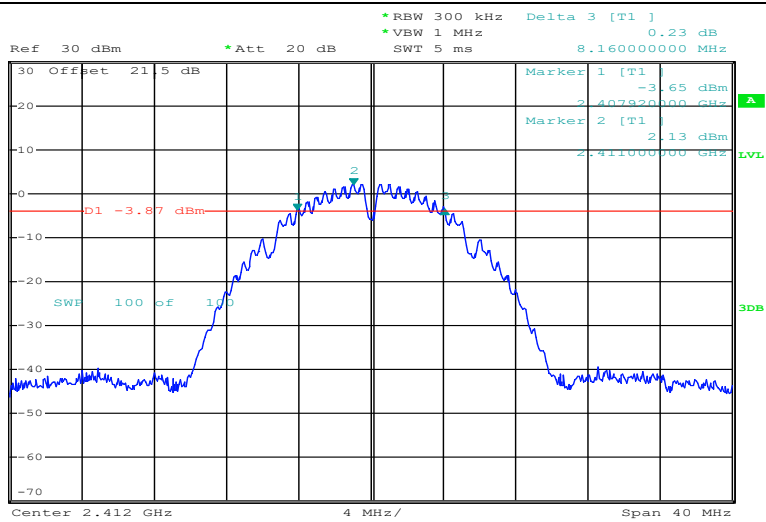


3.4.4 Test Result

Test Mode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B-CDD	Ant1	2412	8.16	2407.92	2416.08	0.5	PASS
11B-CDD	Ant2	2412	8.16	2407.92	2416.08	0.5	PASS
11B-CDD	Ant1	2437	8.16	2432.92	2441.08	0.5	PASS
11B-CDD	Ant2	2437	8.16	2432.92	2441.08	0.5	PASS
11B-CDD	Ant1	2462	8.16	2457.92	2466.08	0.5	PASS
11B-CDD	Ant2	2462	8.16	2457.92	2466.08	0.5	PASS
11G-CDD	Ant1	2412	16.68	2403.60	2420.28	0.5	PASS
11G-CDD	Ant2	2412	17.16	2403.40	2420.56	0.5	PASS
11G-CDD	Ant1	2437	17.40	2428.28	2445.68	0.5	PASS
11G-CDD	Ant2	2437	17.44	2428.24	2445.68	0.5	PASS
11G-CDD	Ant1	2462	17.44	2453.32	2470.76	0.5	PASS
11G-CDD	Ant2	2462	17.56	2453.20	2470.76	0.5	PASS
11N20MIMO	Ant1	2412	16.60	2403.72	2420.32	0.5	PASS
11N20MIMO	Ant2	2412	17.20	2403.40	2420.60	0.5	PASS
11N20MIMO	Ant1	2437	17.44	2428.24	2445.68	0.5	PASS
11N20MIMO	Ant2	2437	17.52	2428.24	2445.76	0.5	PASS
11N20MIMO	Ant1	2462	17.44	2453.28	2470.72	0.5	PASS
11N20MIMO	Ant2	2462	17.52	2453.28	2470.80	0.5	PASS
11N40MIMO	Ant1	2422	35.20	2404.56	2439.76	0.5	PASS
11N40MIMO	Ant2	2422	35.44	2404.40	2439.84	0.5	PASS
11N40MIMO	Ant1	2437	35.36	2419.40	2454.76	0.5	PASS
11N40MIMO	Ant2	2437	35.52	2419.24	2454.76	0.5	PASS
11N40MIMO	Ant1	2452	35.28	2434.40	2469.68	0.5	PASS
11N40MIMO	Ant2	2452	35.76	2434.16	2469.92	0.5	PASS
11AX20MIMO	Ant1	2412	18.08	2402.84	2420.92	0.5	PASS
11AX20MIMO	Ant2	2412	18.12	2402.80	2420.92	0.5	PASS
11AX20MIMO	Ant1	2437	18.20	2427.64	2445.84	0.5	PASS
11AX20MIMO	Ant2	2437	18.52	2427.56	2446.08	0.5	PASS
11AX20MIMO	Ant1	2462	18.84	2452.48	2471.32	0.5	PASS
11AX20MIMO	Ant2	2462	18.36	2452.64	2471.00	0.5	PASS
11AX40MIMO	Ant1	2422	35.20	2404.72	2439.92	0.5	PASS
11AX40MIMO	Ant2	2422	35.68	2404.40	2440.08	0.5	PASS
11AX40MIMO	Ant1	2437	34.96	2419.24	2454.20	0.5	PASS
11AX40MIMO	Ant2	2437	37.04	2418.44	2455.48	0.5	PASS
11AX40MIMO	Ant1	2452	36.24	2433.84	2470.08	0.5	PASS
11AX40MIMO	Ant2	2452	36.16	2434.56	2470.72	0.5	PASS



1 PK
VIEW

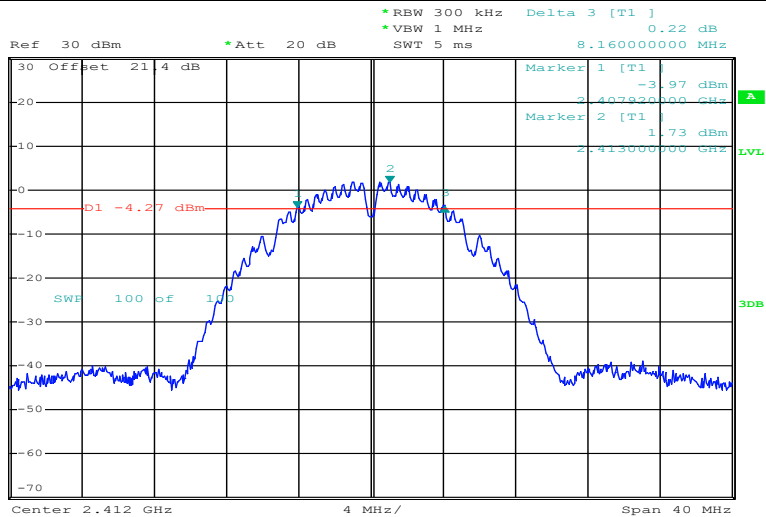


Date: 5.AUG.2026 19:42:40

11B-CDD-Ant1-2412-PASS

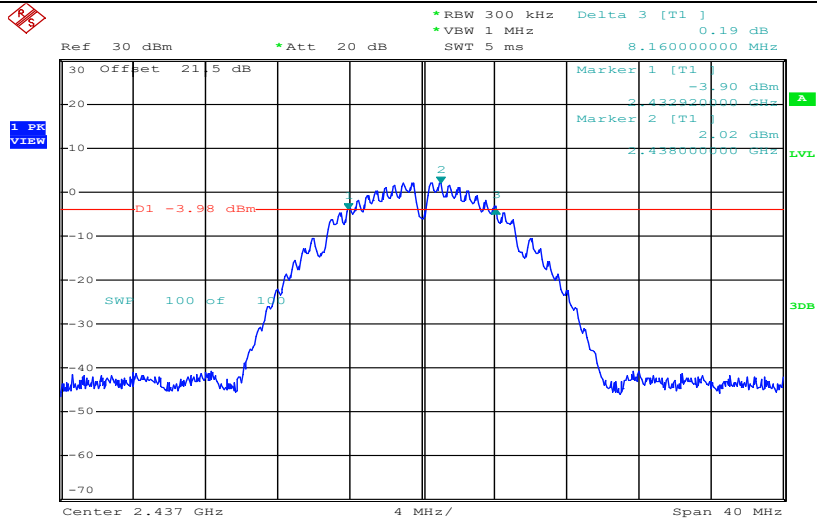


1 PK
VIEW



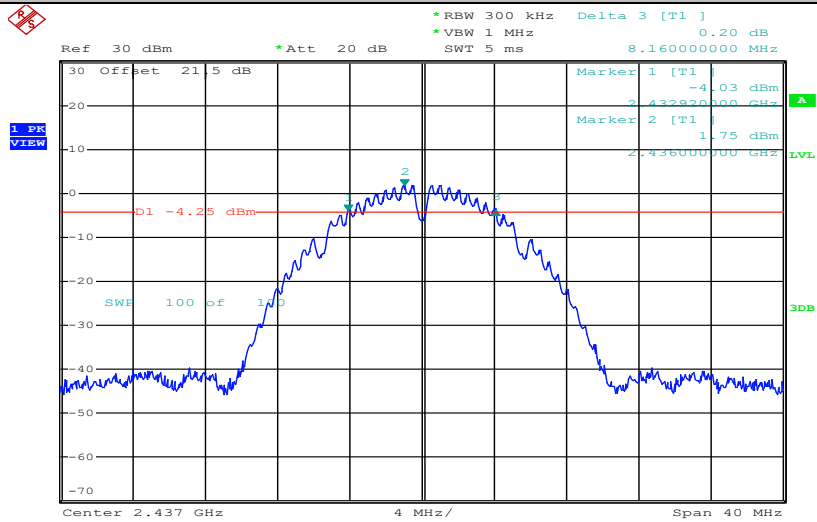
Date: 5.AUG.2026 19:42:50

11B-CDD-Ant2-2412-PASS



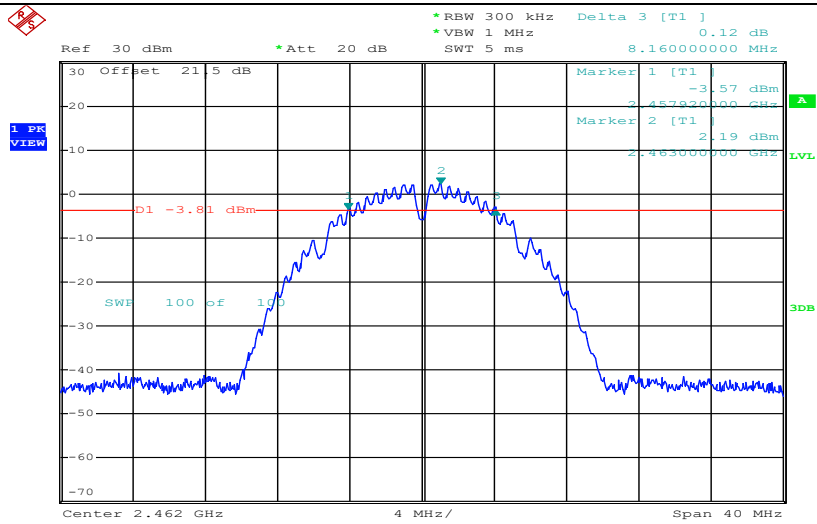
Date: 5.AUG.2026 19:43:15

11B-CDD-Ant1-2437-PASS



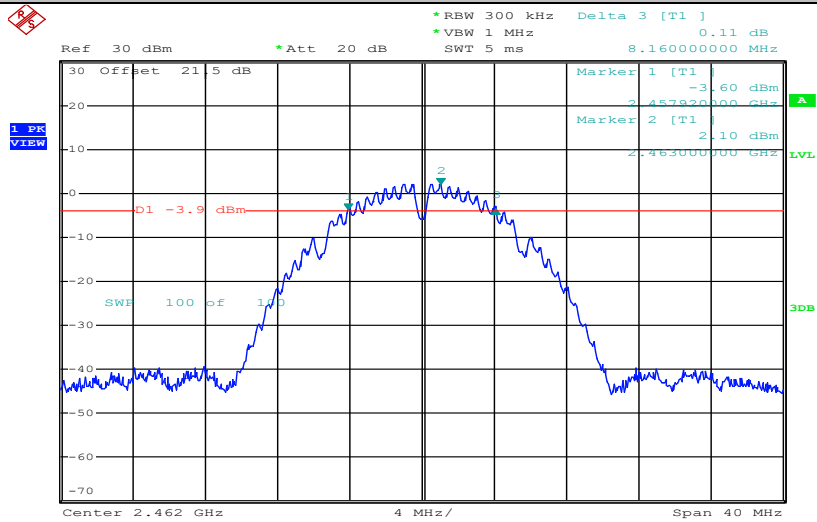
Date: 5.AUG.2026 19:43:25

11B-CDD-Ant2-2437-PASS



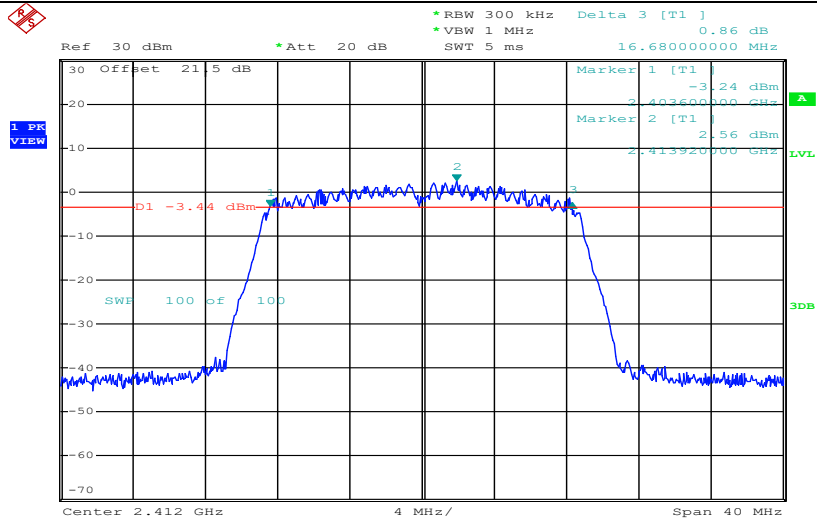
Date: 5.AUG.2026 19:43:42

11B-CDD-Ant1-2462-PASS



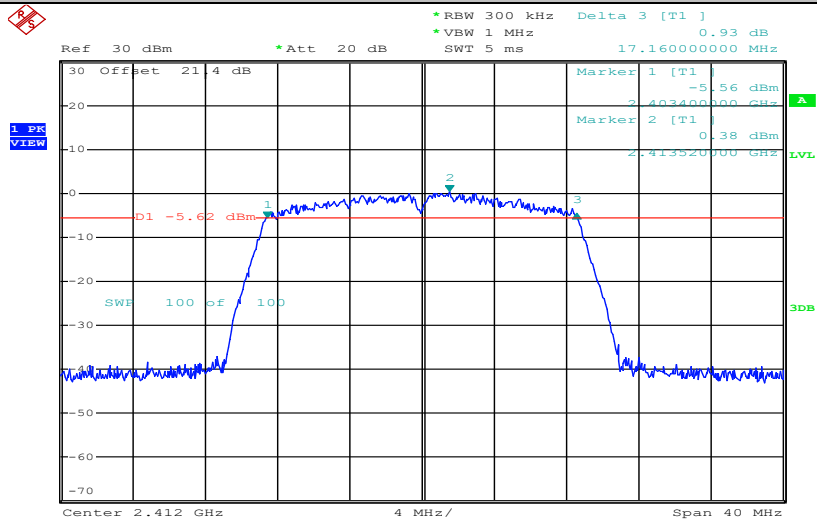
Date: 5.AUG.2026 19:43:51

11B-CDD-Ant2-2462-PASS



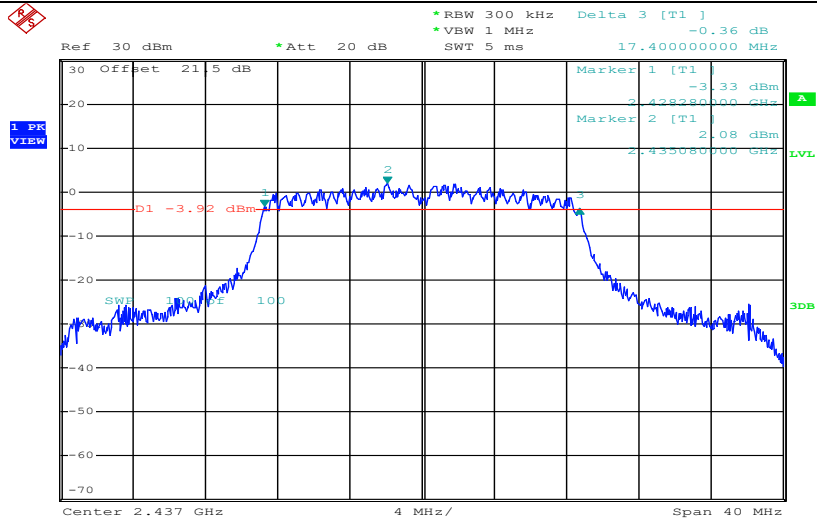
Date: 5.AUG.2026 20:17:14

11G-CDD-Ant1-2412-PASS



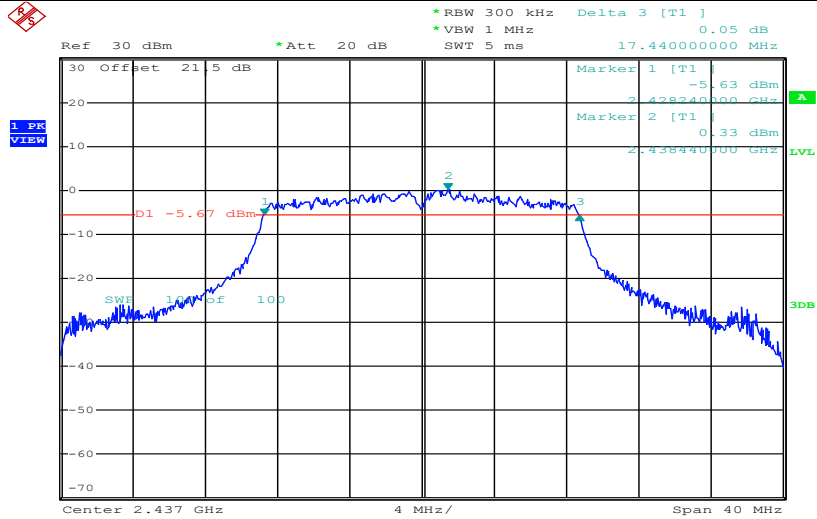
Date: 5.AUG.2026 20:17:22

11G-CDD-Ant2-2412-PASS



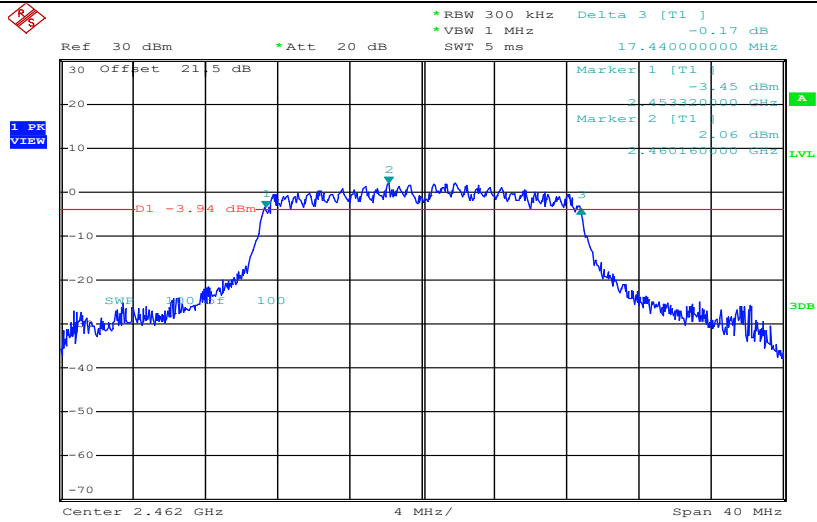
Date: 5.AUG.2026 20:17:44

11G-CDD-Ant1-2437-PASS



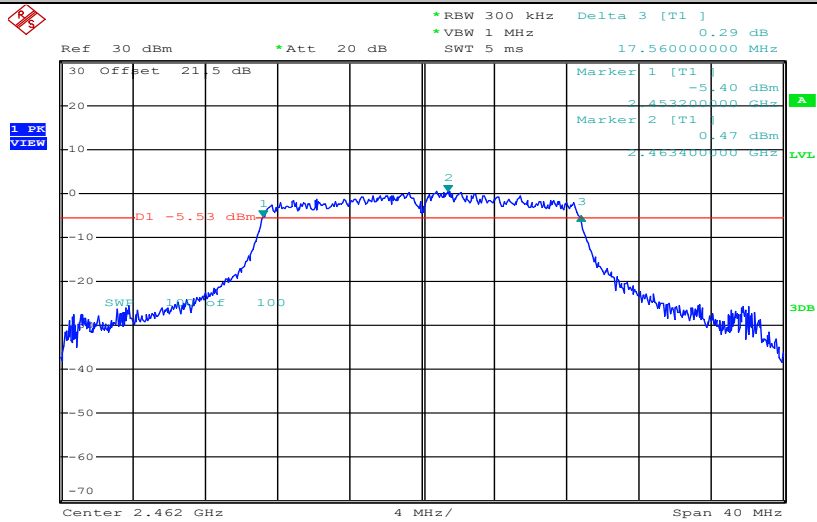
Date: 5.AUG.2026 20:17:52

11G-CDD-Ant2-2437-PASS



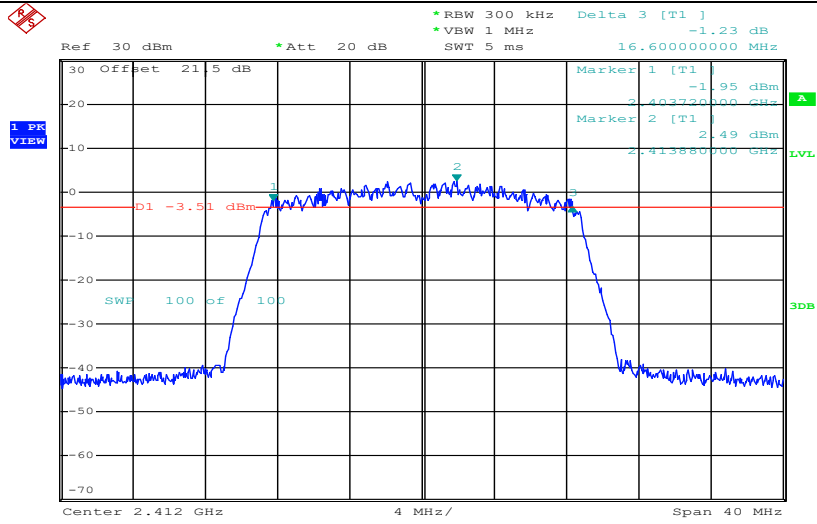
Date: 5.AUG.2026 20:19:01

11G-CDD-Ant1-2462-PASS



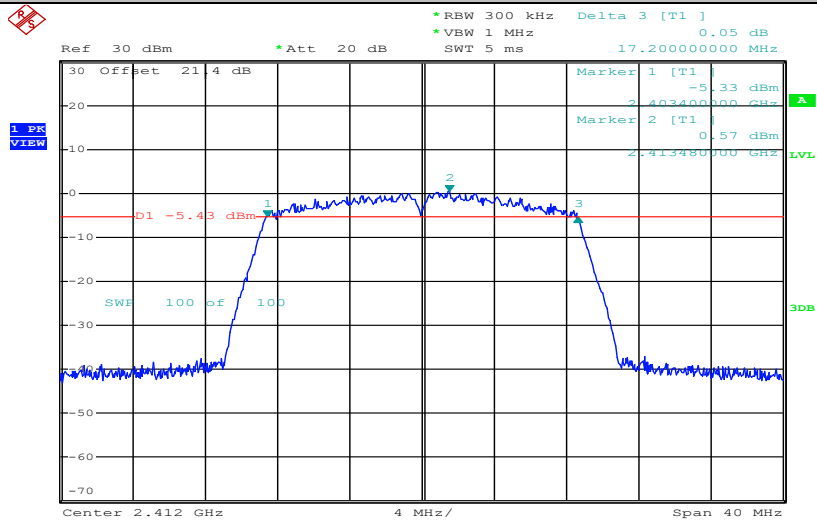
Date: 5.AUG.2026 20:19:09

11G-CDD-Ant2-2462-PASS



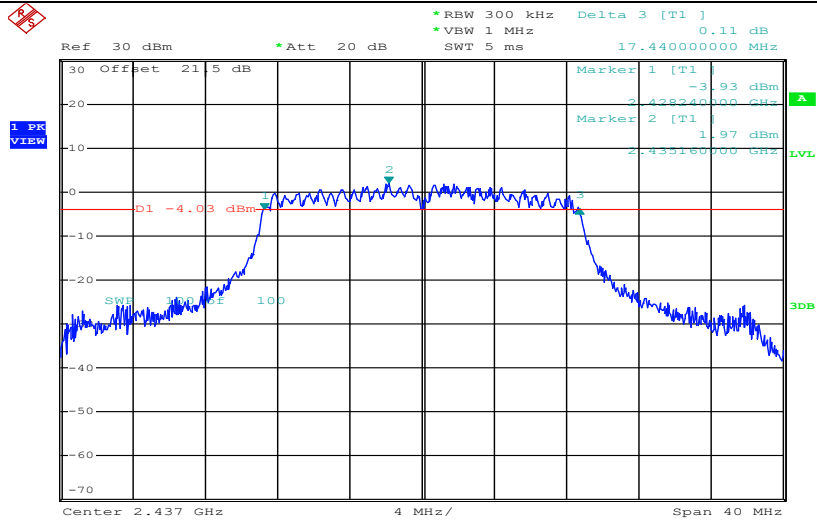
Date: 5.AUG.2026 20:20:17

11N20MIMO-Ant1-2412-PASS



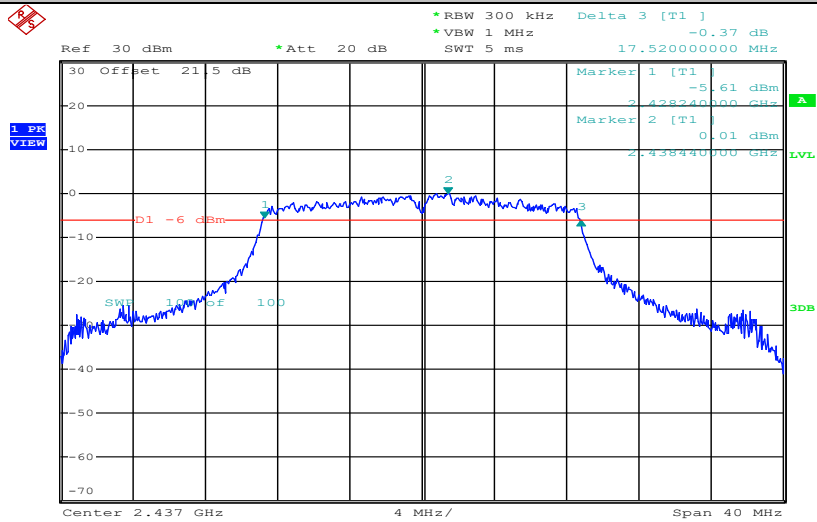
Date: 5.AUG.2026 20:20:25

11N20MIMO-Ant2-2412-PASS



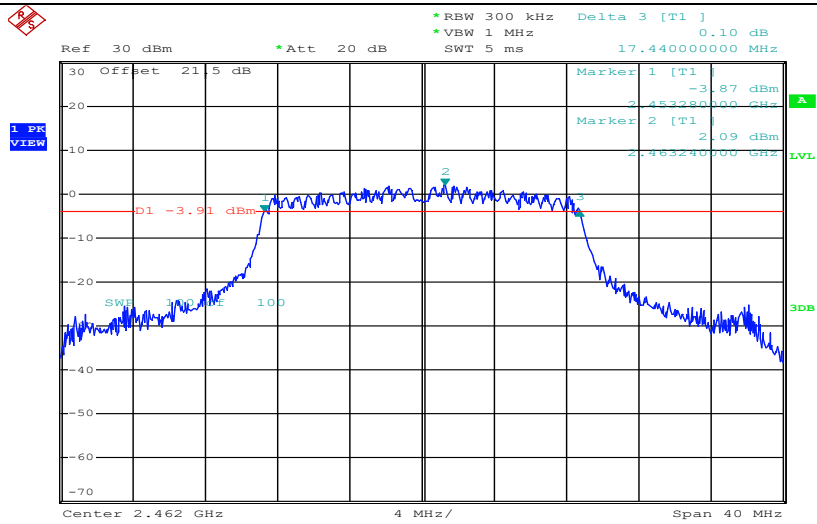
Date: 5.AUG.2026 20:20:35

11N20MIMO-Ant1-2437-PASS



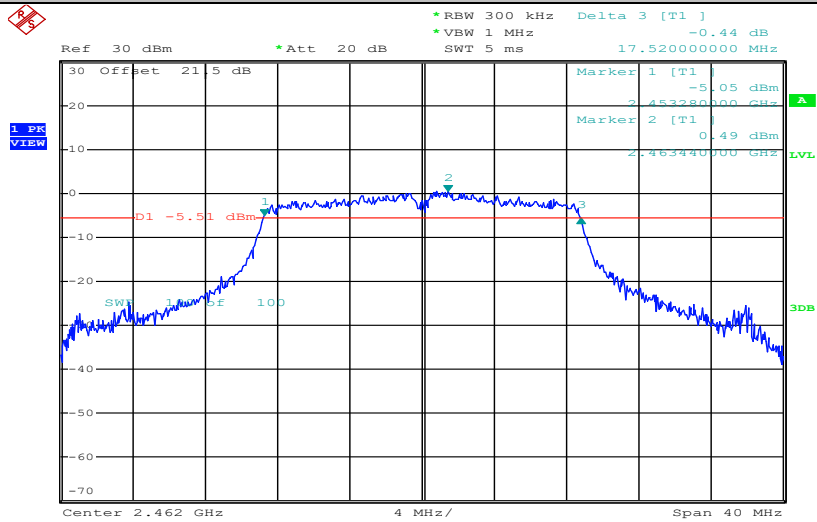
Date: 5.AUG.2026 20:20:43

11N20MIMO-Ant2-2437-PASS



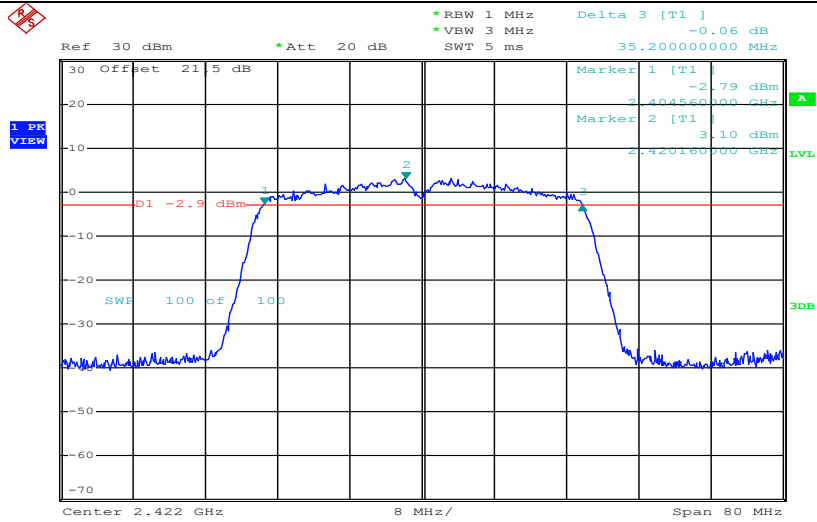
Date: 5.AUG.2026 20:20:55

11N20MIMO-Ant1-2462-PASS



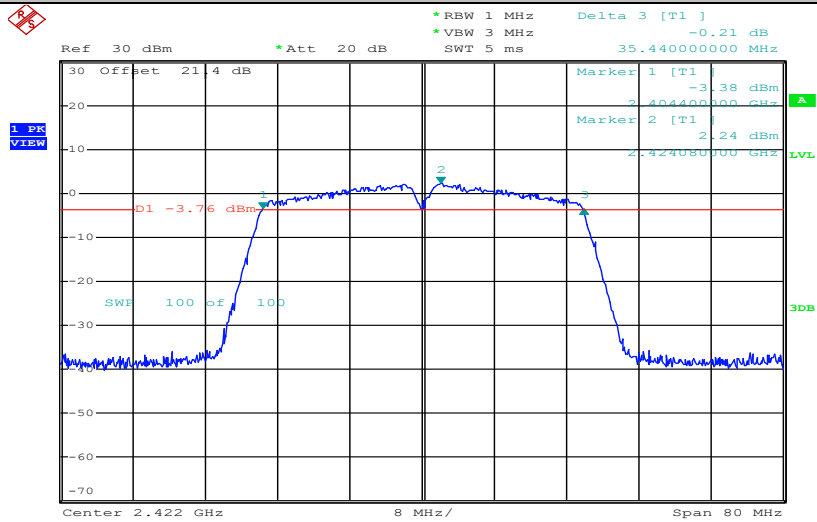
Date: 5.AUG.2026 20:21:03

11N20MIMO-Ant2-2462-PASS



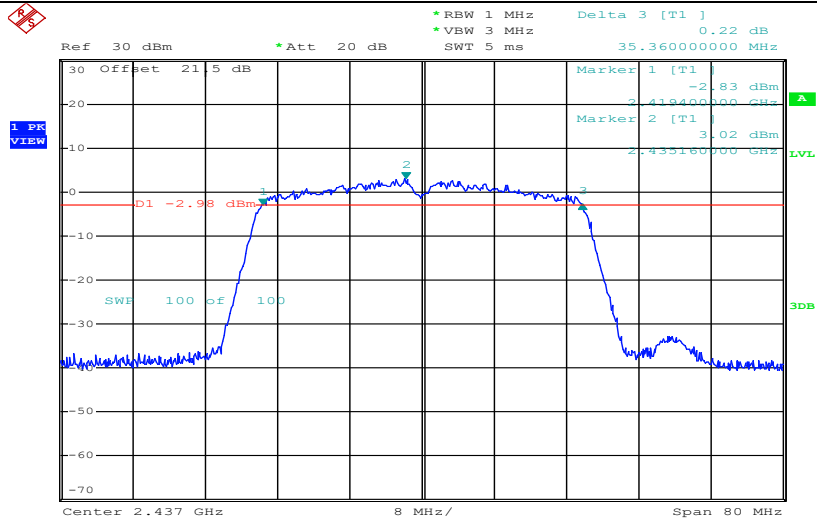
Date: 5.AUG.2026 20:28:21

11N40MIMO-Ant1-2422-PASS



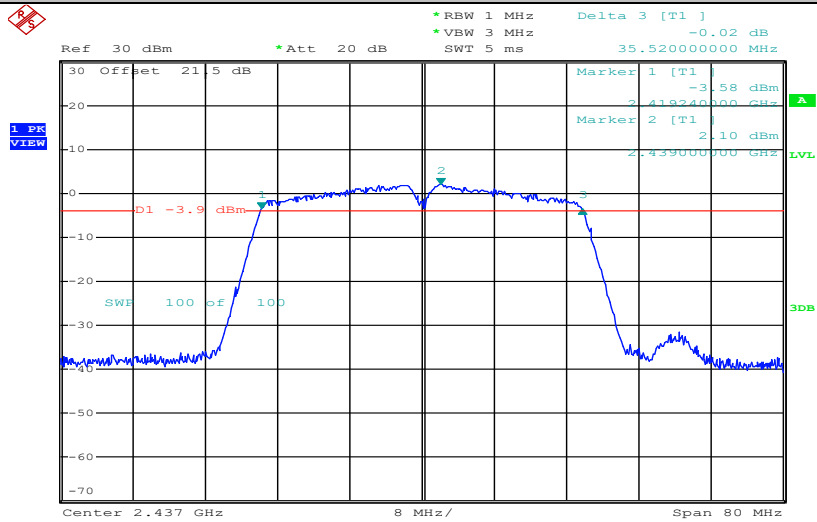
Date: 5.AUG.2026 20:28:55

11N40MIMO-Ant2-2422-PASS



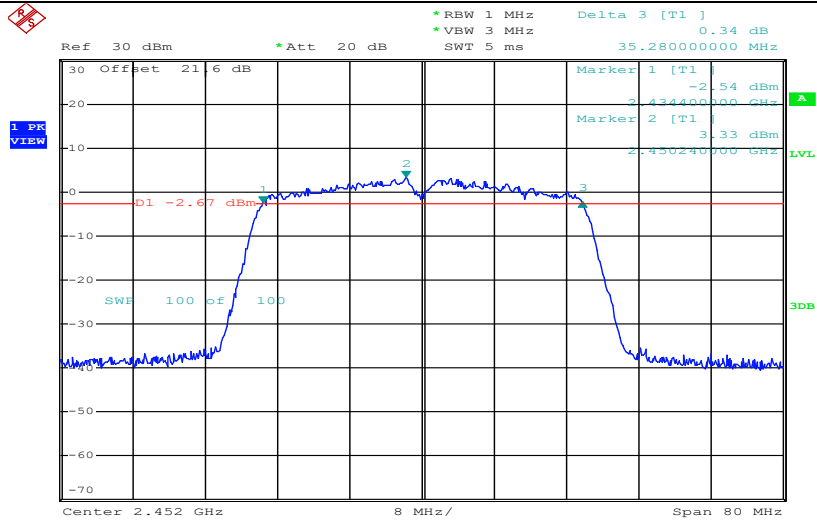
Date: 5.AUG.2026 20:29:10

11N40MIMO-Ant1-2437-PASS



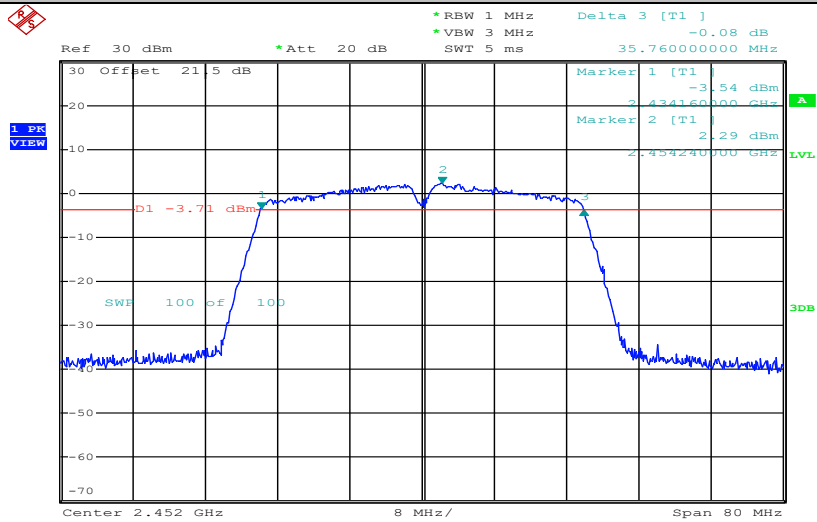
Date: 5.AUG.2026 20:29:19

11N40MIMO-Ant2-2437-PASS



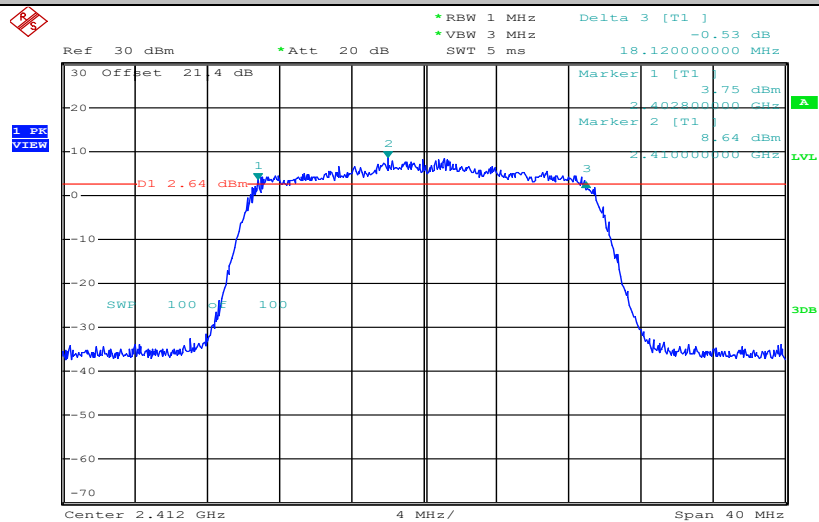
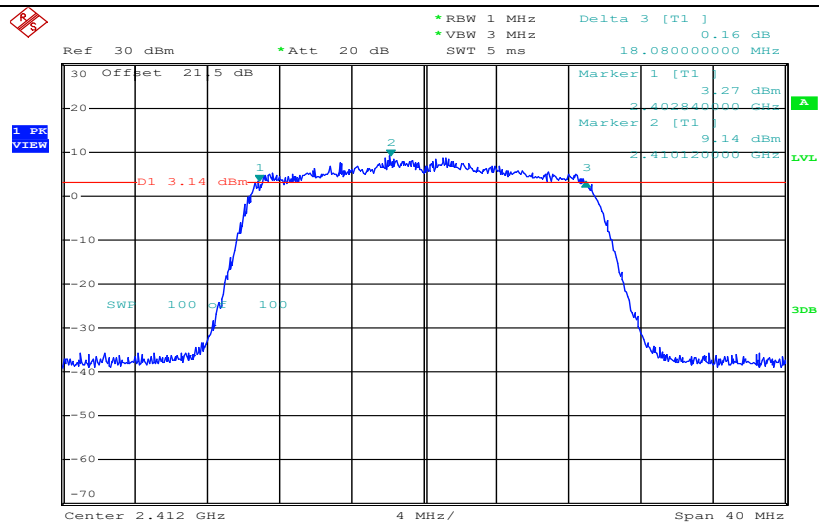
Date: 5.AUG.2026 20:29:30

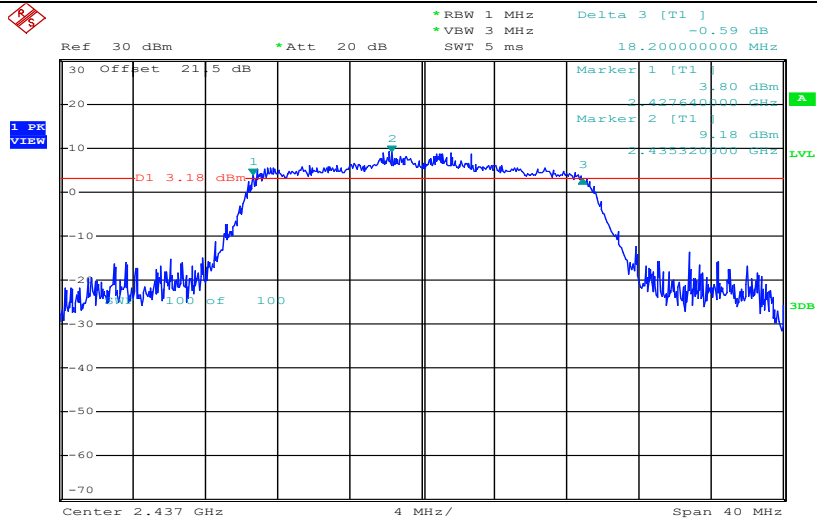
11N40MIMO-Ant1-2452-PASS



Date: 5.AUG.2026 20:29:39

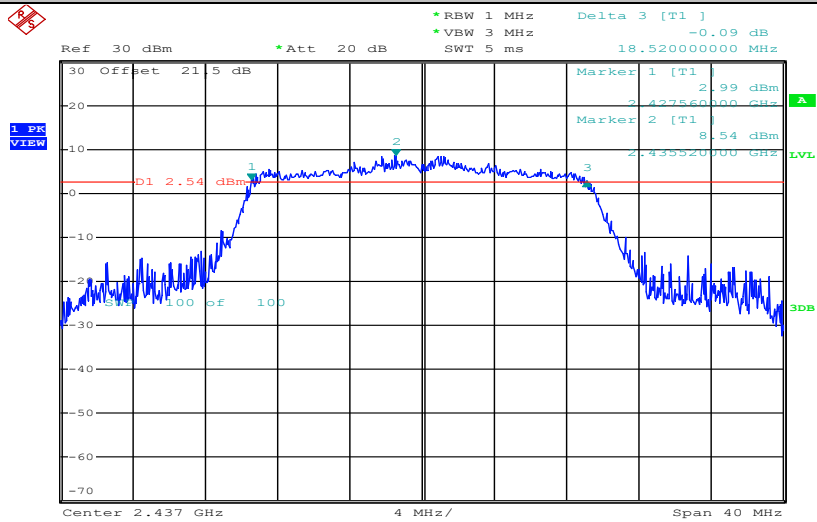
11N40MIMO-Ant2-2452-PASS





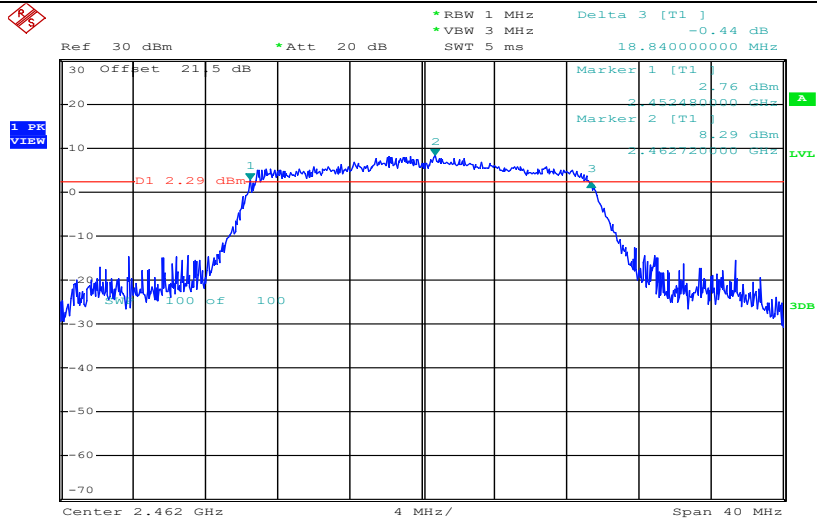
Date: 5.AUG.2026 21:00:04

11AX20MIMO-Ant1-2437-PASS



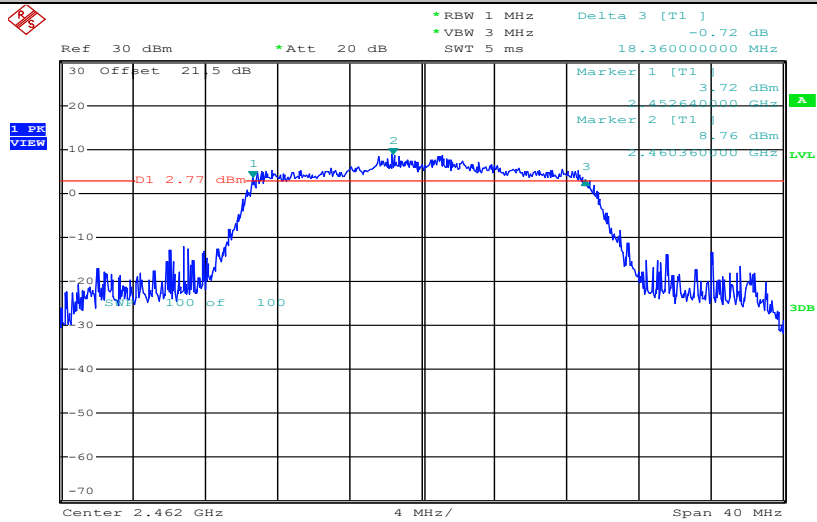
Date: 5.AUG.2026 21:00:13

11AX20MIMO-Ant2-2437-PASS



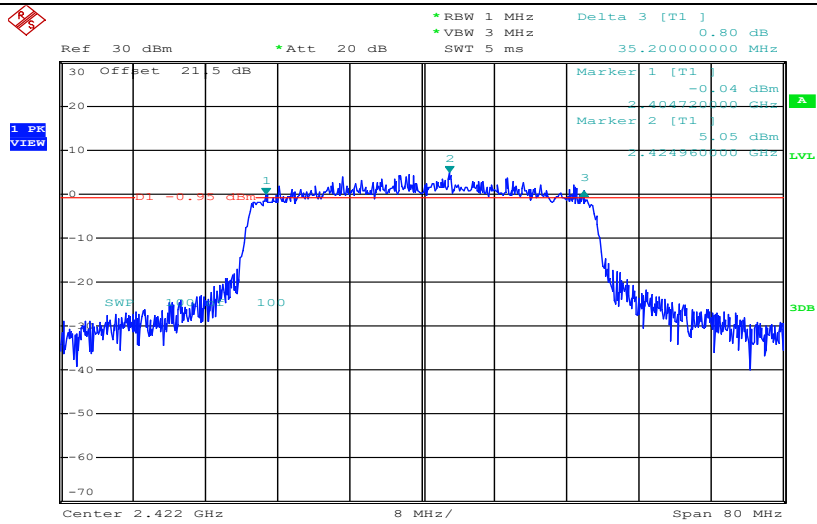
Date: 5.AUG.2026 21:00:27

11AX20MIMO-Ant1-2462-PASS



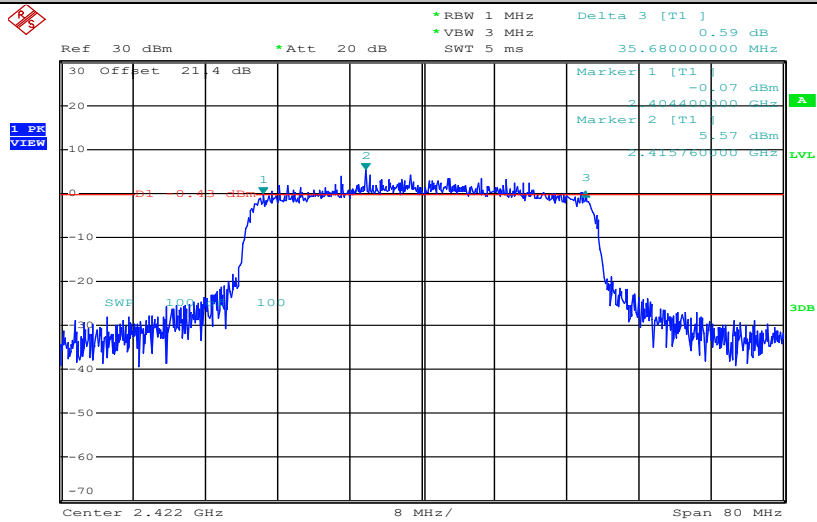
Date: 5.AUG.2026 21:00:37

11AX20MIMO-Ant2-2462-PASS



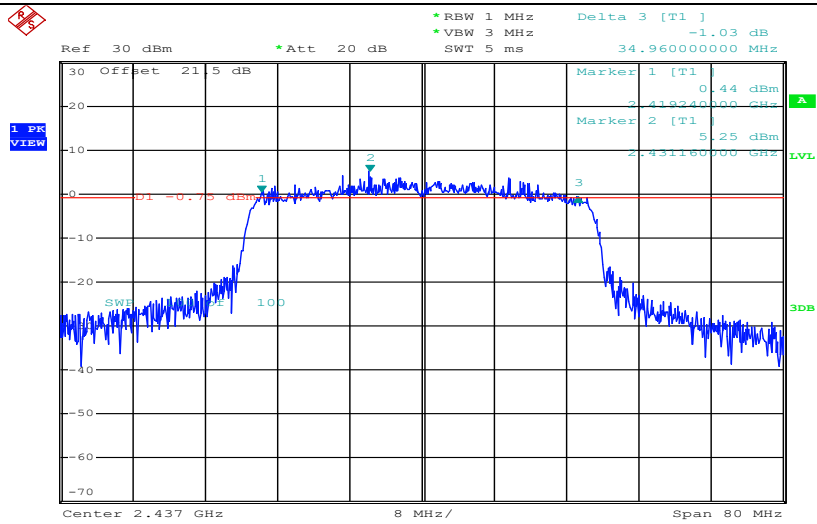
Date: 5.AUG.2026 20:57:53

11AX40MIMO-Ant1-2422-PASS



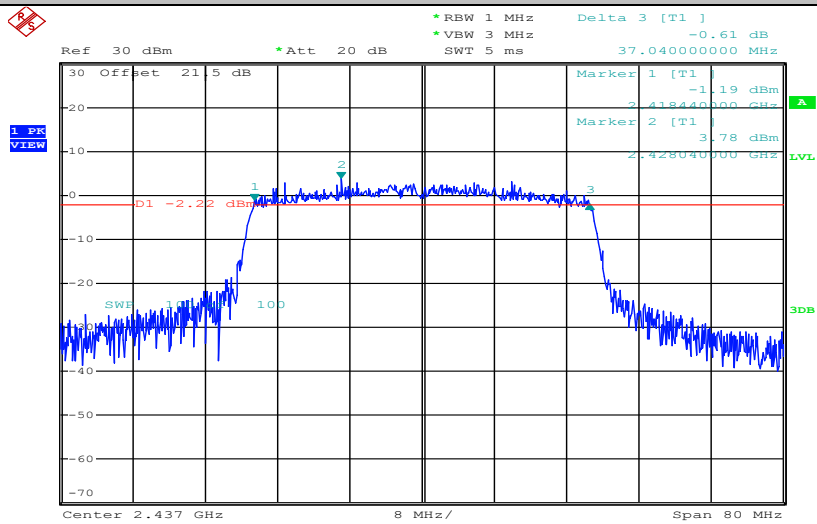
Date: 5.AUG.2026 20:58:02

11AX40MIMO-Ant2-2422-PASS



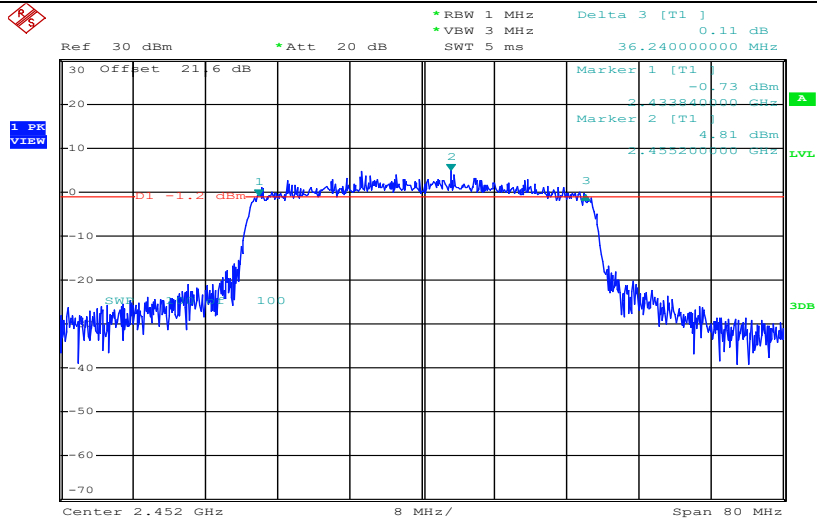
Date: 5.AUG.2026 20:58:14

11AX40MIMO-Ant1-2437-PASS



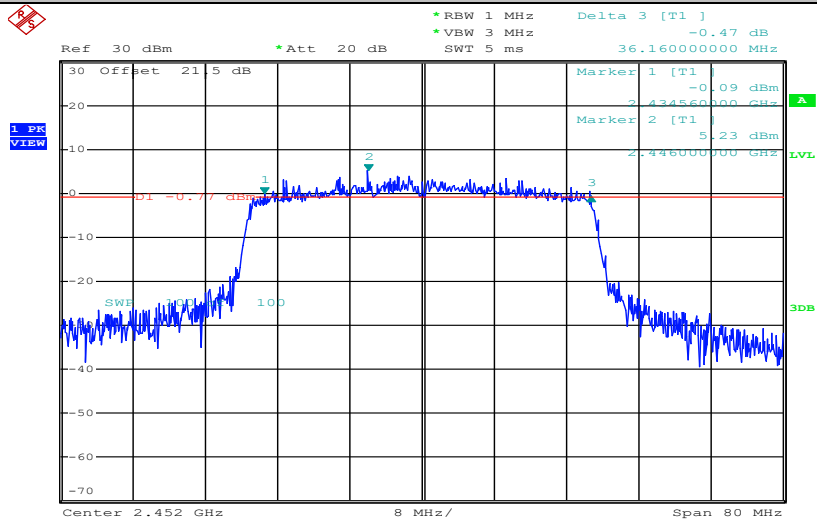
Date: 5.AUG.2026 20:58:23

11AX40MIMO-Ant2-2437-PASS



Date: 5.AUG.2026 20:58:42

11AX40MIMO-Ant1-2452-PASS



Date: 5.AUG.2026 20:58:51

11AX40MIMO-Ant2-2452-PASS

3.5 Maximum conducted output power

3.5.1 Limit

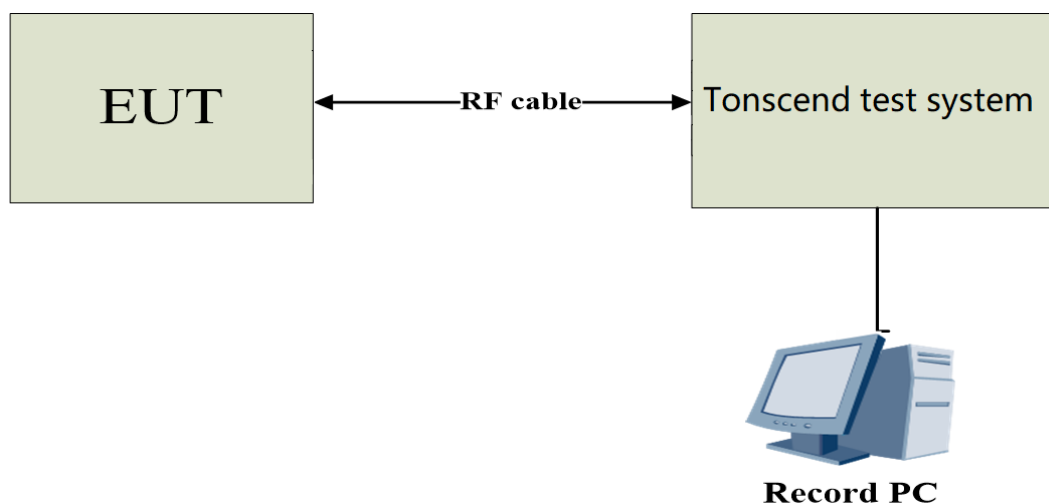
For systems using digital modulation in the 2400~2483.5MHz, The Maximum output Power shall not exceed 1W(30dBm)

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	

- The EUT was directly connected to the tonskend test system and antenna output port as show in the block diagram below.
- The maximum conducted output power was performed in accordance with method 11.9.2.3 (for average power) of ANSI C63.10-2020 and FCC KDB 662911 D01 v02r01 Multiple Transmitter Output.

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.

Test Software Version	Developer mode		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	12	12	12
IEEE 802.11g	12	12	12
IEEE 802.11n20	12	12	12
IEEE 802.11ax20	12	12	12
Frequency (MHz)	2422	2437	2452
IEEE 802.11n40	12	12	12
IEEE 802.11ax40	12	12	12

3.5.5 The Result

Test Mode	Antenna	Frequency[MHz]	Result [dBm]	Limit [dBm]	Verdict
11B-CDD	Ant1	2412	12.98	≤30.00	PASS
11B-CDD	Ant2	2412	12.56	≤30.00	PASS
11B-CDD	total	2412	15.79	≤30.00	PASS
11B-CDD	Ant1	2437	12.84	≤30.00	PASS
11B-CDD	Ant2	2437	12.53	≤30.00	PASS
11B-CDD	total	2437	15.70	≤30.00	PASS
11B-CDD	Ant1	2462	12.77	≤30.00	PASS
11B-CDD	Ant2	2462	12.73	≤30.00	PASS
11B-CDD	total	2462	15.76	≤30.00	PASS
11G-CDD	Ant1	2412	12.71	≤30.00	PASS
11G-CDD	Ant2	2412	12.39	≤30.00	PASS
11G-CDD	total	2412	15.56	≤30.00	PASS
11G-CDD	Ant1	2437	12.78	≤30.00	PASS
11G-CDD	Ant2	2437	12.53	≤30.00	PASS
11G-CDD	total	2437	15.67	≤30.00	PASS
11G-CDD	Ant1	2462	12.59	≤30.00	PASS
11G-CDD	Ant2	2462	12.38	≤30.00	PASS
11G-CDD	total	2462	15.49	≤30.00	PASS
11N20MIMO	Ant1	2412	12.69	≤30.00	PASS
11N20MIMO	Ant2	2412	12.32	≤30.00	PASS
11N20MIMO	total	2412	15.52	≤30.00	PASS
11N20MIMO	Ant1	2437	12.53	≤30.00	PASS
11N20MIMO	Ant2	2437	12.29	≤30.00	PASS
11N20MIMO	total	2437	15.43	≤30.00	PASS
11N20MIMO	Ant1	2462	12.69	≤30.00	PASS
11N20MIMO	Ant2	2462	12.33	≤30.00	PASS
11N20MIMO	total	2462	15.53	≤30.00	PASS
11N40MIMO	Ant1	2422	12.69	≤30.00	PASS
11N40MIMO	Ant2	2422	12.26	≤30.00	PASS
11N40MIMO	total	2422	15.49	≤30.00	PASS
11N40MIMO	Ant1	2437	12.47	≤30.00	PASS
11N40MIMO	Ant2	2437	12.36	≤30.00	PASS
11N40MIMO	total	2437	15.43	≤30.00	PASS
11N40MIMO	Ant1	2452	12.65	≤30.00	PASS
11N40MIMO	Ant2	2452	12.22	≤30.00	PASS
11N40MIMO	total	2452	15.45	≤30.00	PASS
11AX20MIMO	Ant1	2412	12.40	≤30.00	PASS
11AX20MIMO	Ant2	2412	12.37	≤30.00	PASS
11AX20MIMO	total	2412	15.40	≤30.00	PASS
11AX20MIMO	Ant1	2437	12.59	≤30.00	PASS
11AX20MIMO	Ant2	2437	12.31	≤30.00	PASS

11AX20MIMO	total	2437	15.46	≤30.00	PASS
11AX20MIMO	Ant1	2462	12.40	≤30.00	PASS
11AX20MIMO	Ant2	2462	12.29	≤30.00	PASS
11AX20MIMO	total	2462	15.35	≤30.00	PASS
11AX40MIMO	Ant1	2422	12.55	≤30.00	PASS
11AX40MIMO	Ant2	2422	12.22	≤30.00	PASS
11AX40MIMO	total	2422	15.40	≤30.00	PASS
11AX40MIMO	Ant1	2437	12.56	≤30.00	PASS
11AX40MIMO	Ant2	2437	12.33	≤30.00	PASS
11AX40MIMO	total	2437	15.45	≤30.00	PASS
11AX40MIMO	Ant1	2452	12.51	≤30.00	PASS
11AX40MIMO	Ant2	2452	12.18	≤30.00	PASS
11AX40MIMO	total	2452	15.35	≤30.00	PASS

Note: The duty cycle factor is compensated in the average conducted output power.

Directional gain = 2.86dBi

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

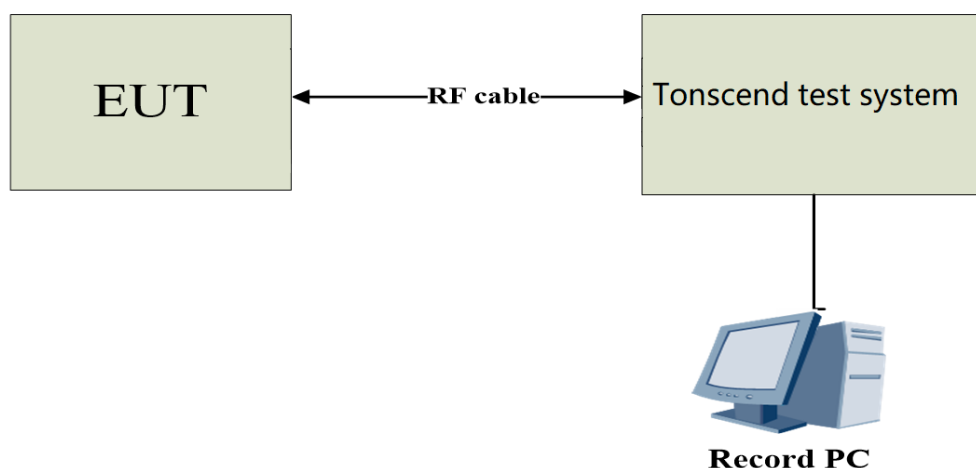
Test Method	
☒ Conducted Measurement	☐ Radiated Measurement
Test Channels	
☒ Lowest, Middle and Highest Channel	☐ Lowest and Highest Channel
Environmental conditions	
☒ Normal	☐ Normal and Extreme
Note: ☒ : Test ☐ : No Test	

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

Test result: PASS

Note: For test data, please refer to the report RF200317E01.

Statement

1. The report is invalid without the official seal or special seal of Shenzhen Haiyun Standard Technical 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 Technical Co., Ltd.

Address: Room 110, 111, 112, 113, 115, 116, Block B, Jinyuan Business Building, No. 302, Xixiang Avenue, Labor Community, Xixiang Street, Baoan District, Shenzhen, China

End of Test Report