

ISED CERTIFICATION TEST REPORT

FOR

Applicant	:	HangZhou TaRen Robotics Technology CO.,LTD
Address	:	3F JieLi Building JiChang Road Shangcheng Hangzhou Zhejiang China
Equipment under Test	:	Commercial Floor Scrubber
Model No.	:	M2 Pro
Trade Mark	:	iTR
FCC ID	:	2ARKV-ITRMM620228
IC	:	28428-ITRMM620228
Manufacturer	:	JiaXing IT-Robotics Technology Co.,Ltd
Address	:	Room 102, Building 13, NO.36 ChangSheng South Road, Economic and Technological Development Zone, Jiaxing Zhejiang China

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

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REPORT

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Test Report Declare

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Test Standard Used: FCC Rules and Regulations Part 15 Subpart C, RSS-247 Issue 2 February 2017.

Test procedure used: ANSI C63.10:2013, RSS-Gen Issue 5, Apr. 2018, 558074 D01 15.247 Meas Guidance v05r02, Apr. 2018, 662911 D01 Multiple Transmitter Output v02r01

We Declare:

The equipment described above is tested by Dongguan Dongdian Testing Service Co., Ltd and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above FCC&ISED standards.

Report No:	DDT-R22062308-2E01		
Date of Receipt:	Jul. 09, 2022	Date of Test:	Jul. 09, 2022 ~ Jul. 25, 2022

Prepared By:

Sanvin Zheng

Sanvin Zheng/Engineer

Approved By:



Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Jul. 25, 2022	

1. Summary of Test Results

The EUT have been tested according to the applicable standards as referenced below.		
Description of Test Item	Standard	Results
6 dB Bandwidth and 99% Bandwidth	FCC Part 15: 15.247 ANSI C63.10:2013 RSS-247 Issue 2	Pass
Conducted Output Power	FCC Part 15: 15.247 ANSI C63.10:2013 RSS-247 Issue 2	Pass
Power Spectral Density	FCC Part 15:15.247 ANSI C63.10:2013 RSS-247 Issue 2	Pass
Band-edge and Spurious Emissions (Conducted)	FCC Part 15: 15.209 FCC Part 15: 15.247 ANSI C63.10: 2013 RSS-247 Issue 2 RSS-Gen Issue 5	Pass
Radiated Spurious Emissions	FCC Part 15: 15.247 ANSI C63.10:2013 RSS-247 Issue 2 RSS-Gen Issue 5	Pass
Radiated Band Edge Compliance	FCC Part 15: 15.209 FCC Part 15: 15.247 ANSI C63.10: 2013 RSS-247 Issue 2 RSS-Gen Issue 5	Pass
Power Line Conducted Emission	FCC Part 15: 15.207 ANSI C63.10: 2013 RSS-Gen Issue 5	Pass
Antenna requirement	FCC Part 15: 15.203 RSS-Gen Issue 5	Pass

2. General Test Information

2.1. Description of EUT

EUT* Name	: Commercial Floor Scrubber
Model Number	: M2 Pro
EUT function description	: Please reference user manual of this device
Power supply	: DC powered by a power supply or a built-in 24V lithium battery
Radio Technology	: IEEE 802.11b/g/n
Operation frequency	: IEEE 802.11b: 2412 MHz - 2462 MHz IEEE 802.11g: 2412 MHz - 2462 MHz IEEE 802.11n HT20: 2412 MHz - 2462 MHz IEEE 802.11n HT40: 2422 MHz - 2452 MHz
Modulation	: IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Transmitter rate	: IEEE 802.11b: 1, 2, 5.5, 11 Mbps IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n HT20: up to 144.4 Mbps IEEE 802.11n HT40: up to 300 Mbps
Antenna Gain	: Antenna 1: 5.94 dBi Antenna 2: 5.94 dBi
Sample Number	: S22062308-01

Note: EUT is the abbreviation of equipment under test.

Channel information					
CH	Frequency (MHz)	CH	Frequency (MHz)	CH	Frequency (MHz)
1	2412	5	2432	9	2452
2	2417	6	2437	10	2457
3	2422	7	2442	11	2462
4	2427	8	2447	/	/

Antenna information			
	Ant1 gain	Ant2 gain	MIMO
IEEE 802.11b	5.94	5.94	/
IEEE 802.11g	5.94	5.94	/
IEEE 802.11n HT20	5.94	5.94	8.95
IEEE 802.11n HT40	5.94	5.94	8.95

2.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
Power supply	N/A	GPSC3024	Input: AC 100-135V 50/60Hz AC 180V-240V 50/60Hz Output: DC 24V=30A

2.3. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	EMC Compliance	SN
N/A	N/A	N/A	N/A	N/A

2.4. Block diagram of EUT configuration for test



Test software: MT7620QA_V1.0.6.0.exe

The test software was used to control EUT work in Continuous Tx mode, and select test channel, wireless mode as below table.

The pathloss of external cable: 0.5dB (According to the manufacturer's claims)

Tested mode, channel, and data rate information				
Mode	Setting Tx Power	data rate (Mbps) (see Note)	Channel	Frequency (MHz)
IEEE 802.11b	7	1	LCH: CH1	2412
	7	1	MCH: CH6	2437
	7	1	HCH: CH11	2462
IEEE 802.11g	1	6	LCH: CH1	2412
	1	6	MCH: CH6	2437
	1	6	HCH: CH11	2462
IEEE 802.11n HT20	0	MCS8	LCH: CH1	2412
	0	MCS8	MCH: CH6	2437
	0	MCS8	HCH: CH11	2462
IEEE 802.11n HT40	0	MCS8	LCH: CH3	2422
	0	MCS8	MCH: CH6	2437
	0	MCS8	HCH: CH9	2452
Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.				

2.5. Deviations of test standard

No deviation

2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	21-25 °C
Humidity range:	40-75%
Pressure range:	86-106 kPa

2.7. Test laboratory

Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, G-20118

2.8. Measurement uncertainty

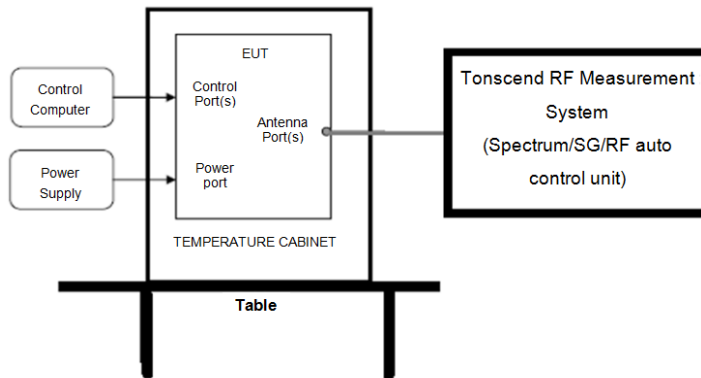
Test Item	Uncertainty
Bandwidth	1.1%
Peak Output Power (Conducted) (Spectrum Analyzer)	0.86 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Frequencies Stability	6.7×10^{-8} (Antenna couple method) 5.5×10^{-8} (Conducted method)
Conducted Spurious Emissions	0.86 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.40 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$) 1.66 dB ($8 \text{ GHz} \leq f < 22 \text{ GHz}$)
Uncertainty for Radio Frequency (RBW < 20 kHz)	3×10^{-8}
Temperature	0.4 °C
Humidity	2 %
Uncertainty for Radiation Emission Test (9 kHz – 30 MHz)	3.44 dB
Uncertainty for Radiation Emission Test (30 MHz - 1 GHz)	4.70 dB (Antenna Polarize: V) 4.84 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission Test (1 GHz - 40 GHz)	4.10 dB (1 - 6 GHz) 4.40 dB (6 GHz - 18 GHz) 3.54 dB (18 GHz - 26 GHz) 4.30 dB (26 GHz - 40 GHz)
Uncertainty for Power Line Conduction Emission Test	3.32 dB (150 kHz - 30 MHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3. Equipment Used During Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒ RF Connected Test (Tonscend RF Measurement System 1#)					
SIGNAL ANALYZER	R&S	FSQ26	101272	May 18, 2022	1 Year
Wideband Radio Communication tester	R&S	CMW500	120259	Sep. 02, 2021	1 Year
Vector Signal Generator	Agilent	E8267D	US49060192	Oct. 15, 2021	1 Year
Vector Signal Generator	Agilent	N5182A	MY48180737	May 18, 2022	1 Year
RF Control Unit	Tonsend	JS0806-2	158060010	May 18, 2022	1 Year
Temp&Humi Programmable	ZHIXIANG	ZXGDJS-150L	ZX170110-A	May 26, 2022	1 Year
Test Software	JS Tonscend	JS1120-3	Ver.2.6.77.0518	N/A	N/A
☒ Radiation 3#chamber					
EMI Test Receiver	R&S	ESU	100472	May 18, 2022	1 Year
Spectrum analyzer	Agilent	E4447A	MY50180031	May 18, 2022	1 Year
Active Loop antenna	Schwarzbeck	FMZB-1519	1519-038	Sep. 19, 2021	1 Year
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	01429	Aug. 07, 2021	1 Year
Double Ridged Horn Antenna	Schwarzbeck	BBHA9120	02468	Nov. 17, 2021	1 Year
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	790	May 06, 2022	1 Year
Pre-amplifier	COM-POWER	PAM-118A	18040084	Sep. 02, 2021	1 Year
Pre-amplifier	COM-POWER	PAM-840A	461369	Apr. 11, 2022	1 Year
Test software	Audix	E3	V 6.1.1.1	N/A	N/A
☒ Power Line Conducted Emissions Test 1#					
Test Receiver	R&S	ESCI	100551	Sep. 02, 2021	1 Year
LISN 1	R&S	ENV216	101109	Sep. 02, 2021	1 Year
LISN 2	R&S	ESH2-Z5	100309	Sep. 02, 2021	1 Year
Pulse Limiter	R&S	ESH3-Z2	101242	Sep. 02, 2021	1 Year
CE Cable 1	HUBSER	N/A	W10.01	Sep. 02, 2021	1 Year
LISN 3	SCHWARZBECK	NSLK 8163	00017	Sep. 02, 2021	1 Year
Test software	Audix	E3	V 6.11111b	N/A	N/A

4. 6 dB Bandwidth and 99% Bandwidth

4.1. Block diagram of test setup



4.2. Limits

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

4.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) 99% Bandwidth set the spectrum analyzer as follows:

RBW: 500 kHz / 1 MHz (Only 802.11n HT40)

VBW: 2 MHz / 3 MHz (Only 802.11n HT40)

Detector Mode: Peak

Sweep time: auto

Trace mode Max hold

(3) 6 dB Bandwidth set the spectrum analyzer as follows:

RBW: 100 kHz

VBW: 300 kHz

Detector Mode: Peak

Sweep time: auto

Trace mode Max hold

(4) Allow the trace to stabilize, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

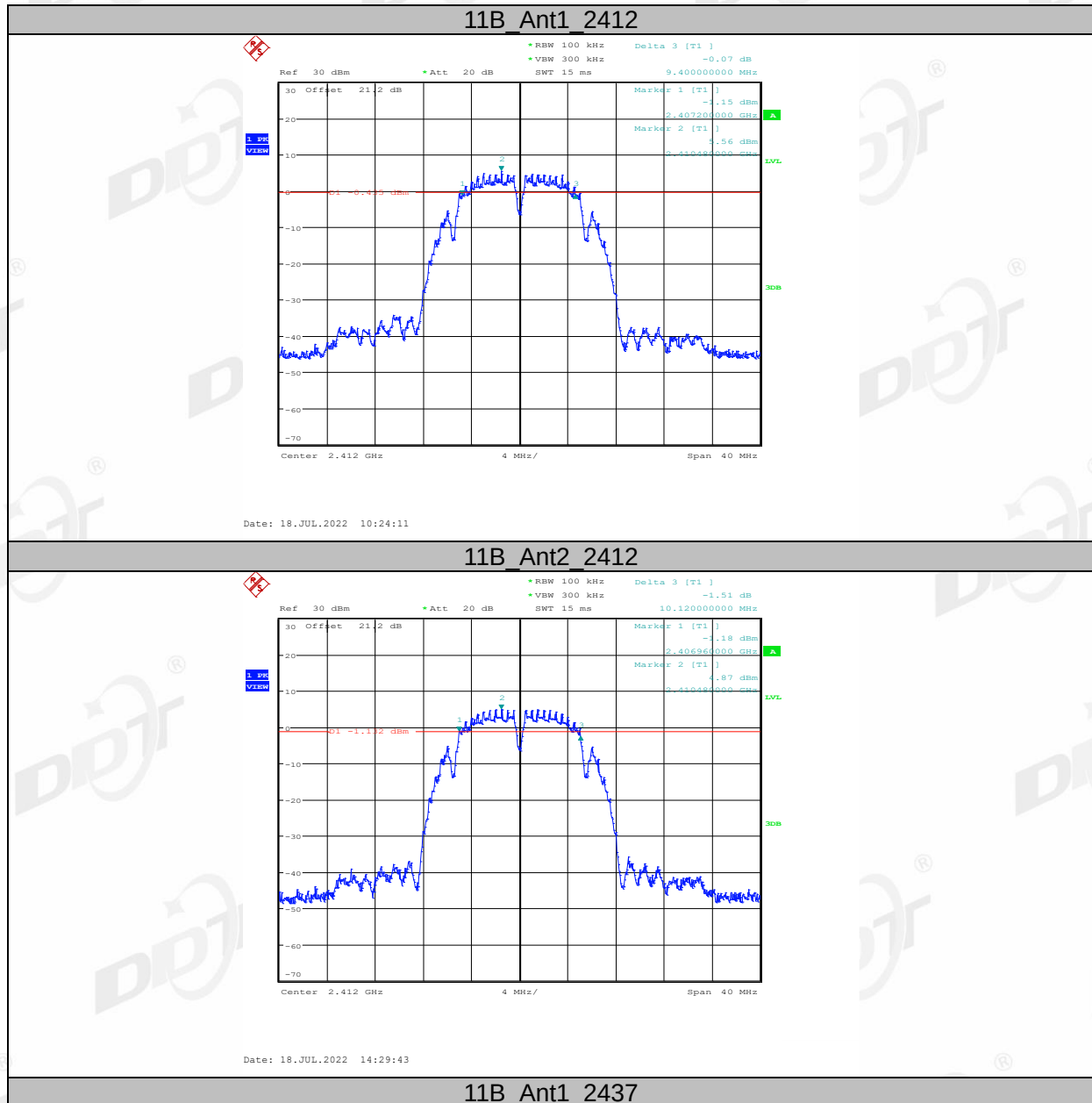
4.4. Test result

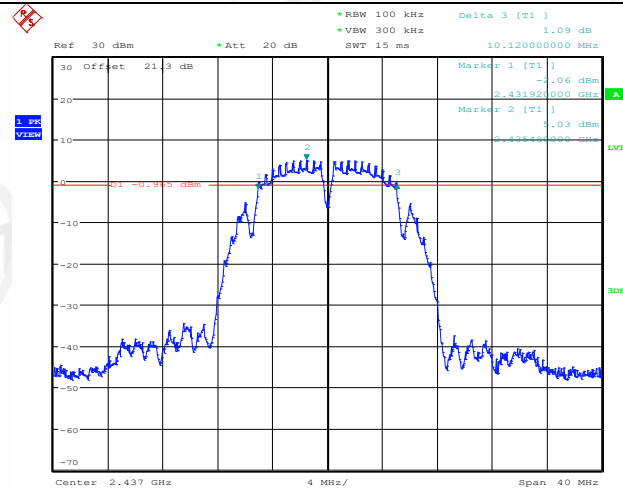
Test Mode	Test	Ant	6 dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	2412	Ant1	9.400	0.5	Pass
11B	2412	Ant2	10.120	0.5	Pass
11B	2437	Ant1	10.120	0.5	Pass
11B	2437	Ant2	10.160	0.5	Pass
11B	2462	Ant1	10.160	0.5	Pass
11B	2462	Ant2	10.160	0.5	Pass
11G	2412	Ant1	16.400	0.5	Pass
11G	2412	Ant2	16.400	0.5	Pass
11G	2437	Ant1	16.400	0.5	Pass
11G	2437	Ant2	16.400	0.5	Pass
11G	2462	Ant1	16.400	0.5	Pass
11G	2462	Ant2	16.440	0.5	Pass
11N20MIMO	2412	Ant1	17.400	0.5	Pass
11N20MIMO	2412	Ant2	17.640	0.5	Pass
11N20MIMO	2437	Ant1	17.360	0.5	Pass
11N20MIMO	2437	Ant2	17.160	0.5	Pass
11N20MIMO	2462	Ant1	17.640	0.5	Pass
11N20MIMO	2462	Ant2	17.600	0.5	Pass
11N40MIMO	2422	Ant1	36.480	0.5	Pass
11N40MIMO	2422	Ant2	36.480	0.5	Pass
11N40MIMO	2437	Ant1	36.480	0.5	Pass
11N40MIMO	2437	Ant2	36.240	0.5	Pass
11N40MIMO	2452	Ant1	35.920	0.5	Pass
11N40MIMO	2452	Ant2	36.480	0.5	Pass

Test Mode	Test	Ant	99% OBW [MHz]	Limit [MHz]	Verdict
11B	2412	Ant1	12.28	---	Pass
11B	2412	Ant2	12.28	---	Pass
11B	2437	Ant1	12.24	---	Pass
11B	2437	Ant2	12.20	---	Pass
11B	2462	Ant1	12.28	---	Pass
11B	2462	Ant2	12.28	---	Pass
11G	2412	Ant1	17.48	---	Pass
11G	2412	Ant2	17.40	---	Pass
11G	2437	Ant1	17.44	---	Pass
11G	2437	Ant2	17.44	---	Pass
11G	2462	Ant1	17.48	---	Pass
11G	2462	Ant2	17.48	---	Pass
11N20MIMO	2412	Ant1	18.08	---	Pass
11N20MIMO	2412	Ant2	17.92	---	Pass
11N20MIMO	2437	Ant1	18.04	---	Pass
11N20MIMO	2437	Ant2	17.92	---	Pass
11N20MIMO	2462	Ant1	18.08	---	Pass
11N20MIMO	2462	Ant2	17.96	---	Pass
11N40MIMO	2422	Ant1	37.12	---	Pass
11N40MIMO	2422	Ant2	36.96	---	Pass
11N40MIMO	2437	Ant1	37.04	---	Pass
11N40MIMO	2437	Ant2	36.96	---	Pass
11N40MIMO	2452	Ant1	37.28	---	Pass
11N40MIMO	2452	Ant2	37.04	---	Pass

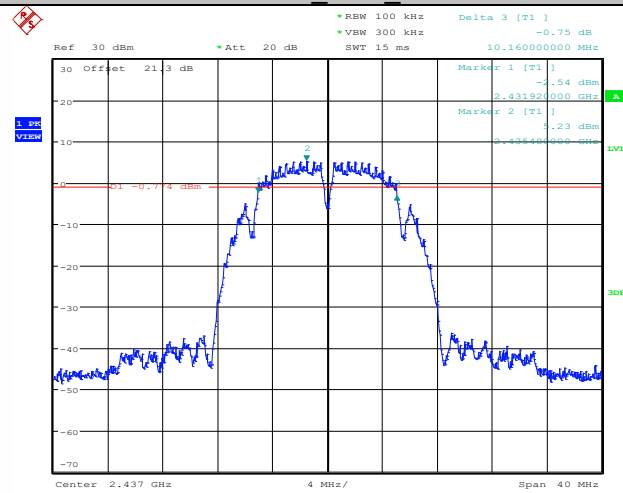
4.5. Original test data

6 dB Bandwidth:

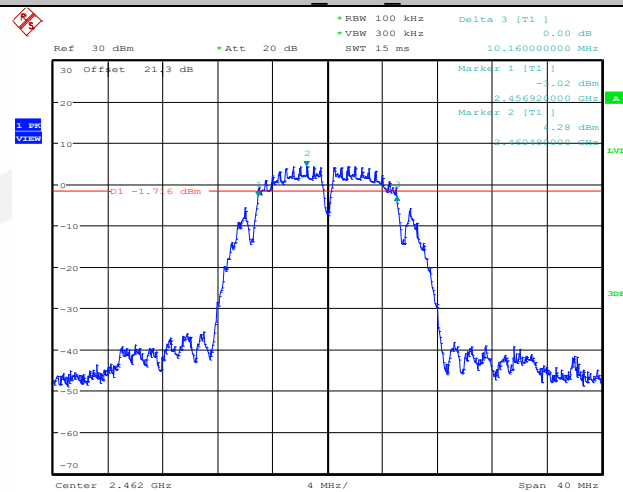




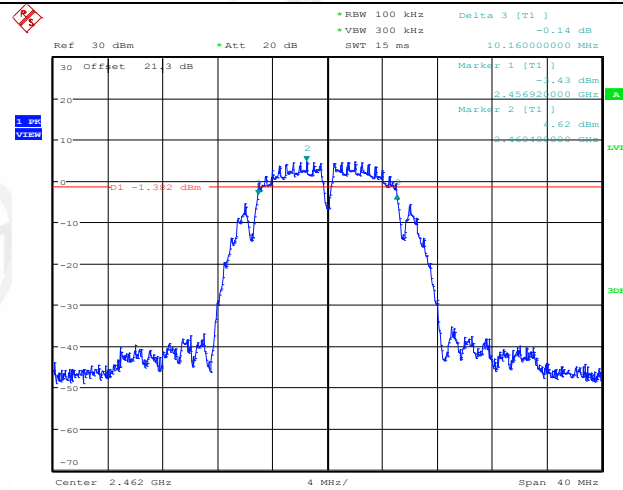
11B_Ant2_2437



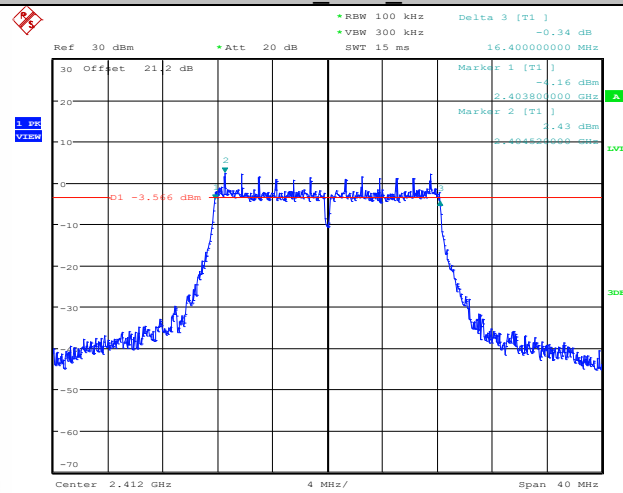
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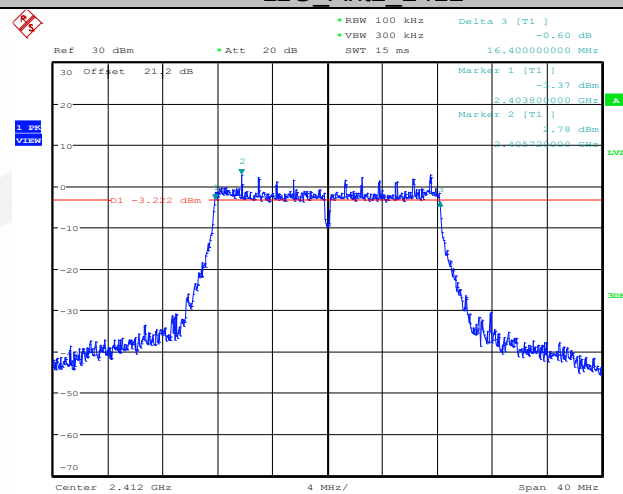
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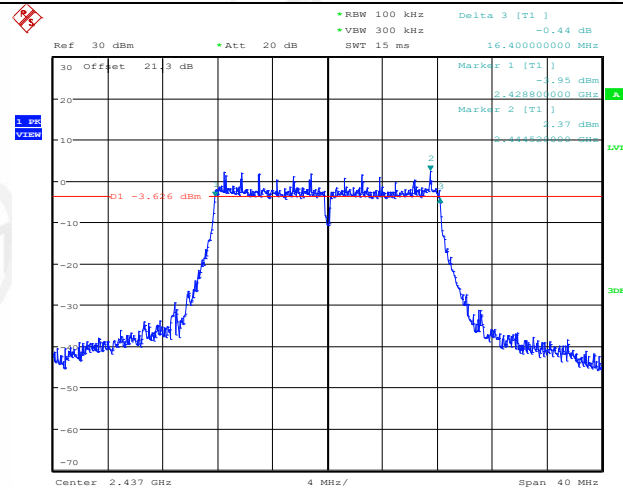
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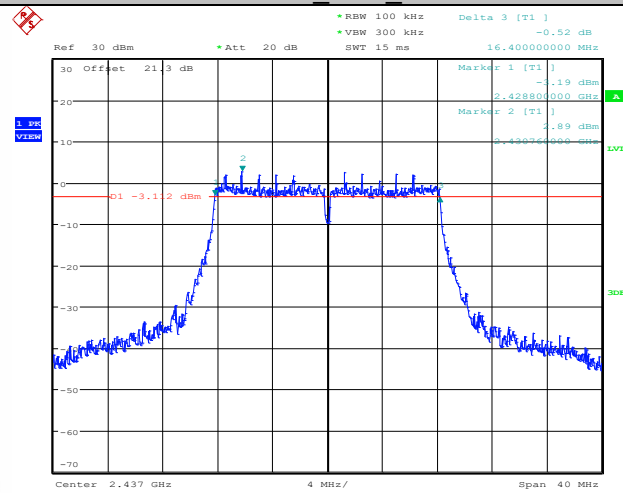
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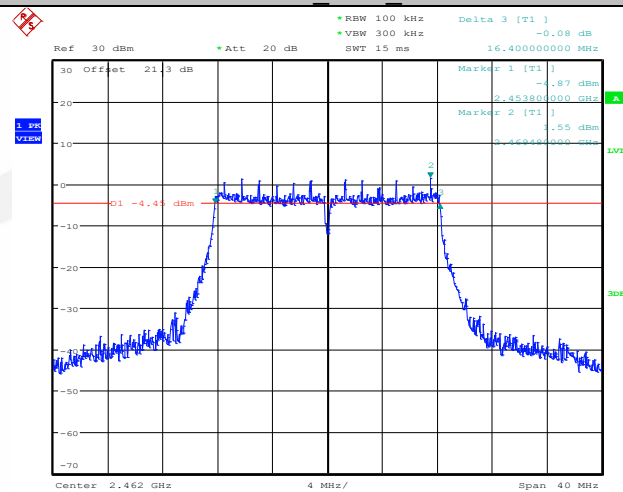
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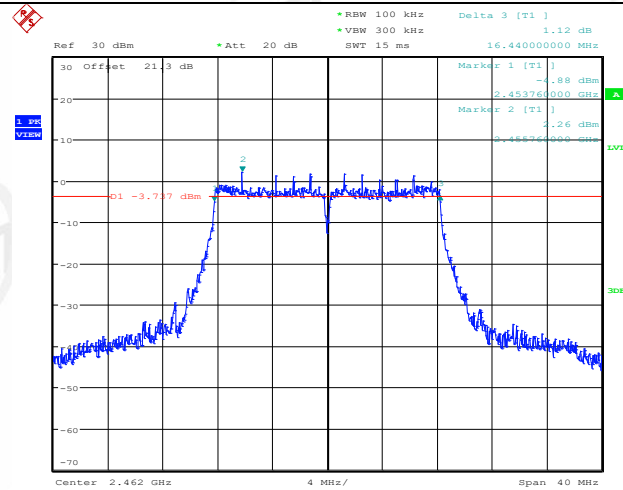
11G_Ant2_2437



11G_Ant1_2462

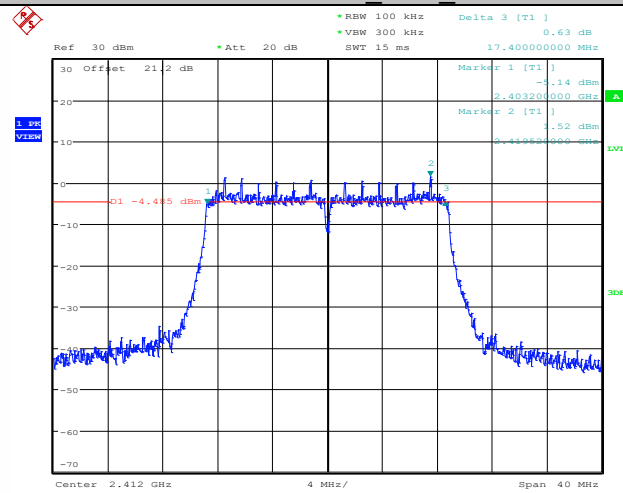


11G_Ant2_2462



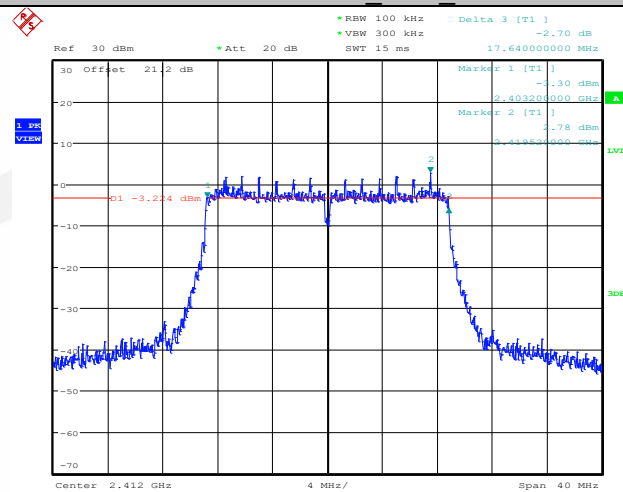
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11N20MIMO Ant1 2412



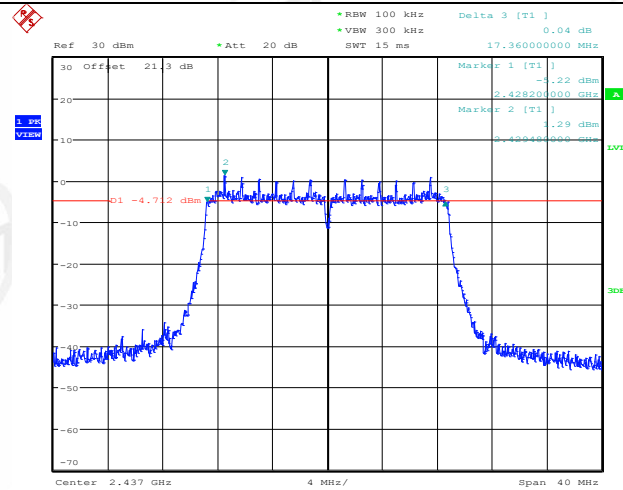
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11N20MIMO Ant2 2412



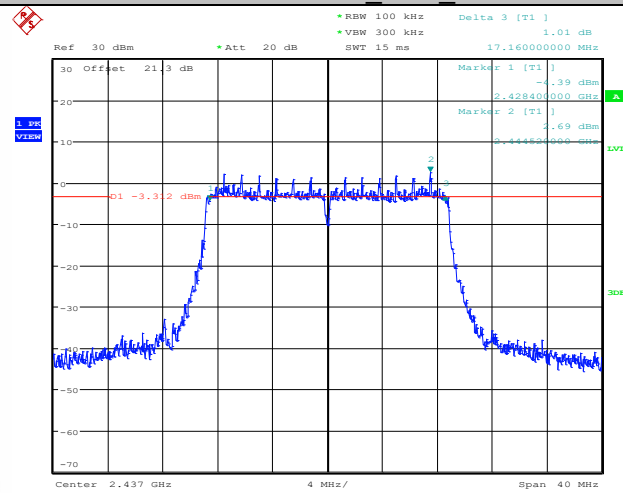
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11N20MIMO Ant1 2437



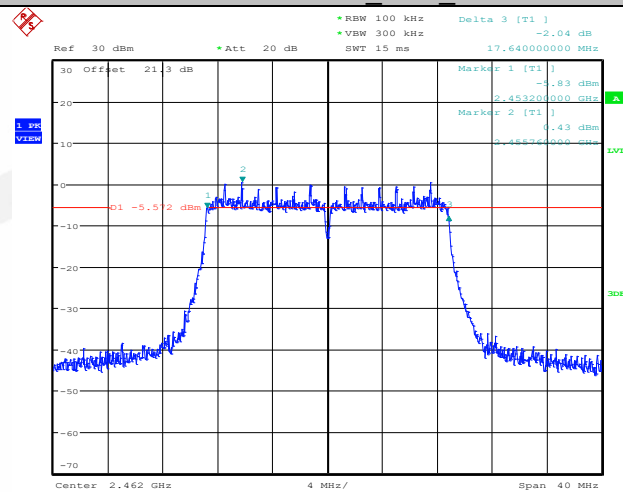
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11N20MIMO_Ant2_2437



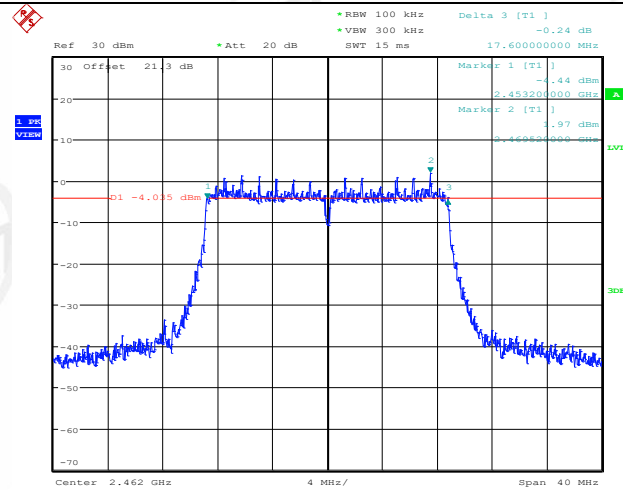
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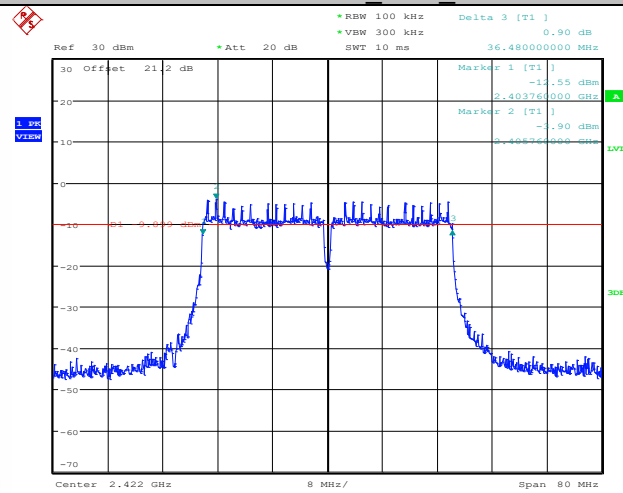
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11N20MIMO_Ant2_2462



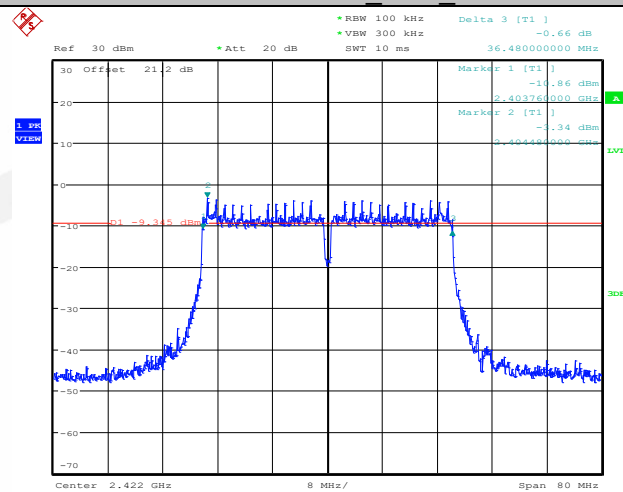
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11N40MIMO Ant1 2422



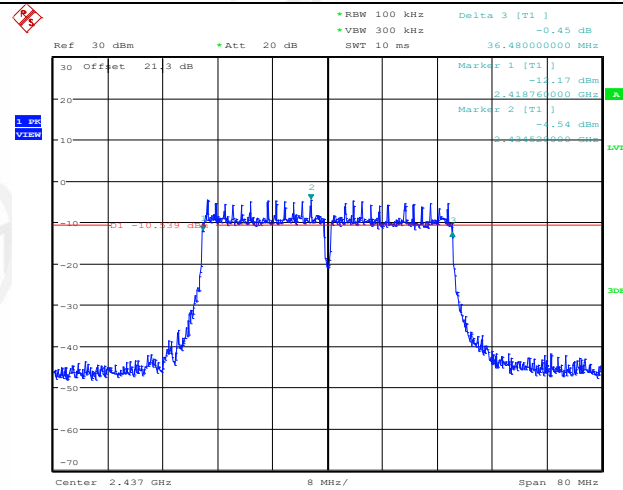
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11N40MIMO Ant2 2422



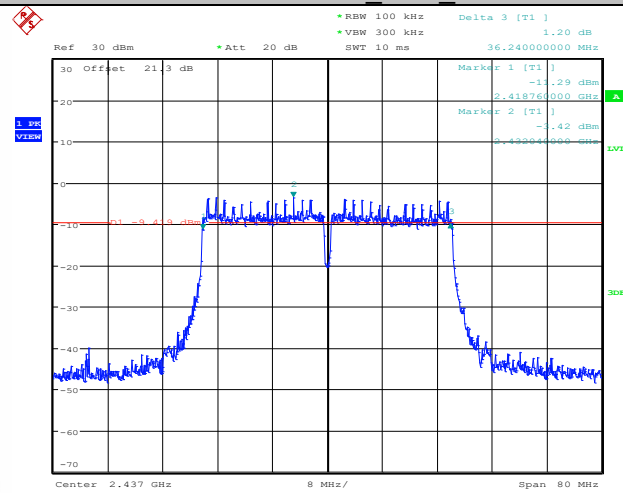
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11N40MIMO Ant1 2437



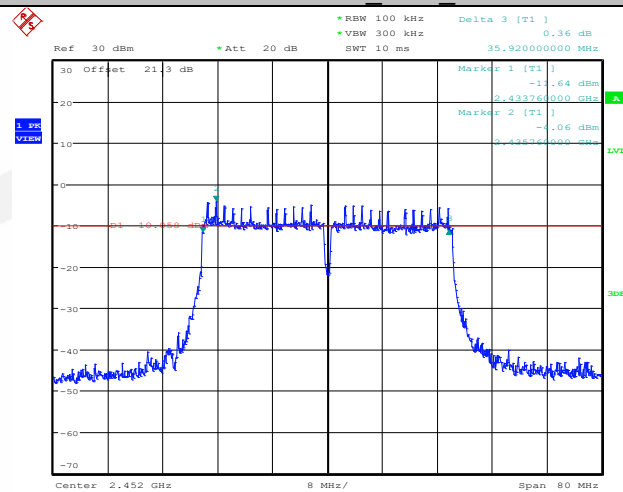
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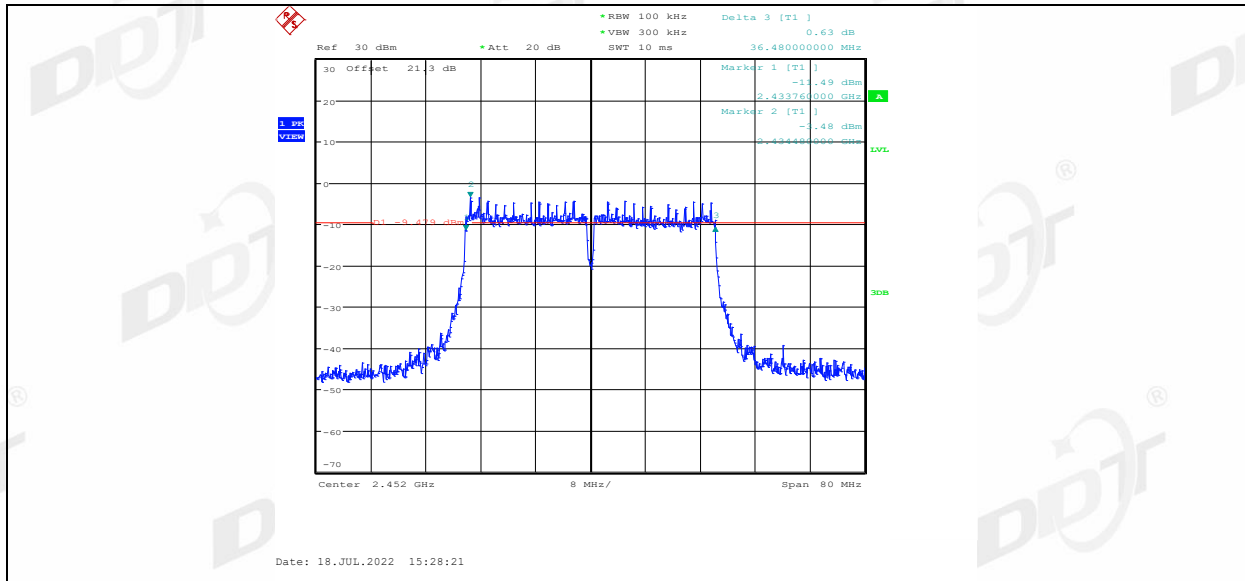
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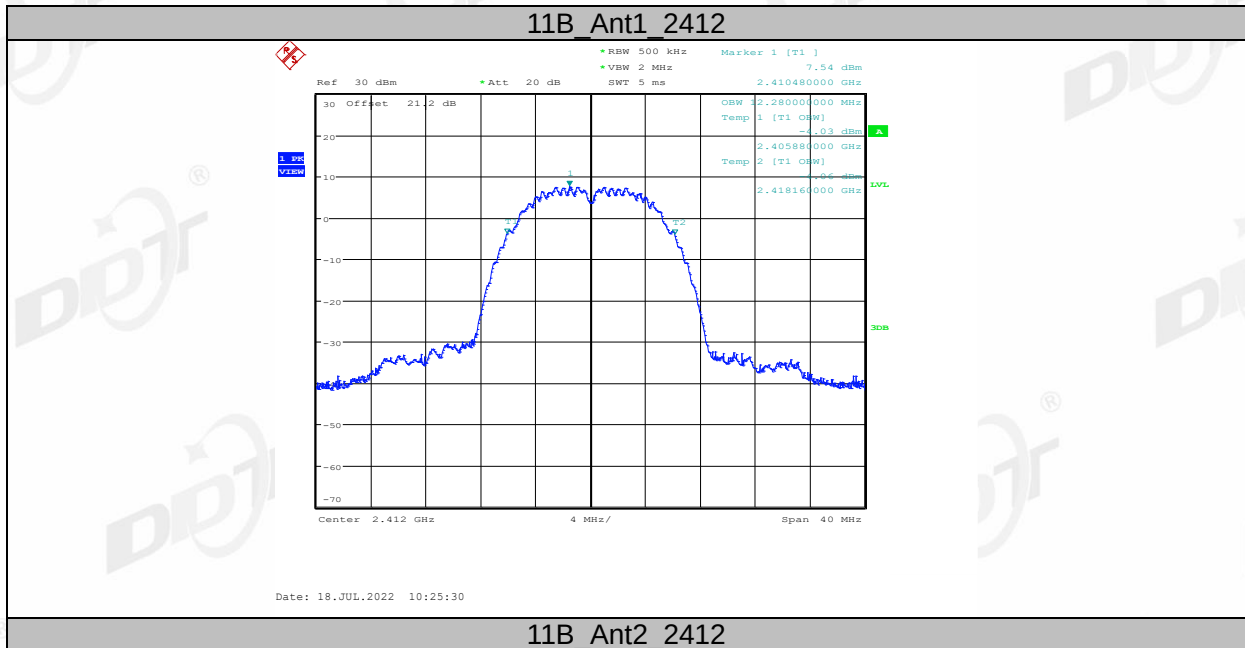


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11N40MIMO_Ant2_2452



99% Bandwidth:





11B Ant1 2437



11B Ant2 2437



11B Ant1 2462



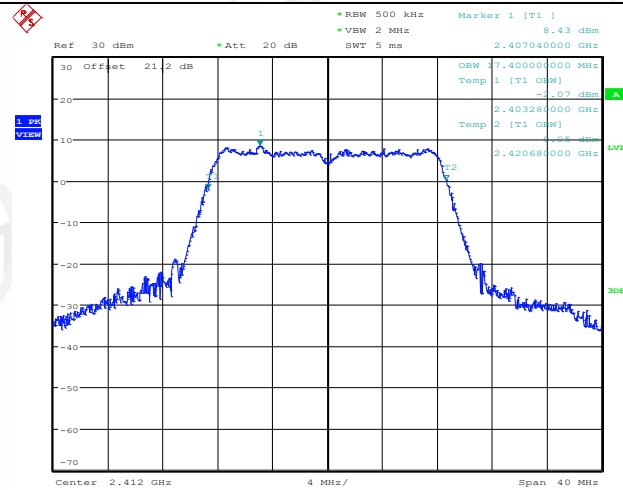
11B Ant2 2462



11G Ant1 2412

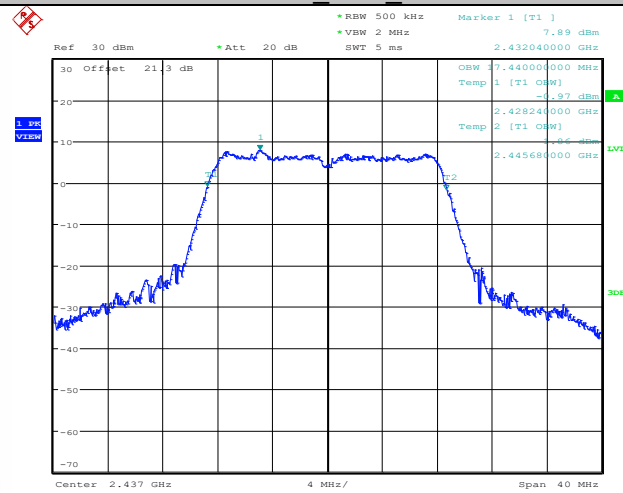


11G Ant2 2412



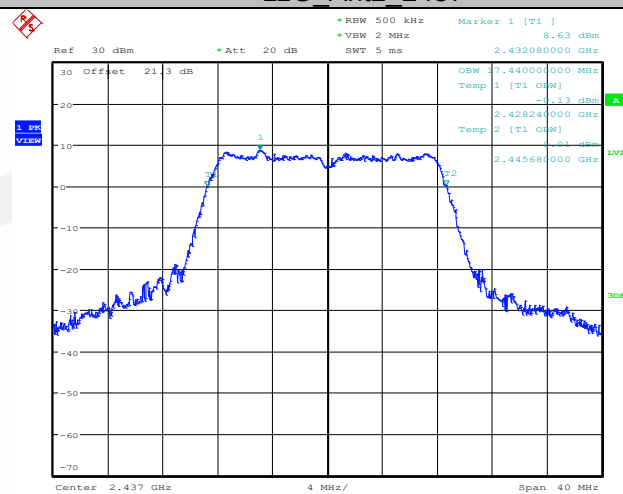
Date: 18.JUL.2022 14:42:24

11G_Ant1_2437



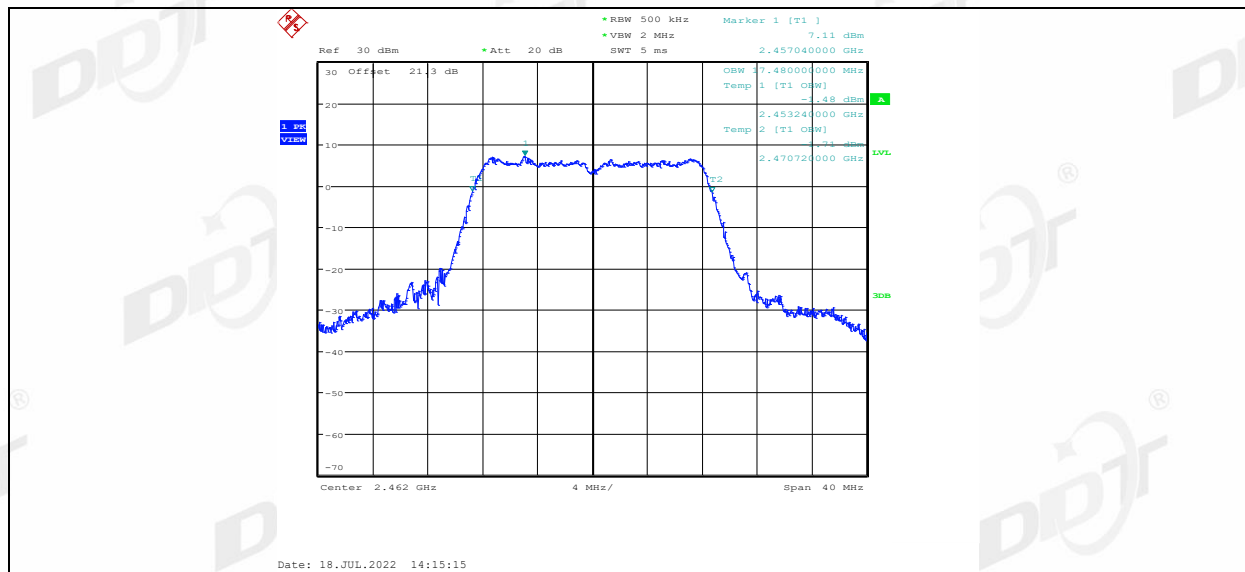
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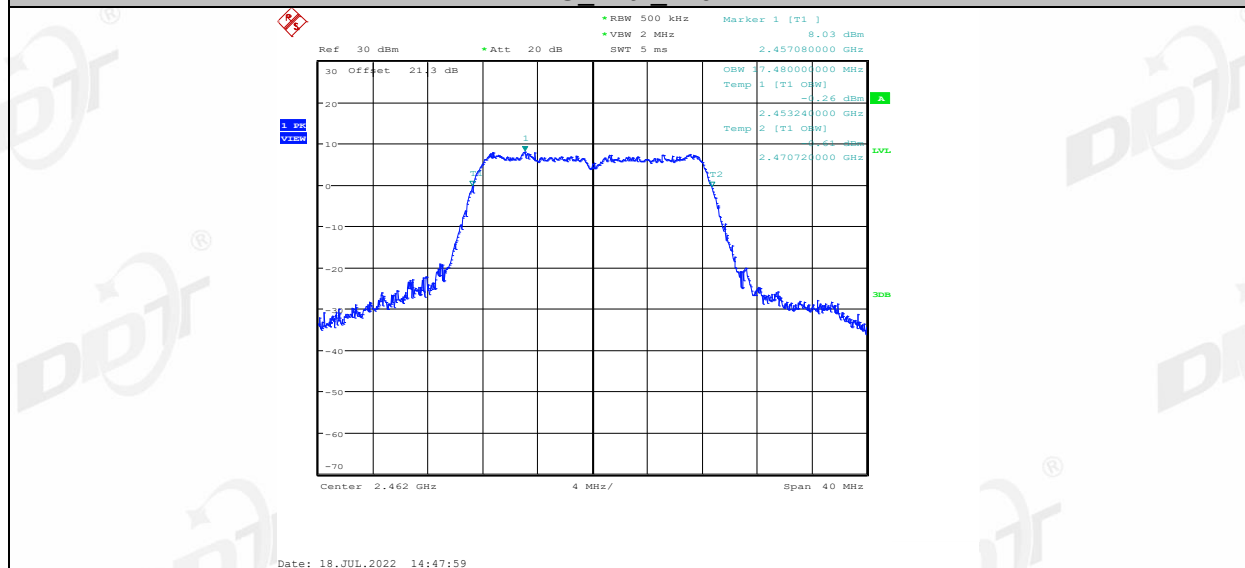


Date: 18.JUL.2022 14:45:33

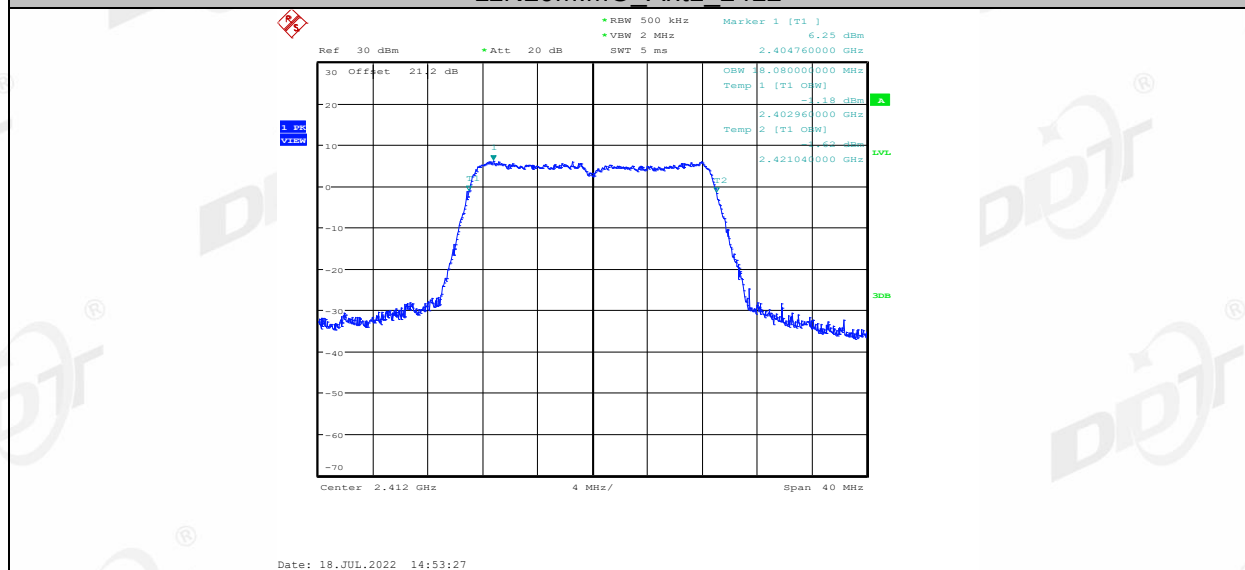
11G_Ant1_2462



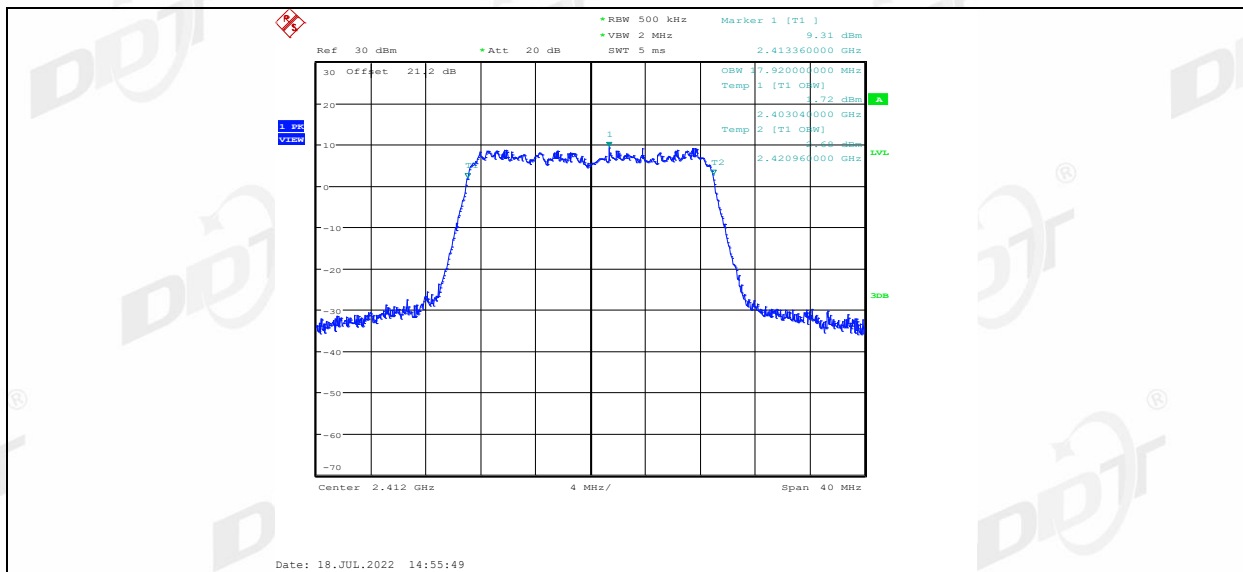
11G_Ant2_2462



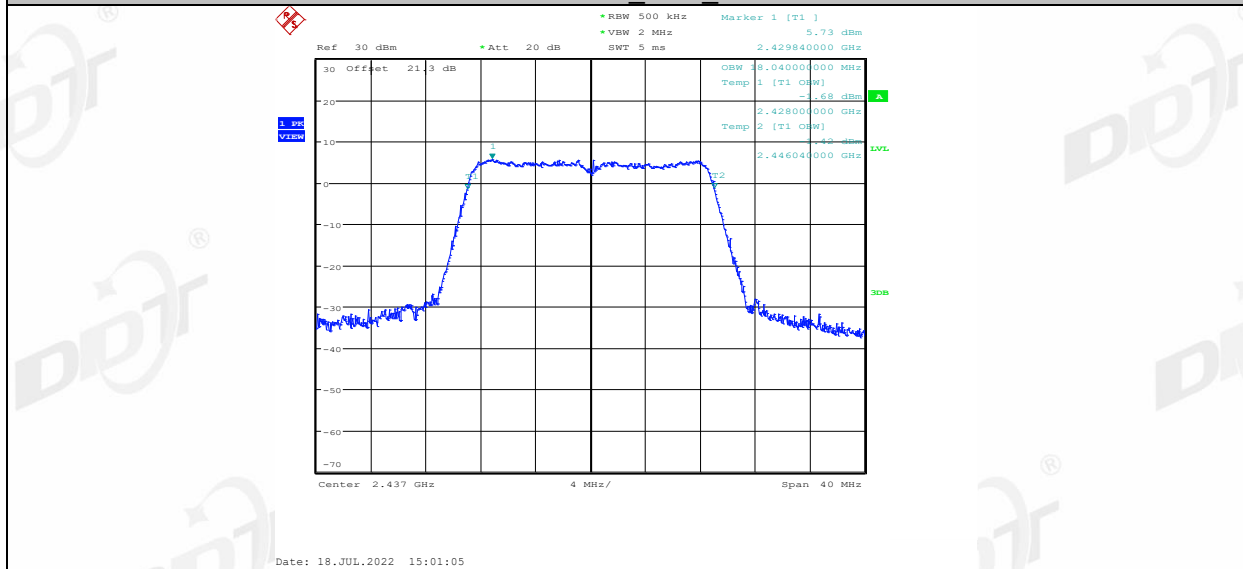
11N20MIMO_Ant1_2412



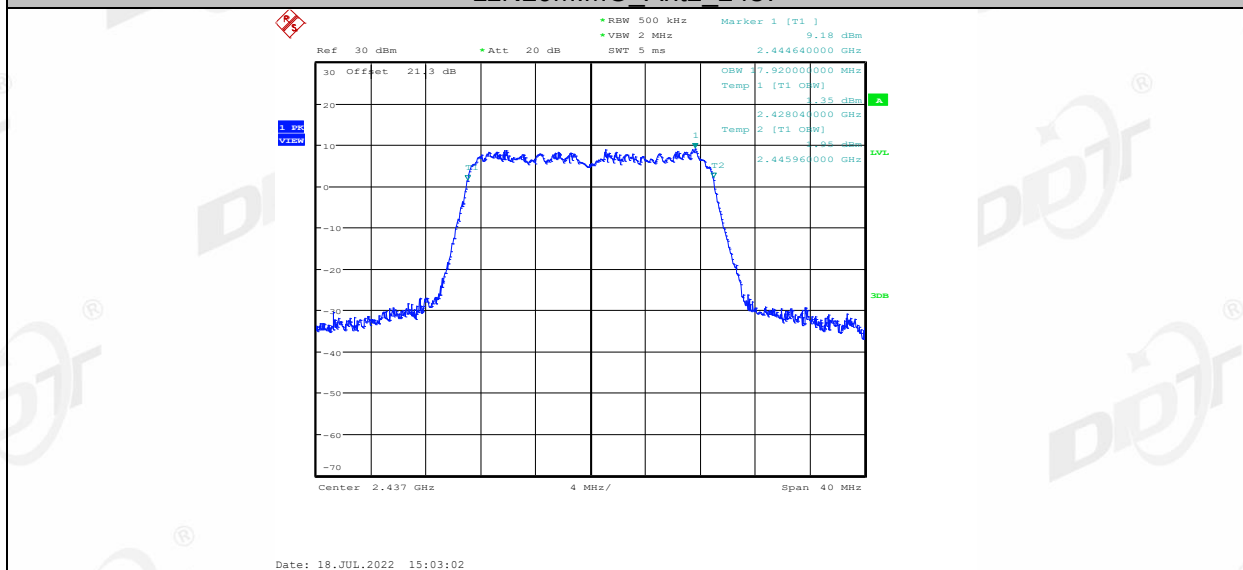
11N20MIMO_Ant2_2412



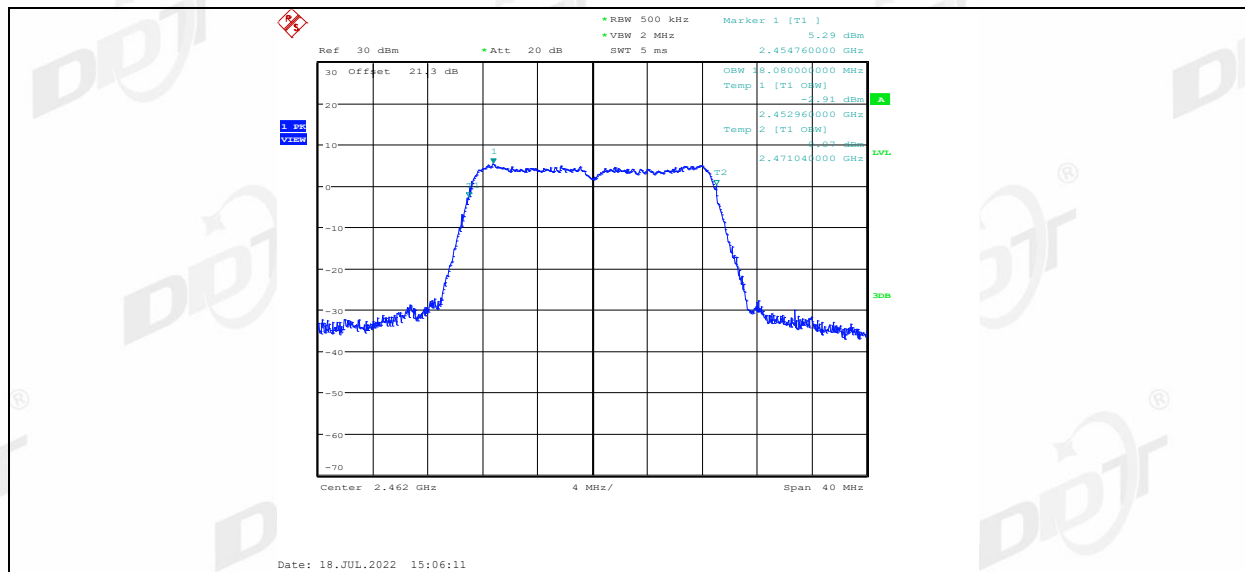
11N20MIMO Ant1 2437



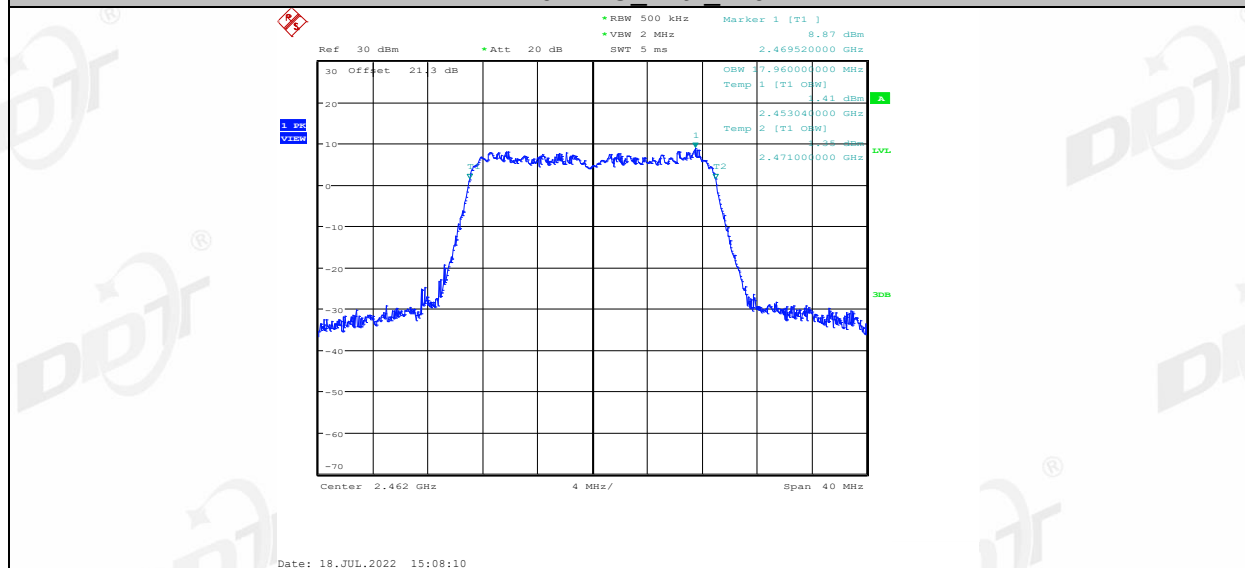
11N20MIMO Ant2 2437



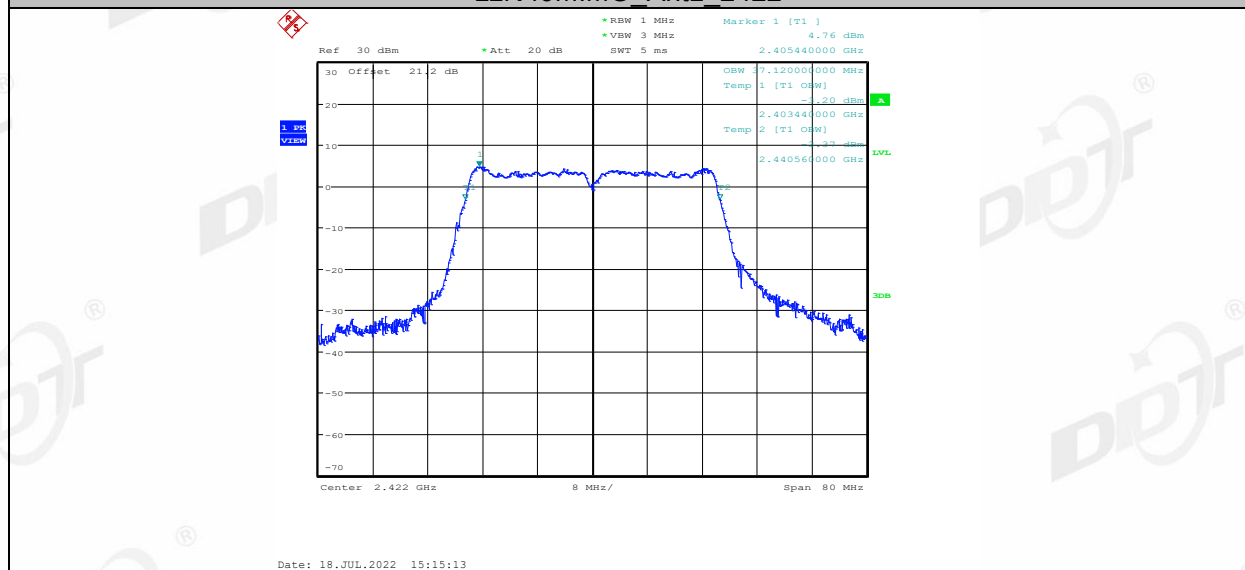
11N20MIMO Ant1 2462



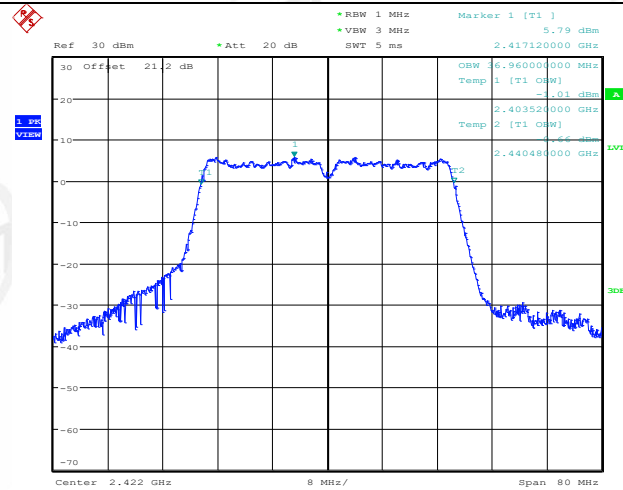
11N20MIMO Ant2 2462



11N40MIMO Ant1 2422

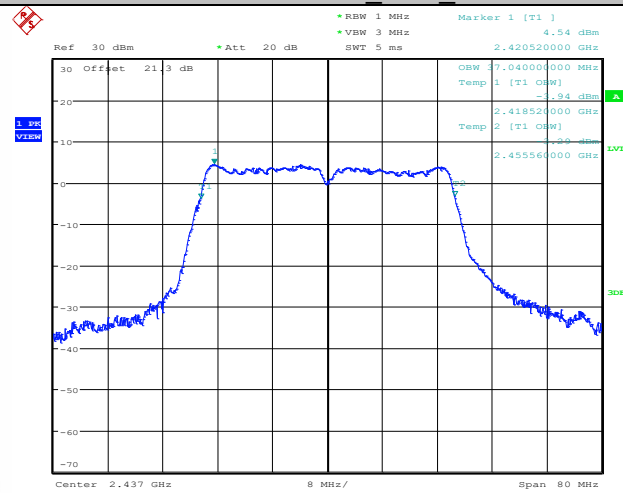


11N40MIMO Ant2 2422



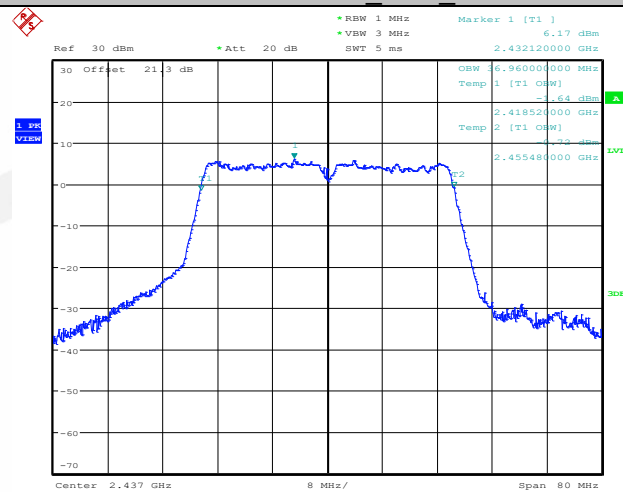
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11N40MIMO Ant1 2437



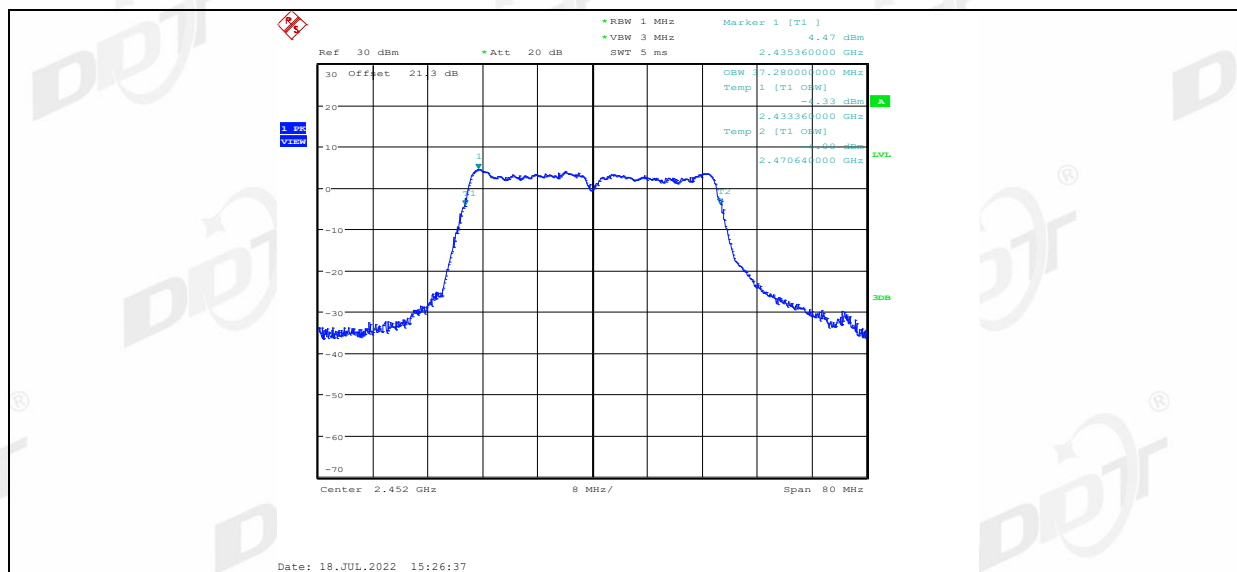
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11N40MIMO Ant2 2437

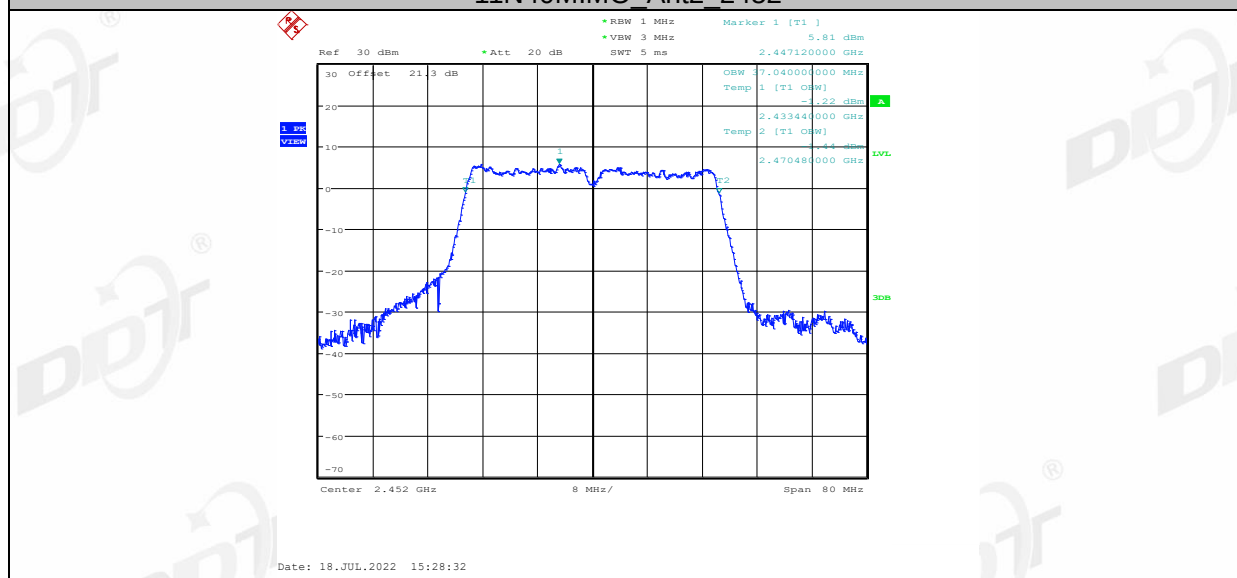


Date: 18.JUL.2022 15:22:57

11N40MIMO Ant1 2452



11N40MIMO Ant2 2452



5. Conducted Peak Output Power

5.1. Block diagram of test setup

Same as section 4.1

5.2. Limits

For systems using digital modulation in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands: 1 Watt. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.3. Test procedure

Connect each EUT's antenna output to power sensor by RF cable and attenuator
Measure the PK output power of each antenna port by power sensor

5.4. Test result

Test Mode	Test Channel	Ant	Power [dBm]	Limit [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
11B	2412	ANT1	15.48	30	21.42	36	Pass
11B	2412	ANT2	15.64	30	21.58	36	Pass
11B	2437	ANT1	15.35	30	21.29	36	Pass
11B	2437	ANT2	15.63	30	21.57	36	Pass
11B	2462	ANT1	16.07	30	22.01	36	Pass
11B	2462	ANT2	16.19	30	22.13	36	Pass
11G	2412	ANT1	13.38	30	19.32	36	Pass
11G	2412	ANT2	14.09	30	20.03	36	Pass
11G	2437	ANT1	13.19	30	19.13	36	Pass
11G	2437	ANT2	13.98	30	19.92	36	Pass
11G	2462	ANT1	13.05	30	18.99	36	Pass
11G	2462	ANT2	13.88	30	19.82	36	Pass
11N20MIMO	2412	ANT1	12.52	30	18.46	36	Pass
11N20MIMO	2412	ANT2	13.53	30	19.47	36	Pass
11N20MIMO	2412	ANT1+2	16.04	27.05	22.00	36	Pass
11N20MIMO	2437	ANT1	12.28	30	18.22	36	Pass
11N20MIMO	2437	ANT2	13.48	30	19.42	36	Pass
11N20MIMO	2437	ANT1+2	15.93	27.05	21.87	36	Pass
11N20MIMO	2462	ANT1	12.13	30	18.07	36	Pass
11N20MIMO	2462	ANT2	13.36	30	19.30	36	Pass
11N20MIMO	2462	ANT1+2	15.80	27.05	21.74	36	Pass
11N40MIMO	2422	ANT1	10.02	30	15.96	36	Pass
11N40MIMO	2422	ANT2	10.74	30	16.68	36	Pass
11N40MIMO	2422	ANT1+2	13.41	27.05	19.35	36	Pass
11N40MIMO	2437	ANT1	9.80	30	15.74	36	Pass
11N40MIMO	2437	ANT2	10.55	30	16.49	36	Pass
11N40MIMO	2437	ANT1+2	13.20	27.05	19.14	36	Pass
11N40MIMO	2452	ANT1	9.50	30	15.44	36	Pass
11N40MIMO	2452	ANT2	10.44	30	16.38	36	Pass
11N40MIMO	2452	ANT1+2	13.01	27.05	18.94	36	Pass

6. Power Spectral Density

6.1. Block diagram of test setup

Same as section 4.1

6.2. Limits

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

6.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Set the spectrum analyzer as follows:

Center frequency	DTS Channel center frequency
RBW:	$3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$
VBW:	$\geq 3\text{RBW}$
Span	1.5 times the DTS bandwidth
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

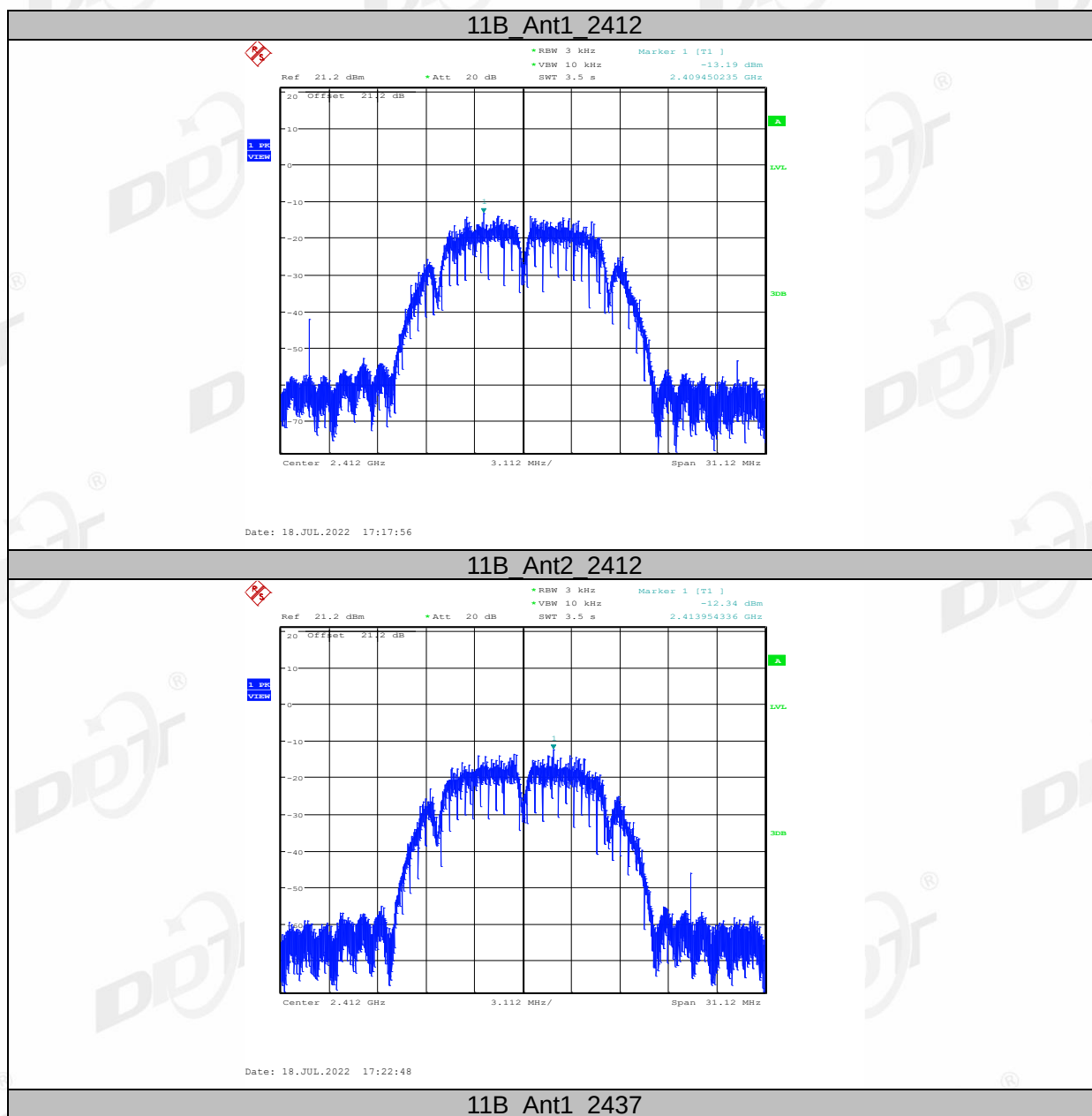
(3) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude level within the RBW.

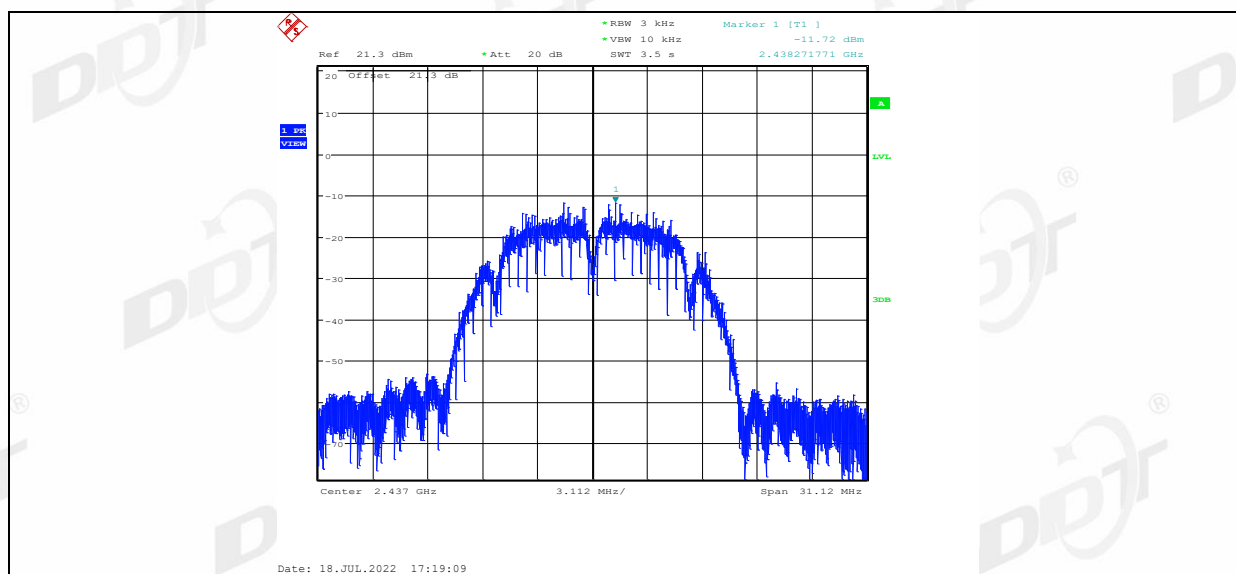
(4) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

6.4. Test result

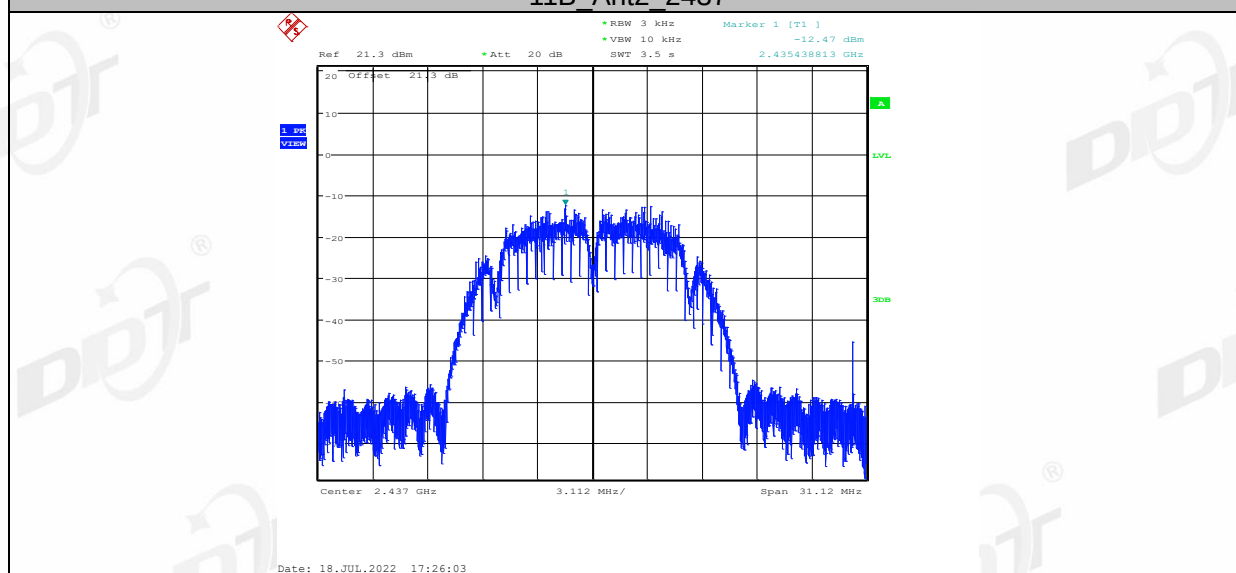
Test Mode	Antenna	Channel [MHz]	Result [dBm/ 3 kHz]	Limit [dBm/ 3 kHz]	Verdict
11B	ANT1	2412	-13.19	8	Pass
11B	ANT2	2412	-12.34	8	Pass
11B	ANT1	2437	-11.72	8	Pass
11B	ANT2	2437	-12.47	8	Pass
11B	ANT1	2462	-12.20	8	Pass
11B	ANT2	2462	-13.07	8	Pass
11G	ANT1	2412	-14.58	8	Pass
11G	ANT2	2412	-13.69	8	Pass
11G	ANT1	2437	-13.83	8	Pass
11G	ANT2	2437	-13.62	8	Pass
11G	ANT1	2462	-15.46	8	Pass
11G	ANT2	2462	-14.91	8	Pass
11N20MIMO	ANT1	2412	-14.47	8	Pass
11N20MIMO	ANT2	2412	-14.26	8	Pass
11N20MIMO	ANT1+2	2412	-11.35	8	Pass
11N20MIMO	ANT1	2437	-15.45	8	Pass
11N20MIMO	ANT2	2437	-14.07	8	Pass
11N20MIMO	ANT1+2	2437	-11.70	8	Pass
11N20MIMO	ANT1	2462	-16.04	8	Pass
11N20MIMO	ANT2	2462	-13.11	8	Pass
11N20MIMO	ANT1+2	2462	-11.32	8	Pass
11N40MIMO	ANT1	2422	-21.21	8	Pass
11N40MIMO	ANT2	2422	-19.69	8	Pass
11N40MIMO	ANT1+2	2422	-17.37	8	Pass
11N40MIMO	ANT1	2437	-20.78	8	Pass
11N40MIMO	ANT2	2437	-18.73	8	Pass
11N40MIMO	ANT1+2	2437	-16.62	8	Pass
11N40MIMO	ANT1	2452	-21.05	8	Pass
11N40MIMO	ANT2	2452	-19.45	8	Pass
11N40MIMO	ANT1+2	2452	-17.17	8	Pass

6.5. Original test data

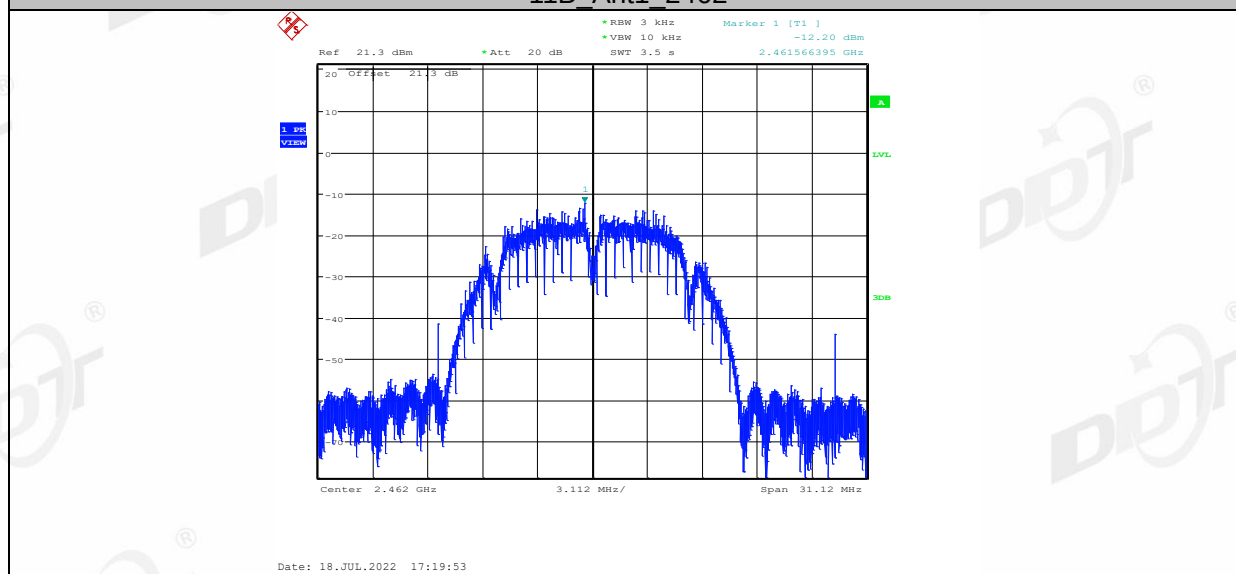




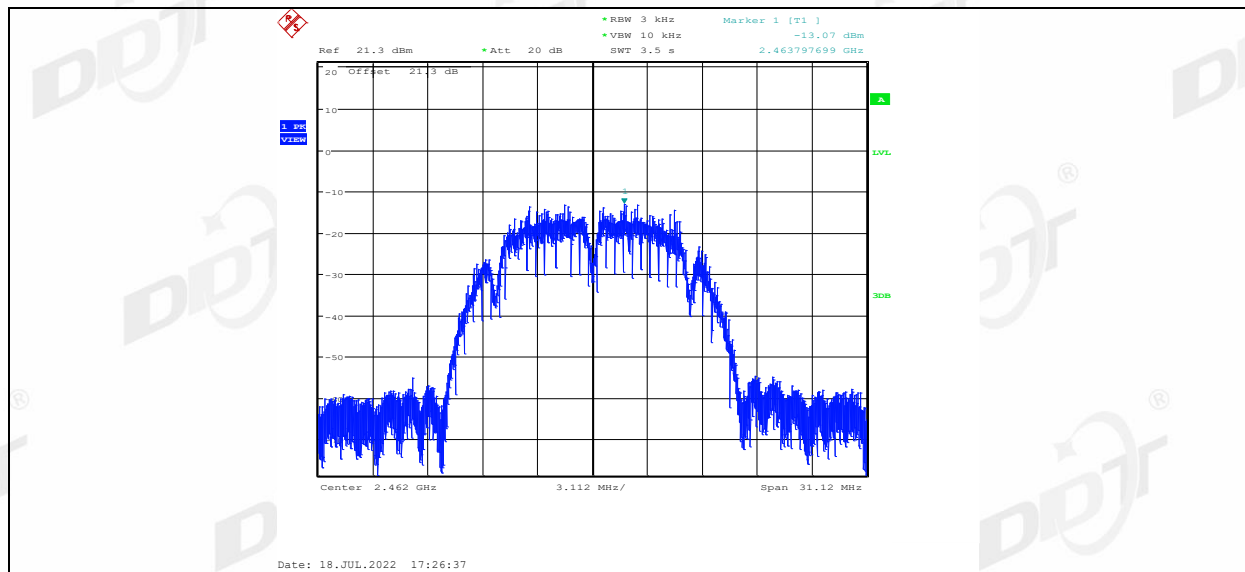
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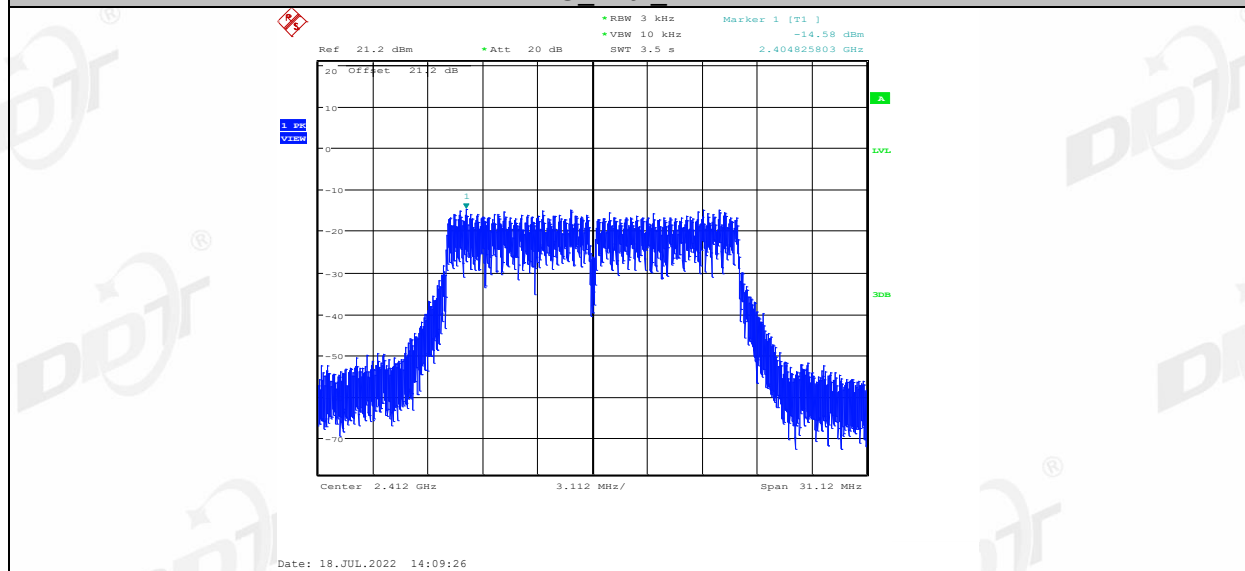
11B_Ant1_2462



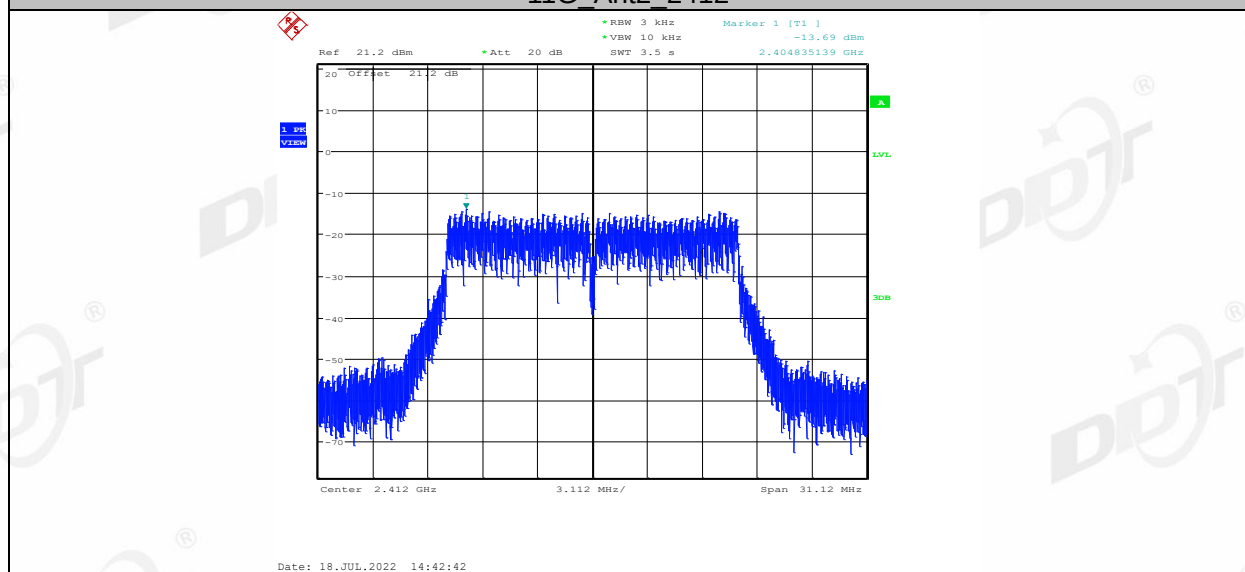
11B_Ant2_2462



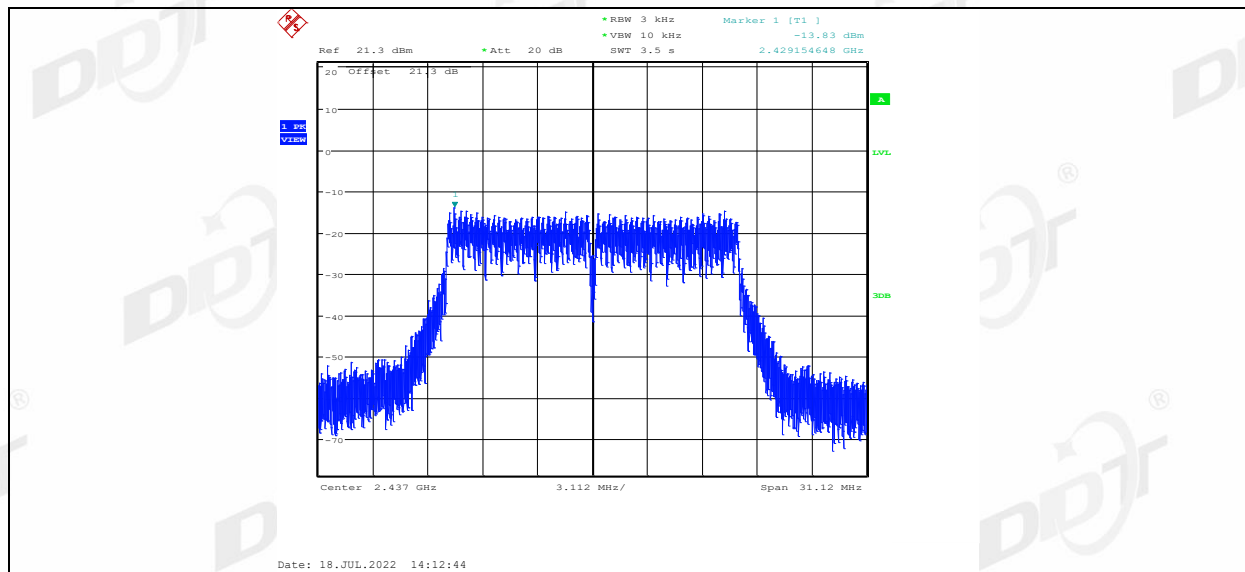
11G_Ant1_2412



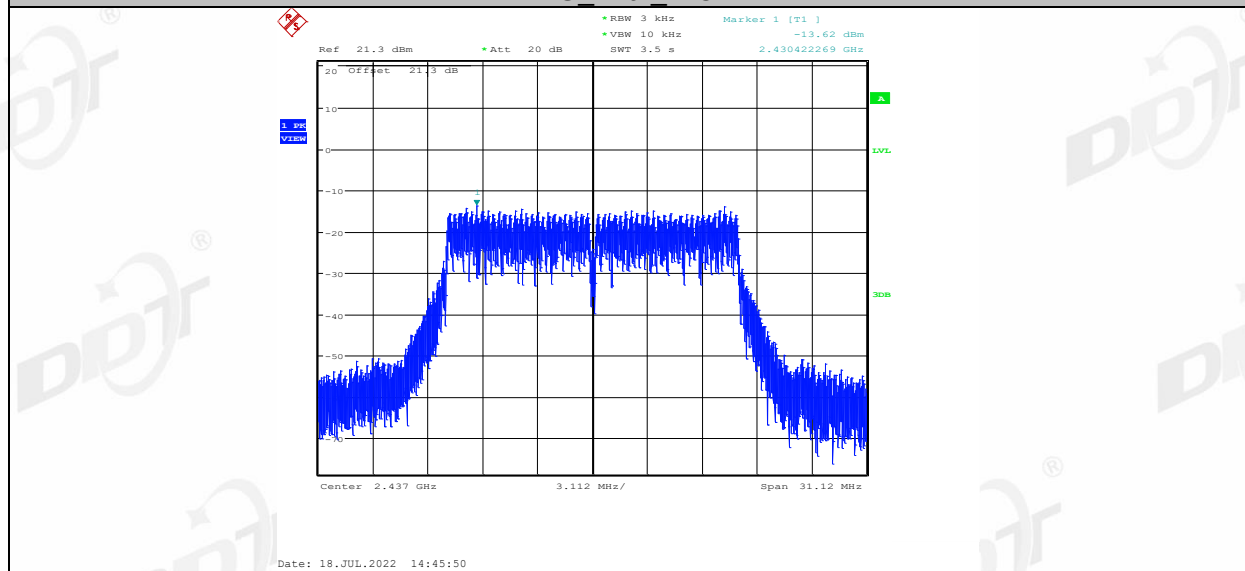
11G_Ant2_2412



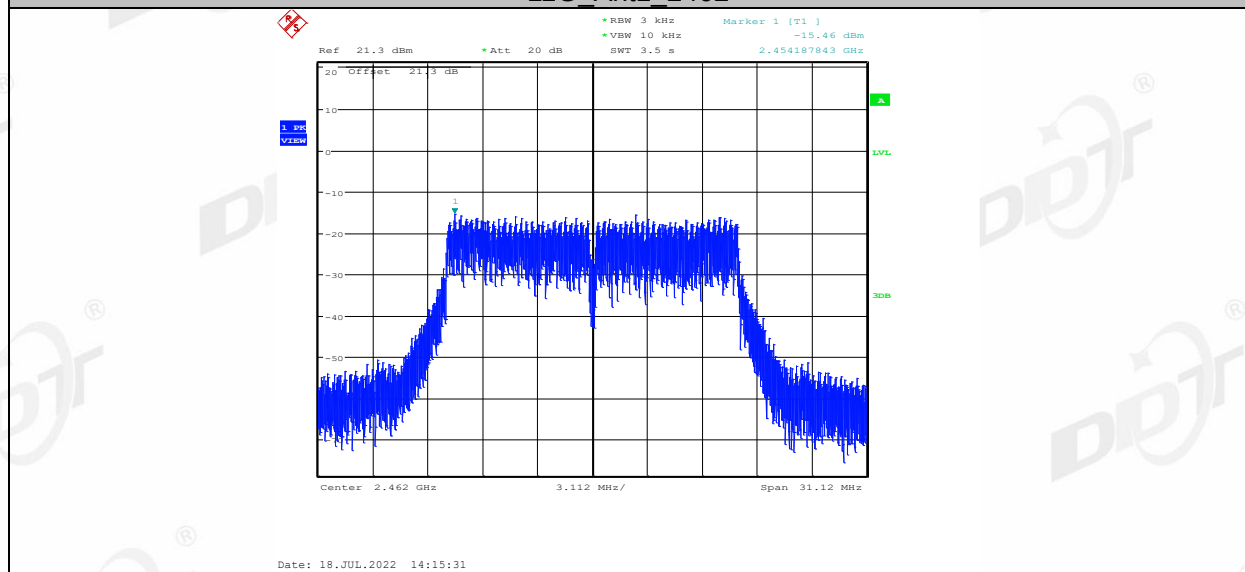
11G_Ant1_2437



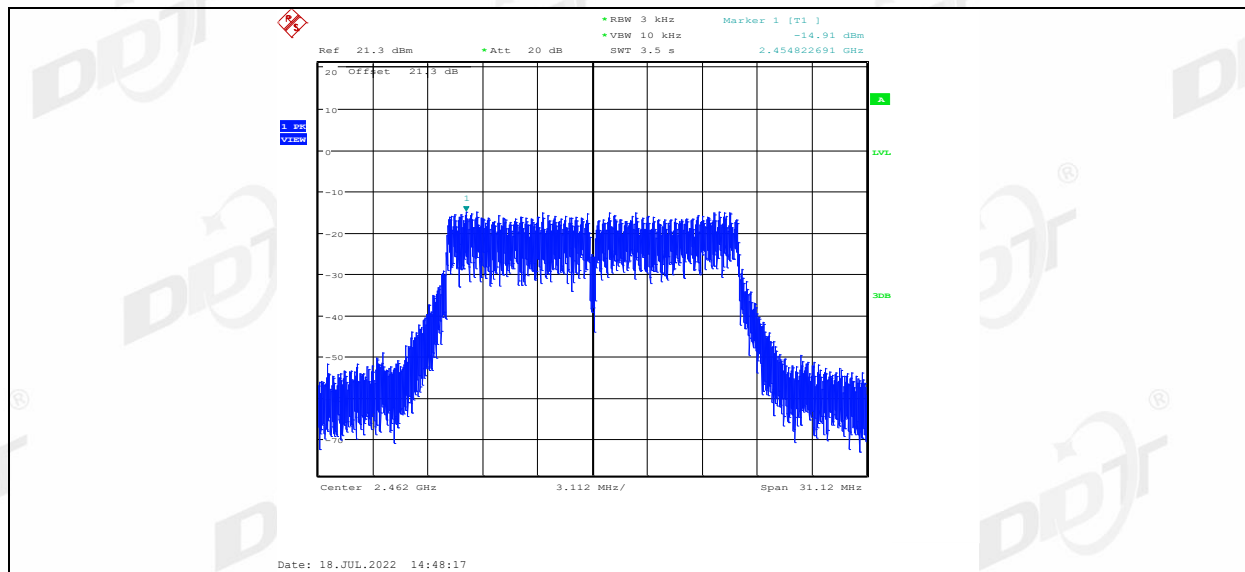
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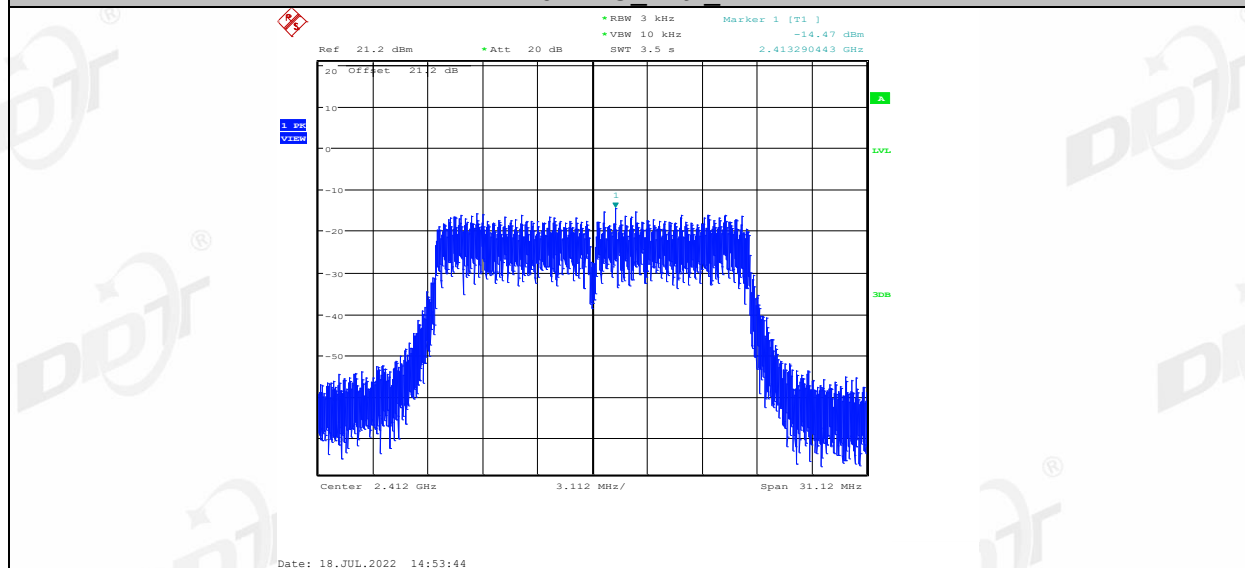
11G_Ant1_2462



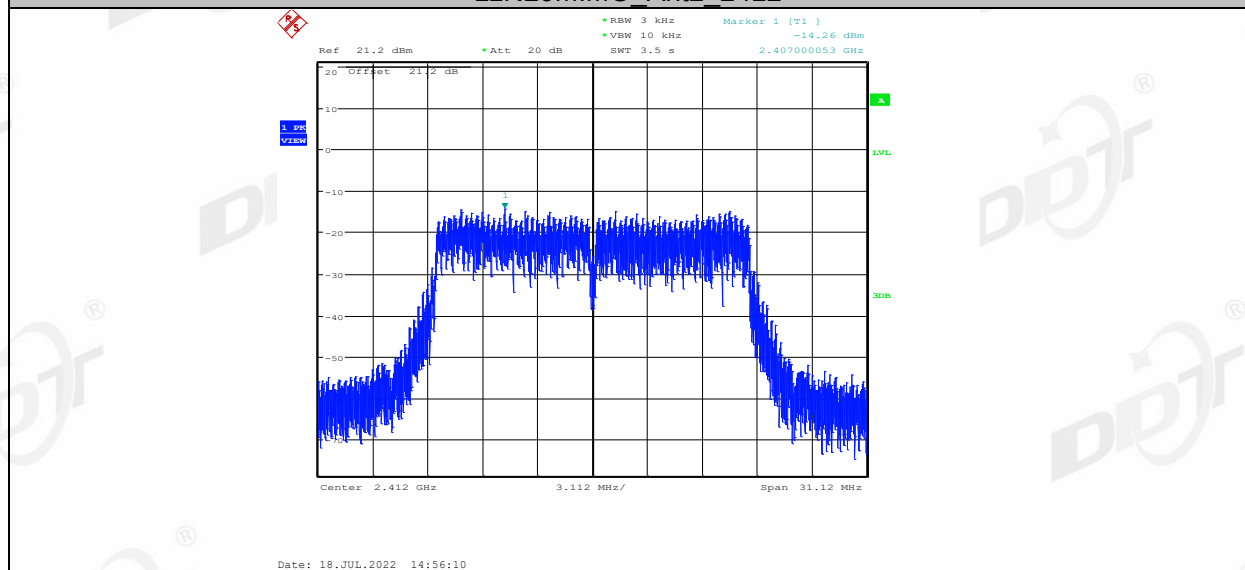
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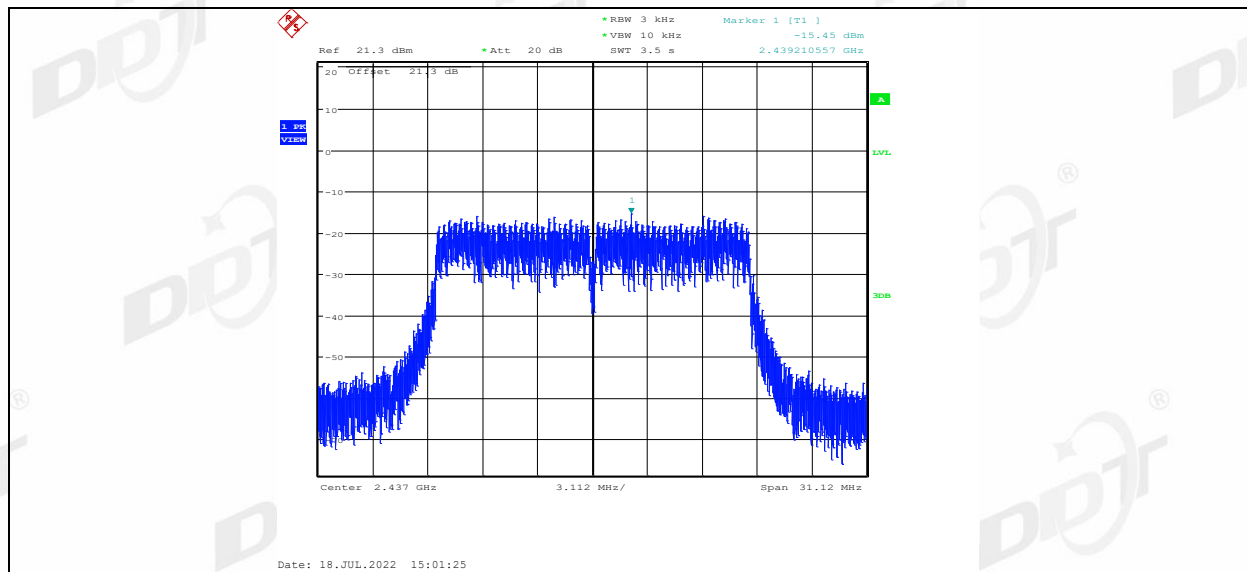
11N20MIMO Ant1_2412



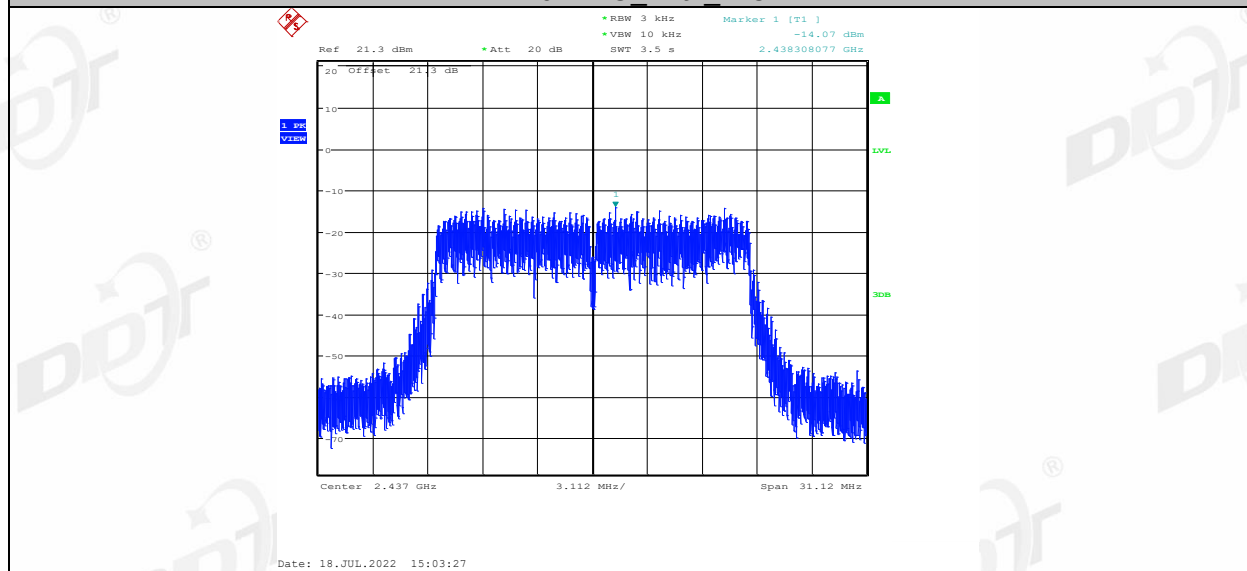
11N20MIMO Ant2_2412



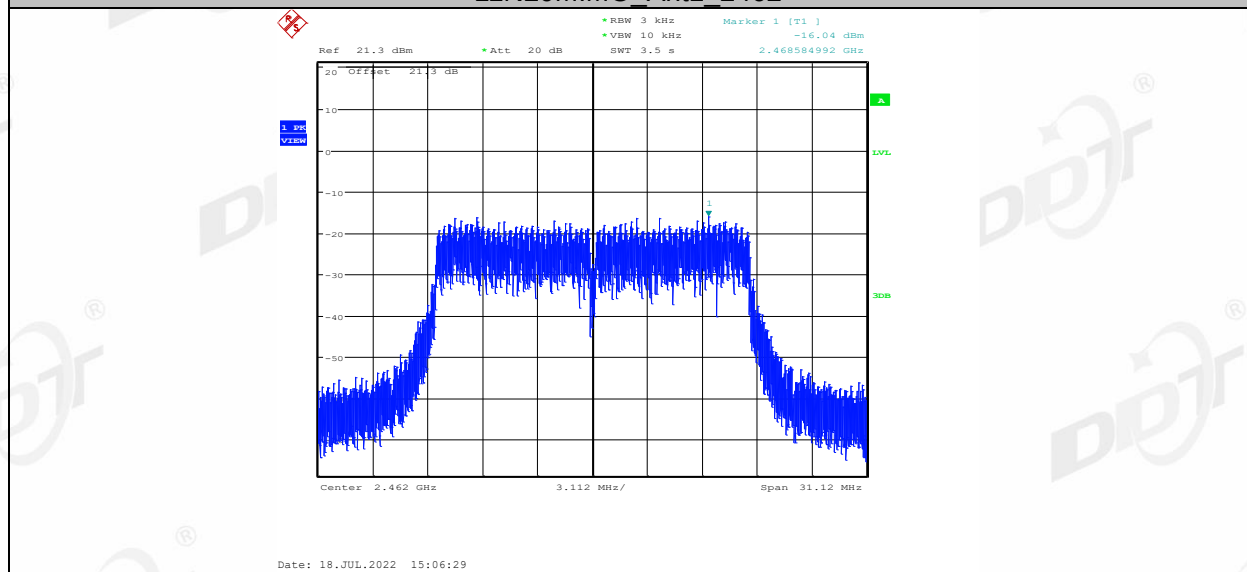
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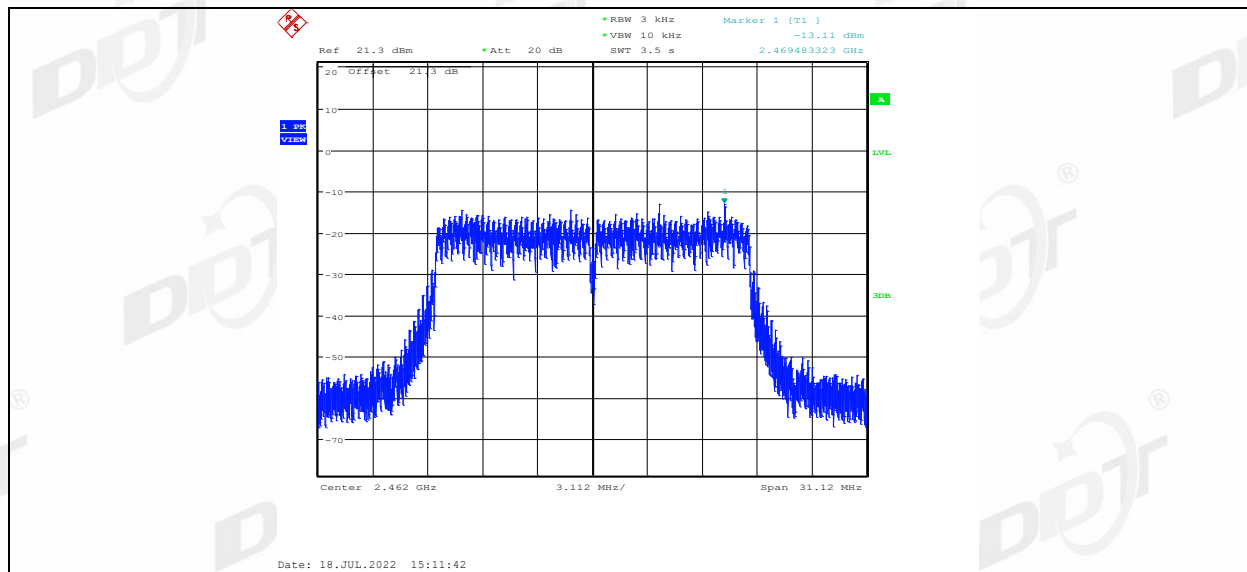
11N20MIMO Ant2 2437



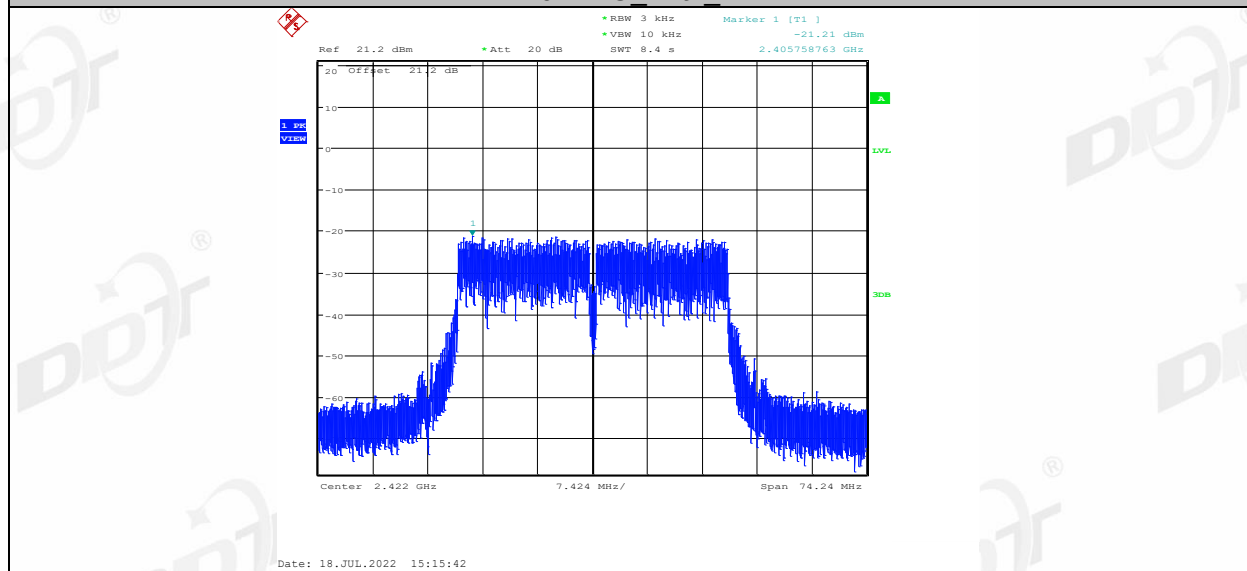
11N20MIMO Ant1 2462



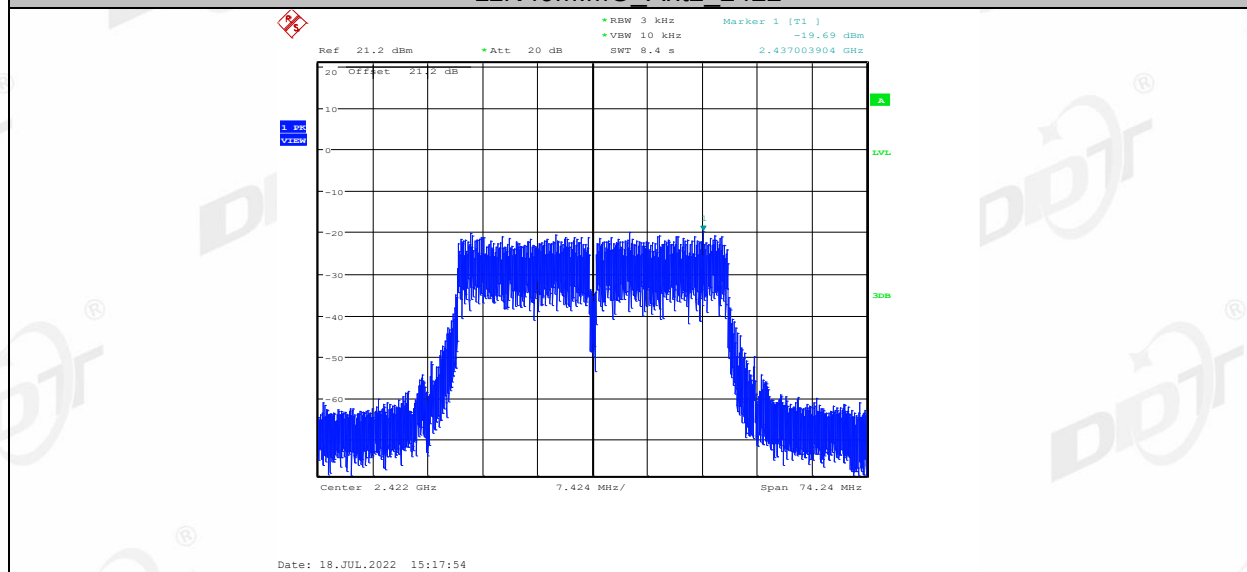
11N20MIMO Ant2 2462



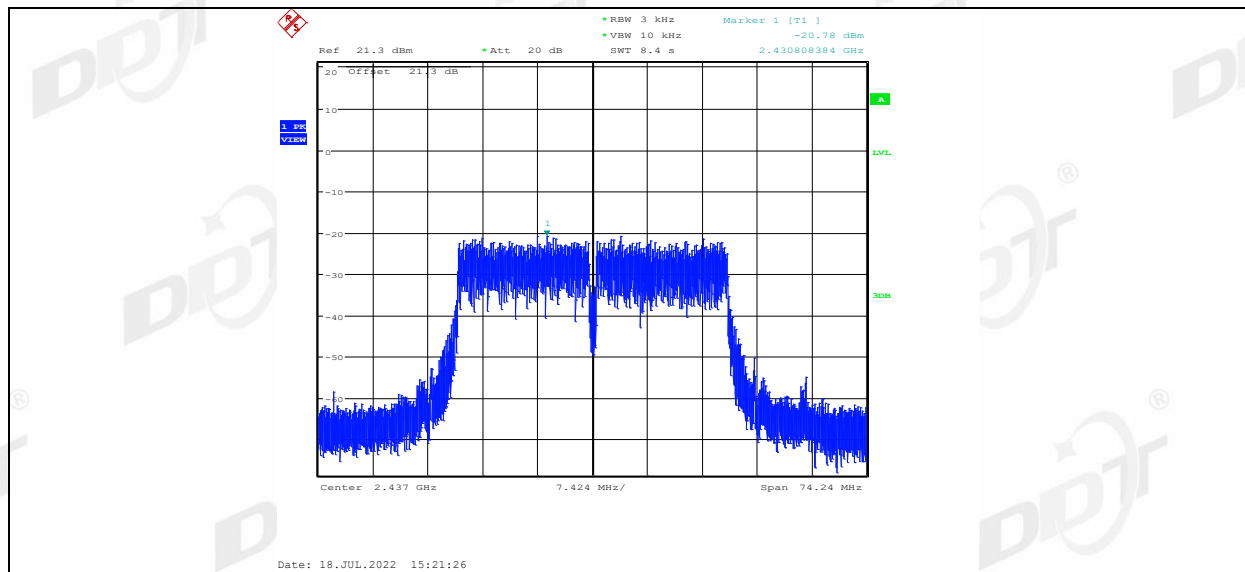
11N40MIMO Ant1 2422



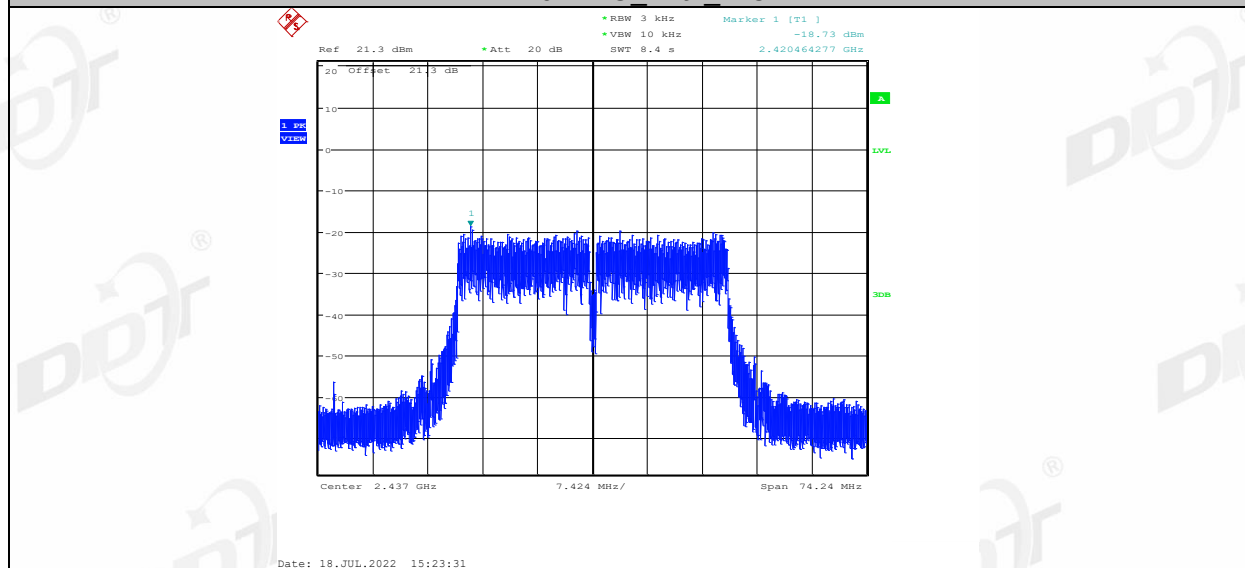
11N40MIMO Ant2 2422



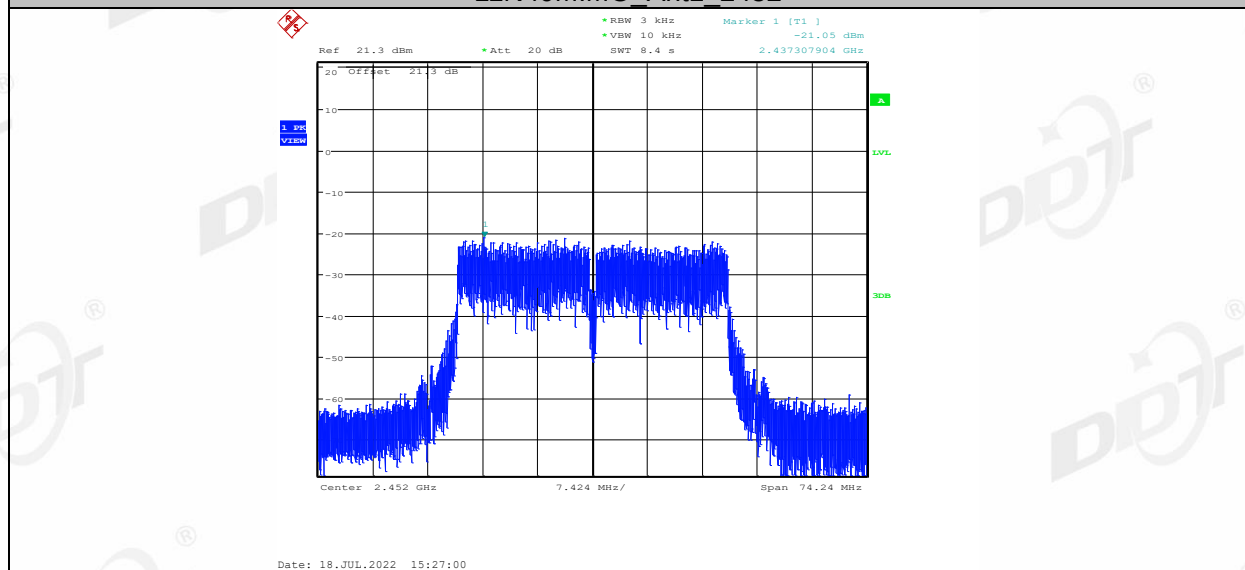
11N40MIMO Ant1 2437



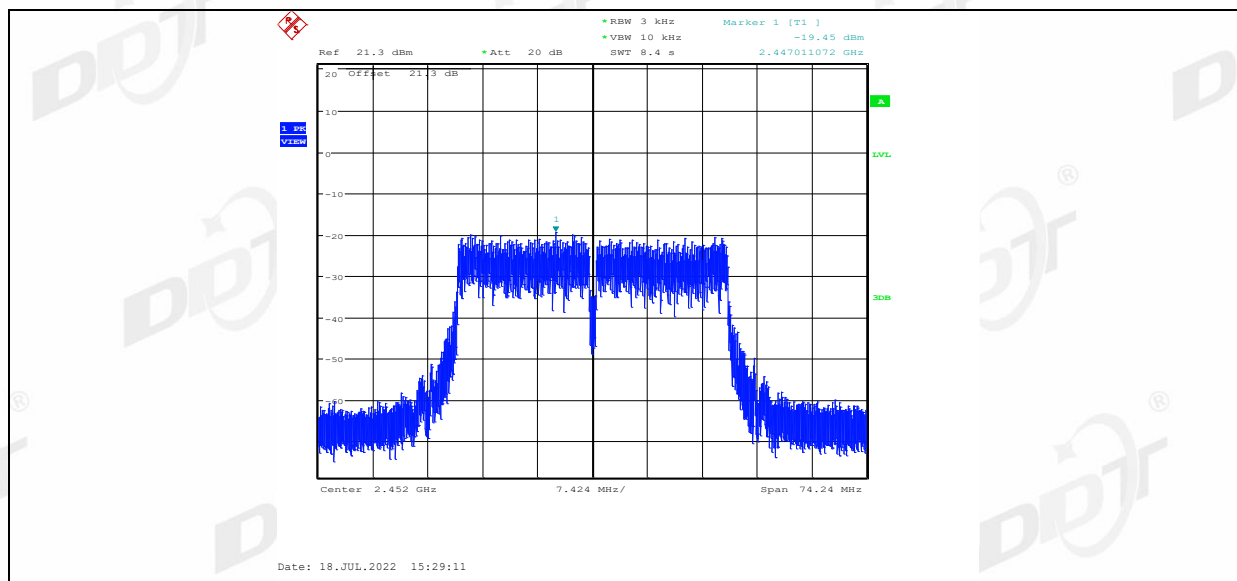
11N40MIMO_Ant2_2437



11N40MIMO_Ant1_2452



11N40MIMO_Ant2_2452



7. Band Edge and Spurious Emissions (Conducted)

7.1. Block diagram of test setup

Same as section 4.1

7.2. Limits

In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum 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.

7.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Establish a reference level by using the following procedure:

Center frequency	DTS Channel center frequency
RBW:	100 kHz
VBW:	300 kHz
Span	1.5 times the DTS bandwidth
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

(3) Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.

(4) Set the spectrum analyzer as follows:

RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
Number of measurement points	$\geq \text{span}/\text{RBW}$
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

(5) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude of all unwanted emissions outside of the authorized frequency band

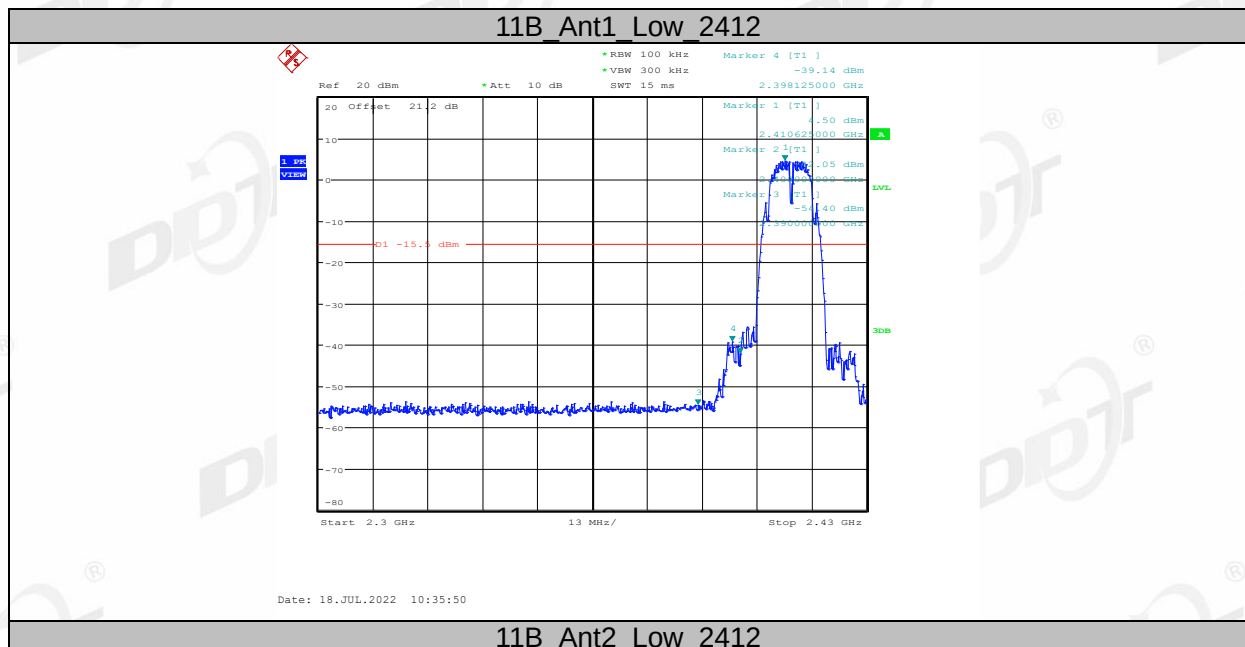
7.4. Test result

EUT Set Mode	CH or Frequency	Ant1 Result (dBm)	EUT Set Mode	CH or Frequency	Ant1 Result (dBm)
11b	CH1	Pass	11n HT 20	CH1	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH11	Pass
11g	CH1	Pass	11n HT 40	CH3	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH9	Pass

EUT Set Mode	CH or Frequency	Ant2 Result (dBm)	EUT Set Mode	CH or Frequency	Ant2 Result (dBm)
11b	CH1	Pass	11n HT 20	CH1	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH11	Pass
11g	CH1	Pass	11n HT 40	CH3	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH9	Pass

7.5. original test data

Band Edge:





Ref 20 dBm * Att 0 dB SNT 15 ms

* RBW 100 kHz Marker 4 [T1] -55.02 dBm
 * VBW 300 kHz 2.517211538 GHz

20 Offset 21.3 dB

10

0

-10

-20

-30

-40

-50

-60

-70

-80

1

2

3

4

Marker 1 [T1] -.21 dBm 2.46044718 GHz
 Marker 2 [T1] -55.67 dBm 2.483500000 GHz
 Marker 3 [T1] -51.93 dBm 2.500000000 GHz

01 -15.79 dBm

1.94 Vpp
 Vpp

Start 2.44 GHz 11 MHz/ Stop 2.55 GHz

Date: 18.JUL.2022 10:56:16

Ref 20 dBm Att 10 dB SWT 15 ms

RBW 100 kHz VBW 300 kHz

Marker 4 [T1] -51.17 dBm

2.484775641 GHz

20 Offset 213 dB

1

1.990 View

Marker 1 [T1] -63 dBm 2.46044718 GHz

Marker 2 [T1] -52.73 dBm 2.483500000 GHz

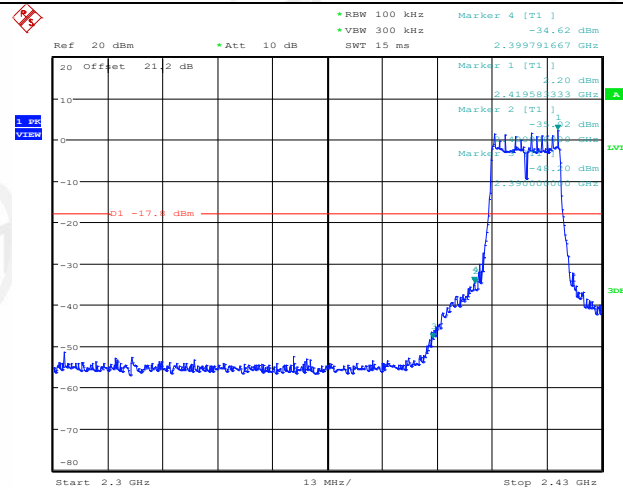
Marker 3 [T1] -52.01 dBm 2.500000000 GHz

01 -15.17 dBm

Start 2.44 GHz 11 MHz/ Stop 2.55 GHz

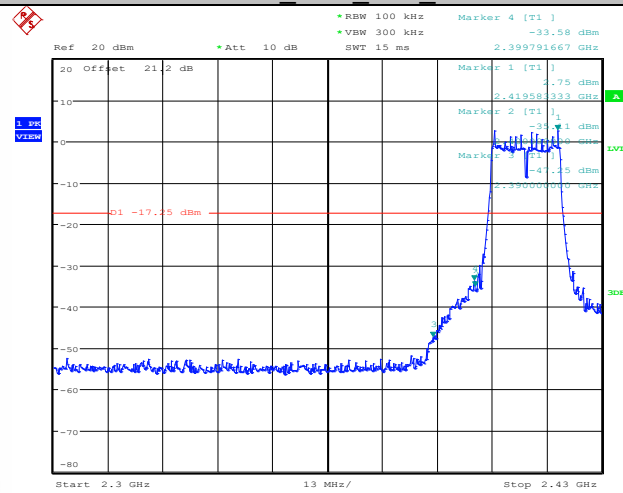
Date: 18.JUL.2022 14:36:51

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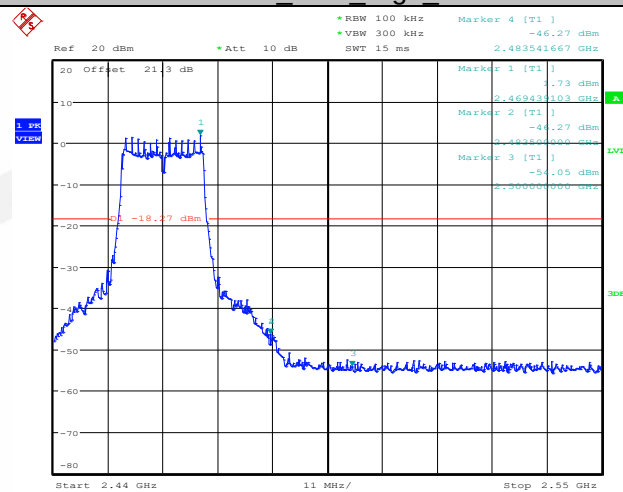
Date: 18.JUL.2022 14:09:36

11G_Ant2_Low_2412



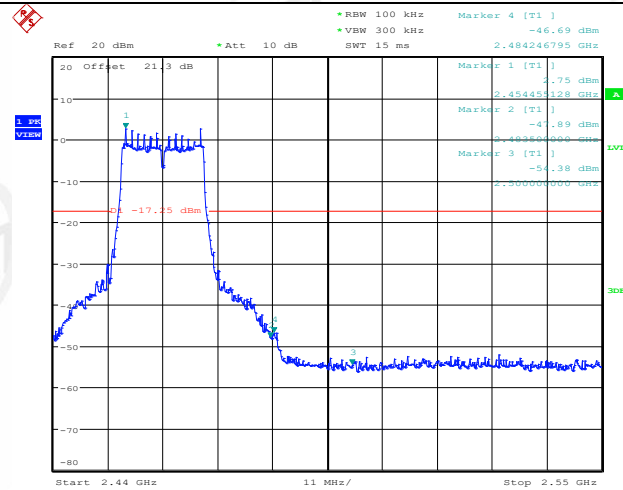
Date: 18.JUL.2022 14:42:52

11G_Ant1_High_2462

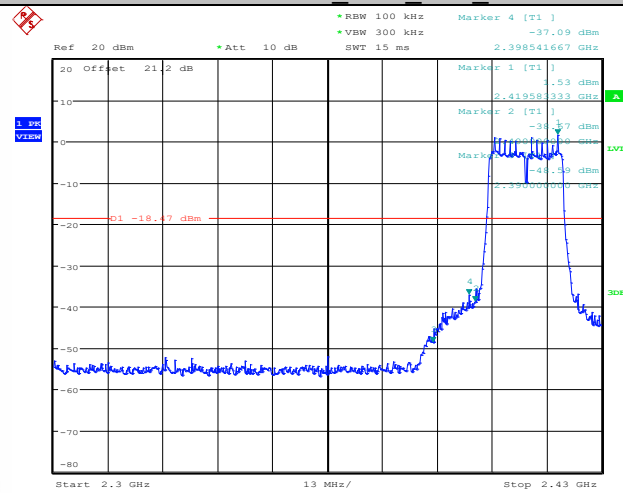


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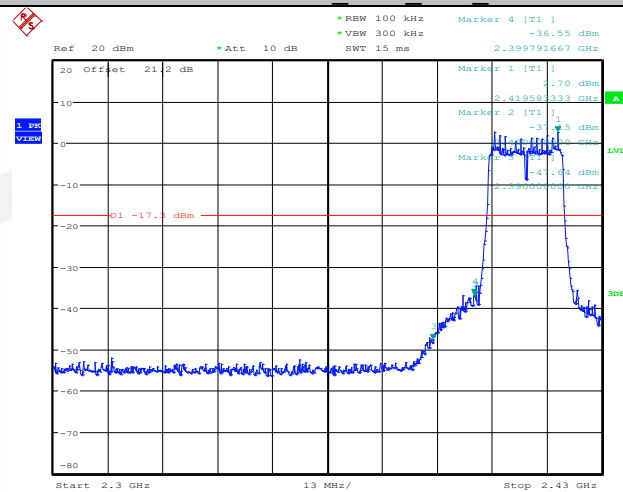
11G_Ant2_High_2462



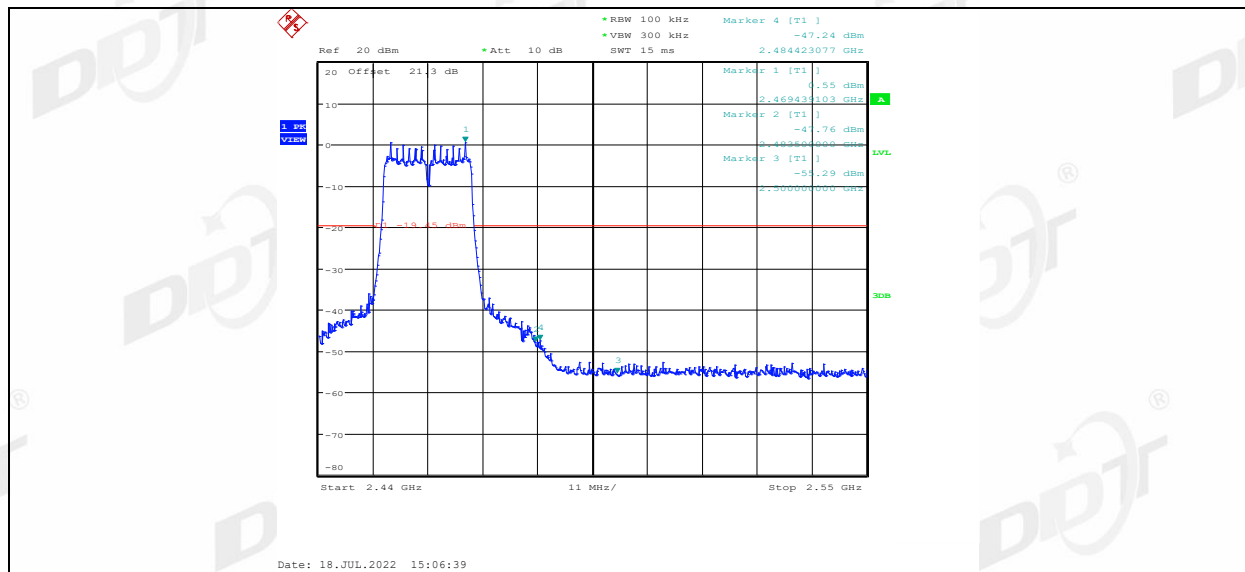
11N20MIMO_Ant1_Low_2412



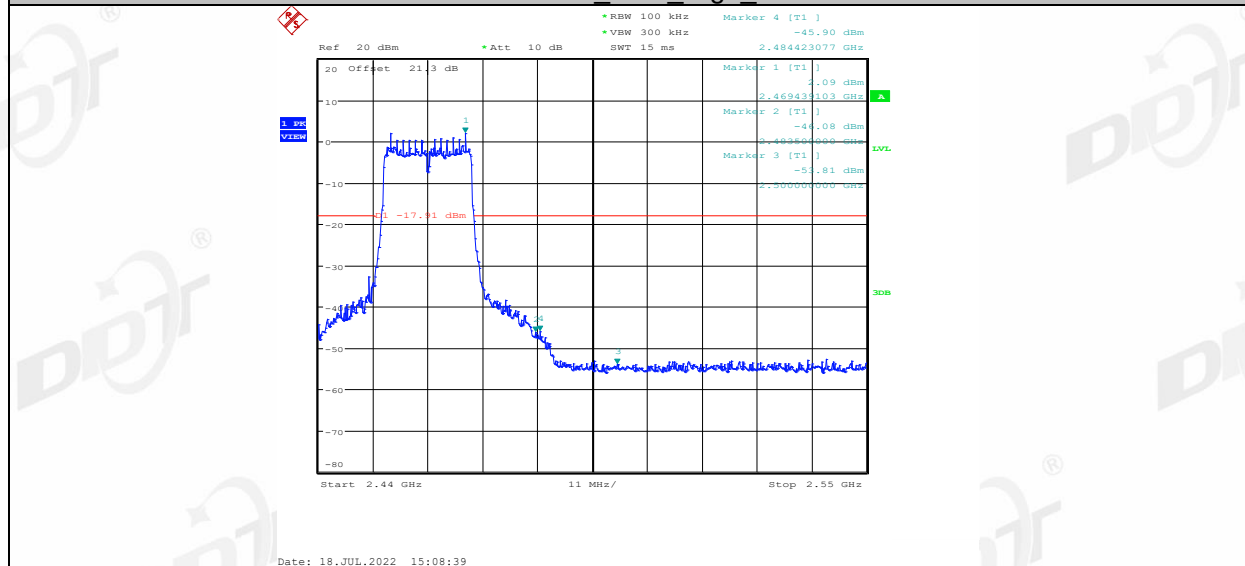
11N20MIMO_Ant2_Low_2412



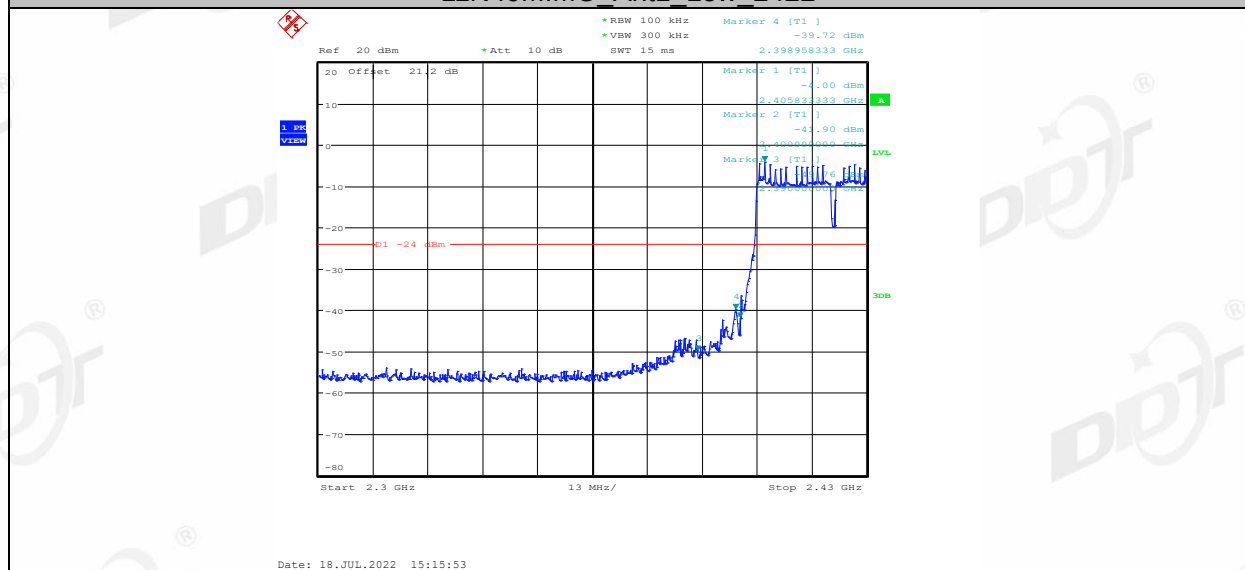
11N20MIMO_Ant1_High_2462



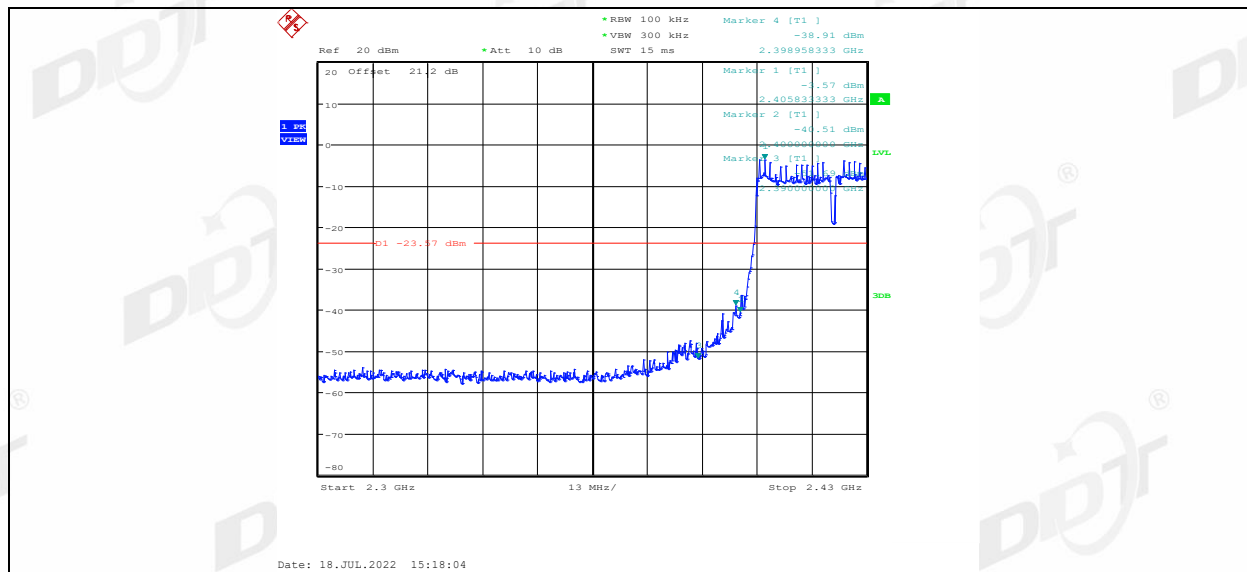
11N20MIMO_Ant2_High_2462



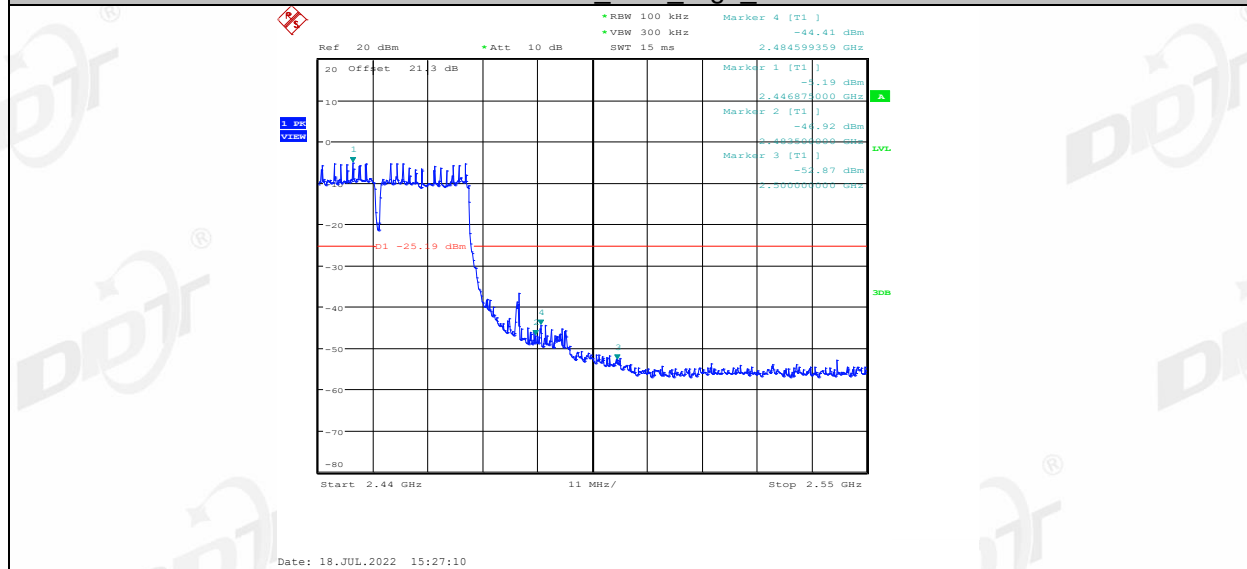
11N40MIMO_Ant1_Low_2422



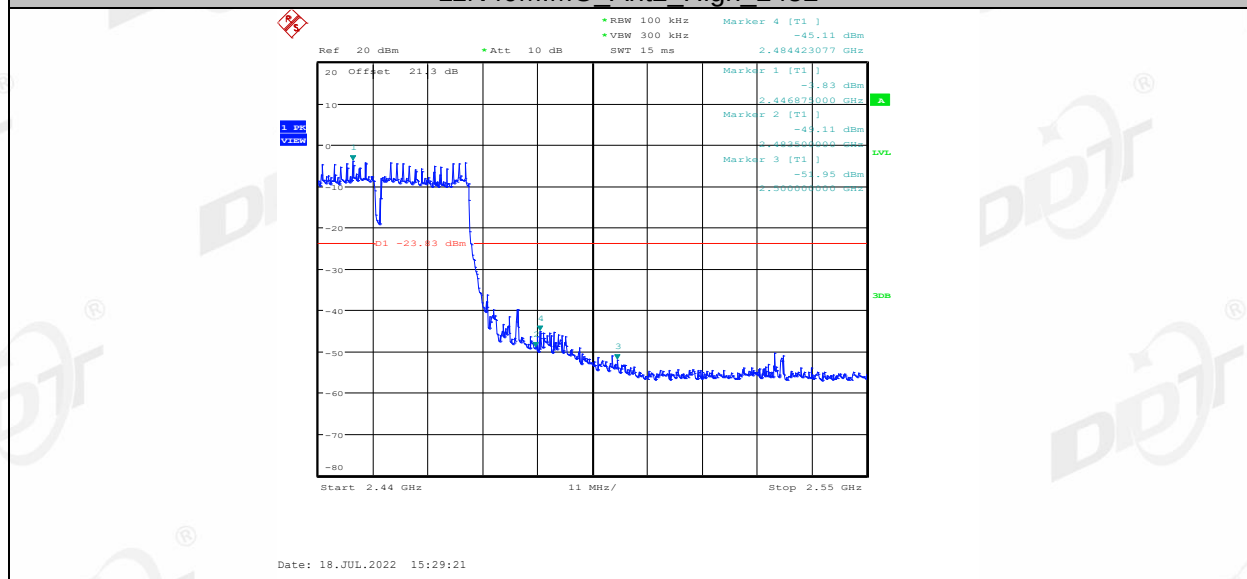
11N40MIMO_Ant2_Low_2422



11N40MIMO_Ant1_High_2452

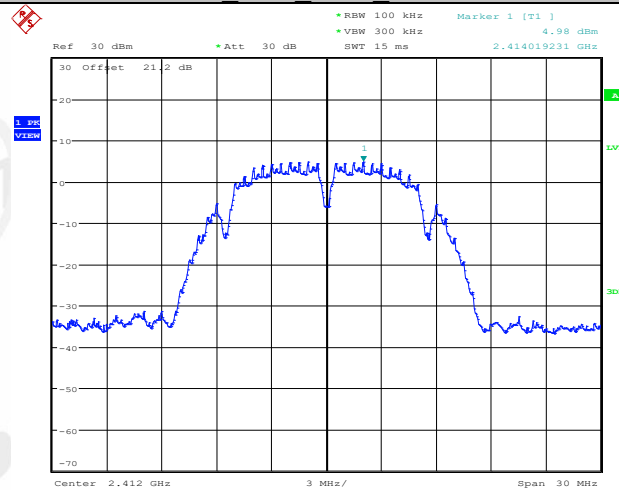


11N40MIMO_Ant2_High_2452



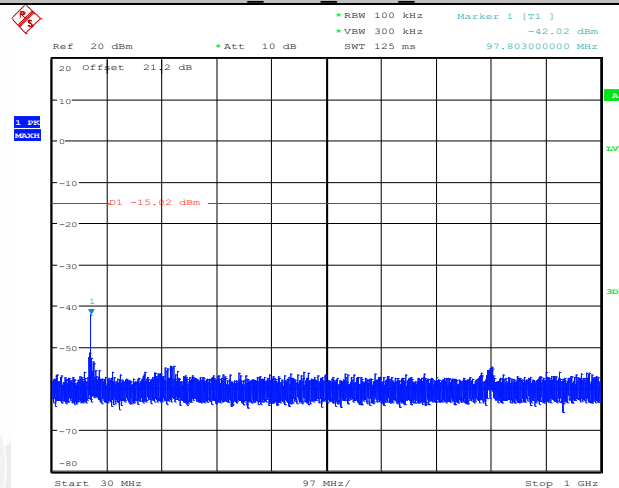
Spurious Emissions:

11B_Ant1_2412_0~Reference



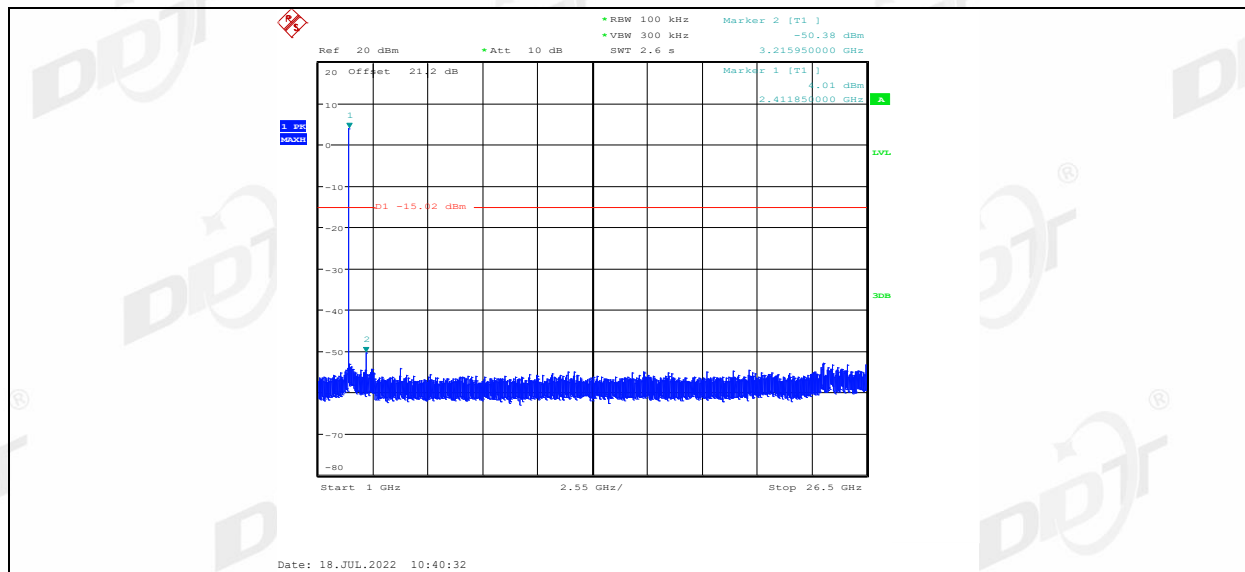
Date: 18.JUL.2022 10:39:03

11B_Ant1_2412_30~1000

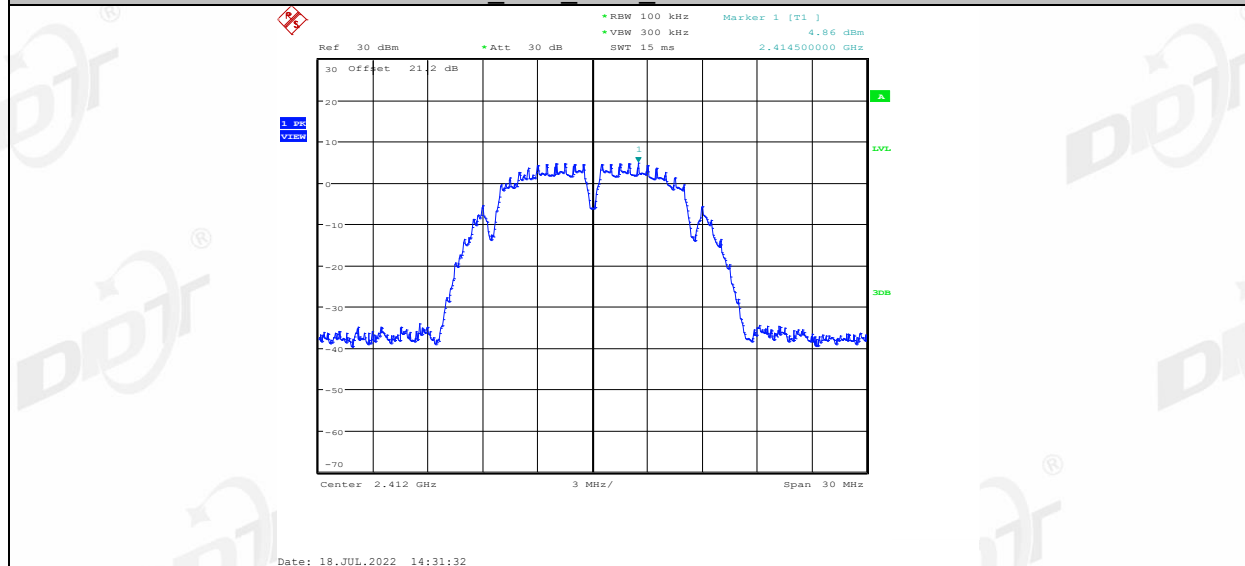


Date: 18.JUL.2022 10:40:10

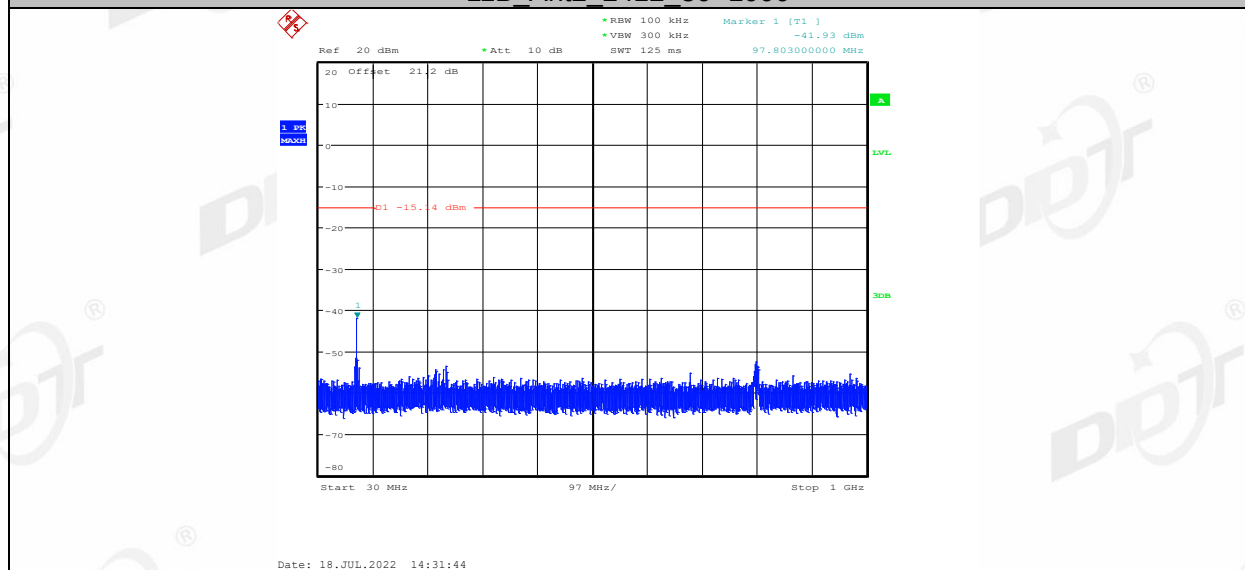
11B_Ant1_2412_1000~26500



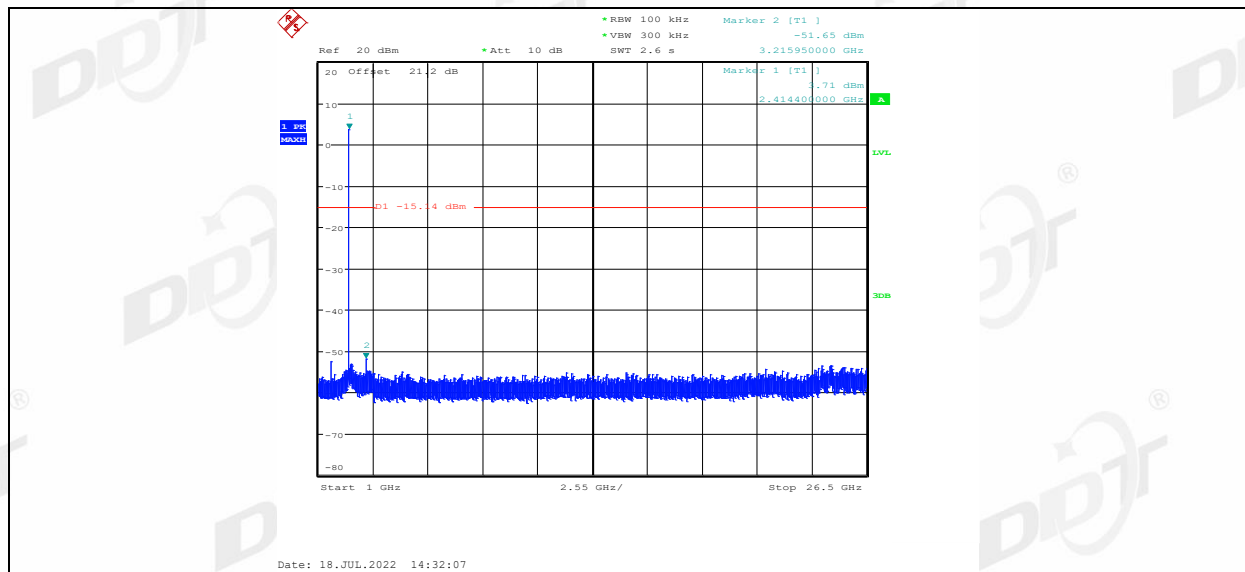
11B_Ant2_2412_0~Reference



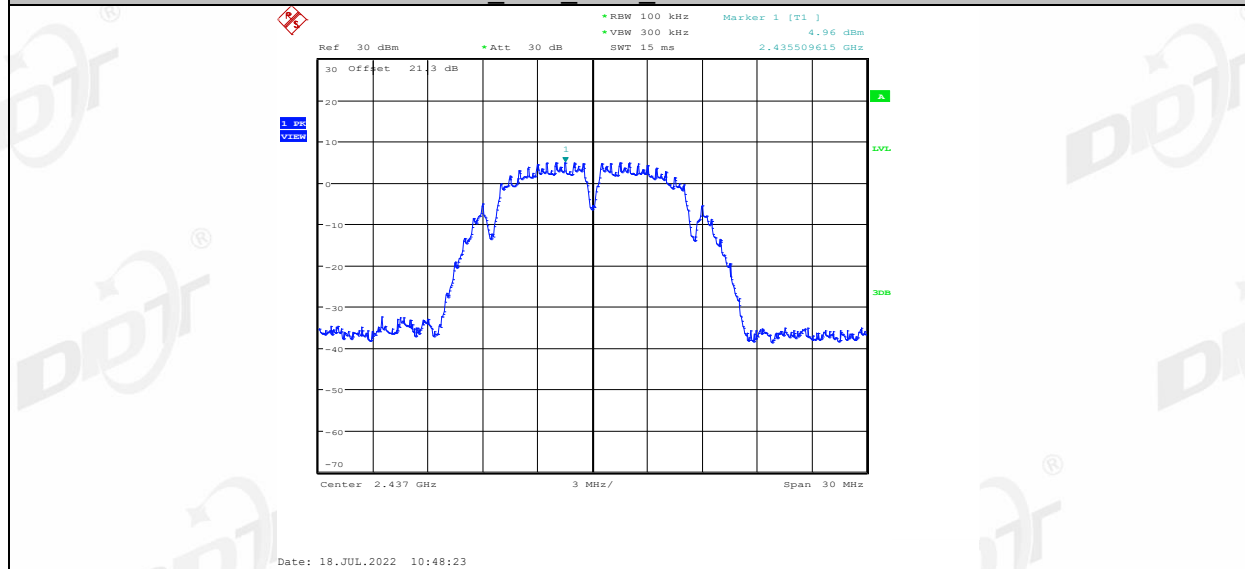
11B_Ant2_2412_30~1000



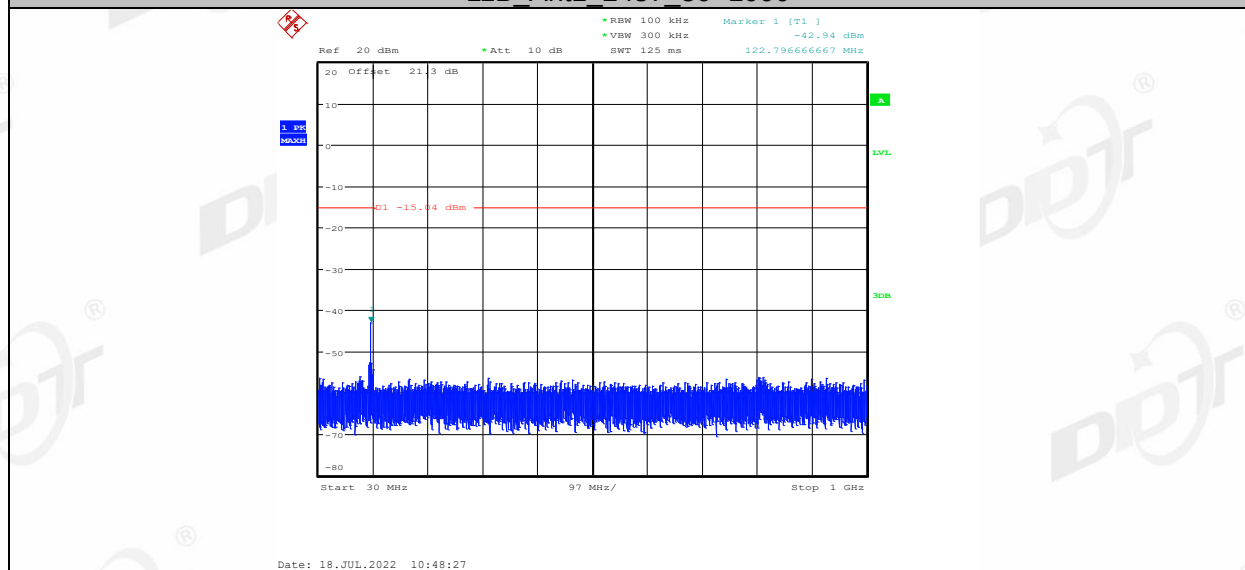
11B_Ant2_2412_1000~26500



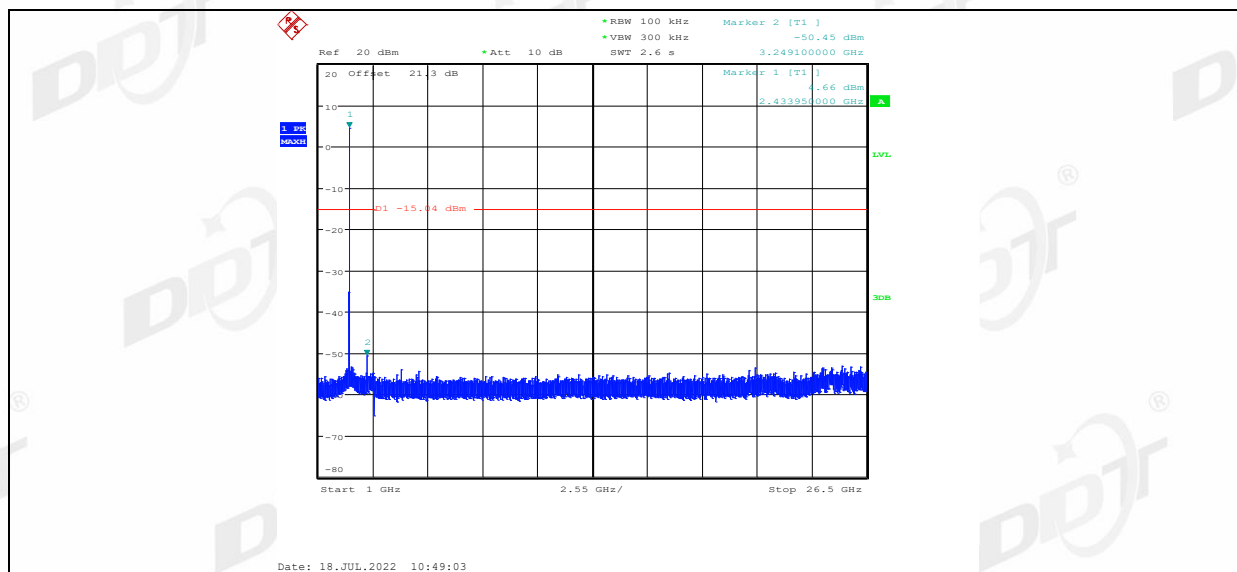
11B_Ant1_2437_0~Reference



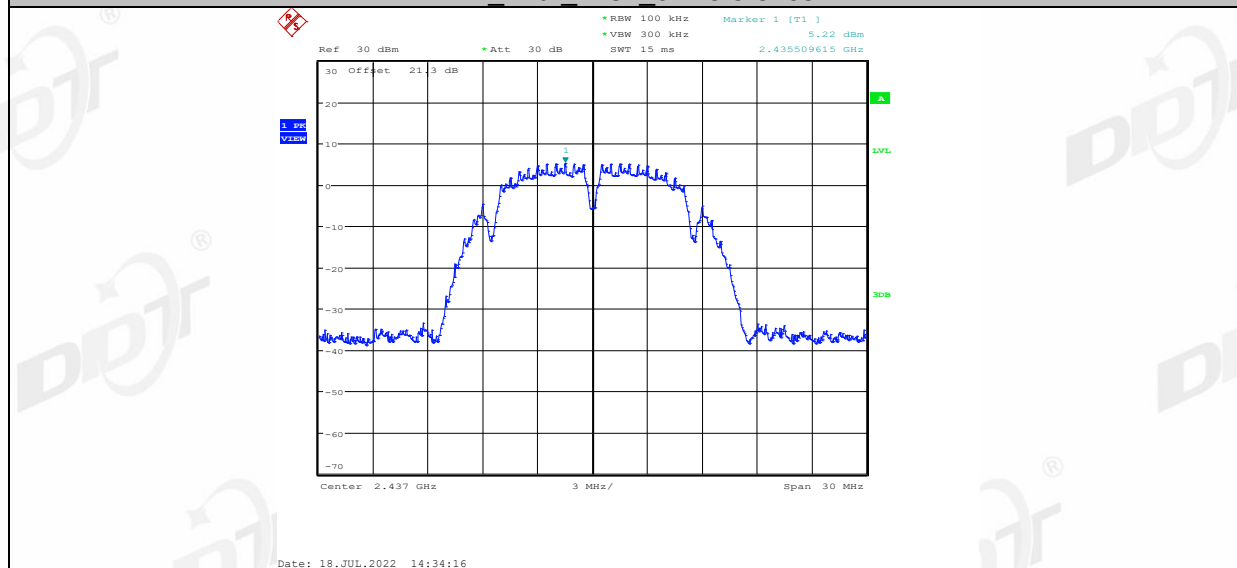
11B_Ant1_2437_30~1000



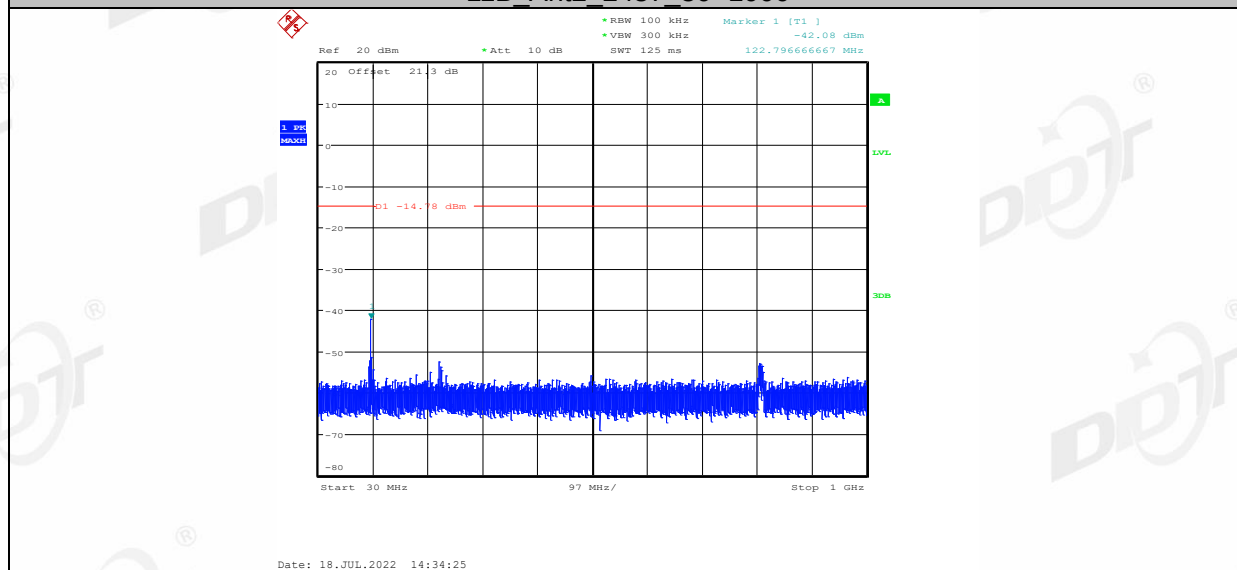
11B_Ant1_2437_1000~26500



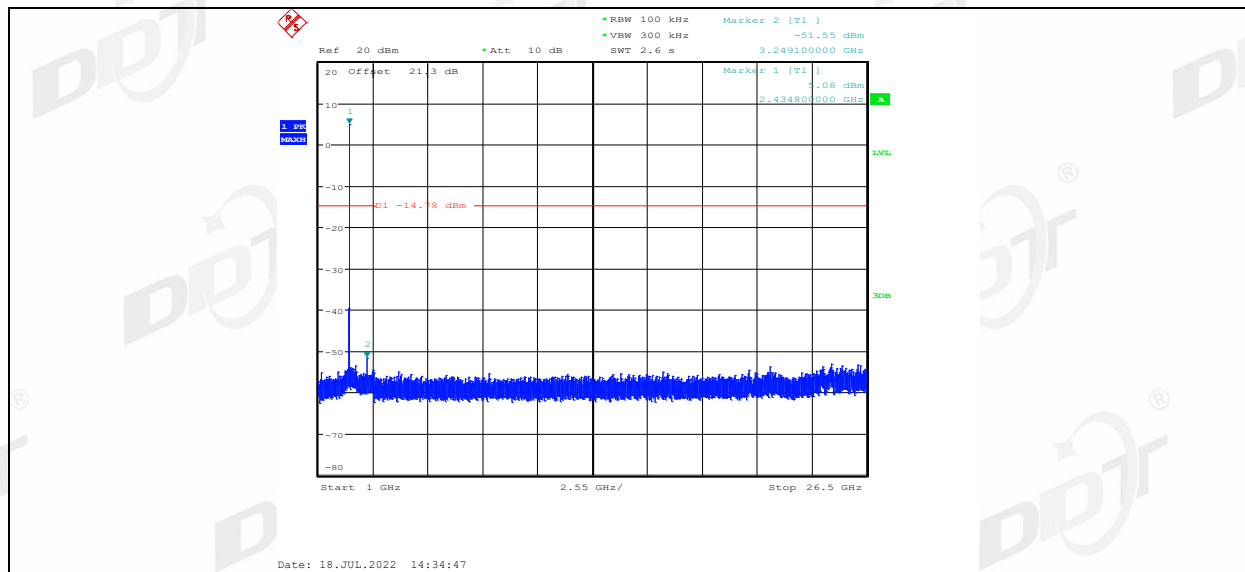
11B_Ant2_2437_0~Reference



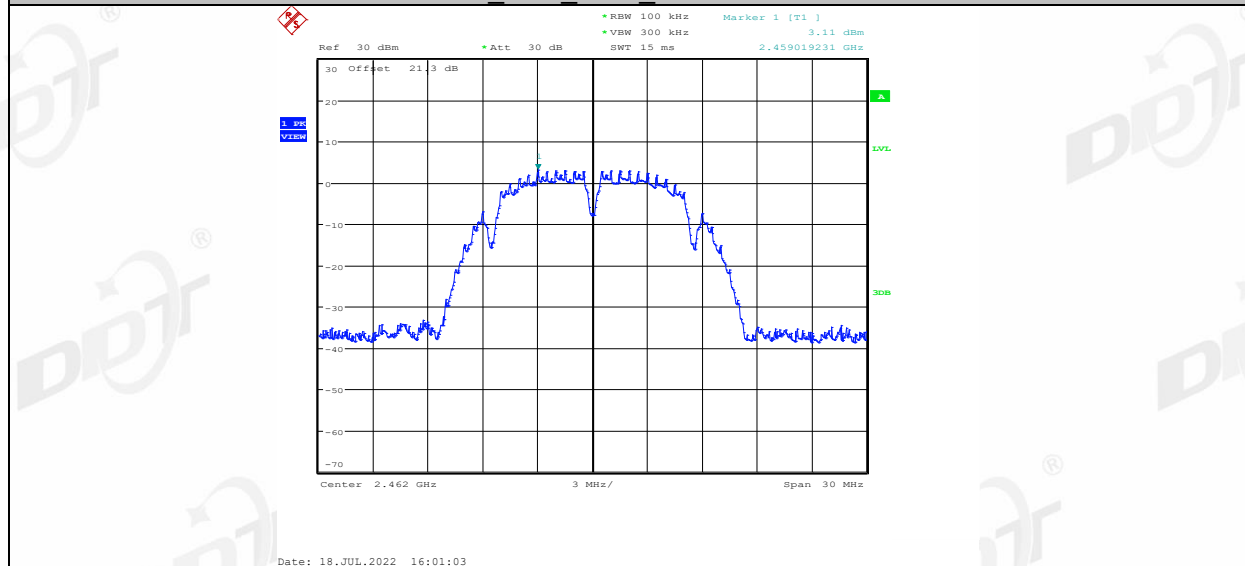
11B_Ant2_2437_30~1000



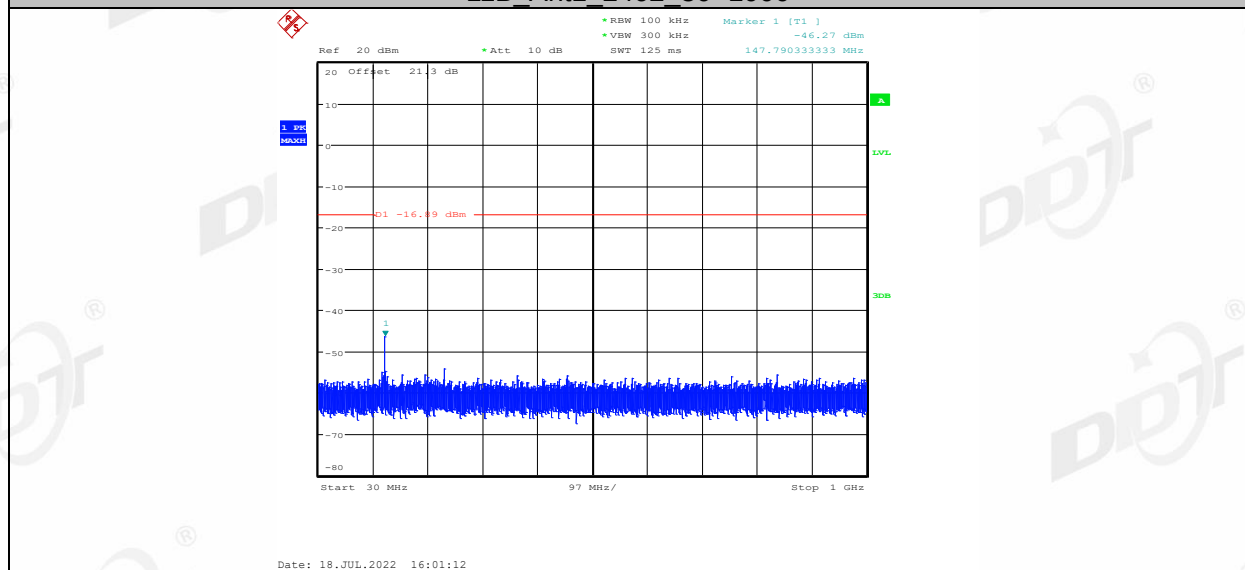
11B_Ant2_2437_1000~26500



11B_Ant1_2462_0~Reference



11B_Ant1_2462_30~1000



11B_Ant1_2462_1000~26500



RF 30 dBm * Att 30 dB * RBW 100 kHz Marker 1 [T1] 4.70 dBm
 VSW 300 kHz SWT 15 ms 2.460509615 GHz

30 Offset 21.3 dB
 -20
 -10
 0
 -10
 -20
 -30
 -40
 -50
 -60
 -70

1. SP
 VdBm

Center 2.462 GHz 3 MHz/ Span 30 MHz

Date: 18.JUL.2022 14:36:59

The screenshot shows a Spectrum Analyzer interface with the following details:

- Top Left:** A red square icon with a white 'X' and a blue square icon with a white 'X'.
- Top Center:** A red horizontal line across the top of the plot area.
- Top Right:** A green horizontal line across the top of the plot area.
- Top Bar:**
 - Ref 20 dBm
 - *Att 10 dB
 - *RBW 100 kHz
 - *VSW 300 kHz
 - SWT 125 ms
 - Marker 1 [T1]
 - 43.22 dBm
 - 147.79033333 GHz
- Plot Area:**
 - A grid with major lines every 10 dB on the vertical axis and every 10 MHz on the horizontal axis.
 - A blue trace showing a noisy signal with a peak at approximately -43.22 dBm.
 - A red horizontal line at -15.3 dBm.
 - A green horizontal line at the top of the plot area.
- Bottom Bar:**
 - Start 30 MHz
 - 97 MHz/
 - Stop 1 GHz

Date: 18.JUL.2022 14:37:04

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Ref 30 dBm * Att 30 dB
 RBW 100 kHz Marker 1 [T1] 2.12 dBm
 VBW 300 kHz SWT 15 ms 2.419548077 GHz

1. dB
 VdBm

30 Offset 21.2 dB
 -20
 -10
 0
 -10
 -20
 -30
 -40
 -50
 -60
 -70

Center 2.412 GHz 3 MHz/ Span 30 MHz

Date: 18.JUL.2022 14:09:44

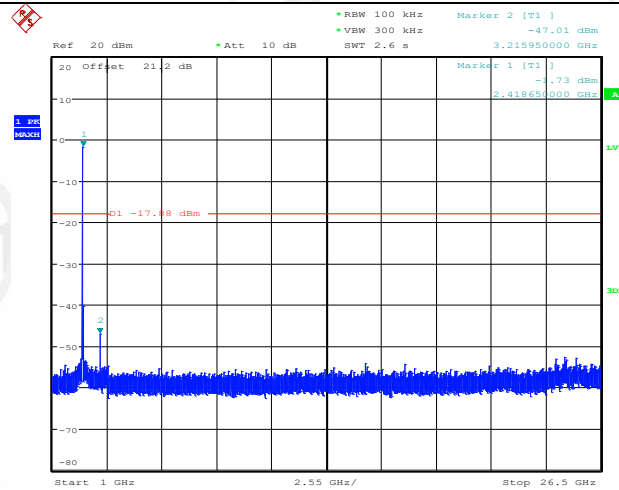
Ref 20 dBm *Att 10 dB *RBW 100 kHz Marker 1 [T1] -46.63 dBm
 VSW 300 kHz SWT 125 ms 48.236000000 MHz

20 Offset 21.2 dB
 -10
 0
 -10
 -20 Q1 -17.46 dBm
 -30
 -40
 -50
 -60
 -70
 -80

Start 30 MHz 97 MHz/ Stop 1 GHz

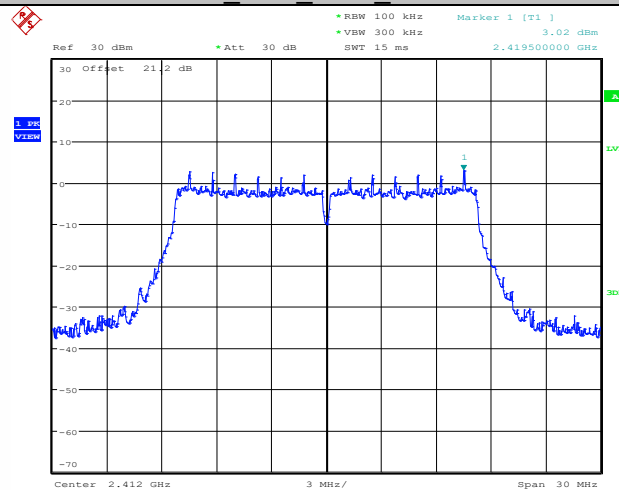
Date: 18.JUL.2022 14:10:07

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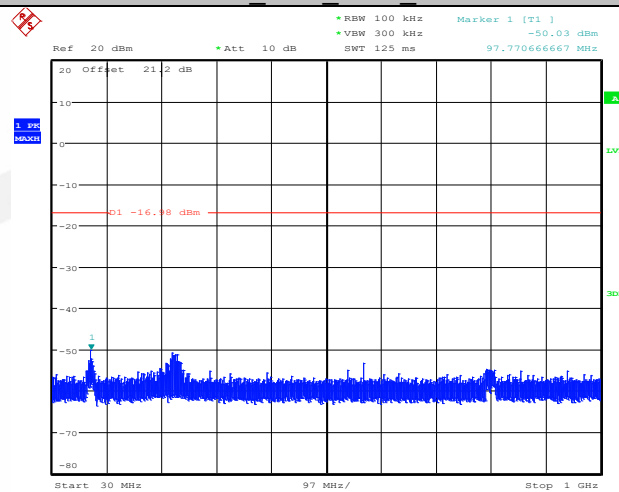
Date: 18.JUL.2022 14:10:29

11G_Ant2_2412_0-Reference



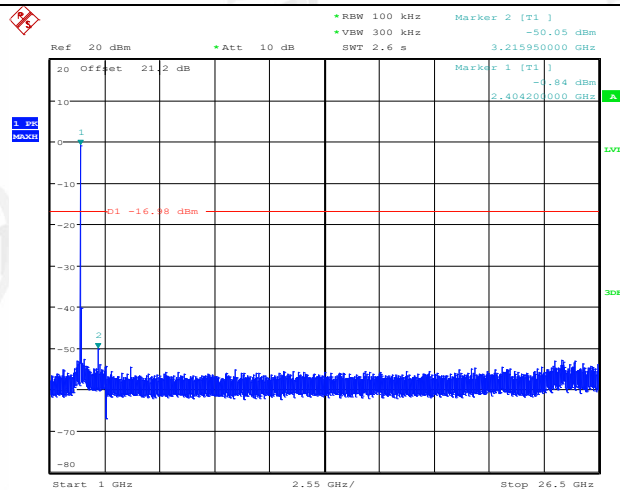
Date: 18.JUL.2022 14:43:01

11G_Ant2_2412_30-1000



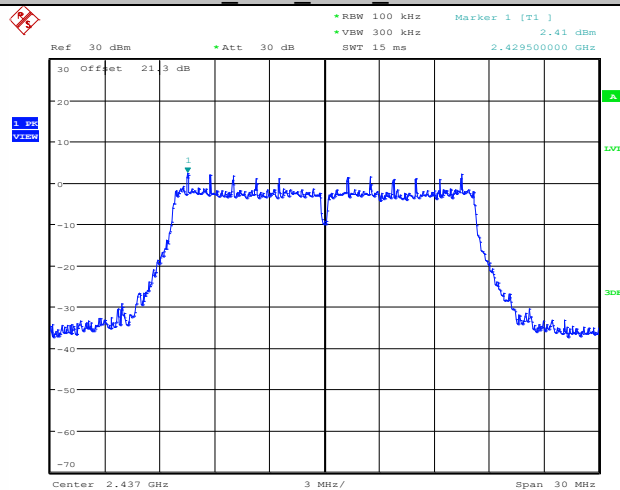
Date: 18.JUL.2022 14:43:34

11G_Ant2_2412_1000-26500



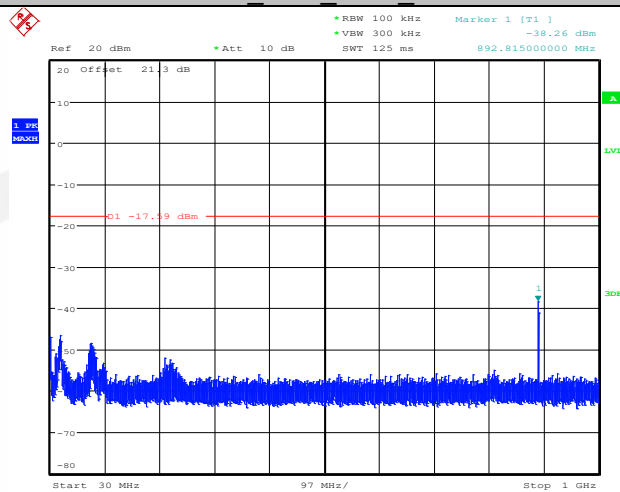
Date: 18.JUL.2022 14:43:57

11G_Ant1_2437_0~Reference



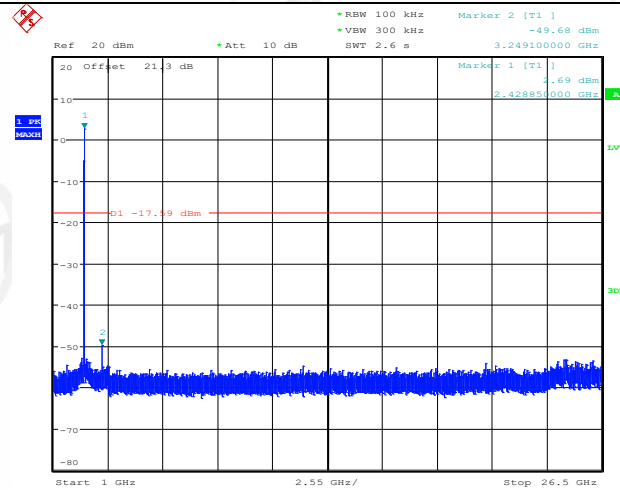
Date: 18.JUL.2022 14:12:51

11G_Ant1_2437_1000~26500



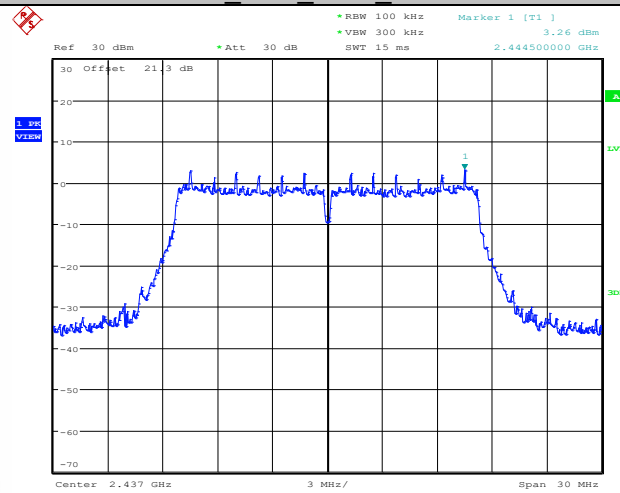
Date: 18.JUL.2022 14:13:12

11G_Ant1_2437_1000~26500



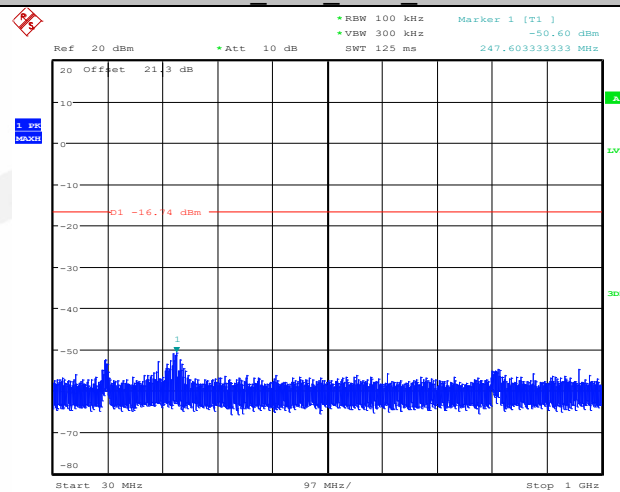
Date: 18.JUL.2022 14:13:35

11G_Ant2_2437_0~Reference



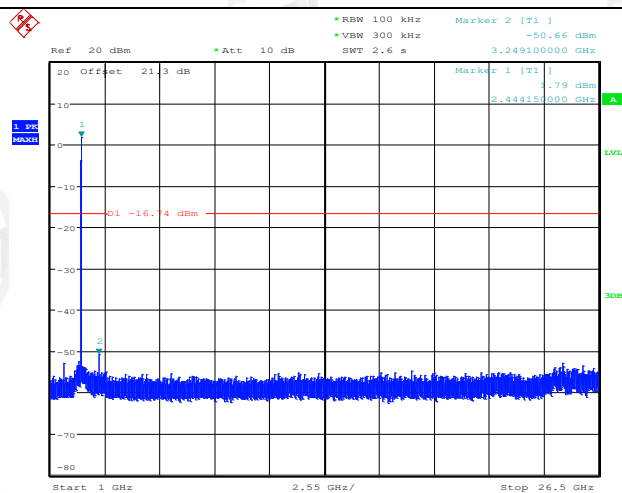
Date: 18.JUL.2022 14:45:58

11G_Ant2_2437_1000~26500



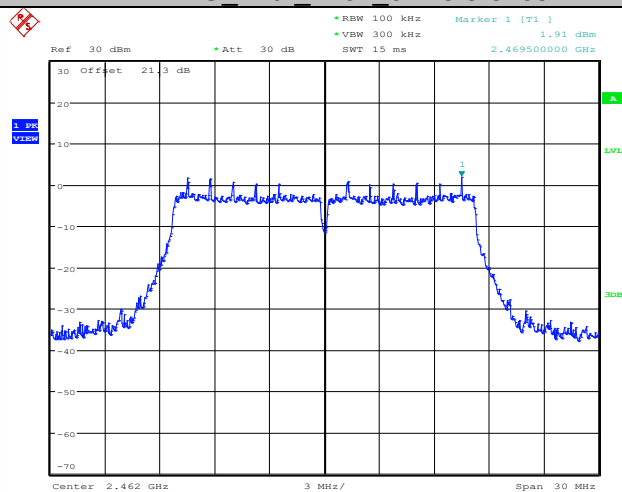
Date: 18.JUL.2022 14:46:11

11G_Ant2_2437_1000~26500



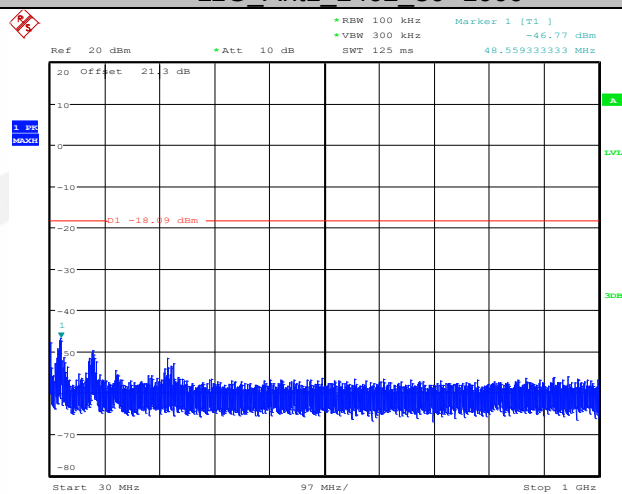
Date: 18.JUL.2022 14:46:34

11G_Ant1_2462_0-Reference



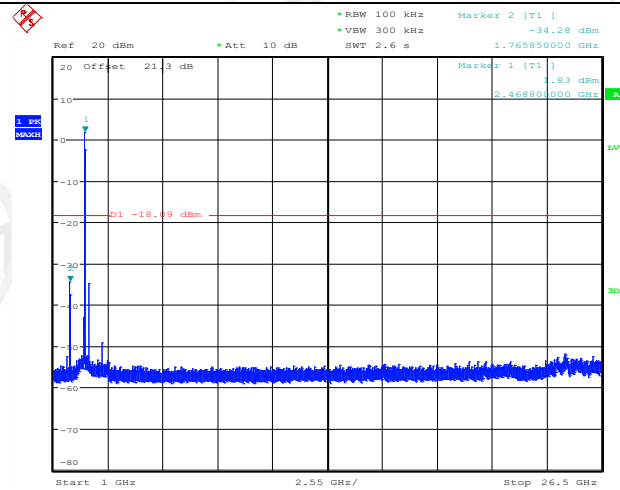
Date: 18.JUL.2022 14:16:25

11G_Ant1_2462_30-1000



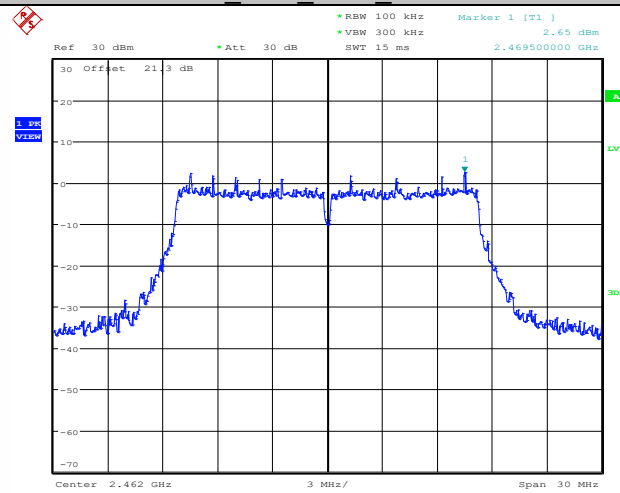
Date: 18.JUL.2022 14:16:35

11G_Ant1_2462_1000-26500



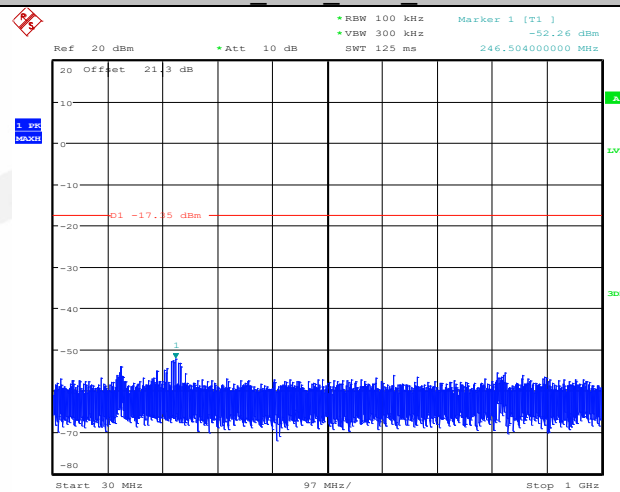
Date: 18.JUL.2022 14:26:10

11G_Ant2_2462_0~Reference



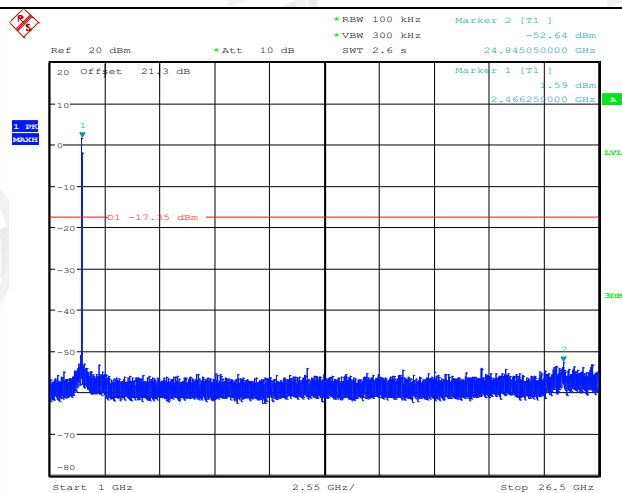
Date: 18.JUL.2022 14:48:35

11G_Ant2_2462_1000~26500



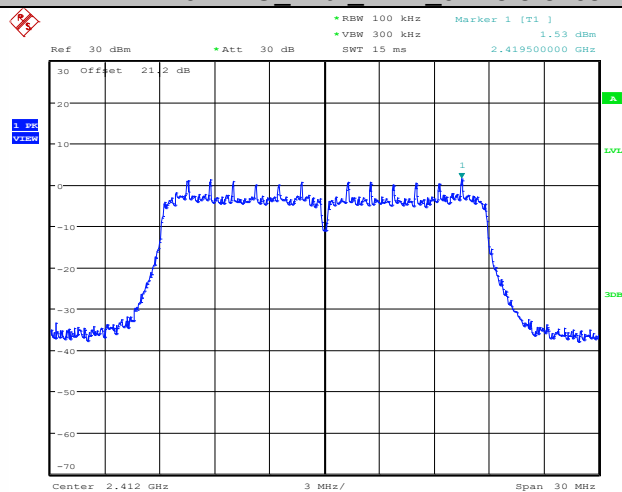
Date: 18.JUL.2022 14:48:40

11G_Ant2_2462_1000~26500



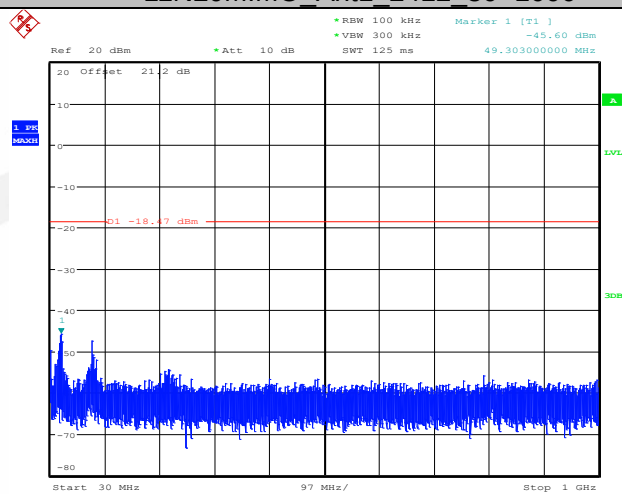
Date: 18.JUL.2022 14:49:02

11N20MIMO_Ant1_2412_0~Reference



Date: 18.JUL.2022 14:54:12

11N20MIMO_Ant1_2412_30~1000



Date: 18.JUL.2022 14:54:17

11N20MIMO_Ant1_2412_1000~26500



The screenshot displays a spectrum analyzer interface. At the top, a red square icon with a white 'X' is visible. The main display area shows a blue trace of a signal. The signal has a flat top at approximately -5 dBm, with a sharp notch at 2.412 GHz where the signal drops to about -10 dBm. The signal then returns to the -5 dBm level. The background is a grid. The x-axis is labeled 'Center 2.412 GHz' and 'Span 30 MHz'. The y-axis is labeled 'dBm' and ranges from -70 to 30. The top status bar shows 'Ref 30 dBm', '* Att. 30 dB', 'SWT 15 ms', and 'Marker 1 [T1] 2.79 dBm 2.419500000 GHz'. The bottom status bar shows 'Center 2.412 GHz', '3 MHz/', and 'Span 30 MHz'.

Ref 30 dBm * Att. 30 dB SWT 15 ms Marker 1 [T1] 2.79 dBm 2.419500000 GHz

30 Offset 21.2 dB

20

10

0

-10

-20

-30

-40

-50

-60

-70

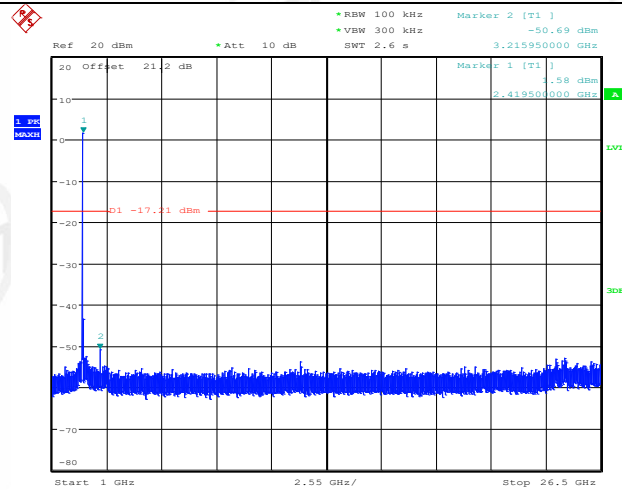
Center 2.412 GHz 3 MHz/ Span 30 MHz

Date: 18.JUL.2022 14:56:27

The screenshot displays a Spectrum Analyzer interface. At the top, a red square icon with 'F' and 'P' is visible. The top status bar shows the following parameters: RBW 100 kHz, VBW 300 kHz, Marker 1 [T1], Ref 20 dBm, *Att 10 dB, -51.55 dBm, and 244.30533333 MHz. The main display area is a grid with a vertical axis for amplitude in dBm (ranging from -80 to 20) and a horizontal axis for frequency in MHz (ranging from 30 to 1 GHz). A red horizontal line is drawn across the grid at -17.21 dBm. A green peak is visible at approximately 30 MHz, labeled with a green '1' and a value of -51.55 dBm. The signal is highly noisy, with a blue trace showing a dense spectrum of noise. On the left side, there is a blue button labeled '1. PPS' and a green button labeled 'HOLD'. On the right side, there are green buttons labeled 'A', 'LEVEL', and '3dB'.

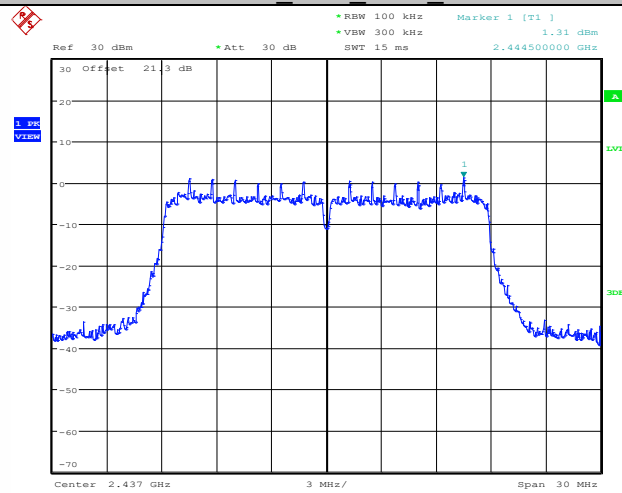
Date: 18.JUL.2022 14:56:37

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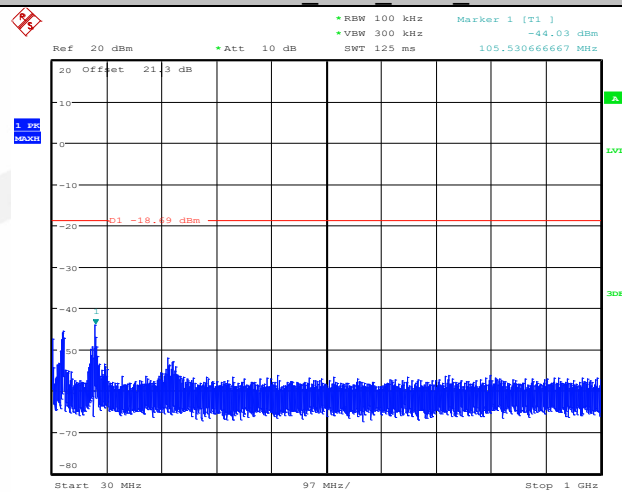
Date: 18.JUL.2022 14:57:00

11N20MIMO_Ant1_2437_0~Reference



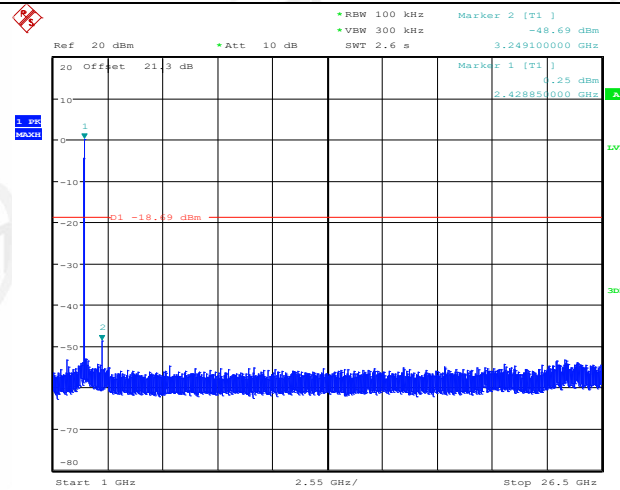
Date: 18.JUL.2022 15:01:33

11N20MIMO_Ant1_2437_30~1000



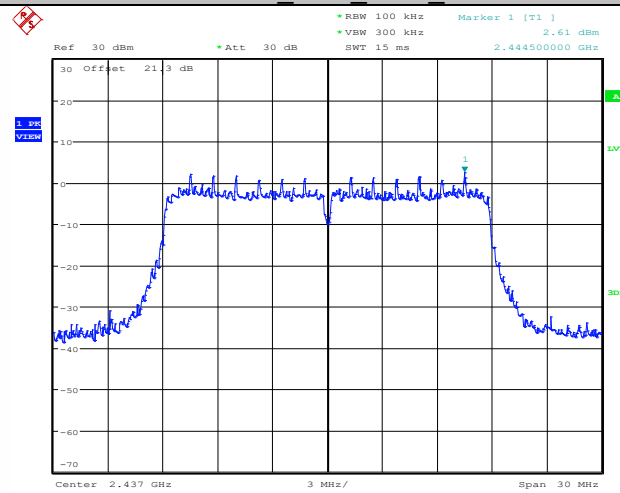
Date: 18.JUL.2022 15:01:41

11N20MIMO_Ant1_2437_1000~26500



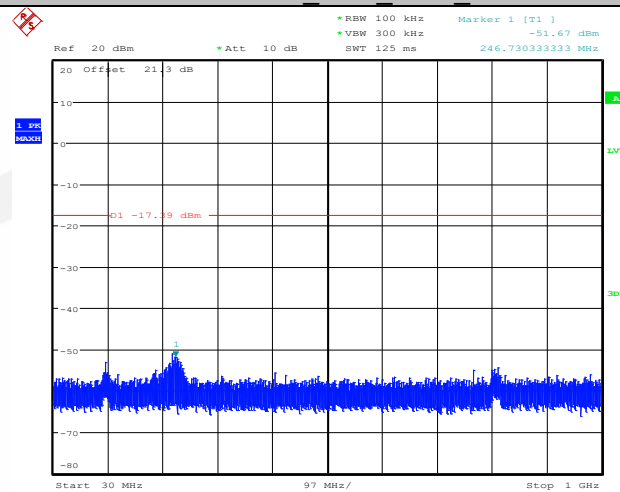
Date: 18.JUL.2022 15:02:03

11N20MIMO_Ant2_2437_0~Reference



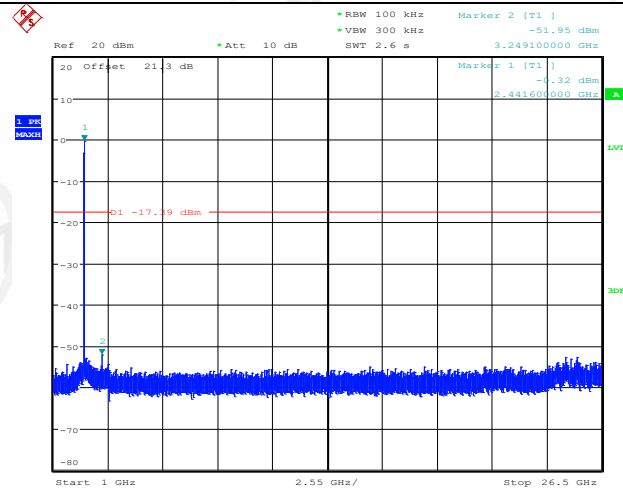
Date: 18.JUL.2022 15:03:35

11N20MIMO_Ant2_2437_30~1000



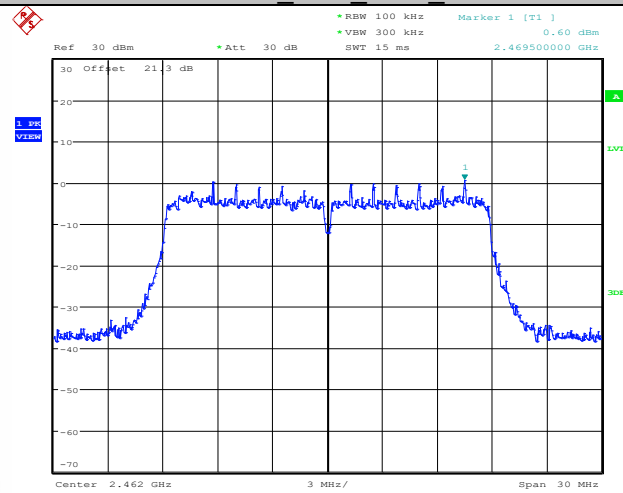
Date: 18.JUL.2022 15:03:46

11N20MIMO_Ant2_2437_1000~26500



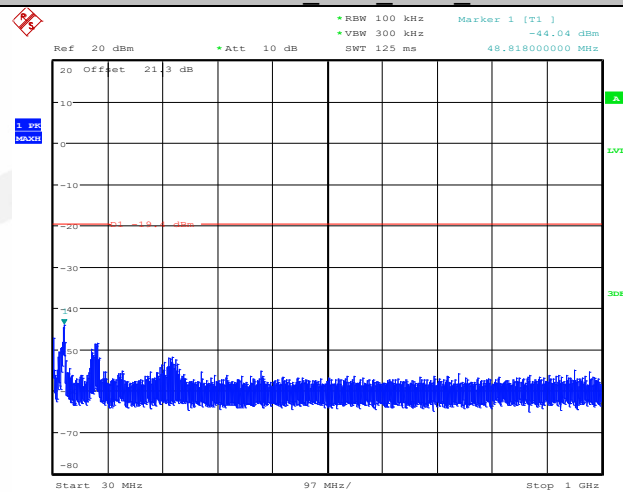
Date: 18.JUL.2022 15:04:09

11N20MIMO_Ant1_2462_0~Reference



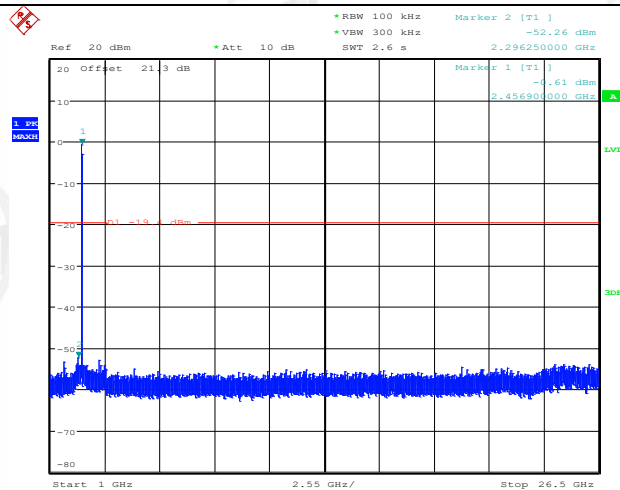
Date: 18.JUL.2022 15:06:47

11N20MIMO_Ant1_2462_30~1000



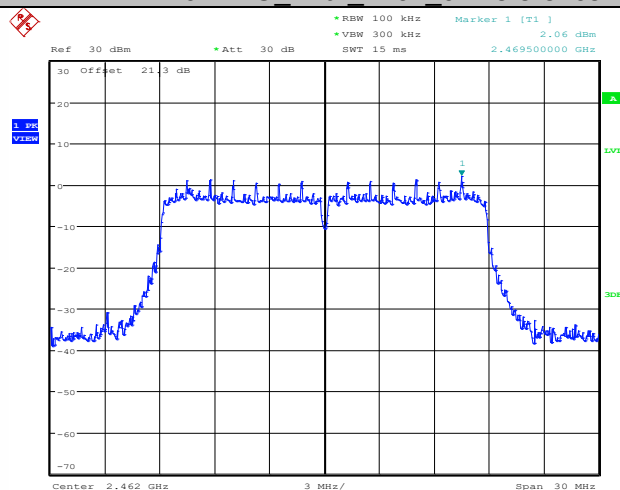
Date: 18.JUL.2022 15:07:03

11N20MIMO_Ant1_2462_1000~26500



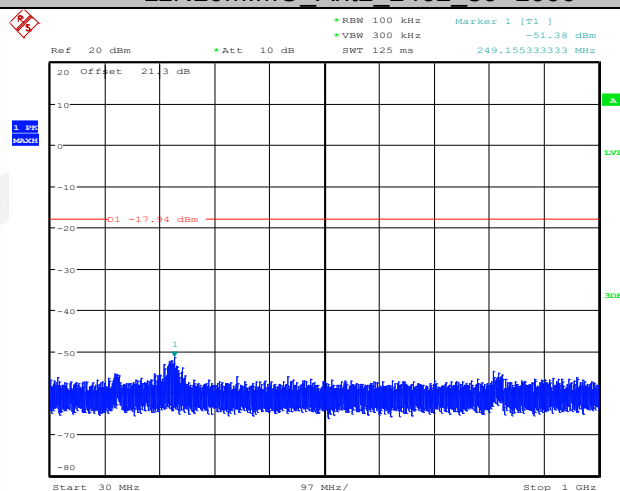
Date: 18.JUL.2022 15:07:26

11N20MIMO_Ant2_2462_0~Reference



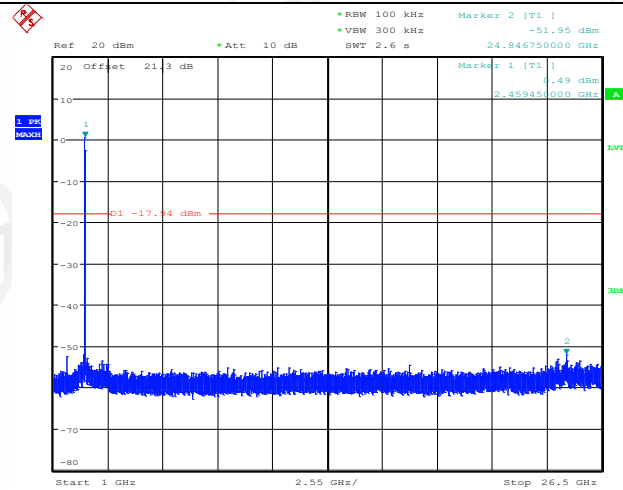
Date: 18.JUL.2022 15:08:47

11N20MIMO_Ant2_2462_30~1000



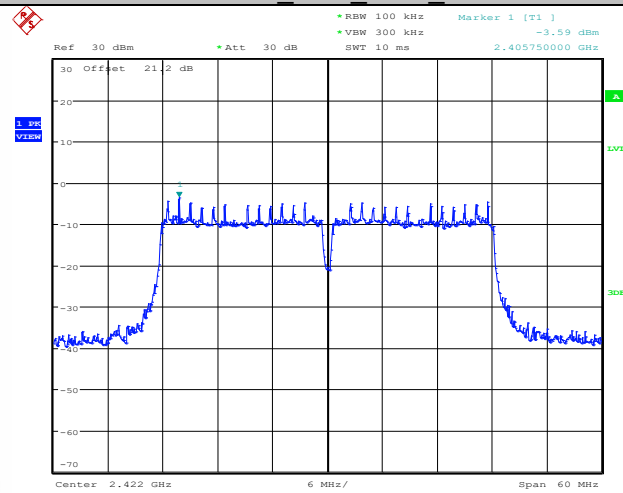
Date: 18.JUL.2022 15:08:58

11N20MIMO_Ant2_2462_1000~26500



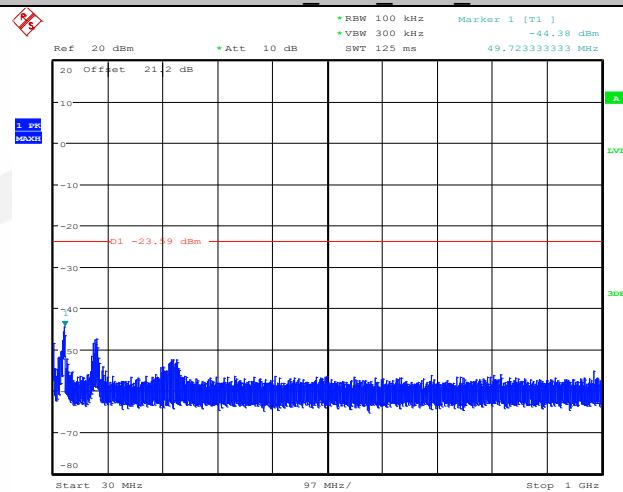
Date: 18.JUL.2022 15:09:20

11N40MIMO_Ant1_2422_0~Reference



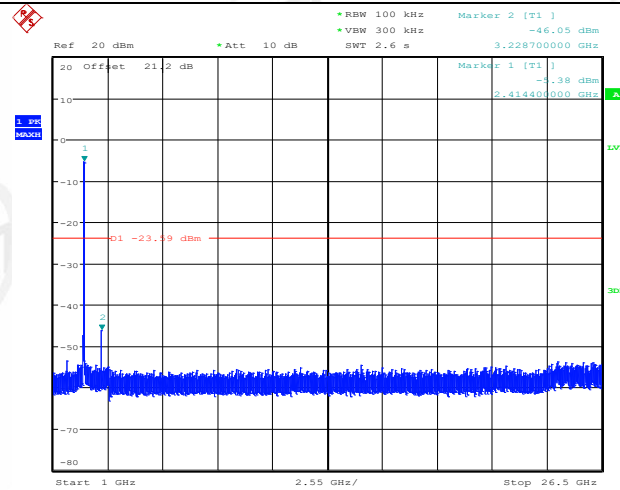
Date: 18.JUL.2022 15:16:01

11N40MIMO_Ant1_2422_30~1000



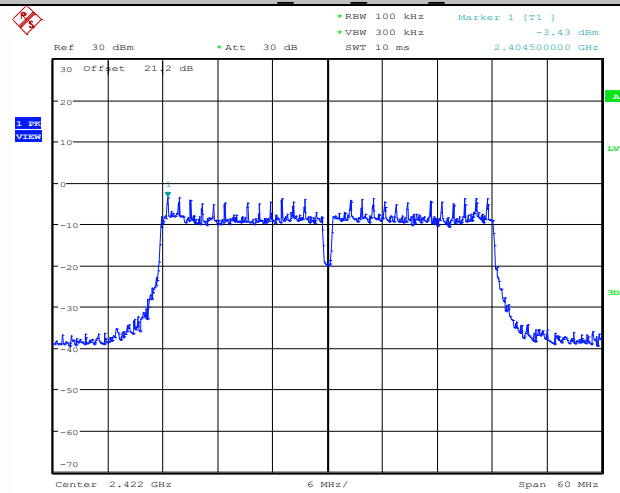
Date: 18.JUL.2022 15:16:17

11N40MIMO_Ant1_2422_1000~26500



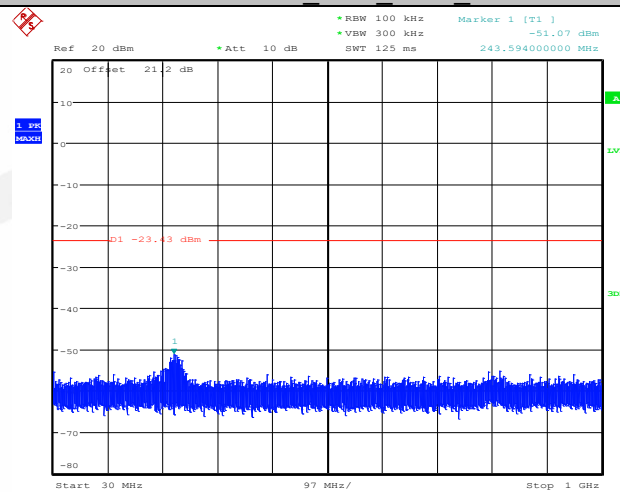
Date: 18.JUL.2022 15:16:39

11N40MIMO_Ant2_2422_0~Reference



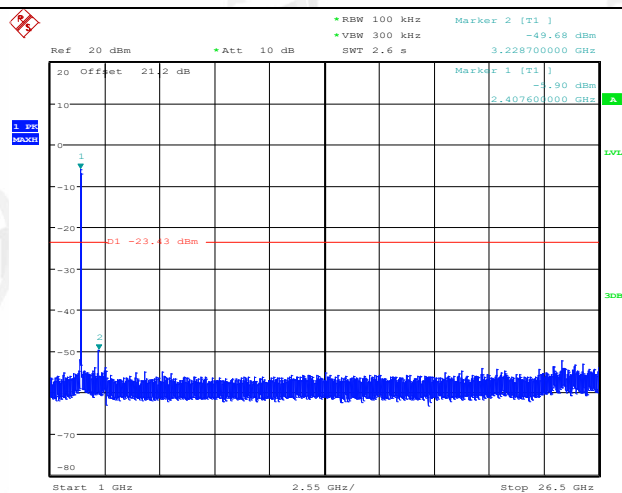
Date: 18.JUL.2022 15:18:11

11N40MIMO_Ant2_2422_30~1000



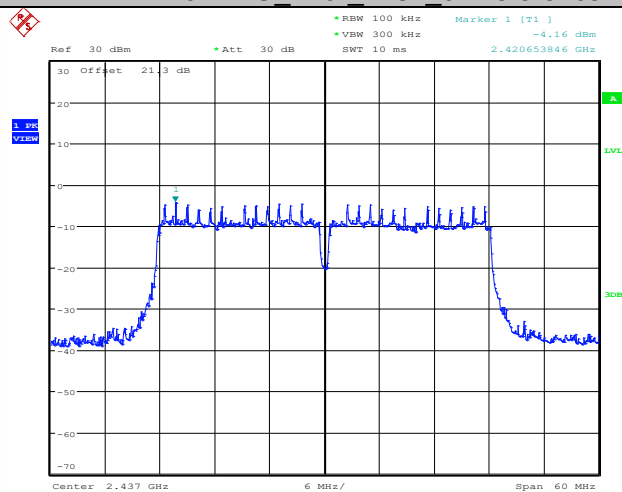
Date: 18.JUL.2022 15:18:23

11N40MIMO_Ant2_2422_1000~26500



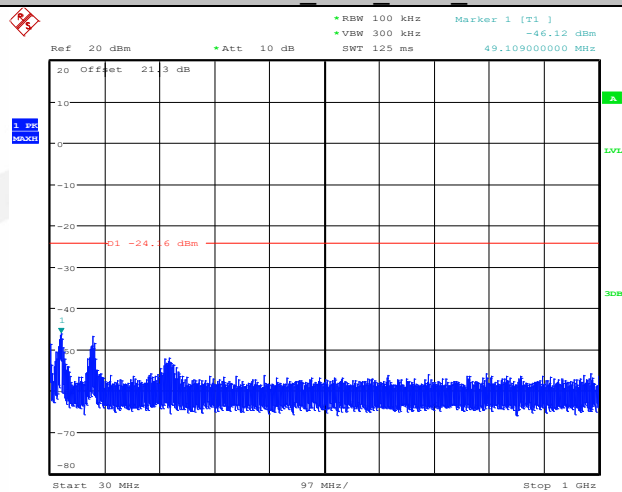
Date: 18.JUL.2022 15:18:46

11N40MIMO_Ant1_2437_0~Reference



Date: 18.JUL.2022 15:21:34

11N40MIMO_Ant1_2437_30~1000



Date: 18.JUL.2022 15:21:45

11N40MIMO_Ant1_2437_1000~26500



The screenshot displays a spectrum analyzer interface. At the top, a red square icon with a white cross is in the upper left corner. The top status bar shows the following parameters: RBW 100 kHz, Marker 1 (T1), Ref 30 dBm, Att 30 dB, VSW 300 kHz, SWT 10 ms, and 2.43200000 GHz. The main plot area shows a blue signal trace on a grid. The y-axis is labeled from -70 to 30 dBm, and the x-axis is labeled from 2.432 GHz to 2.438 GHz. A prominent notch is visible in the signal at approximately 2.437 GHz. A green vertical line marks the notch, and a green 'T1' label is next to it. The signal level is approximately -3.39 dBm at the notch. The signal is noisy and has a bandwidth of approximately 6 MHz. The bottom status bar shows 'Center 2.437 GHz', '6 MHz/', and 'Span 60 MHz'.

Date: 18.JUL.2022 15:23:39

*RBW 100 kHz
 *VBW 300 kHz
 *Att 10 dB
 *SWT 125 ms
 Marker 1 [T1]
 -50.64 dBm
 252.324000000 MHz

Ref 20 dBm
 Offset 21.3 dB

1. dBm
 NOISE

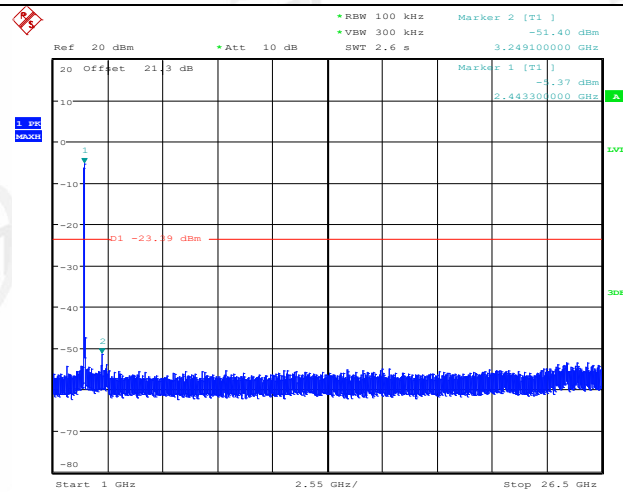
21 -23.59 dBm

1

Start 30 MHz
 97 MHz/
 Stop 1 GHz

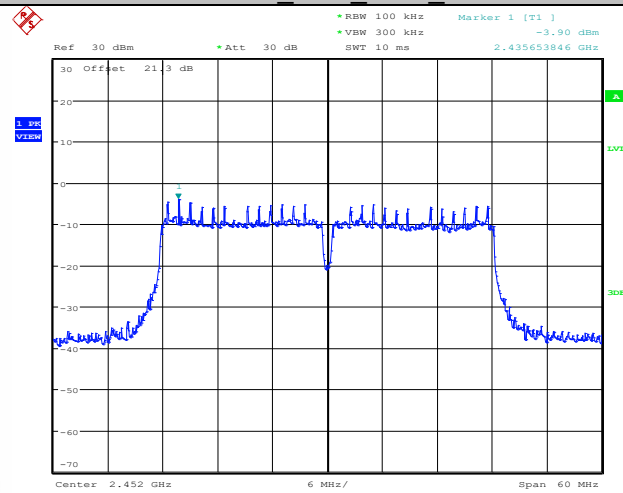
Date: 18.JUL.2022 15:23:58

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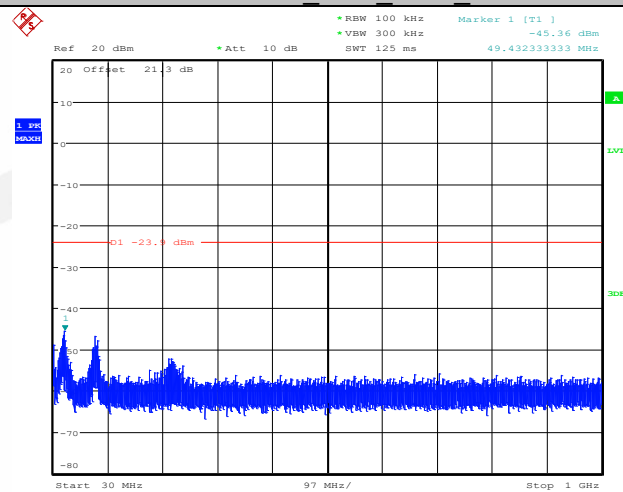
Date: 18.JUL.2022 15:24:21

11N40MIMO_Ant1_2452_0~Reference



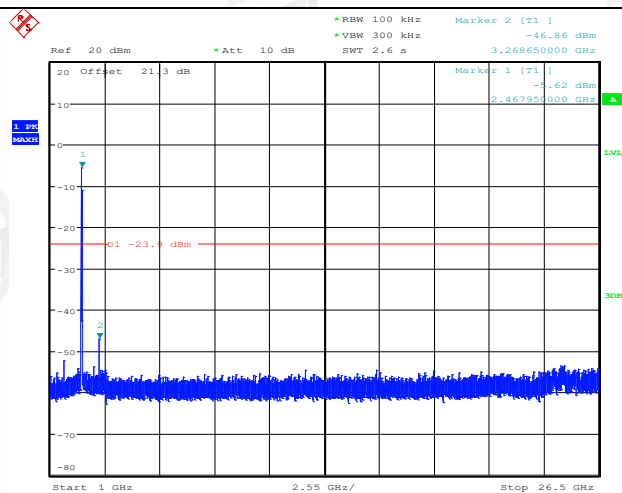
Date: 18.JUL.2022 15:27:17

11N40MIMO_Ant1_2452_30~1000



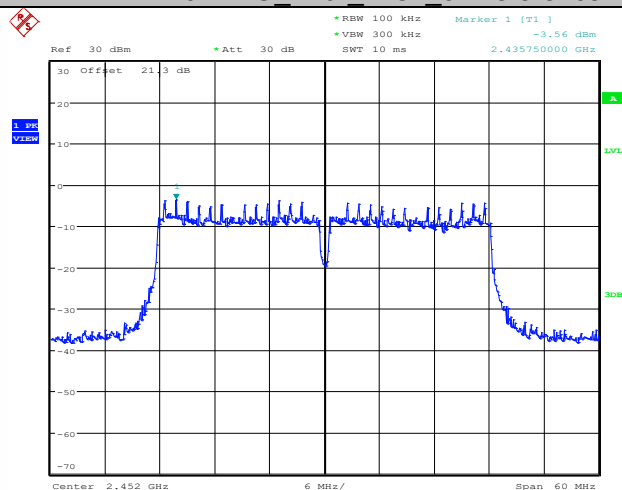
Date: 18.JUL.2022 15:27:29

11N40MIMO_Ant1_2452_1000~26500



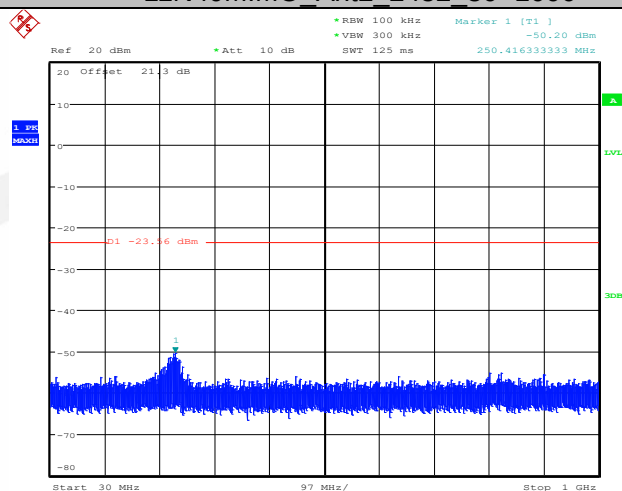
Date: 18.JUL.2022 15:27:52

11N40MIMO_Ant2_2452_0~Reference



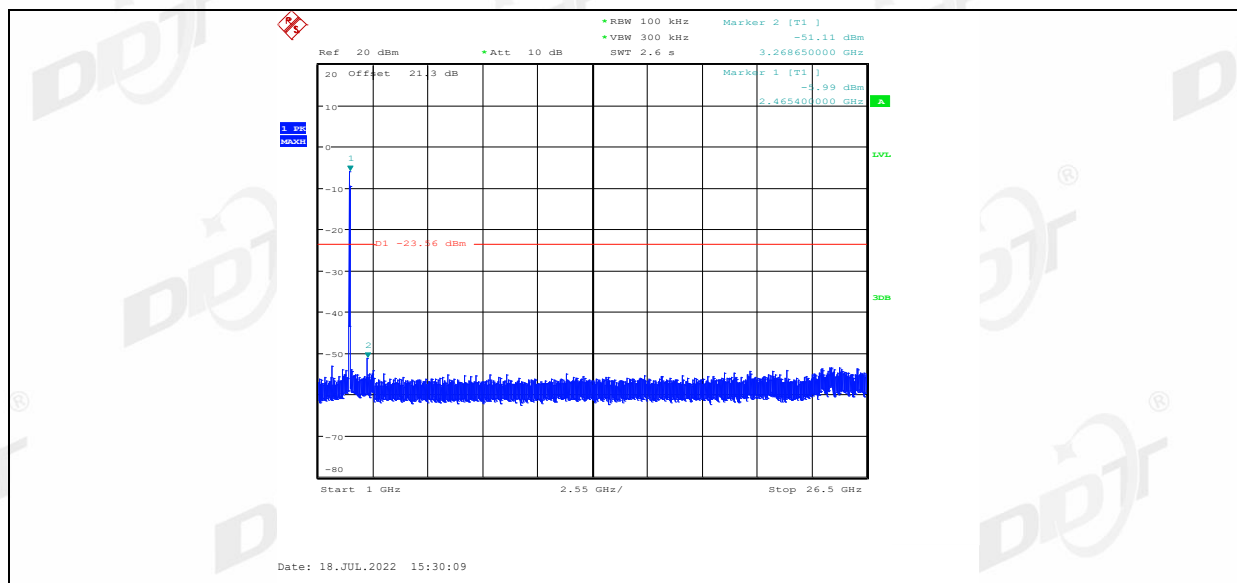
Date: 18.JUL.2022 15:29:34

11N40MIMO_Ant2_2452_30~1000



Date: 18.JUL.2022 15:29:46

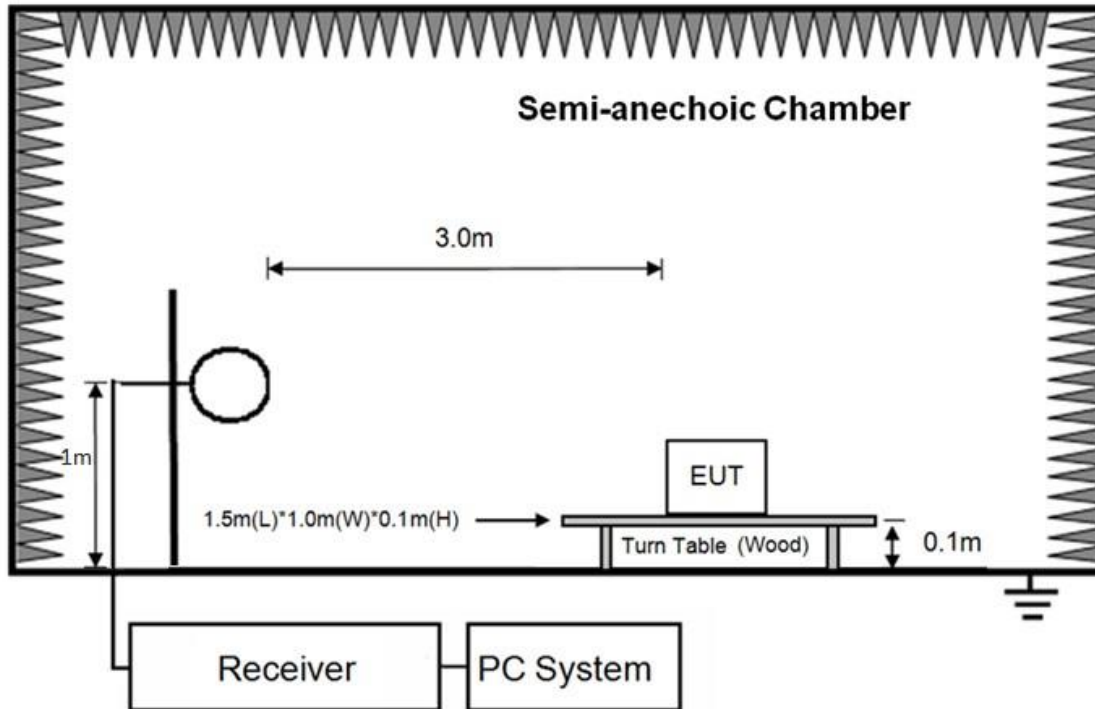
11N40MIMO_Ant2_2452_1000~26500



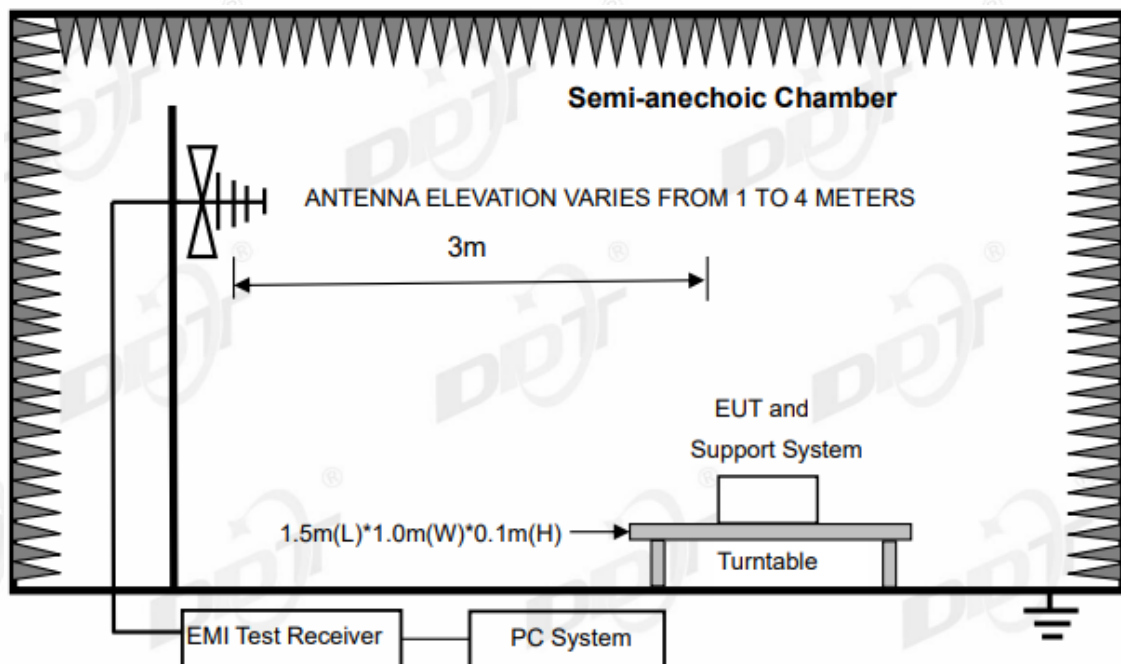
8. Radiated Spurious Emissions

8.1. Block diagram of test setup

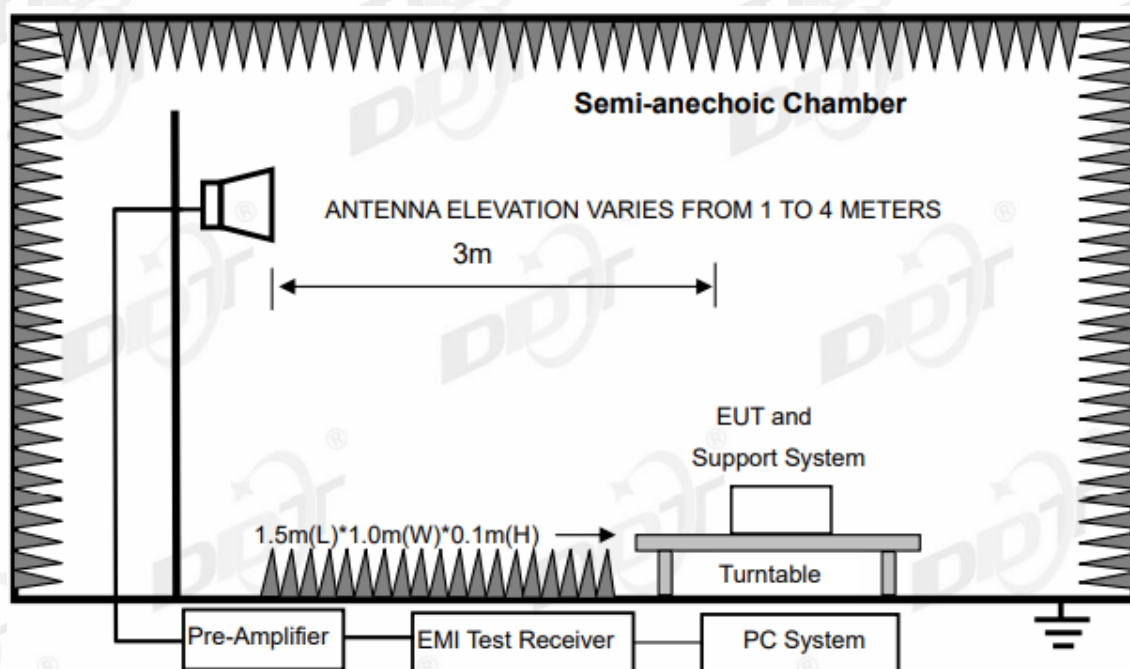
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



In 3 m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



Note: For harmonic emissions test an appropriate high pass filter was inserted in the input port of AMP.

8.2. Limit

8.2.1 FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

²Above 38.6

8.2.2 RSS-GEN Restricted frequency band*

MHz	MHz	MHz	GHz
0.090 - 0.110	13.36 - 13.41	960 - 1427	9.0 - 9.2
0.495 - 0.505	16.42 - 16.423	1435 - 1626.5	9.3 - 9.5
2.1735 - 2.1905	16.69475 - 16.69525	1645.5 - 1646.5	10.6 - 12.7
3.020 - 3.026	16.80425 - 16.80475	1660 - 1710	13.25 - 13.4
4.125 - 4.128	25.5 - 25.67	1718.8 - 1722.2	14.47 - 14.5
4.17725 - 4.17775	37.5 - 38.25	2200 - 2300	15.35 - 16.2
4.20725 - 4.20775	73 - 74.6	2310 - 2390	17.7 - 21.4
5.677 - 5.683	74.8 - 75.2	2483.5 - 2500	22.01 - 23.12
6.215 - 6.218	108 - 138	2655 - 2900	23.6 - 24.0
6.26775 - 6.26825	149.9 - 150.05	3260 - 3267	31.2 - 31.8
6.31175 - 6.31225	156.52475 - 156.52525	3332 - 3339	36.43 - 36.5
8.291 - 8.294	156.7 - 156.9	3345.8 - 3358	Above 38.6
8.362 - 8.366	162.0125 - 167.17	3500 - 4400	
8.37625 - 8.38675	167.72 - 173.2	4500 - 5150	
8.41425 - 8.41475	240 - 285	5350 - 5460	
12.29 - 12.293	322 - 335.4	7250 - 7750	
12.51975 - 12.52025	399.9 - 410	8025 - 8500	
12.57675 - 12.57725	608 - 614	--	

* Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

8.2.3 FCC 15.209 & RSS-GEN Limit section 8.9 Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(F)
1.705 ~ 30.0	30	30	29.54
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 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

Note: (1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30 MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$\text{Limit}_{3m}(\text{dB}\mu\text{V}/\text{m}) = \text{Limit}_{30m}(\text{dB}\mu\text{V}/\text{m}) + 40\text{Log}(30\text{m}/3\text{m})$$

(3) Limit for this EUT

The emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, and the emissions appearing within RSS-Gen section 8.10 Restricted frequency bands shall not exceed the limits shown in RSS-Gen section 8.9, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits and RSS-Gen section 8.9 limits.

8.3. Test procedure

(1) EUT height should be 0.1 m for below 1 GHz at a semi-anechoic chamber while EUT height should be 0.1 m for above 1 GHz at full chamber or semi-anechoic chamber ground with absorbers.

(2) The antenna used as below table.

Test frequency range	Test antenna used	Measuring distance
9 kHz - 30 MHz	Active Loop antenna	3 m
30 MHz - 1 GHz	Trilog Broadband Antenna	3 m
1 GHz - 18 GHz	Double Ridged Horn Antenna (1 GHz - 18 GHz)	3 m
18 GHz - 40 GHz	Horn Antenna (18 GHz - 40 GHz)	1 m

According ANSI C63.10:2013 clause 6.4.4.2 and 6.5.3, for measurements below 30 MHz, Antenna was located 3 m from EUT, the loop antenna was positioned in three antenna orientations (parallel, perpendicular, and round-parallel), for each measurement antenna alignment, the EUT shall be rotated through 0° to 360° on a turntable, and the lowest height of the magnetic antenna shall be 1 m above the ground. For measurement above 30 MHz, the Trilog Broadband Antenna or Horn Antenna was located 3 m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 25 GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1 m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9 kHz to 25 GHz (tenth harmonic of fundamental frequency) was

investigated, and no any obvious emission were detected from 18 GHz to 25 GHz, so below final test was performed with frequency range from 9 kHz to 18 GHz.

- (4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10:2013 on Radiated Emission test.
- (5) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz, for emissions from 9 kHz - 90 kHz, 110 kHz - 490 kHz and above 1 GHz were measured based on average detector, for emissions above 1 GHz, peak emissions also be measured and need comply with Peak limit.
- (6) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW:

Frequency band	RBW
9 kHz - 150 kHz	200 Hz
150 kHz - 30 MHz	9 kHz
30 MHz - 1 GHz	120 kHz

- (7) For emissions above 1 GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3 MHz for Peak measure; About Average measure refer to ANSI C63.10:2013 clause 4.2.3.2.3 procedure.

8.4. Test result

Pass. (See below detailed test result)

All the emissions except fundamental emission from 9 kHz to 25 GHz were comply with 15.209 & RSS-GEN section 8.9 limits.

Note1: According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 25 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

Note2: For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in 11b, Tx CH11 ANT 2 mode.

Note3: For emissions above 1 GHz. Scan with 11b mode, 11g mode, 11n HT20 and 11n HT40 mode, ANT 1 and ANT 2, the worst case is 11b ANT 2 mode. If peak results comply with AV limit, AV Result is deemed to comply with AV limit. Other emission levels are attenuated 20 dB below the limit, so it does not record in the report.

Radiated Emission test (below 1 GHz)

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC
BELOW 1G.EM6

Test Date : 2022-07-21

Tested By : Bairong

EUT : Commercial Floor Scrubber

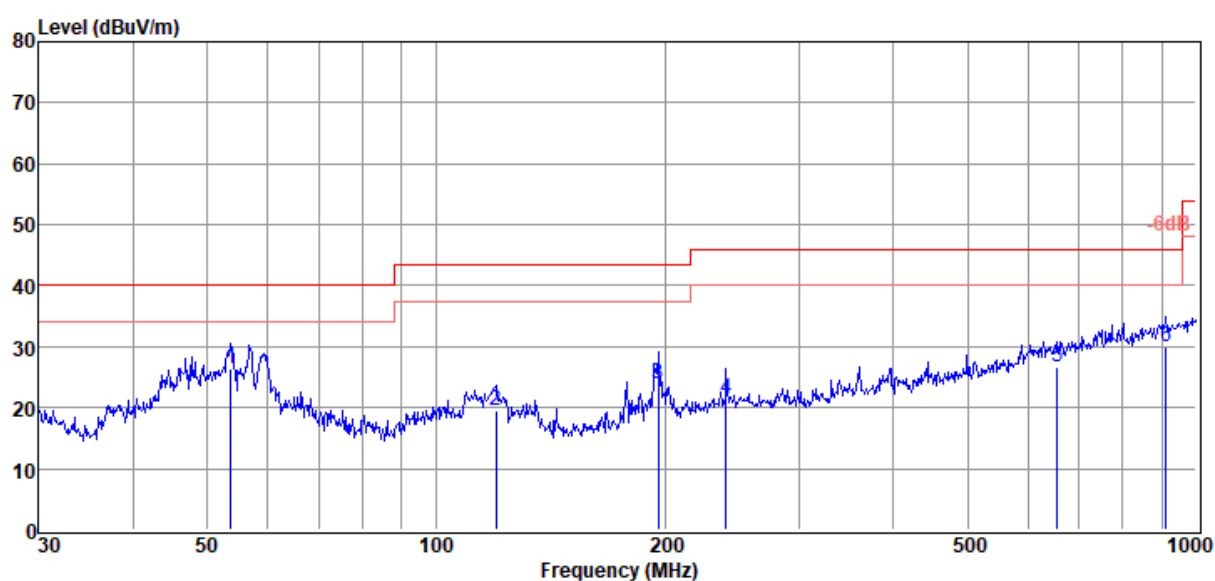
Model Number : M2 Pro

Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.6°C,Humi:62.3%,Press:100.1kPa Antenna/Distance : 2021 VLUB 9163 #3/3m/HORIZONTAL

Memo :



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	53.69	10.63	12.13	3.70	26.46	40.00	-13.54	QP	HORIZONTAL
2	119.86	6.33	9.11	4.10	19.54	43.50	-23.96	QP	HORIZONTAL
3	195.82	7.82	11.78	4.44	24.04	43.50	-19.46	QP	HORIZONTAL
4	240.83	4.19	12.50	4.62	21.31	46.00	-24.69	QP	HORIZONTAL
5	656.53	1.87	19.00	5.88	26.75	46.00	-19.25	QP	HORIZONTAL
6	912.86	1.12	22.36	6.50	29.98	46.00	-16.02	QP	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC
BELOW 1G.EM6

Test Date : 2022-07-21

Tested By : Bairong

EUT : Commercial Floor Scrubber

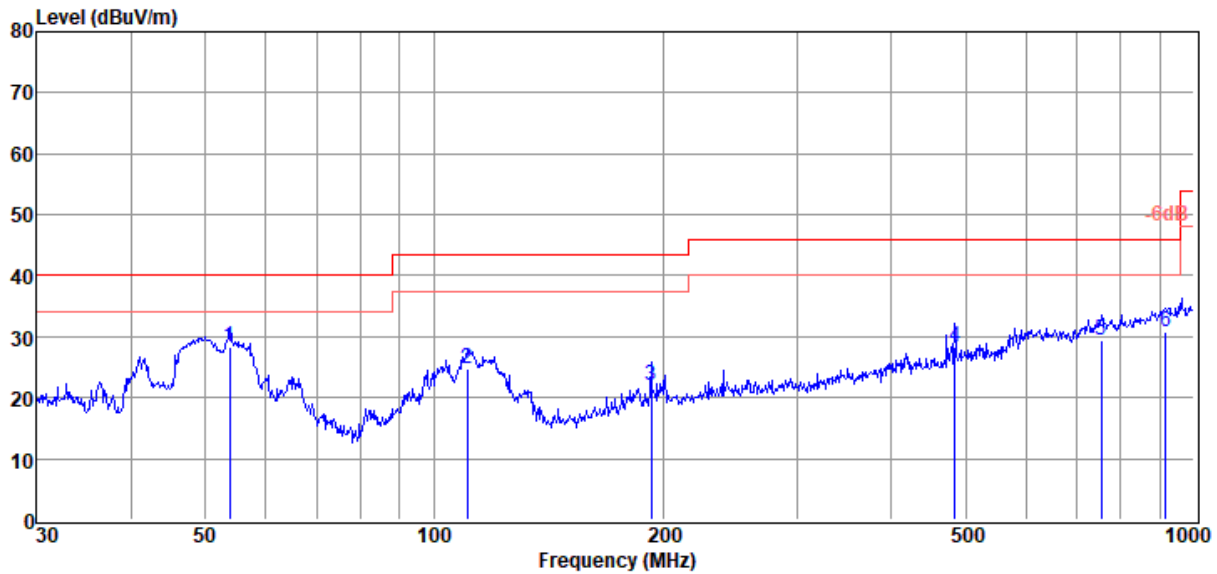
Model Number : M2 Pro

Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.6°C,Humi:62.3%,Press:100.1kPa Antenna/Distance : 2021 VLUB 9163 #3/3m/VERTICAL

Memo :



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	53.88	12.49	12.11	3.70	28.30	40.00	-11.70	QP	VERTICAL
2	110.57	10.26	10.34	4.05	24.65	43.50	-18.85	QP	VERTICAL
3	193.09	6.19	11.32	4.43	21.94	43.50	-21.56	QP	VERTICAL
4	483.91	6.30	16.48	5.43	28.21	46.00	-17.79	QP	VERTICAL
5	755.39	2.64	20.70	6.11	29.45	46.00	-16.55	QP	VERTICAL
6	916.07	1.82	22.40	6.51	30.73	46.00	-15.27	QP	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Radiated Emission test (above 1 GHz)

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

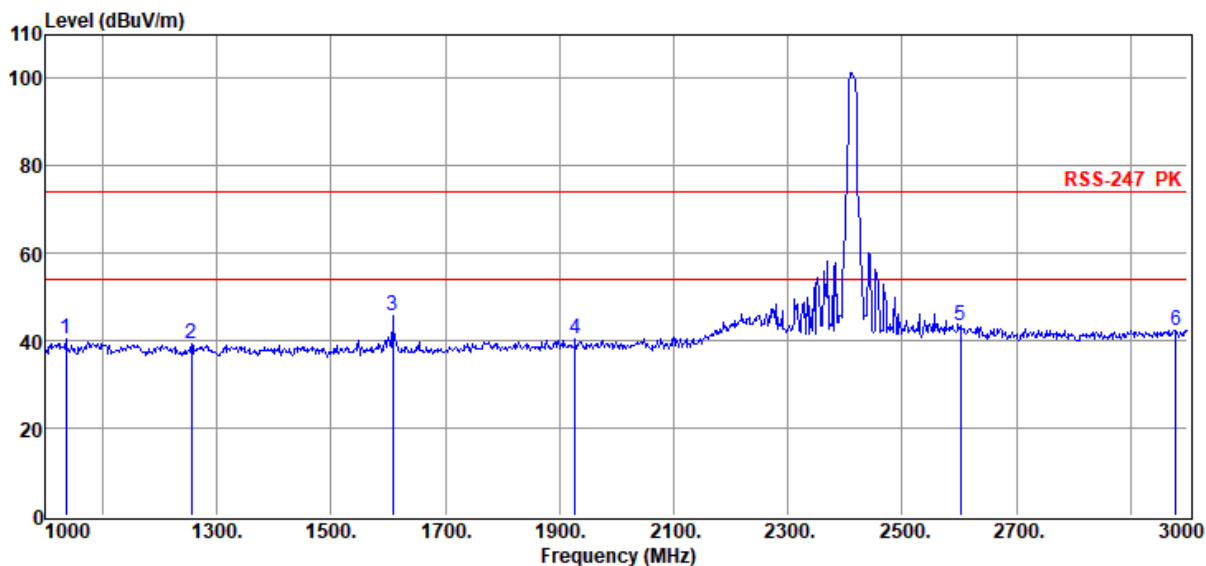
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11b 2412



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	1036.00	51.14	25.49	37.95	1.12	0.51	40.31	74.00	-33.69	Peak	HORIZONTAL
2	1256.00	50.46	25.45	38.28	1.24	0.55	39.42	74.00	-34.58	Peak	HORIZONTAL
3	1608.00	56.93	25.68	38.81	1.43	0.61	45.84	74.00	-28.16	Peak	HORIZONTAL
4	1928.00	50.91	26.51	39.29	1.57	0.67	40.37	74.00	-33.63	Peak	HORIZONTAL
5	2602.00	52.58	27.99	39.70	1.77	0.75	43.39	74.00	-30.61	Peak	HORIZONTAL
6	2980.00	50.31	29.42	39.89	1.86	0.79	42.49	74.00	-31.51	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

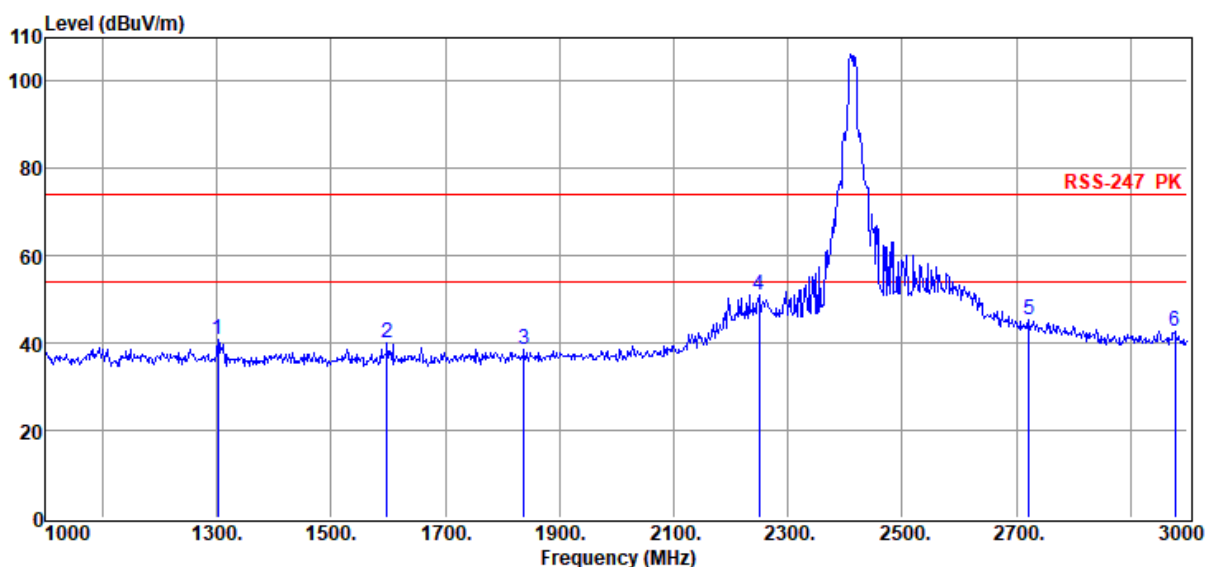
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11b 2412



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	1302.00	52.01	25.44	38.35	1.27	0.55	40.92	74.00	-33.08	Peak	VERTICAL
2	1598.00	51.10	25.65	38.80	1.42	0.61	39.98	74.00	-34.02	Peak	VERTICAL
3	1838.00	49.14	26.28	39.16	1.53	0.65	38.44	74.00	-35.56	Peak	VERTICAL
4	2250.00	61.17	27.15	39.53	1.67	0.71	51.17	74.00	-22.83	Peak	VERTICAL
5	2722.00	54.17	28.44	39.76	1.80	0.76	45.41	74.00	-28.59	Peak	VERTICAL
6	2978.00	50.51	29.42	39.89	1.86	0.79	42.69	74.00	-31.31	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

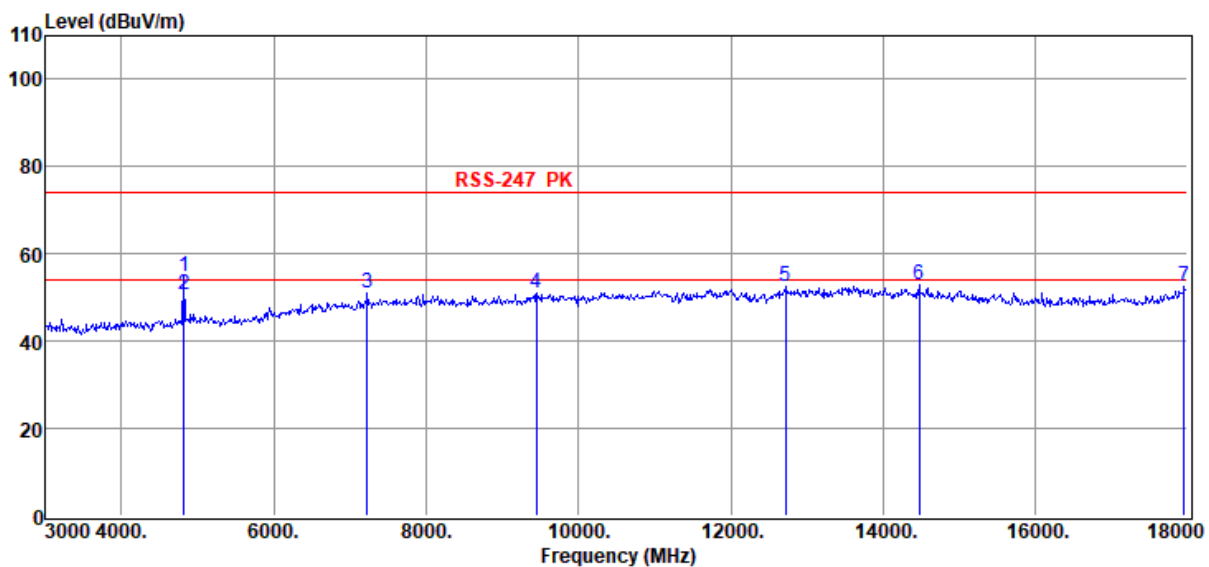
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#
Test Date : 2022-07-15
EUT : Commercial Floor Scrubber
Power Supply : AC 120V/60Hz
Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa
Memo : 11b 2412

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6
Tested By : James Gan
Model Number : M2 Pro
Test Mode : Tx Mode
Antenna/Distance : 2021 BBHA 9120D
 3#/3m/HORIZONTAL



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	4824.00	57.96	32.51	40.36	2.47	2.16	54.74	74.00	-19.26	Peak	HORIZONTAL
2	4824.00	53.83	32.54	40.36	2.48	2.16	50.65	54.00	-3.35	Average	HORIZONTAL
3	7230.00	49.38	36.18	39.72	3.08	2.26	51.18	74.00	-22.82	Peak	HORIZONTAL
4	9450.00	46.54	38.66	40.22	3.59	2.32	50.89	74.00	-23.11	Peak	HORIZONTAL
5	12720.00	46.95	39.26	40.32	4.01	2.80	52.70	74.00	-21.30	Peak	HORIZONTAL
6	14475.00	45.70	39.90	39.65	4.36	2.77	53.08	74.00	-20.92	Peak	HORIZONTAL
7	17955.00	42.08	42.22	40.67	4.95	3.78	52.36	74.00	-21.64	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

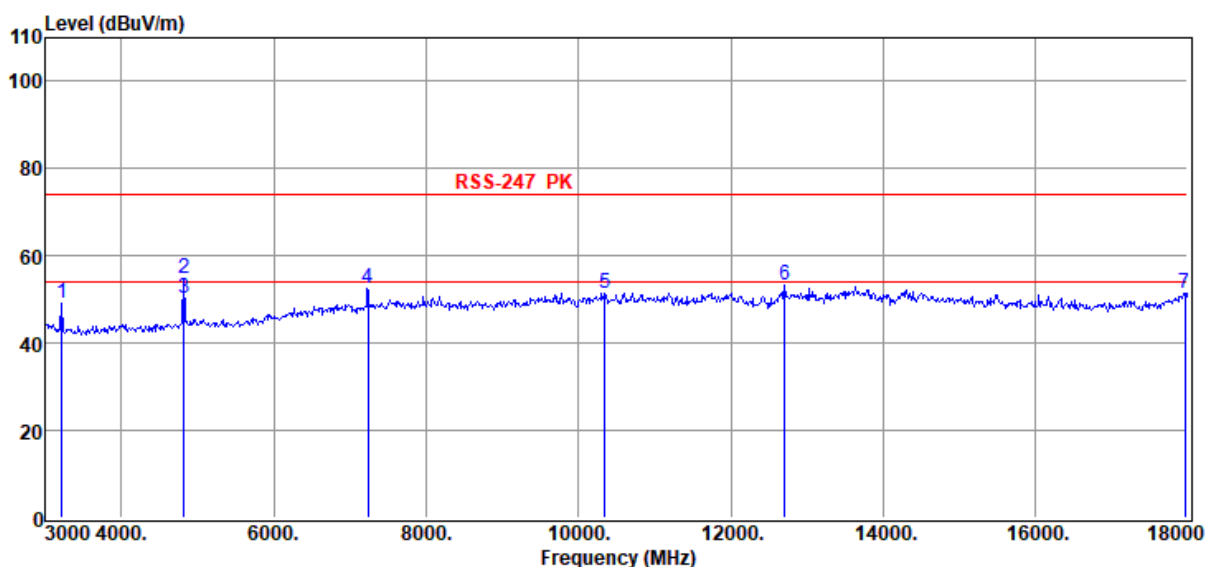
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11b 2412



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	3210.00	54.77	29.46	39.96	1.79	2.93	48.99	74.00	-25.01	Peak	VERTICAL
2	4824.00	58.02	32.54	40.36	2.48	2.16	54.84	74.00	-19.16	Peak	VERTICAL
3	4824.00	53.52	32.54	40.36	2.48	2.16	50.34	54.00	-3.66	Average	VERTICAL
4	7236.00	50.67	36.19	39.72	3.08	2.26	52.48	74.00	-21.52	Peak	VERTICAL
5	10350.00	46.93	38.82	40.46	3.67	2.45	51.41	74.00	-22.59	Peak	VERTICAL
6	12705.00	47.56	39.25	40.31	3.99	2.79	53.28	74.00	-20.72	Peak	VERTICAL
7	17970.00	41.22	42.31	40.68	4.95	3.78	51.58	74.00	-22.42	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

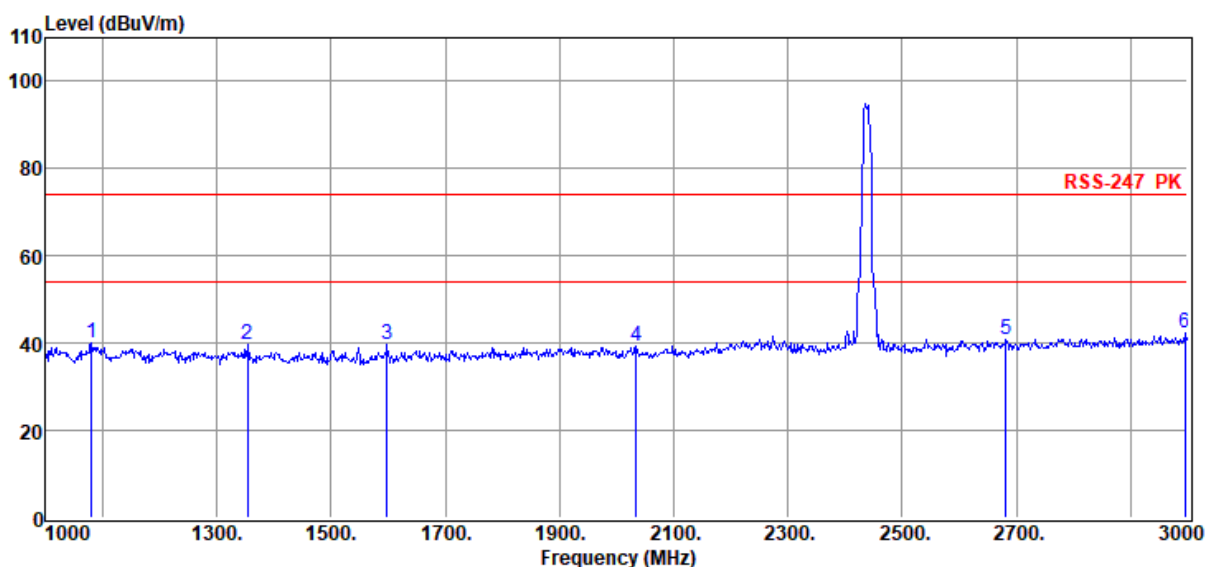
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11b 2437



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	1080.00	50.87	25.48	38.02	1.14	0.51	39.98	74.00	-34.02	Peak	HORIZONTAL
2	1354.00	50.84	25.43	38.43	1.30	0.56	39.70	74.00	-34.30	Peak	HORIZONTAL
3	1598.00	50.79	25.65	38.80	1.42	0.61	39.67	74.00	-34.33	Peak	HORIZONTAL
4	2034.00	49.54	26.76	39.42	1.61	0.68	39.17	74.00	-34.83	Peak	HORIZONTAL
5	2682.00	49.86	28.29	39.74	1.79	0.76	40.96	74.00	-33.04	Peak	HORIZONTAL
6	2996.00	49.91	29.48	39.90	1.87	0.79	42.15	74.00	-31.85	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

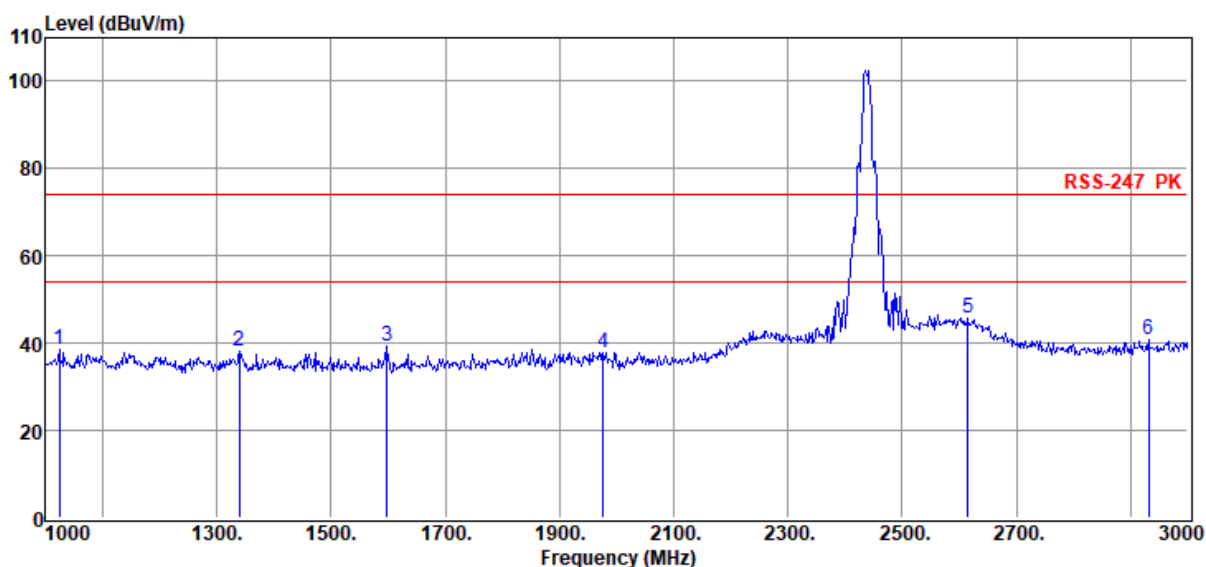
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11b 2437



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	1024.00	49.34	25.50	37.94	1.11	0.50	38.51	74.00	-35.49	Peak	VERTICAL
2	1340.00	49.28	25.43	38.41	1.29	0.56	38.15	74.00	-35.85	Peak	VERTICAL
3	1598.00	50.57	25.65	38.80	1.42	0.61	39.45	74.00	-34.55	Peak	VERTICAL
4	1976.00	48.23	26.64	39.36	1.59	0.68	37.78	74.00	-36.22	Peak	VERTICAL
5	2616.00	54.95	28.04	39.71	1.77	0.75	45.80	74.00	-28.20	Peak	VERTICAL
6	2932.00	48.81	29.24	39.87	1.85	0.78	40.81	74.00	-33.19	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

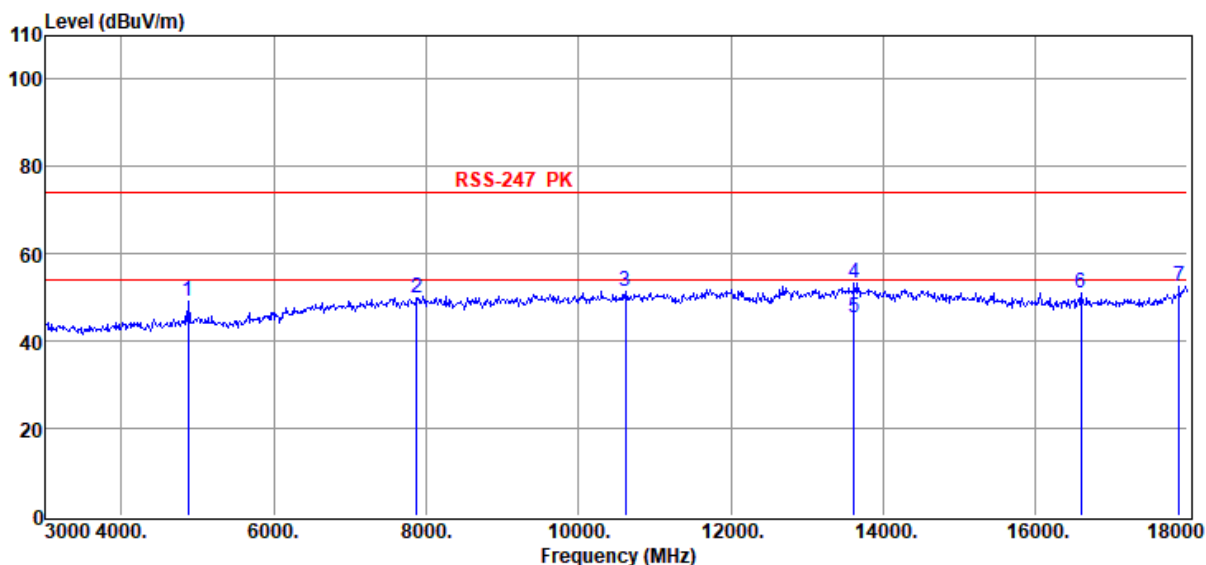
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11b 2437



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	4874.00	52.09	32.70	40.37	2.49	2.17	49.08	74.00	-24.92	Peak	HORIZONTAL
2	7875.00	47.34	36.85	39.79	3.18	2.28	49.86	74.00	-24.14	Peak	HORIZONTAL
3	10620.00	46.58	39.07	40.35	3.70	2.42	51.42	74.00	-22.58	Peak	HORIZONTAL
4	13620.00	46.11	39.98	39.97	4.12	2.92	53.16	74.00	-20.84	Peak	HORIZONTAL
5	13620.00	38.14	39.98	39.97	4.12	2.92	45.19	54.00	-8.81	Average	HORIZONTAL
6	16605.00	45.05	38.03	40.02	4.73	3.36	51.15	74.00	-22.85	Peak	HORIZONTAL
7	17895.00	42.69	41.85	40.64	4.93	3.76	52.59	74.00	-21.41	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

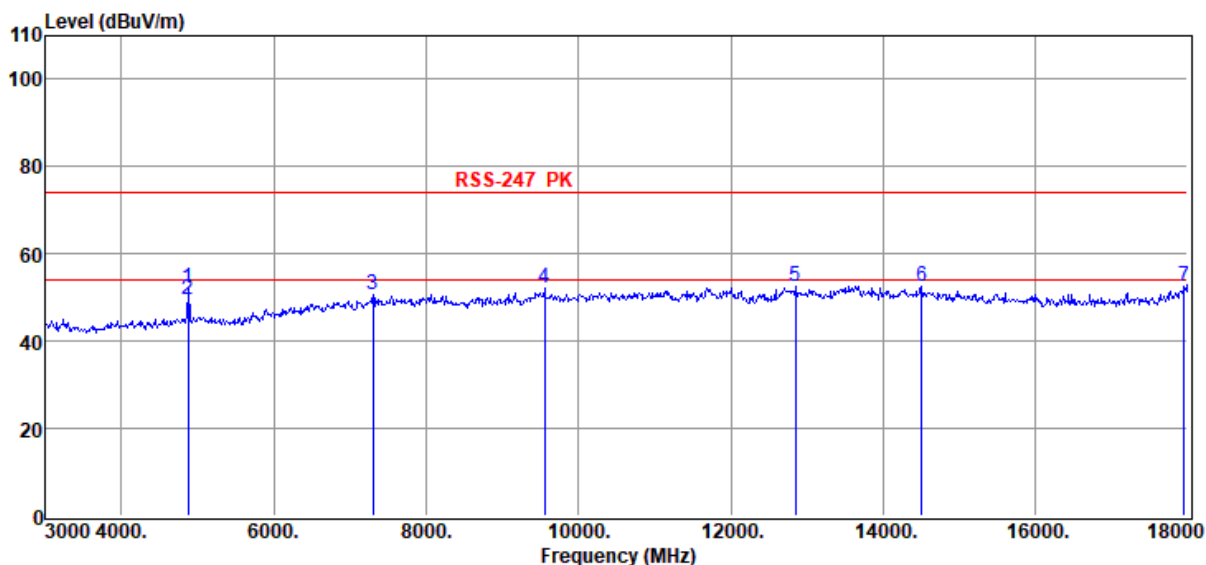
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11b 2437



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	4874.00	55.17	32.70	40.37	2.49	2.17	52.16	74.00	-21.84	Peak	VERTICAL
2	4874.00	52.67	32.70	40.37	2.49	2.17	49.66	54.00	-4.34	Average	VERTICAL
3	7305.00	48.77	36.24	39.73	3.09	2.27	50.64	74.00	-23.36	Peak	VERTICAL
4	9555.00	47.75	38.67	40.29	3.63	2.35	52.11	74.00	-21.89	Peak	VERTICAL
5	12855.00	46.42	39.43	40.36	4.20	2.88	52.57	74.00	-21.43	Peak	VERTICAL
6	14505.00	45.27	39.90	39.65	4.35	2.76	52.63	74.00	-21.37	Peak	VERTICAL
7	17955.00	42.18	42.22	40.67	4.95	3.78	52.46	74.00	-21.54	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

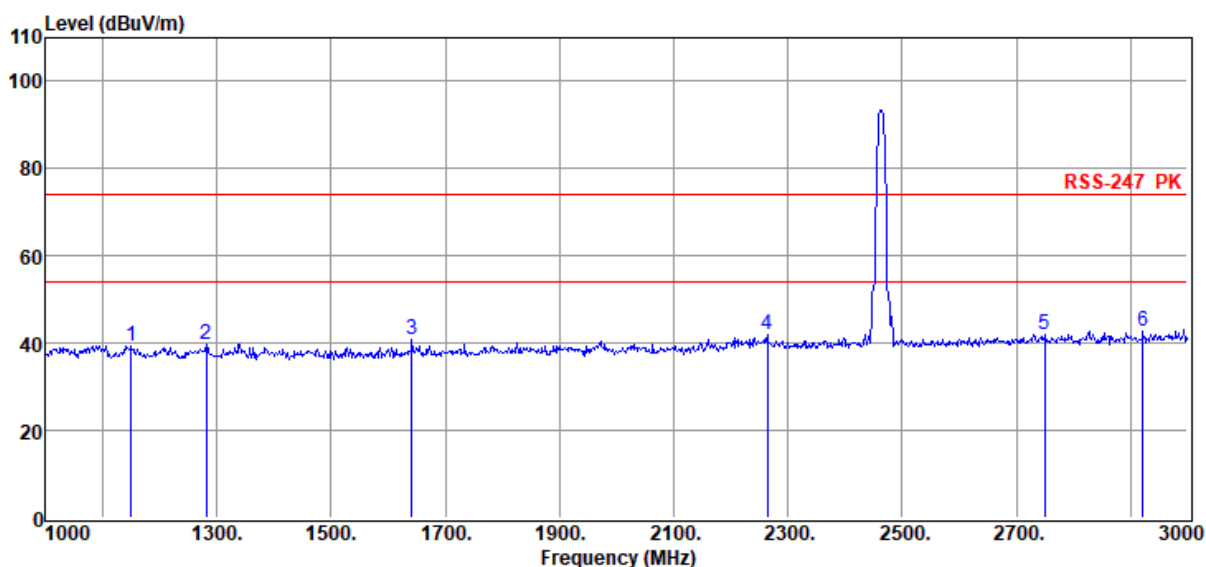
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11b 2462



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	1150.00	50.30	25.47	38.12	1.18	0.53	39.36	74.00	-34.64	Peak	HORIZONTAL
2	1282.00	50.87	25.44	38.32	1.26	0.55	39.80	74.00	-34.20	Peak	HORIZONTAL
3	1642.00	51.69	25.77	38.86	1.44	0.62	40.66	74.00	-33.34	Peak	HORIZONTAL
4	2264.00	51.81	27.18	39.53	1.67	0.71	41.84	74.00	-32.16	Peak	HORIZONTAL
5	2750.00	50.73	28.55	39.78	1.81	0.76	42.07	74.00	-31.93	Peak	HORIZONTAL
6	2922.00	50.87	29.20	39.86	1.85	0.78	42.84	74.00	-31.16	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

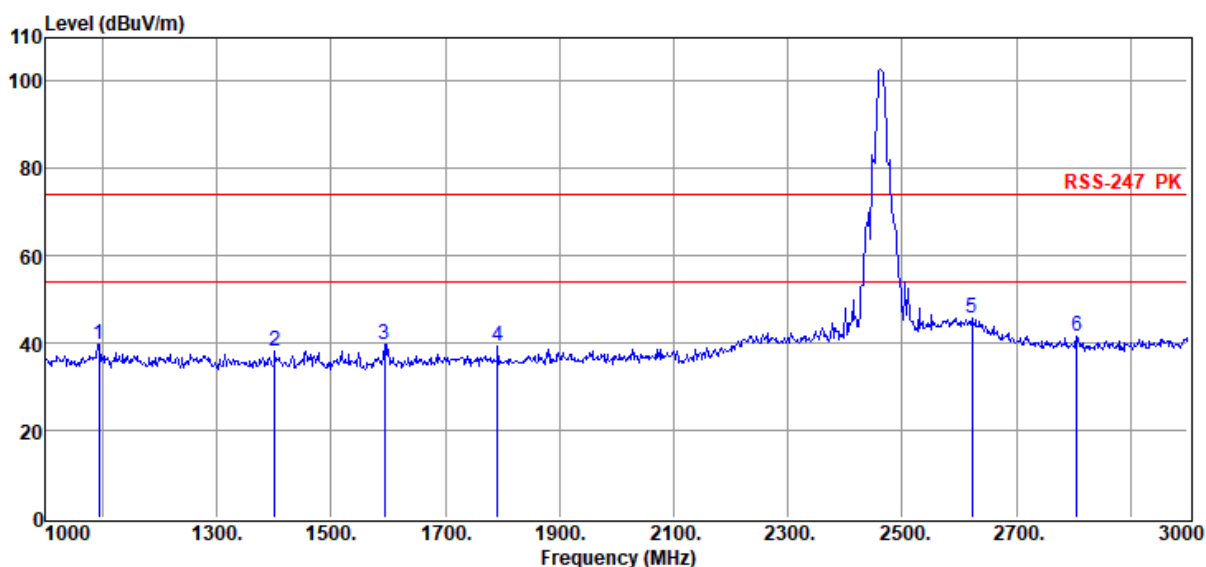
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11b 2462



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	1094.00	50.72	25.48	38.04	1.15	0.52	39.83	74.00	-34.17	Peak	VERTICAL
2	1402.00	49.45	25.42	38.50	1.33	0.57	38.27	74.00	-35.73	Peak	VERTICAL
3	1594.00	50.82	25.64	38.79	1.42	0.61	39.70	74.00	-34.30	Peak	VERTICAL
4	1792.00	50.02	26.16	39.09	1.51	0.64	39.24	74.00	-34.76	Peak	VERTICAL
5	2622.00	54.89	28.06	39.71	1.77	0.75	45.76	74.00	-28.24	Peak	VERTICAL
6	2806.00	50.00	28.76	39.80	1.82	0.77	41.55	74.00	-32.45	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

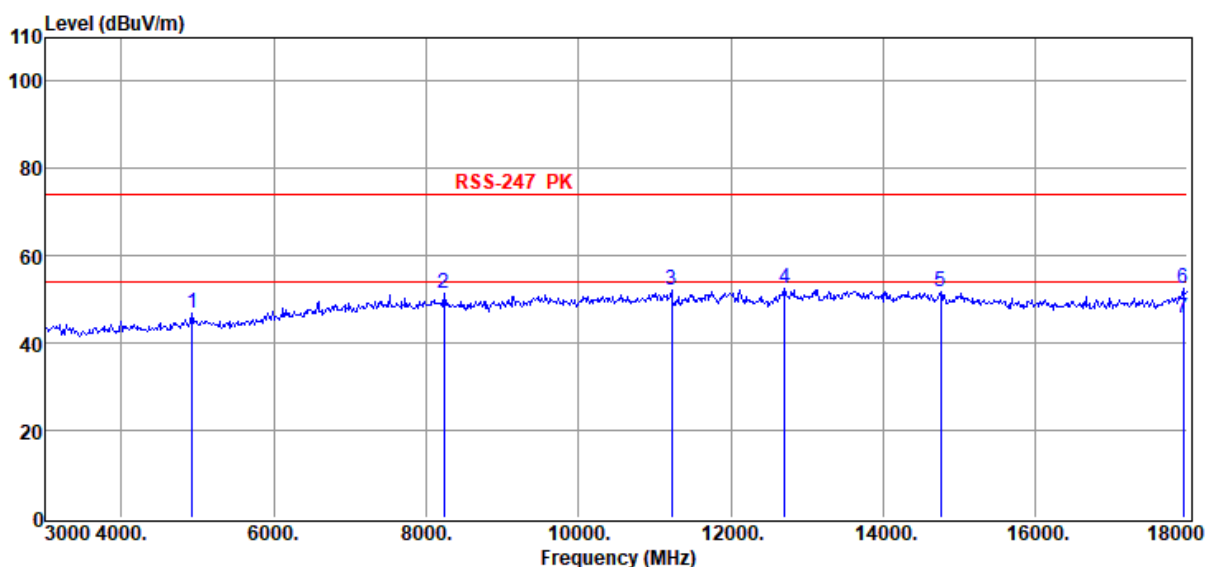
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11b 2462



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	4924.00	49.65	32.86	40.38	2.51	2.18	46.82	74.00	-27.18	Peak	HORIZONTAL
2	8235.00	48.47	37.38	39.82	3.20	2.26	51.49	74.00	-22.51	Peak	HORIZONTAL
3	11220.00	47.11	39.17	40.18	3.87	2.38	52.35	74.00	-21.65	Peak	HORIZONTAL
4	12705.00	46.67	39.25	40.31	3.99	2.79	52.39	74.00	-21.61	Peak	HORIZONTAL
5	14760.00	44.52	39.69	39.62	4.41	2.69	51.69	74.00	-22.31	Peak	HORIZONTAL
6	17940.00	42.26	42.13	40.66	4.94	3.77	52.44	74.00	-21.56	Peak	HORIZONTAL
7	17940.00	35.73	42.13	40.66	4.94	3.77	45.91	54.00	-8.09	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

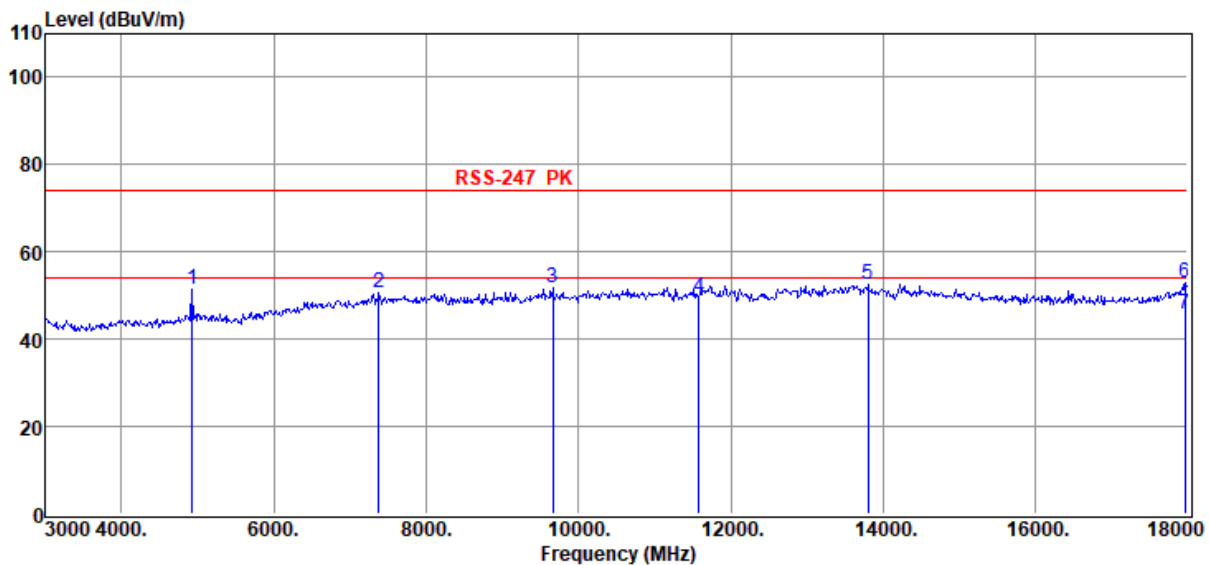
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11b 2462



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	4924.00	54.22	32.86	40.38	2.51	2.18	51.39	74.00	-22.61	Peak	VERTICAL
2	7380.00	48.64	36.30	39.74	3.11	2.27	50.58	74.00	-23.42	Peak	VERTICAL
3	9660.00	47.47	38.60	40.36	3.64	2.38	51.73	74.00	-22.27	Peak	VERTICAL
4	11580.00	44.09	39.03	40.14	3.98	2.39	49.35	74.00	-24.65	Peak	VERTICAL
5	13800.00	45.29	39.94	39.84	4.31	2.91	52.61	74.00	-21.39	Peak	VERTICAL
6	17970.00	42.45	42.31	40.68	4.95	3.78	52.81	74.00	-21.19	Peak	VERTICAL
7	17970.00	35.56	42.31	40.68	4.95	3.78	45.92	54.00	-8.08	Average	VERTICAL

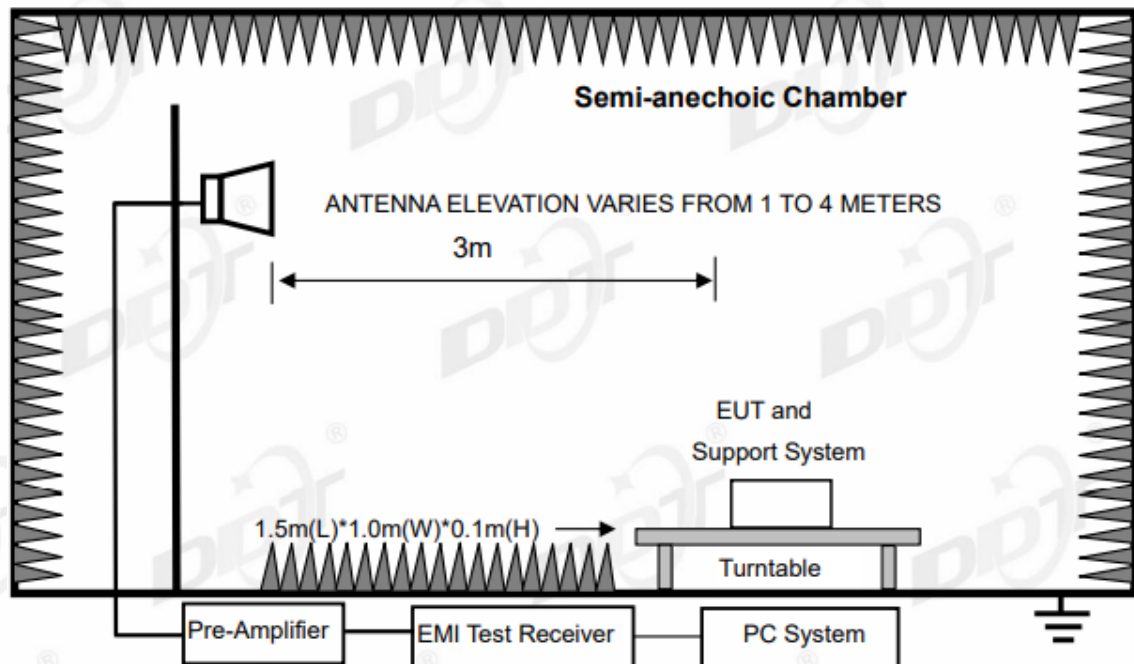
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

9. Radiated Band Edge Compliance

9.1. Block diagram of test setup



9.2. Limit

All restricted frequency bands shall not exceed the limits shown in 15.209 and RSS-GEN, all the other emissions outside operation frequency band 2400 MHz to 2483.5 MHz shall be at least 20 dB below the fundamental emissions or comply with RSS-Gen Issue 3 clause 7.2.5 (Same as FCC 15.209) limits.

9.3. Test procedure

Same with clause 8.3 except change investigated frequency range from 2310 MHz to 2430 MHz, 2450 MHz to 2500 MHz, 2310 MHz to 2450 MHz and 2430 MHz to 2500 MHz,.

Remark: All restriction band have been tested, and only the worst case is shown in report.

9.4. Test result

Pass. (See below detailed test result)

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

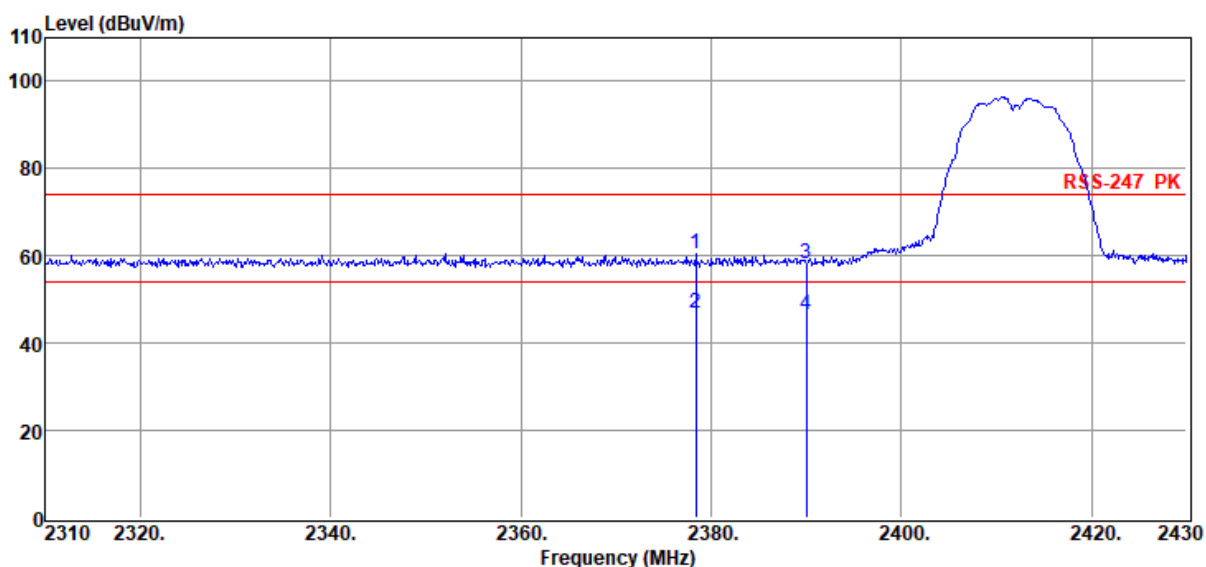
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11b 2412 ANT 1



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2378.40	50.38	27.38	39.59	1.71	0.72	60.60	74.00	-13.40	Peak	HORIZONTAL
2	2378.40	36.72	27.38	39.59	1.71	0.72	46.94	54.00	-7.06	Average	HORIZONTAL
3	2390.00	48.05	27.40	39.60	1.71	0.72	58.28	74.00	-15.72	Peak	HORIZONTAL
4	2390.00	36.12	27.40	39.60	1.71	0.72	46.35	54.00	-7.65	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

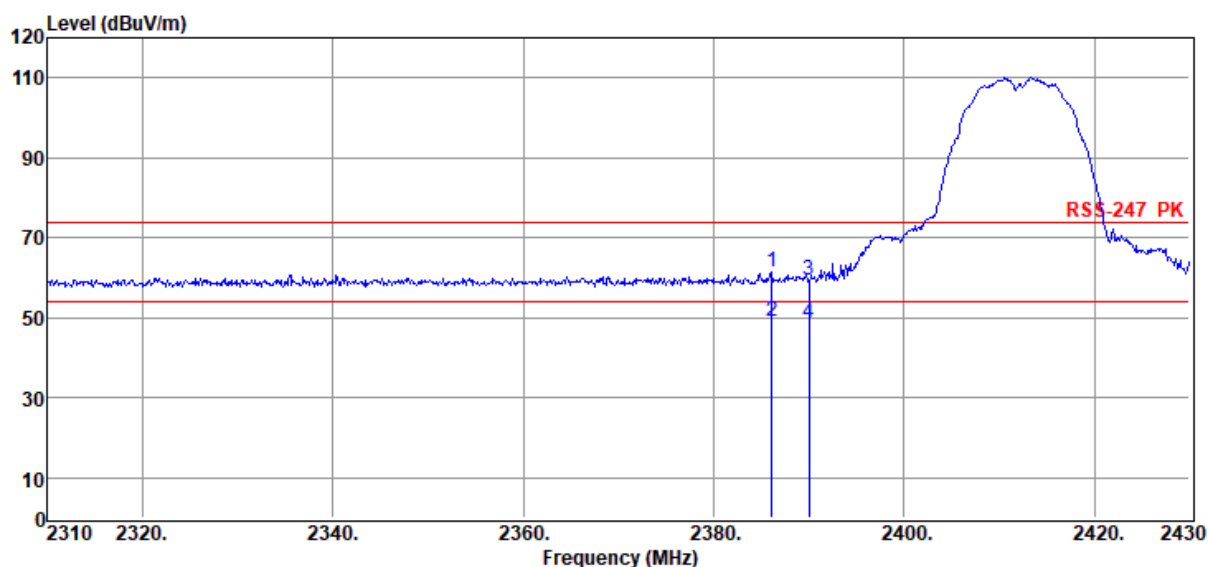
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11b 2412 ANT 1



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2386.08	51.41	27.39	39.59	1.71	0.72	61.64	74.00	-12.36	Peak	VERTICAL
2	2386.08	38.69	27.39	39.59	1.71	0.72	48.92	54.00	-5.08	Average	VERTICAL
3	2390.00	49.13	27.40	39.60	1.71	0.72	59.36	74.00	-14.64	Peak	VERTICAL
4	2390.00	38.52	27.40	39.60	1.71	0.72	48.75	54.00	-5.25	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

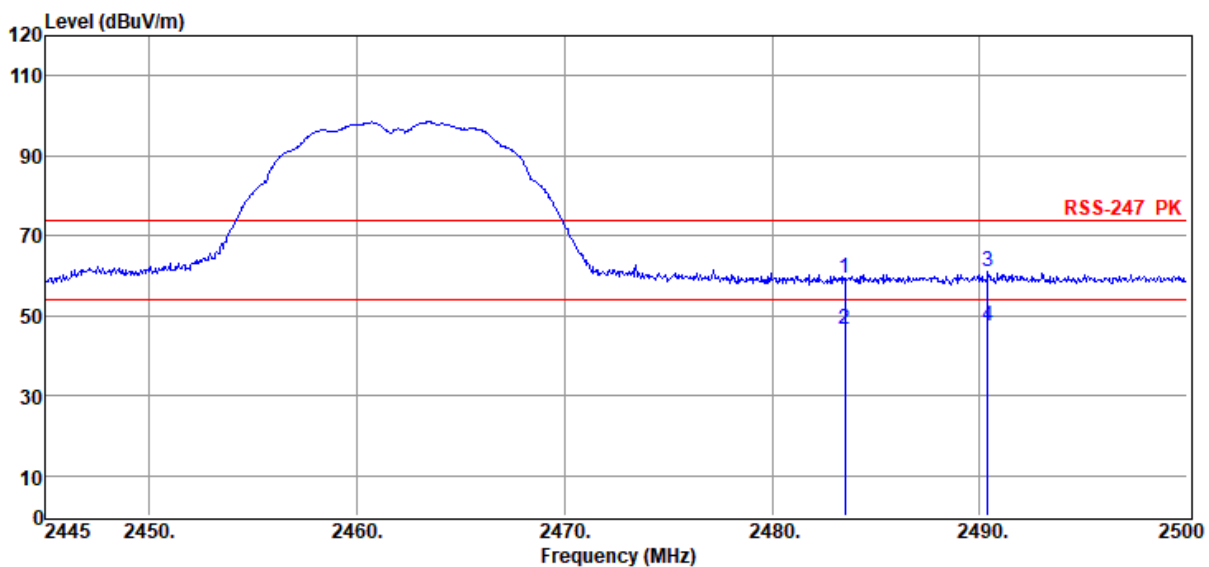
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#
Test Date : 2022-07-15
EUT : Commercial Floor Scrubber
Power Supply : AC 120V/60Hz
Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa
Memo : 11b 2462 ANT 1

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6
Tested By : James Gan
Model Number : M2 Pro
Test Mode : Tx Mode
Antenna/Distance : 2021 BBHA 9120D
 3#/3m/HORIZONTAL



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	49.07	27.57	39.64	1.74	0.73	59.47	74.00	-14.53	Peak	HORIZONTAL
2	2483.50	36.27	27.57	39.64	1.74	0.73	46.67	54.00	-7.33	Average	HORIZONTAL
3	2490.00	50.50	27.58	39.65	1.74	0.73	60.90	74.00	-13.10	Peak	HORIZONTAL
4	2490.00	36.86	27.58	39.65	1.74	0.73	47.26	54.00	-6.74	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

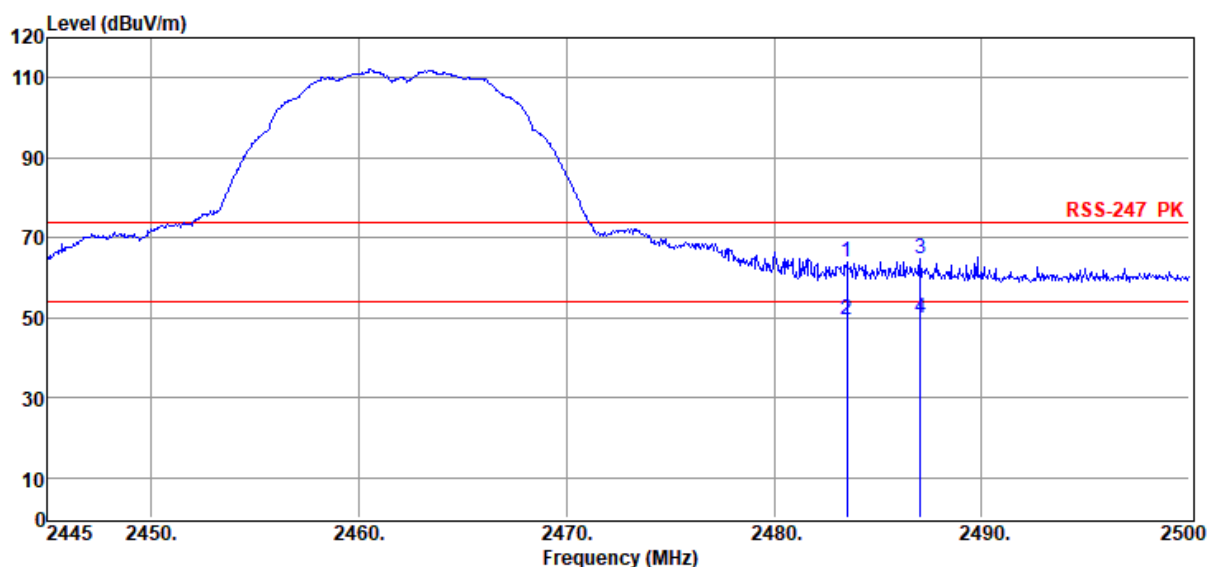
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11b 2462 ANT 1



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	53.31	27.57	39.64	1.74	0.73	63.71	74.00	-10.29	Peak	VERTICAL
2	2483.50	39.17	27.57	39.64	1.74	0.73	49.57	54.00	-4.43	Average	VERTICAL
3	2487.02	54.53	27.58	39.64	1.74	0.73	64.94	74.00	-9.06	Peak	VERTICAL
4	2487.02	39.47	27.58	39.64	1.74	0.73	49.88	54.00	-4.12	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

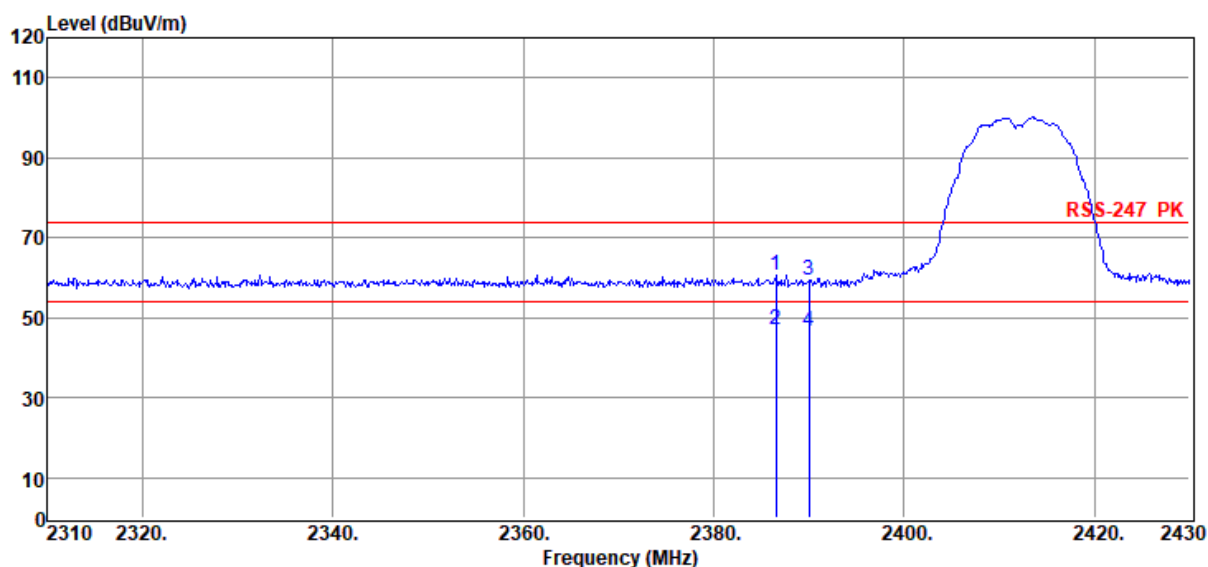
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11b 2412 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2386.56	50.27	27.40	39.59	1.71	0.72	60.51	74.00	-13.49	Peak	HORIZONTAL
2	2386.56	36.84	27.40	39.59	1.71	0.72	47.08	54.00	-6.92	Average	HORIZONTAL
3	2390.00	49.23	27.40	39.60	1.71	0.72	59.46	74.00	-14.54	Peak	HORIZONTAL
4	2390.00	36.57	27.40	39.60	1.71	0.72	46.80	54.00	-7.20	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

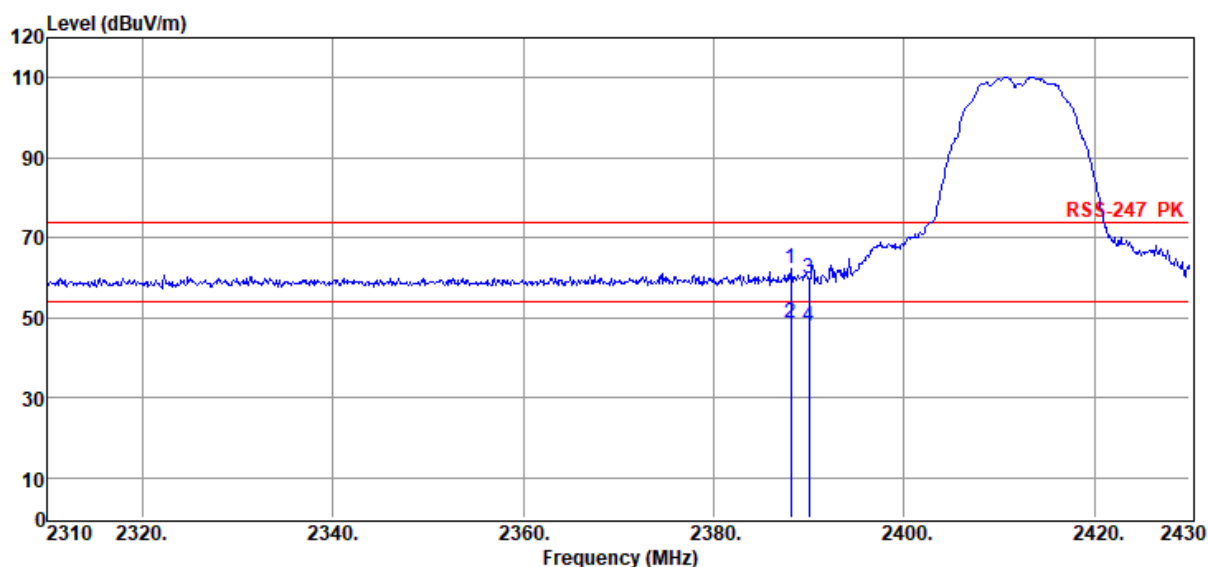
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11b 2412 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2388.12	52.22	27.40	39.59	1.71	0.72	62.46	74.00	-11.54	Peak	VERTICAL
2	2388.12	38.57	27.40	39.59	1.71	0.72	48.81	54.00	-5.19	Average	VERTICAL
3	2390.00	49.57	27.40	39.60	1.71	0.72	59.80	74.00	-14.20	Peak	VERTICAL
4	2390.00	37.64	27.40	39.60	1.71	0.72	47.87	54.00	-6.13	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

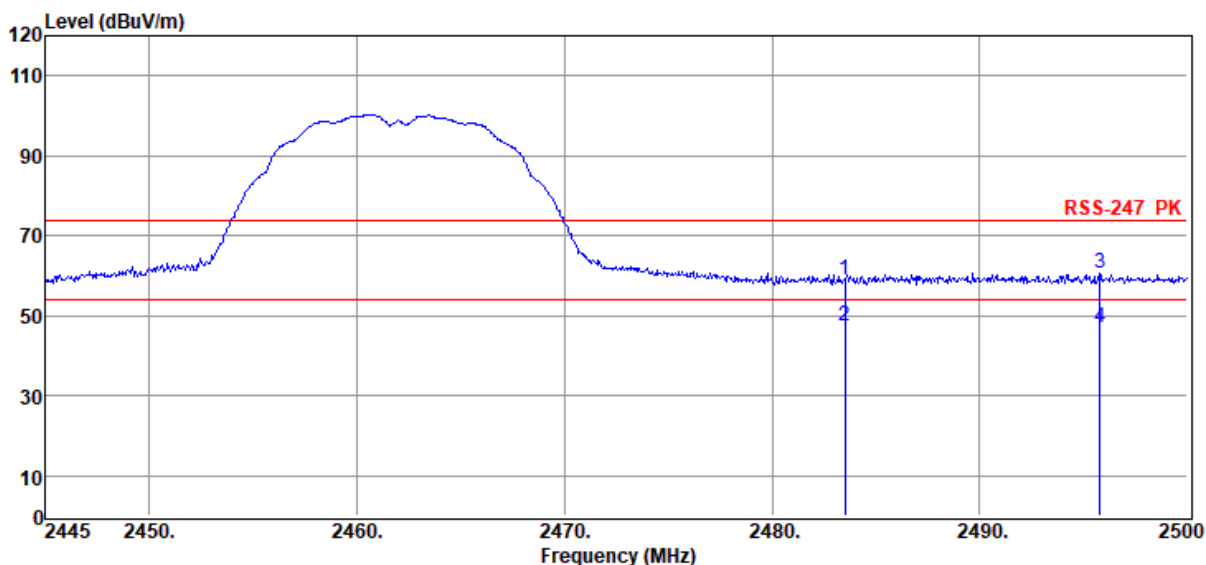
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11b 2462 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	48.56	27.57	39.64	1.74	0.73	58.96	74.00	-15.04	Peak	HORIZONTAL
2	2483.50	36.82	27.57	39.64	1.74	0.73	47.22	54.00	-6.78	Average	HORIZONTAL
3	2495.77	50.30	27.59	39.65	1.74	0.73	60.71	74.00	-13.29	Peak	HORIZONTAL
4	2495.77	36.67	27.59	39.65	1.74	0.73	47.08	54.00	-6.92	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

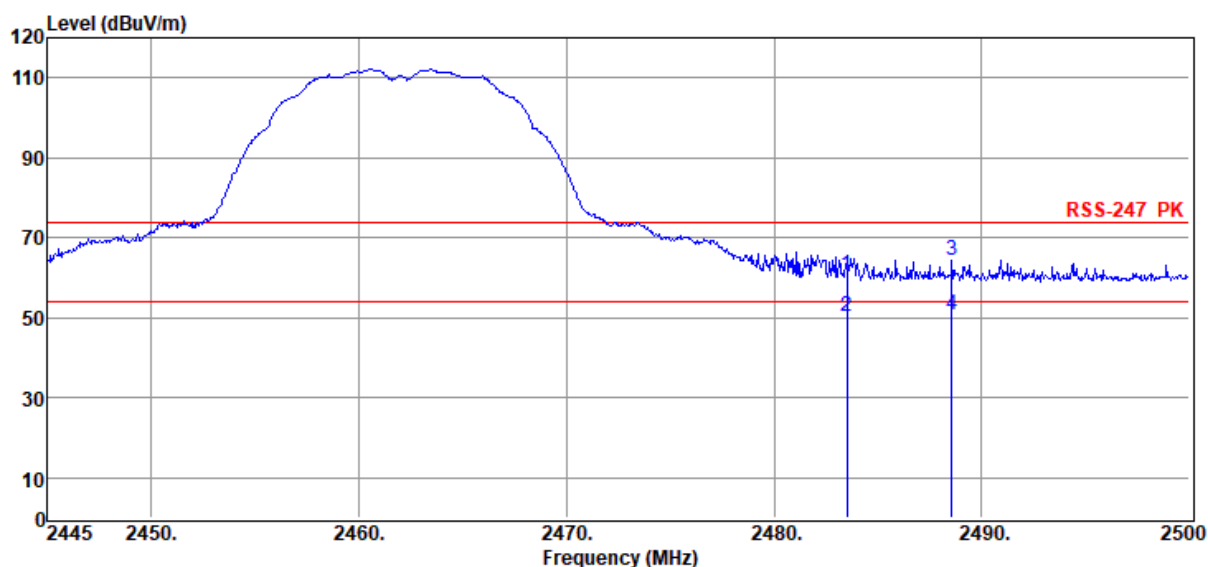
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11b 2462 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	50.22	27.57	39.64	1.74	0.73	60.62	74.00	-13.38	Peak	VERTICAL
2	2483.50	39.73	27.57	39.64	1.74	0.73	50.13	54.00	-3.87	Average	VERTICAL
3	2488.56	53.84	27.58	39.64	1.74	0.73	64.25	74.00	-9.75	Peak	VERTICAL
4	2488.56	40.28	27.58	39.64	1.74	0.73	50.69	54.00	-3.31	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

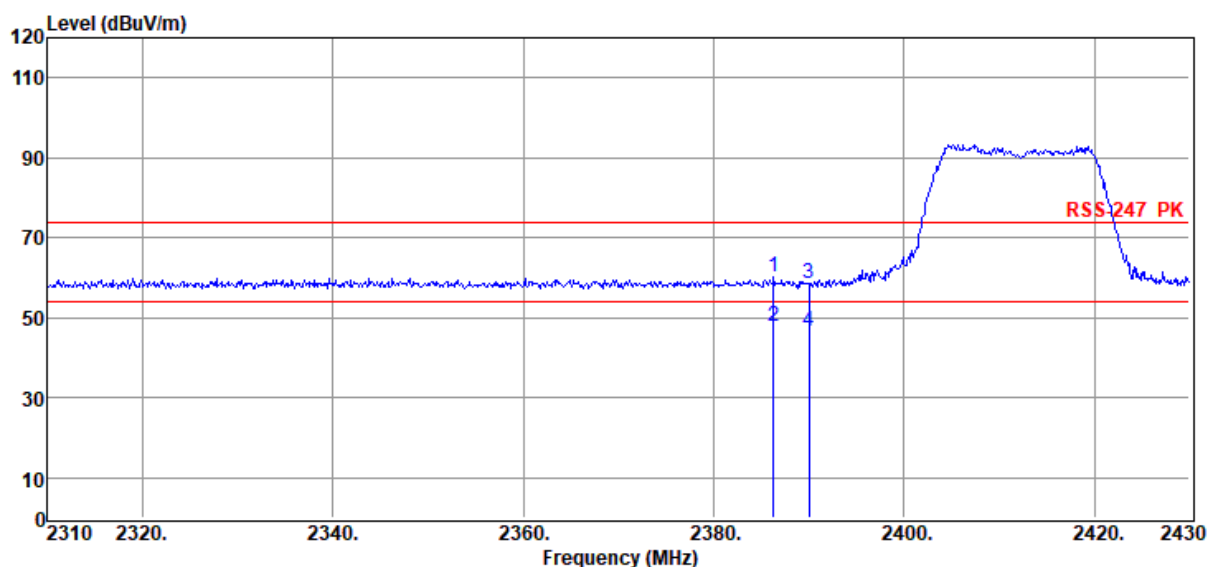
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11G 2412 ANT 1



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	2386.32	49.77	27.40	39.59	1.71	0.72	60.01	74.00	-13.99	Peak	HORIZONTAL
2	2386.32	37.60	27.40	39.59	1.71	0.72	47.84	54.00	-6.16	Average	HORIZONTAL
3	2390.00	48.47	27.40	39.60	1.71	0.72	58.70	74.00	-15.30	Peak	HORIZONTAL
4	2390.00	36.28	27.40	39.60	1.71	0.72	46.51	54.00	-7.49	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

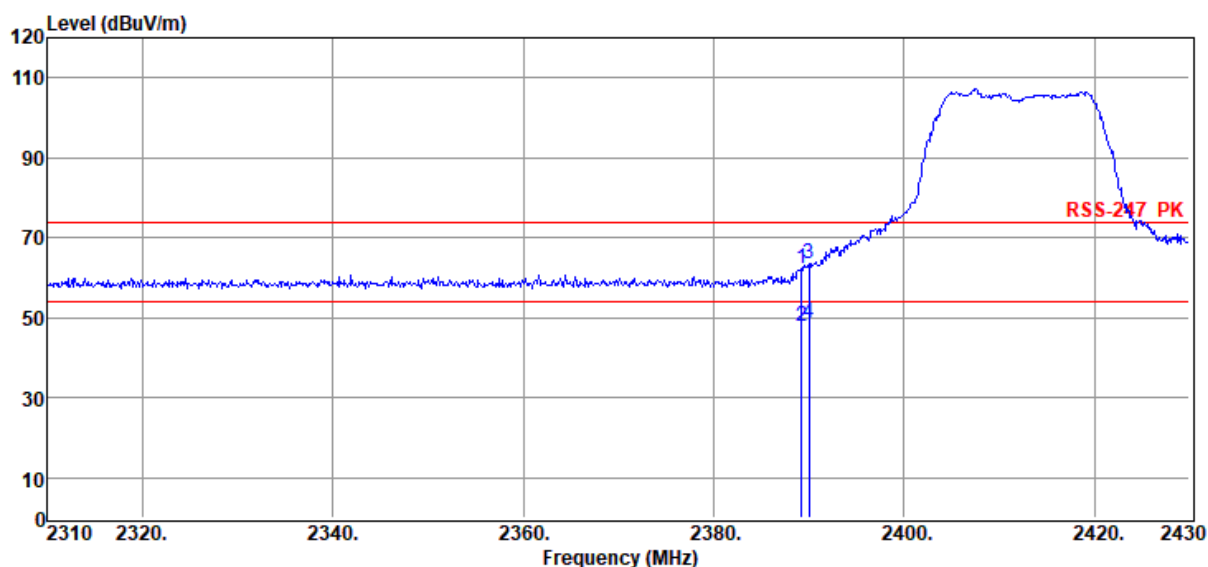
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11G 2412 ANT 1



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2389.20	51.90	27.40	39.59	1.71	0.72	62.14	74.00	-11.86	Peak	VERTICAL
2	2389.20	37.45	27.40	39.59	1.71	0.72	47.69	54.00	-6.31	Average	VERTICAL
3	2390.00	53.09	27.40	39.60	1.71	0.72	63.32	74.00	-10.68	Peak	VERTICAL
4	2390.00	38.38	27.40	39.60	1.71	0.72	48.61	54.00	-5.39	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

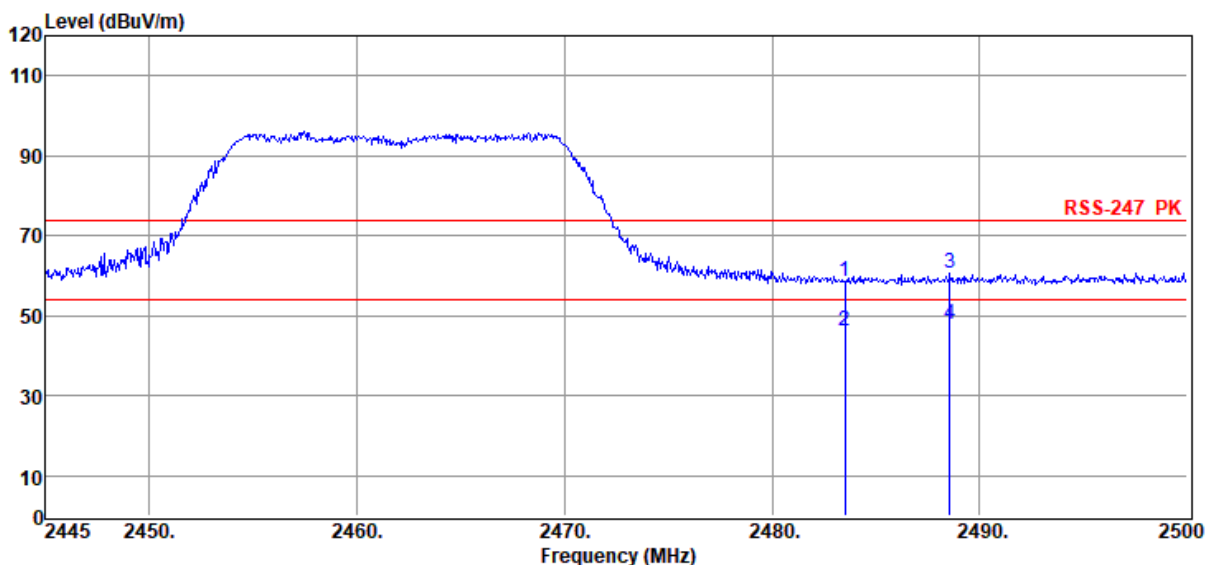
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11G 2462 ANT 1



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	48.11	27.57	39.64	1.74	0.73	58.51	74.00	-15.49	Peak	HORIZONTAL
2	2483.50	35.88	27.57	39.64	1.74	0.73	46.28	54.00	-7.72	Average	HORIZONTAL
3	2488.56	50.38	27.58	39.64	1.74	0.73	60.79	74.00	-13.21	Peak	HORIZONTAL
4	2488.56	37.25	27.58	39.64	1.74	0.73	47.66	54.00	-6.34	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

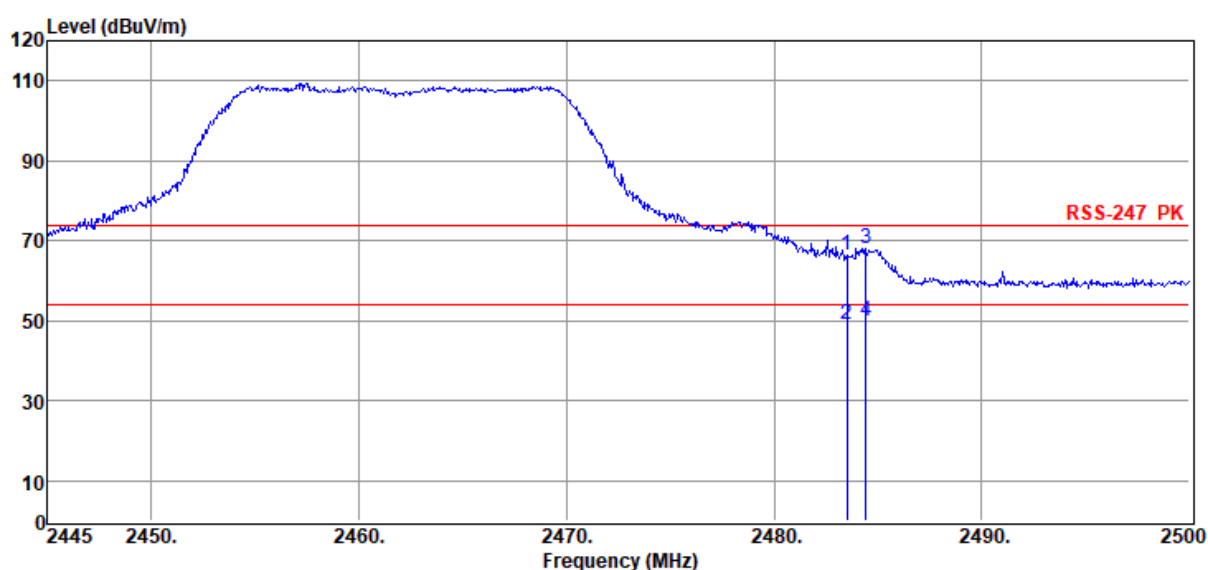
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11G 2462 ANT 1



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	56.19	27.57	39.64	1.74	0.73	66.59	74.00	-7.41	Peak	VERTICAL
2	2483.50	38.71	27.57	39.64	1.74	0.73	49.11	54.00	-4.89	Average	VERTICAL
3	2484.44	57.68	27.57	39.64	1.74	0.73	68.08	74.00	-5.92	Peak	VERTICAL
4	2484.44	39.46	27.57	39.64	1.74	0.73	49.86	54.00	-4.14	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

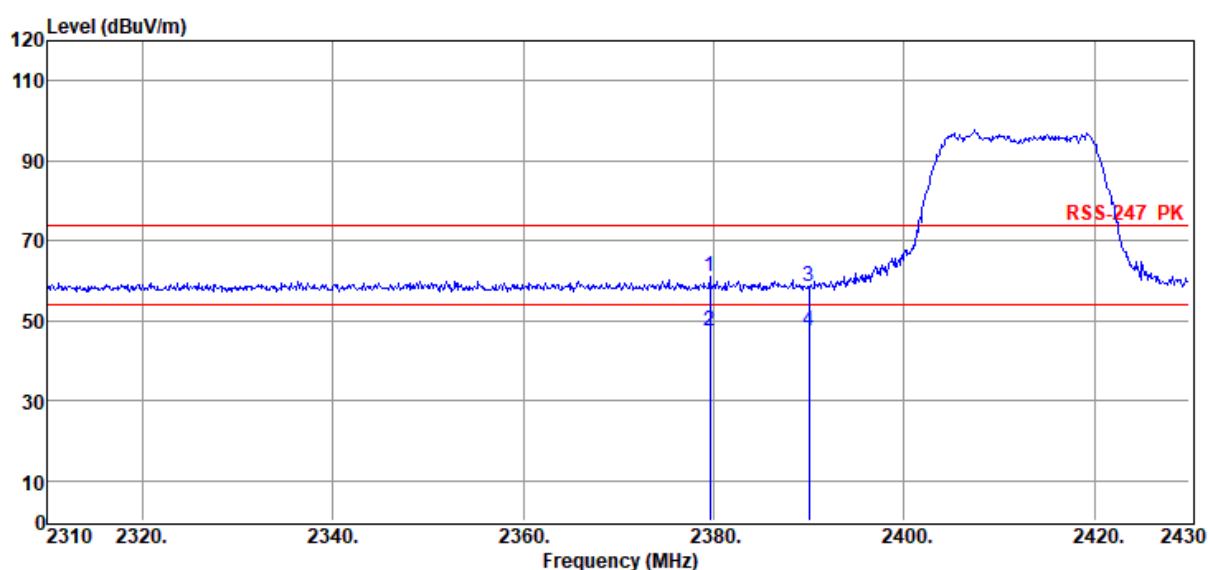
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11G 2412 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2379.60	50.82	27.38	39.59	1.71	0.72	61.04	74.00	-12.96	Peak	HORIZONTAL
2	2379.60	37.23	27.38	39.59	1.71	0.72	47.45	54.00	-6.55	Average	HORIZONTAL
3	2390.00	48.33	27.40	39.60	1.71	0.72	58.56	74.00	-15.44	Peak	HORIZONTAL
4	2390.00	37.09	27.40	39.60	1.71	0.72	47.32	54.00	-6.68	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

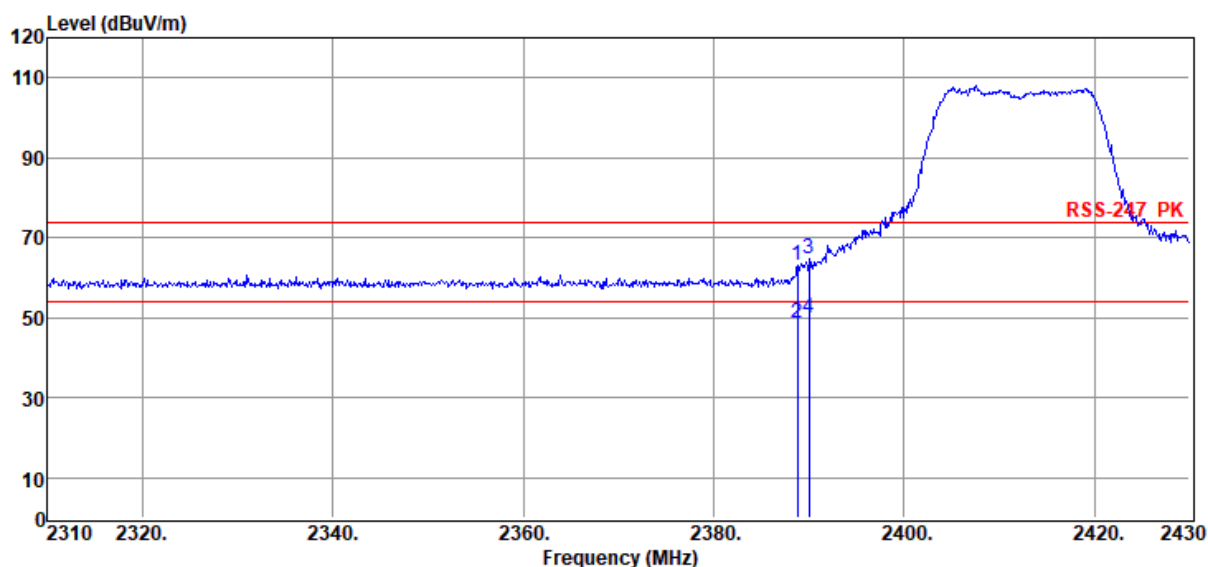
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11G 2412 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2388.84	53.00	27.40	39.59	1.71	0.72	63.24	74.00	-10.76	Peak	VERTICAL
2	2388.84	38.37	27.40	39.59	1.71	0.72	48.61	54.00	-5.39	Average	VERTICAL
3	2390.00	54.71	27.40	39.60	1.71	0.72	64.94	74.00	-9.06	Peak	VERTICAL
4	2390.00	39.66	27.40	39.60	1.71	0.72	49.89	54.00	-4.11	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

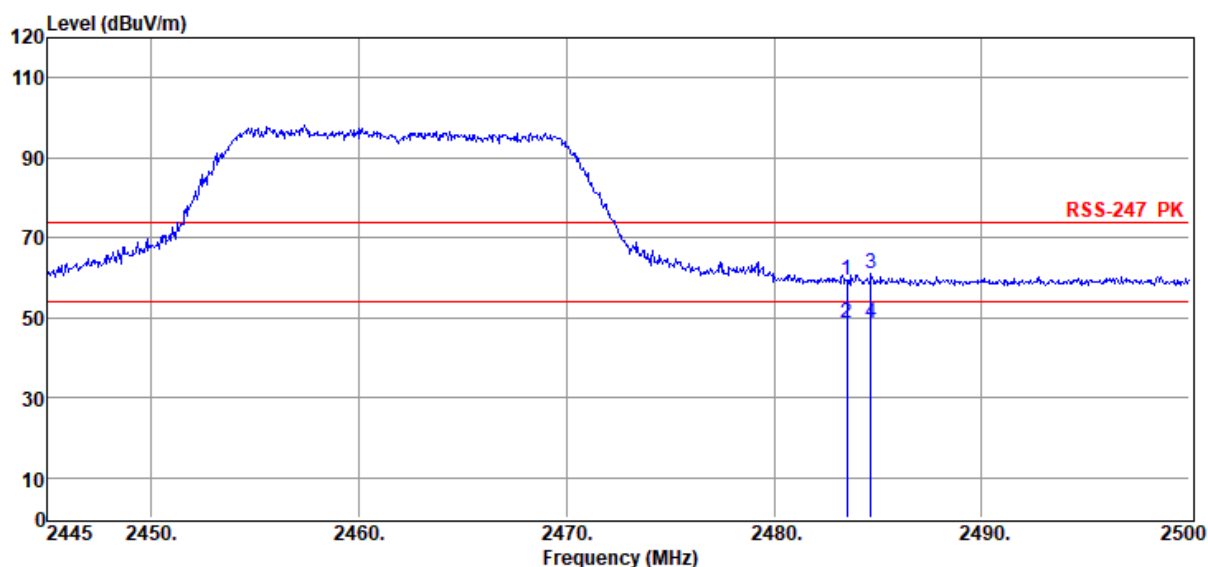
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11G 2462 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	48.81	27.57	39.64	1.74	0.73	59.21	74.00	-14.79	Peak	HORIZONTAL
2	2483.50	38.16	27.57	39.64	1.74	0.73	48.56	54.00	-5.44	Average	HORIZONTAL
3	2484.66	50.44	27.57	39.64	1.74	0.73	60.84	74.00	-13.16	Peak	HORIZONTAL
4	2484.66	38.09	27.57	39.64	1.74	0.73	48.49	54.00	-5.51	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

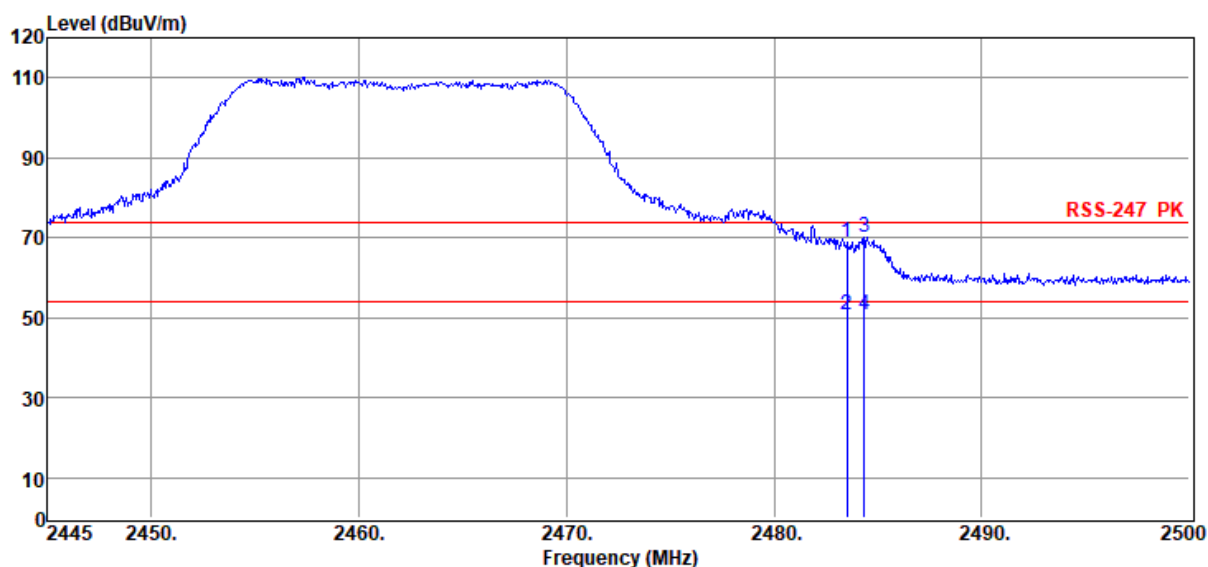
Model Number : M2 Pro

Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11G 2462 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	58.42	27.57	39.64	1.74	0.73	68.82	74.00	-5.18	Peak	VERTICAL
2	2483.50	40.53	27.57	39.64	1.74	0.73	50.93	54.00	-3.07	Average	VERTICAL
3	2484.33	59.71	27.57	39.64	1.74	0.73	70.11	74.00	-3.89	Peak	VERTICAL
4	2484.33	40.27	27.57	39.64	1.74	0.73	50.67	54.00	-3.33	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

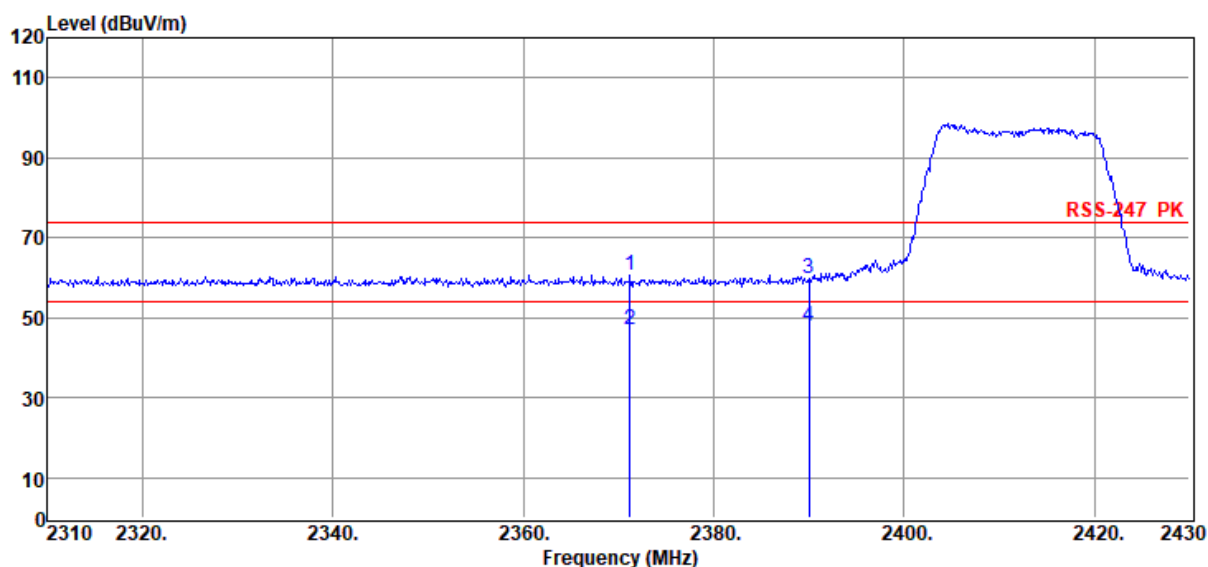
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11N20 2412



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2371.20	50.60	27.37	39.59	1.70	0.72	60.80	74.00	-13.20	Peak	HORIZONTAL
2	2371.20	36.93	27.37	39.59	1.70	0.72	47.13	54.00	-6.87	Average	HORIZONTAL
3	2390.00	49.56	27.40	39.60	1.71	0.72	59.79	74.00	-14.21	Peak	HORIZONTAL
4	2390.00	37.80	27.40	39.60	1.71	0.72	48.03	54.00	-5.97	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

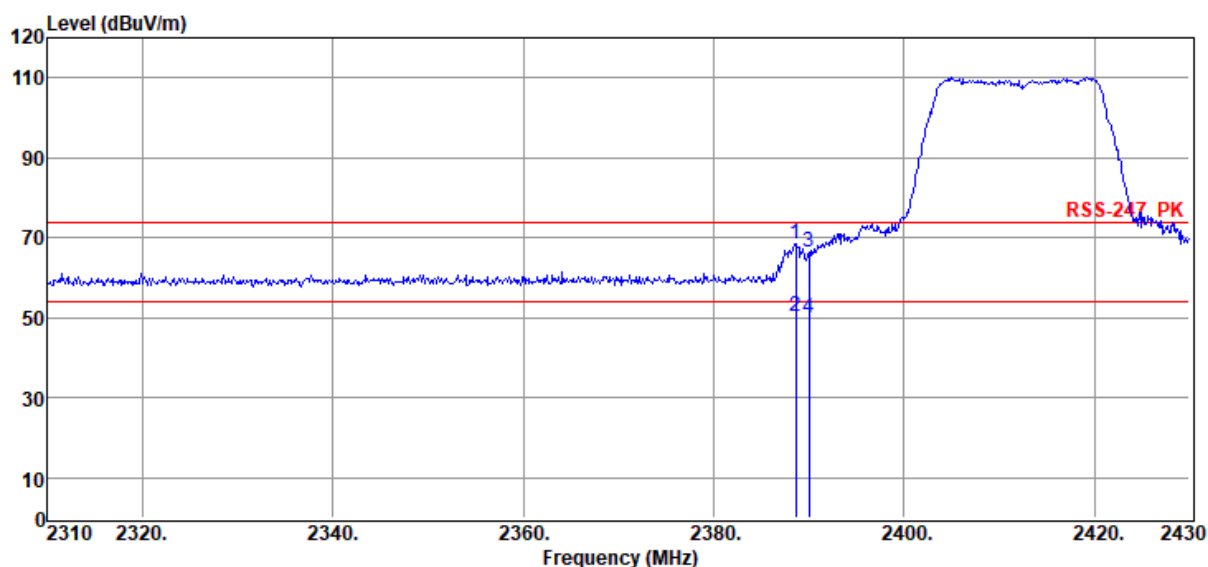
Model Number : M2 Pro

Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11N20 2412



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2388.60	58.18	27.40	39.59	1.71	0.72	68.42	74.00	-5.58	Peak	VERTICAL
2	2388.60	40.05	27.40	39.59	1.71	0.72	50.29	54.00	-3.71	Average	VERTICAL
3	2390.00	56.08	27.40	39.60	1.71	0.72	66.31	74.00	-7.69	Peak	VERTICAL
4	2390.00	39.75	27.40	39.60	1.71	0.72	49.98	54.00	-4.02	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

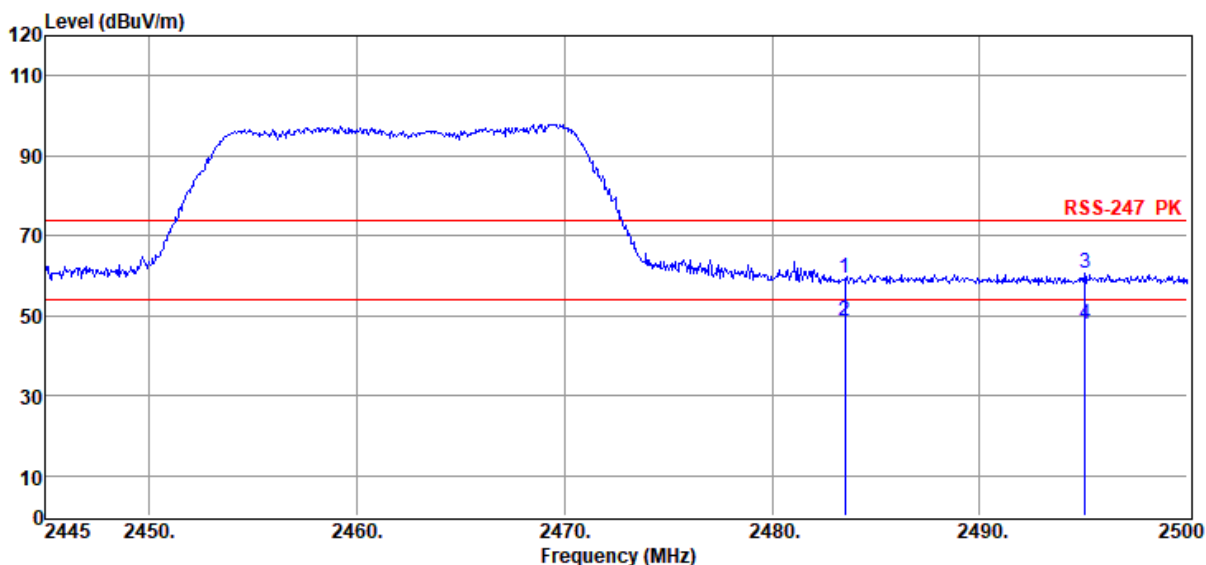
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11N20 2462



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	48.89	27.57	39.64	1.74	0.73	59.29	74.00	-14.71	Peak	HORIZONTAL
2	2483.50	38.33	27.57	39.64	1.74	0.73	48.73	54.00	-5.27	Average	HORIZONTAL
3	2495.05	50.04	27.59	39.65	1.74	0.73	60.45	74.00	-13.55	Peak	HORIZONTAL
4	2495.05	37.62	27.59	39.65	1.74	0.73	48.03	54.00	-5.97	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

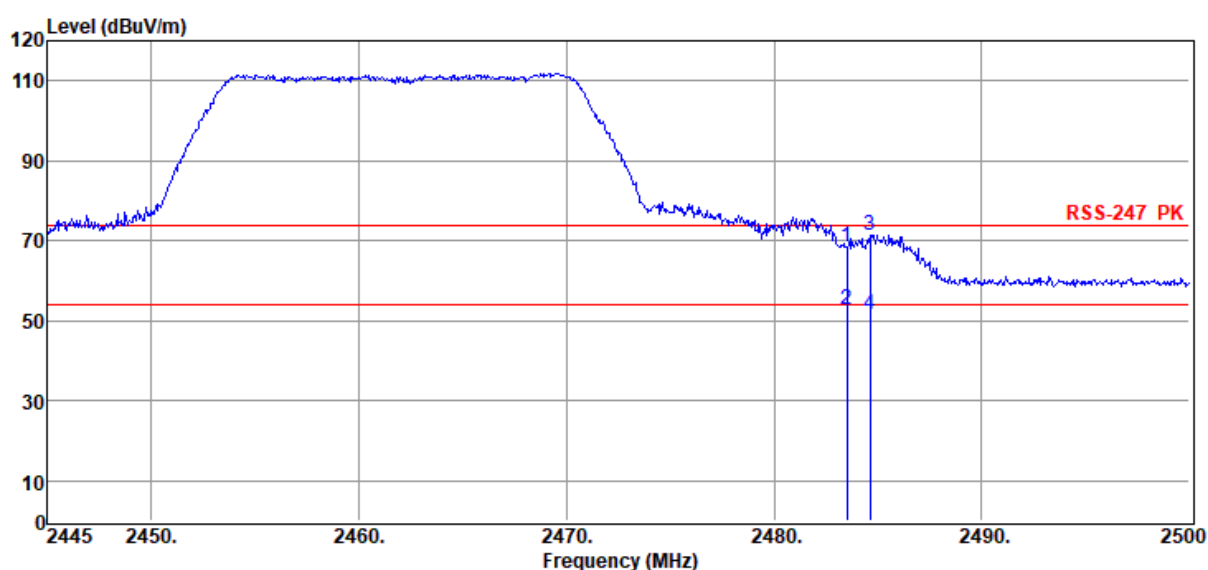
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11N20 2462



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	58.16	27.57	39.64	1.74	0.73	68.56	74.00	-5.44	Peak	VERTICAL
2	2483.50	42.21	27.57	39.64	1.74	0.73	52.61	54.00	-1.39	Average	VERTICAL
3	2484.60	61.11	27.57	39.64	1.74	0.73	71.51	74.00	-2.49	Peak	VERTICAL
4	2484.60	41.05	27.57	39.64	1.74	0.73	51.45	54.00	-2.55	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

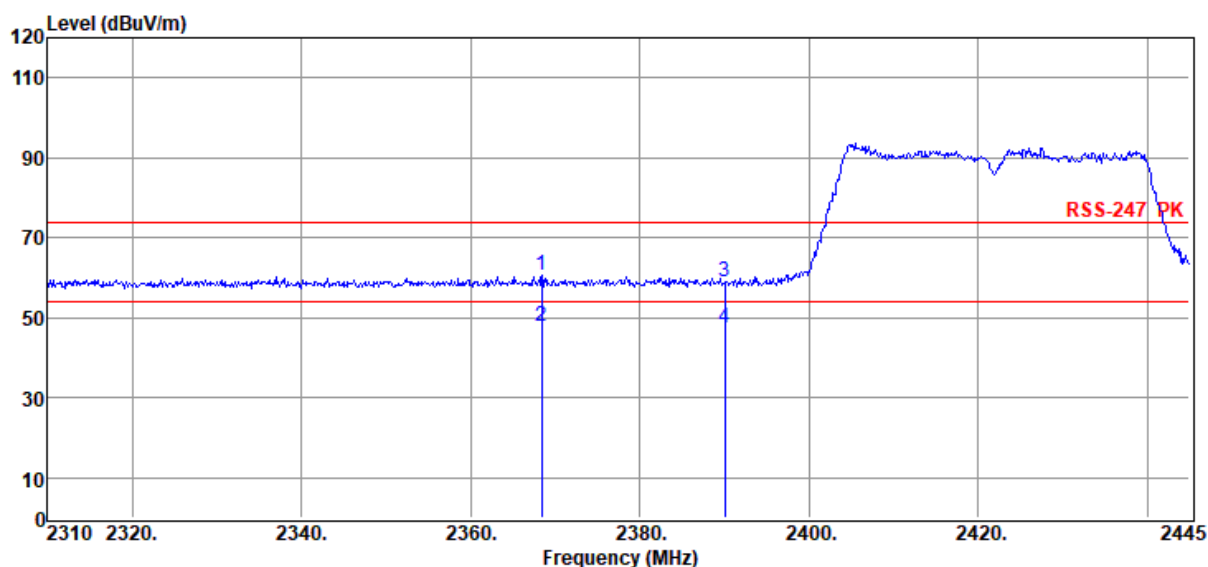
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11N40 2422



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2368.46	50.31	27.36	39.58	1.70	0.72	60.51	74.00	-13.49	Peak	HORIZONTAL
2	2368.46	37.58	27.36	39.58	1.70	0.72	47.78	54.00	-6.22	Average	HORIZONTAL
3	2390.00	48.72	27.40	39.60	1.71	0.72	58.95	74.00	-15.05	Peak	HORIZONTAL
4	2390.00	37.12	27.40	39.60	1.71	0.72	47.35	54.00	-6.65	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

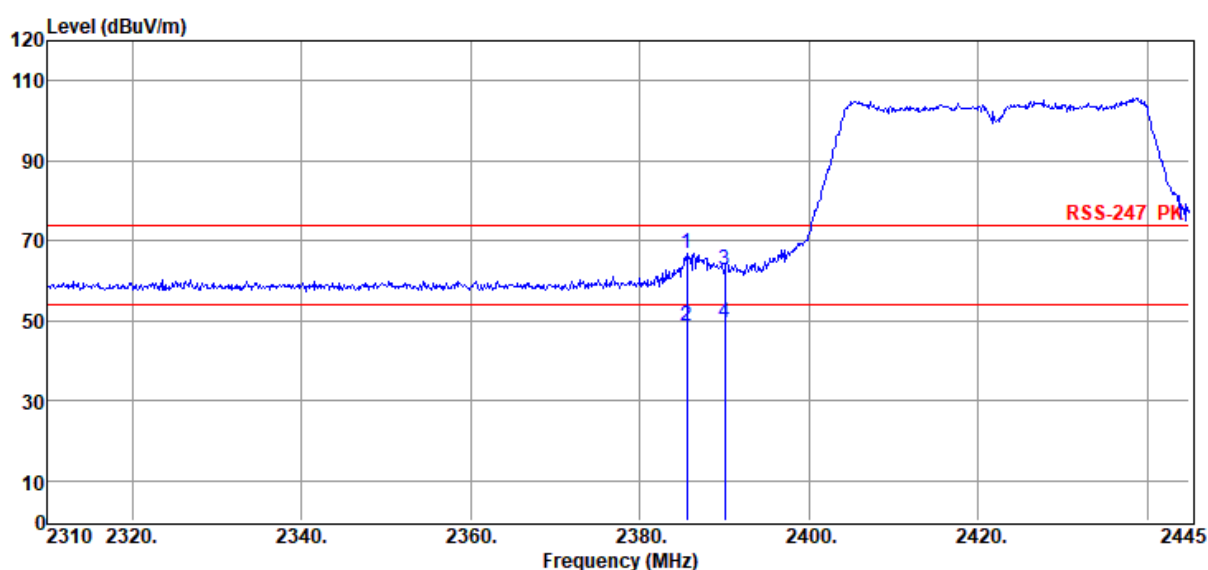
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11N40 2422



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2385.60	56.44	27.39	39.59	1.71	0.72	66.67	74.00	-7.33	Peak	VERTICAL
2	2385.60	38.46	27.39	39.59	1.71	0.72	48.69	54.00	-5.31	Average	VERTICAL
3	2390.00	52.37	27.40	39.60	1.71	0.72	62.60	74.00	-11.40	Peak	VERTICAL
4	2390.00	39.12	27.40	39.60	1.71	0.72	49.35	54.00	-4.65	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

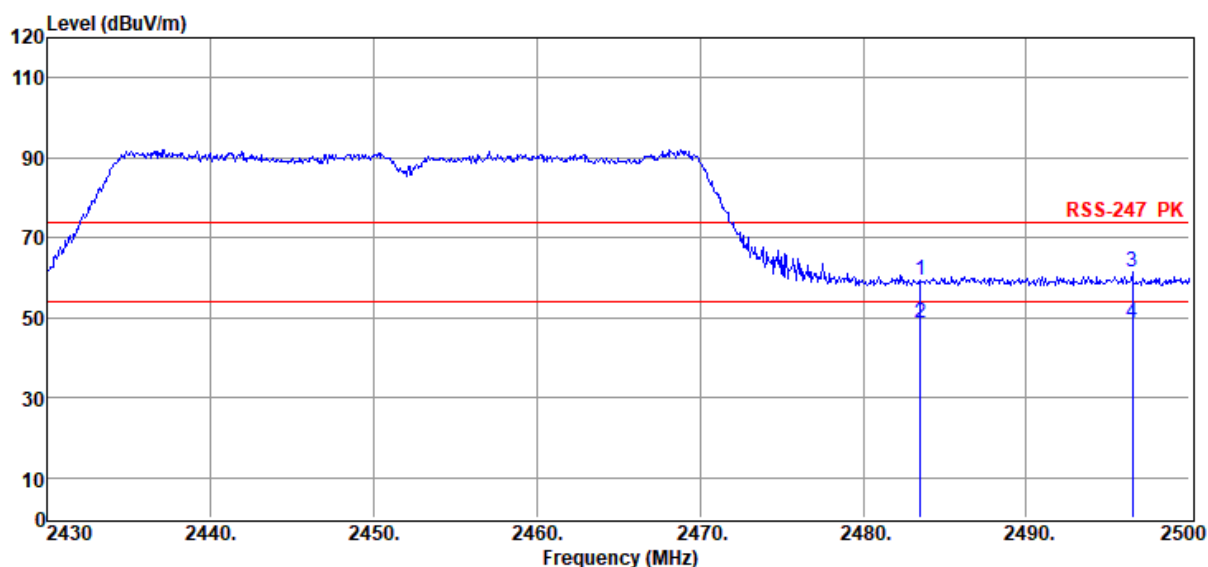
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15**Tested By** : James Gan**EUT** : Commercial Floor Scrubber**Model Number** : M2 Pro**Power Supply** : AC 120V/60Hz**Test Mode** : Tx Mode**Condition** : Temp:22.5°C,Humi:54.9%,Press:100.1kPa**Antenna/Distance** : 2021 BBHA 9120D
3#/3m/HORIZONTAL**Memo** : 11N40 2452

Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.48	49.05	27.57	39.64	1.74	0.73	59.45	74.00	-14.55	Peak	HORIZONTAL
2	2483.48	38.25	27.57	39.64	1.74	0.73	48.65	54.00	-5.35	Average	HORIZONTAL
3	2496.50	50.96	27.59	39.65	1.74	0.73	61.37	74.00	-12.63	Peak	HORIZONTAL
4	2496.50	38.20	27.59	39.65	1.74	0.73	48.61	54.00	-5.39	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\E3 6.111\2022 Report Data\Q22062308-2E M2 Pro\IC ABOVE 1G.EM6

Test Date : 2022-07-15

Tested By : James Gan

EUT : Commercial Floor Scrubber

Model Number : M2 Pro

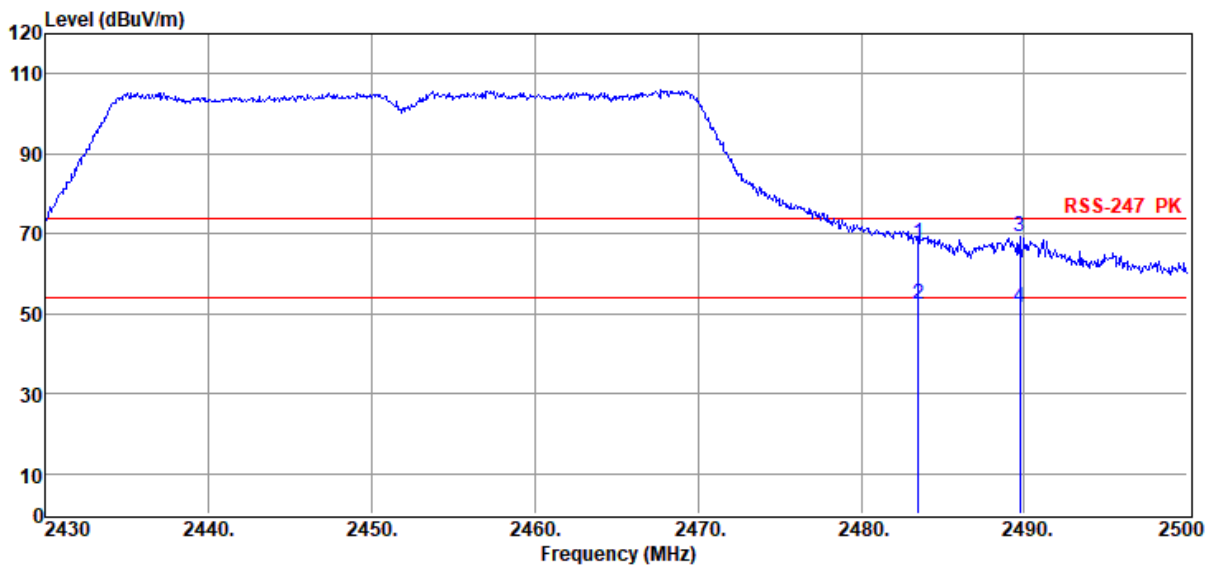
Power Supply : AC 120V/60Hz

Test Mode : Tx Mode

Condition : Temp:22.5°C,Humi:54.9%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11N40 2452



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.48	57.40	27.57	39.64	1.74	0.73	67.80	74.00	-6.20	Peak	VERTICAL
2	2483.48	41.78	27.57	39.64	1.74	0.73	52.18	54.00	-1.82	Average	VERTICAL
3	2489.71	58.90	27.58	39.64	1.74	0.73	69.31	74.00	-4.69	Peak	VERTICAL
4	2489.71	41.08	27.58	39.64	1.74	0.73	51.49	54.00	-2.51	Average	VERTICAL

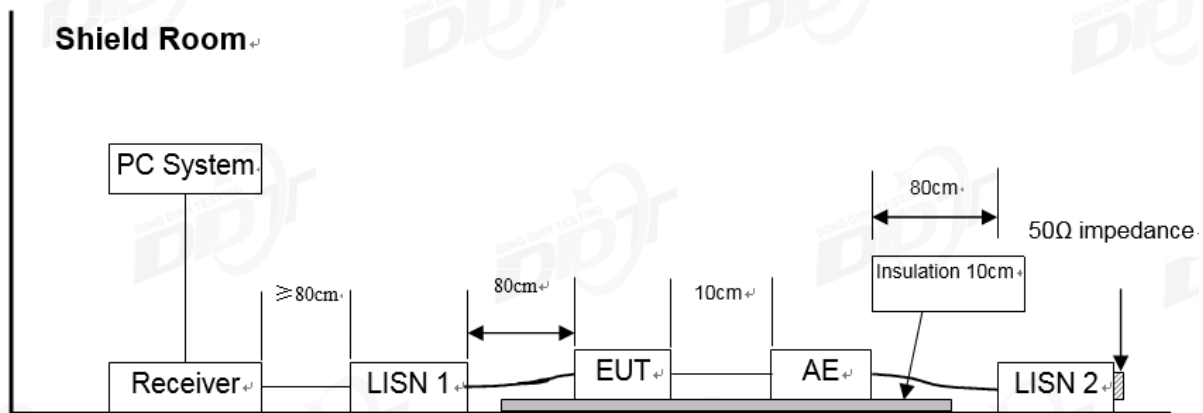
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

10. Power Line Conducted Emission

10.1. Block diagram of test setup



10.2. Power line conducted emission limits (Class B)

Frequency	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150 kHz ~ 500 kHz	66 ~ 56*	56 ~ 46*
500 kHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50

Note 1: * Decreasing linearly with logarithm of frequency.

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

10.3. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 kHz.

10.4. Test result

Pass. (See below detailed test result)

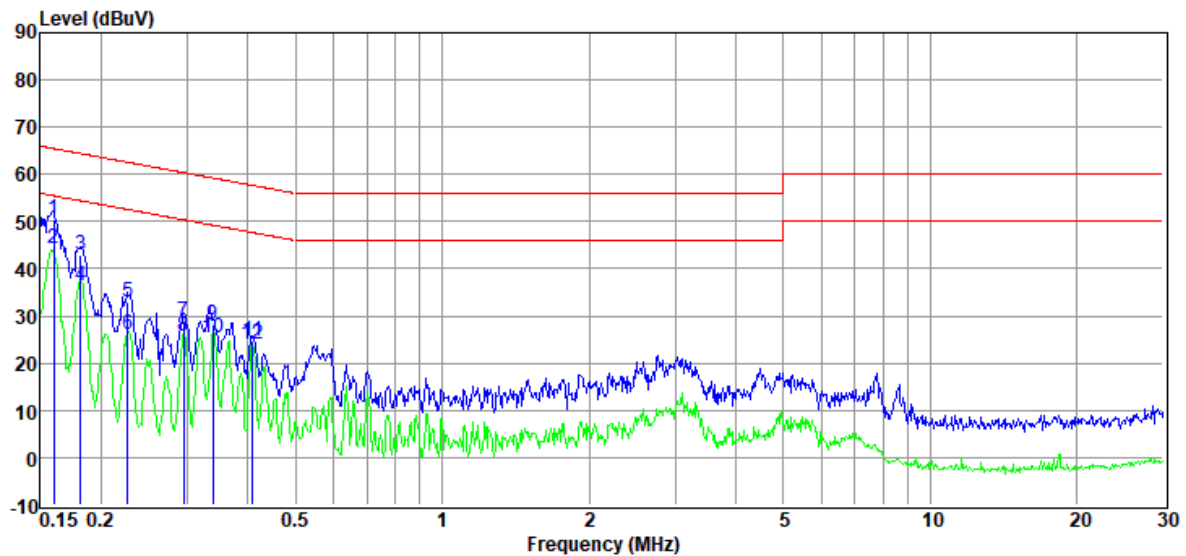
Note1: All emissions not reported below are too low against the prescribed limits.

Note2: "----" means Peak detection; "----" means Average detection.

Note3: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/50Hz, recorded worse case.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 1# Shield Room **D:\2022 CE report date\Q22062308-2E\IC.EM6**
Test Date : 2022-07-16 **Tested By** : Bairong
EUT : Commercial Floor Scrubber **Model Number** : M2 Pro
Power Supply : AC 120V/60Hz **Test Mode** : TX mode
Condition : TEMP:24.7°C, RH:53.8%, BP:101.4kPa **LISN** : 2021 1# ENV216/NEUTRAL
Memo :



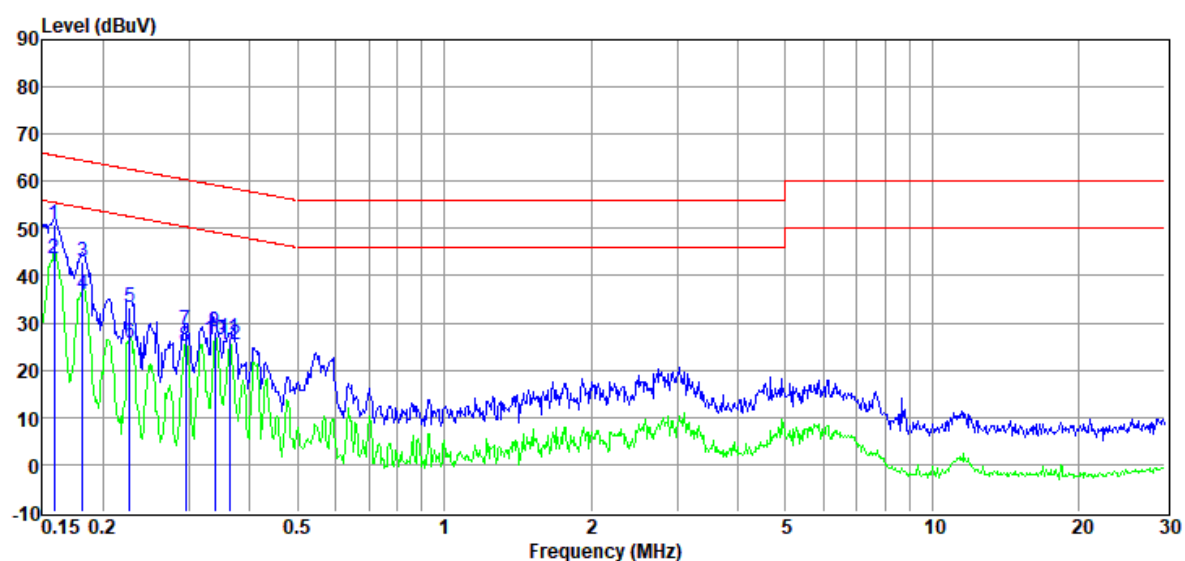
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	LISN Factor (dB)	Cable Loss (dB)	Pulse Limiter Factor (dB)	Result Level (dBμV)	Limit Line (dBμV)	Over Limit (dB)	Detector	Phase
1	0.16	30.87	9.80	0.01	9.92	50.60	65.47	-14.87	QP	NEUTRAL
2	0.16	24.52	9.80	0.01	9.92	44.25	66.00	-21.75	Average	NEUTRAL
3	0.18	23.21	9.80	0.01	9.92	42.94	64.42	-21.48	QP	NEUTRAL
4	0.18	16.70	9.80	0.01	9.92	36.43	66.00	-29.57	Average	NEUTRAL
5	0.23	13.42	9.76	0.02	9.92	33.12	62.57	-29.45	QP	NEUTRAL
6	0.23	6.54	9.76	0.02	9.92	26.24	66.00	-39.76	Average	NEUTRAL
7	0.30	9.17	9.67	0.02	9.92	28.78	60.37	-31.59	QP	NEUTRAL
8	0.30	6.11	9.67	0.02	9.92	25.72	66.00	-40.28	Average	NEUTRAL
9	0.34	8.45	9.63	0.02	9.91	28.01	59.22	-31.21	QP	NEUTRAL
10	0.34	5.86	9.63	0.02	9.91	25.42	66.00	-40.58	Average	NEUTRAL
11	0.41	5.20	9.57	0.02	9.91	24.70	57.68	-32.98	QP	NEUTRAL
12	0.41	4.36	9.57	0.02	9.91	23.86	66.00	-42.14	Average	NEUTRAL

Note:

1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 1# Shield Room **D:\2022 CE report date\Q22062308-2E\IC.EM6**
Test Date : 2022-07-16 **Tested By** : Bairong
EUT : Commercial Floor Scrubber **Model Number** : M2 Pro
Power Supply : AC 120V/60Hz **Test Mode** : TX mode
Condition : TEMP:24.7°C, RH:53.8%, BP:101.4kPa **LISN** : 2021 1# ENV216/LINE
Memo :



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)		
1	0.16	31.12	9.64	0.01	9.92	50.69	65.52	-14.83	QP	LINE
2	0.16	24.15	9.64	0.01	9.92	43.72	55.52	-11.80	Average	LINE
3	0.18	23.42	9.73	0.01	9.92	43.08	64.42	-21.34	QP	LINE
4	0.18	16.48	9.73	0.01	9.92	36.14	54.42	-18.28	Average	LINE
5	0.23	13.72	9.77	0.02	9.92	33.43	62.57	-29.14	QP	LINE
6	0.23	6.11	9.77	0.02	9.92	25.82	52.57	-26.75	Average	LINE
7	0.30	8.73	9.71	0.02	9.92	28.38	60.37	-31.99	QP	LINE
8	0.30	5.52	9.71	0.02	9.92	25.17	50.37	-25.20	Average	LINE
9	0.34	8.63	9.68	0.02	9.91	28.24	59.22	-30.98	QP	LINE
10	0.34	6.68	9.68	0.02	9.91	26.29	49.22	-22.93	Average	LINE
11	0.36	7.18	9.67	0.02	9.91	26.78	58.65	-31.87	QP	LINE
12	0.36	5.85	9.67	0.02	9.91	25.45	48.65	-23.20	Average	LINE

Note:

1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

11. Antenna Requirements

11.1. Limit

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For intentional device, according to RSS-Gen issue 5 section 6.8.

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

11.2. Result

The antennas used for this product and that no antenna other than that furnished by the responsible party shall be used with the device. The device support 2T2R MIMO and the Antenna 1 maximum peak gain is 5.94 dBi and the Antenna 2 maximum peak gain is 5.94 dBi.