

FCC AND ISED CERTIFICATION TEST REPORT

FOR

Applicant	:	Mercku Inc.
Address	:	3600 Steeles Avenue East, Suite C108B, Markham, Ontario, L3R 9Z7, Canada
Equipment under Test	:	M6a Mesh Wi-Fi Router
Model No.	:	M6a
Trade Mark	:	MERCKU
FCC ID	:	2APR4-M6A
IC	:	23877-M6A
Manufacturer	:	Mercku Technology (China), Inc.
Address	:	Block B1, Southern Software Park No.1 Software Road, Tangjia Zhuhai, Guangdong, China

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

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

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REPORT

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Test Report Declare

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Manufacturer	:	Mercku Technology (China), Inc.
Address	:	Block B1, Southern Software Park No.1 Software Road, Tangjia Zhuhai, Guangdong, China

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

Test procedure used: ANSI C63.10:2013, 558074 D01 15.247 Meas Guidance v05r02, RSS-Gen Issue 5, Apr. 2018, Amendment 2 (February 2021)

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-R22011714-2E01		
Date of Receipt:	Feb. 21, 2022	Date of Test:	Feb. 21, 2022 ~ Apr. 20, 2022

Prepared By:

Sam Li

Sam Li/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	Apr. 21, 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 15.247 (a) (2) RSS-247 Clause 5.2 (a)	Pass
Conducted Output Power	FCC 15.247 (b) (3) RSS-247 Clause 5.4 (e)	Pass
Power Spectral Density	FCC 15.247 (e) RSS-247 Clause 5.2 (b)	Pass
Band-edge and Spurious Emissions (Conducted)	FCC 15.247 (d) RSS-247 Clause 5.5	Pass
Radiated Spurious Emissions	FCC 15.247 (d) FCC 15.209 FCC 15.205 RSS-247 Clause 5.5 RSS-GEN Clause 8.9	Pass
Radiated Band Edge Compliance	FCC 15.247 (d) FCC 15.209 FCC 15.205 RSS-247 Clause 5.5 RSS-GEN Clause 8.9	Pass
Power Line Conducted Emission	FCC 15.207 RSS-GEN Clause 8.8	Pass
Antenna requirement	FCC 15.203 RSS-GEN Clause 6.8	Pass

2. General Test Information

2.1. Description of EUT

EUT* Name	: M6a Mesh Wi-Fi Router
Model Number	: M6a
EUT function description	: Please reference user manual of this device
Power Supply	: DC 12V 1.5A from external AC/DC Adapter
Radio Technology	: IEEE 802.11b/g/n/ax
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 IEEE 802.11ax HE20: 2412 MHz - 2462 MHz IEEE 802.11ax HE40: 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) IEEE 802.11ax: OFDM, OFDMA (1024QAM, 256QAM, 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 IEEE 802.11ax HE20: up to 286.8 Mbps IEEE 802.11ax HE40: up to 573.6 Mbps
Antenna Gain	: Ant1: 3.9 dBi Ant2: 3.9 dBi
Sample Type	: Series production
Serial Number	: R22011714M6A

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	3.9	3.9	/
IEEE 802.11g	3.9	3.9	/
IEEE 802.11n HT20	3.9	3.9	6.91
IEEE 802.11n HT40	3.9	3.9	6.91
IEEE 802.11ax HE20	3.9	3.9	6.91
IEEE 802.11ax HE40	3.9	3.9	6.91

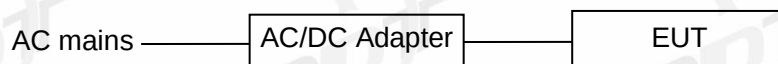
2.2. Accessories of EUT

Assistant equipment	Manufacturer	Model number	Other
AC/DC ADAPTER	Keyu Power	KA1801A-1201500US	Length: 1.20m
Internet cable	N/A	N/A	Length: 1.00m

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: QA_TOOL

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

Tested mode, channel, setting Tx power and rand data rate information				
Mode	Setting Tx Power	data rate (Mbps) (see Note)	Channel	Frequency (MHz)
IEEE 802.11b	12	11	LCH: CH1	2412
	12	11	MCH: CH6	2437
	12	11	HCH: CH11	2462
IEEE 802.11g	16	54	LCH: CH1	2412
	16	54	MCH: CH6	2437
	16	54	HCH: CH11	2462
IEEE 802.11n HT20	12	MCS0	LCH: CH1	2412
	12	MCS0	MCH: CH6	2437
	12	MCS0	HCH: CH11	2462
IEEE 802.11n HT40	12	MCS0	LCH: CH3	2422
	12	MCS0	MCH: CH6	2437
	12	MCS0	HCH: CH9	2452
IEEE 802.11ax HE20	12	MCS7	LCH: CH1	2412
	12	MCS7	MCH: CH6	2437
	12	MCS7	HCH: CH11	2462
IEEE 802.11ax HE40	11	MCS0	LCH: CH3	2422
	11	MCS0	MCH: CH6	2437
	11	MCS0	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 MHz $\leq$ f < 3.6 GHz); 1.38 dB (3.6 GHz $\leq$ f < 8 GHz)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB (10 MHz $\leq$ f < 3.6 GHz); 1.38 dB (3.6 GHz $\leq$ f < 8 GHz)
Frequencies Stability	6.7×10^{-8} (Antenna couple method) 5.5×10^{-8} (Conducted method)
Conducted Spurious Emissions	0.86 dB (10 MHz $\leq$ f < 3.6 GHz); 1.40 dB (3.6 GHz $\leq$ f < 8 GHz) 1.66 dB (8 GHz $\leq$ f < 22 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.	

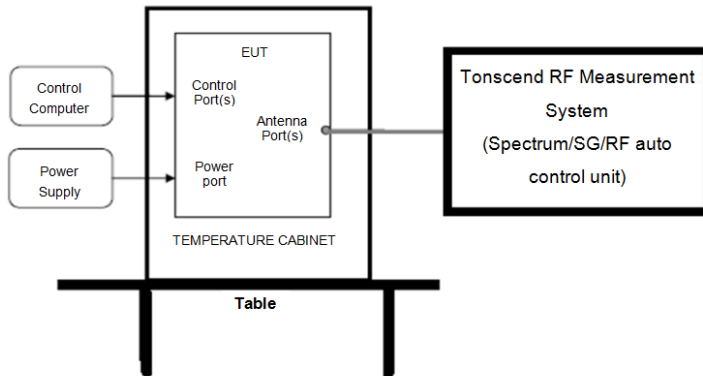
3. Equipment Used During Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☐ RF Connected Test (Tonscend RF Measurement System 1#)					
Spectrum analyzer	R&S	FSU26	200071	Sep. 02, 2021	1 Year
Wideband Radio Communication tester	R&S	CMW500	120259	Sep. 02, 2021	1 Year
Vector Signal Generator	Agilent	E8267D	US49060192	Sep. 18, 2021	1 Year
Vector Signal Generator	Agilent	N5182A	MY48180737	Jun. 01, 2021	1 Year
RF Control Unit	Tonsend	JS0806-2	158060010	Jun. 01, 2021	1 Year
Temp&Humi Programmable	ZHIXIANG	ZXGDJS-150 L	ZX170110-A	Jun. 01, 2021	1 Year
Test Software	JS Tonscend	JS1120-3	Ver.2.6.77.0518	N/A	N/A
☒ RF Connected Test (Tonscend RF Measurement System 3#)					
Signal analyzer	R&S	FSQ26	101272	Jun. 01, 2021	1 Year
Wideband Radio Communication tester	R&S	CMW500	117491	Jun. 01, 2021	1 Year
Vector Signal Generator	Agilent	N5182A	MY19060405	Jun. 01, 2021	1 Year
Vector Signal Generator	Agilent	N5182A	MY48180912	Jun. 01, 2021	1 Year
RF Control Unit	Tonsend	JS0806-2	DDT-ZC01449	Jun. 01, 2021	1 Year
Temp&Humi Programmable	ZHIXIANG	ZXGDJS-150 L	ZX170110-A	Jun. 01, 2021	1 Year
Test Software	JS Tonscend	JS1120-3	Ver.2.6.77.0518	N/A	N/A
☐ RF Connected Test (Tonscend RF Measurement System 4#)					
MXA SignalAnalyzer	Agilent	N9020A	MY49100362	Sep. 02, 2021	1 Year
Wideband Radio Communication tester	R&S	CMW500	120259	Jun. 01, 2021	1 Year
MXG Vector Signal Generator	Agilent	N5182B	MY59100192	Jun. 01, 2021	1 Year
Vector Signal Generator	Agilent	E8267D	US49060192	Sep. 18, 2021	1 Year
RF Control Unit	Tonsend	JS0806-2	2118060485	Oct. 18, 2021	1 Year
Temp&Humi Programmable	ZHIXIANG	ZXGDJS-150 L	ZX170110-A	Jun. 01, 2021	1 Year
Test Software	JS Tonscend	JS1120-3	Ver.2.6.88.0330	N/A	N/A
☒ Radiation 3#chamber					
EMI Test Receiver	R&S	ESU	100472	Jun. 01, 2021	1 Year
Spectrum analyzer	Agilent	E4447A	MY50180031	Jun. 01, 2021	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	02108	Jul. 17, 2021	1 Year
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	790	May 08, 2021	1 Year
Pre-amplifier	COM-POWER	PAM-118A	18040084	Sep. 02, 2021	1 Year

Pre-amplifier	COM-POWER	PAM-840A	461369	Mar. 15, 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
☐ Power Line Conducted Emissions Test 2#					
Test Receiver	R&S	ESCI	101028	Sep. 02, 2021	1 Year
LISN 1	R&S	ENV216	101170	Sep. 02, 2021	1 Year
Pulse Limiter	R&S	KH43101	431011801568-12#	Jun. 01, 2021	1 Year
CE Cable 2	HUBSER	RG214-5	N/A	Jun. 01, 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:	300 kHz
VBW:	1 MHz
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.

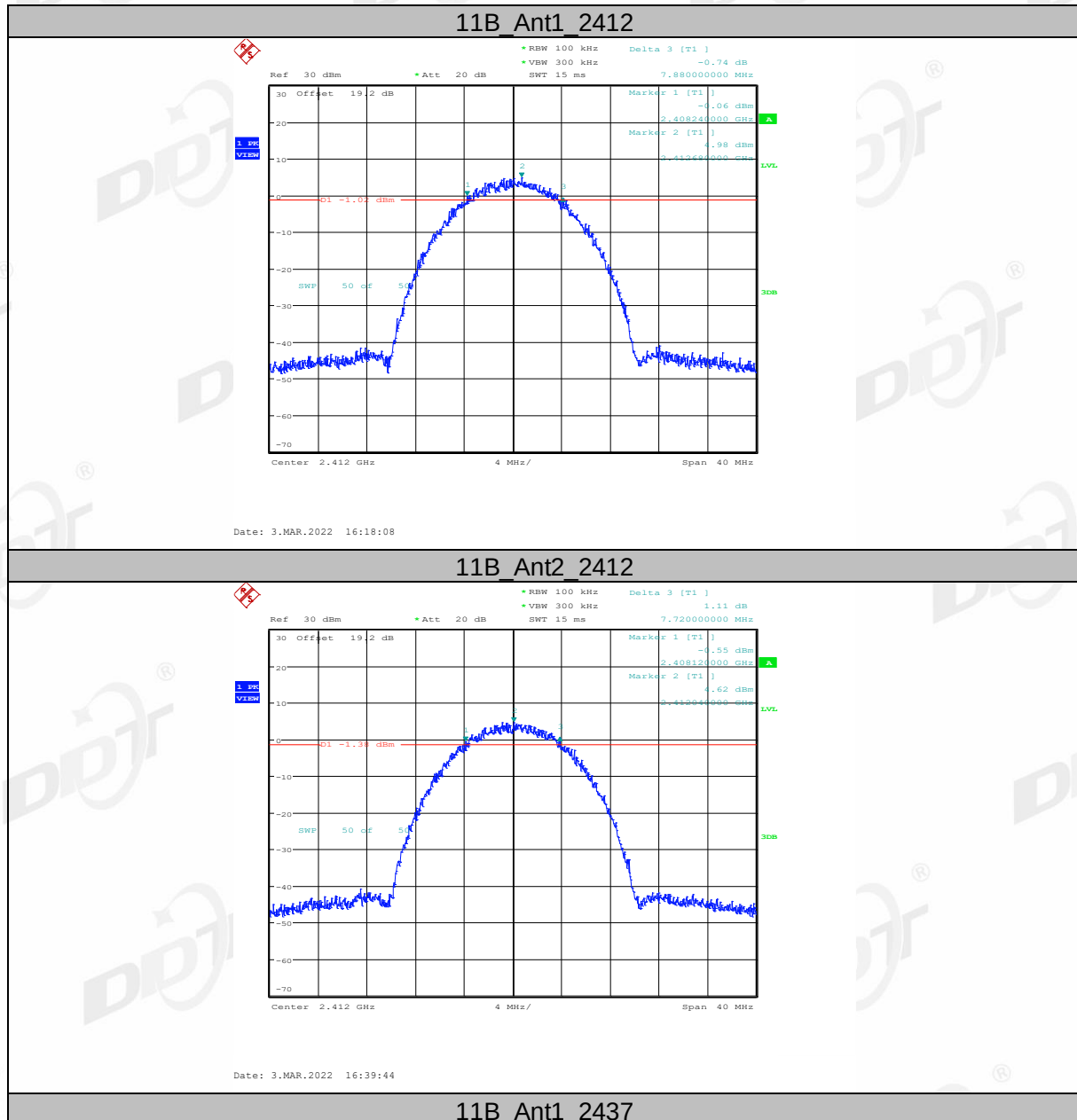
4.4. Test result

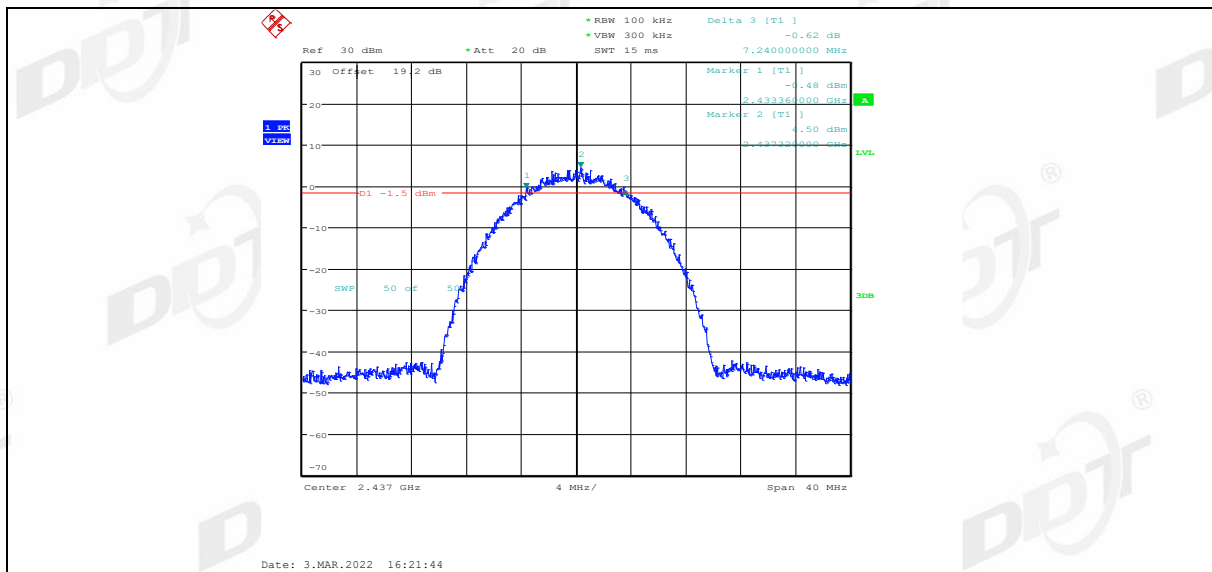
Test Mode	Test	Ant	6 dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	2412	Ant1	7.88	0.5	Pass
11B	2412	Ant2	7.72	0.5	Pass
11B	2437	Ant1	7.24	0.5	Pass
11B	2437	Ant2	7.76	0.5	Pass
11B	2462	Ant1	7.60	0.5	Pass
11B	2462	Ant2	7.52	0.5	Pass
11G	2412	Ant1	15.68	0.5	Pass
11G	2412	Ant2	15.68	0.5	Pass
11G	2437	Ant1	16.32	0.5	Pass
11G	2437	Ant2	15.84	0.5	Pass
11G	2462	Ant1	16.00	0.5	Pass
11G	2462	Ant2	15.72	0.5	Pass
11N20MIMO	2412	Ant1	15.12	0.5	Pass
11N20MIMO	2412	Ant2	15.68	0.5	Pass
11N20MIMO	2437	Ant1	15.08	0.5	Pass
11N20MIMO	2437	Ant2	15.64	0.5	Pass
11N20MIMO	2462	Ant1	15.12	0.5	Pass
11N20MIMO	2462	Ant2	15.12	0.5	Pass
11N40MIMO	2422	Ant1	35.04	0.5	Pass
11N40MIMO	2422	Ant2	35.04	0.5	Pass
11N40MIMO	2437	Ant1	35.12	0.5	Pass
11N40MIMO	2437	Ant2	35.04	0.5	Pass
11N40MIMO	2452	Ant1	35.04	0.5	Pass
11N40MIMO	2452	Ant2	35.12	0.5	Pass
11AX20MIMO	2412	Ant1	19.04	0.5	Pass
11AX20MIMO	2412	Ant2	19.08	0.5	Pass
11AX20MIMO	2437	Ant1	19.08	0.5	Pass
11AX20MIMO	2437	Ant2	19.08	0.5	Pass
11AX20MIMO	2462	Ant1	19.08	0.5	Pass
11AX20MIMO	2462	Ant2	19.00	0.5	Pass
11AX40MIMO	2422	Ant1	35.76	0.5	Pass
11AX40MIMO	2422	Ant2	37.12	0.5	Pass
11AX40MIMO	2437	Ant1	36.96	0.5	Pass
11AX40MIMO	2437	Ant2	35.60	0.5	Pass
11AX40MIMO	2452	Ant1	36.72	0.5	Pass
11AX40MIMO	2452	Ant2	35.60	0.5	Pass

Test Mode	Test	Ant	99% OBW [MHz]	Limit [MHz]	Verdict
11B	2412	Ant1	12.56	---	Pass
11B	2412	Ant2	12.60	---	Pass
11B	2437	Ant1	12.64	---	Pass
11B	2437	Ant2	12.64	---	Pass
11B	2462	Ant1	12.60	---	Pass
11B	2462	Ant2	12.60	---	Pass
11G	2412	Ant1	16.56	---	Pass
11G	2412	Ant2	16.60	---	Pass
11G	2437	Ant1	16.52	---	Pass
11G	2437	Ant2	16.60	---	Pass
11G	2462	Ant1	16.60	---	Pass
11G	2462	Ant2	16.60	---	Pass
11N20MIMO	2412	Ant1	17.76	---	Pass
11N20MIMO	2412	Ant2	17.64	---	Pass
11N20MIMO	2437	Ant1	17.72	---	Pass
11N20MIMO	2437	Ant2	17.64	---	Pass
11N20MIMO	2462	Ant1	17.76	---	Pass
11N20MIMO	2462	Ant2	17.64	---	Pass
11N40MIMO	2422	Ant1	36.40	---	Pass
11N40MIMO	2422	Ant2	36.32	---	Pass
11N40MIMO	2437	Ant1	36.40	---	Pass
11N40MIMO	2437	Ant2	36.24	---	Pass
11N40MIMO	2452	Ant1	36.24	---	Pass
11N40MIMO	2452	Ant2	36.24	---	Pass
11AX20MIMO	2412	Ant1	19.00	---	Pass
11AX20MIMO	2412	Ant2	19.00	---	Pass
11AX20MIMO	2437	Ant1	19.40	---	Pass
11AX20MIMO	2437	Ant2	19.28	---	Pass
11AX20MIMO	2462	Ant1	19.32	---	Pass
11AX20MIMO	2462	Ant2	19.28	---	Pass
11AX40MIMO	2422	Ant1	37.76	---	Pass
11AX40MIMO	2422	Ant2	37.84	---	Pass
11AX40MIMO	2437	Ant1	37.76	---	Pass
11AX40MIMO	2437	Ant2	37.84	---	Pass
11AX40MIMO	2452	Ant1	37.76	---	Pass
11AX40MIMO	2452	Ant2	37.68	---	Pass

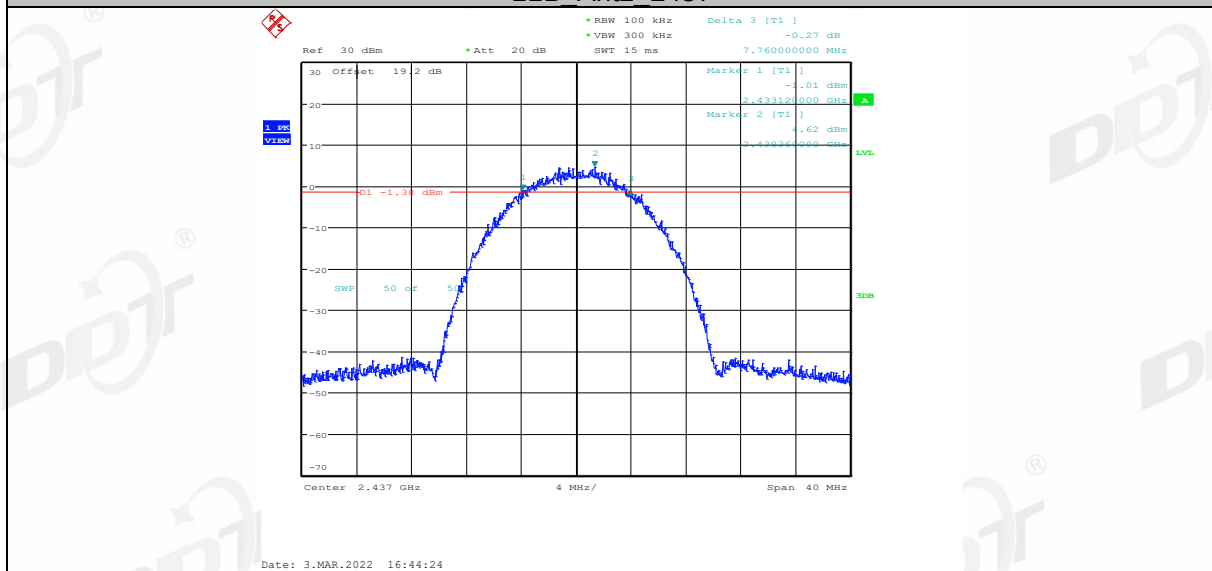
4.5. Original test data

6 dB Bandwidth:

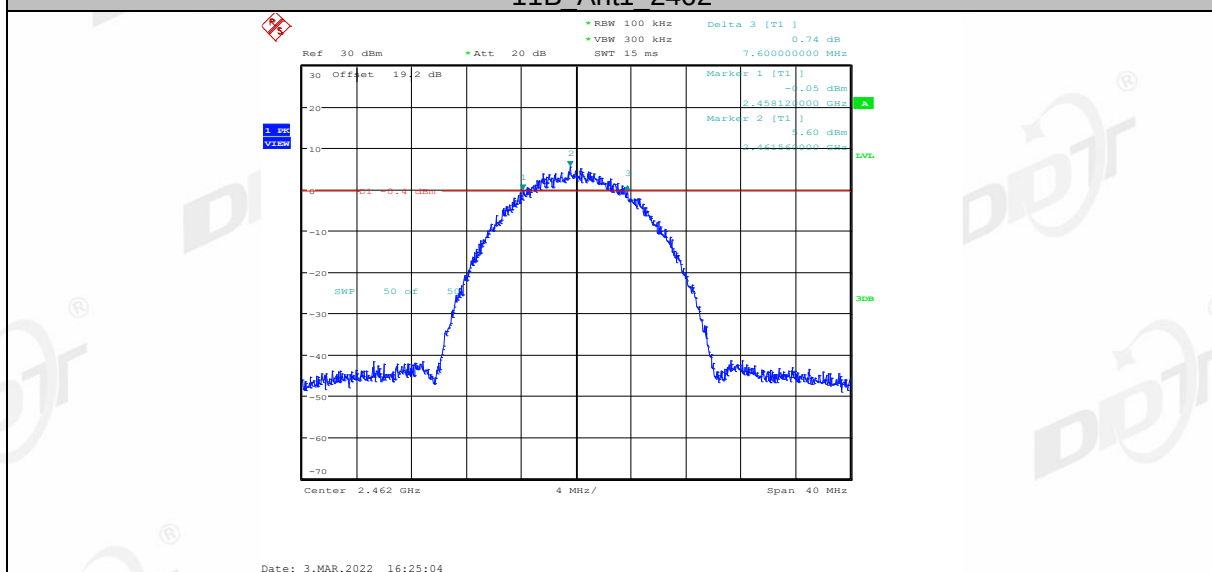




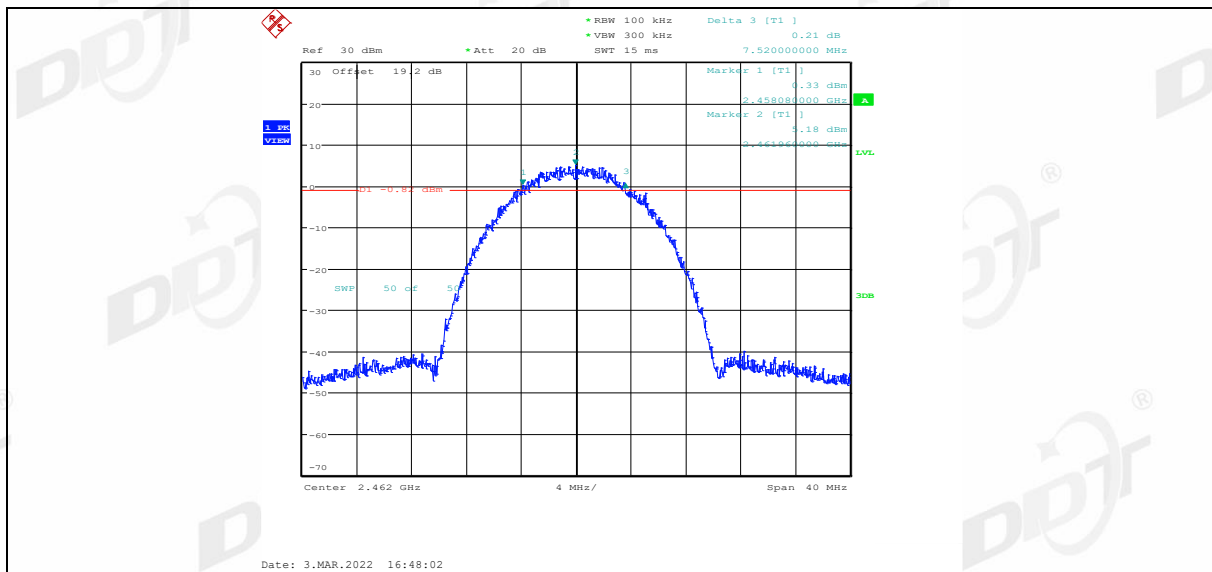
11B Ant2 2437



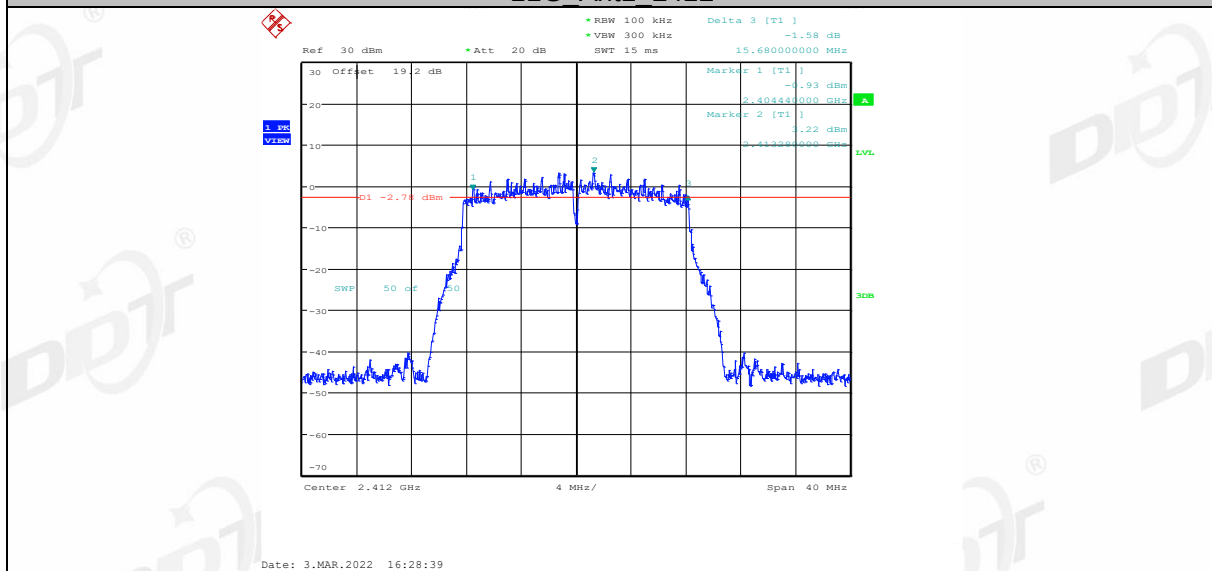
11B Ant1 2462



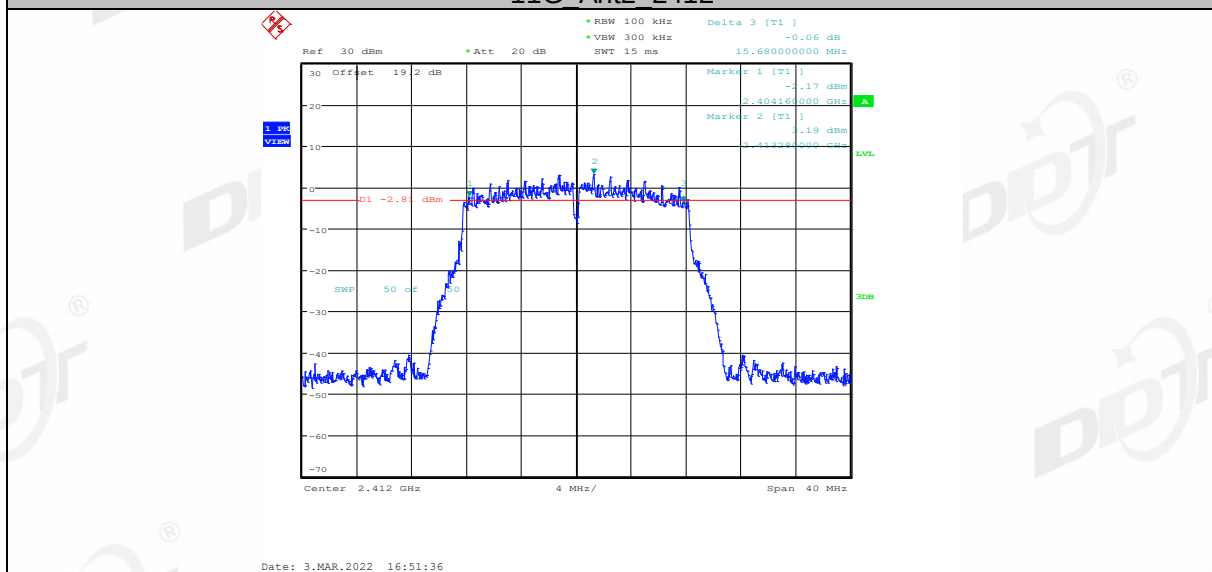
11B Ant2 2462



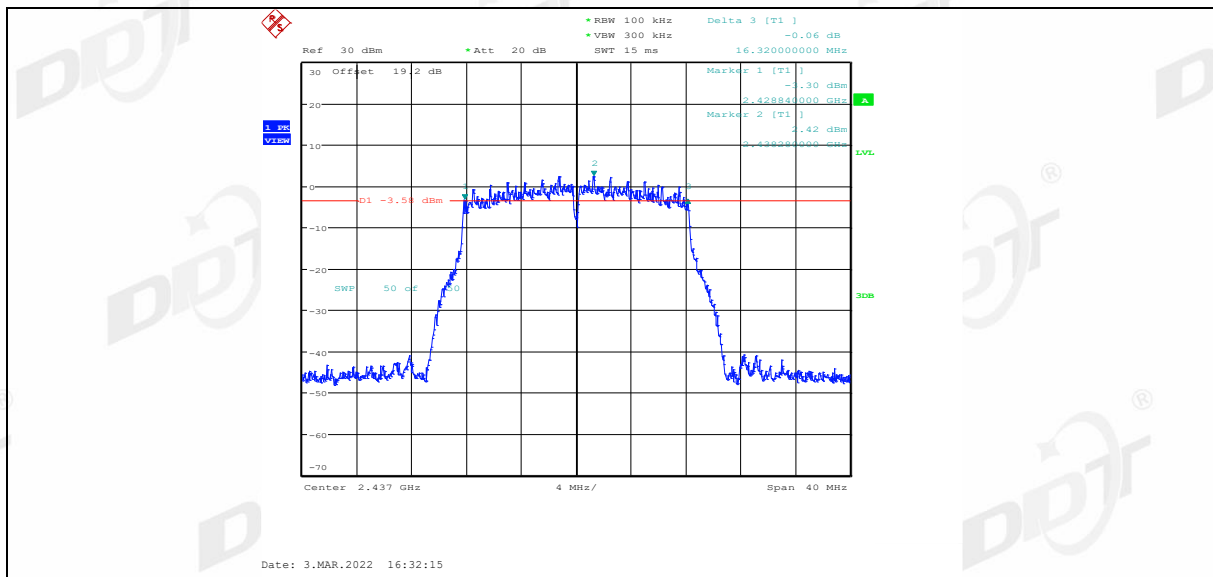
11G Ant1 2412



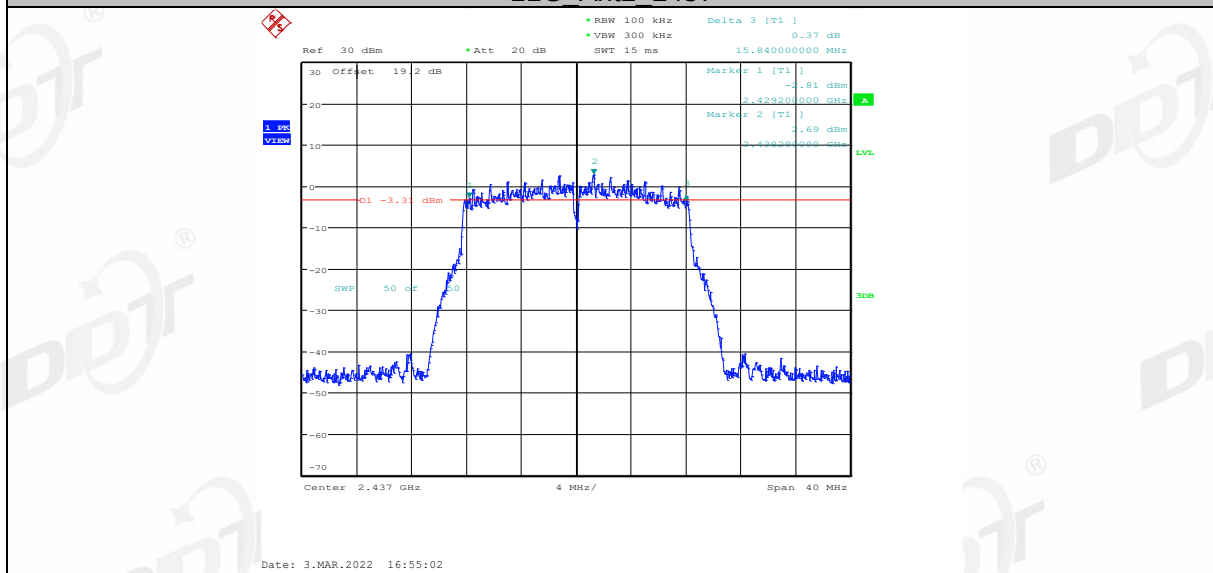
11G Ant2 2412



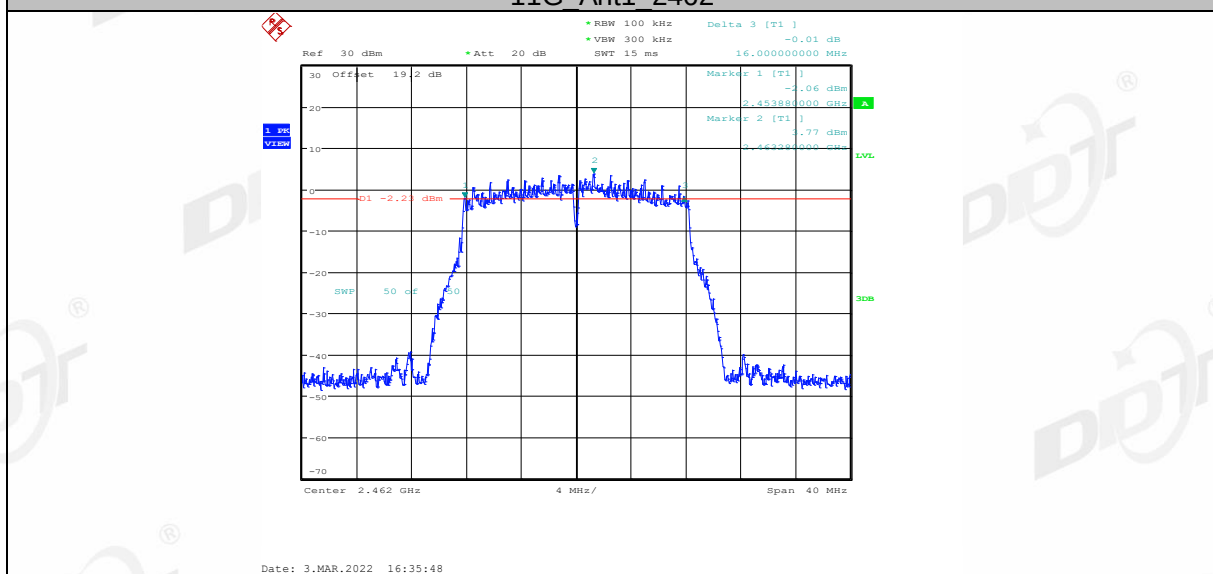
11G Ant1 2437



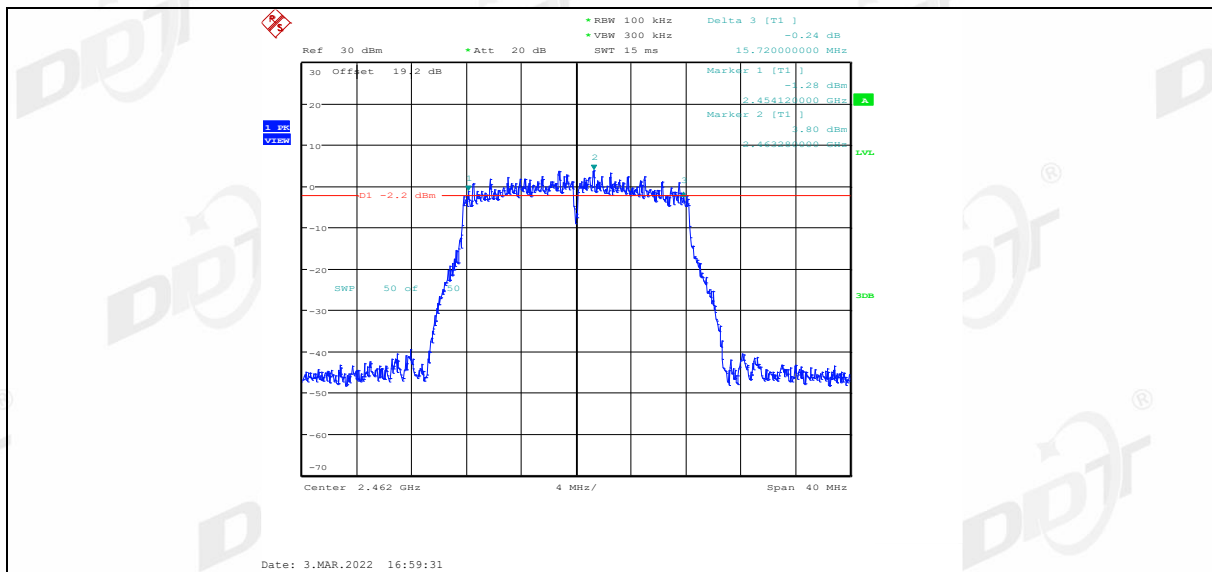
11G Ant2 2437



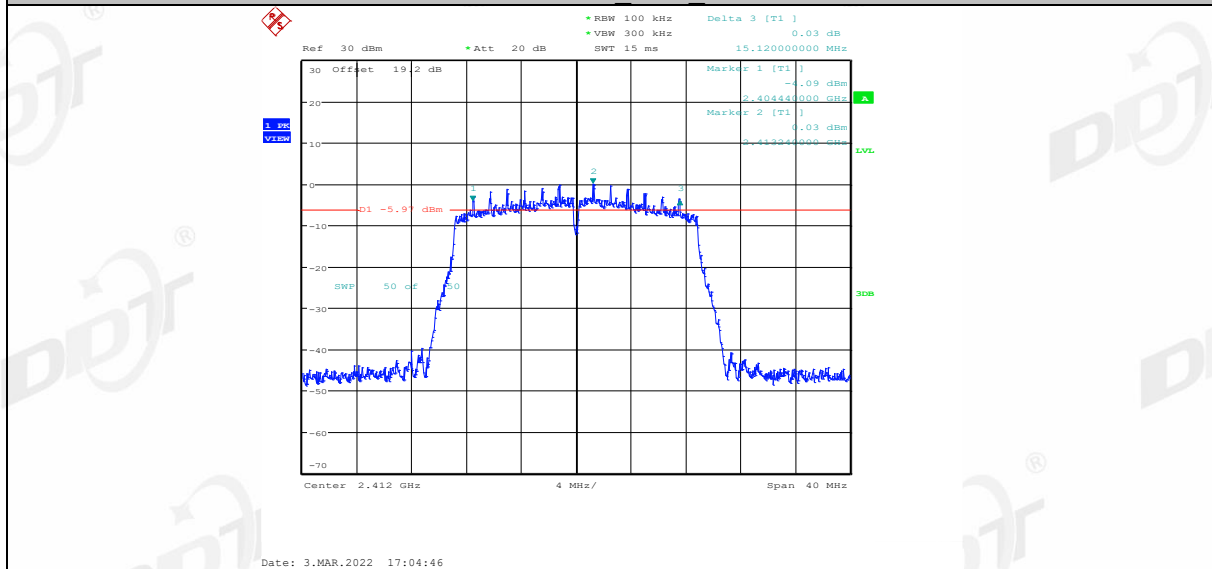
11G Ant1 2462



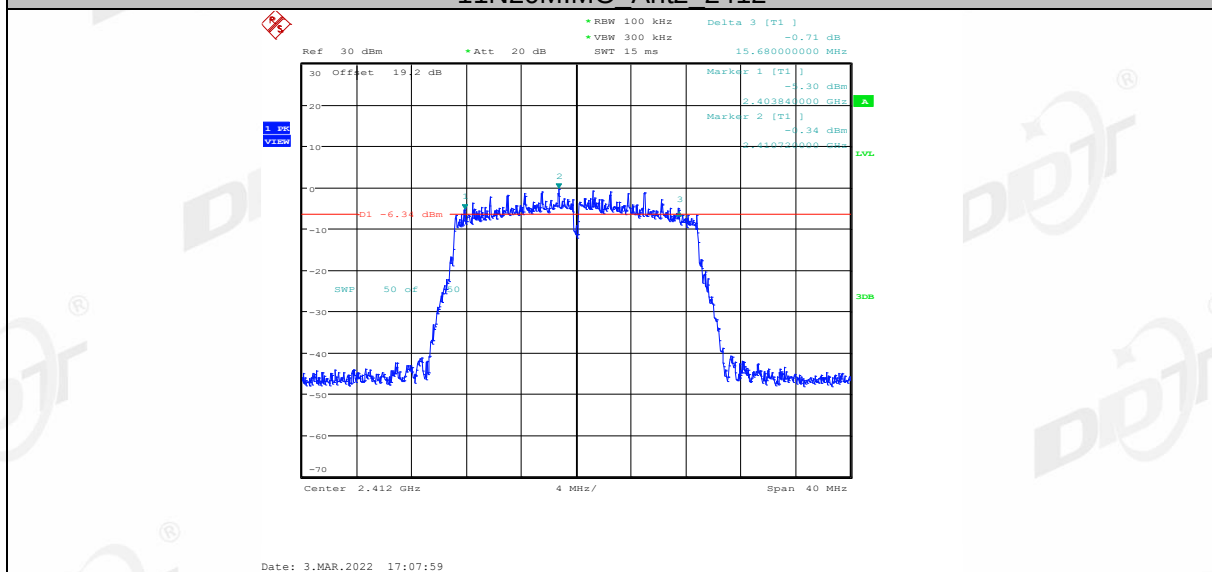
11G Ant2 2462



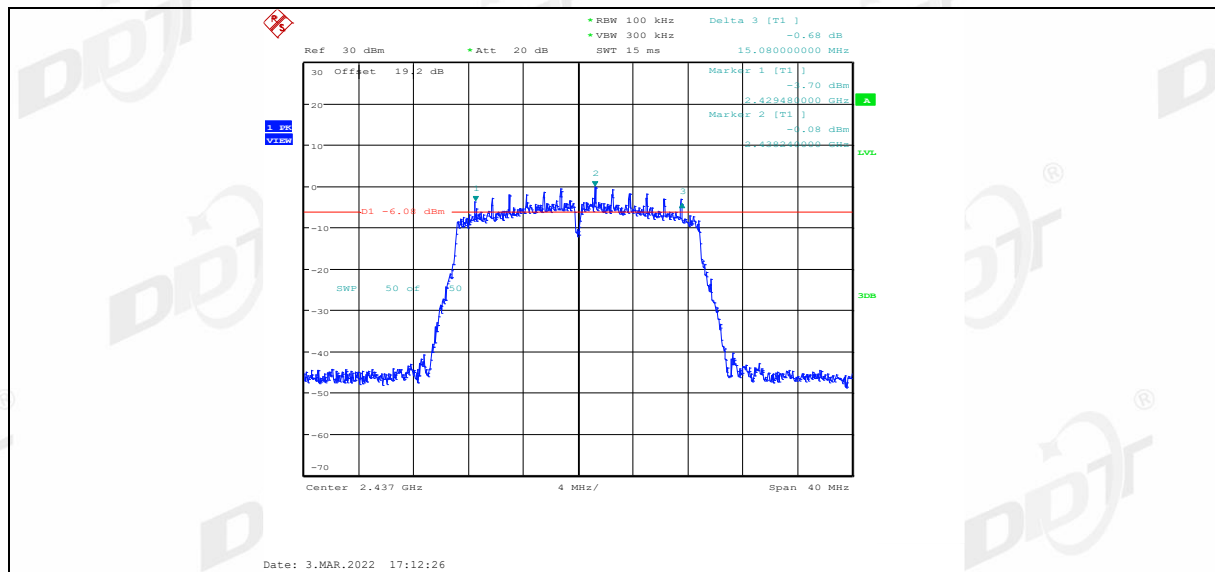
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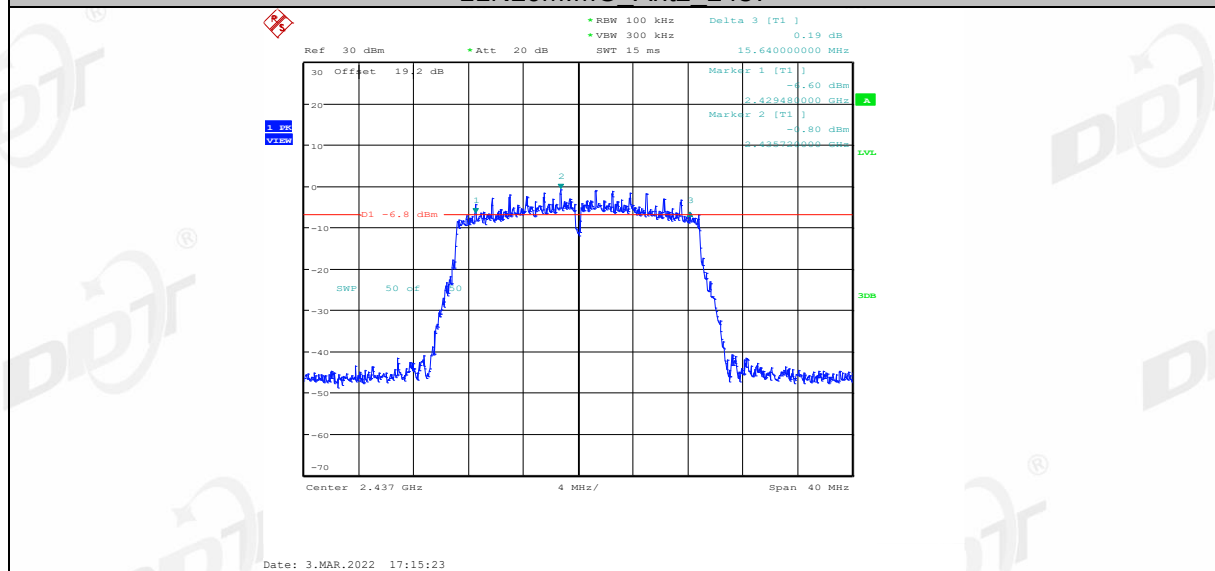
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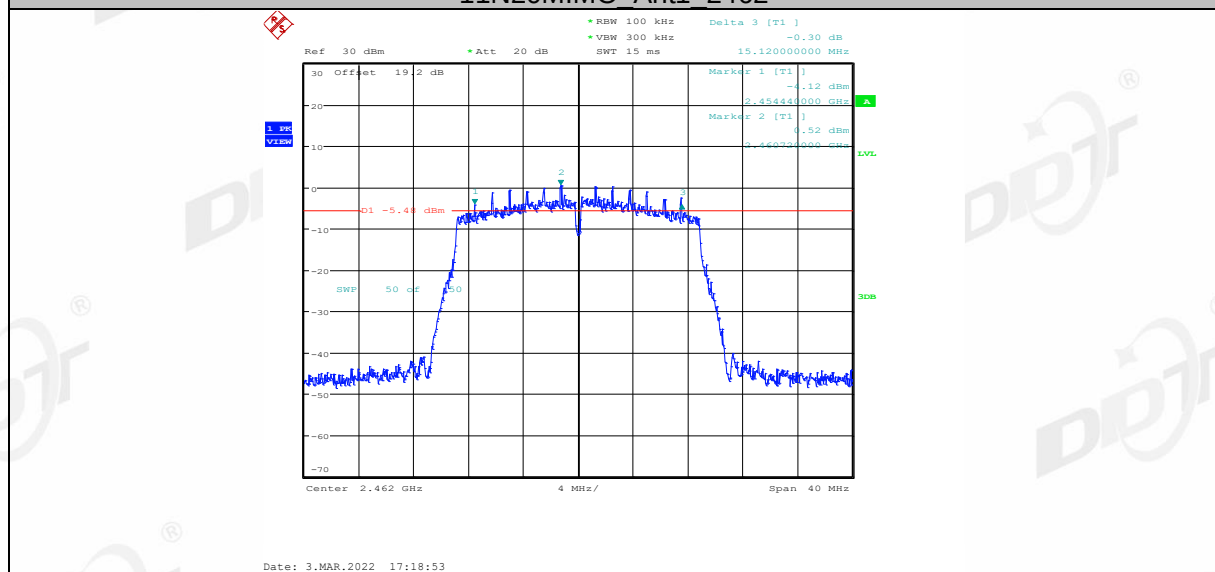
11N20MIMO Ant1 2437



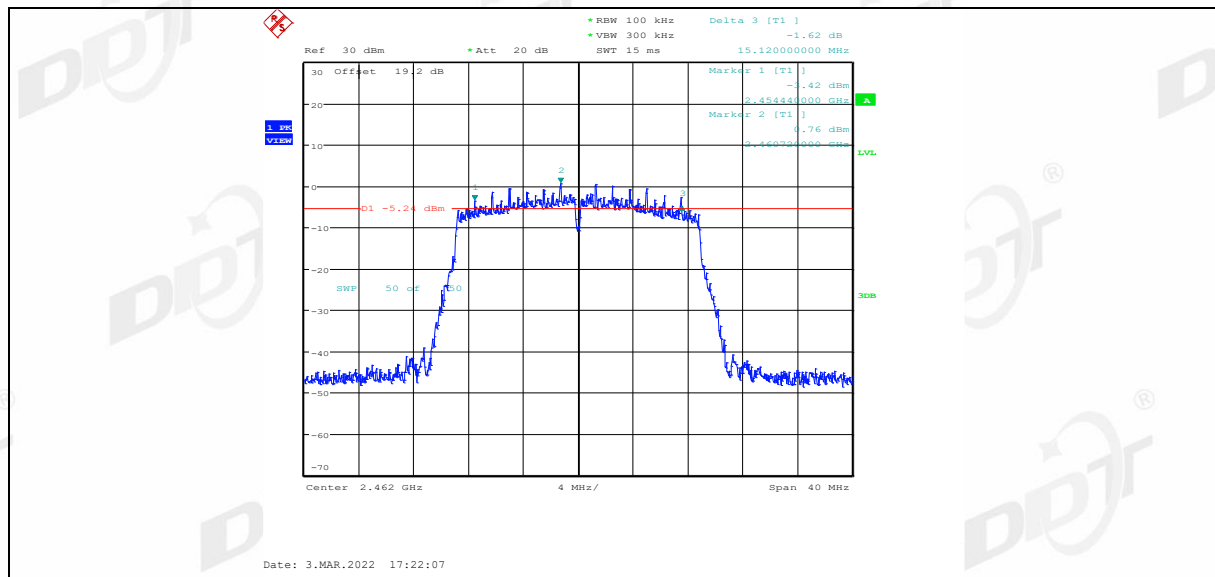
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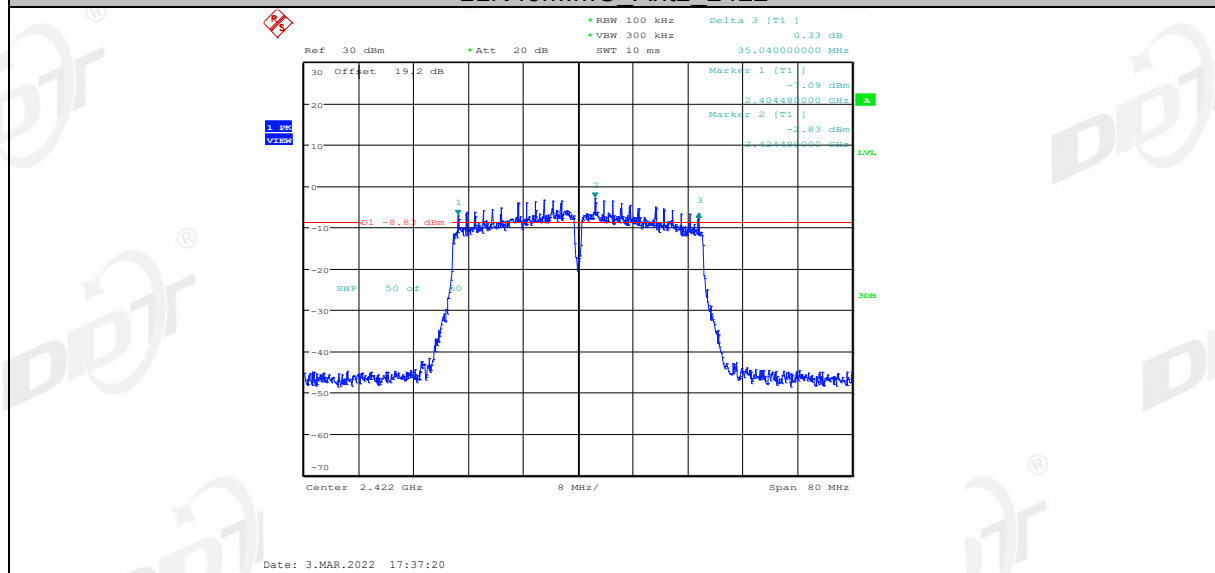
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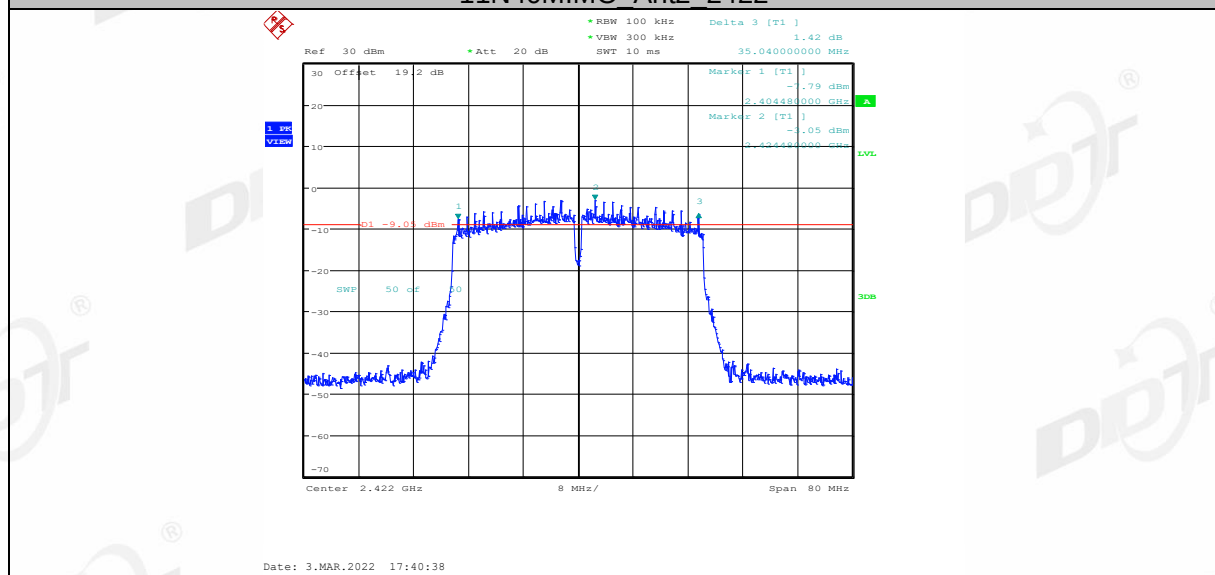
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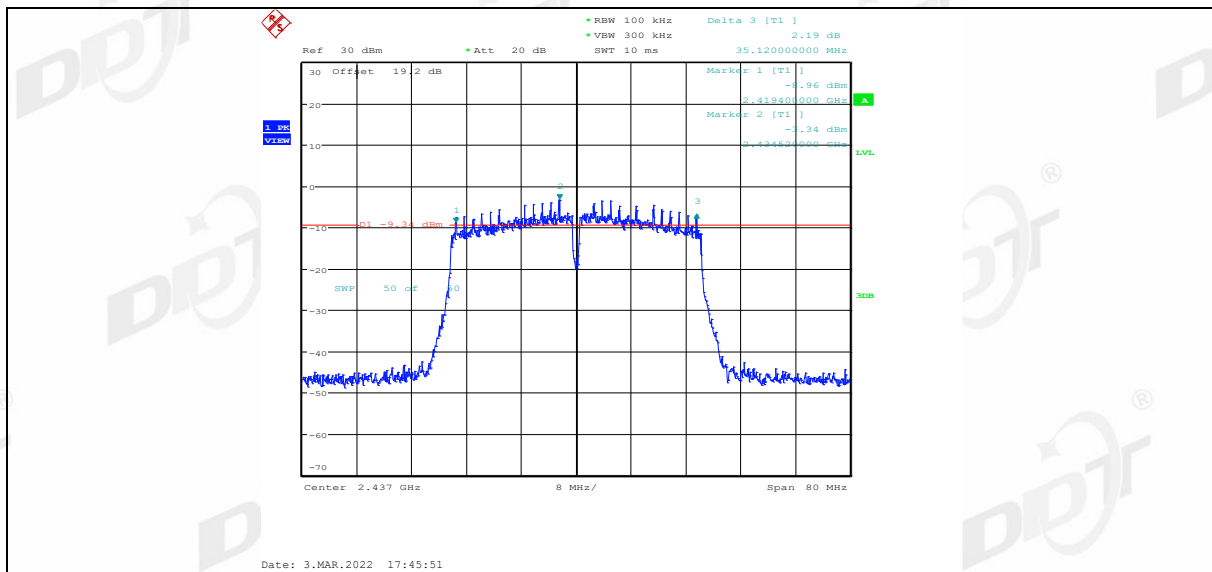
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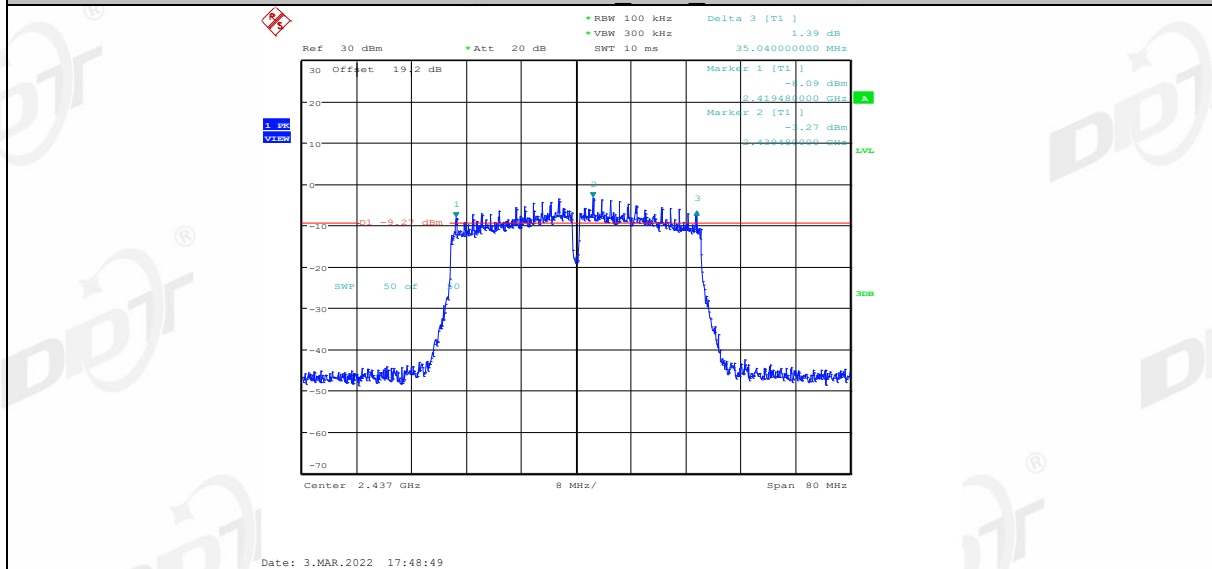
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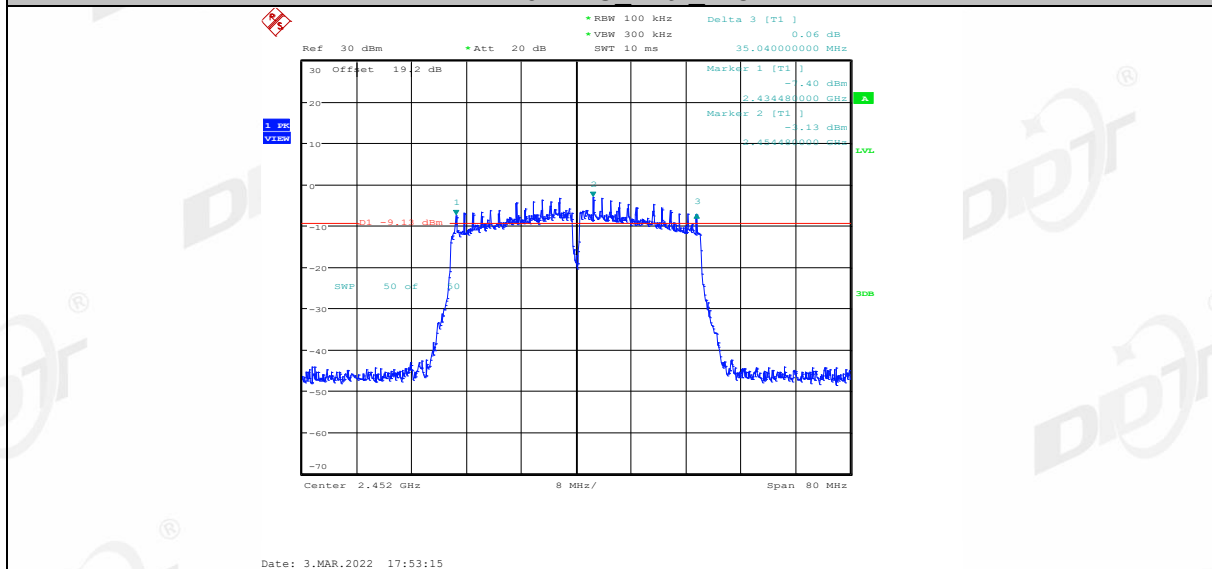
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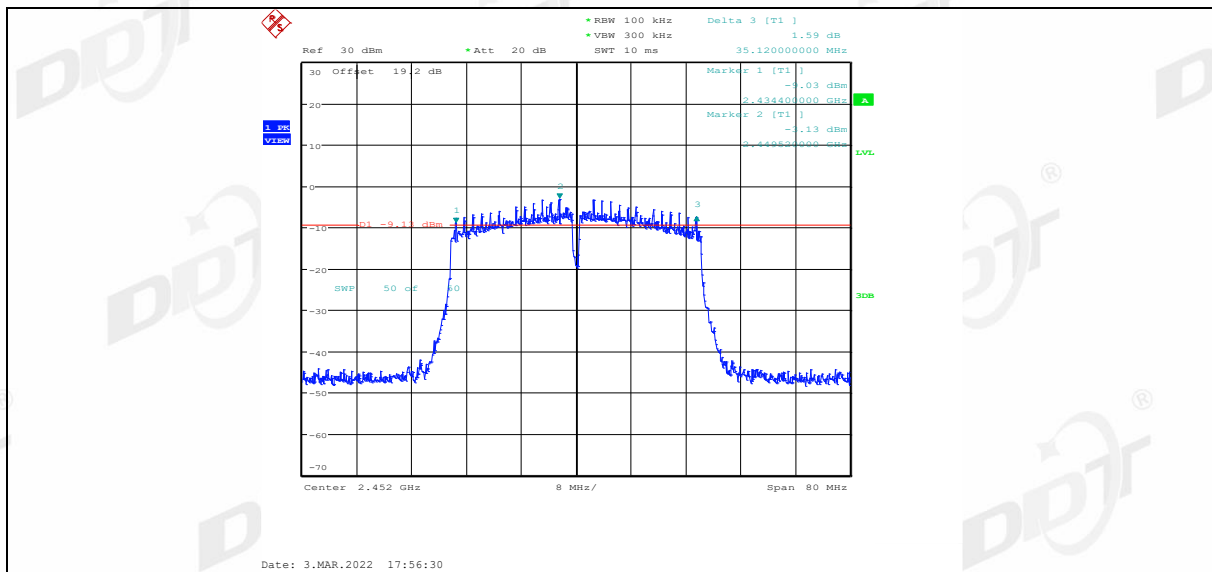
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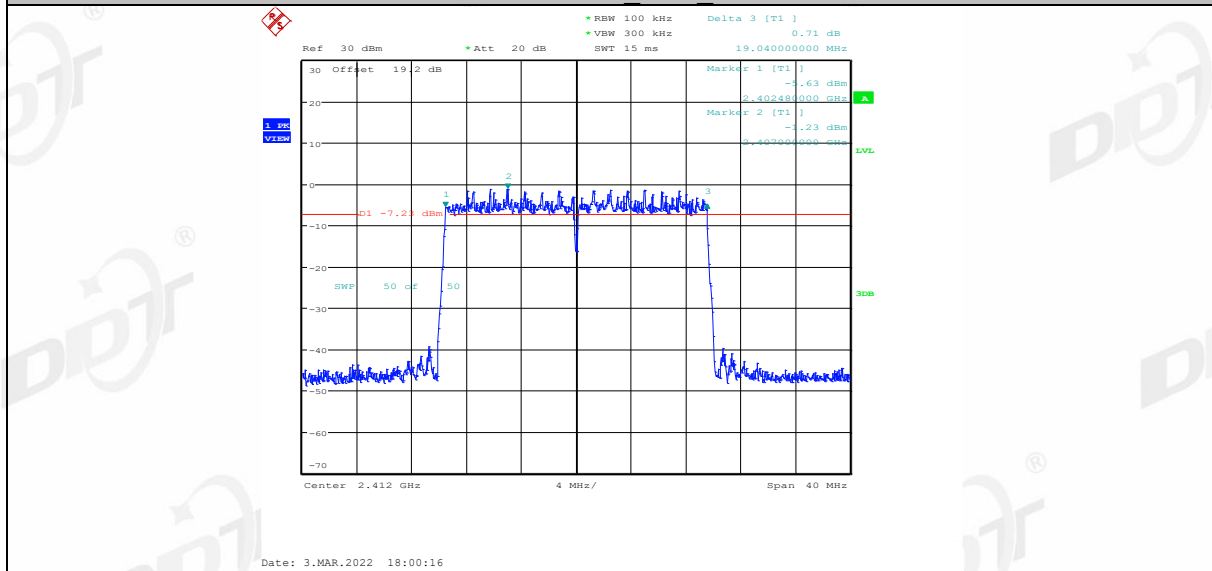
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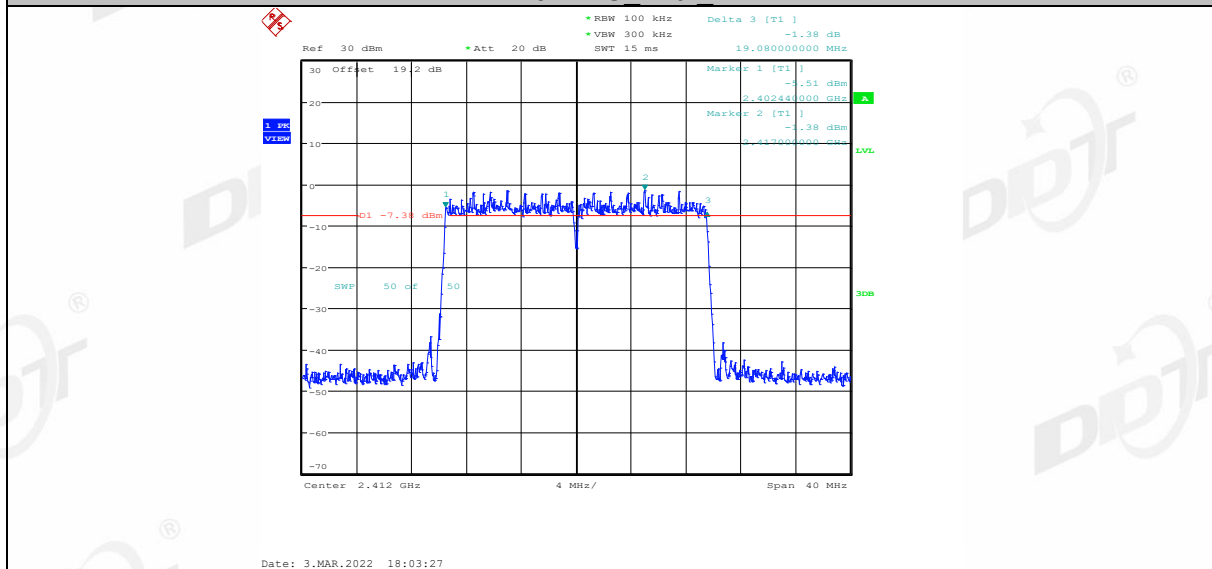
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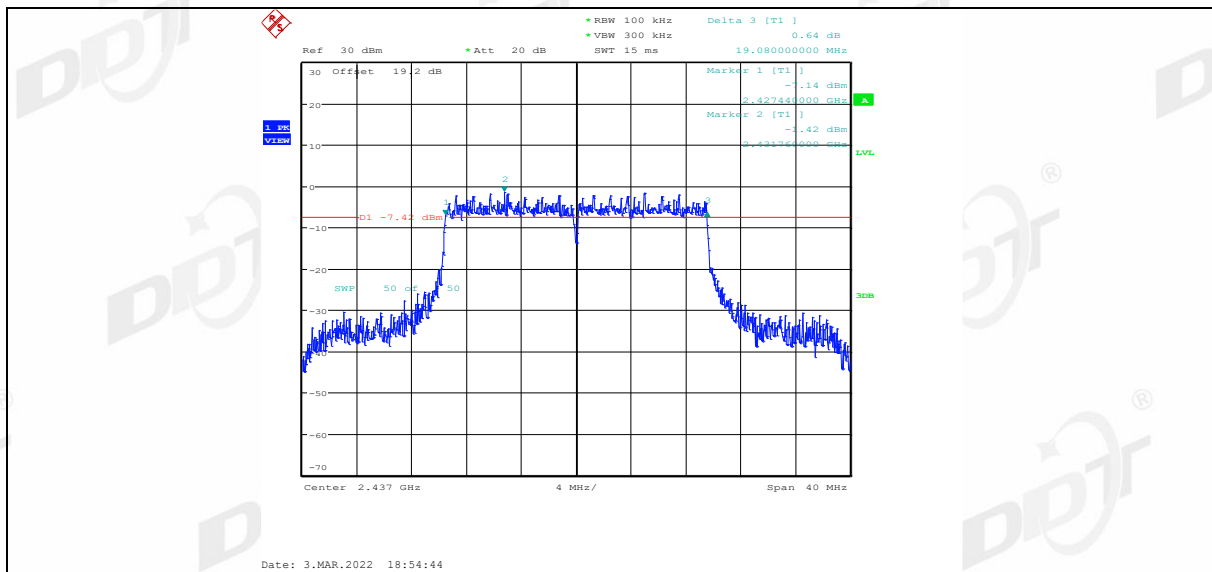
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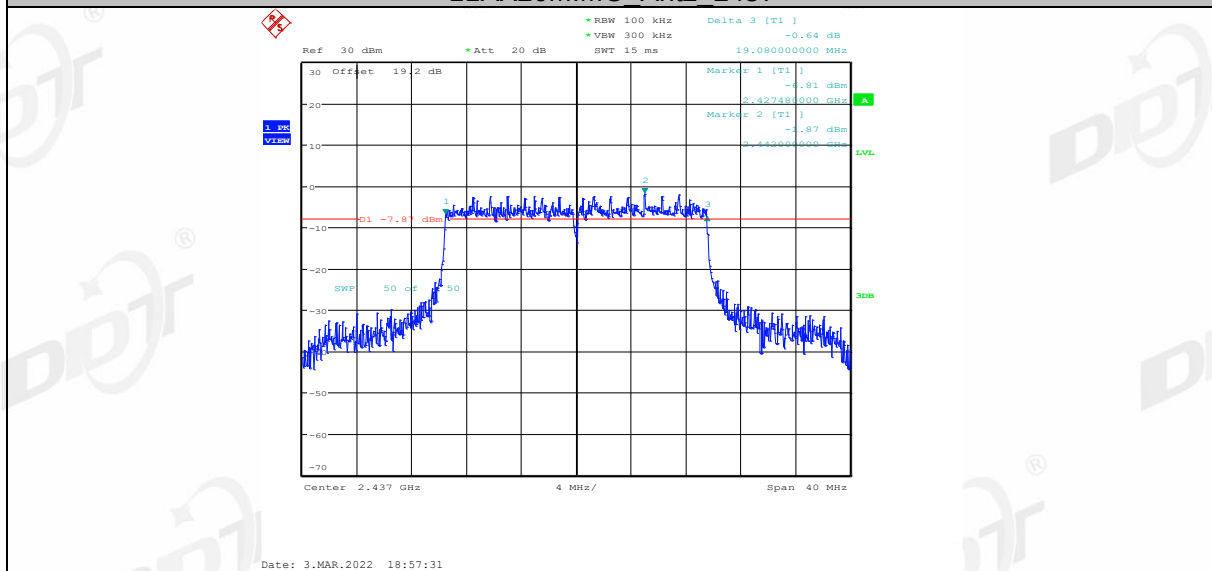
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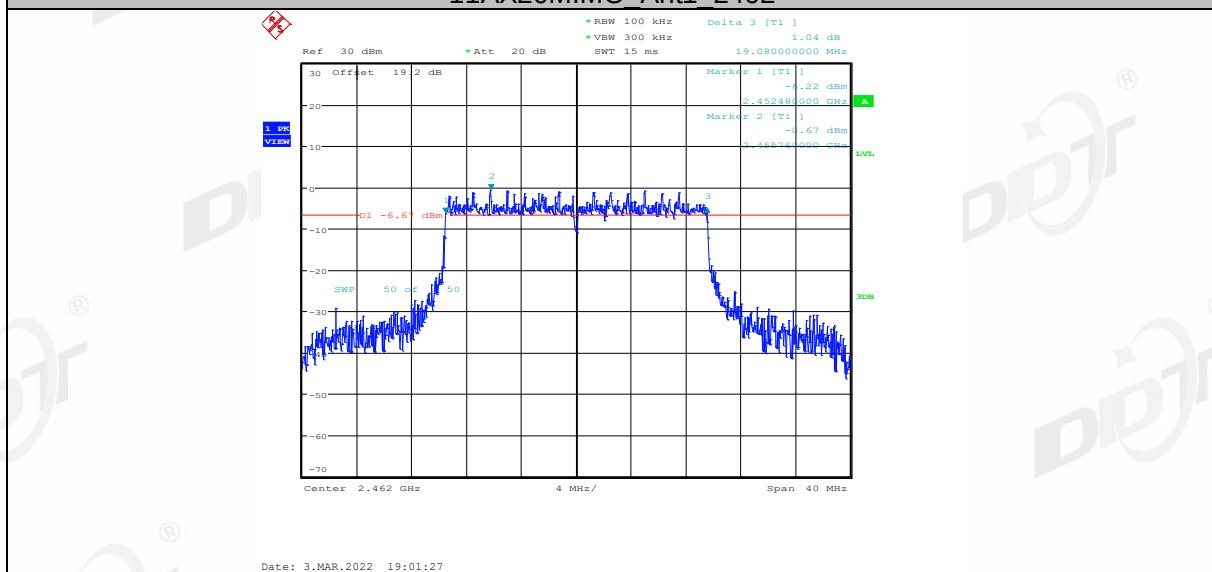
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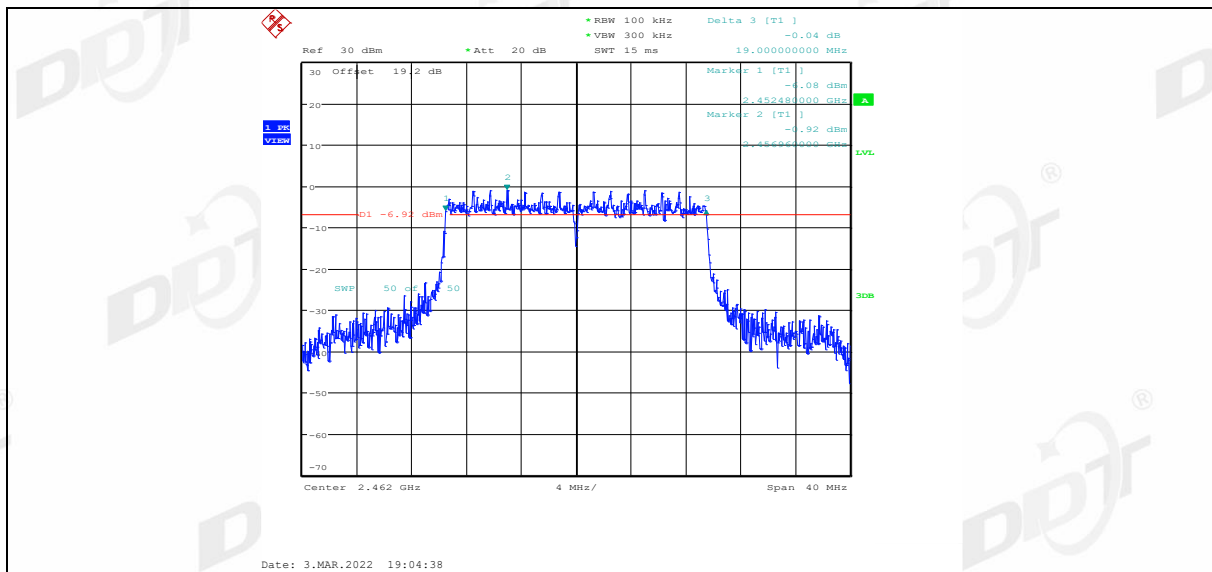
11AX20MIMO Ant2 2437



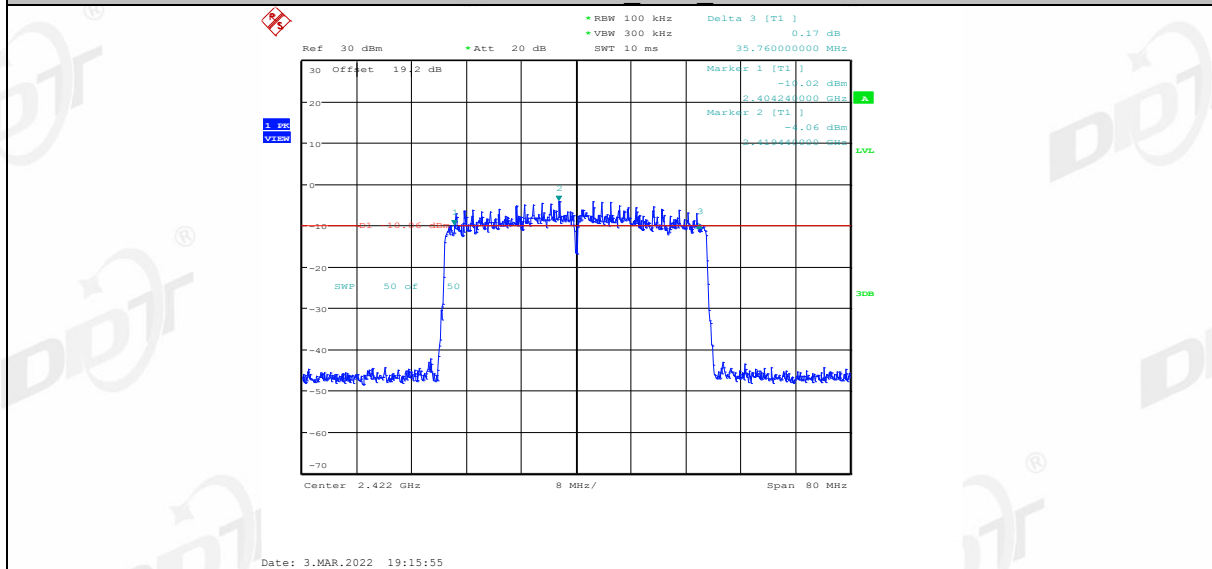
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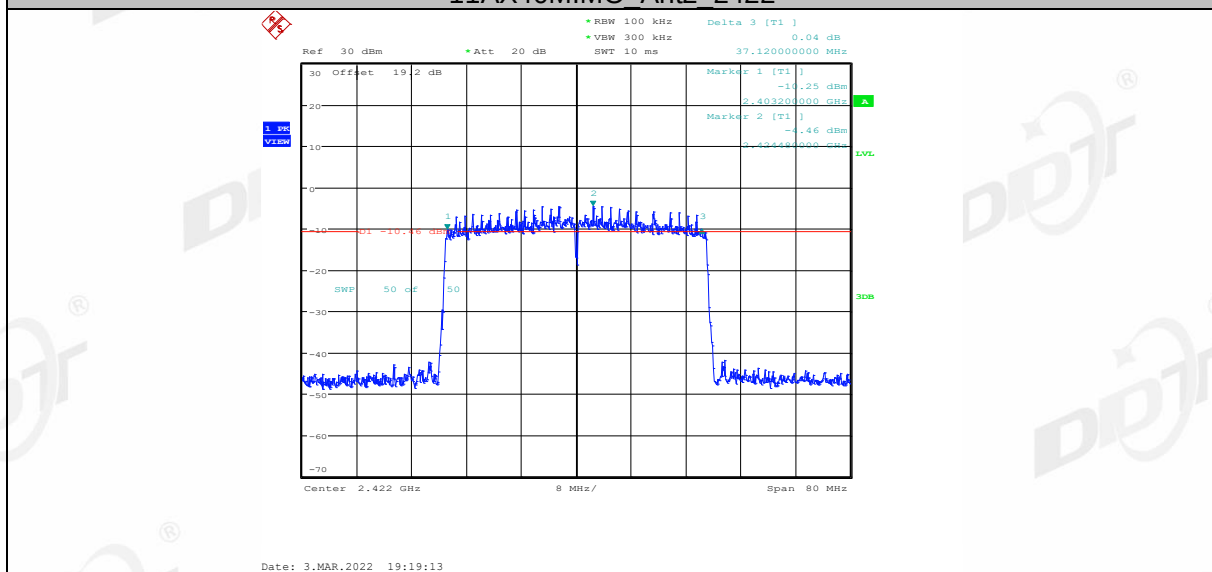
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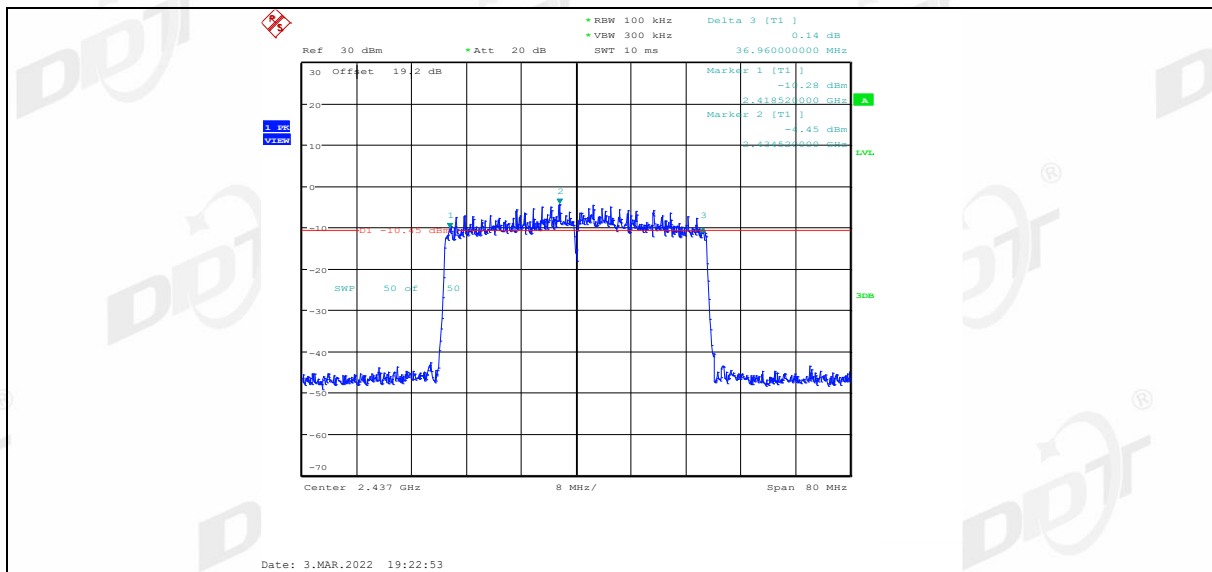
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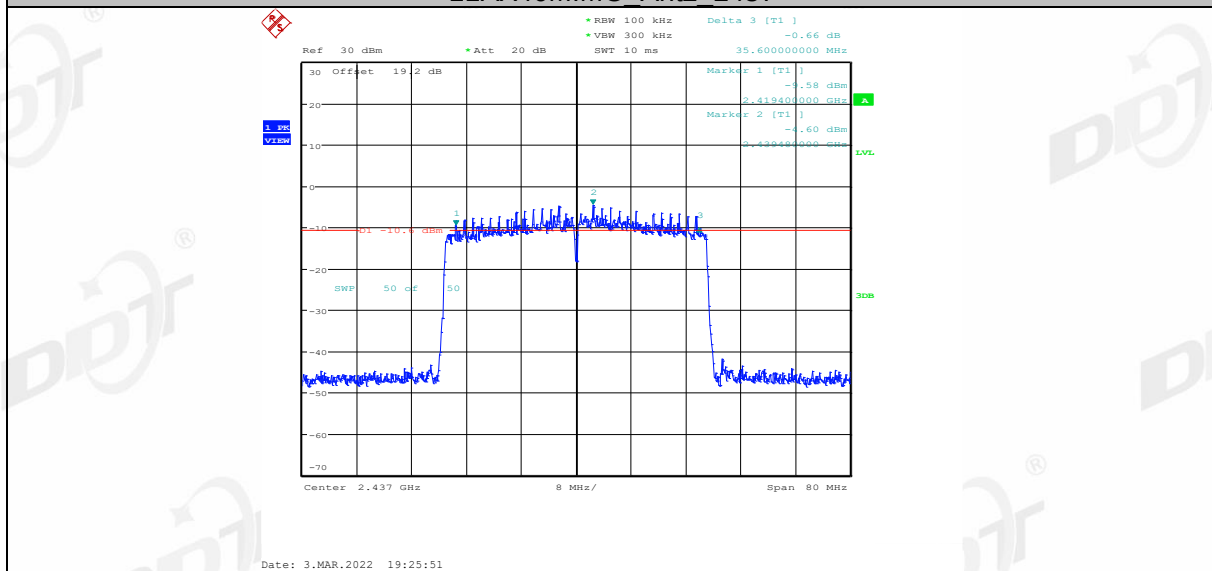
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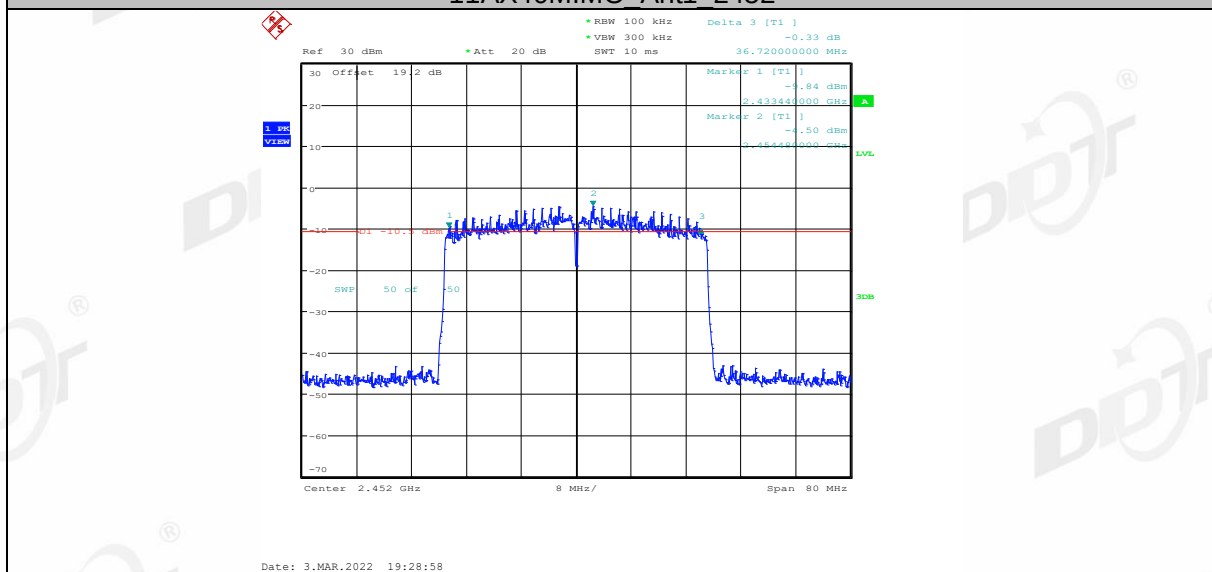
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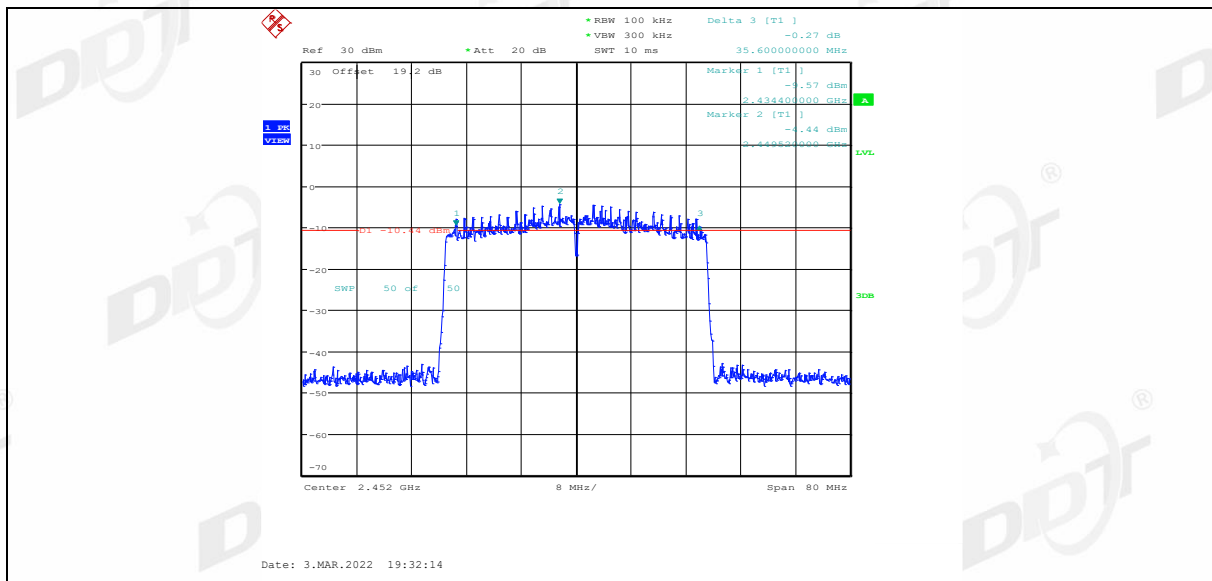
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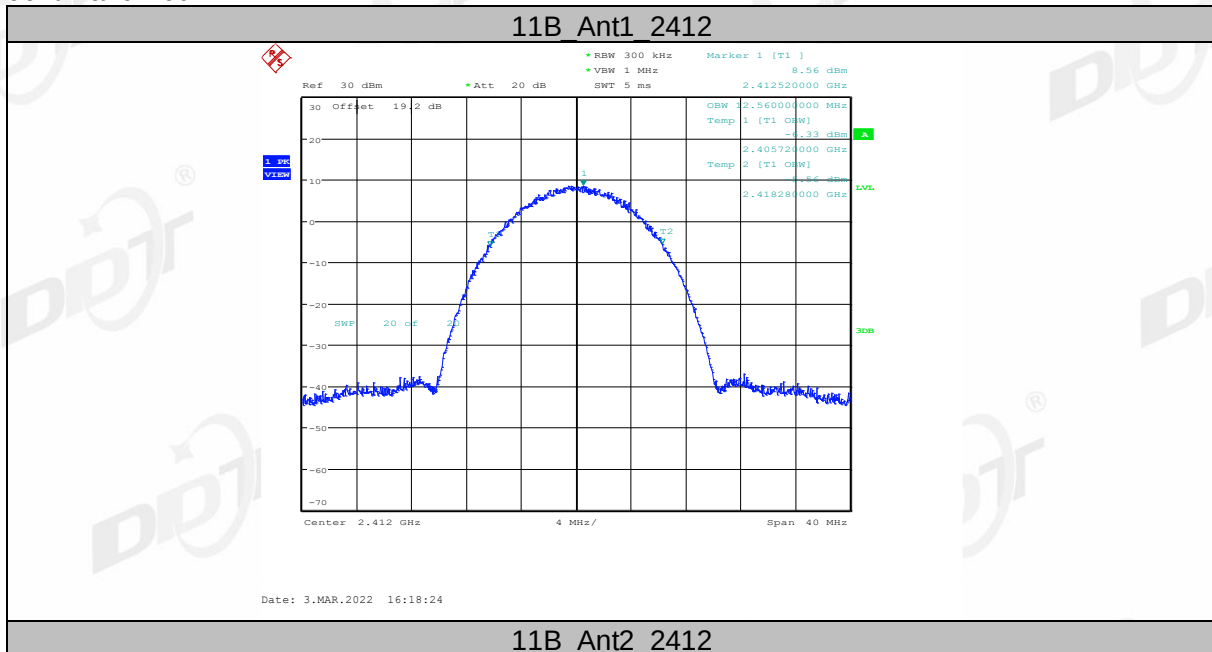
11AX40MIMO Ant1 2452

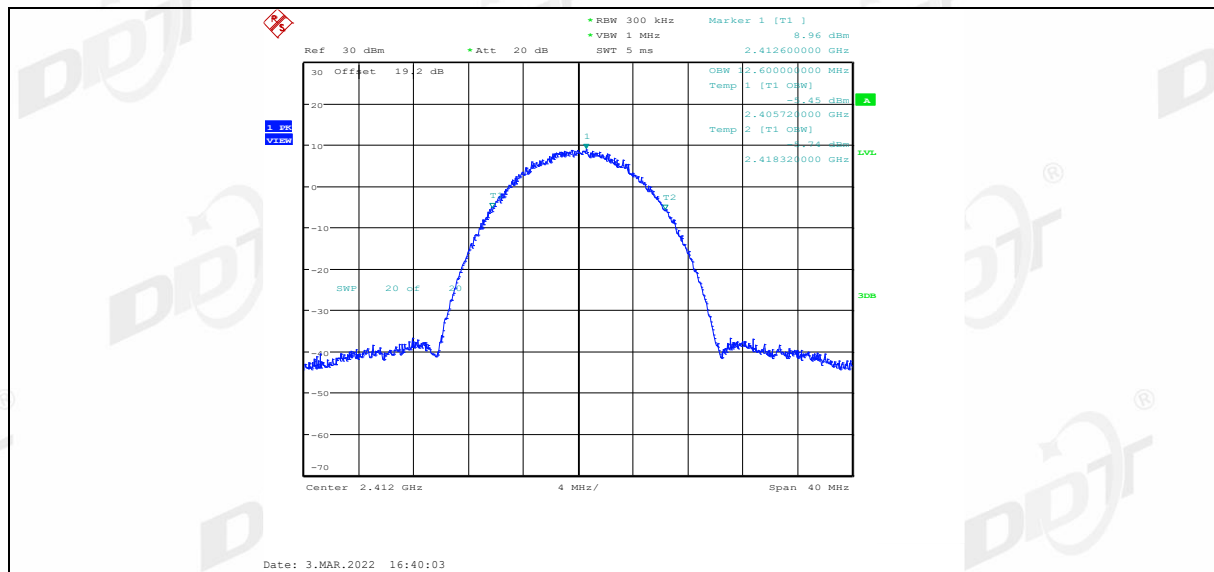


11AX40MIMO Ant2 2452

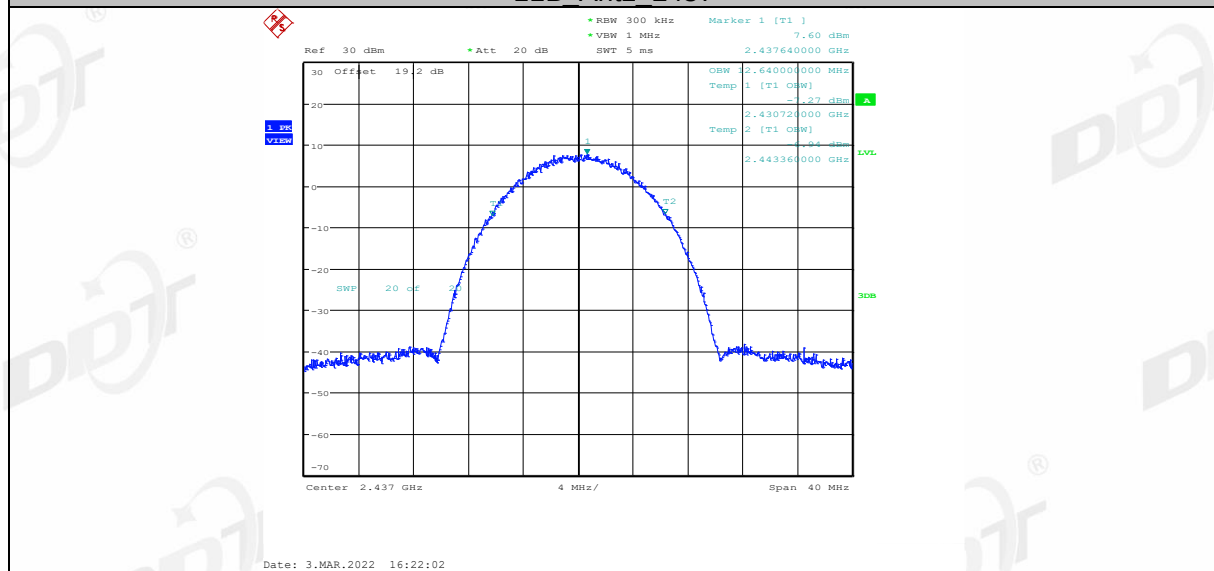


99% Bandwidth:

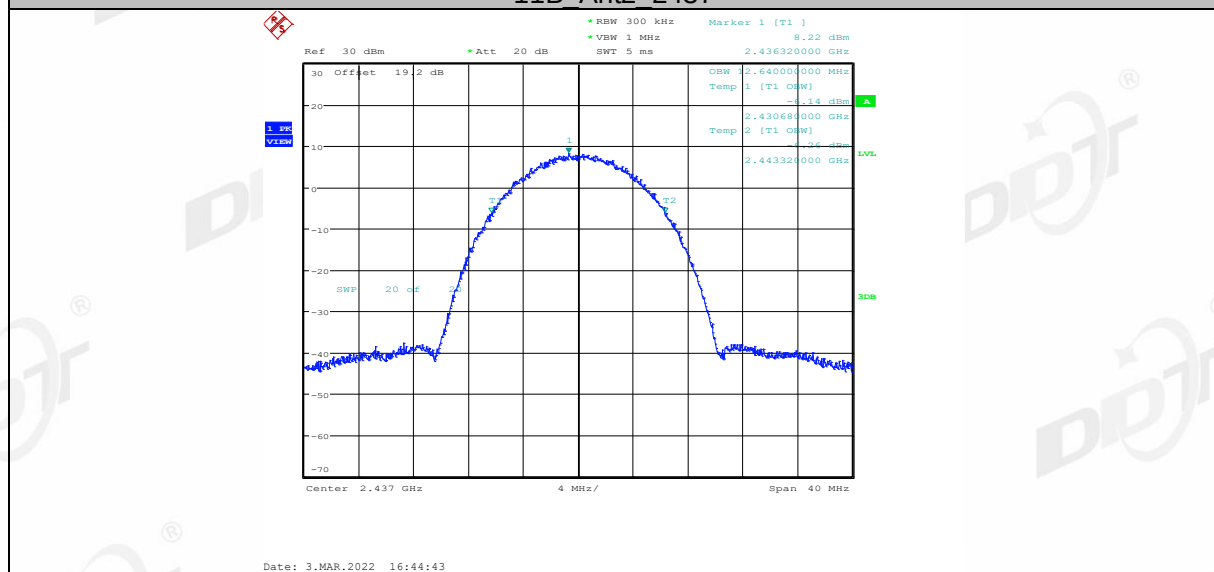




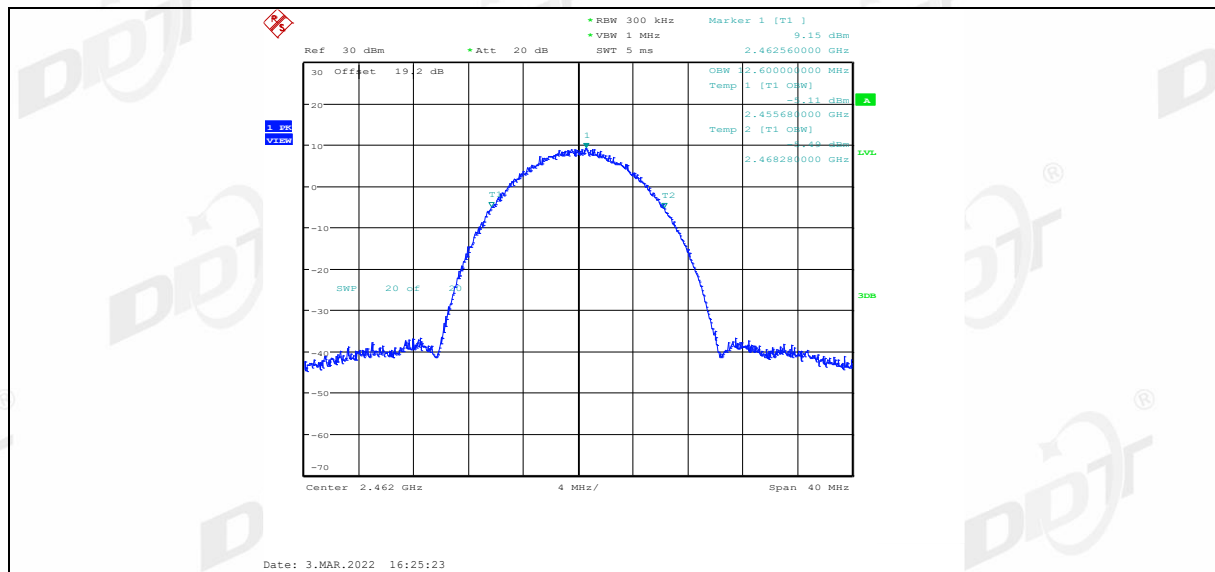
11B Ant1 2437



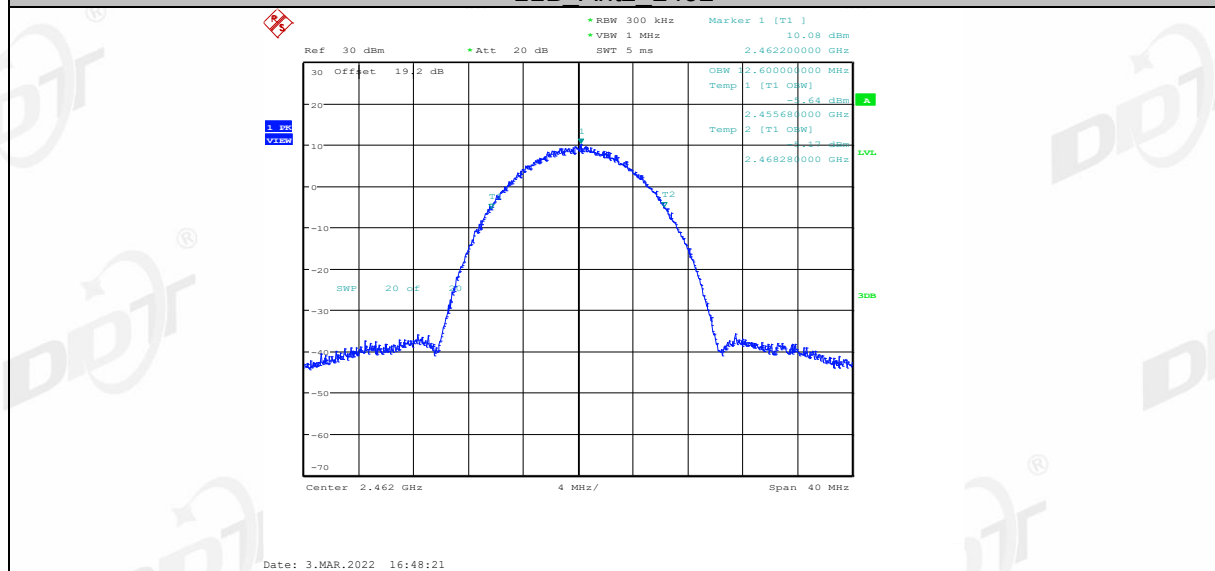
11B Ant2 2437



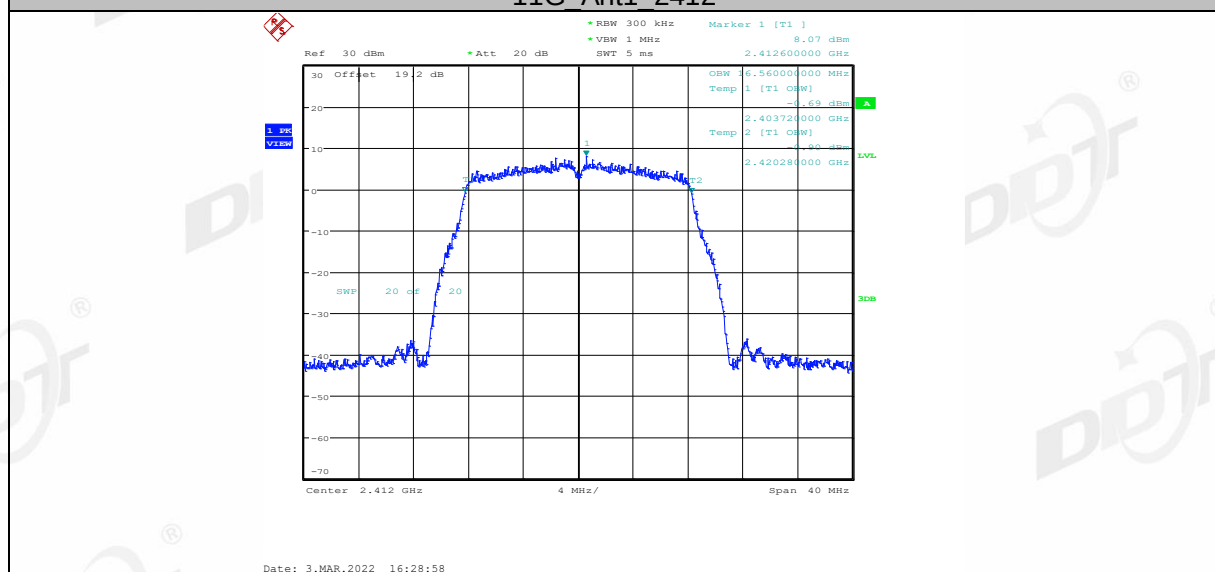
11B Ant1 2462



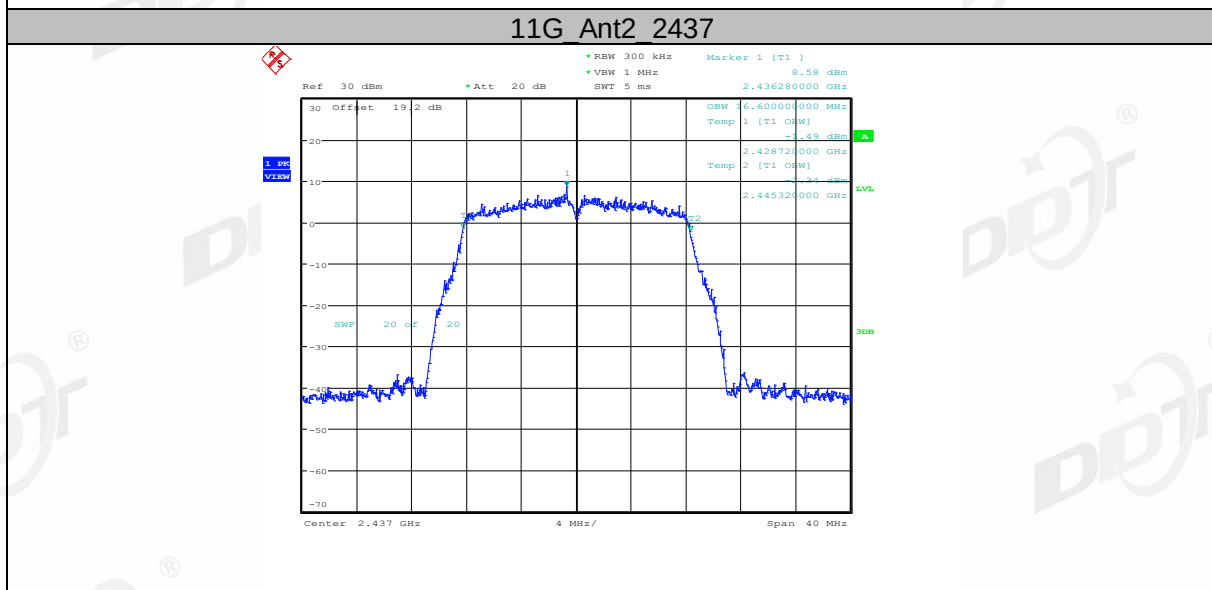
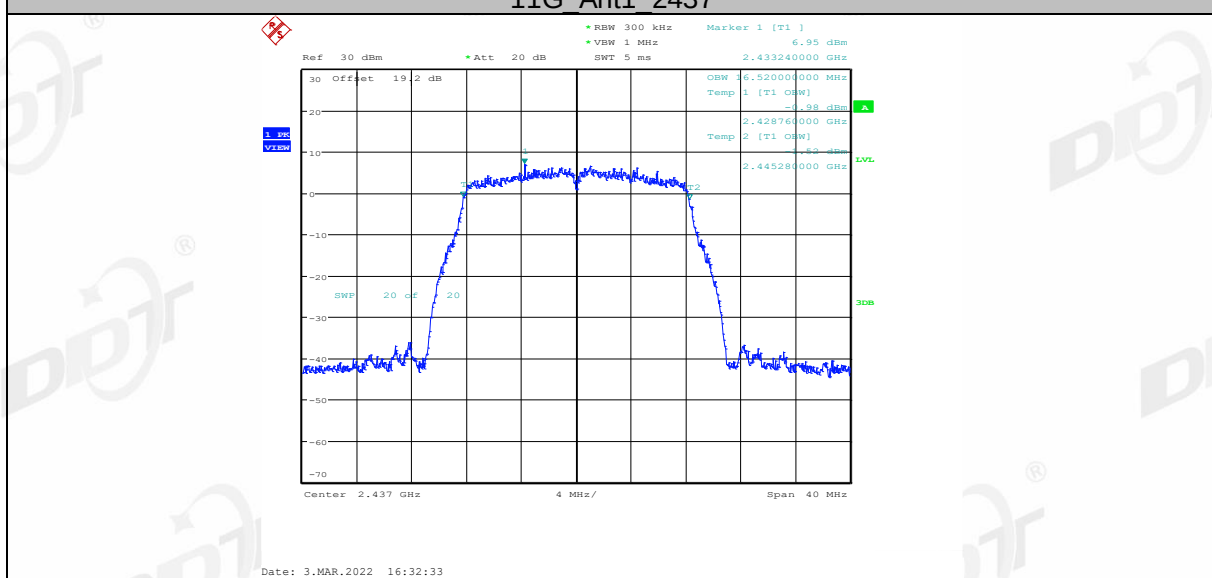
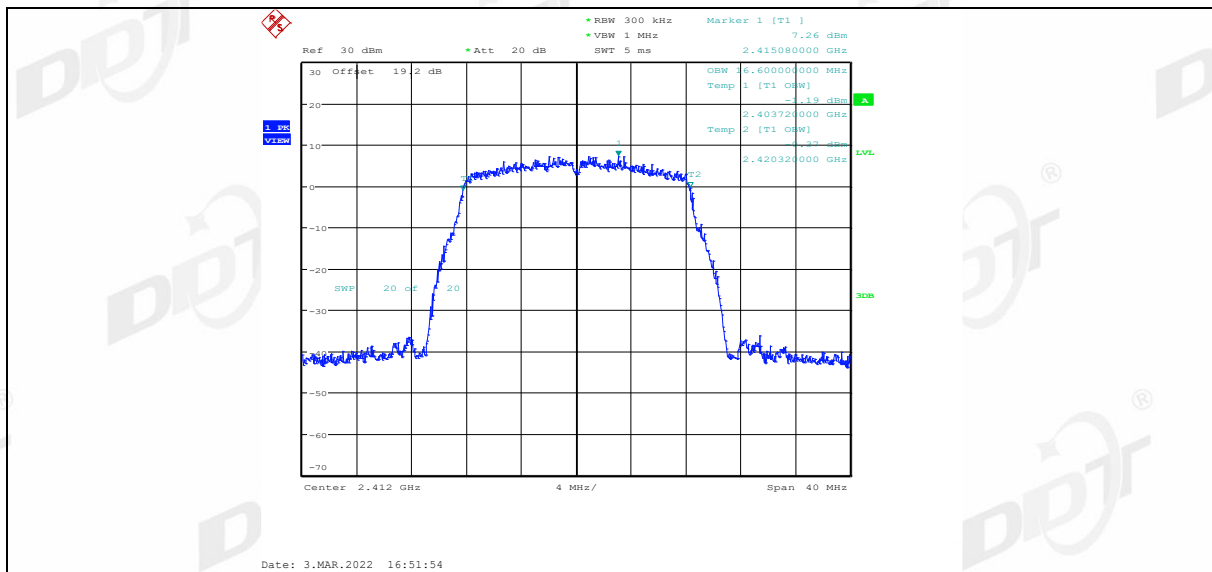
11B Ant2 2462

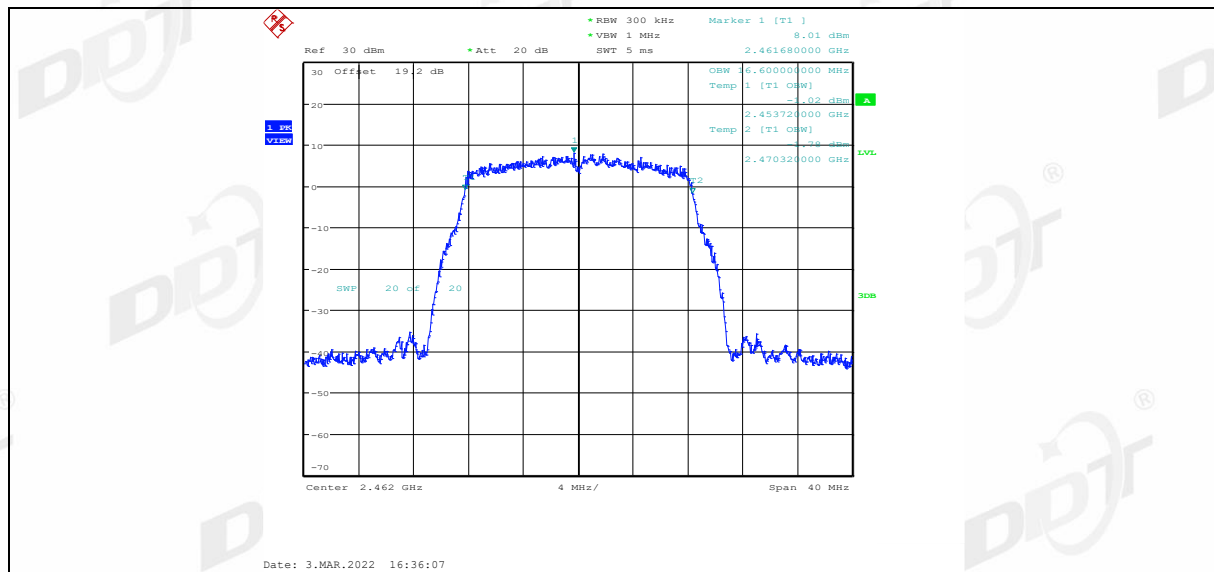


11G Ant1 2412

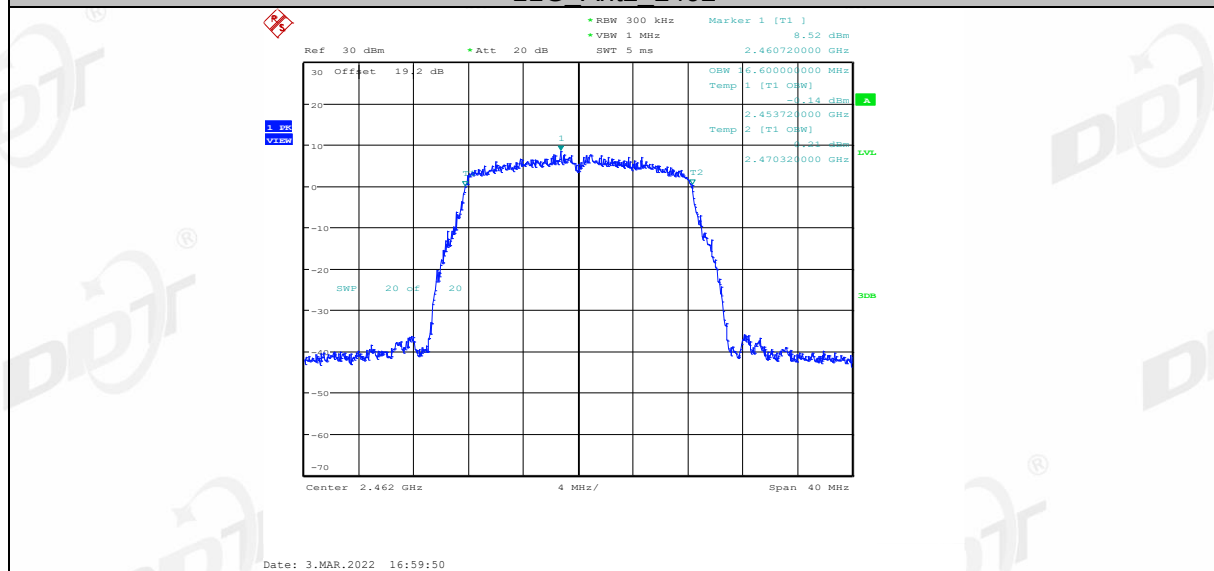


11G Ant2 2412

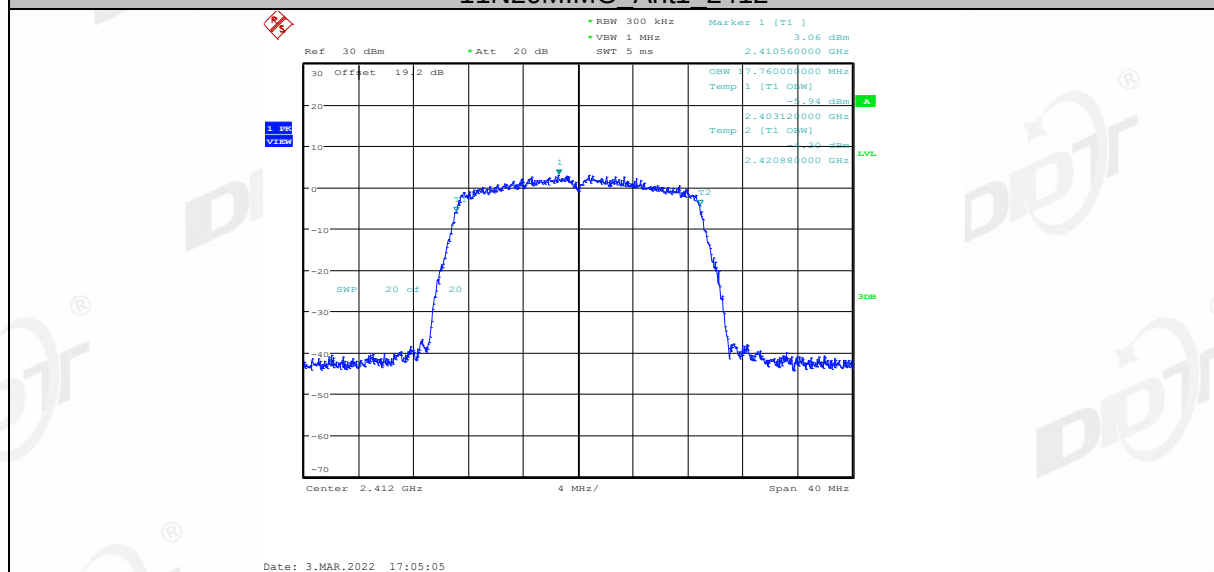




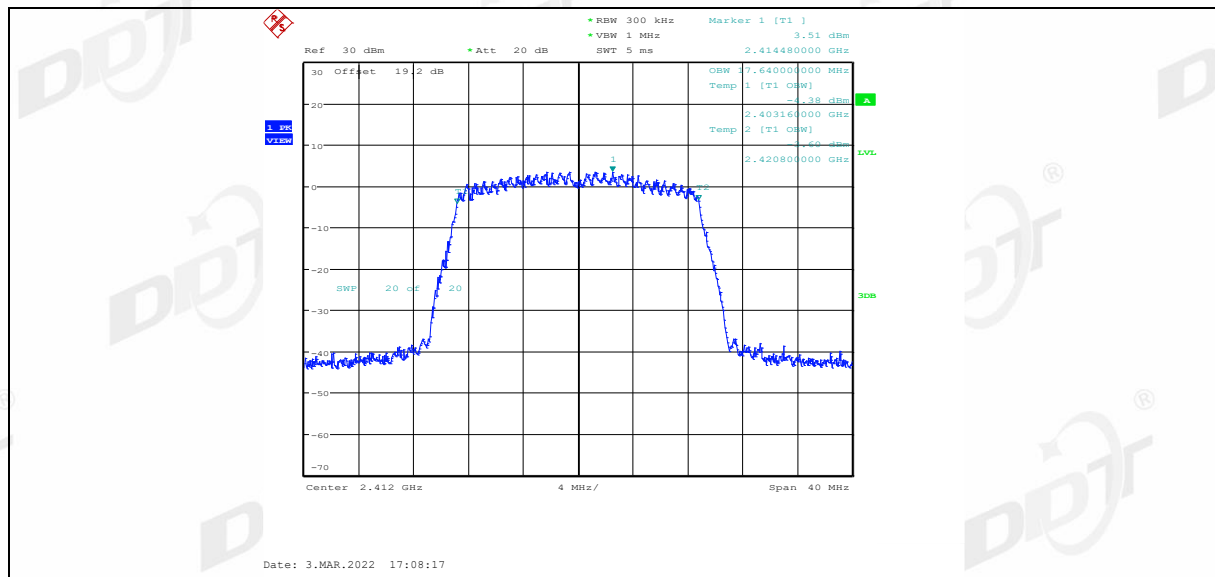
11G Ant2 2462



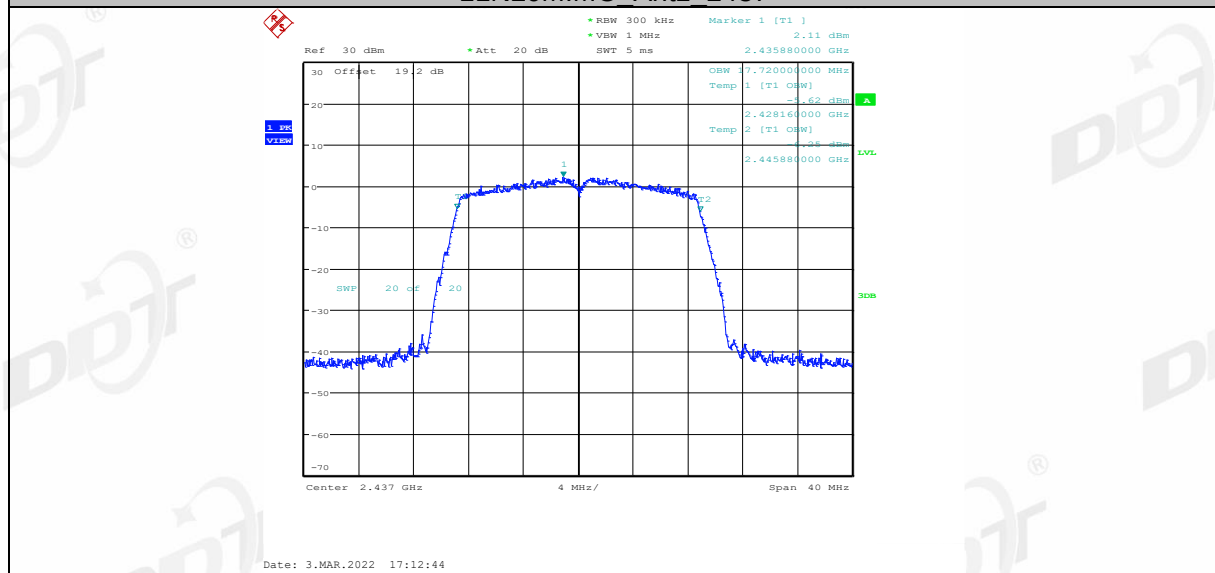
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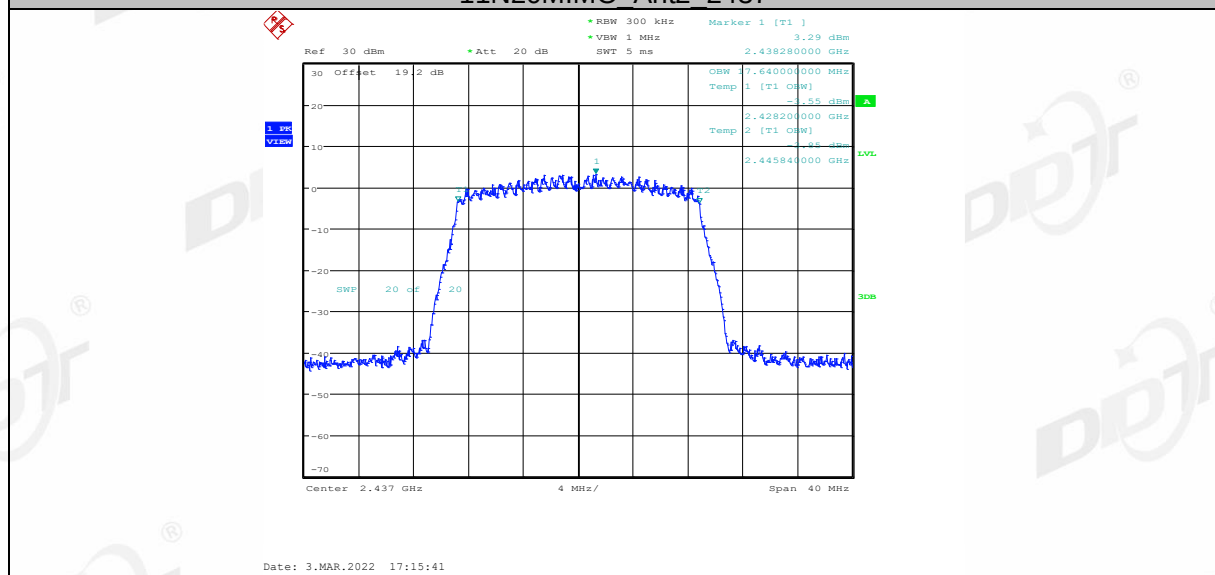
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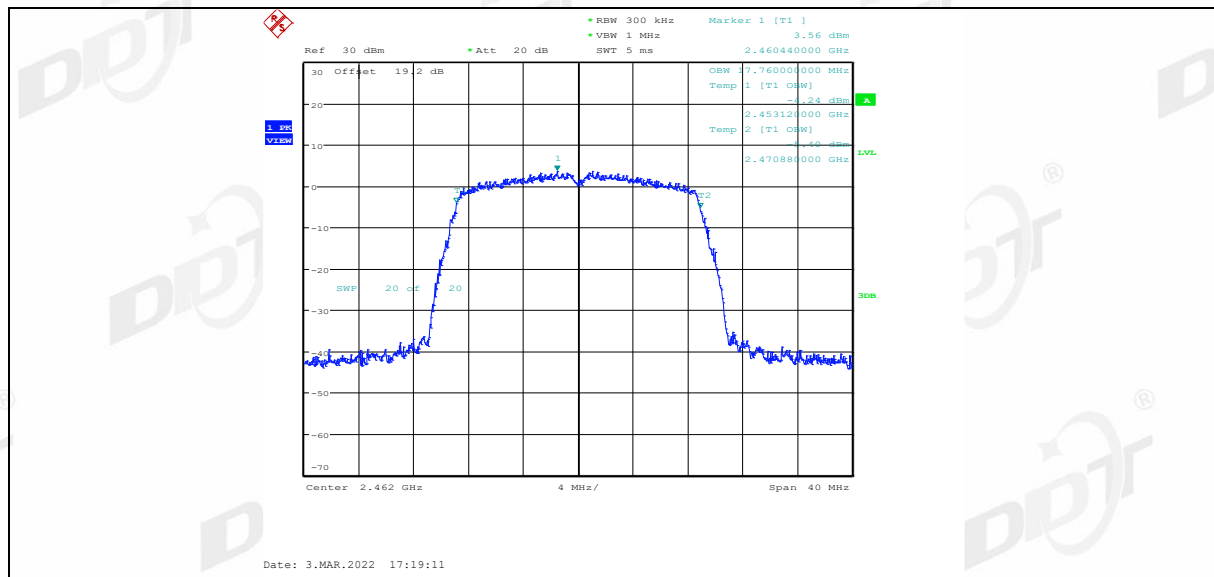
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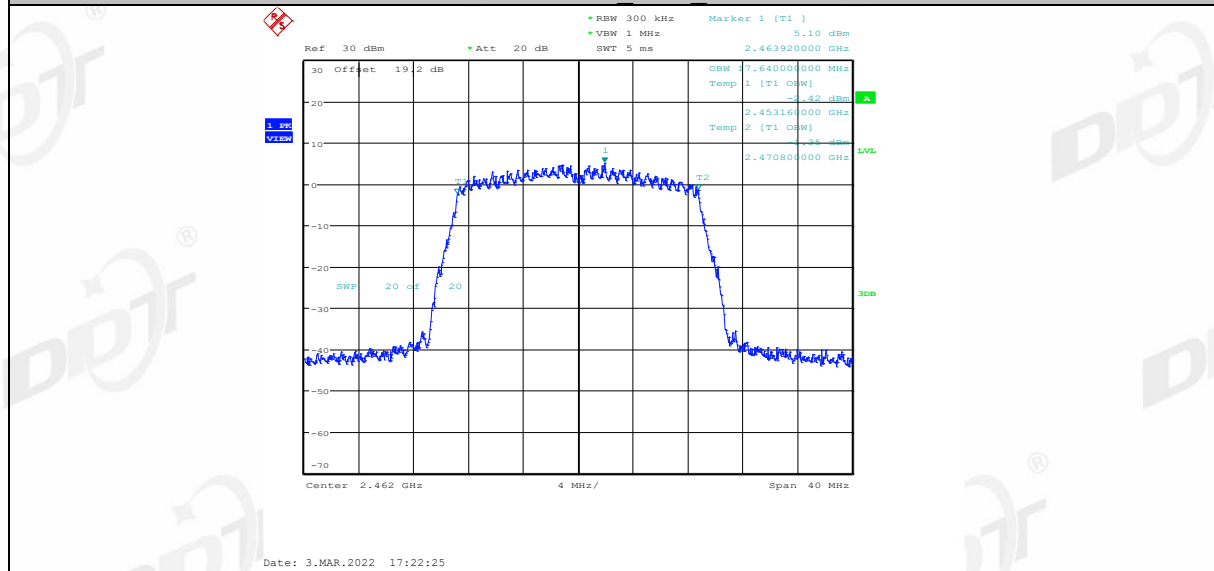
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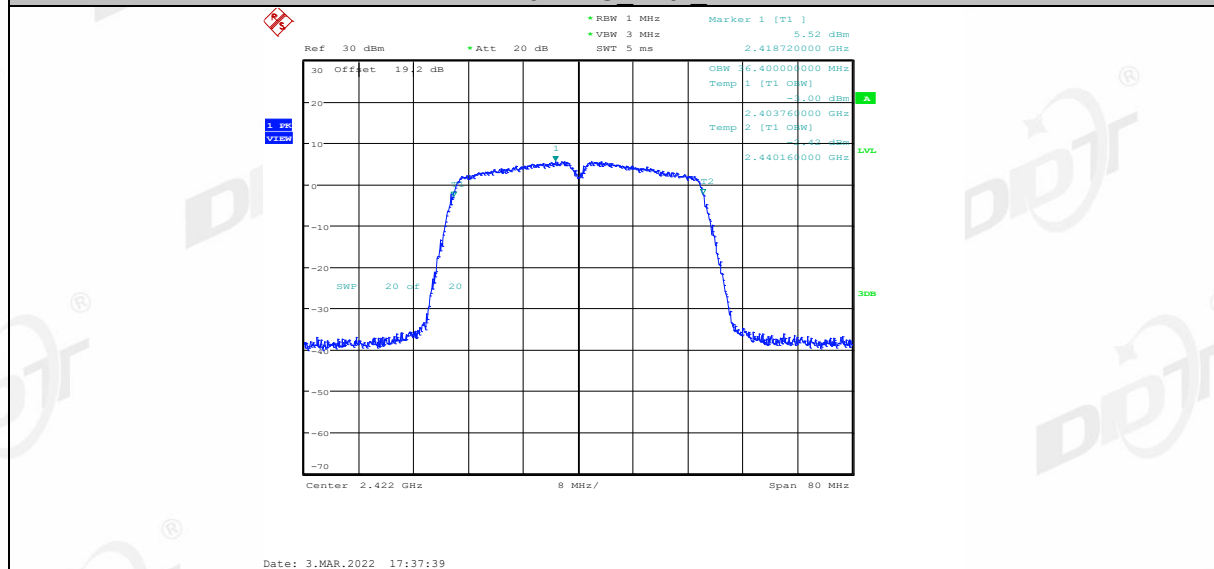
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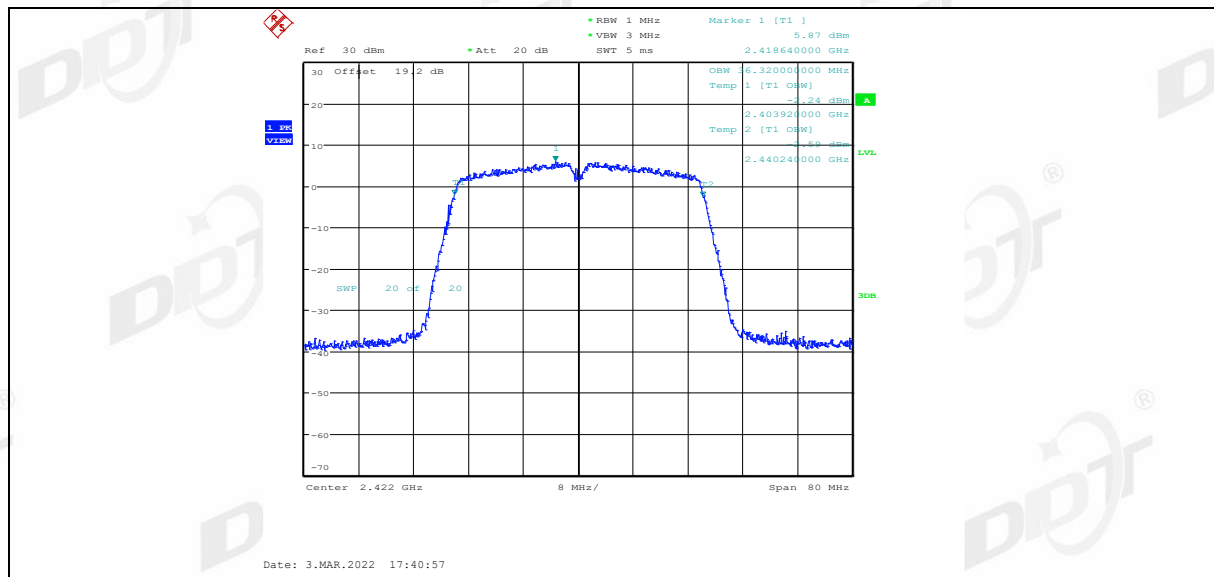
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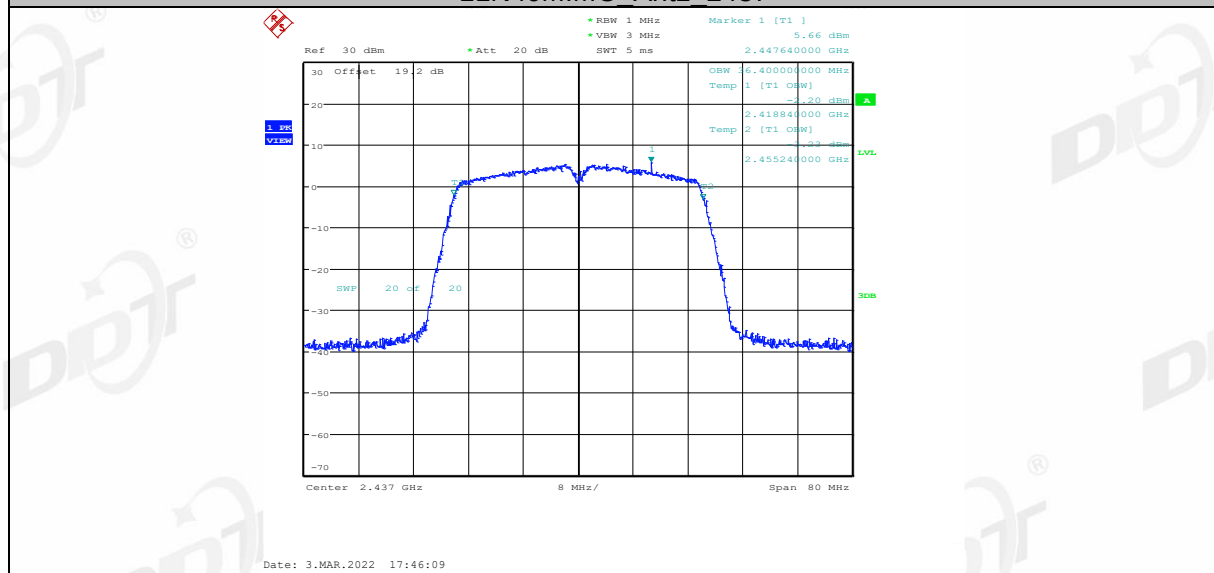
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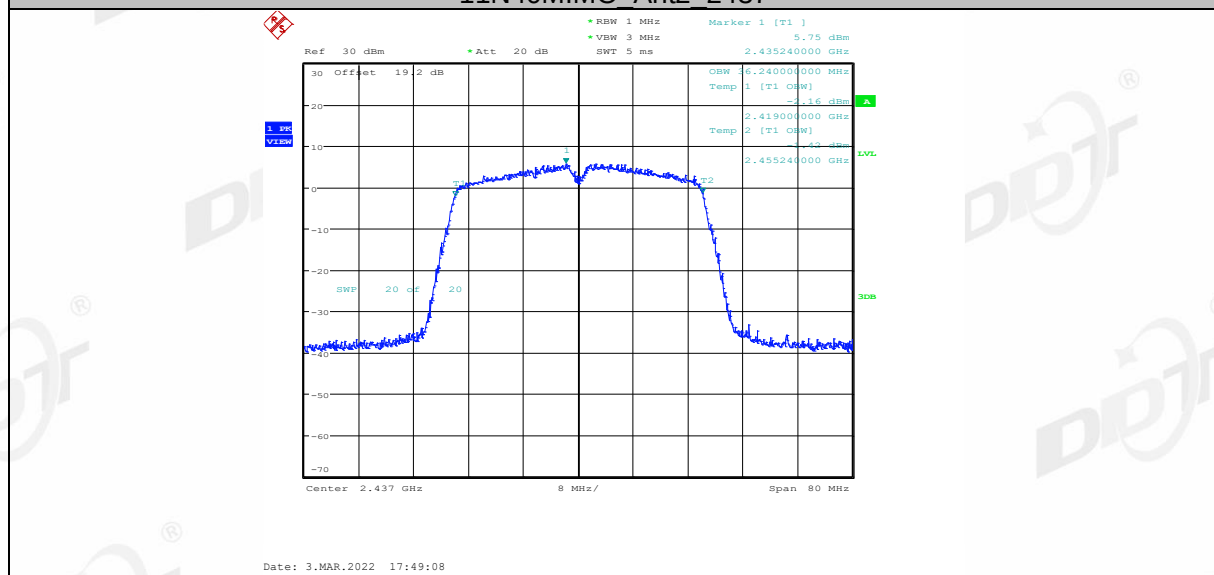
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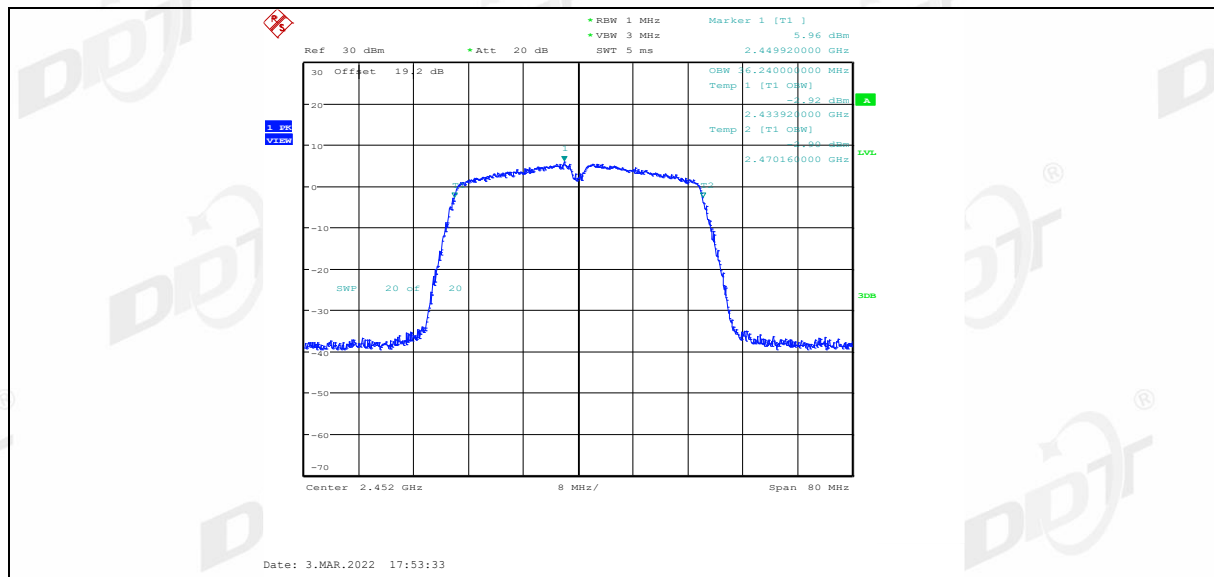
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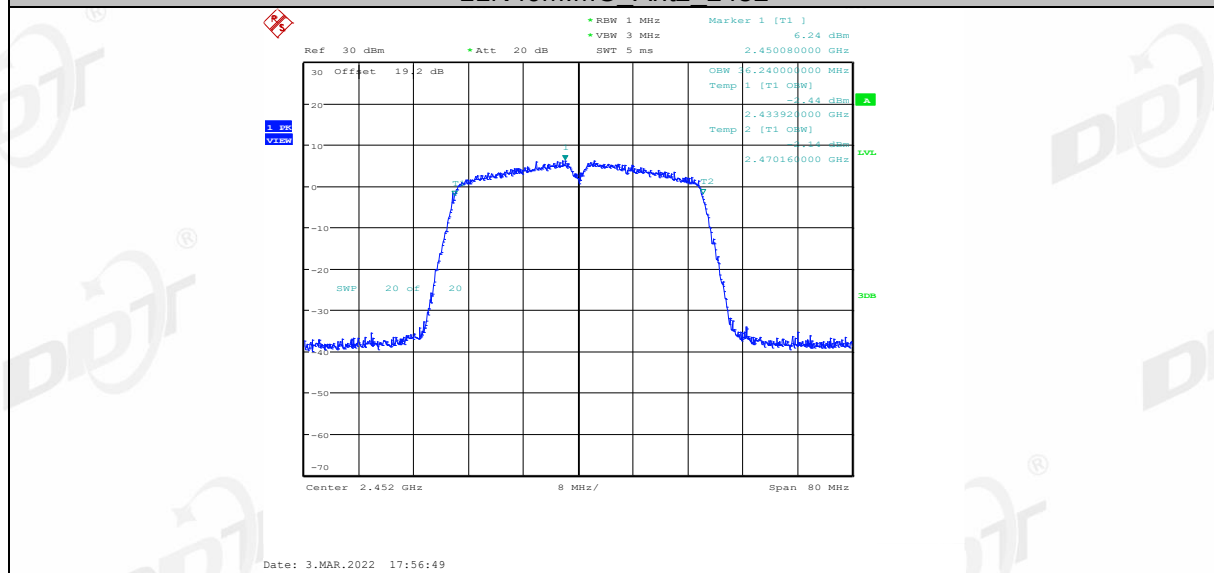
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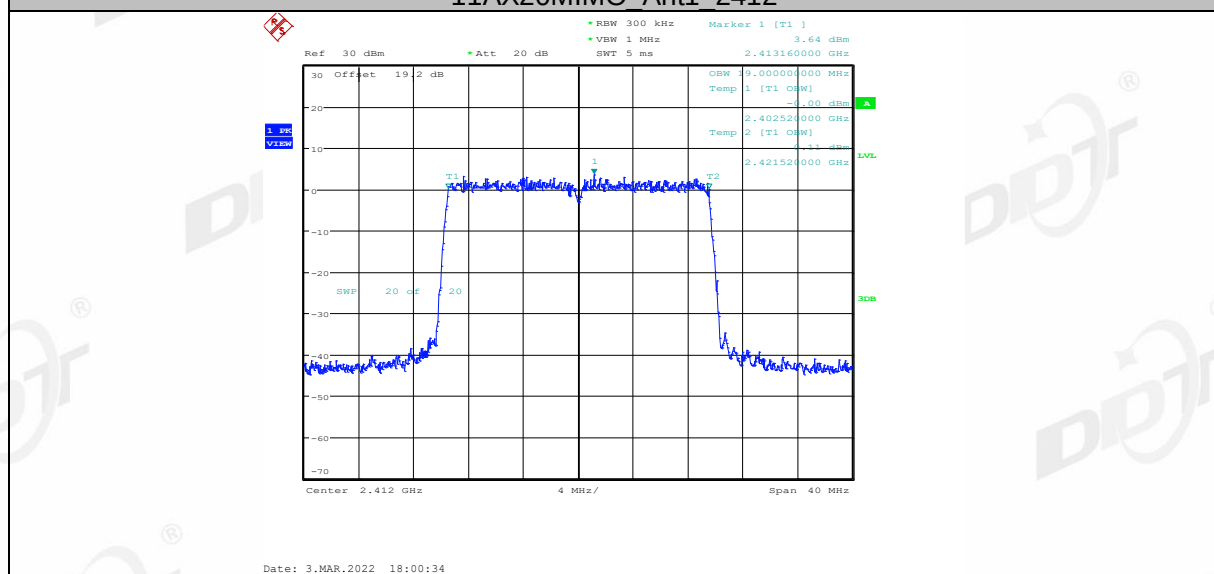
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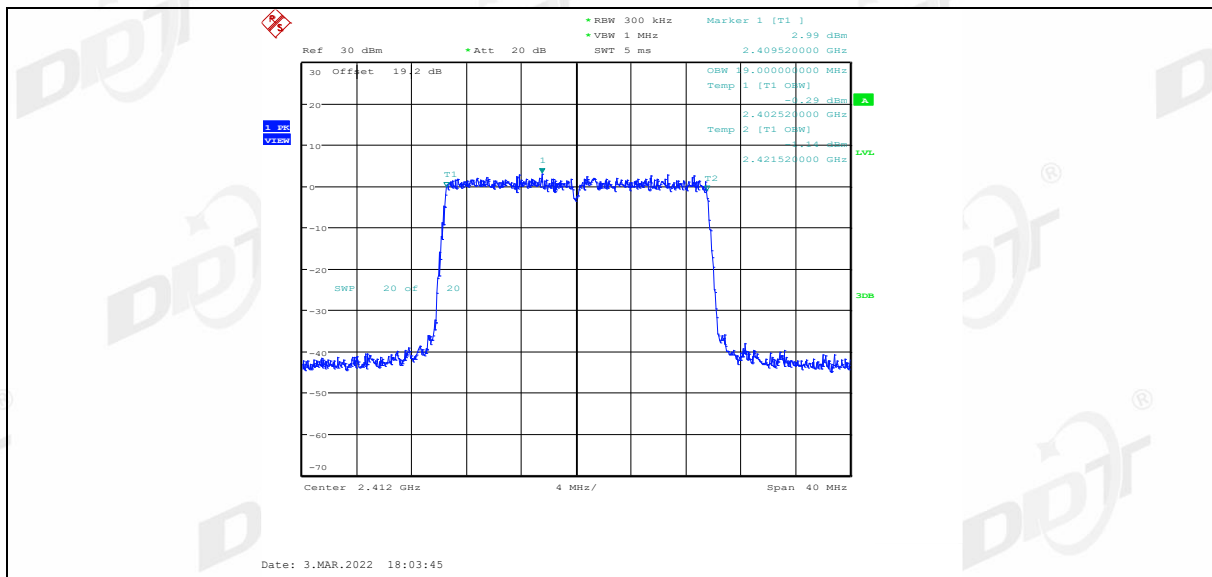
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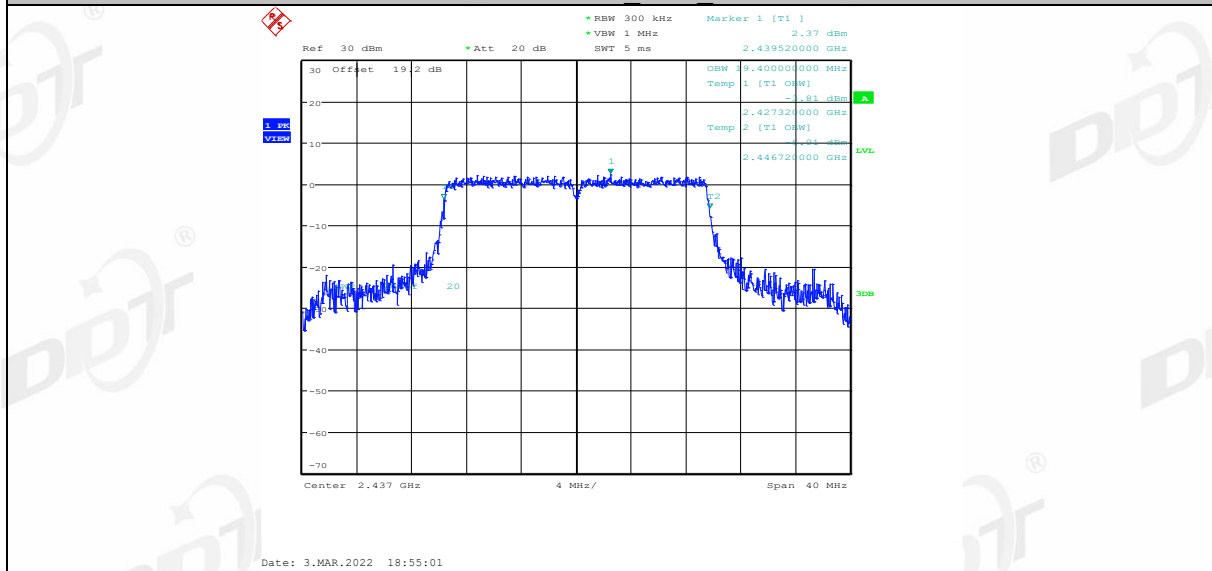
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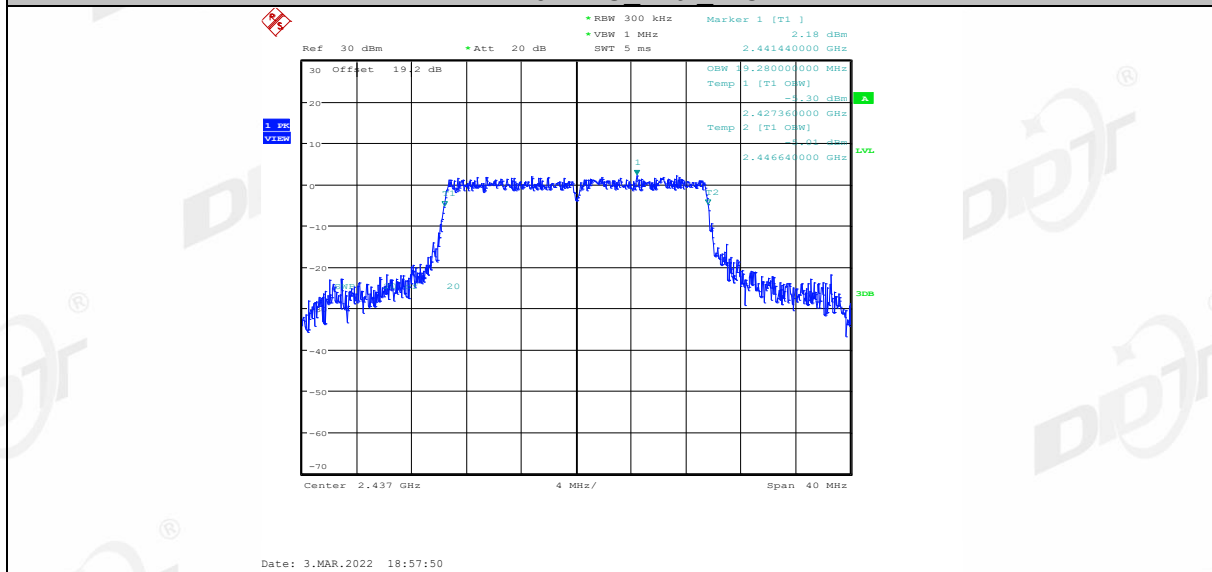
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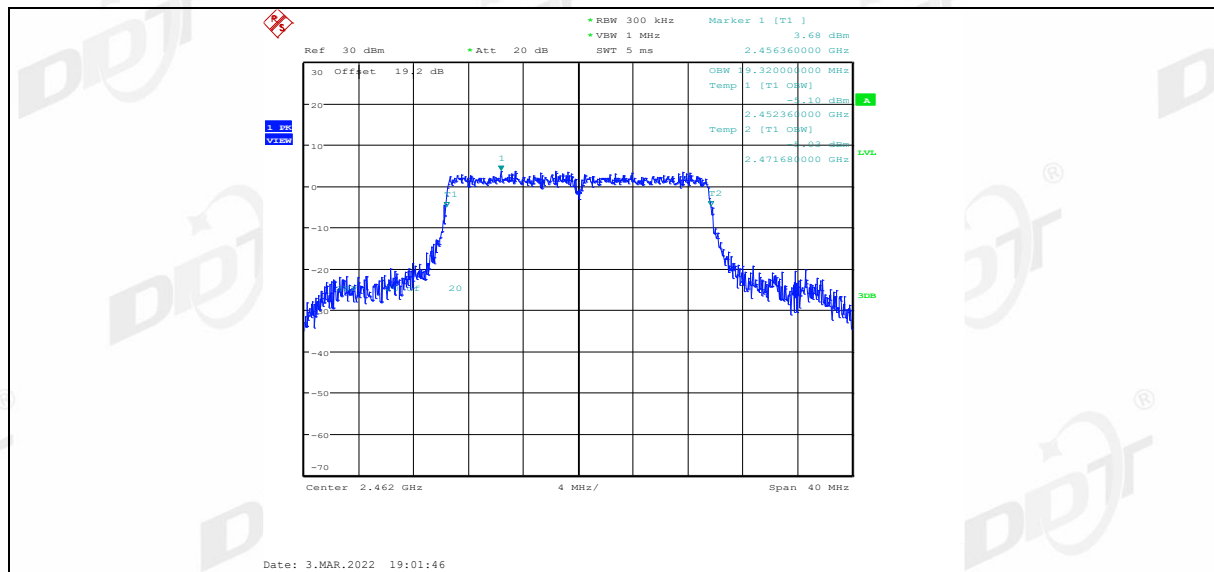
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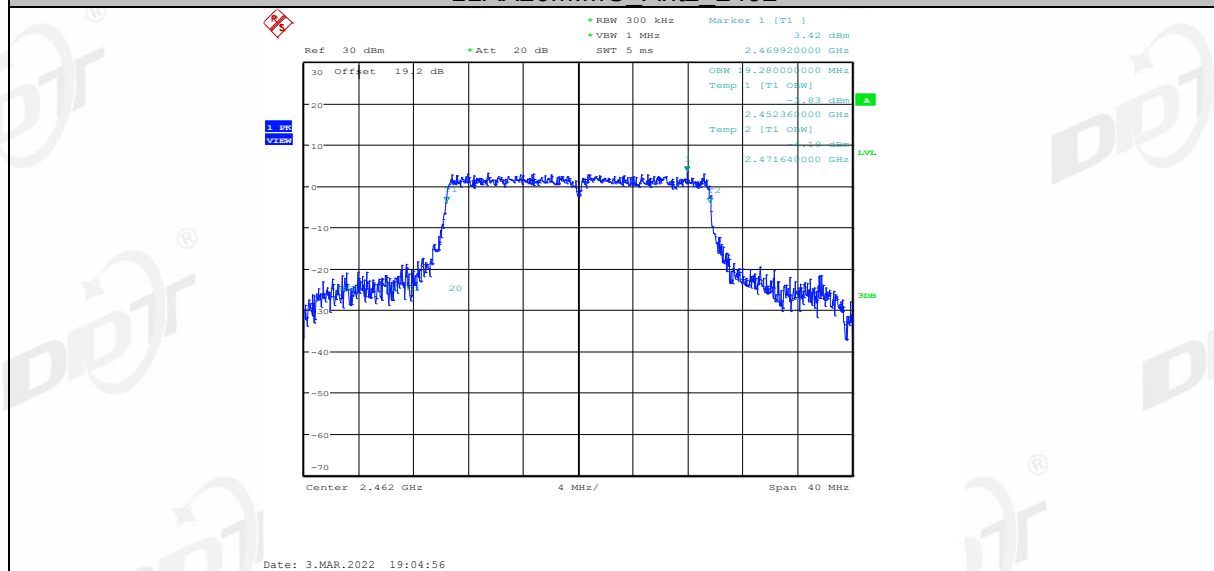
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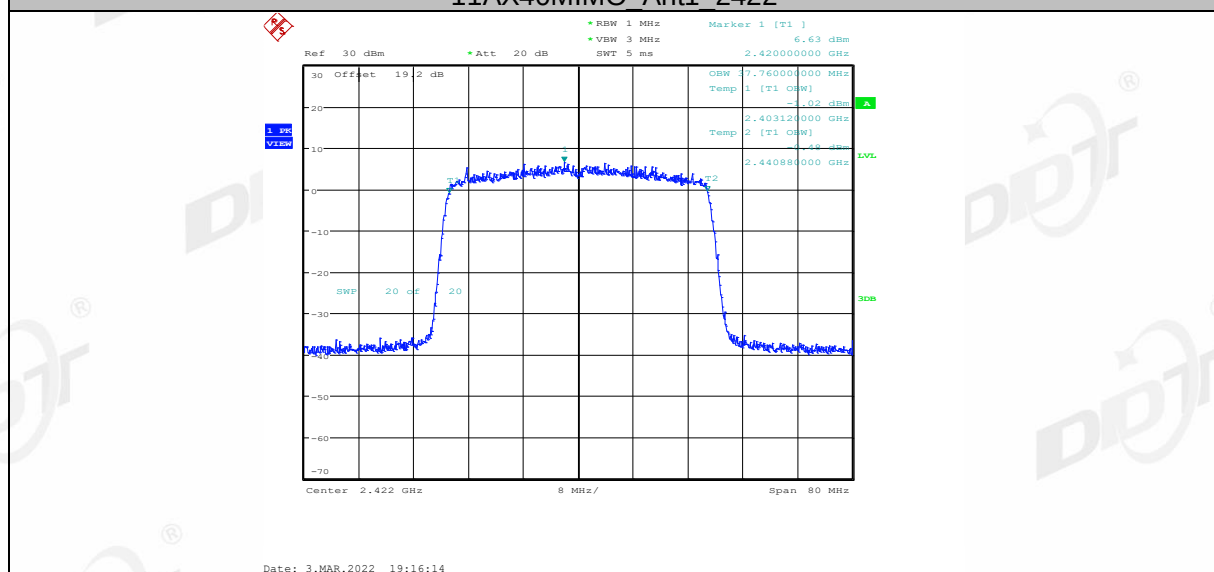
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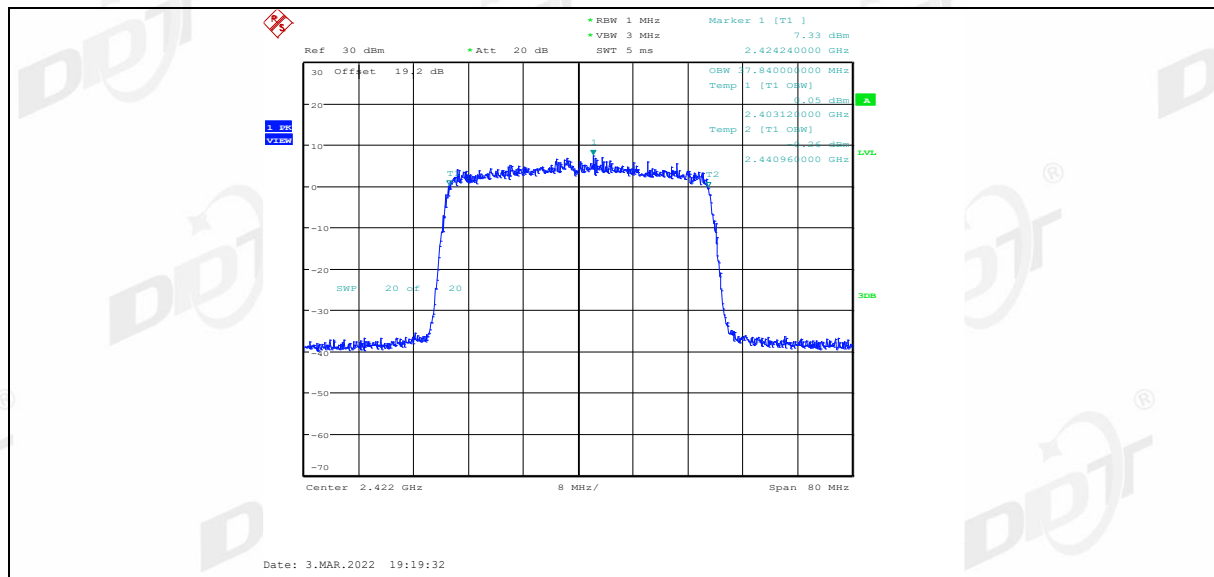
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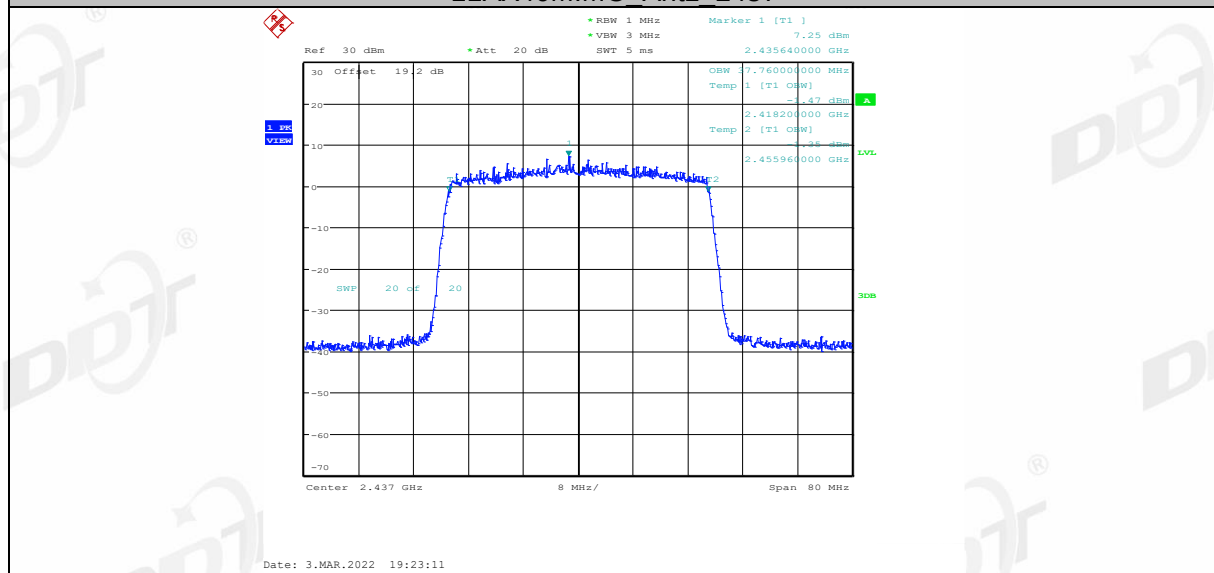
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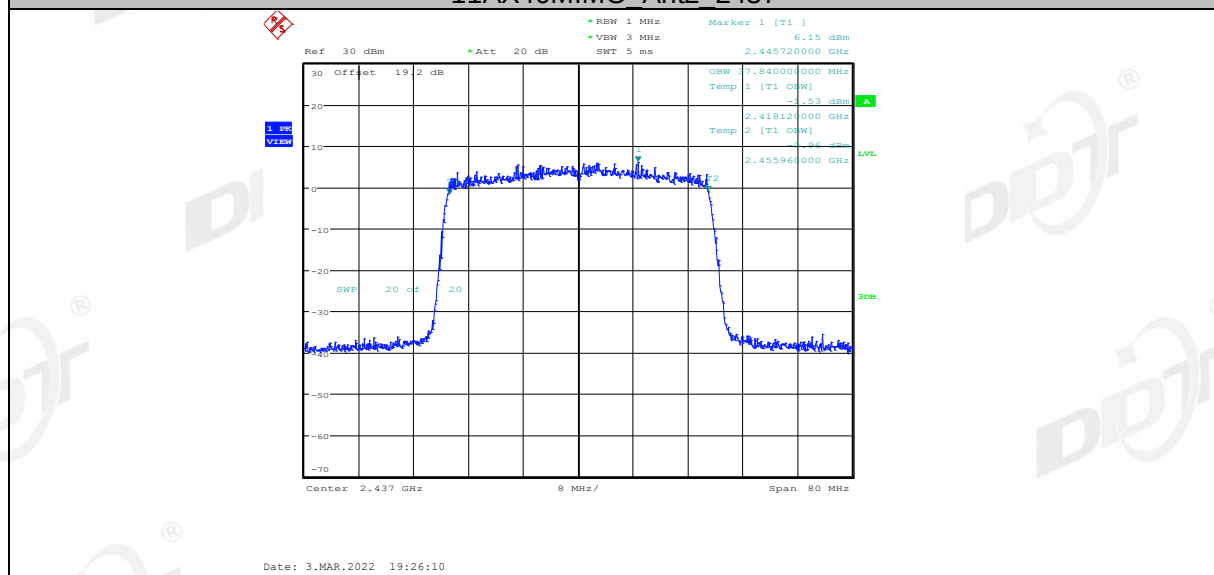
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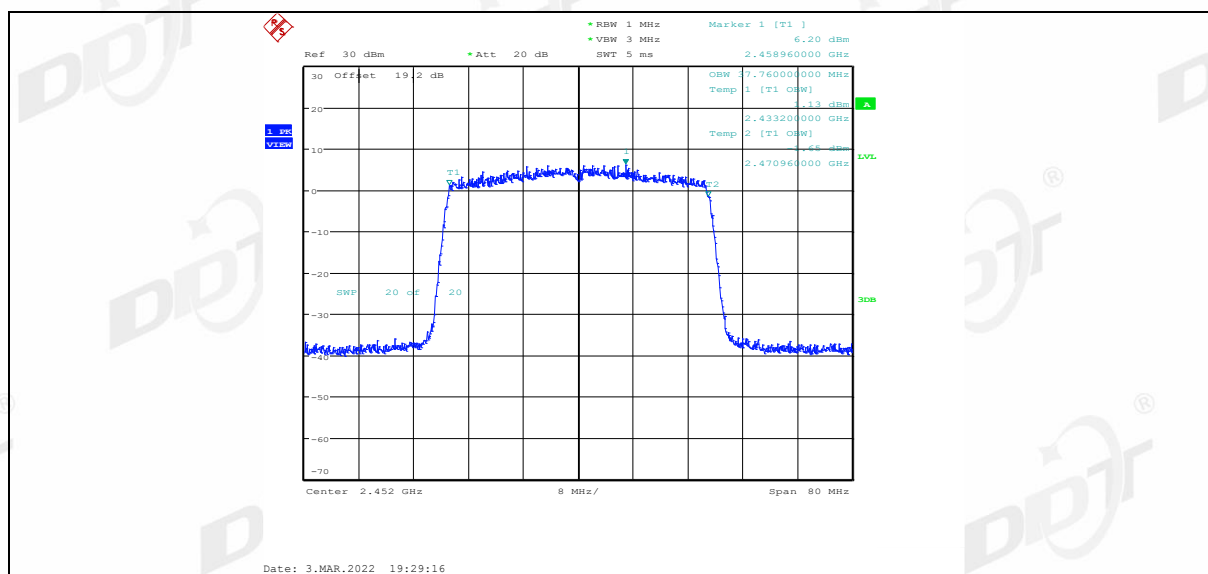
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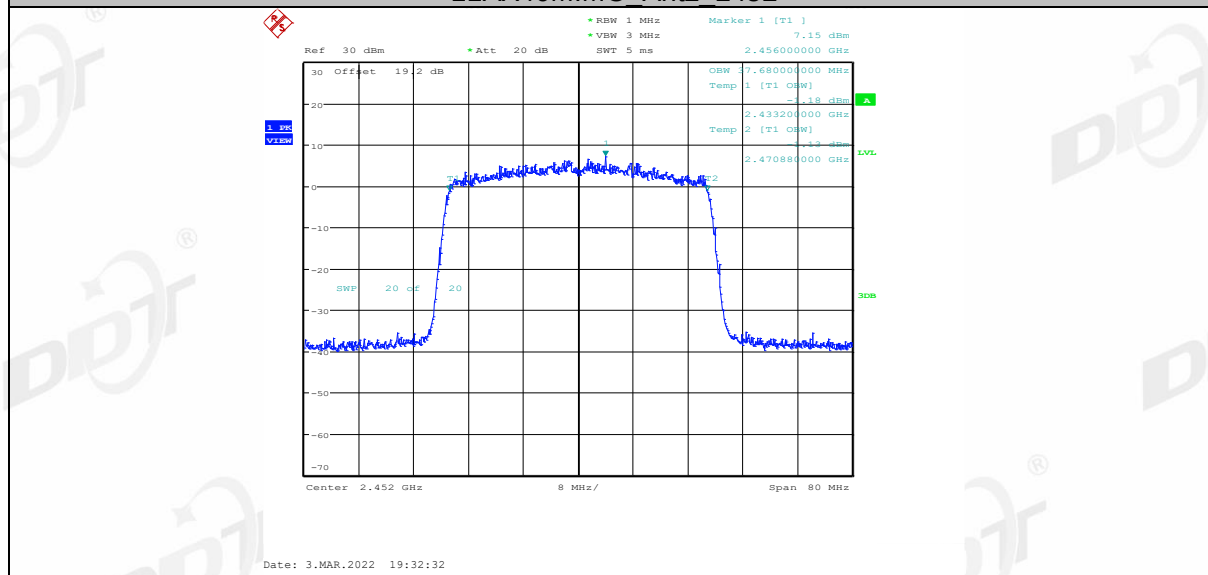
11AX40MIMO Ant2 2437



11AX40MIMO Ant1 2452



11AX40MIMO 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	Conducted Peak Output Power [dBm]	Conducted Limit [dBm]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
11B	2412	ANT1	13.25	30	17.15	36	Pass
11B	2412	ANT2	13.88	30	17.78	36	Pass
11B	2437	ANT1	12.56	30	16.46	36	Pass
11B	2437	ANT2	13.38	30	17.28	36	Pass
11B	2462	ANT1	13.67	30	17.57	36	Pass
11B	2462	ANT2	14.40	30	18.30	36	Pass
11G	2412	ANT1	13.99	30	17.89	36	Pass
11G	2412	ANT2	14.18	30	18.08	36	Pass
11G	2437	ANT1	13.21	30	17.11	36	Pass
11G	2437	ANT2	13.72	30	17.62	36	Pass
11G	2462	ANT1	14.27	30	18.17	36	Pass
11G	2462	ANT2	14.77	30	18.67	36	Pass
11N20MIMO	2412	ANT1	10.89	30	14.79	36	Pass
11N20MIMO	2412	ANT2	10.79	30	14.69	36	Pass
11N20MIMO	2412	ANT1+2	13.85	29.09	17.75	36	Pass
11N20MIMO	2437	ANT1	10.24	30	14.14	36	Pass
11N20MIMO	2437	ANT2	10.33	30	14.23	36	Pass
11N20MIMO	2437	ANT1+2	13.30	29.09	17.20	36	Pass
11N20MIMO	2462	ANT1	11.28	30	15.18	36	Pass
11N20MIMO	2462	ANT2	11.56	30	15.46	36	Pass
11N20MIMO	2462	ANT1+2	14.43	29.09	18.33	36	Pass
11N40MIMO	2422	ANT1	10.79	30	14.69	36	Pass
11N40MIMO	2422	ANT2	10.62	30	14.52	36	Pass
11N40MIMO	2422	ANT1+2	13.72	29.09	17.62	36	Pass
11N40MIMO	2437	ANT1	10.13	30	14.03	36	Pass
11N40MIMO	2437	ANT2	10.26	30	14.16	36	Pass
11N40MIMO	2437	ANT1+2	13.21	29.09	17.11	36	Pass
11N40MIMO	2452	ANT1	10.29	30	14.19	36	Pass
11N40MIMO	2452	ANT2	10.20	30	14.10	36	Pass
11N40MIMO	2452	ANT1+2	13.26	29.09	17.16	36	Pass
11AX20MIMO	2412	ANT1	10.77	30	14.67	36	Pass
11AX20MIMO	2412	ANT2	10.89	30	14.79	36	Pass
11AX20MIMO	2412	ANT1+2	13.84	29.09	17.74	36	Pass
11AX20MIMO	2437	ANT1	10.03	30	13.93	36	Pass

11AX20MIMO	2437	ANT2	10.45	30	14.35	36	Pass
11AX20MIMO	2437	ANT1+2	13.26	29.09	17.16	36	Pass
11AX20MIMO	2462	ANT1	11.24	30	15.14	36	Pass
11AX20MIMO	2462	ANT2	10.99	30	14.89	36	Pass
11AX20MIMO	2462	ANT1+2	14.13	29.09	18.03	36	Pass
11AX40MIMO	2422	ANT1	10.01	30	13.91	36	Pass
11AX40MIMO	2422	ANT2	10.09	30	13.99	36	Pass
11AX40MIMO	2422	ANT1+2	13.06	29.09	16.96	36	Pass
11AX40MIMO	2437	ANT1	9.42	30	13.32	36	Pass
11AX40MIMO	2437	ANT2	9.50	30	13.40	36	Pass
11AX40MIMO	2437	ANT1+2	12.47	29.09	16.37	36	Pass
11AX40MIMO	2452	ANT1	9.45	30	13.35	36	Pass
11AX40MIMO	2452	ANT2	9.53	30	13.43	36	Pass
11AX40MIMO	2452	ANT1+2	12.50	29.09	16.40	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.

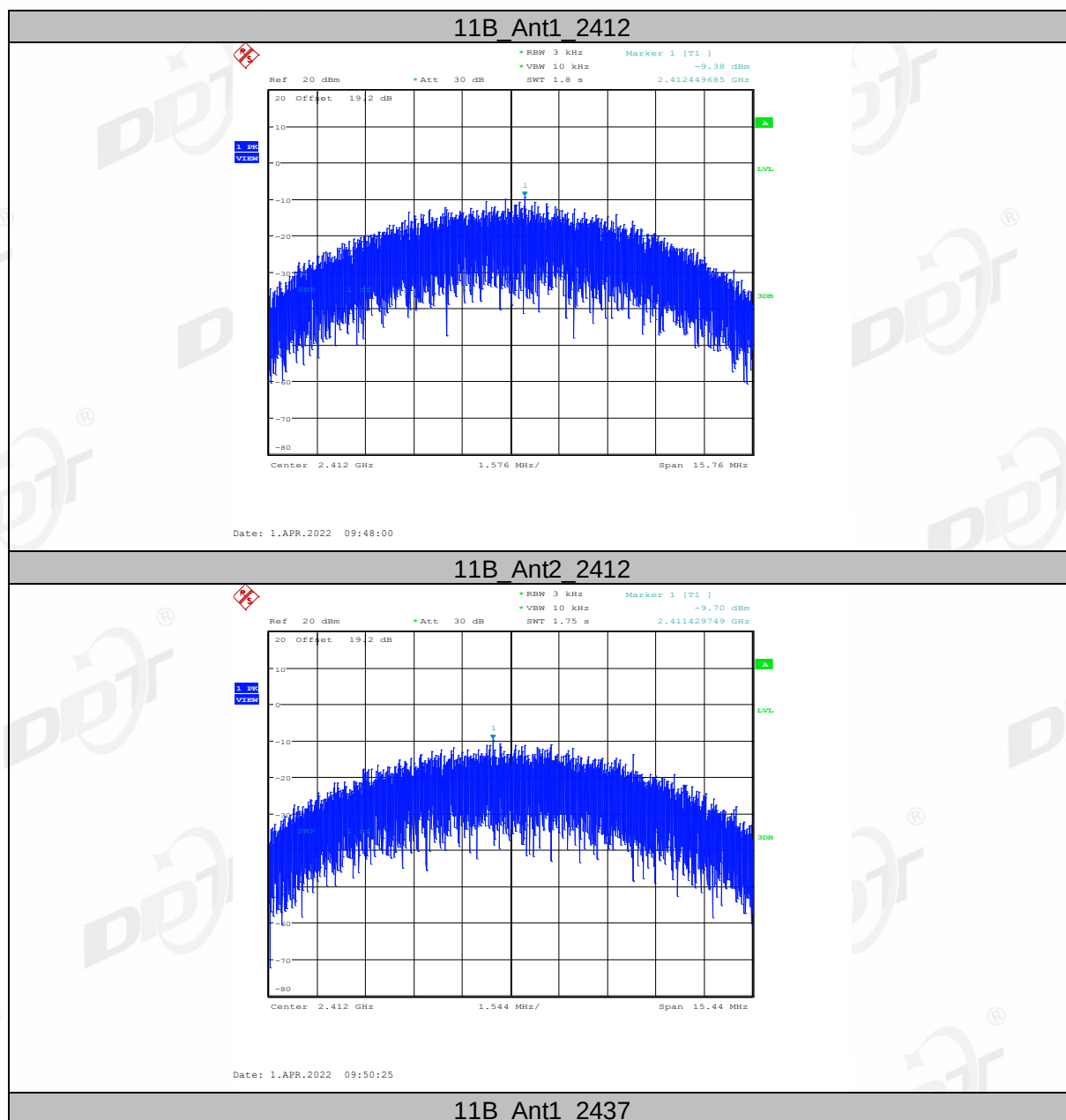
(4) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

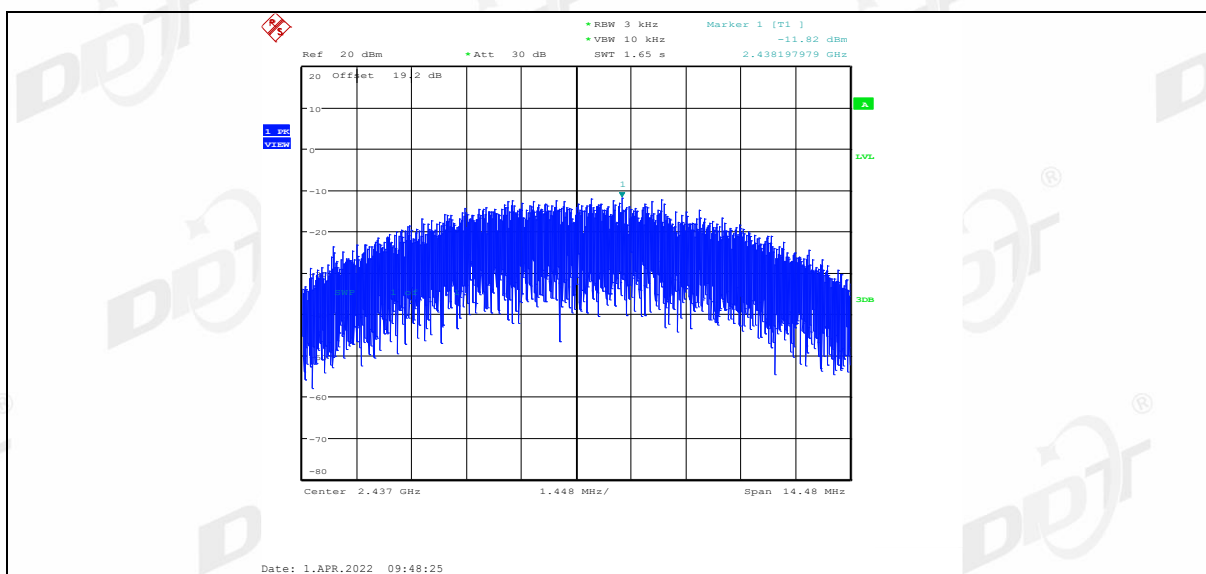
6.4. Test result

Test Mode	Antenna	Channel [MHz]	Result [dBm/ 3 kHz]	Limit [dBm/ 3 kHz]	Verdict
11B	ANT1	2412	-9.38	8	Pass
11B	ANT2	2412	-9.70	8	Pass
11B	ANT1	2437	-11.82	8	Pass
11B	ANT2	2437	-11.10	8	Pass
11B	ANT1	2462	-10.15	8	Pass
11B	ANT2	2462	-9.47	8	Pass
11G	ANT1	2412	-16.03	8	Pass
11G	ANT2	2412	-12.37	8	Pass
11G	ANT1	2437	-17.18	8	Pass
11G	ANT2	2437	-13.40	8	Pass
11G	ANT1	2462	-16.58	8	Pass
11G	ANT2	2462	-11.32	8	Pass
11N20MIMO	ANT1	2412	-12.60	8	Pass
11N20MIMO	ANT2	2412	-15.14	8	Pass
11N20MIMO	ANT1+2	2412	-10.68	7.09	Pass
11N20MIMO	ANT1	2437	-15.99	8	Pass
11N20MIMO	ANT2	2437	-16.36	8	Pass
11N20MIMO	ANT1+2	2437	-13.16	7.09	Pass
11N20MIMO	ANT1	2462	-14.35	8	Pass
11N20MIMO	ANT2	2462	-14.57	8	Pass
11N20MIMO	ANT1+2	2462	-11.45	7.09	Pass
11N40MIMO	ANT1	2422	-17.43	8	Pass
11N40MIMO	ANT2	2422	-17.29	8	Pass
11N40MIMO	ANT1+2	2422	-14.35	7.09	Pass
11N40MIMO	ANT1	2437	-18.66	8	Pass
11N40MIMO	ANT2	2437	-19.33	8	Pass
11N40MIMO	ANT1+2	2437	-15.97	7.09	Pass
11N40MIMO	ANT1	2452	-17.34	8	Pass
11N40MIMO	ANT2	2452	-17.36	8	Pass
11N40MIMO	ANT1+2	2452	-14.34	7.09	Pass
11AX20MIMO	ANT1	2412	-19.07	8	Pass
11AX20MIMO	ANT2	2412	-18.61	8	Pass
11AX20MIMO	ANT1+2	2412	-15.82	7.09	Pass
11AX20MIMO	ANT1	2437	-19.85	8	Pass
11AX20MIMO	ANT2	2437	-18.27	8	Pass
11AX20MIMO	ANT1+2	2437	-15.98	7.09	Pass
11AX20MIMO	ANT1	2462	-17.39	8	Pass
11AX20MIMO	ANT2	2462	-17.60	8	Pass
11AX20MIMO	ANT1+2	2462	-14.48	7.09	Pass
11AX40MIMO	ANT1	2422	-19.39	8	Pass
11AX40MIMO	ANT2	2422	-19.58	8	Pass
11AX40MIMO	ANT1+2	2422	-16.47	7.09	Pass
11AX40MIMO	ANT1	2437	-18.52	8	Pass
11AX40MIMO	ANT2	2437	-20.27	8	Pass
11AX40MIMO	ANT1+2	2437	-16.30	7.09	Pass
11AX40MIMO	ANT1	2452	-20.46	8	Pass
11AX40MIMO	ANT2	2452	-20.08	8	Pass

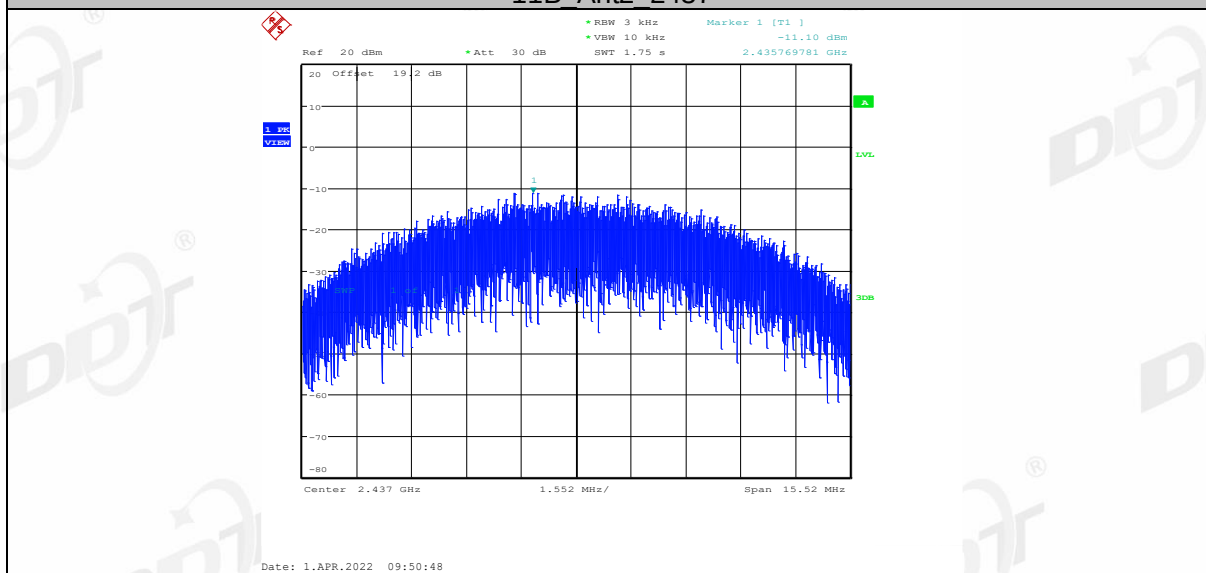
11AX40MIMO	ANT1+2	2452	-17.26	7.09	Pass
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6.5. Original test data

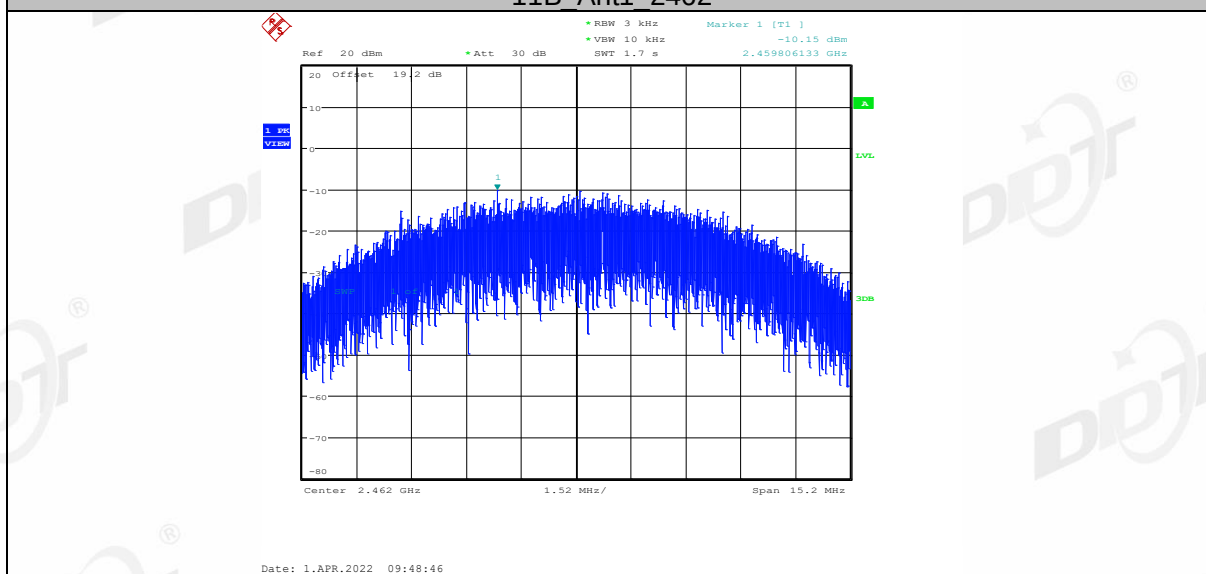




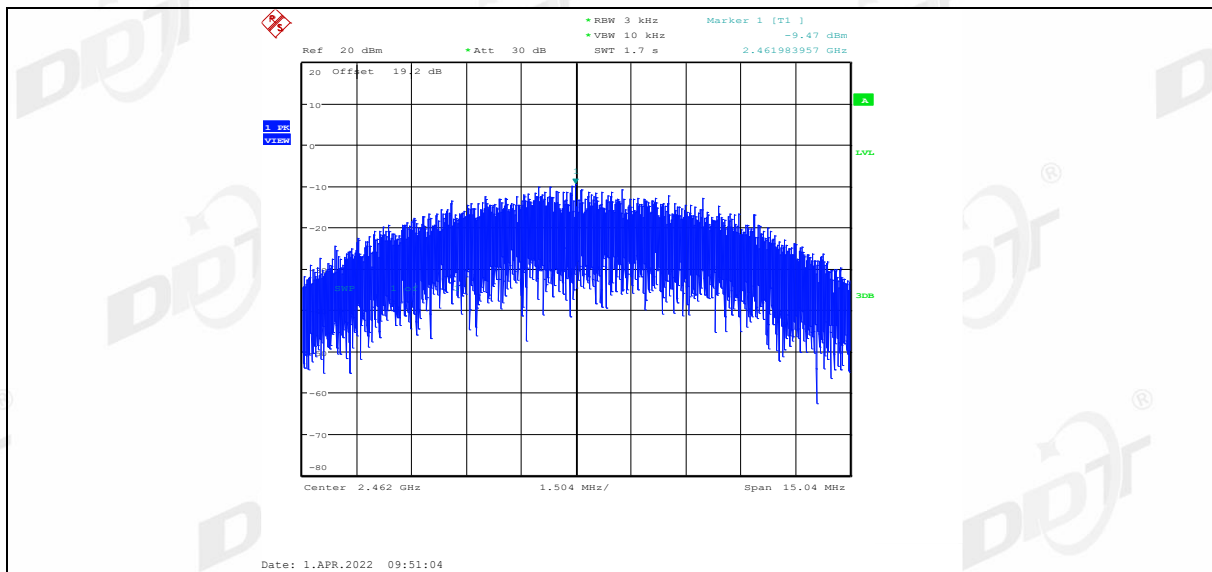
11B Ant2 2437



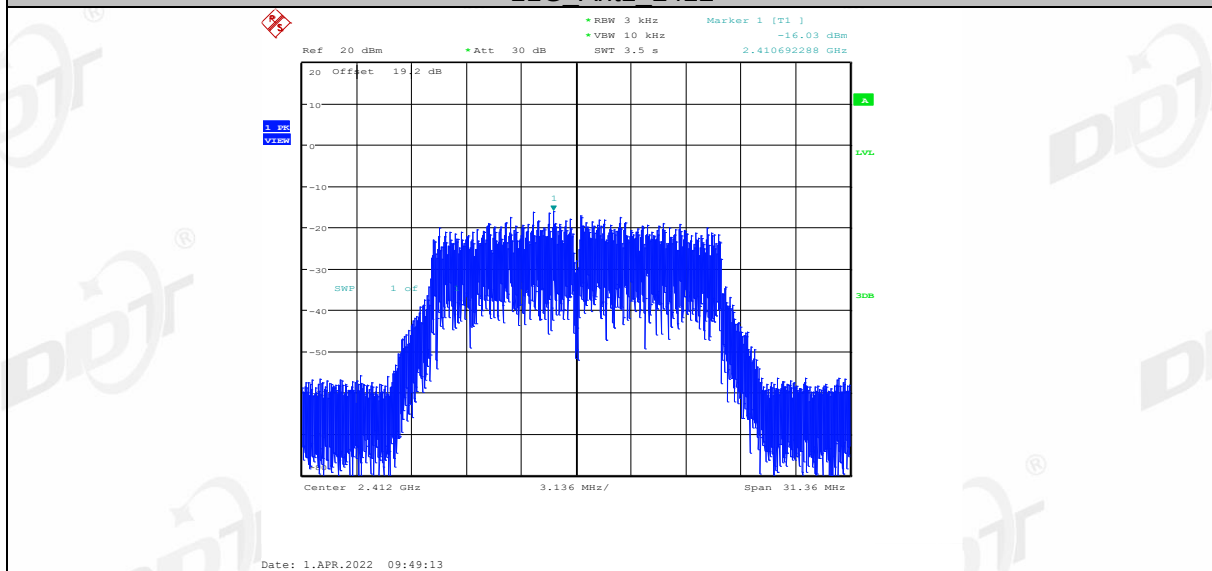
11B Ant1 2462



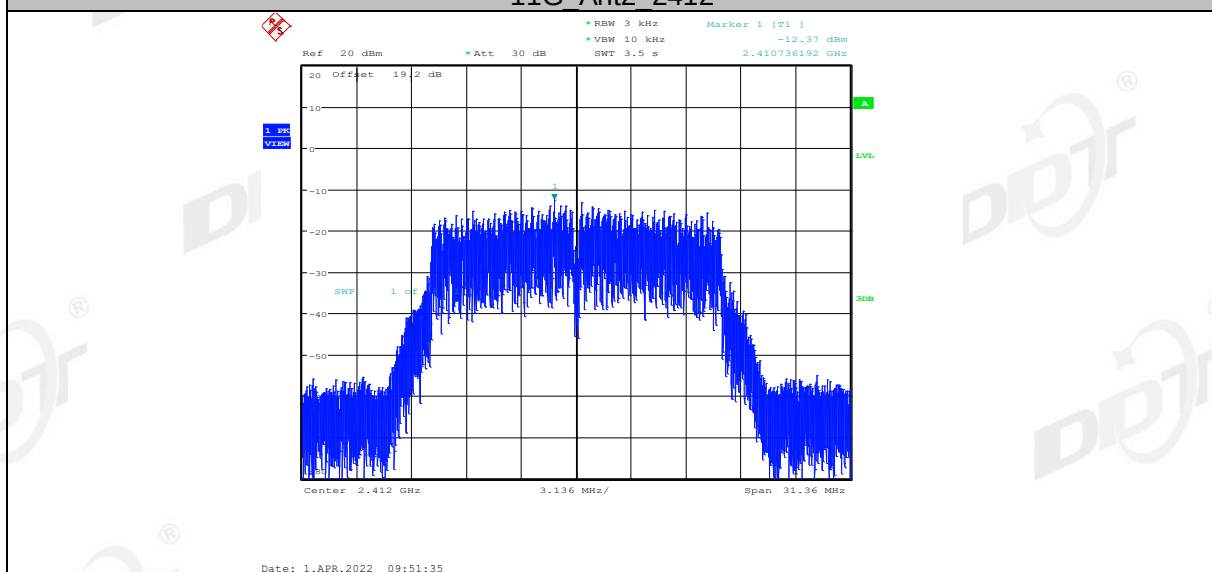
11B Ant2 2462



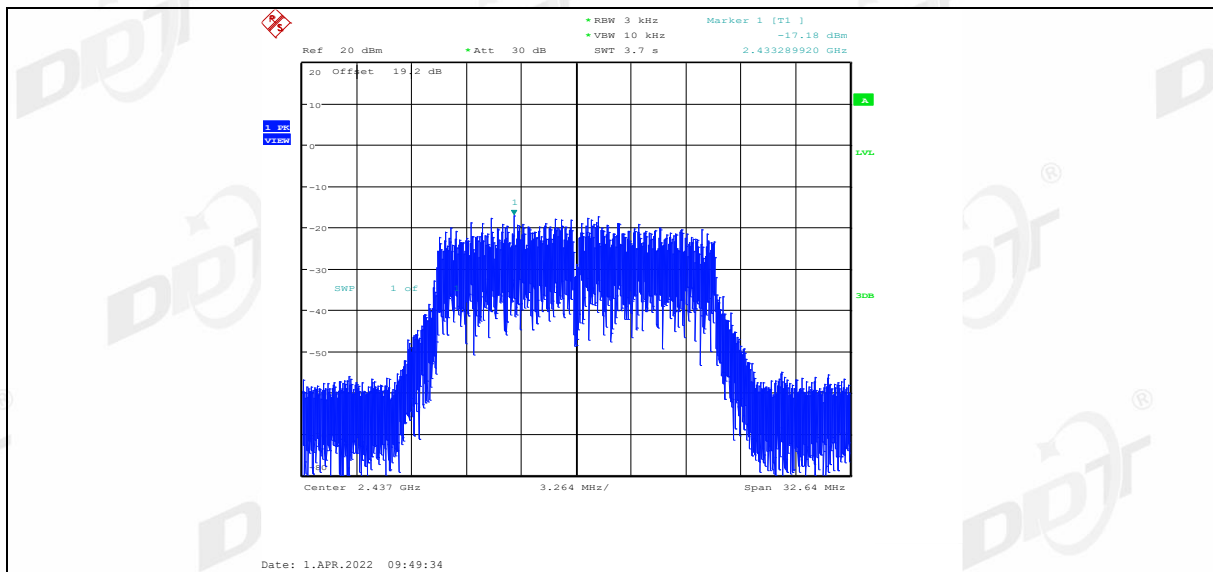
11G Ant1 2412



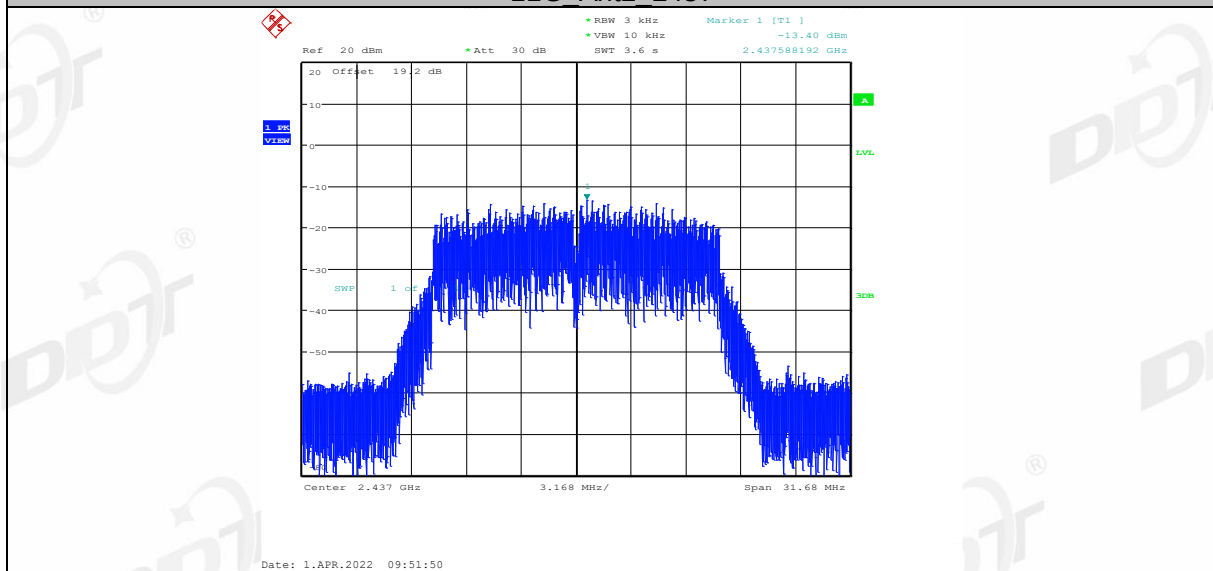
11G Ant2 2412



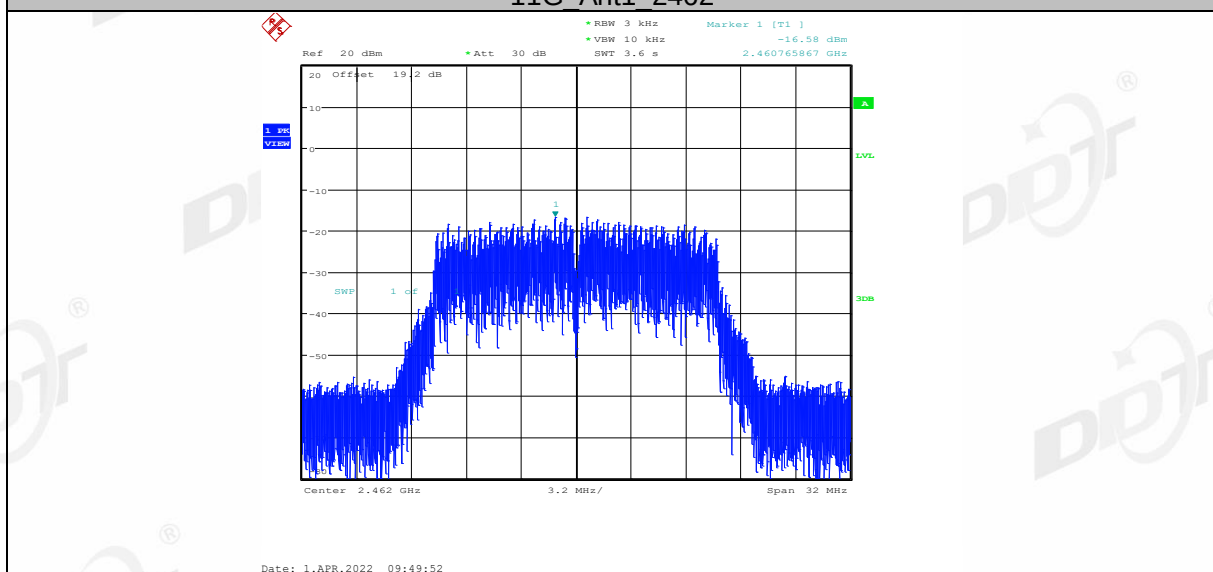
11G Ant1 2437



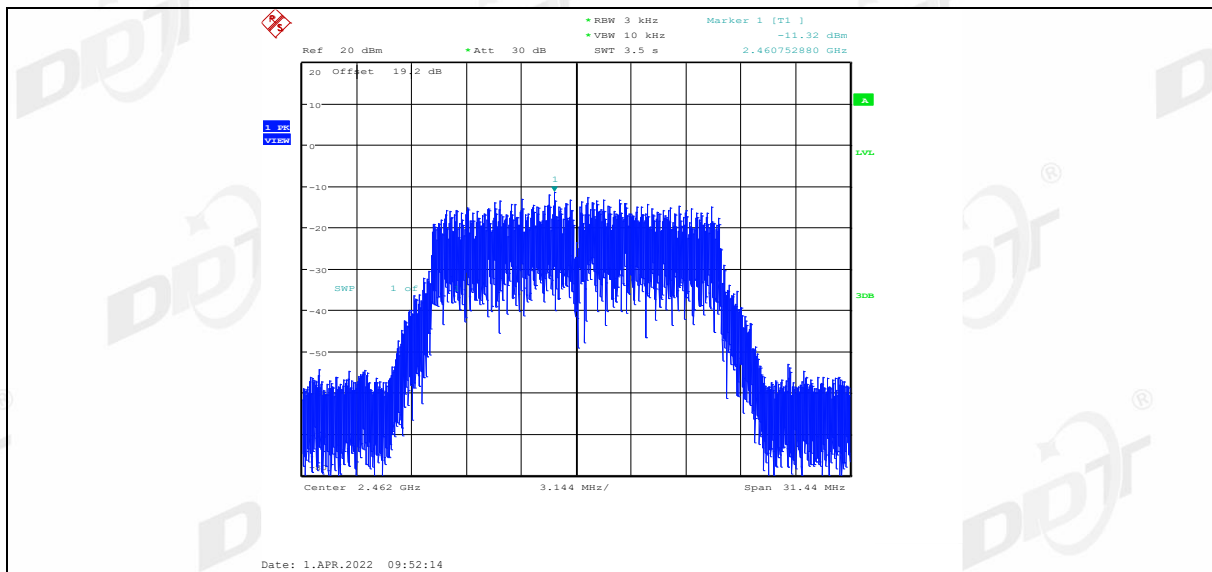
11G Ant2 2437



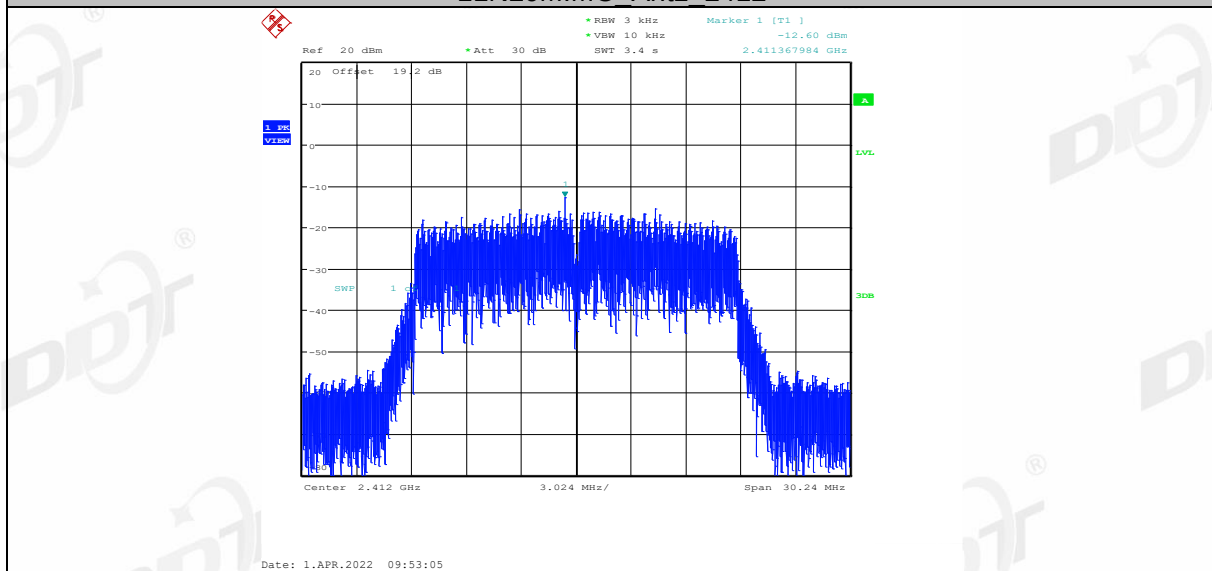
11G Ant1 2462



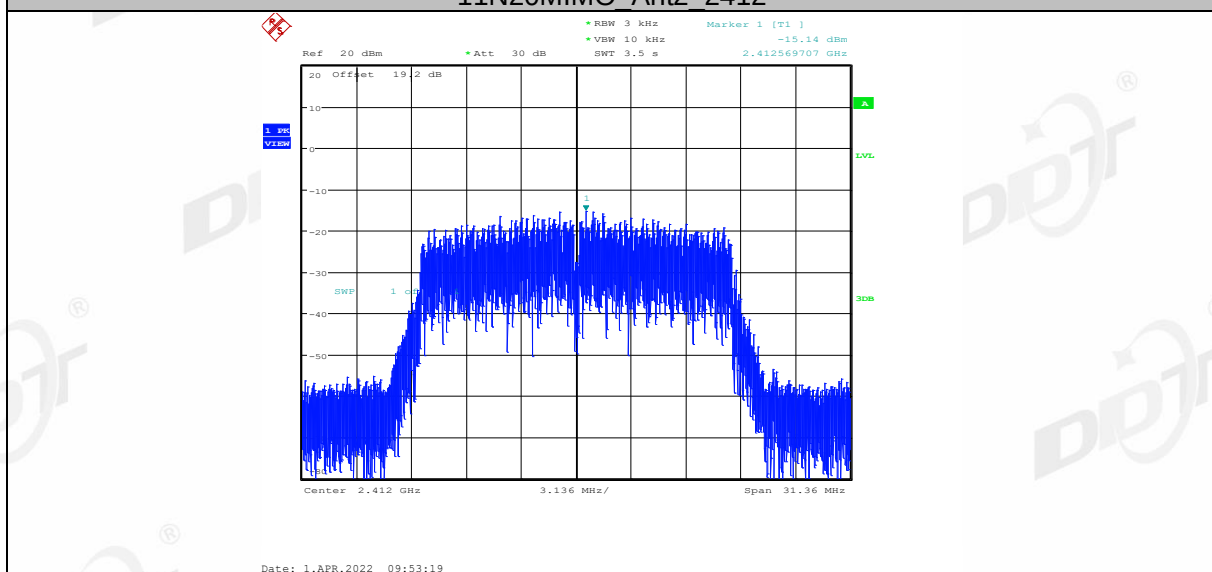
11G Ant2 2462



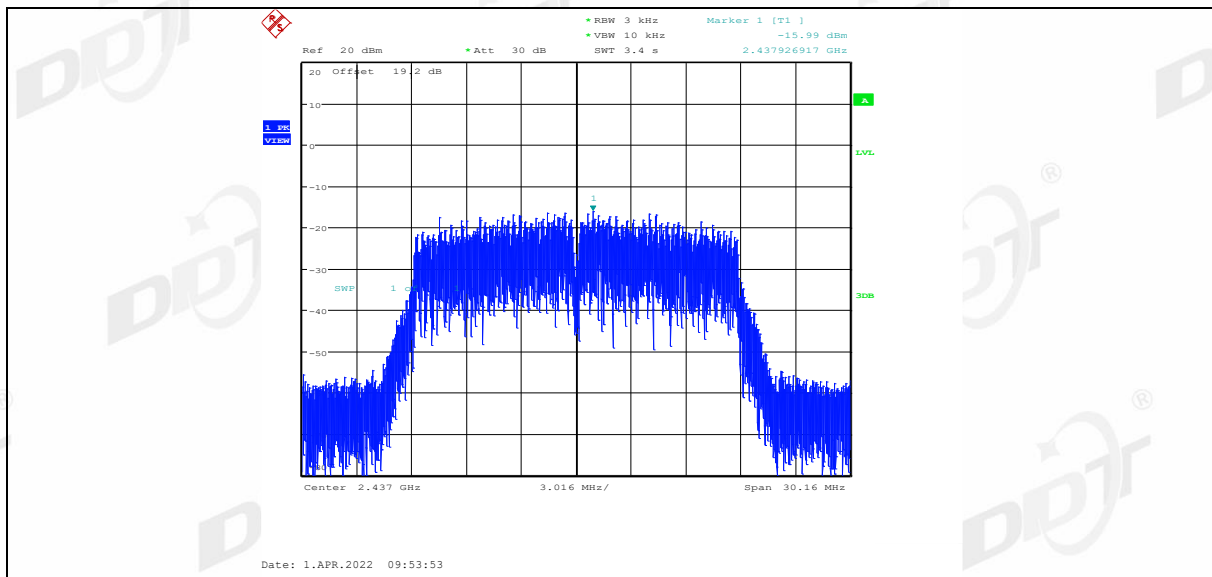
11N20MIMO Ant1 2412



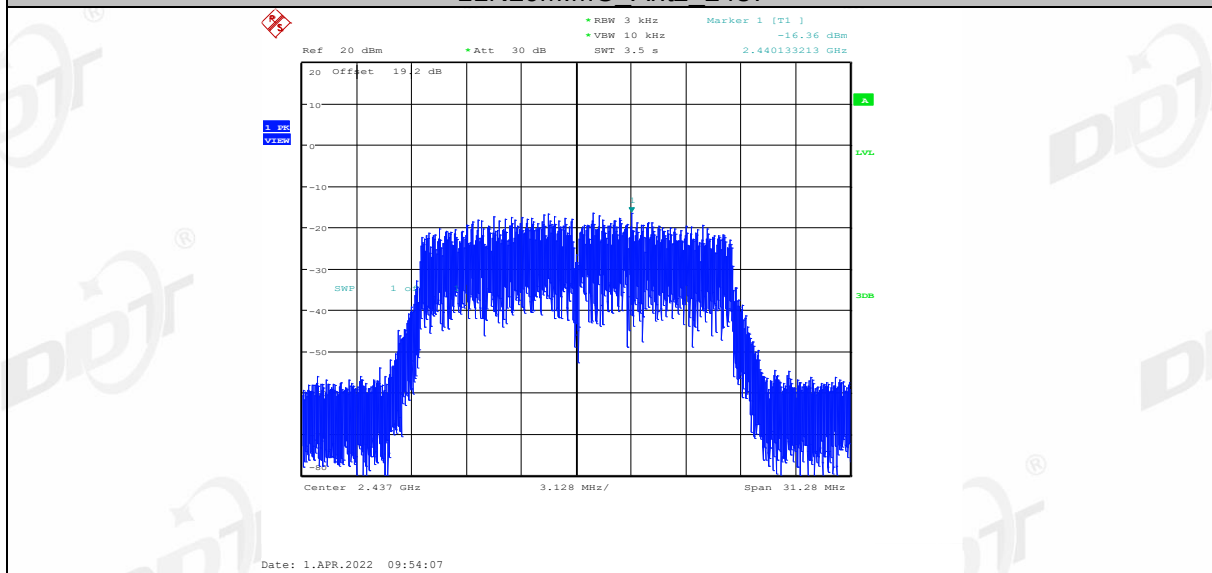
11N20MIMO Ant2 2412



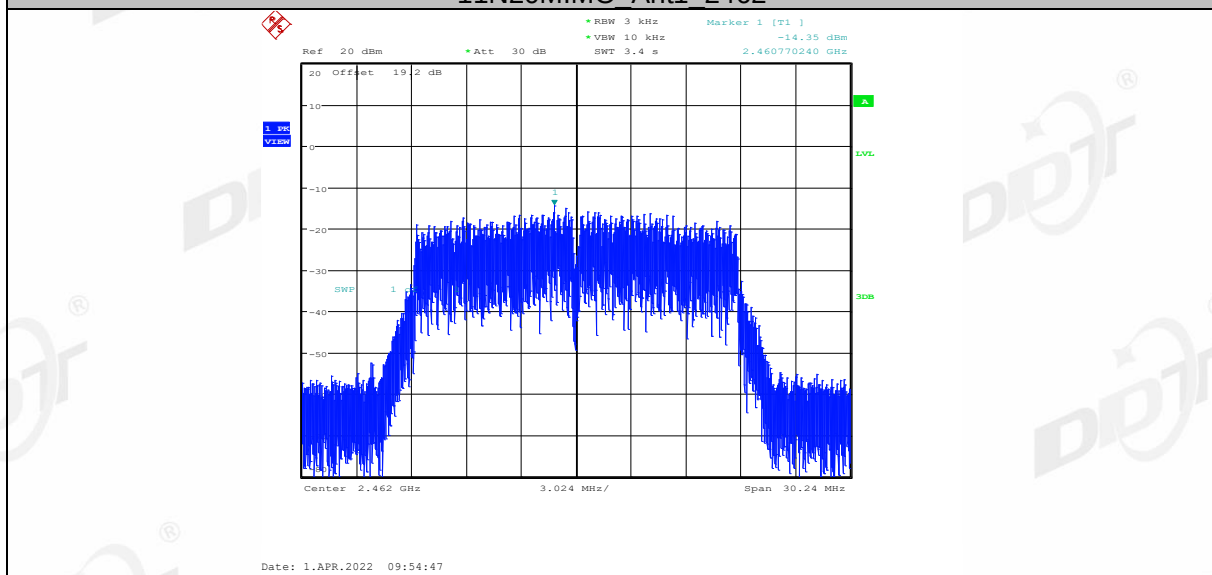
11N20MIMO Ant1 2437



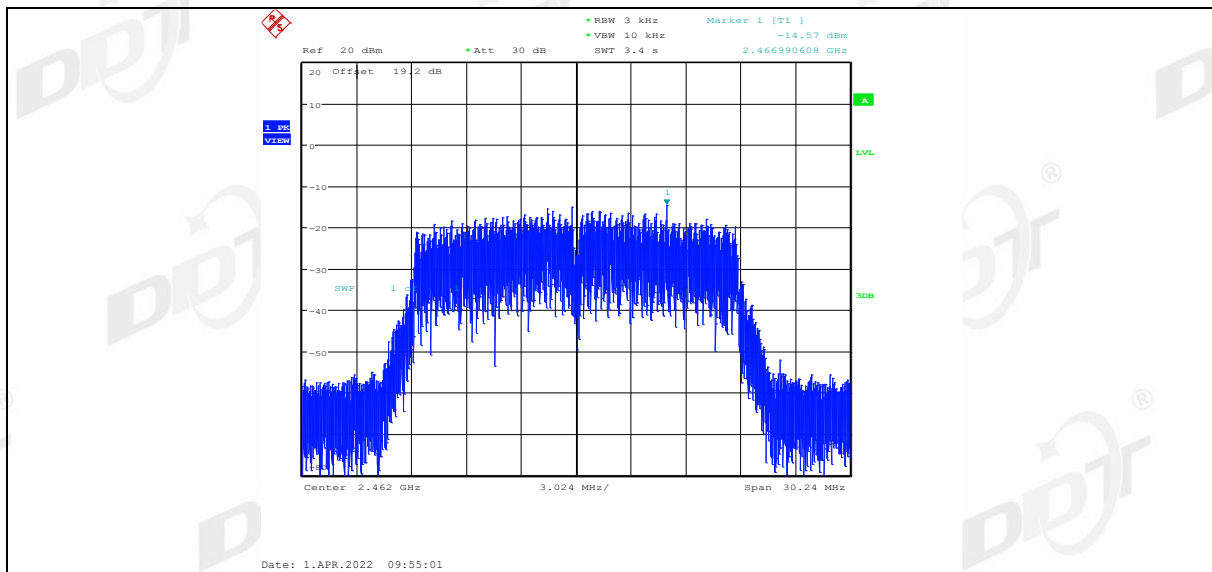
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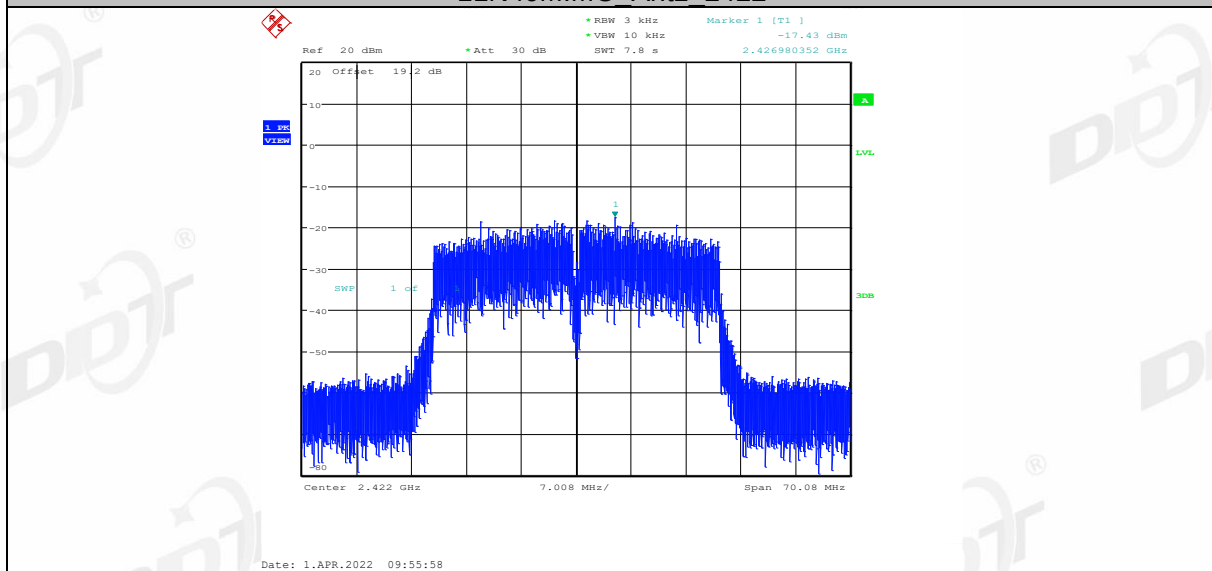
11N20MIMO Ant1 2462



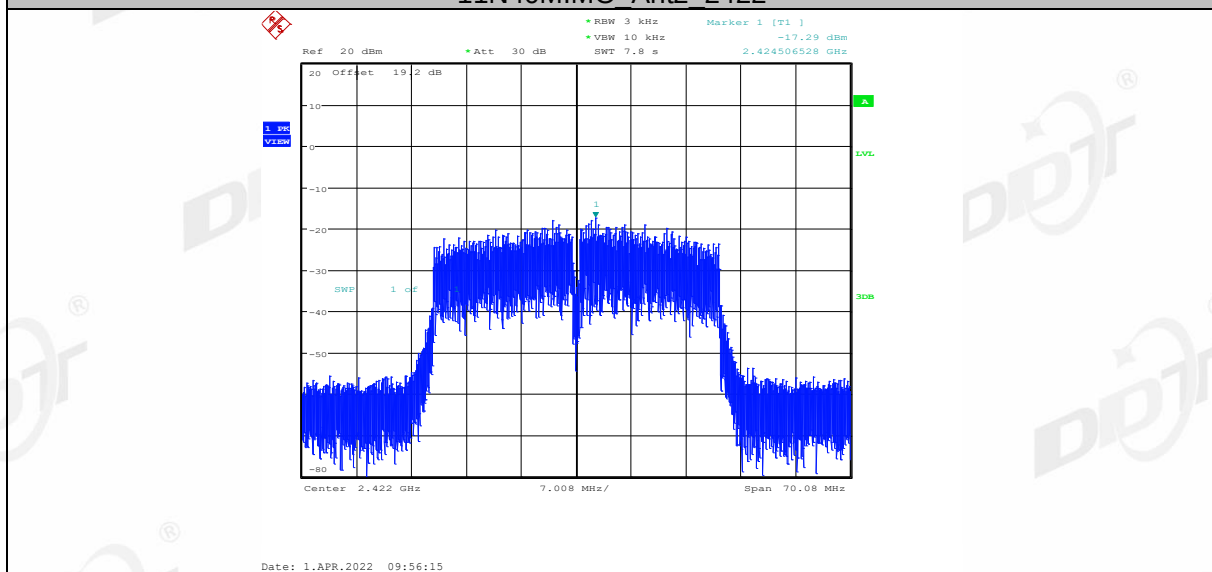
11N20MIMO Ant2 2462



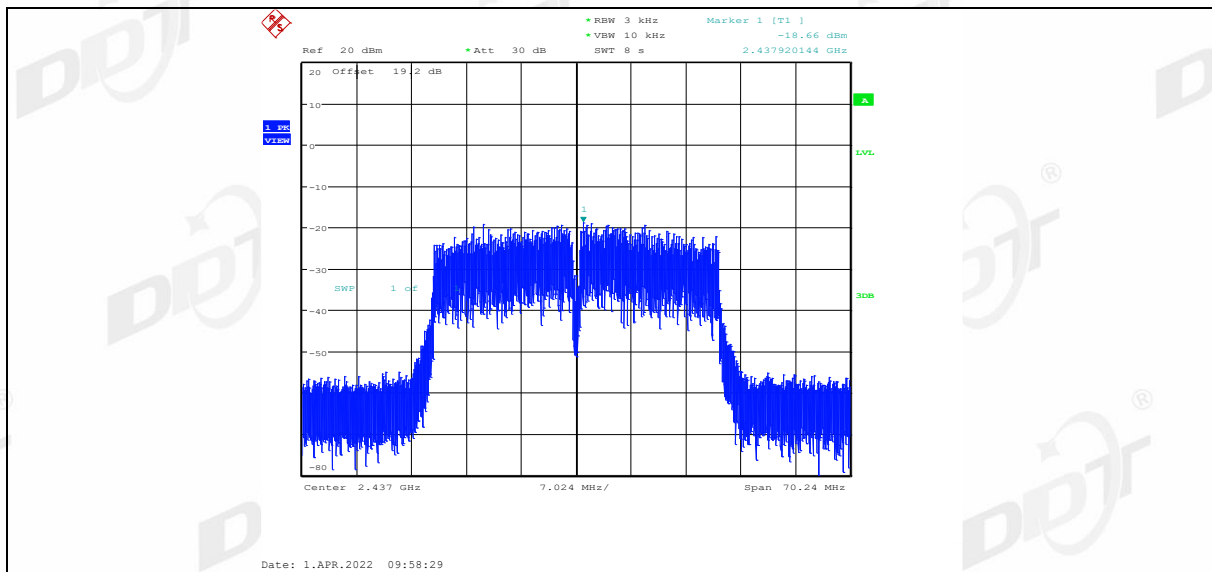
11N40MIMO Ant1 2422



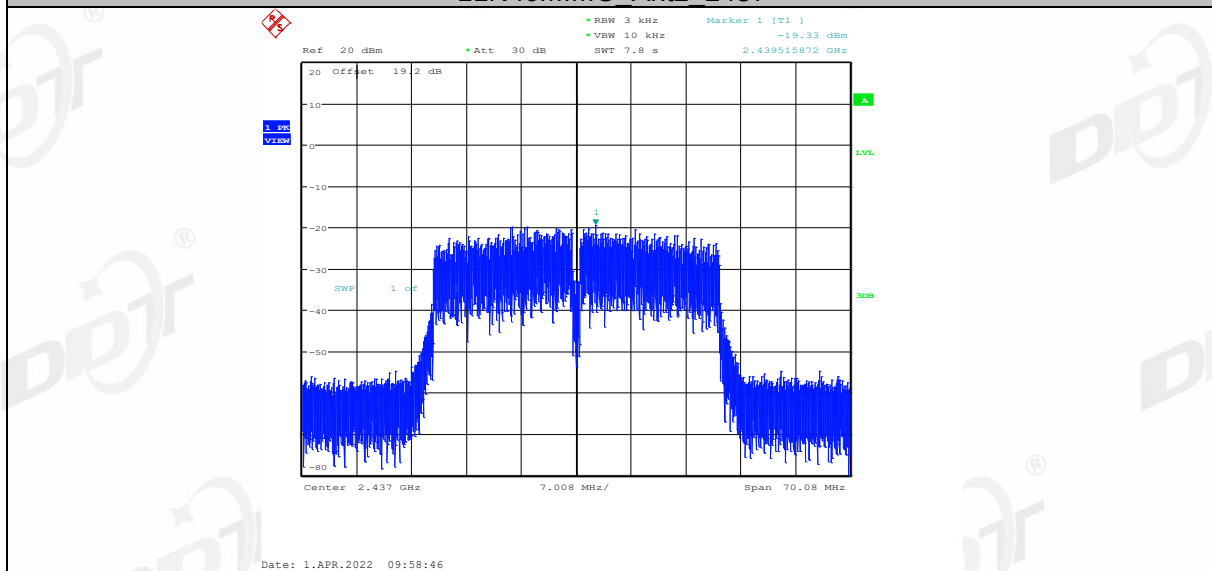
11N40MIMO Ant2 2422



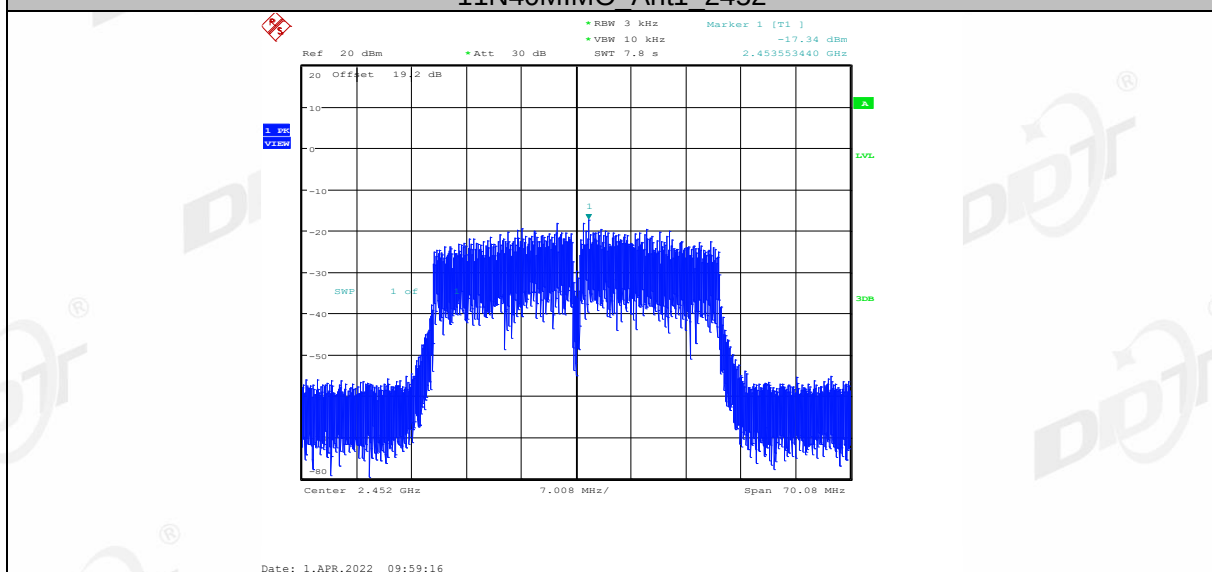
11N40MIMO Ant1 2437



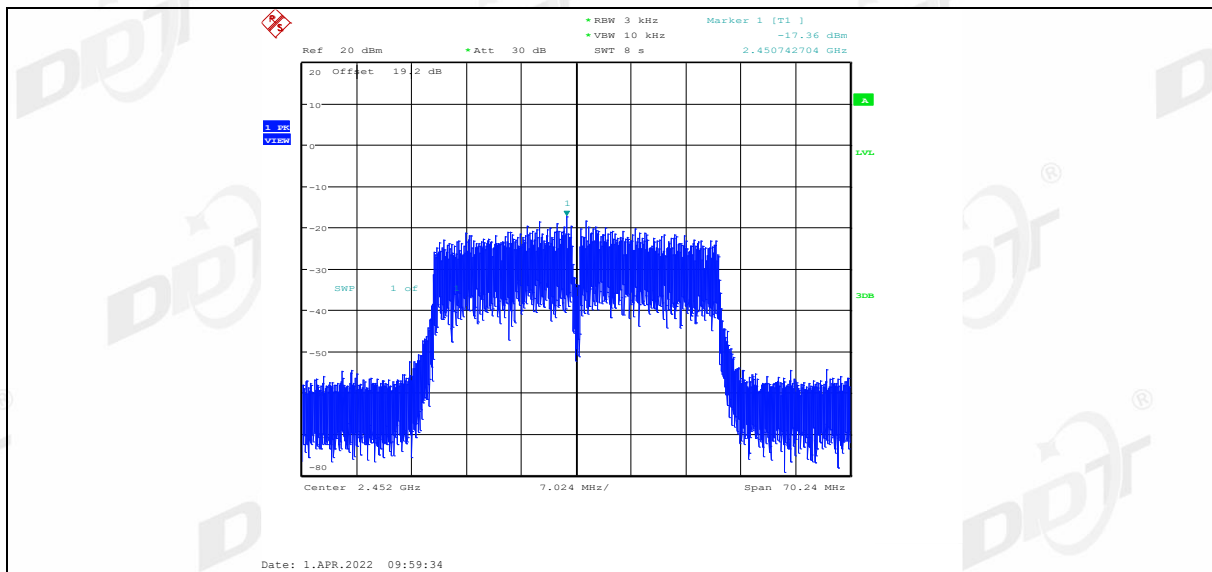
11N40MIMO Ant2 2437



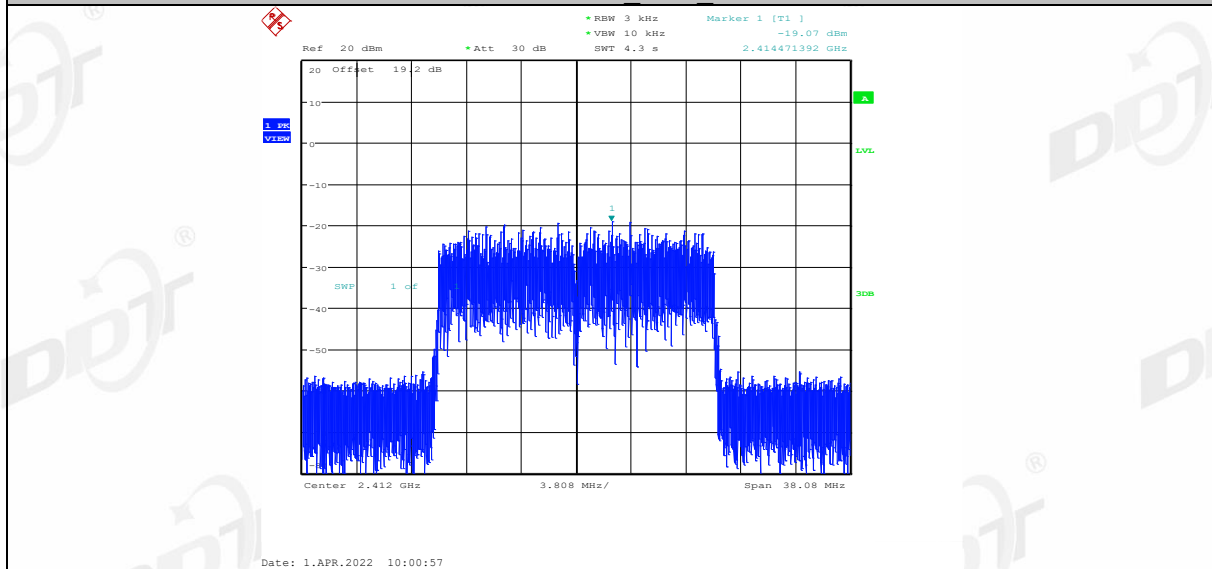
11N40MIMO Ant1 2452



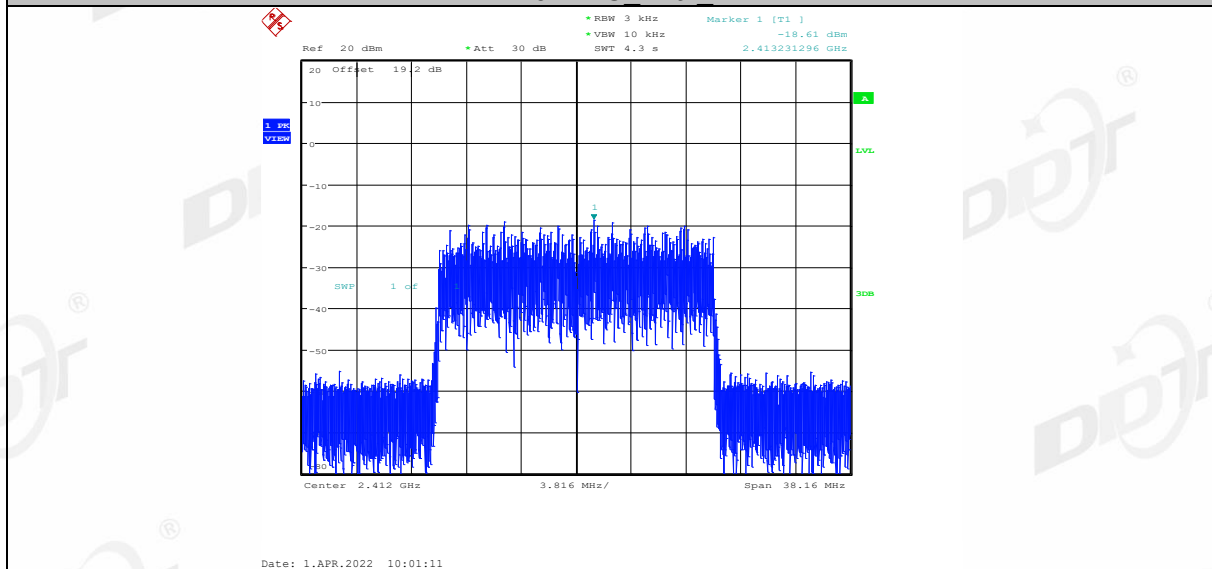
11N40MIMO Ant2 2452



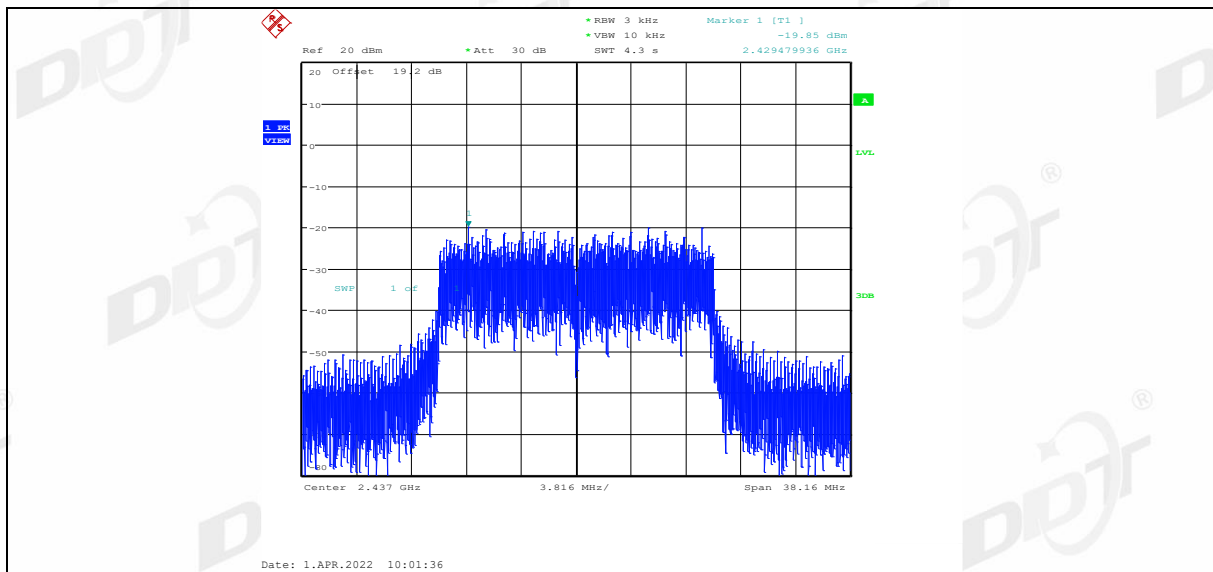
11AX20MIMO Ant1 2412



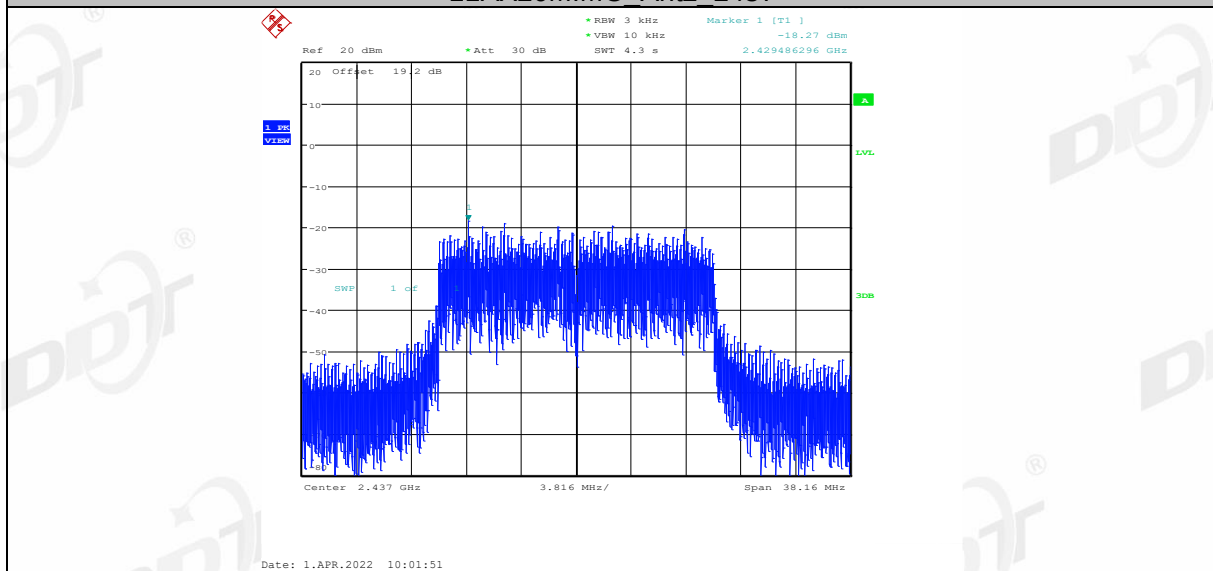
11AX20MIMO Ant2 2412



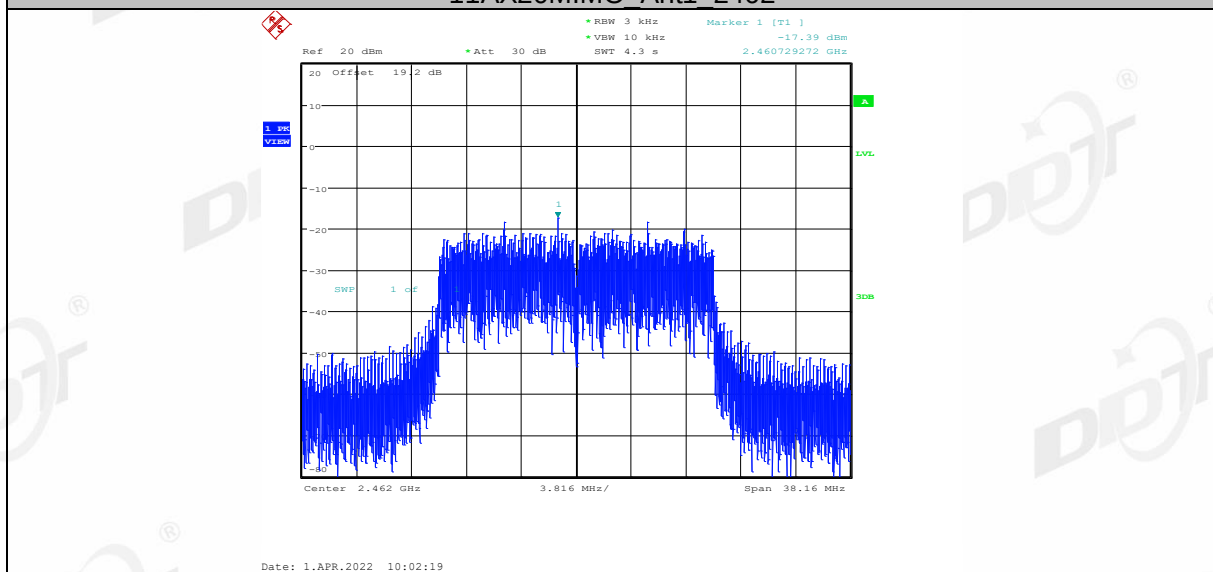
11AX20MIMO Ant1 2437



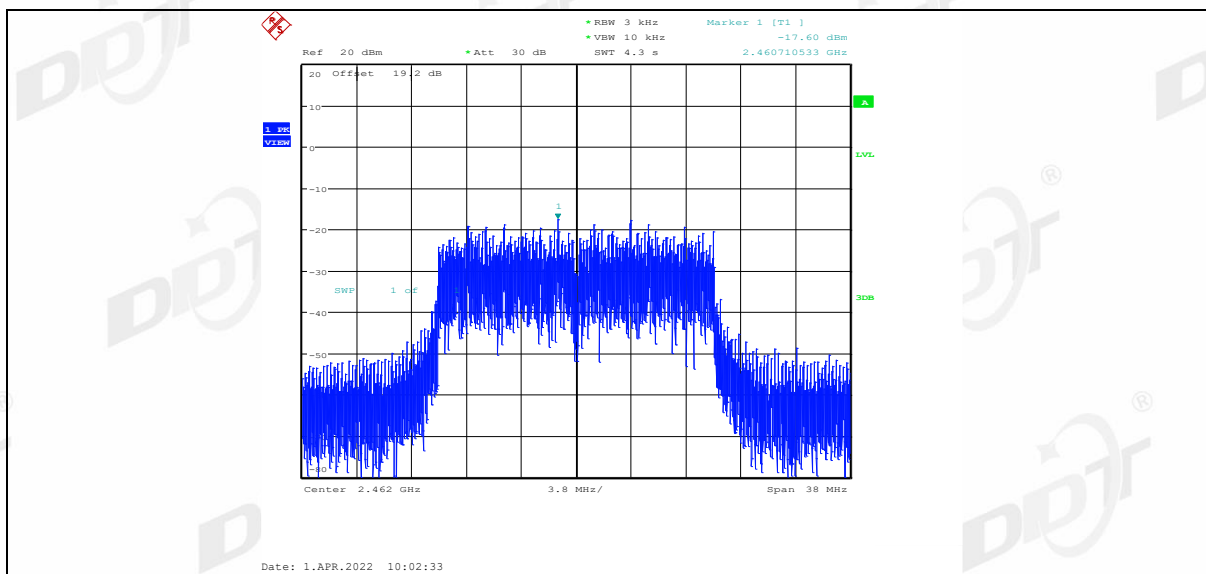
11AX20MIMO Ant2 2437



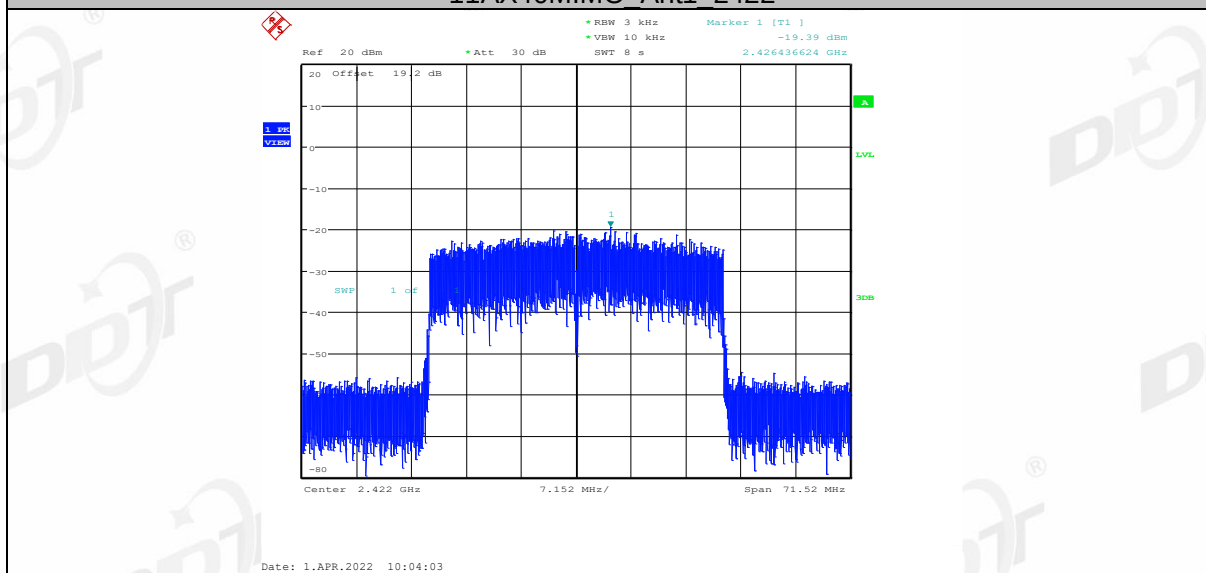
11AX20MIMO Ant1 2462



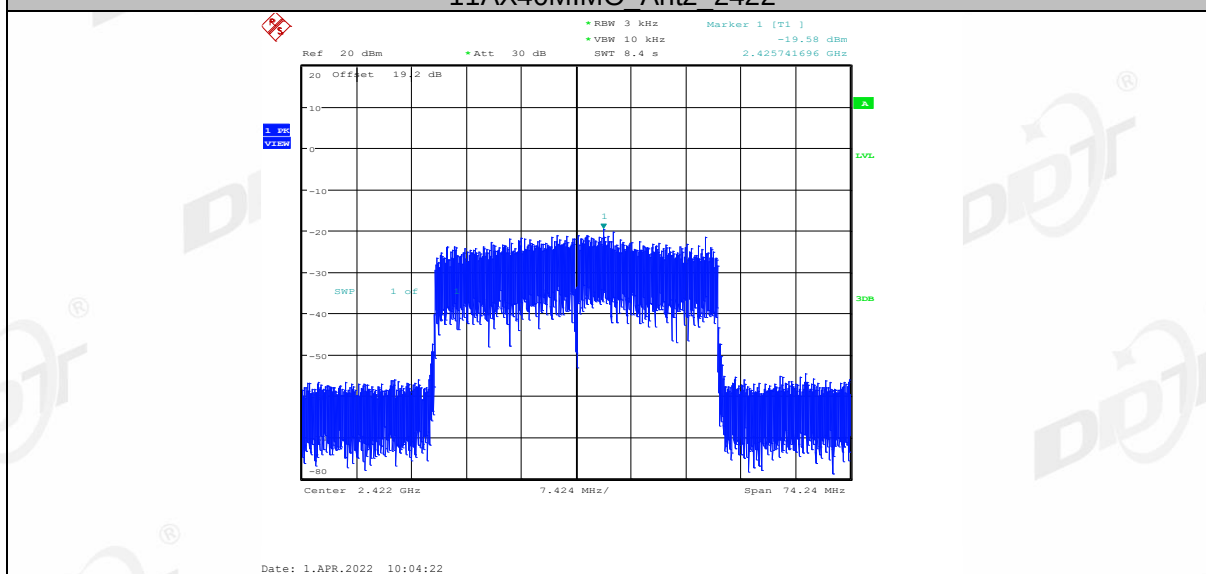
11AX20MIMO Ant2 2462



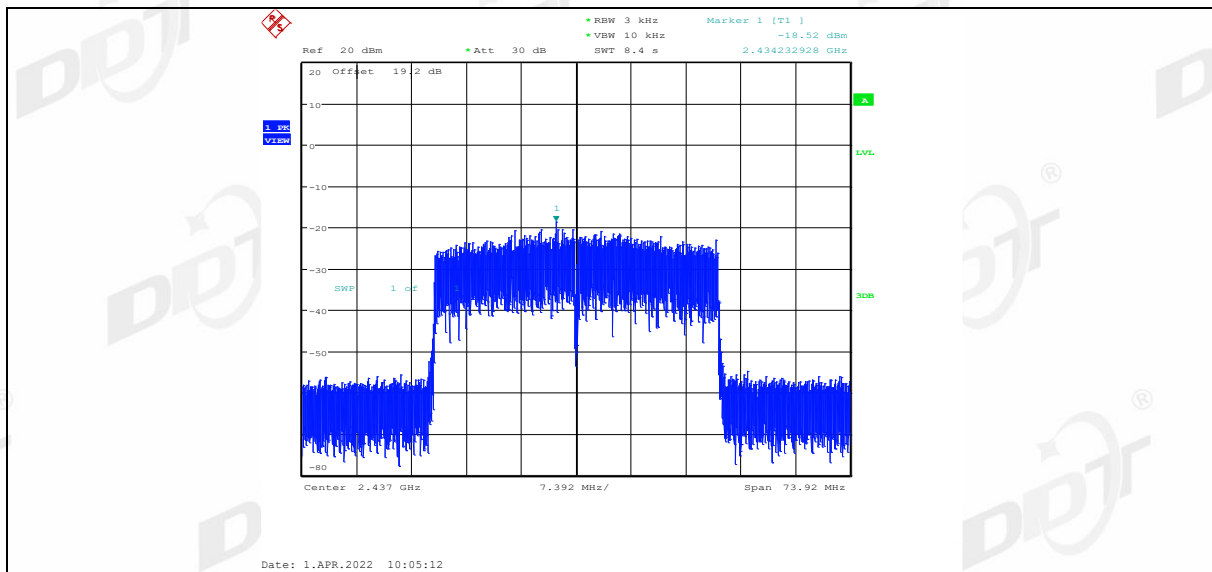
11AX40MIMO Ant1 2422



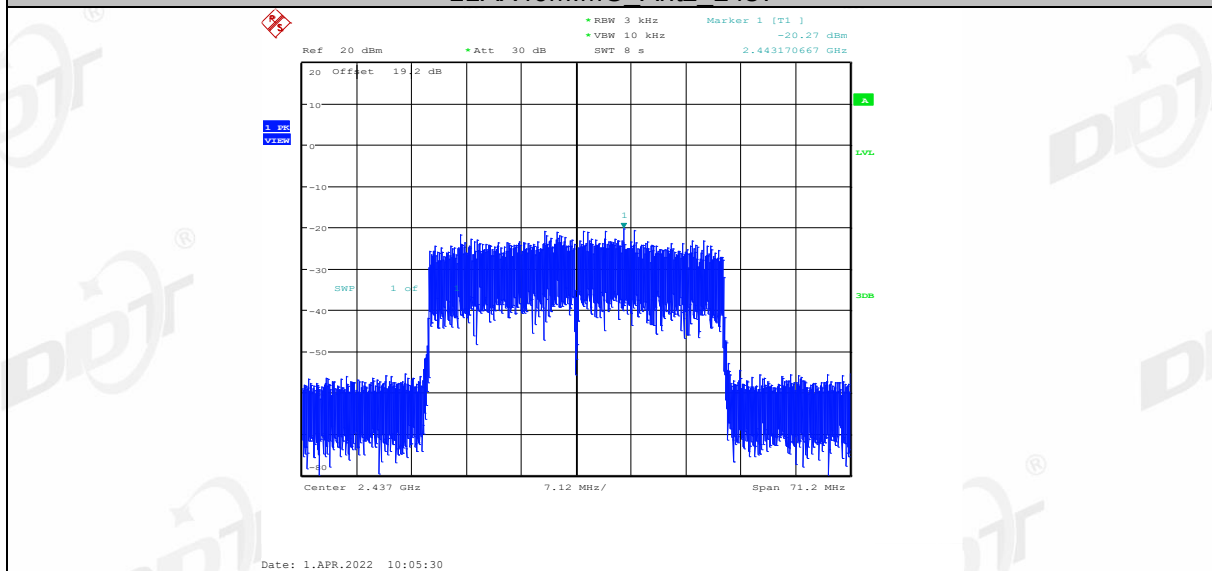
11AX40MIMO Ant2 2422



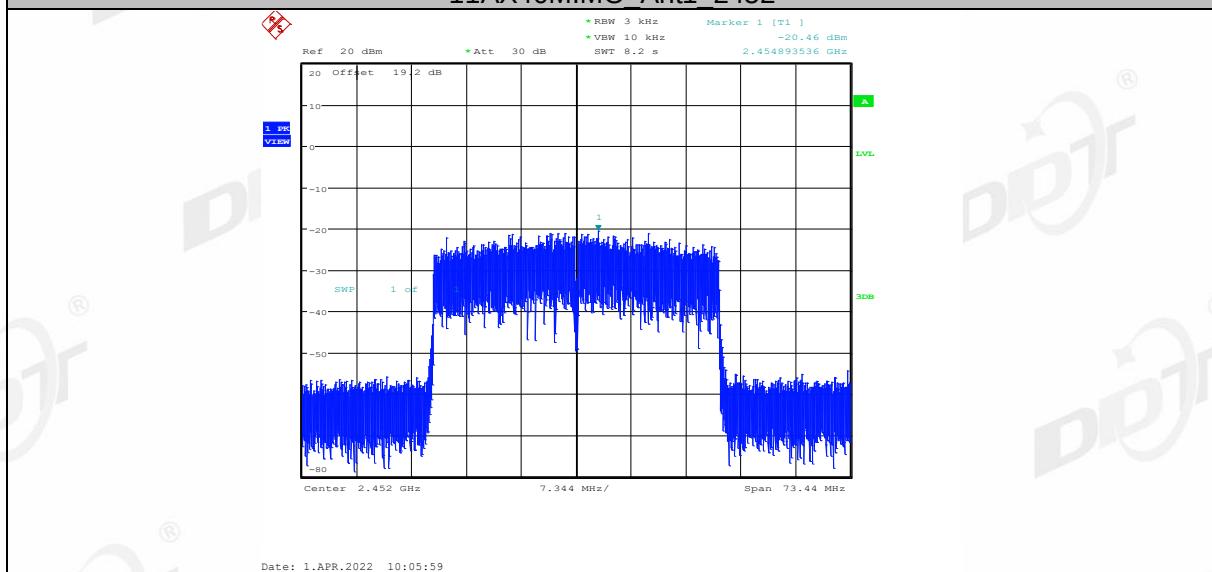
11AX40MIMO Ant1 2437



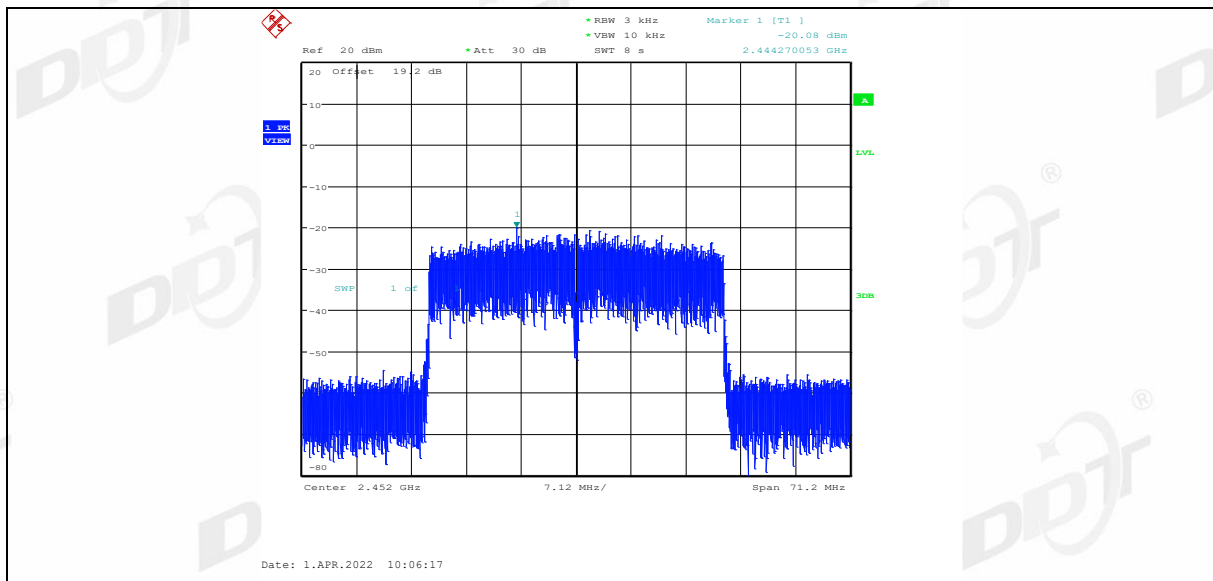
11AX40MIMO Ant2 2437



11AX40MIMO Ant1 2452



11AX40MIMO 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

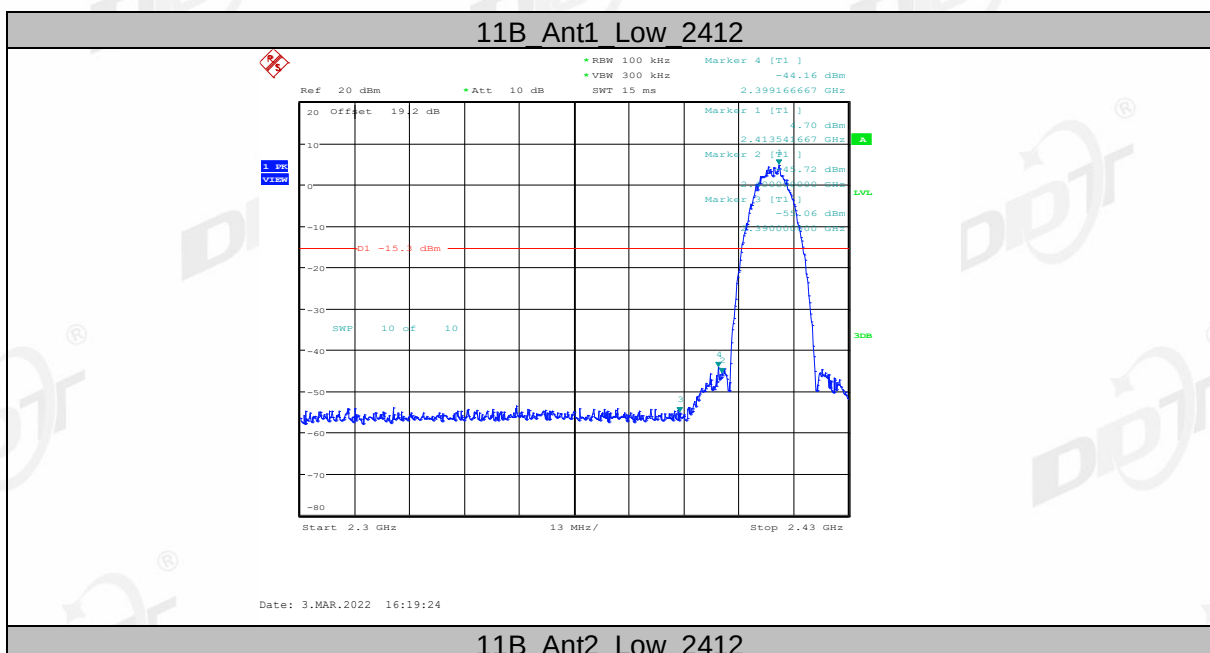
7.4. Test result

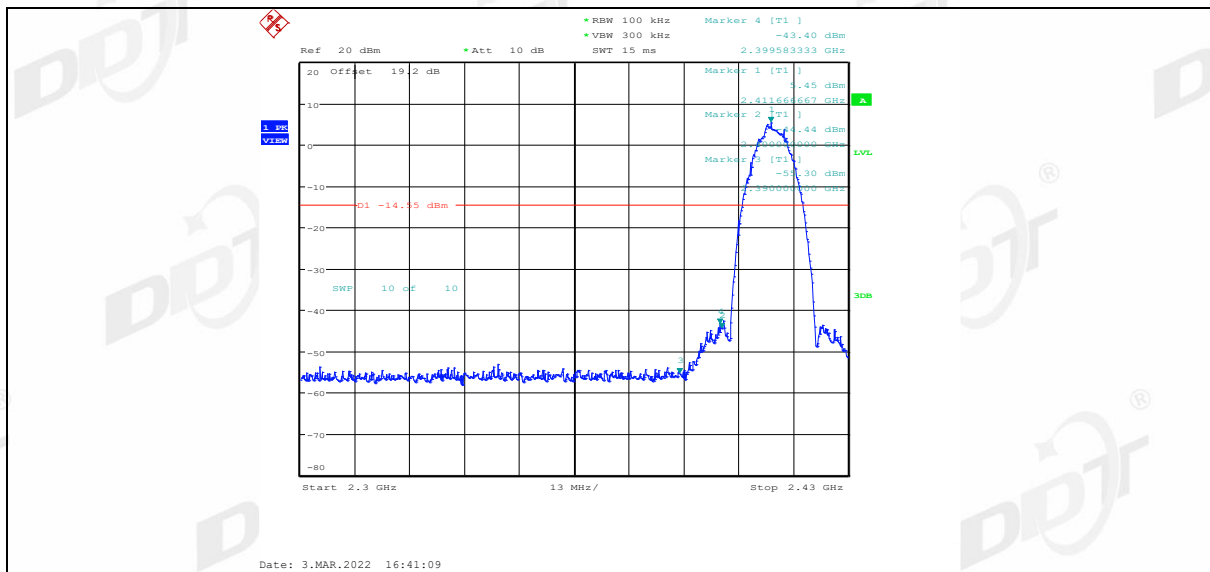
EUT Set Mode	CH or Frequency	Ant1 Result (dBm)	EUT Set Mode	CH or Frequency	Ant1 Result (dBm)
11b	CH1	Pass	11n HT 40	CH3	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH9	Pass
11g	CH1	Pass	11ax HT 20	CH1	Pass
	CH6	Pass		CH6	Pass
	CH11	Pass		CH11	Pass
11n HT 20	CH1	Pass	11ax HT 40	CH3	Pass
	CH6	Pass		CH6	Pass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

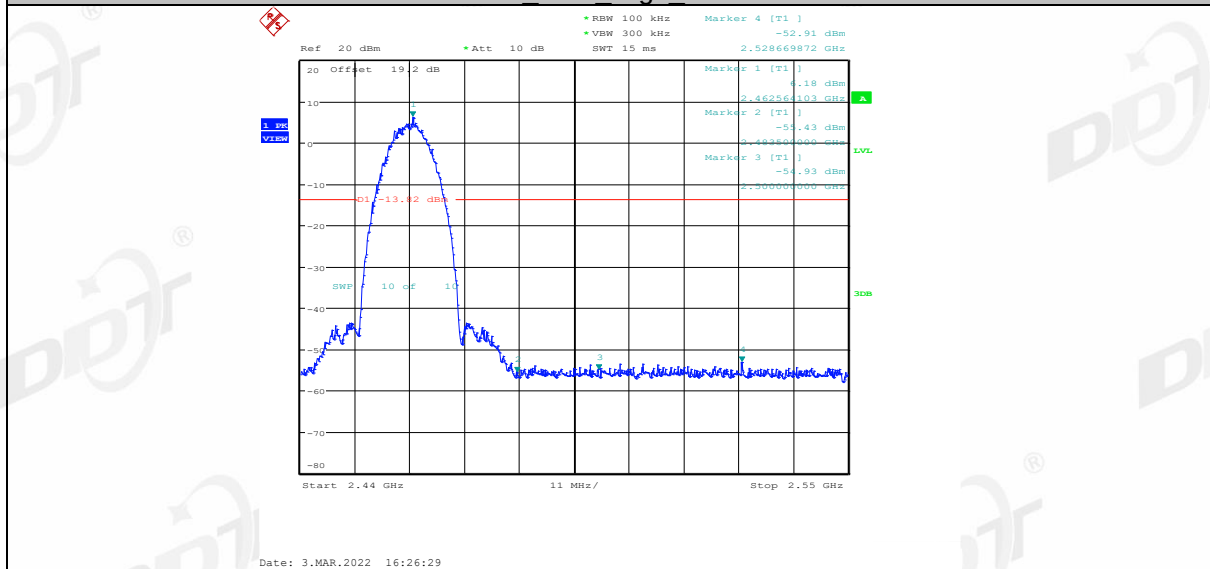
7.5. original test data

Band Edge:

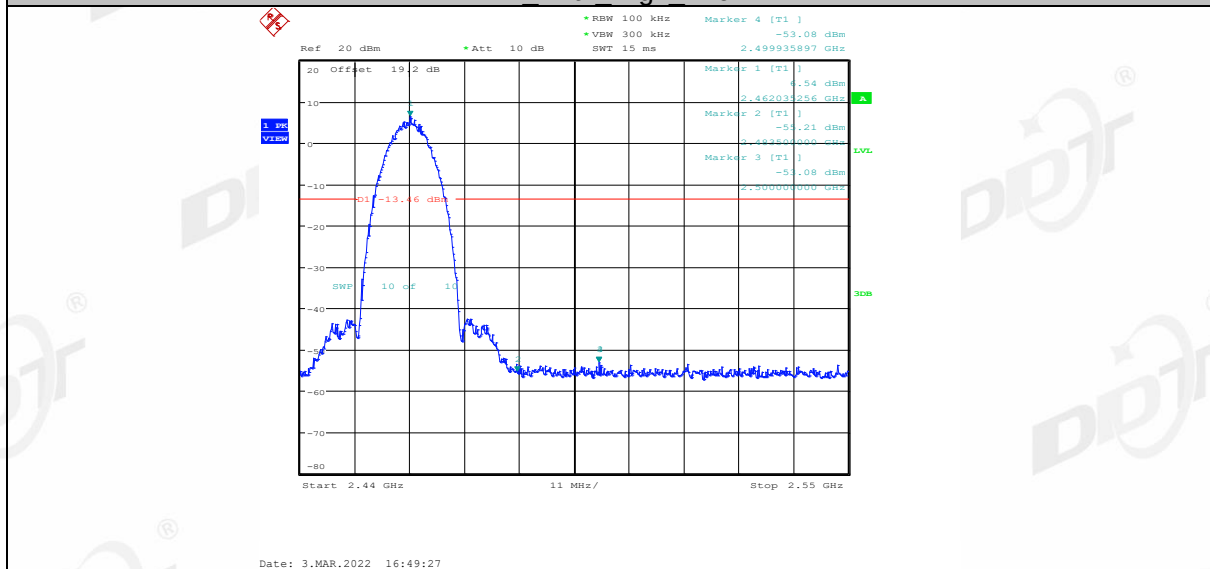




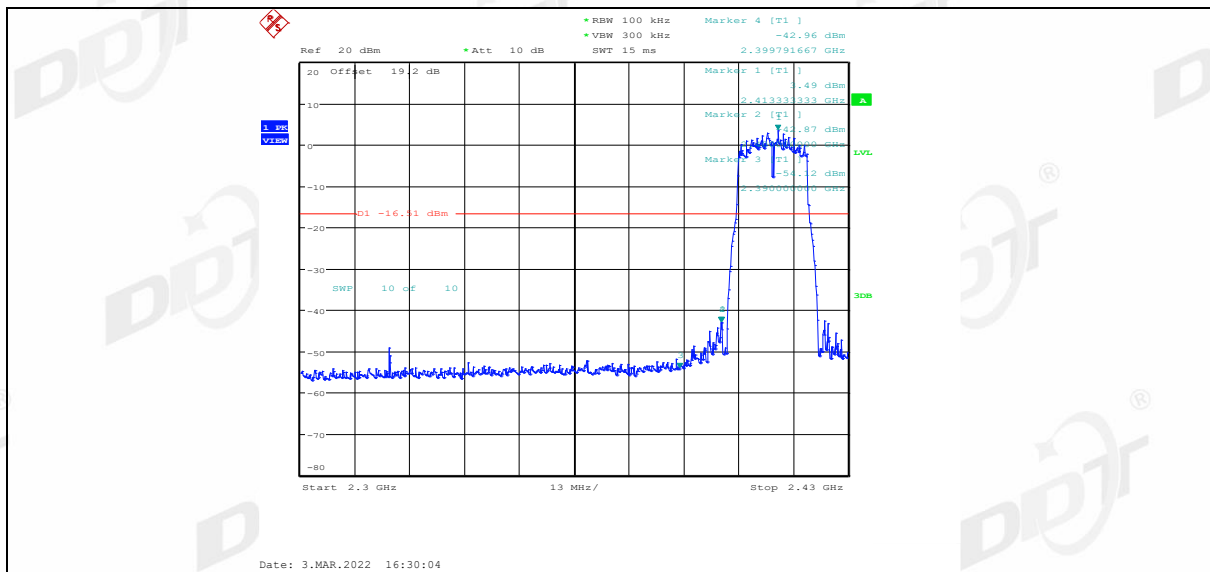
11B Ant1 High 2462



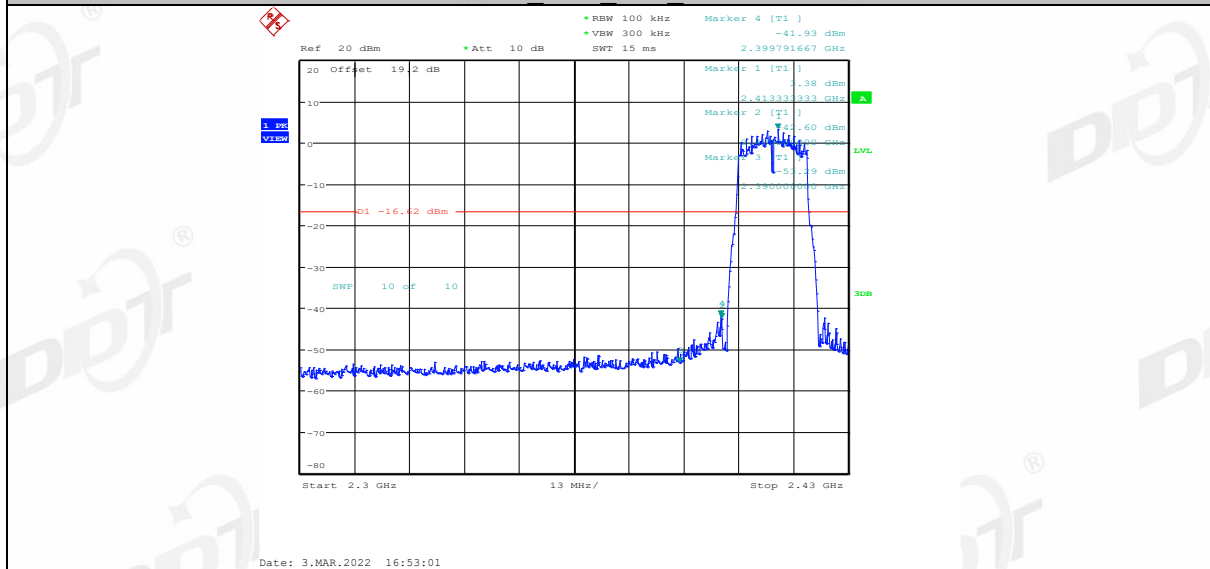
11B Ant2 High 2462



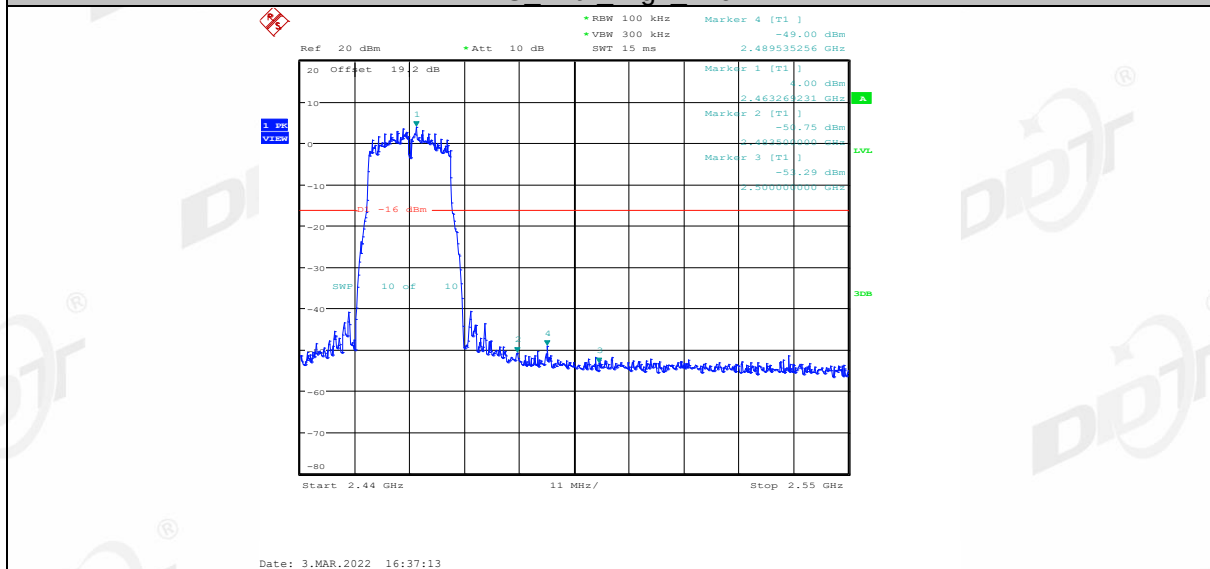
11G Ant1 Low 2412



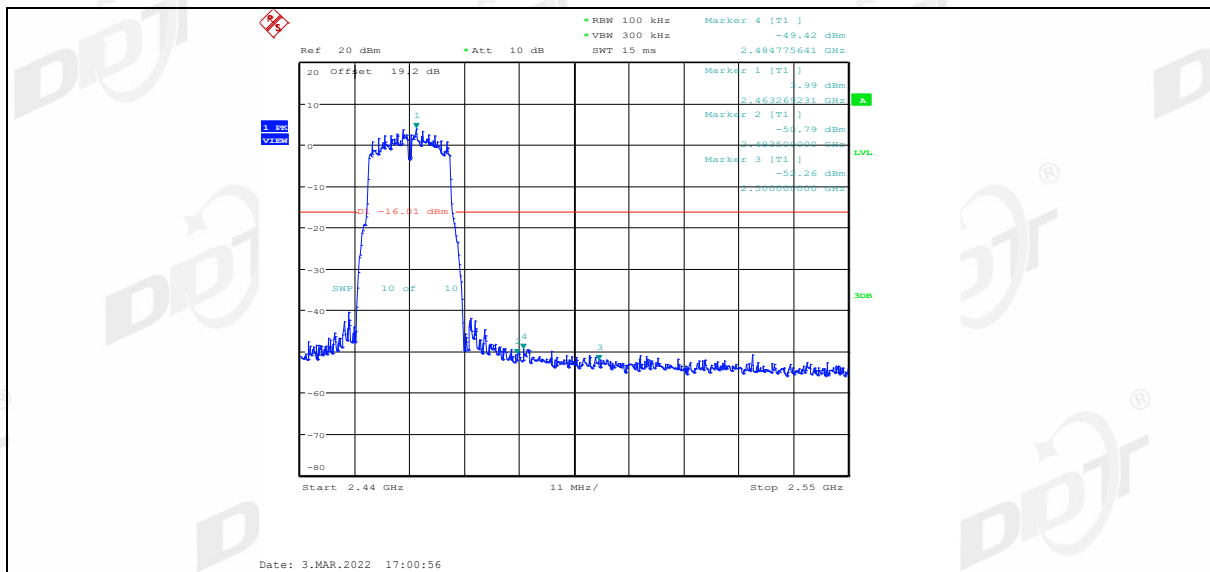
11G Ant2 Low 2412



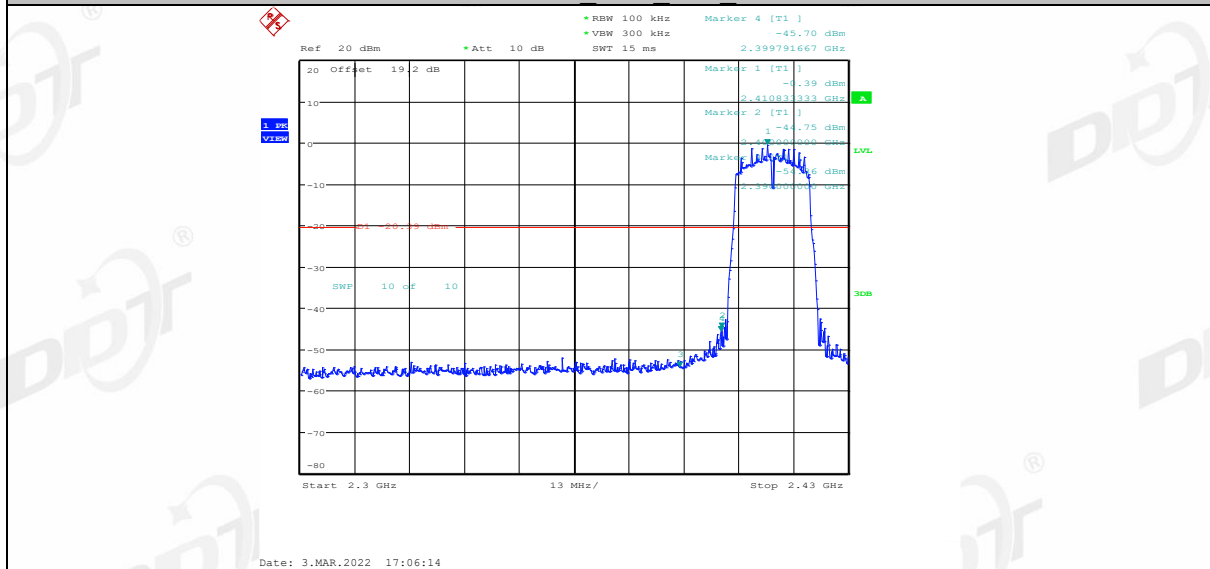
11G Ant1 High 2462



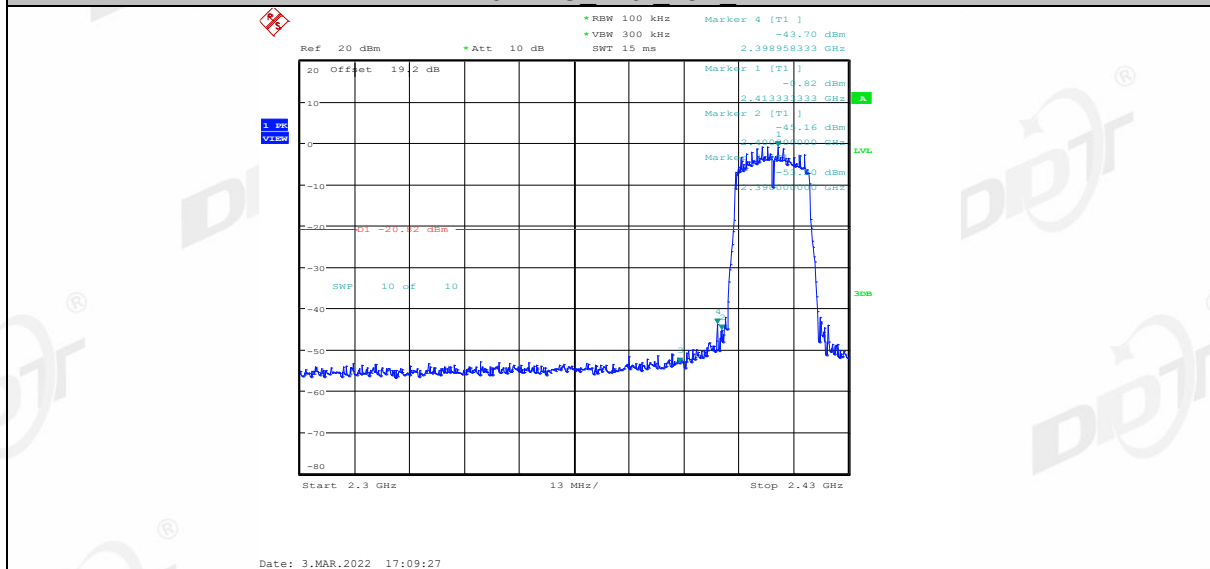
11G Ant2 High 2462



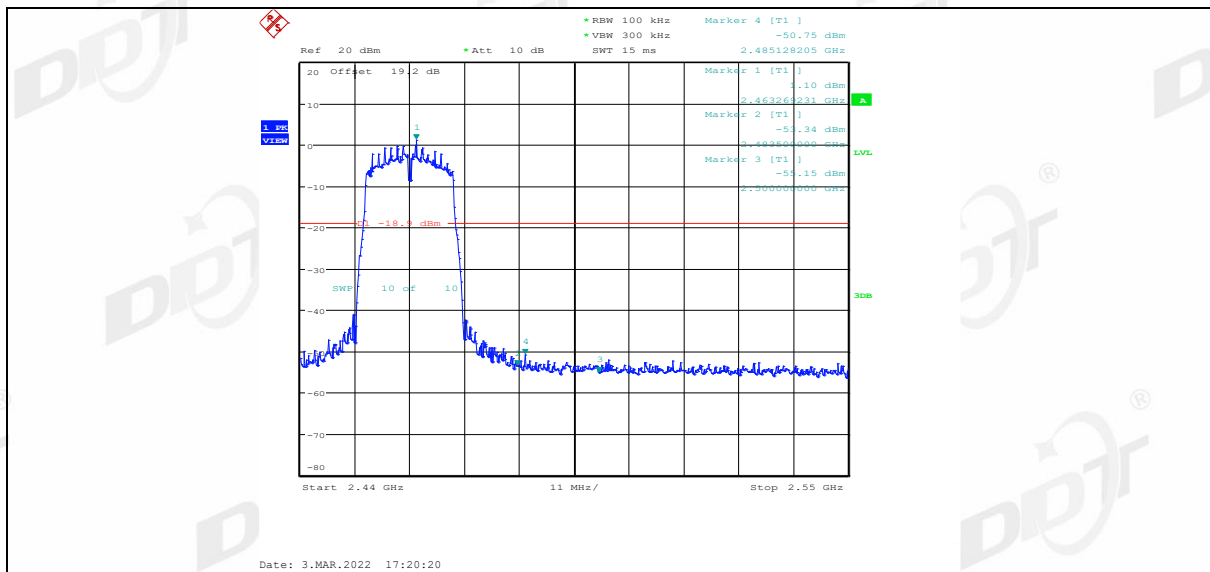
11N20MIMO Ant1 Low 2412



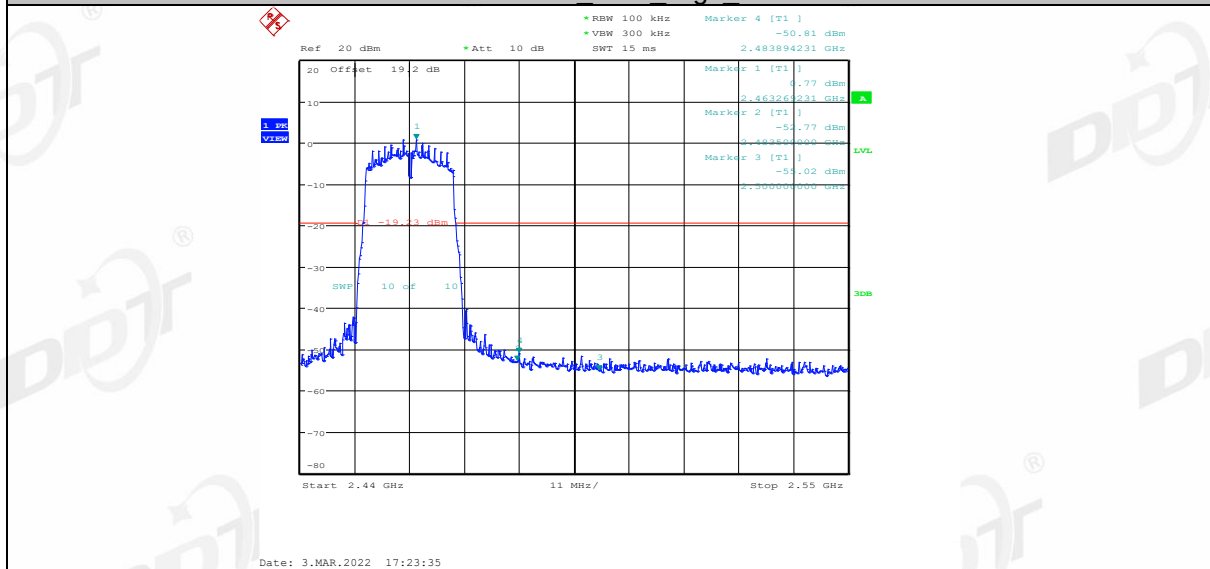
11N20MIMO Ant2 Low 2412



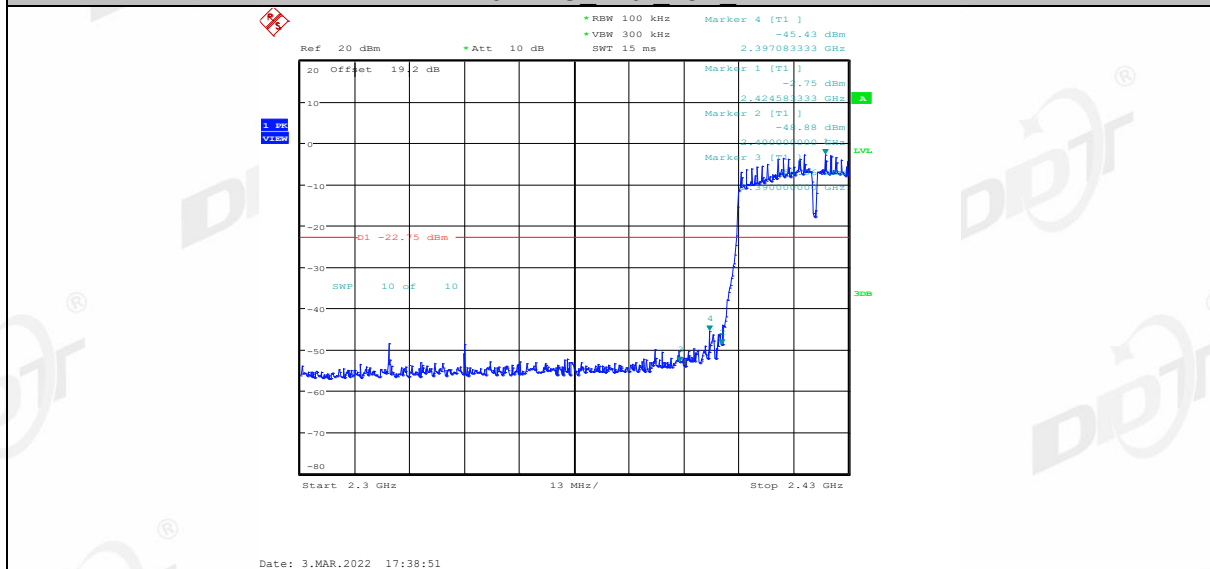
11N20MIMO Ant1 High 2462



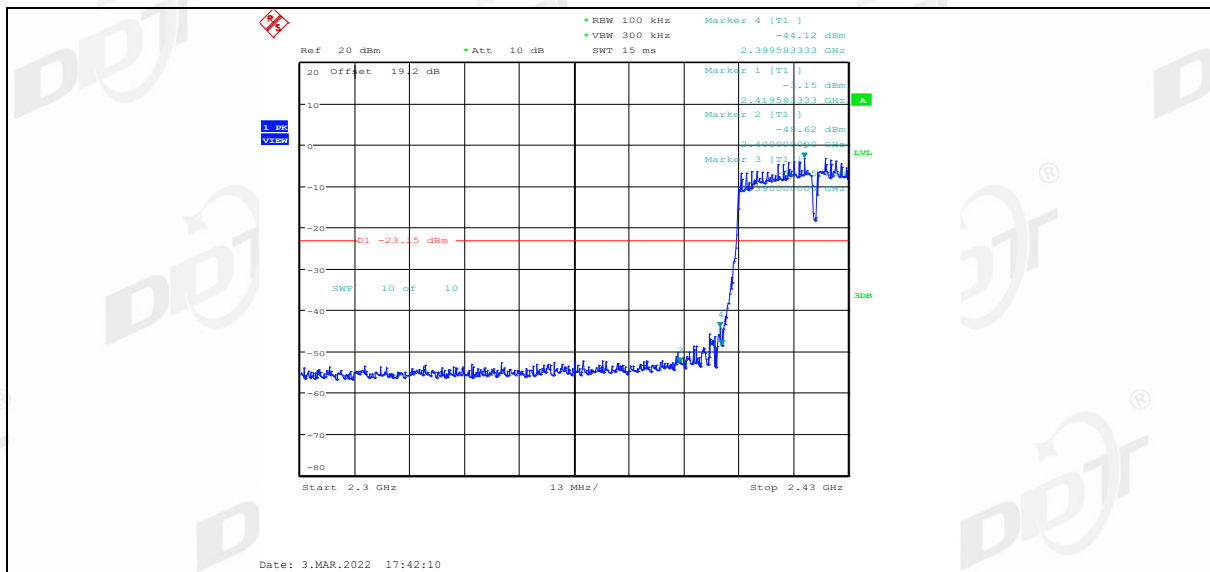
11N20MIMO Ant2 High 2462



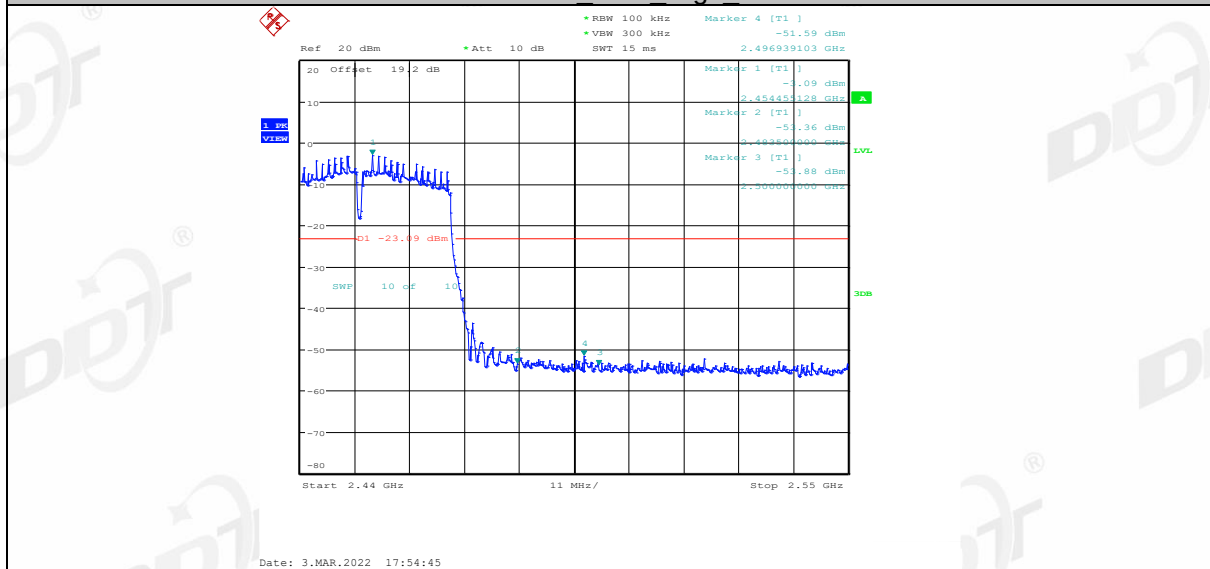
11N40MIMO Ant1 Low 2422



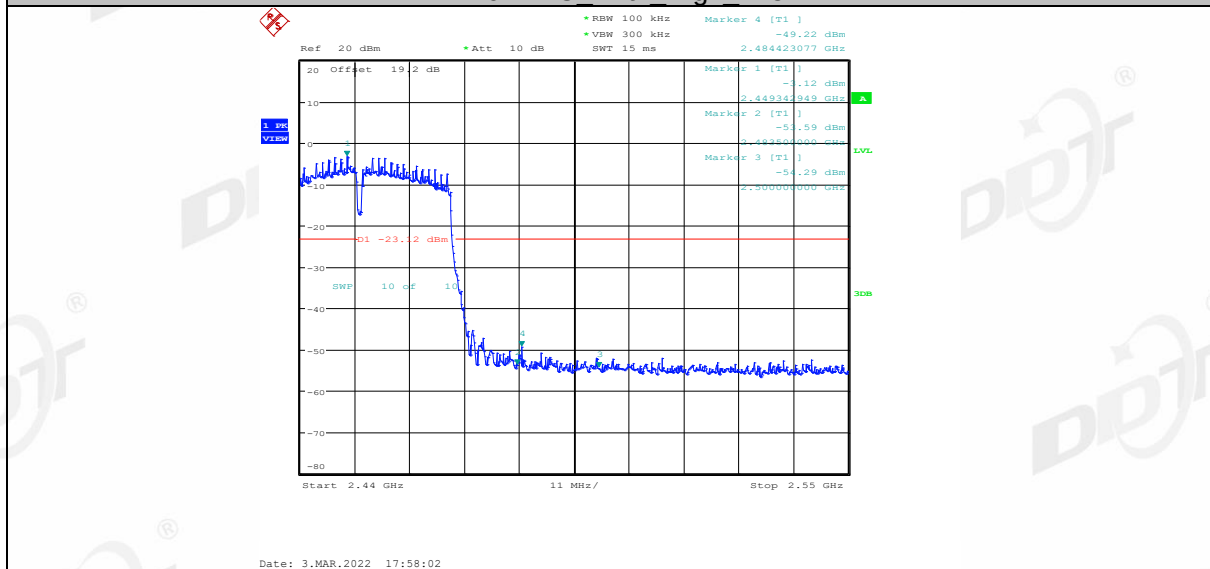
11N40MIMO Ant2 Low 2422



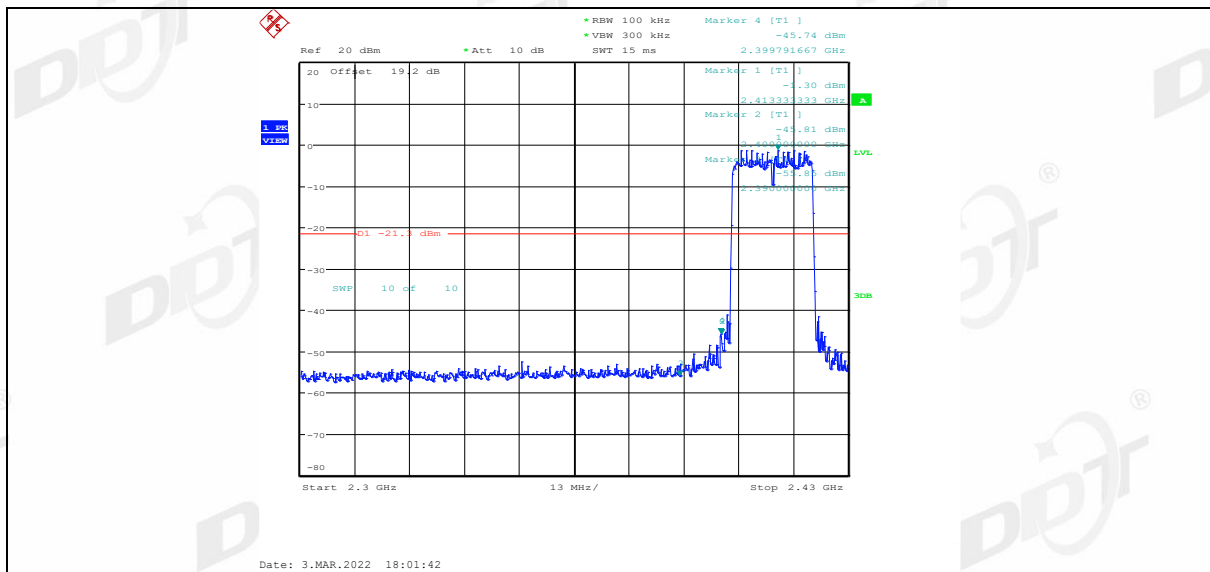
11N40MIMO Ant1 High 2452



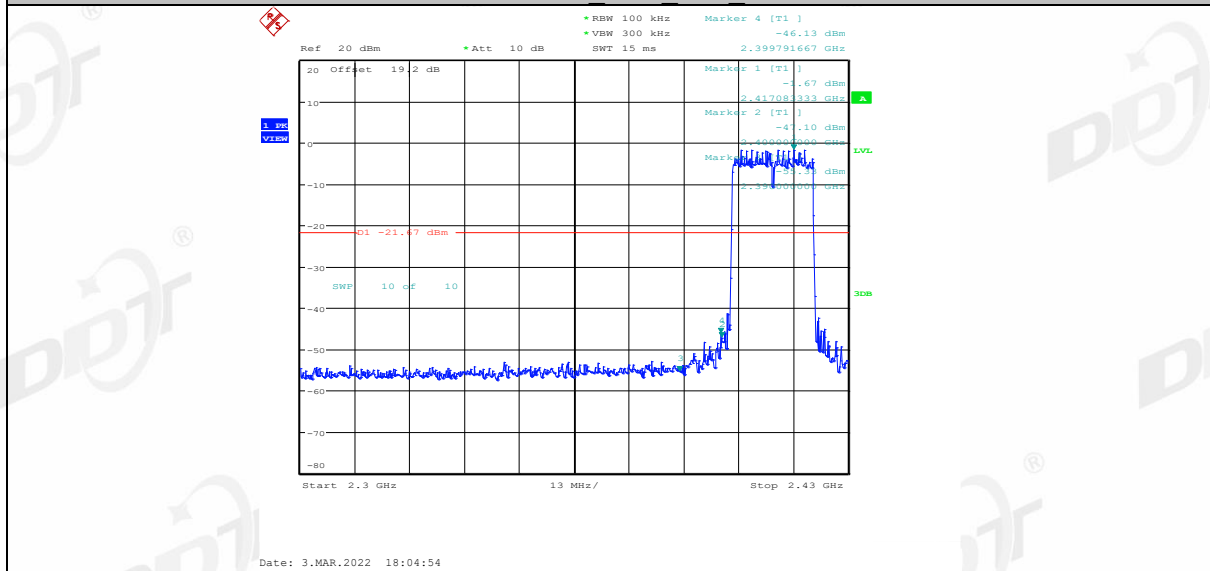
11N40MIMO Ant2 High 2452



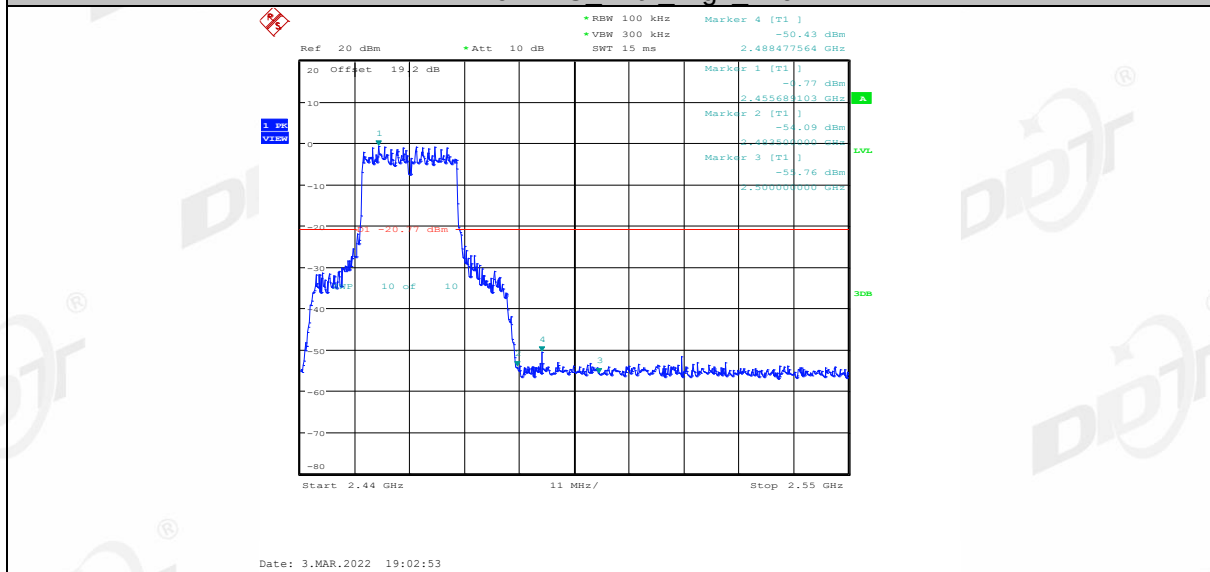
11AX20MIMO Ant1 Low 2412



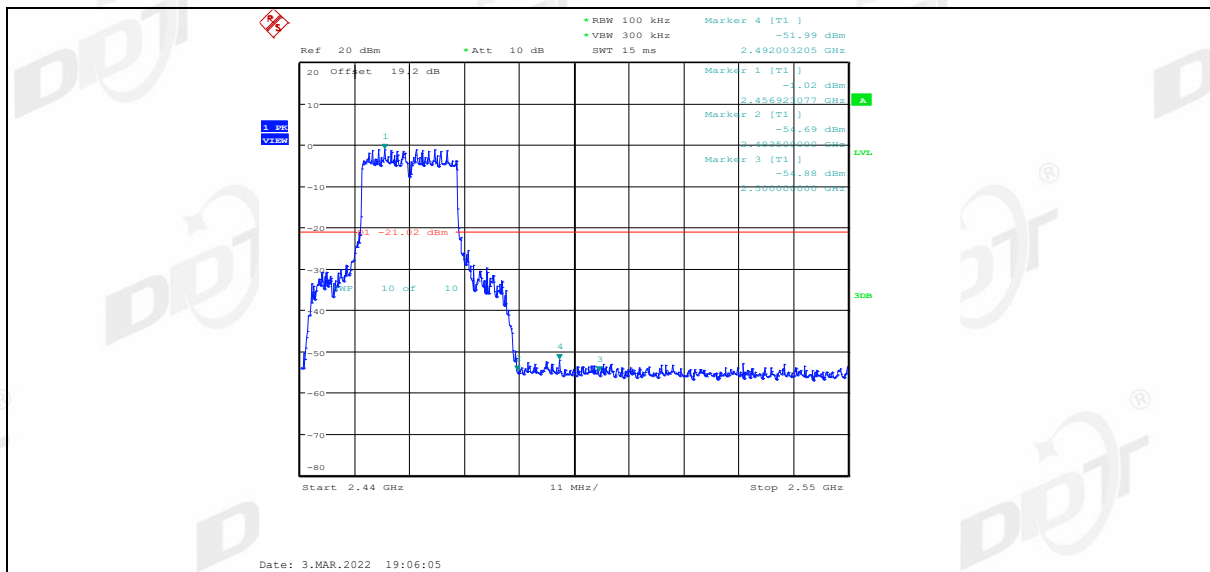
11AX20MIMO Ant2 Low 2412



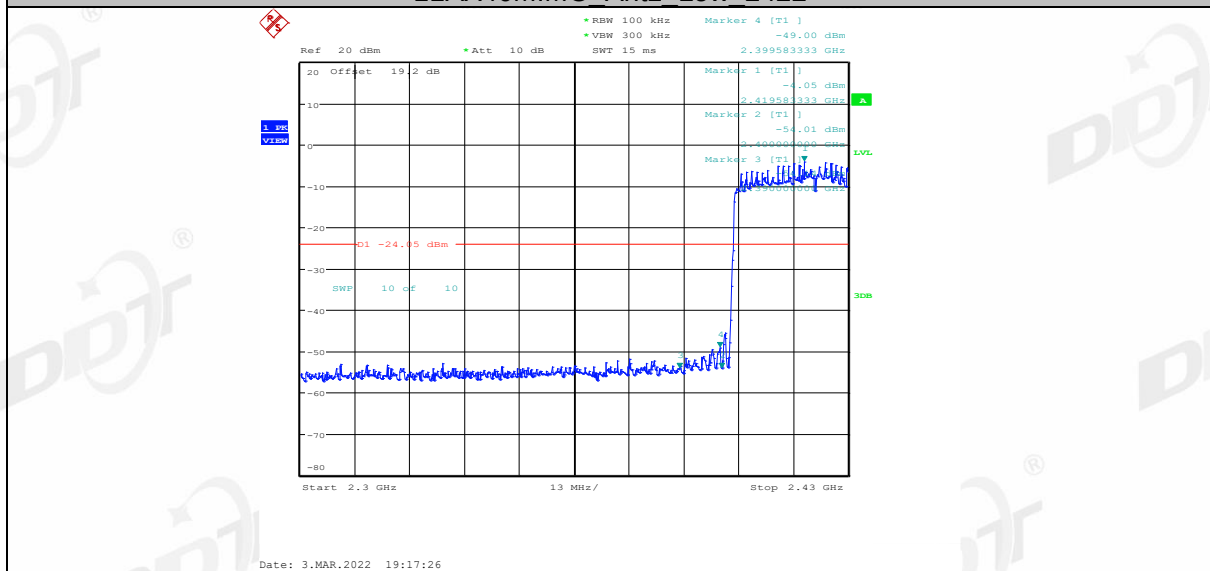
11AX20MIMO Ant1 High 2462



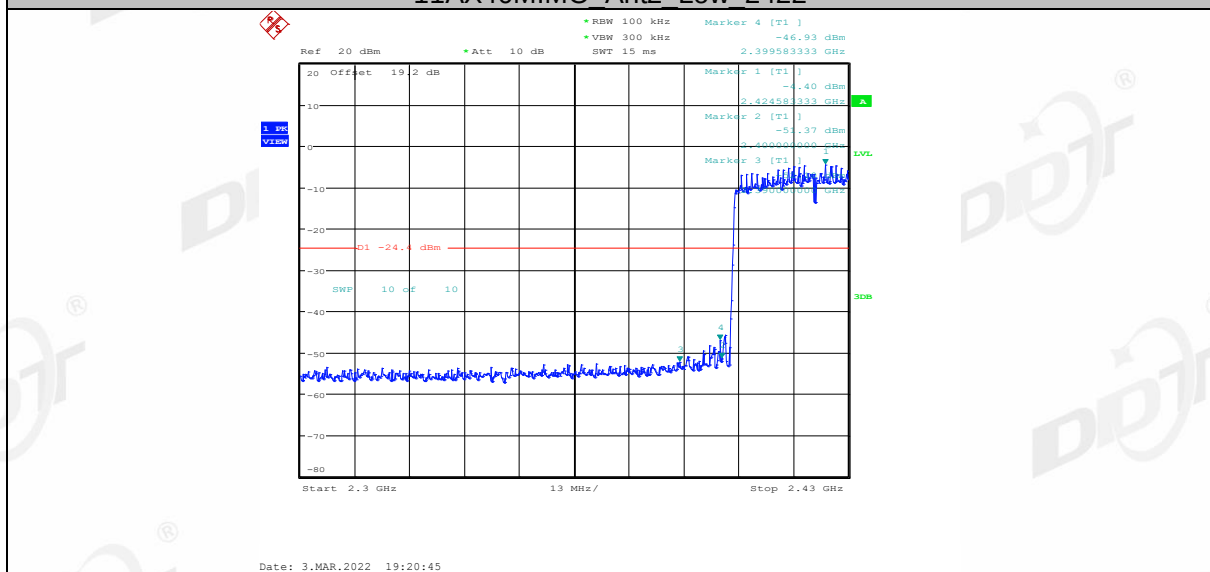
11AX20MIMO Ant2 High 2462



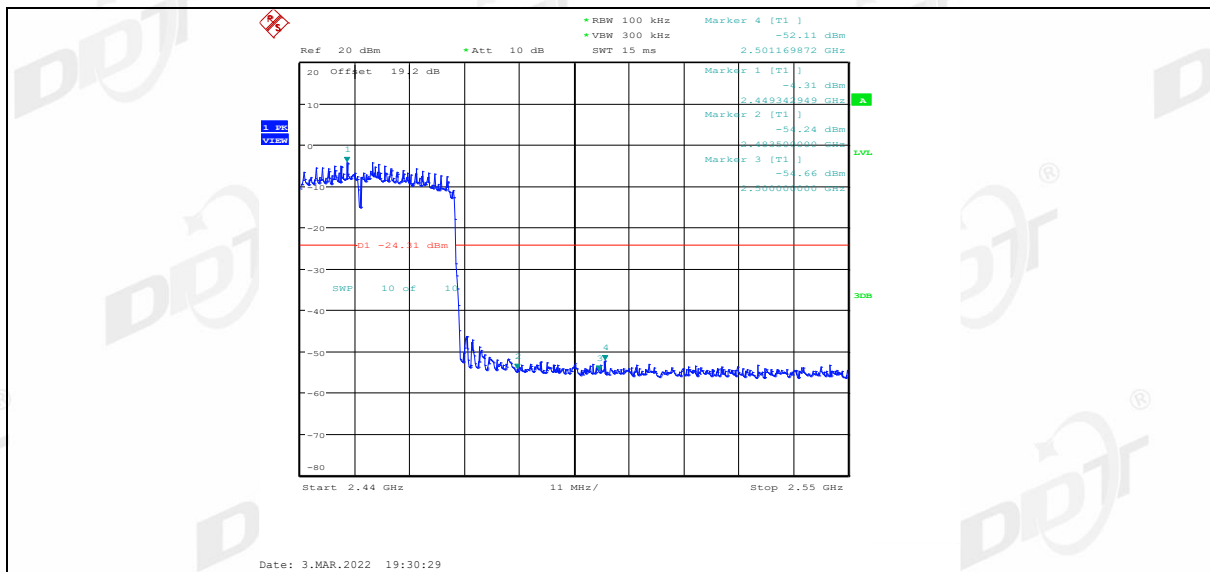
11AX40MIMO Ant1 Low 2422



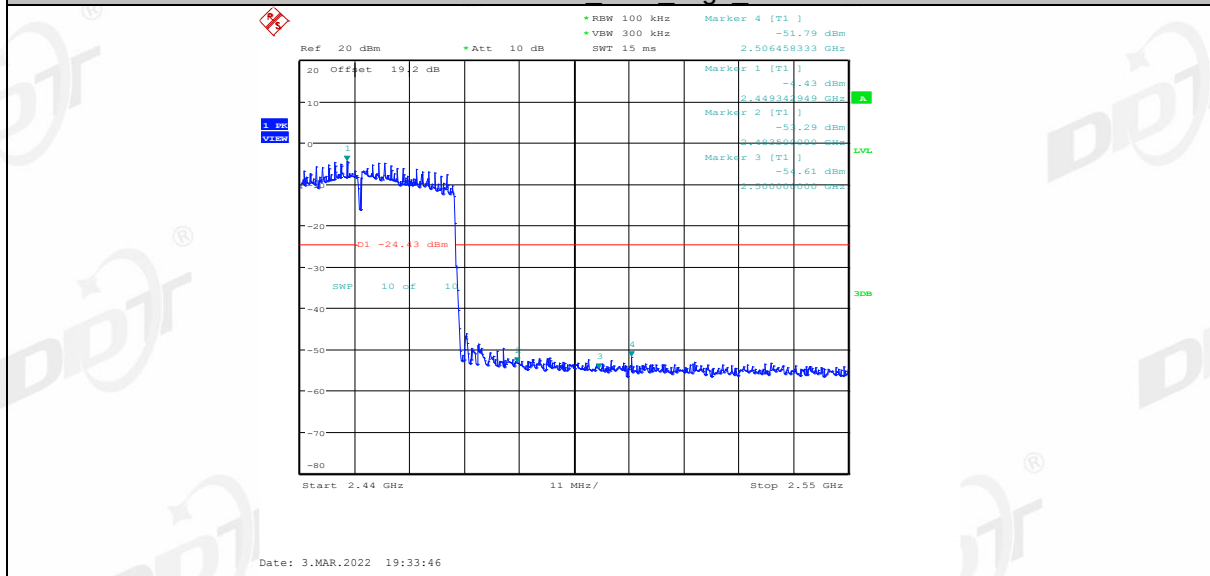
11AX40MIMO Ant2 Low 2422



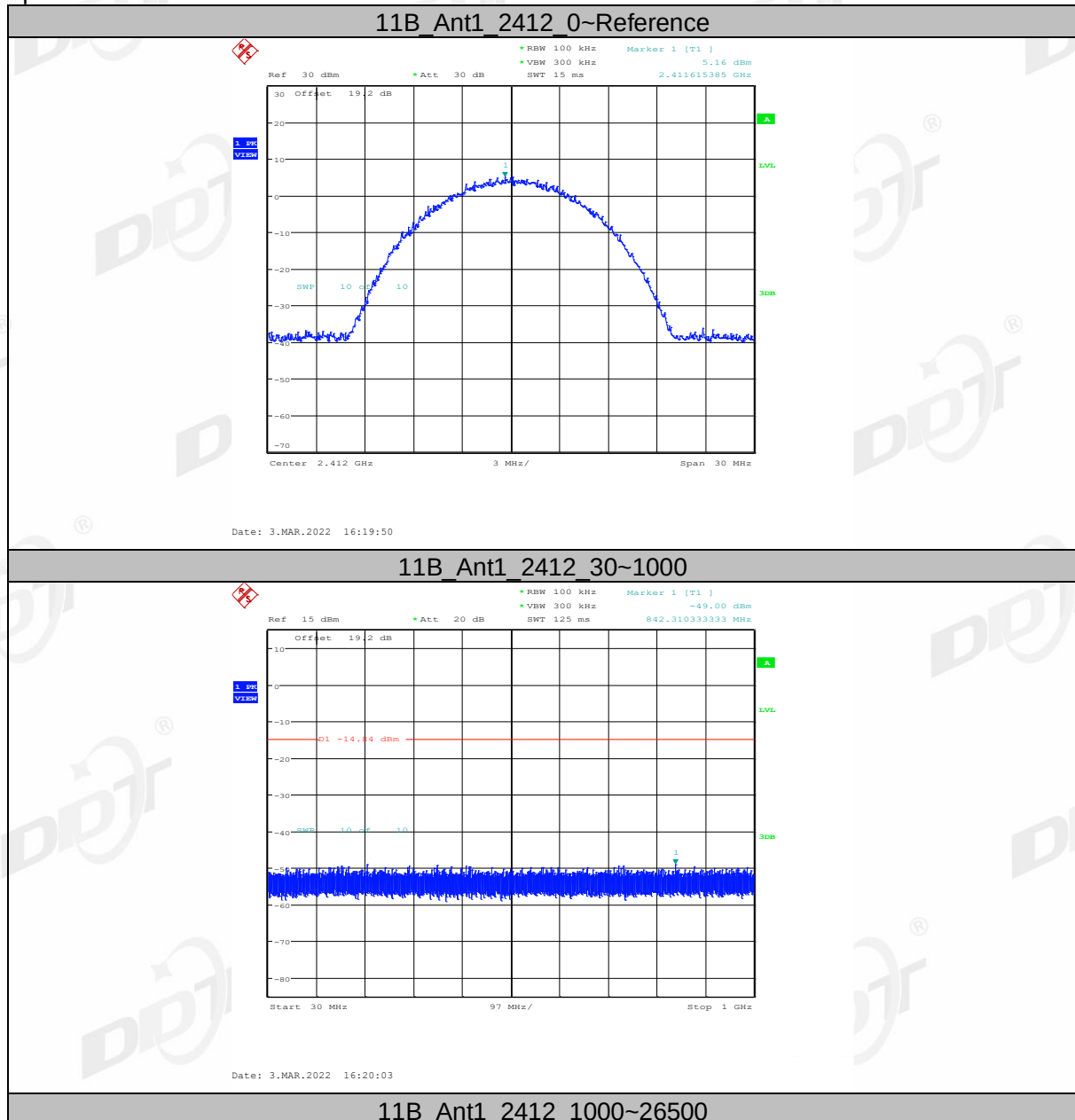
11AX40MIMO Ant1 High 2452

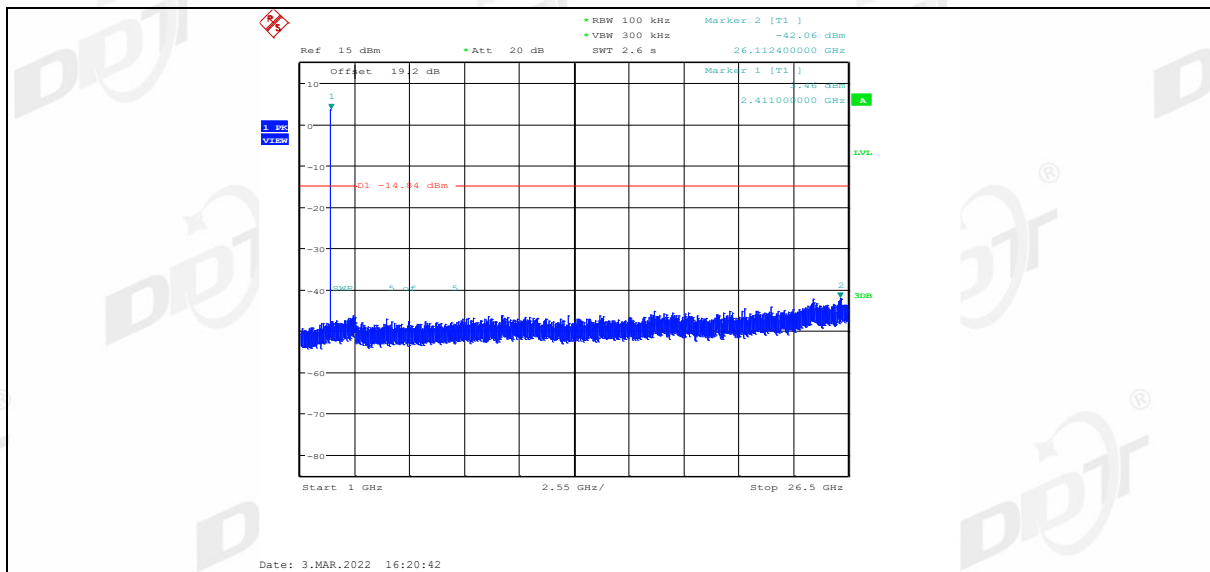


11AX40MIMO Ant2 High 2452

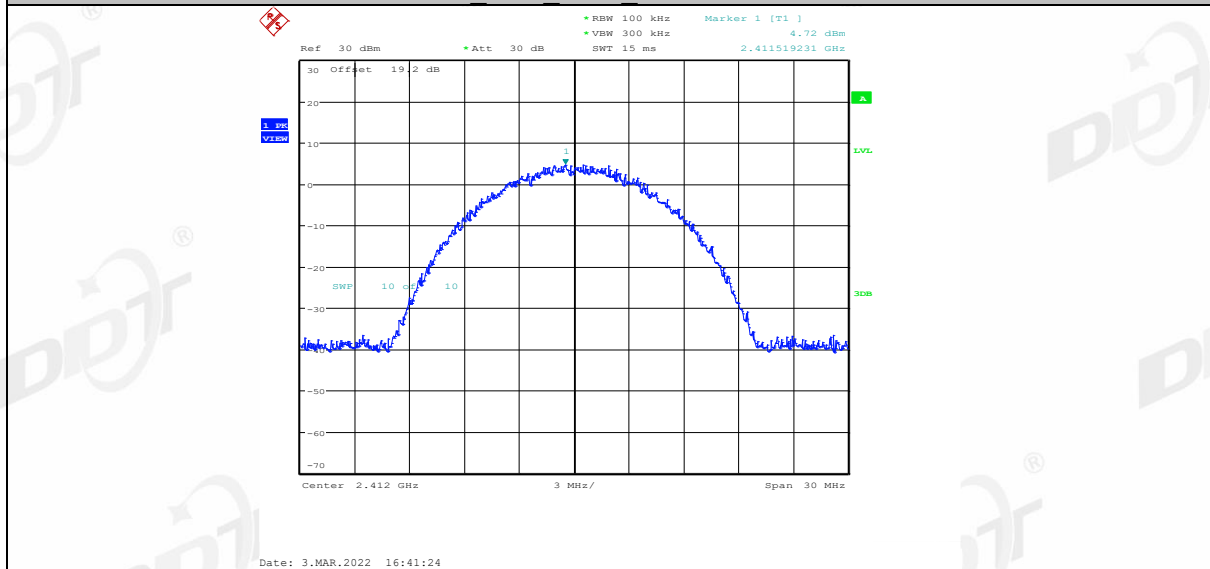


Spurious Emissions:

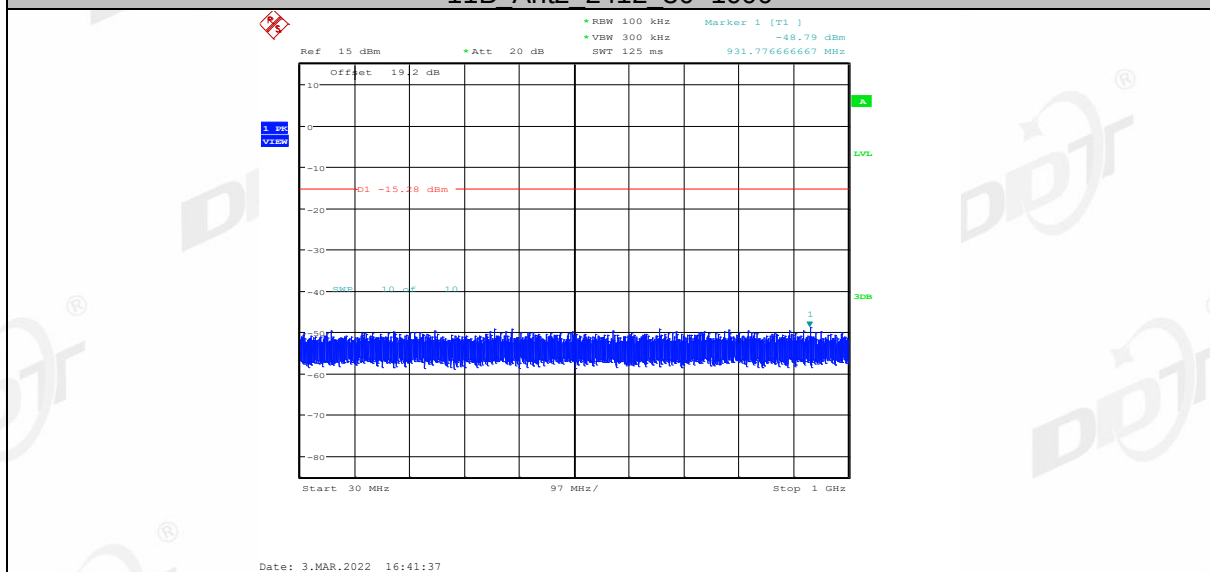




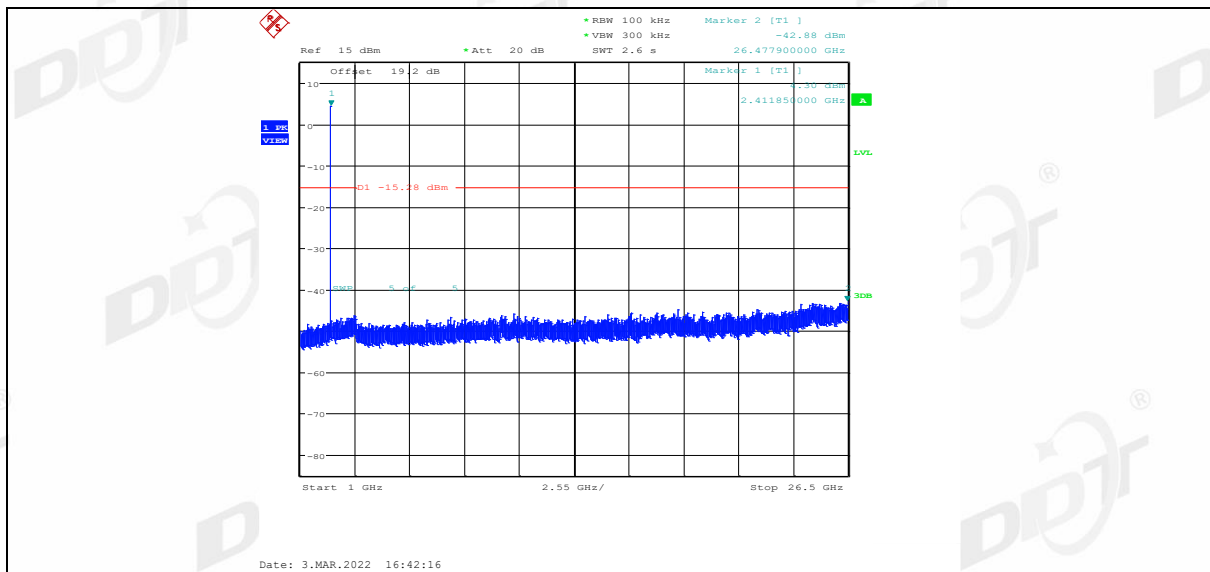
11B_Ant2_2412_0~Reference



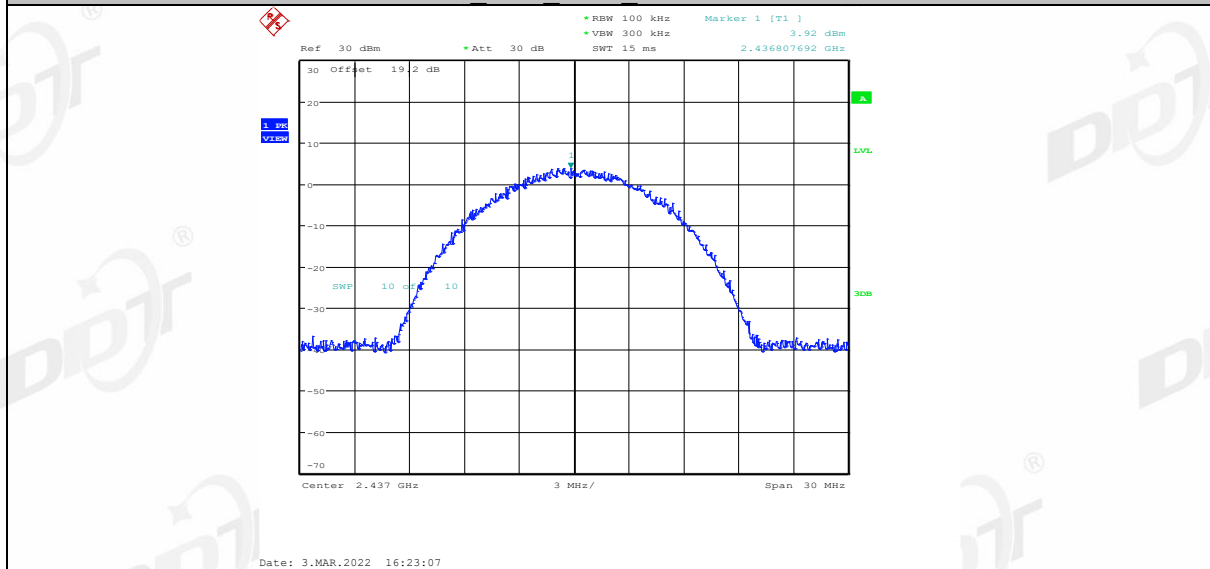
11B_Ant2_2412_30~1000



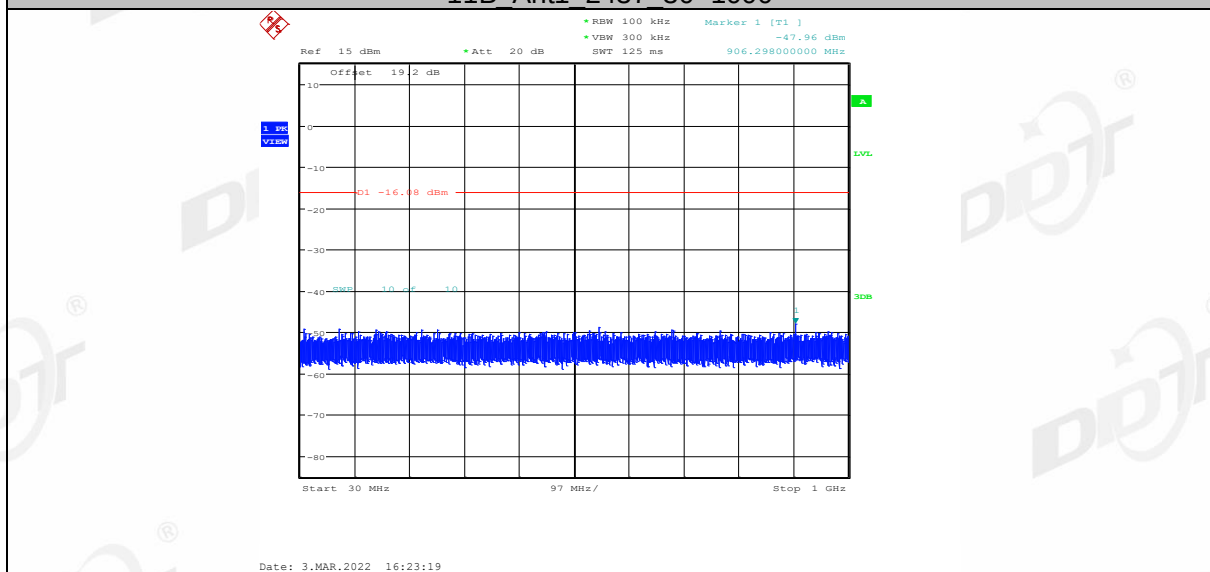
11B_Ant2_2412_1000~26500



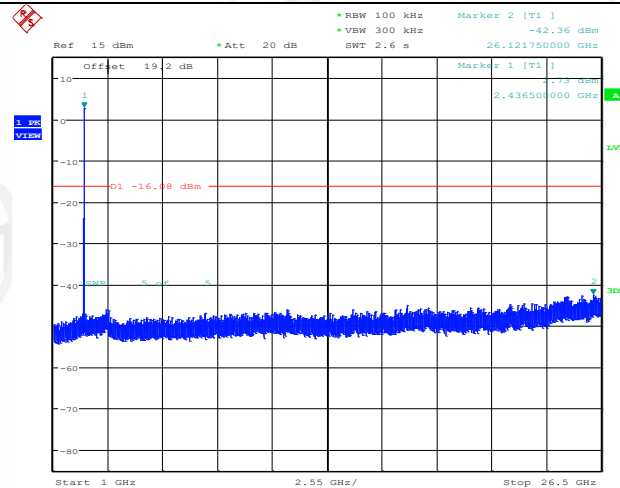
11B Ant1 2437 0~Reference



11B Ant1 2437 30~1000

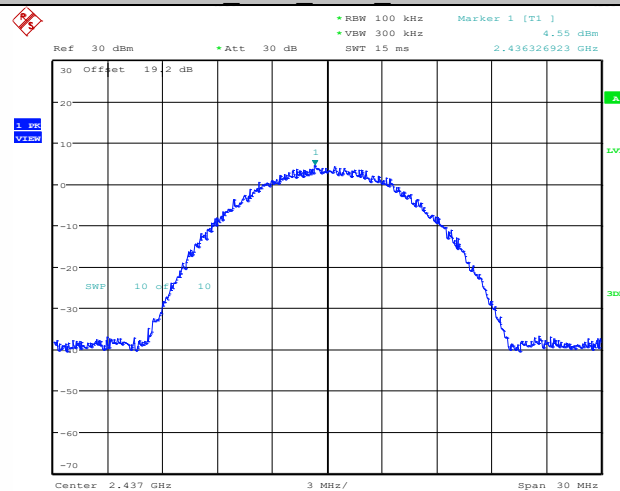


11B Ant1 2437 1000~26500



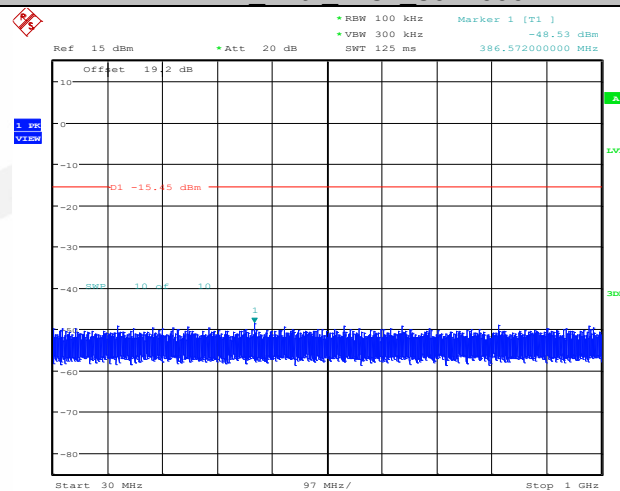
Date: 3.MAR.2022 16:23:58

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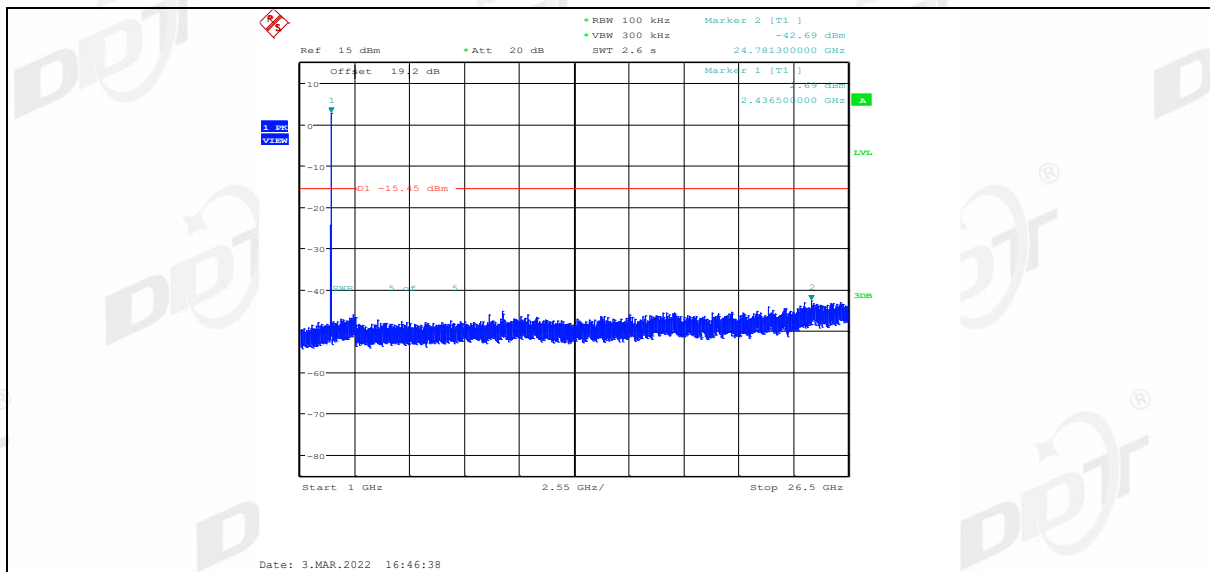
Date: 3.MAR.2022 16:45:47

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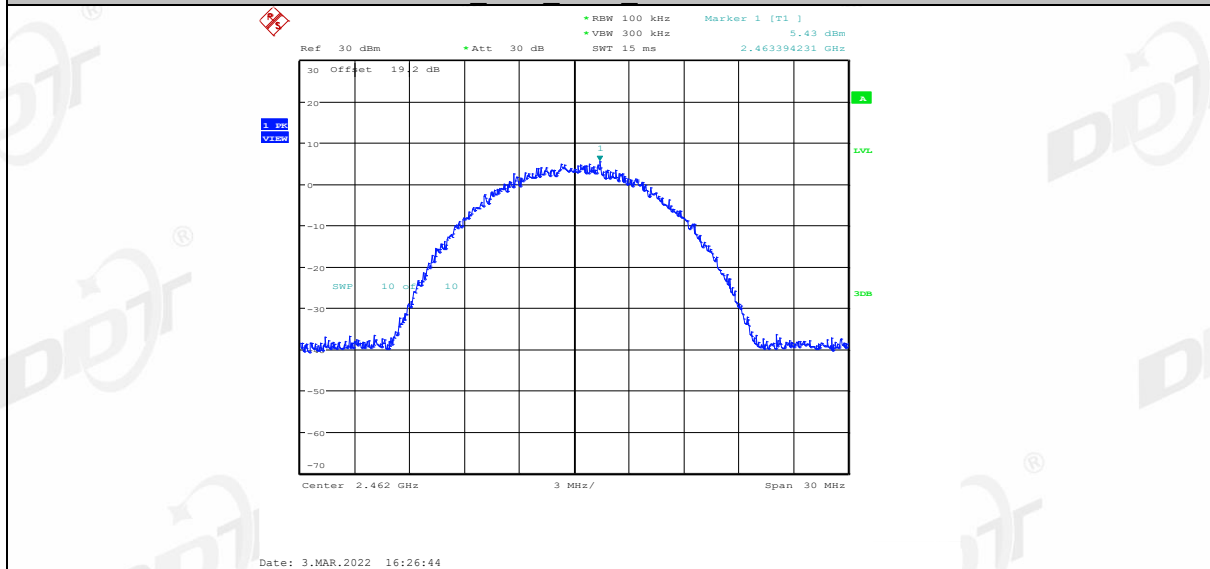


Date: 3.MAR.2022 16:45:59

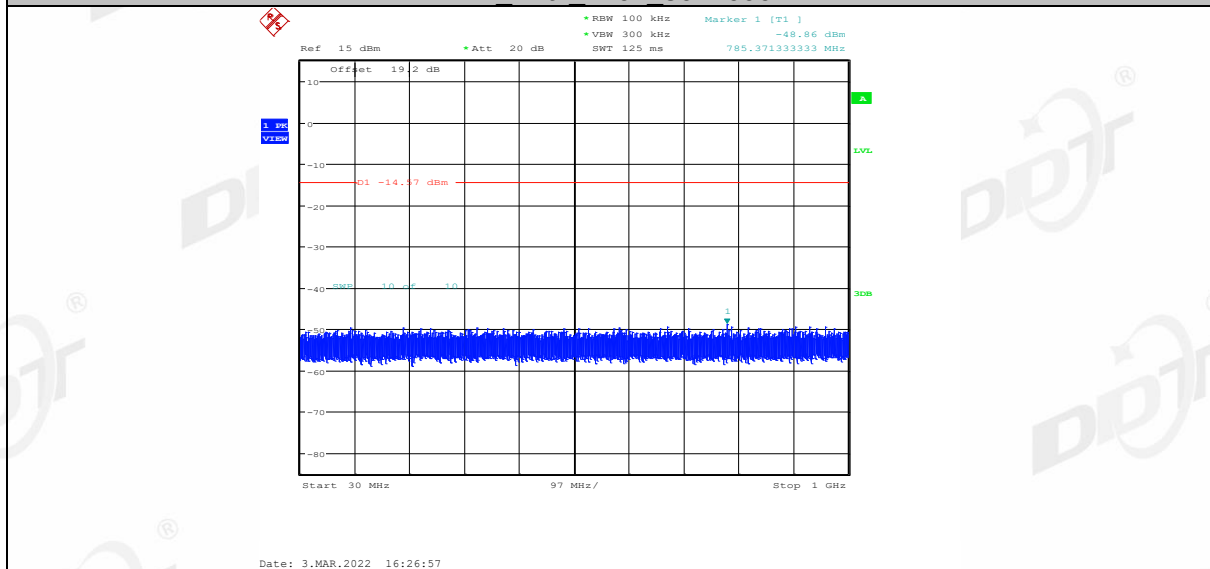
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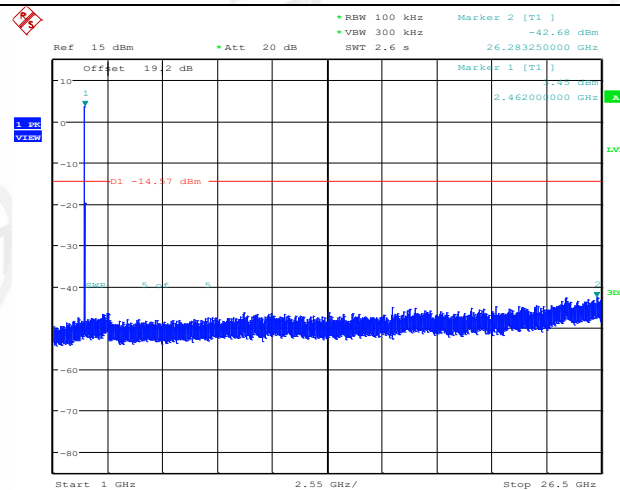
11B_Ant1_2462_0~Reference



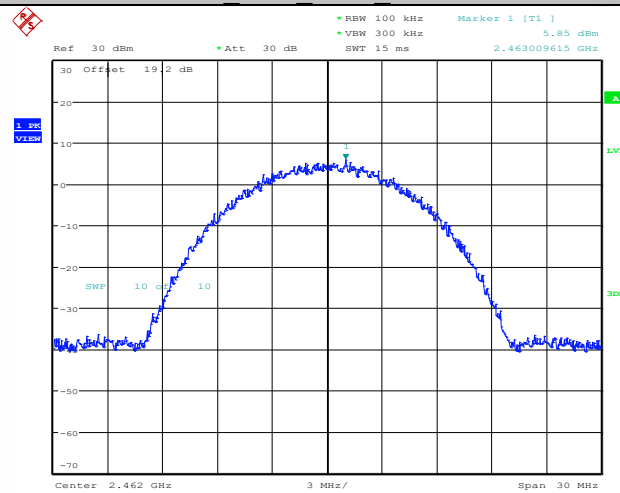
11B_Ant1_2462_30~1000



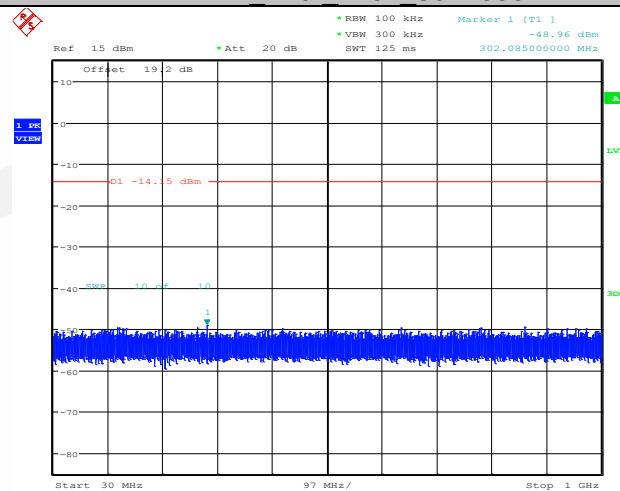
11B_Ant1_2462_1000~26500



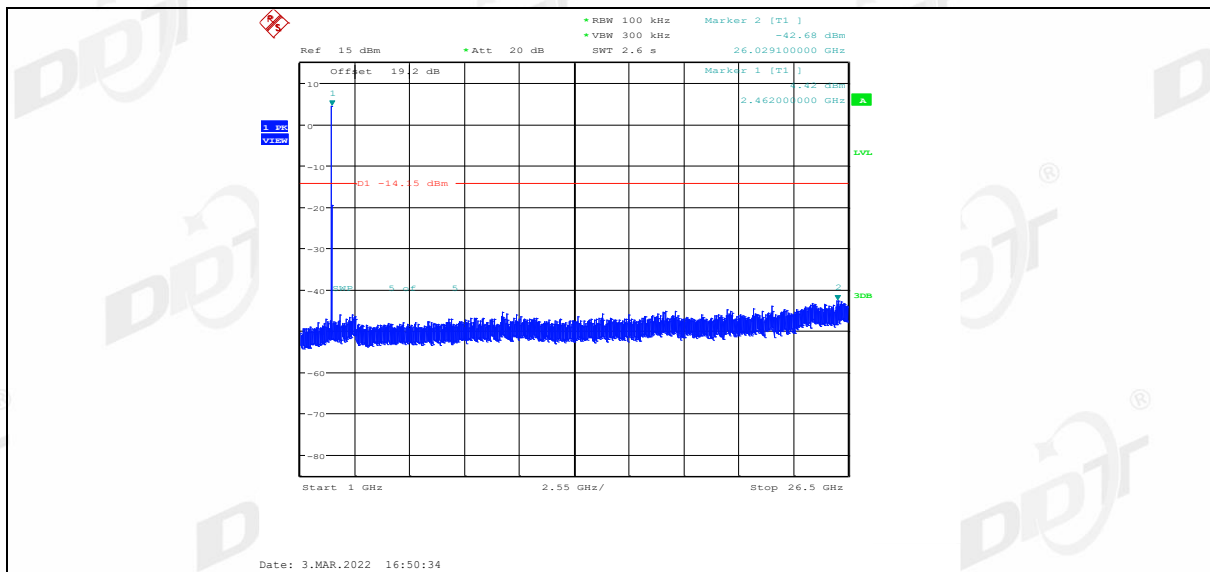
11B Ant2 2462 0~Reference



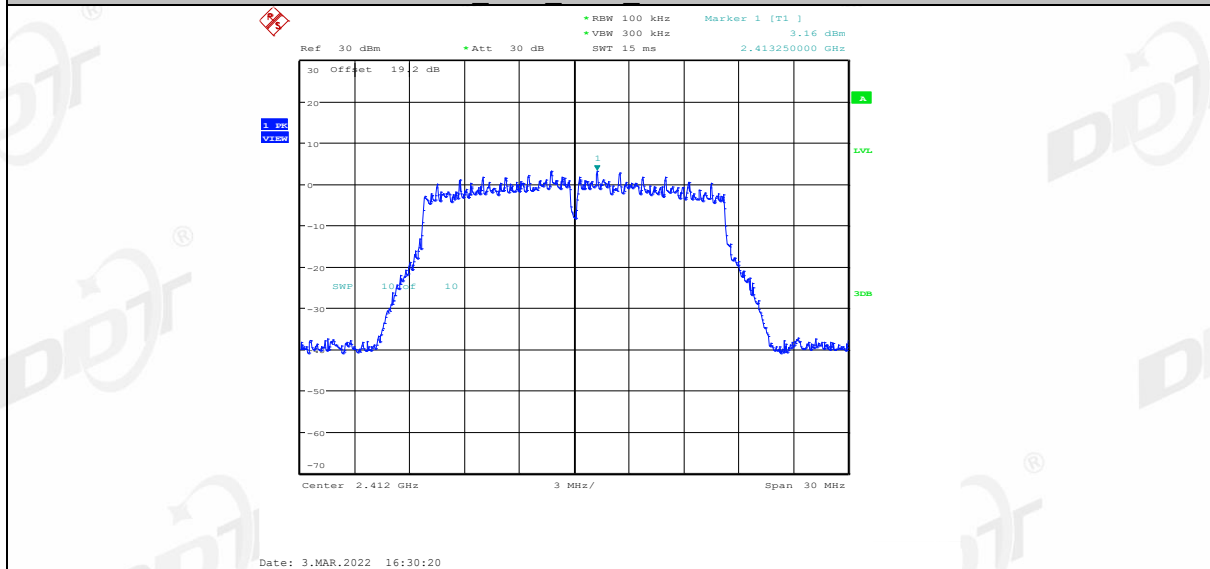
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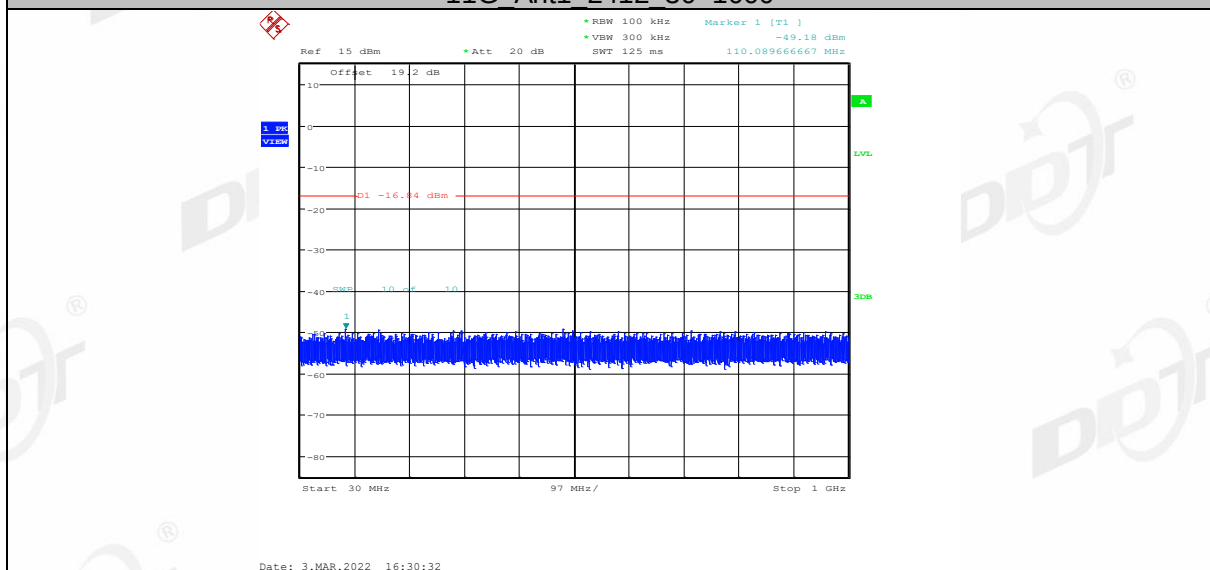
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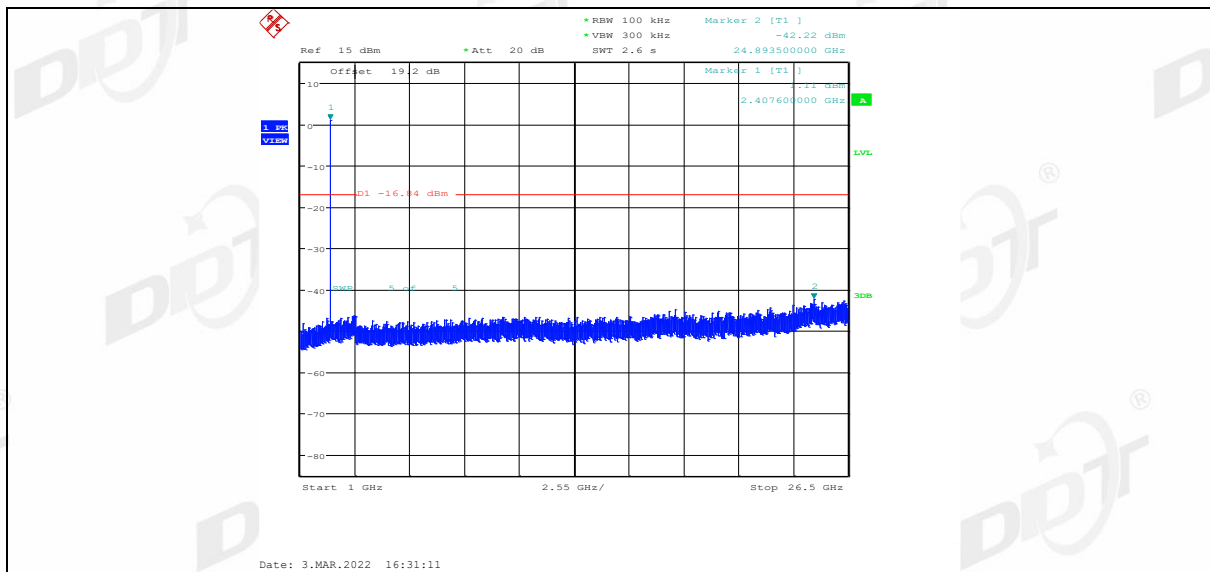
11G Ant1 2412 0-Reference



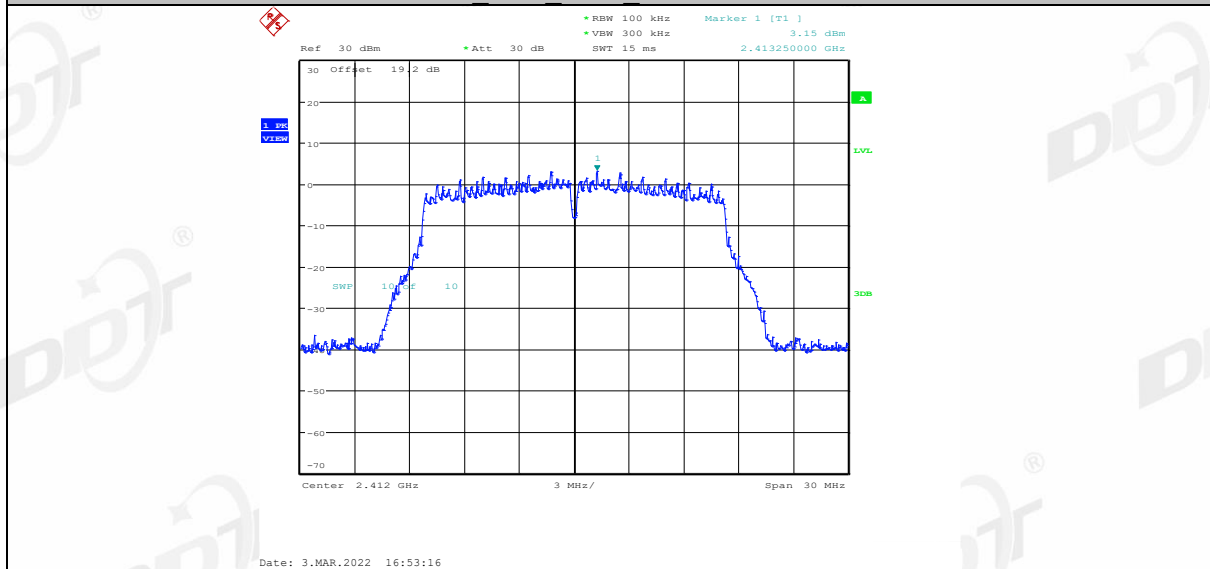
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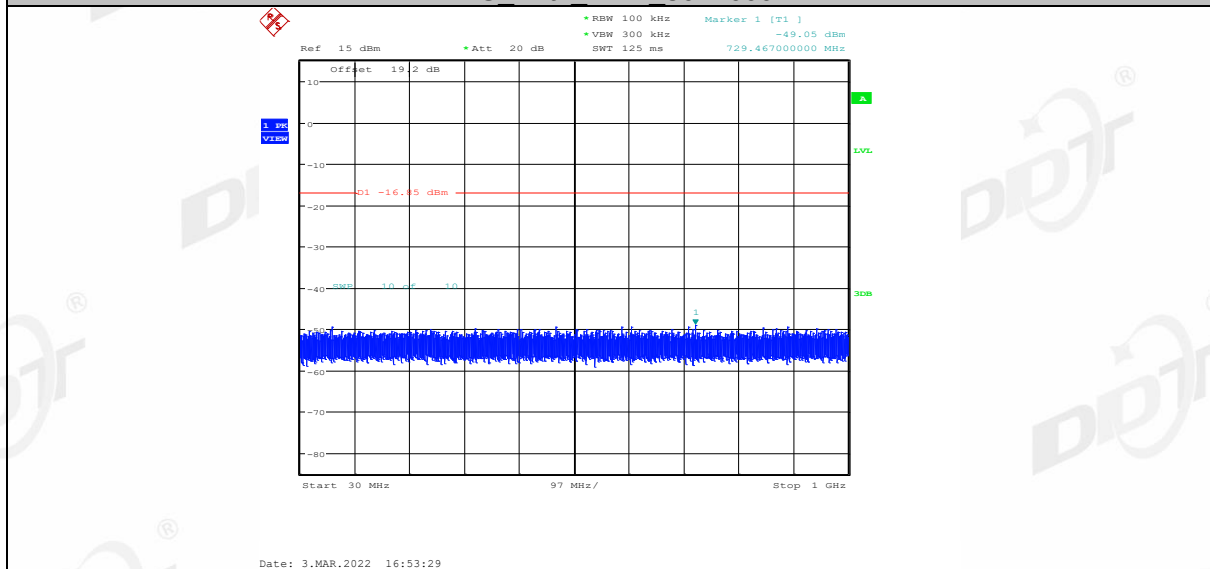
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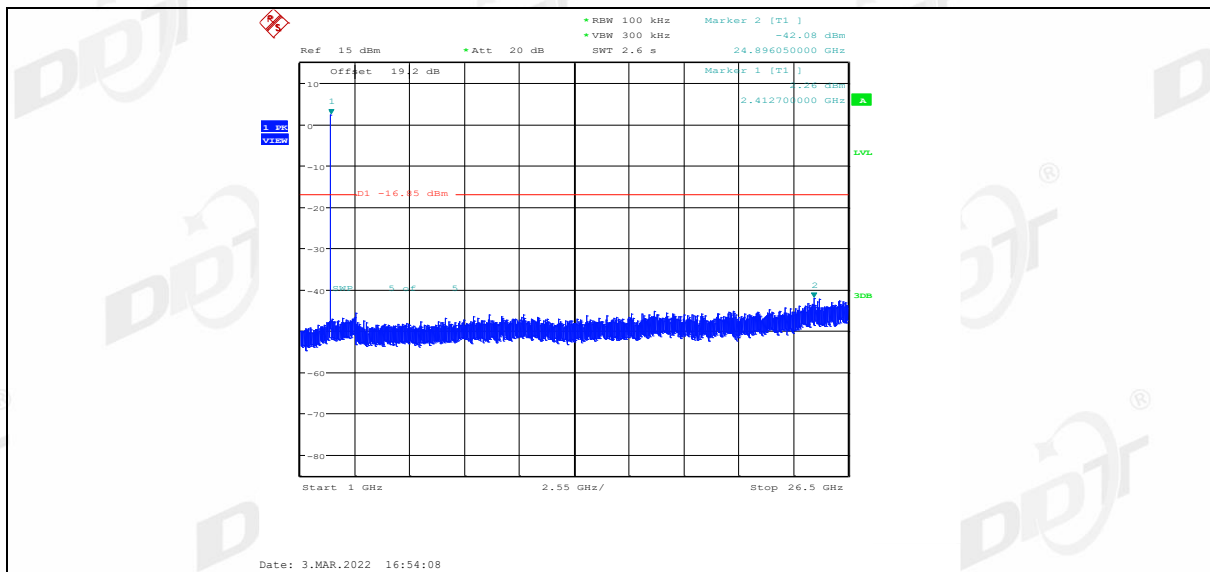
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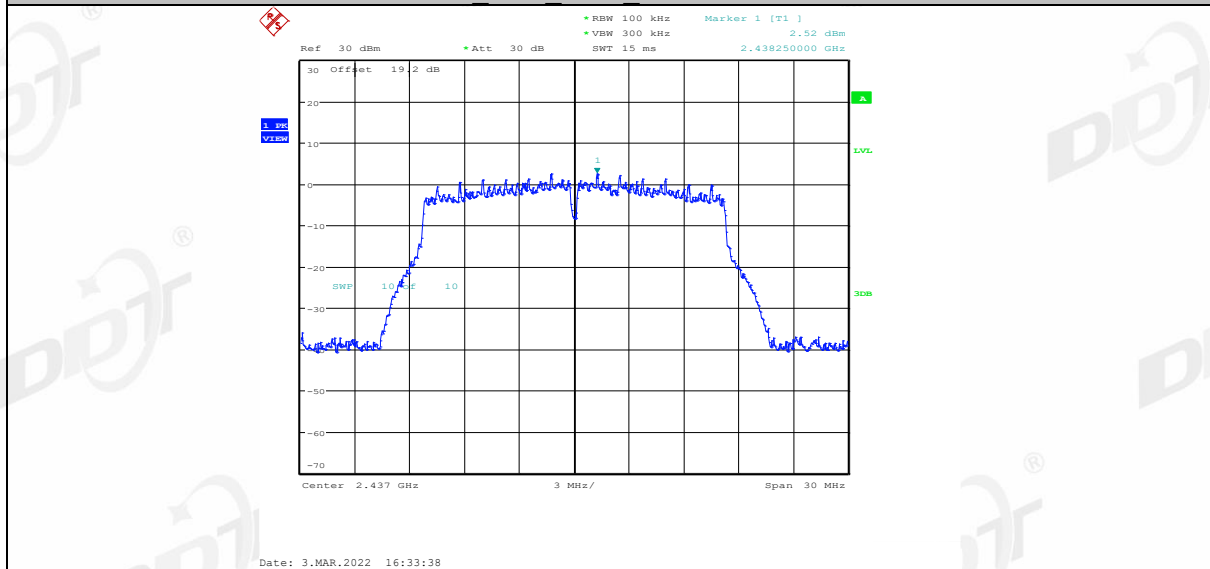
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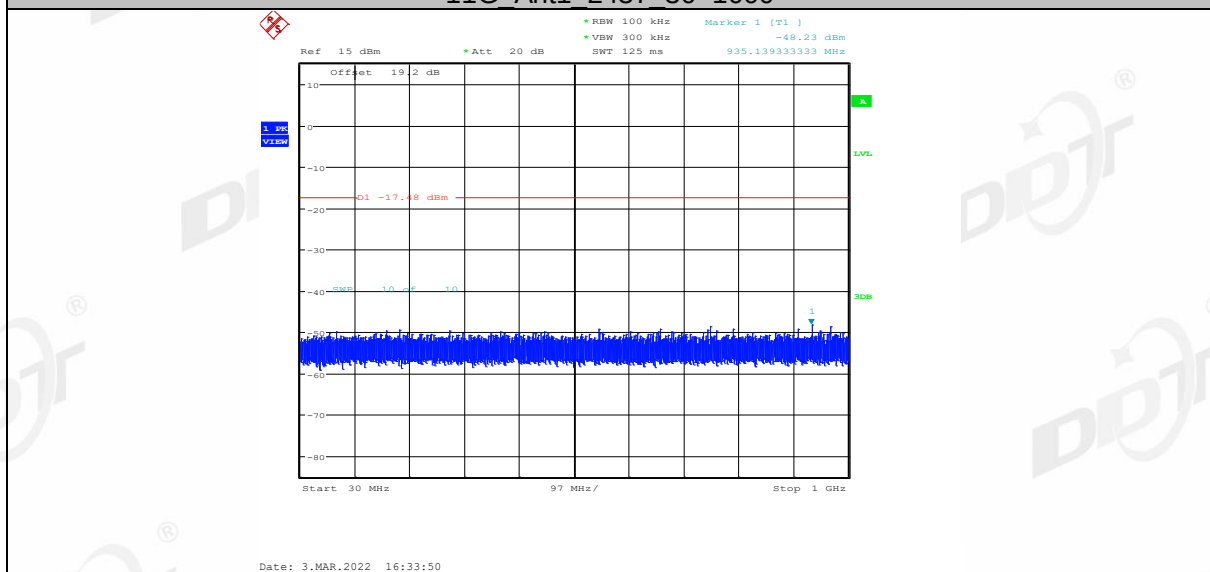
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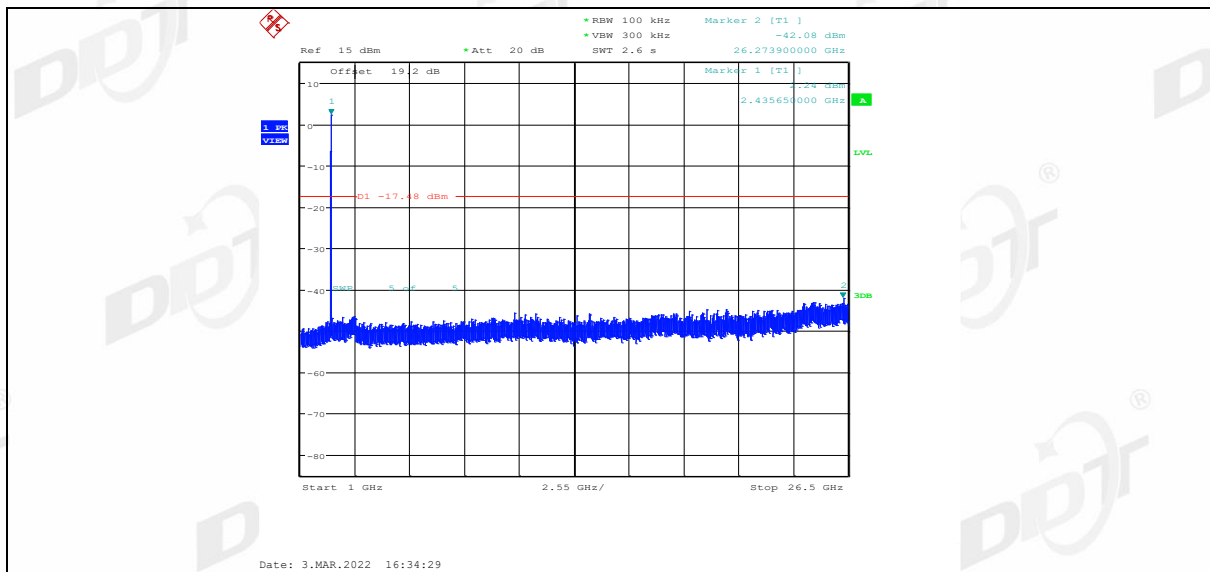
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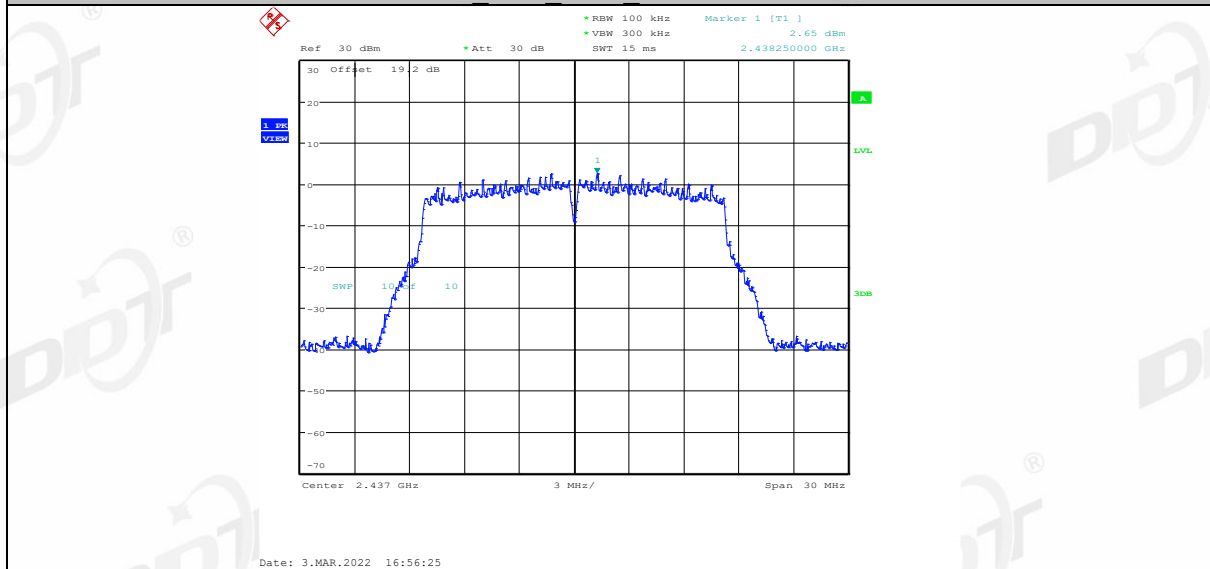
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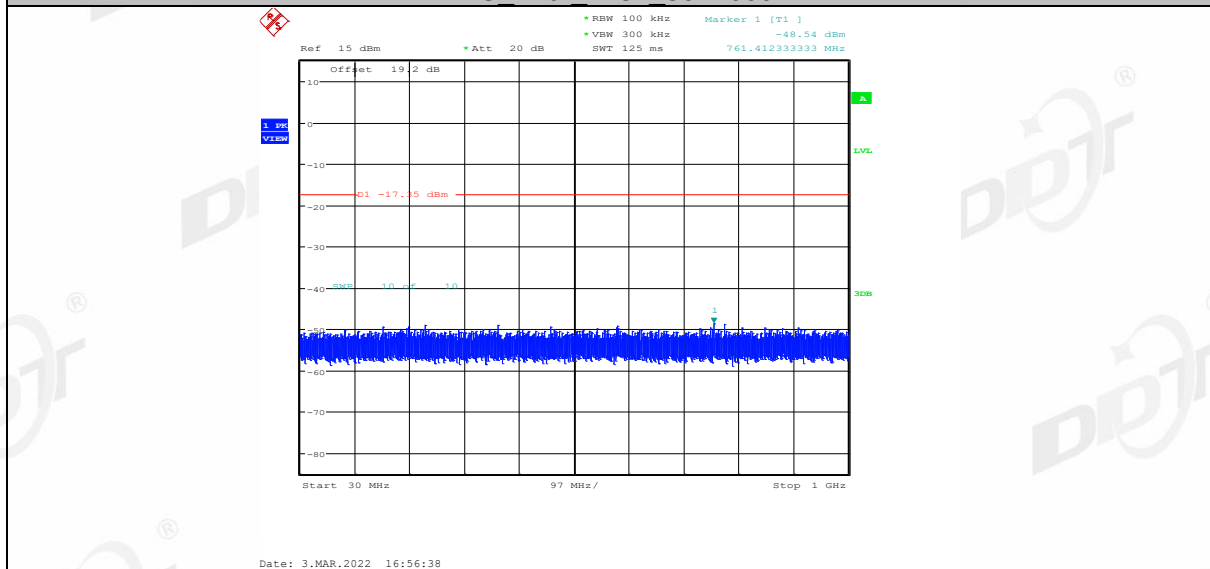
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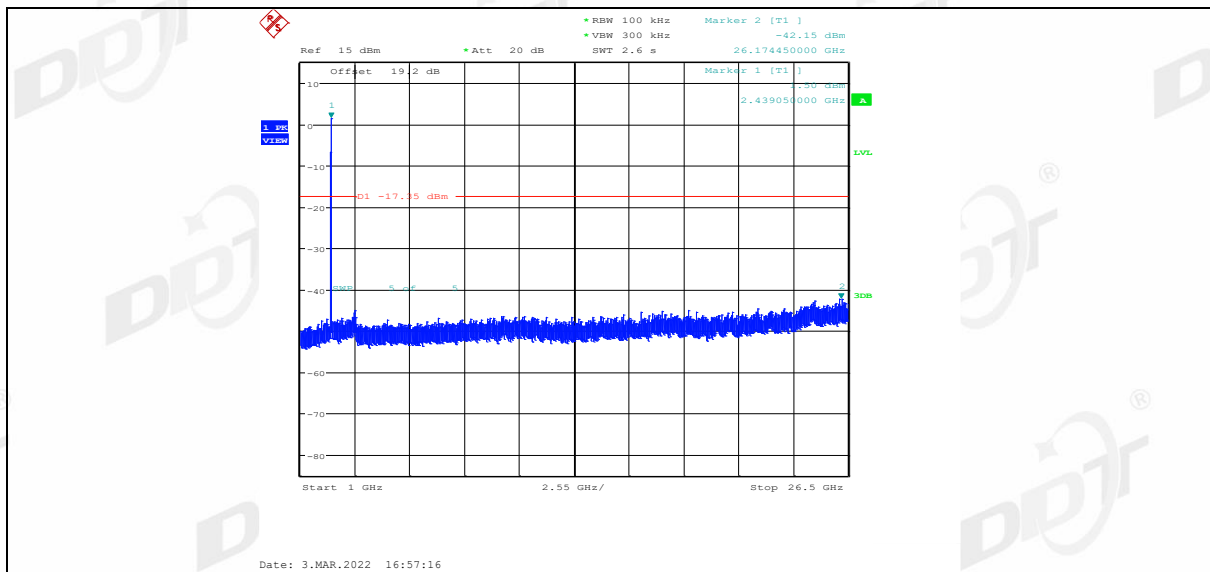
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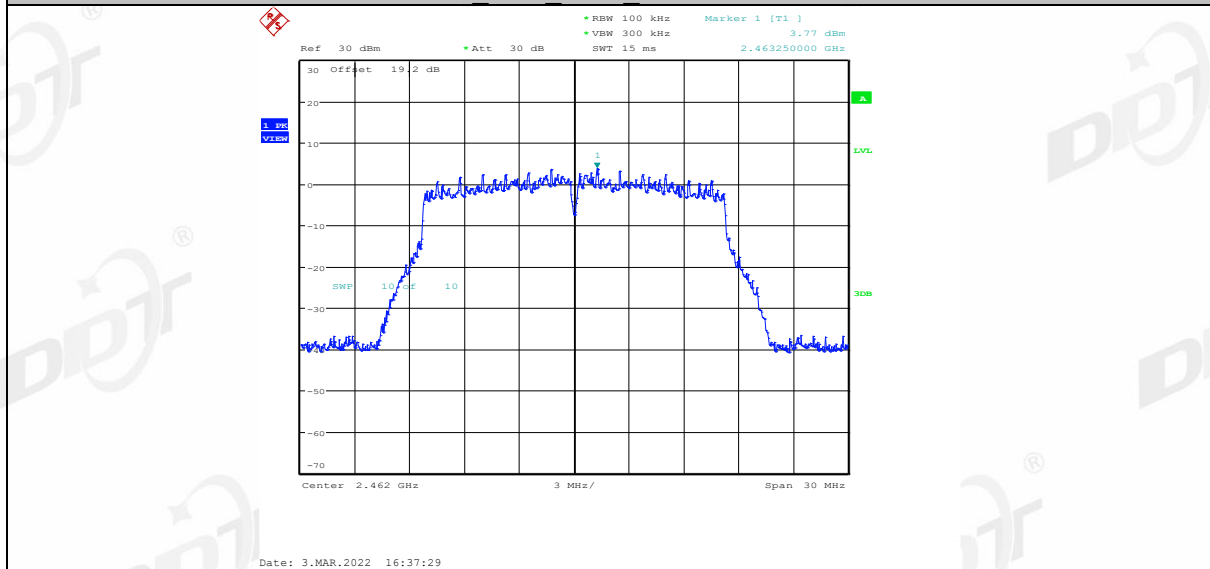
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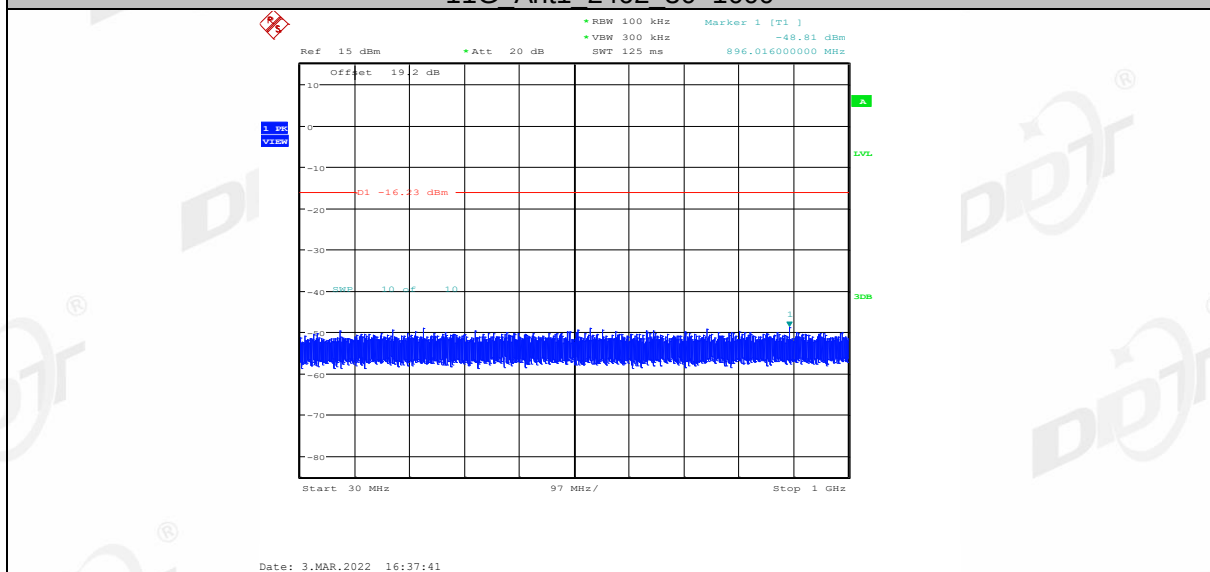
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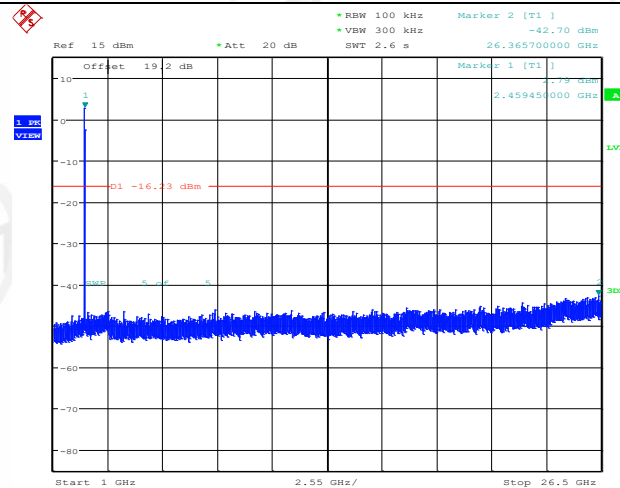
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11G Ant1 2462 30~1000

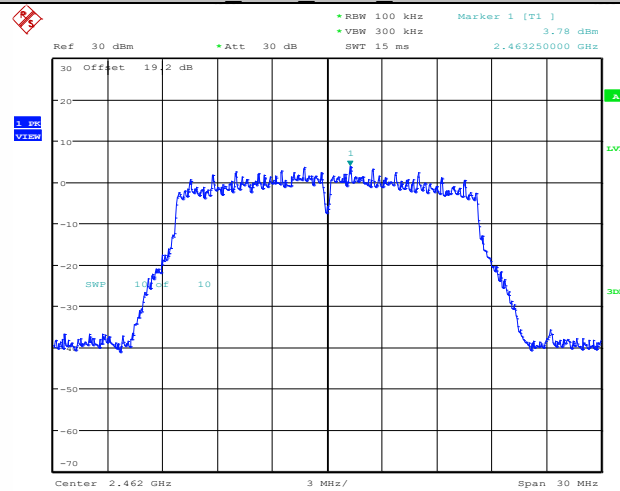


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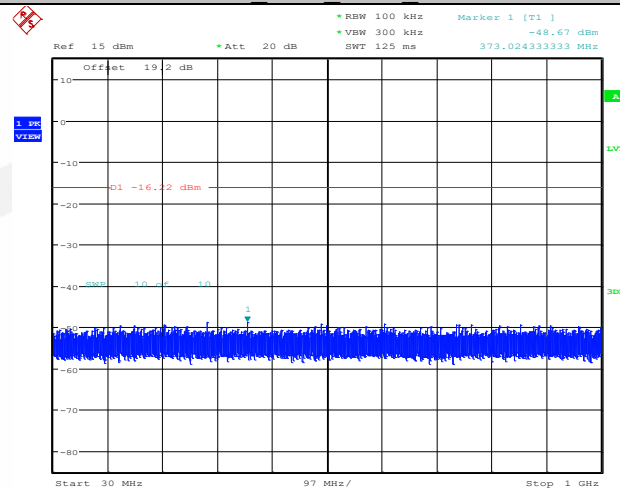
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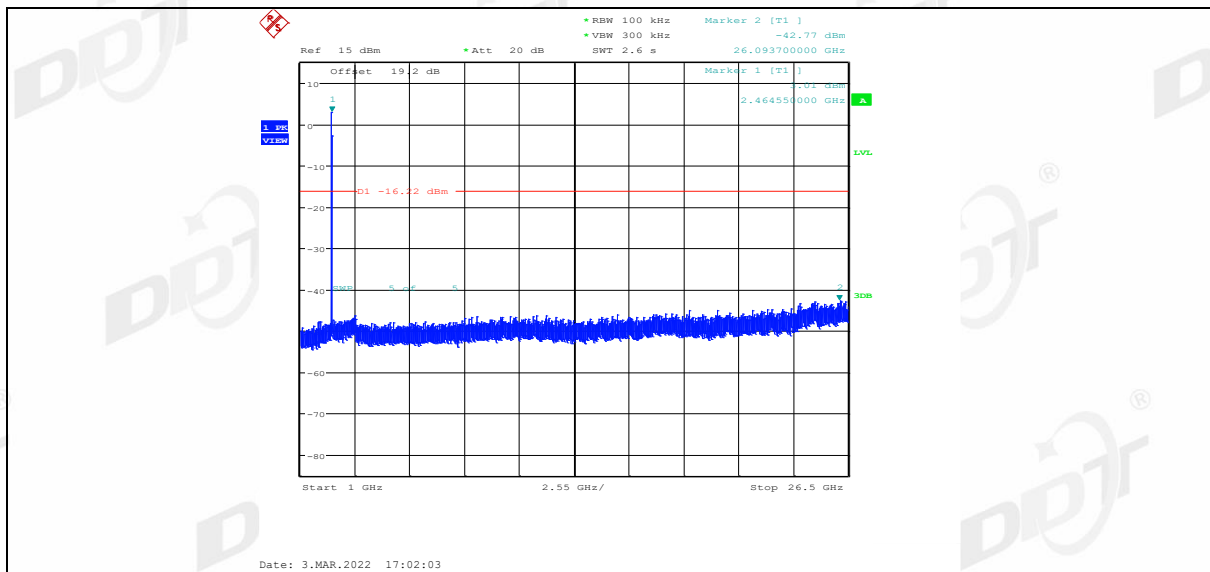
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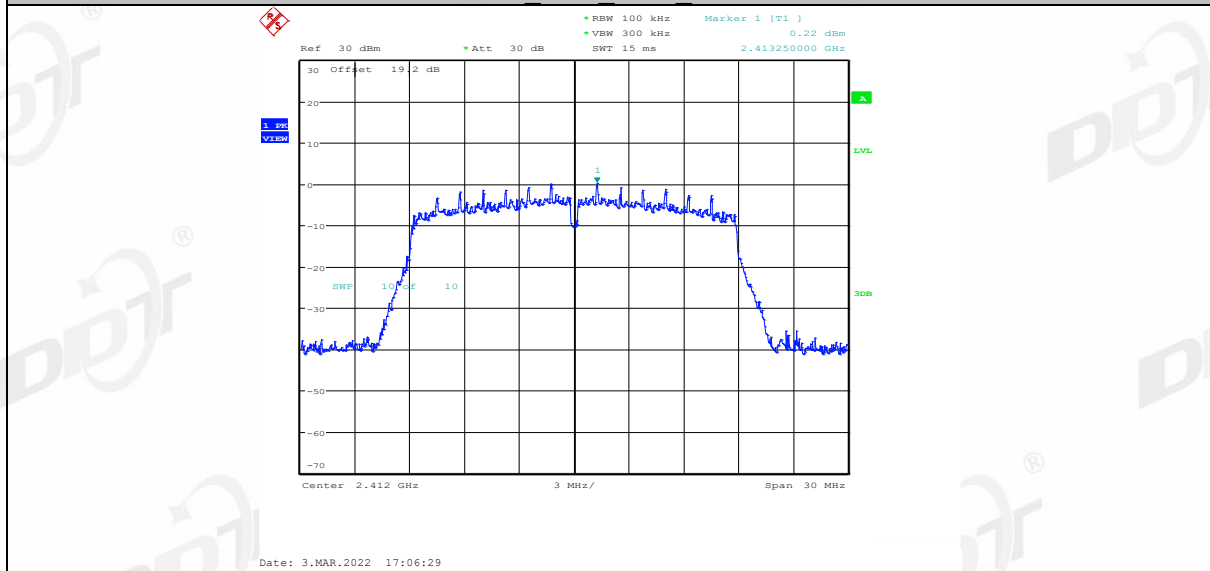


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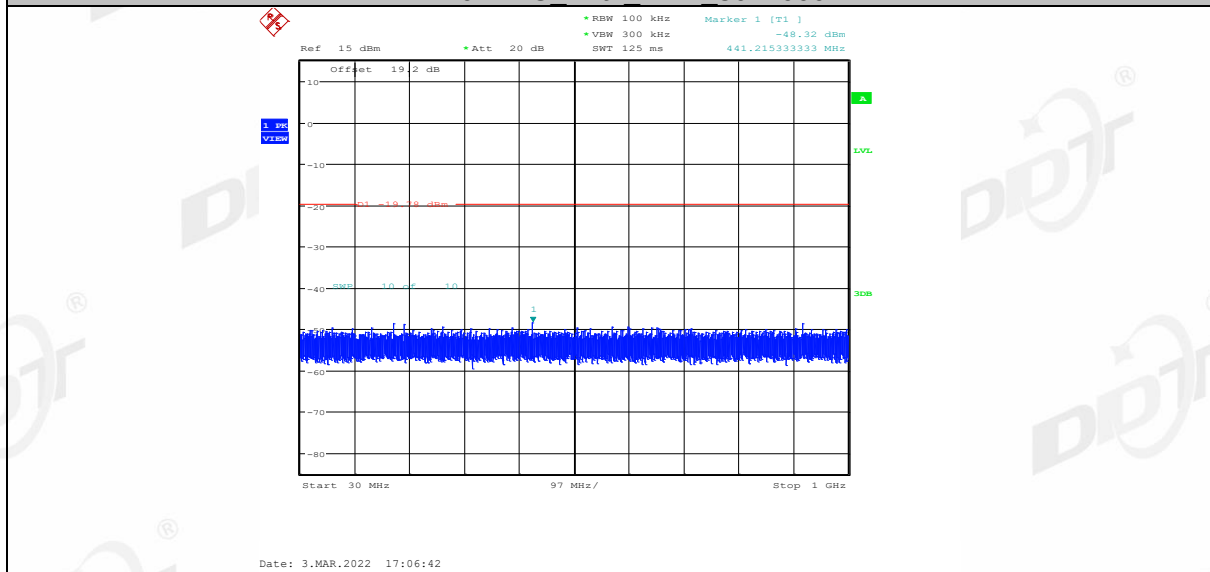
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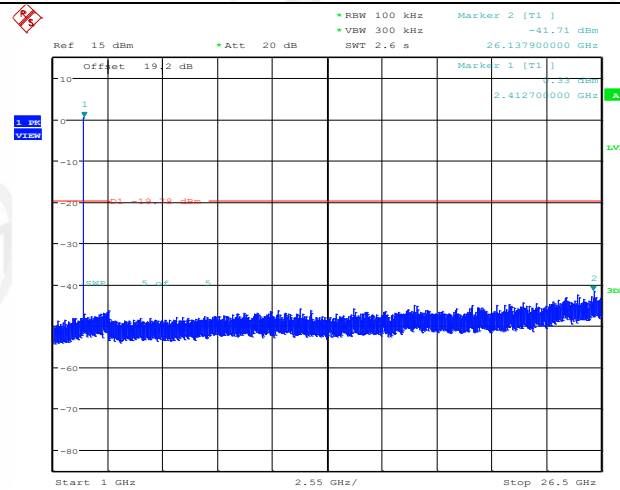
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11N20MIMO Ant1 2412 30~1000

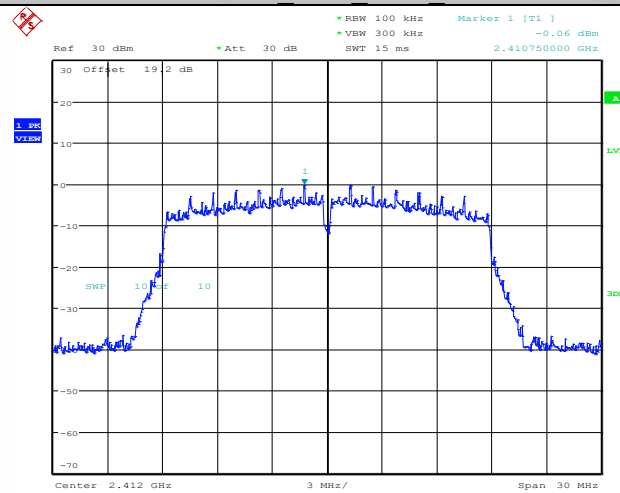


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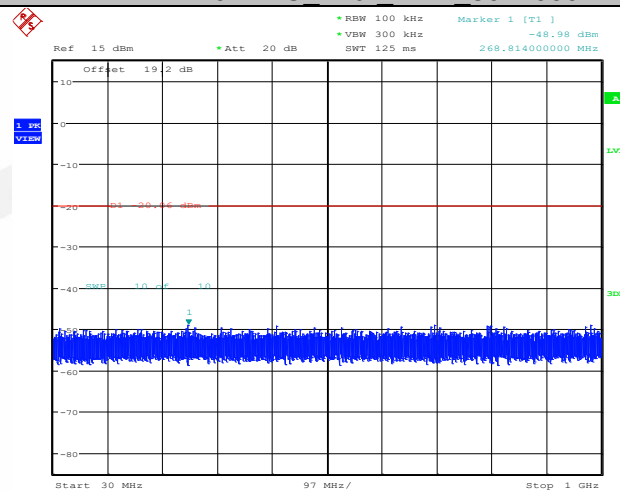
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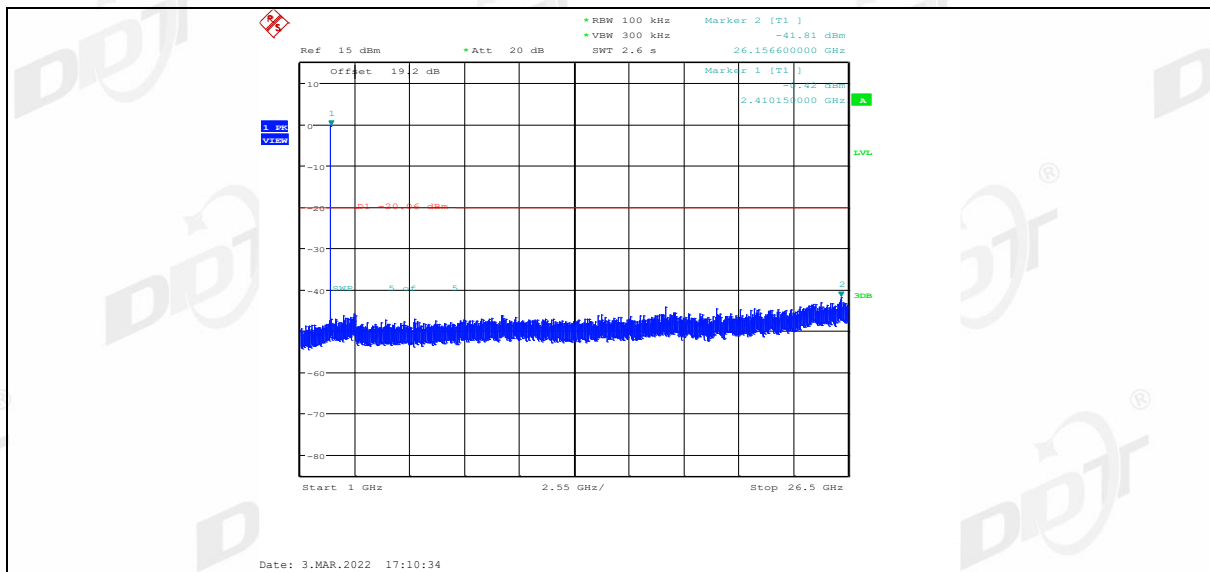
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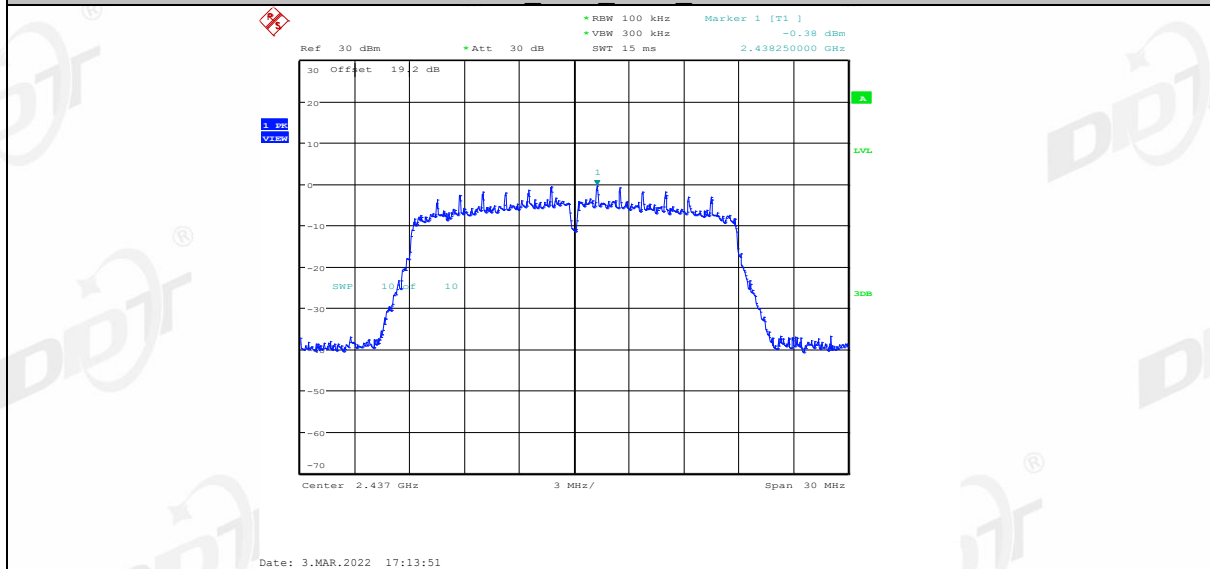


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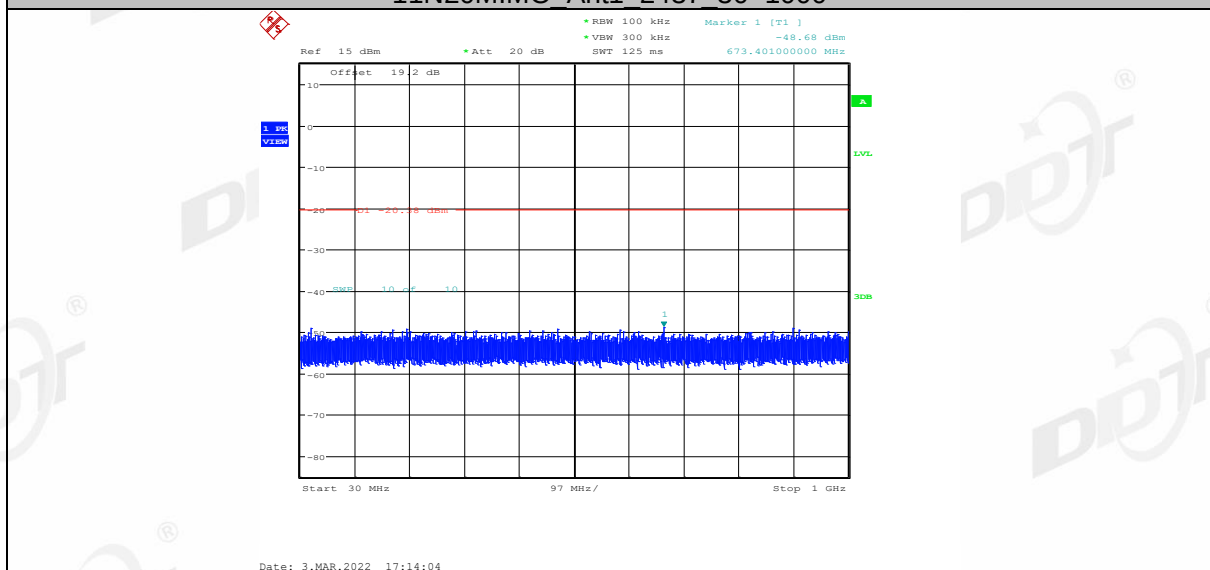
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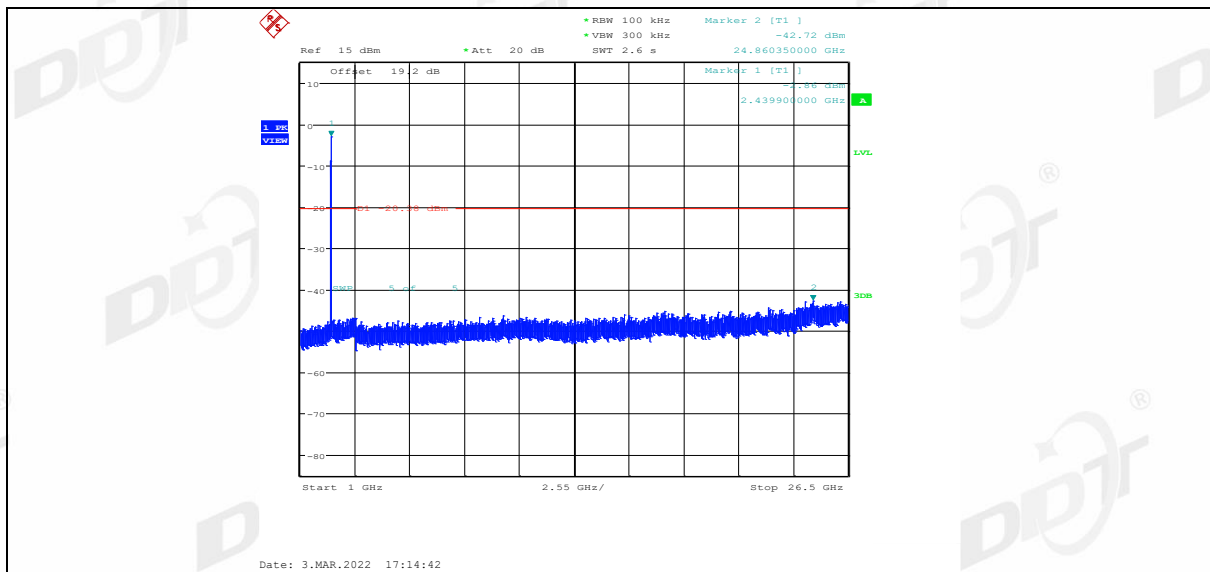
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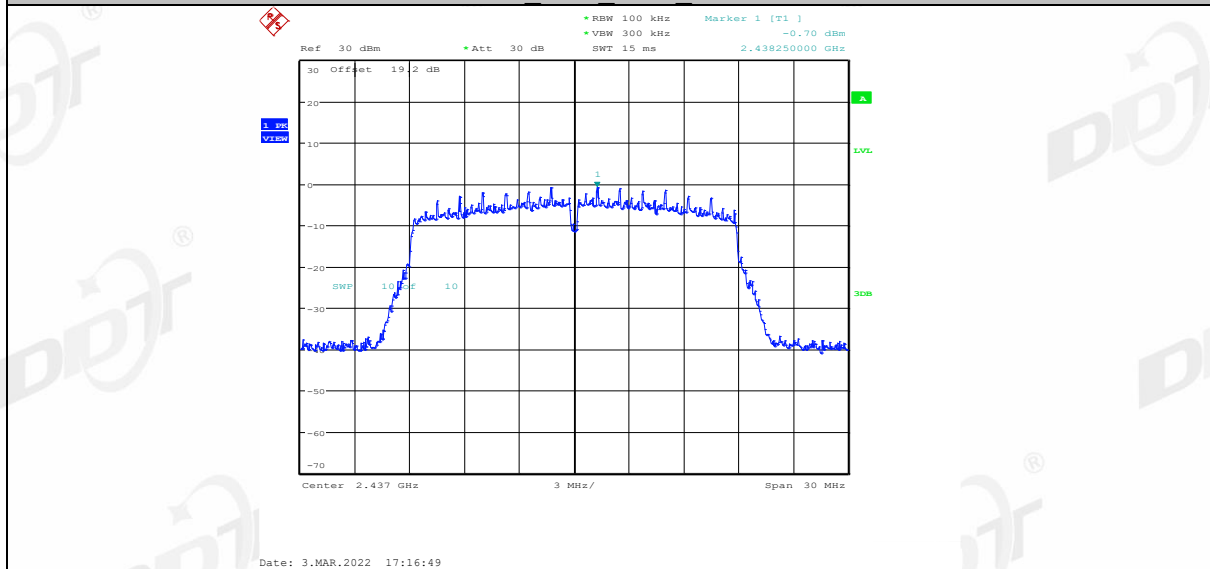
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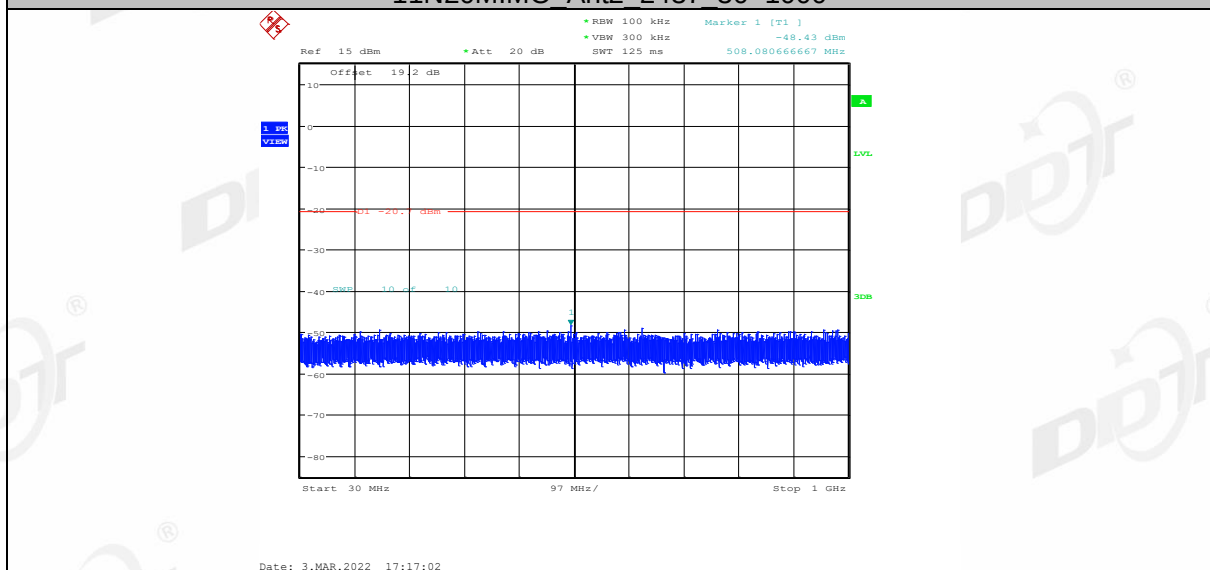
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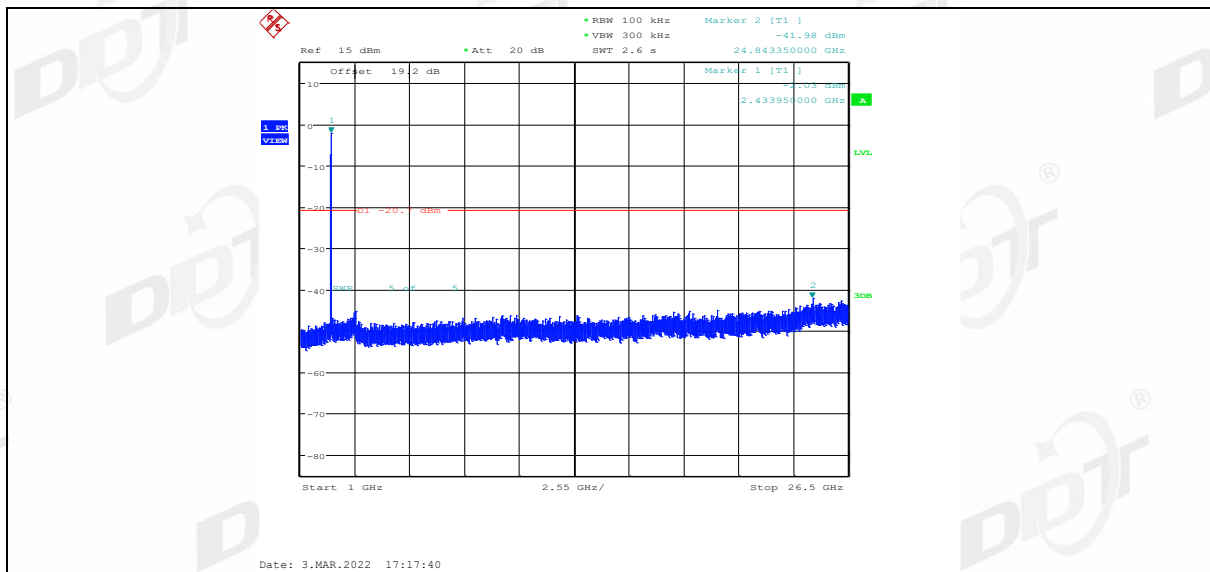
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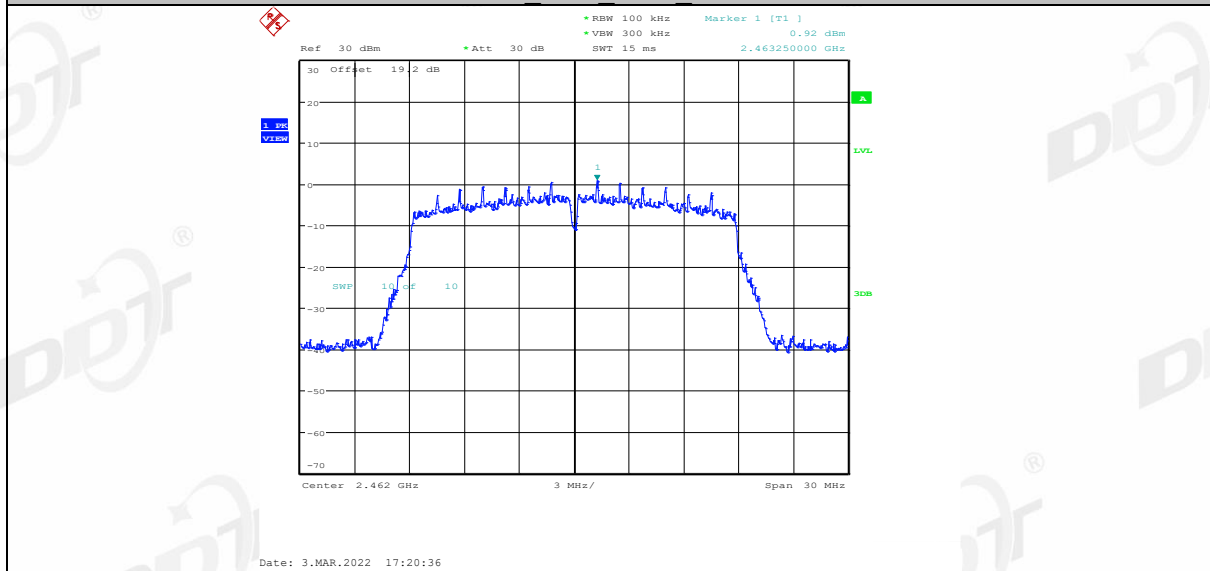
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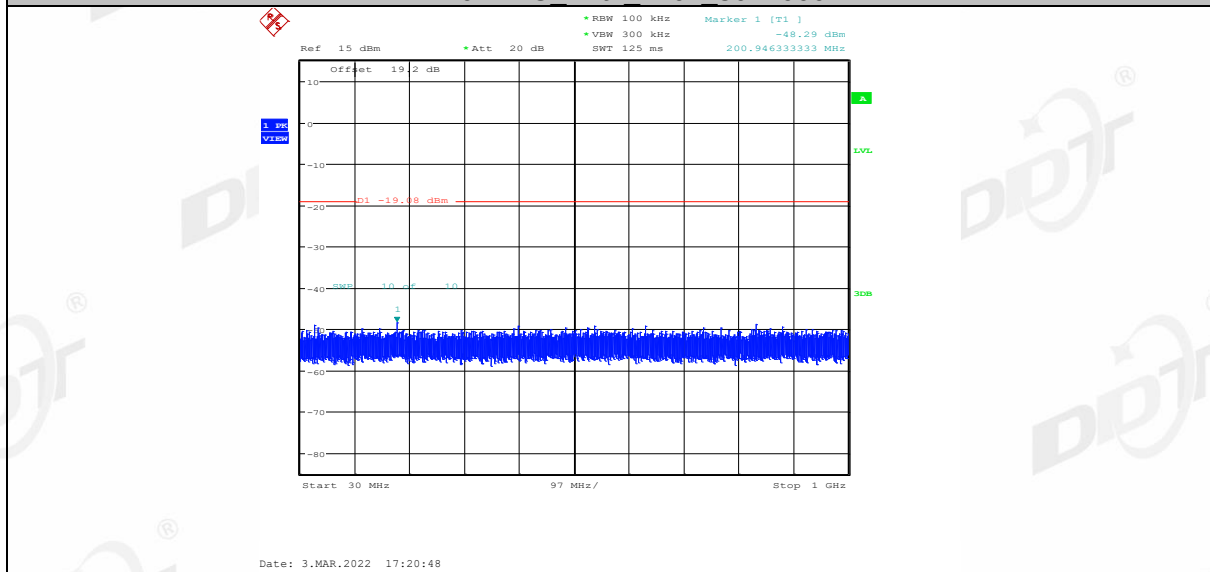
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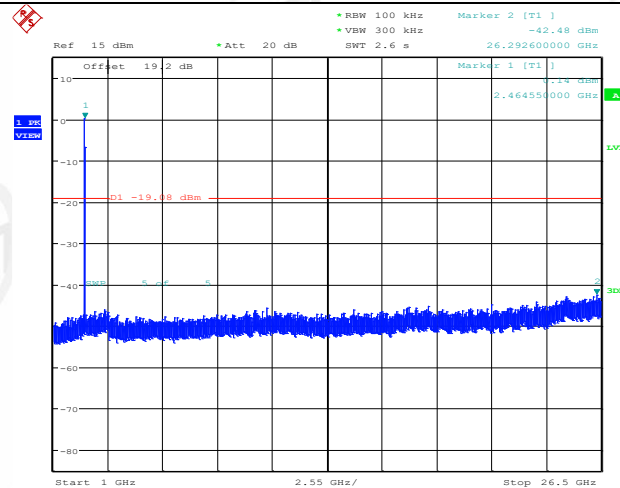
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11N20MIMO Ant1 2462 30~1000

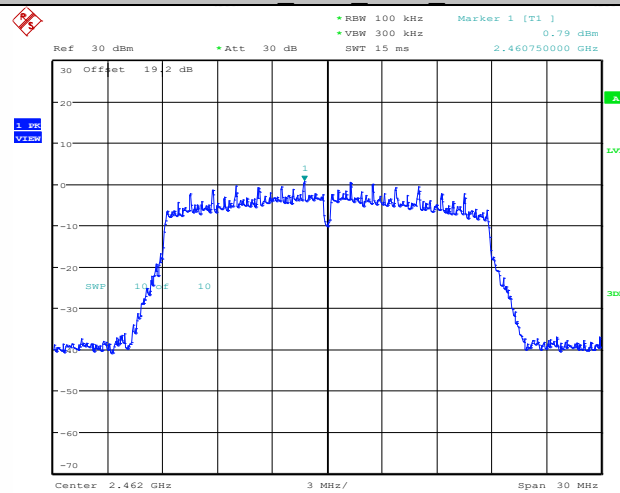


11N20MIMO Ant1 2462 1000~26500



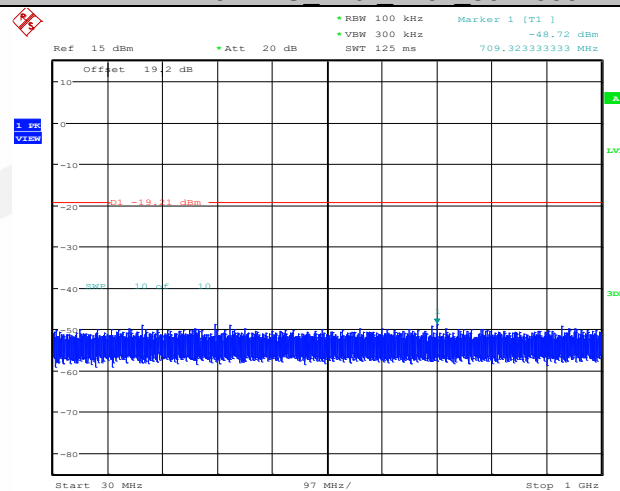
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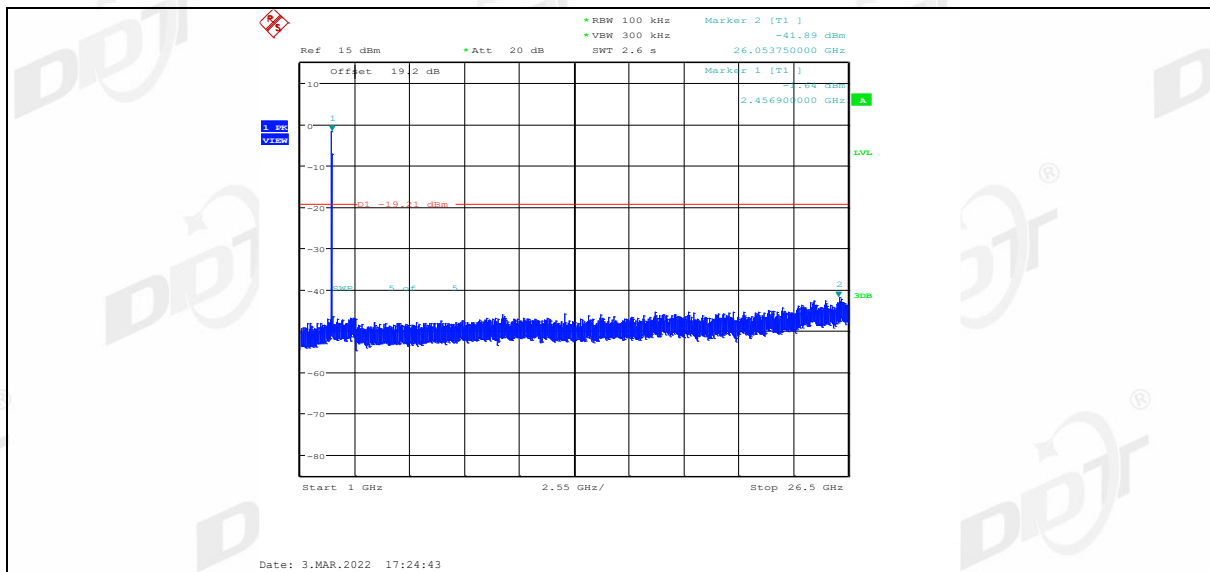
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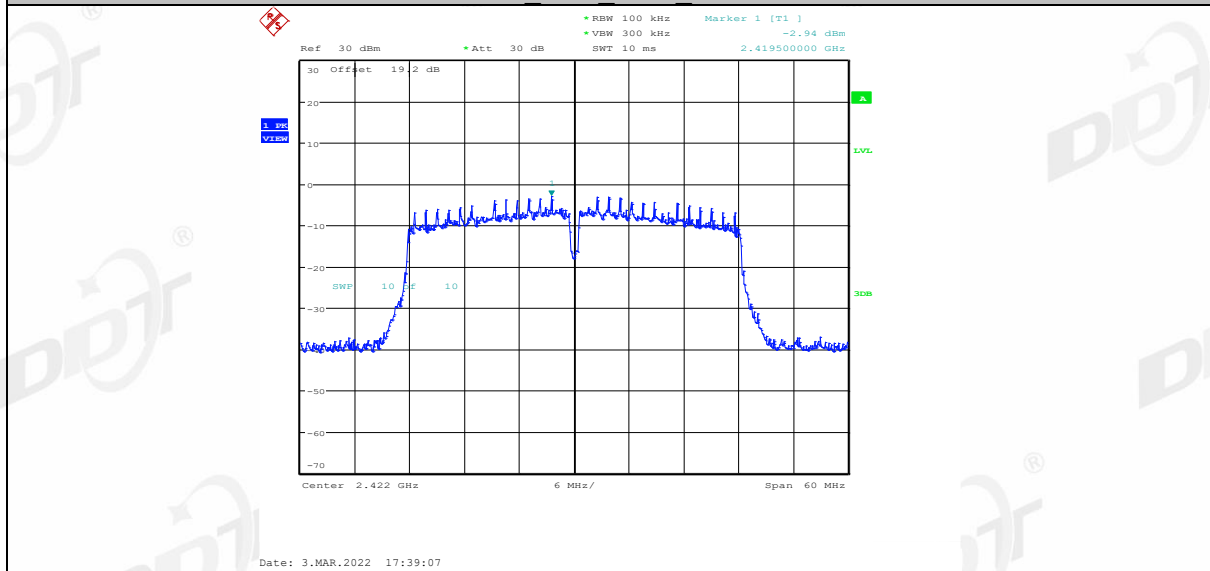


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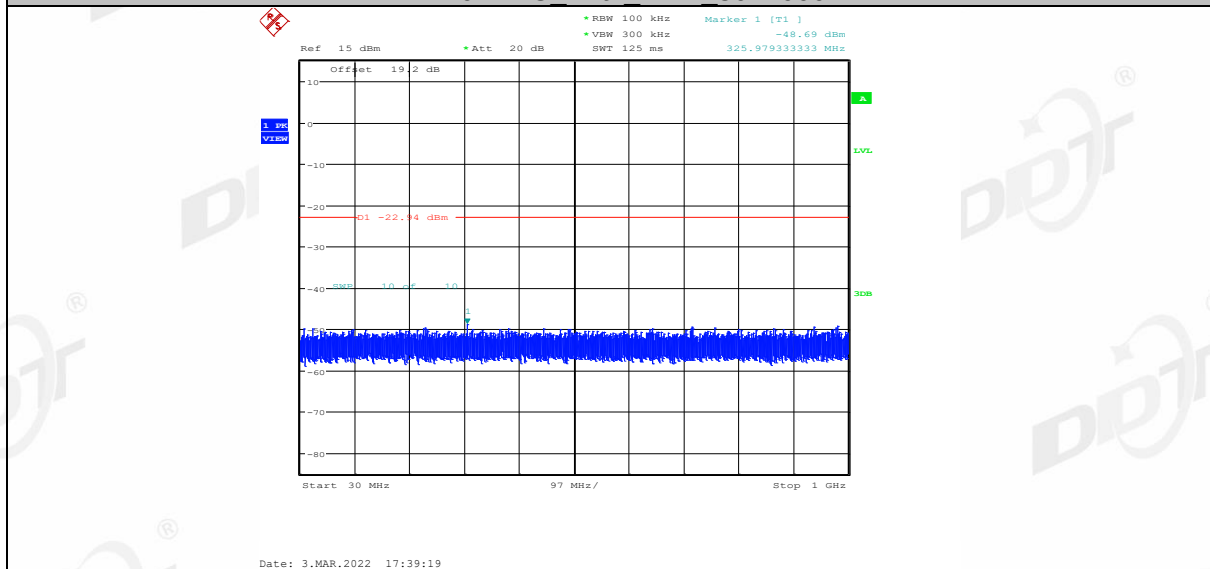
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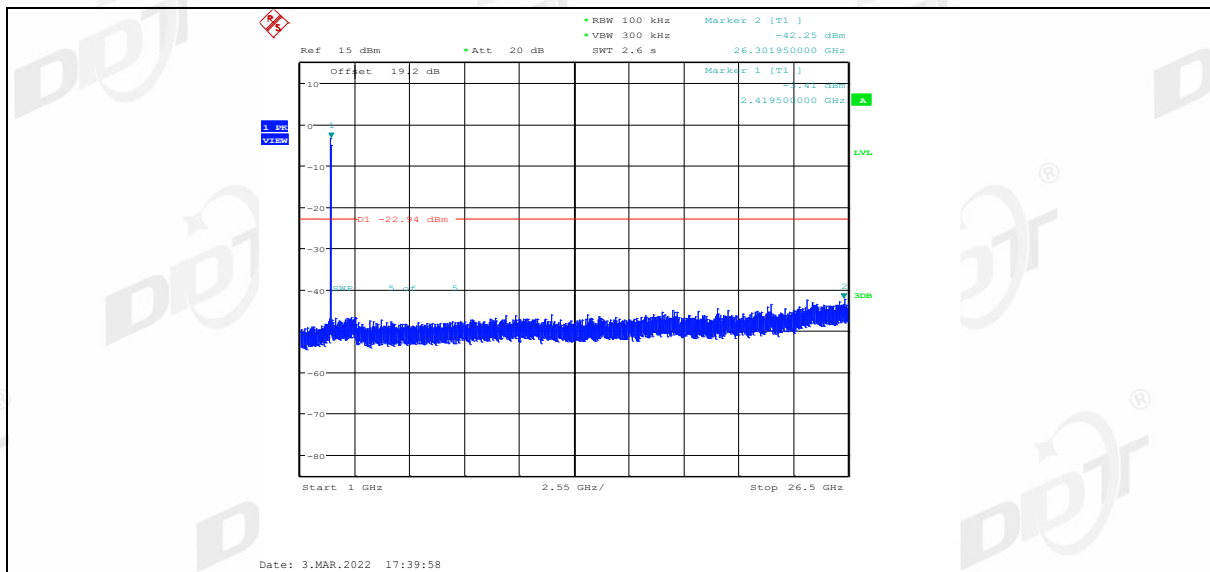
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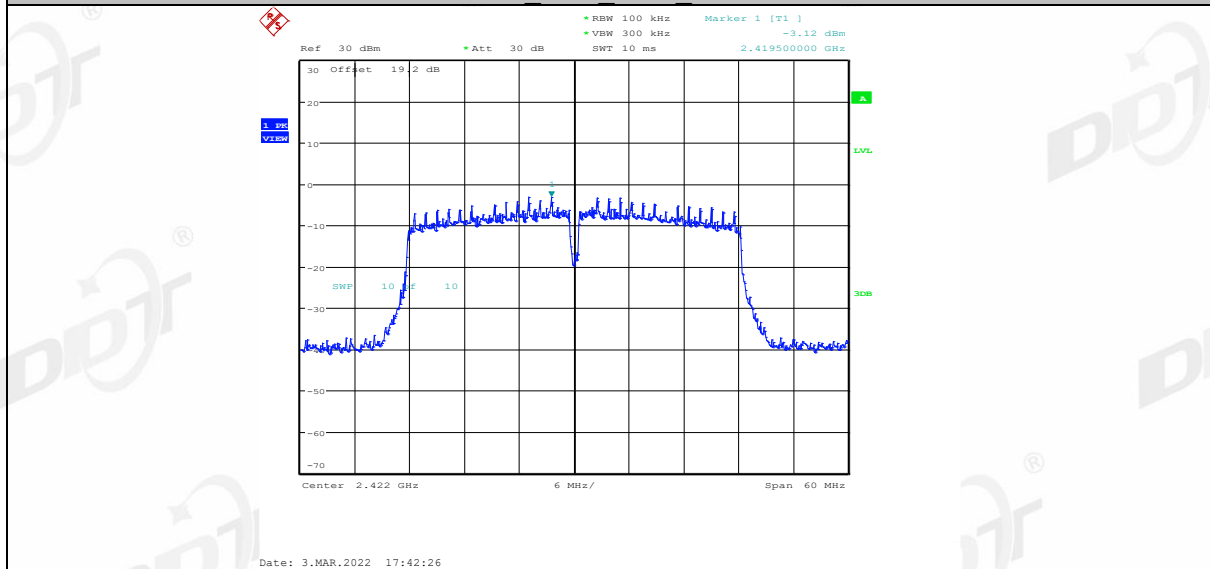
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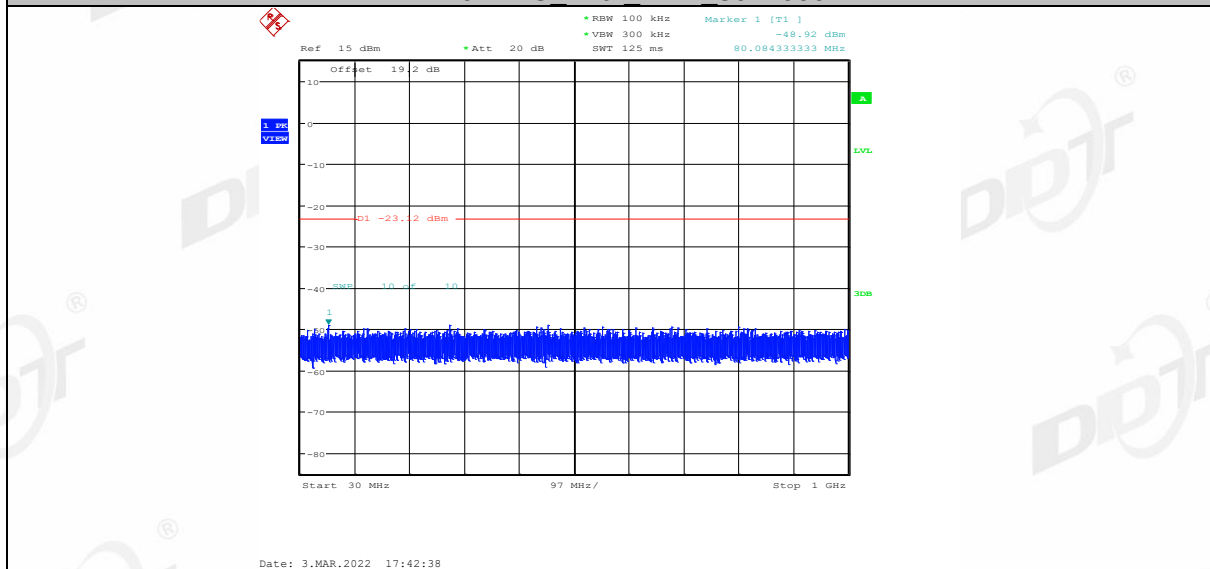
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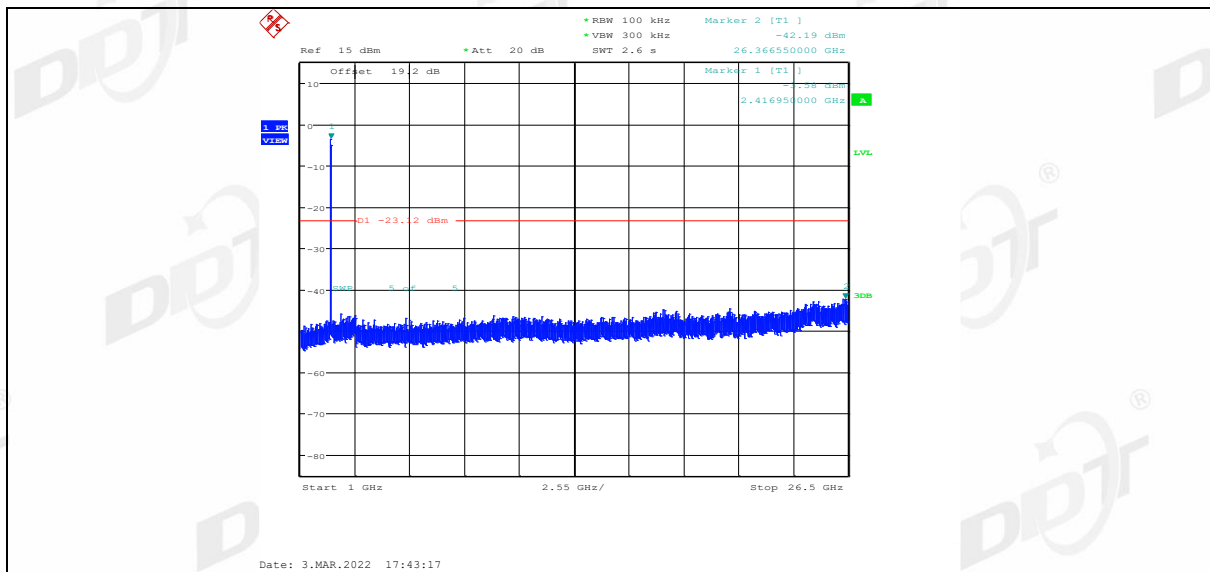
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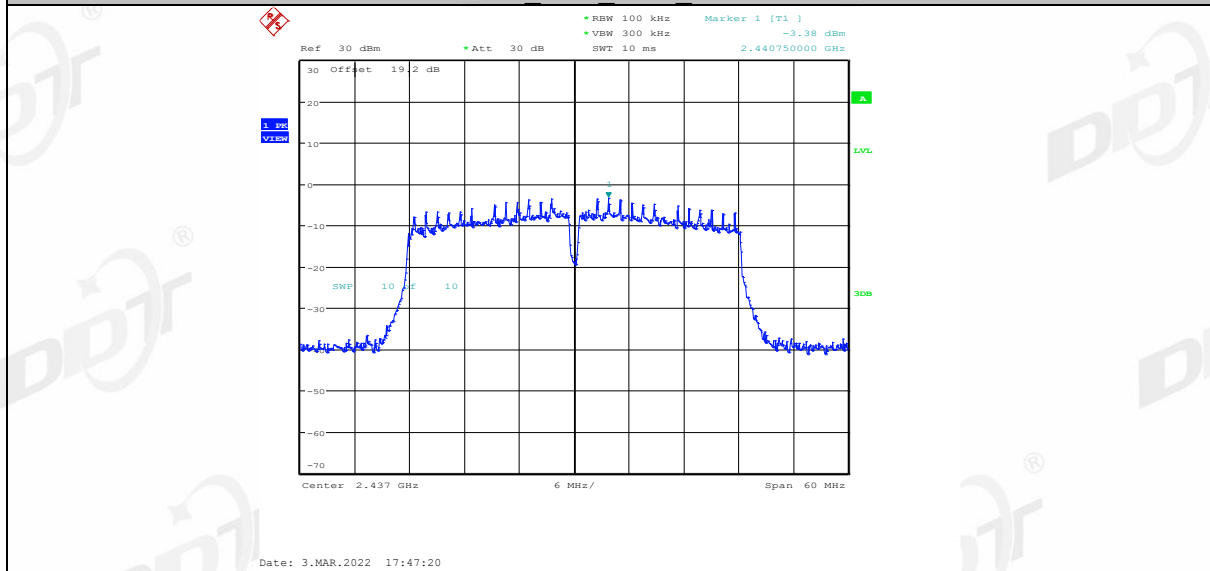
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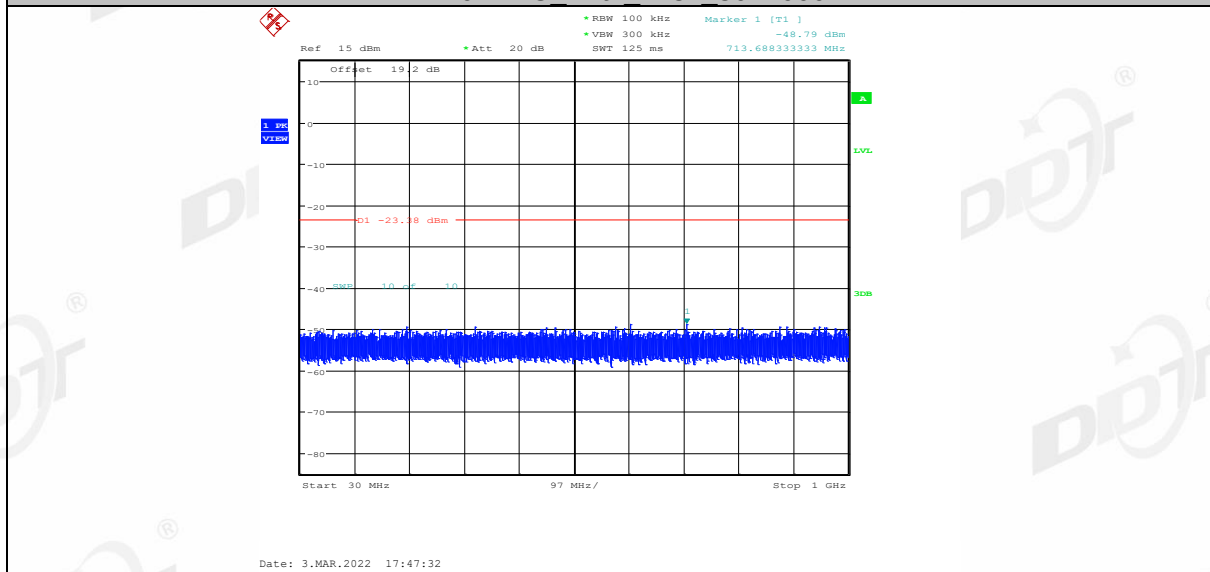
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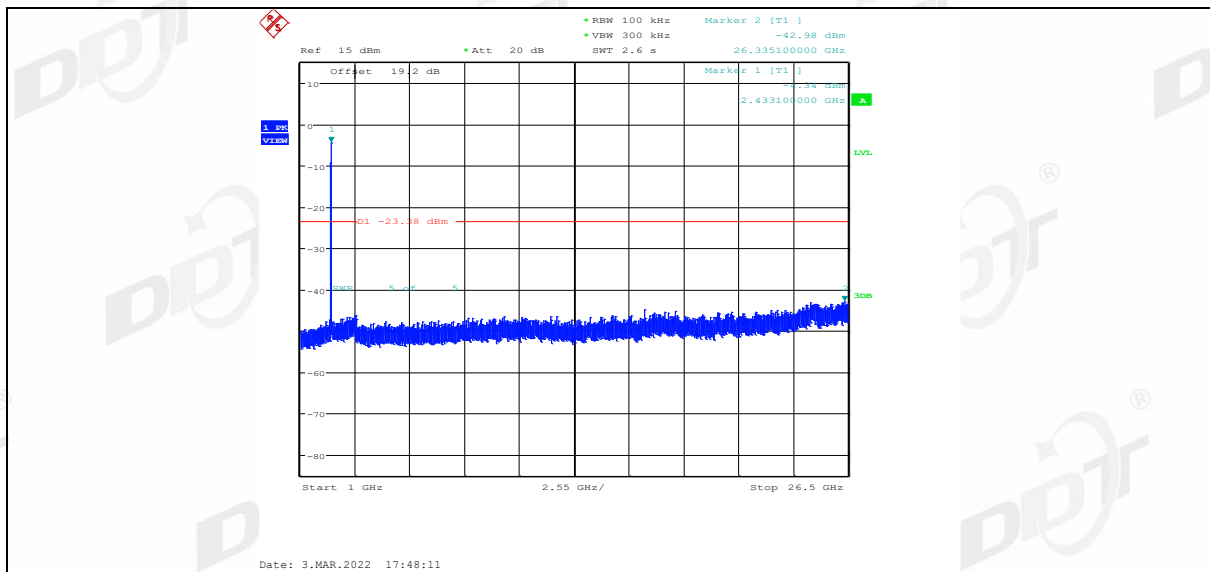
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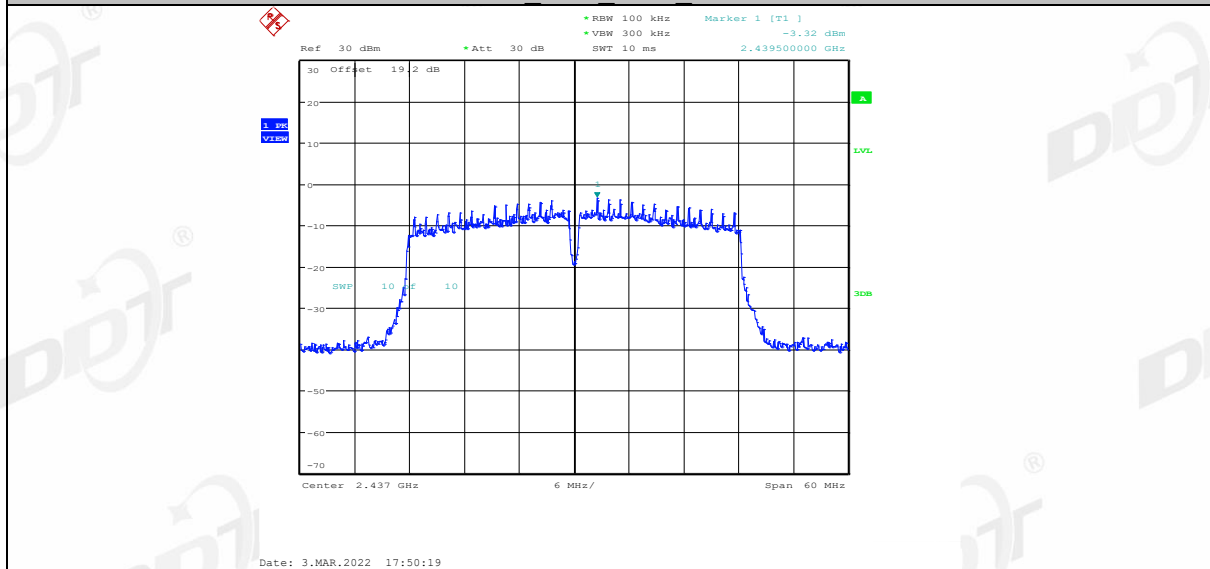
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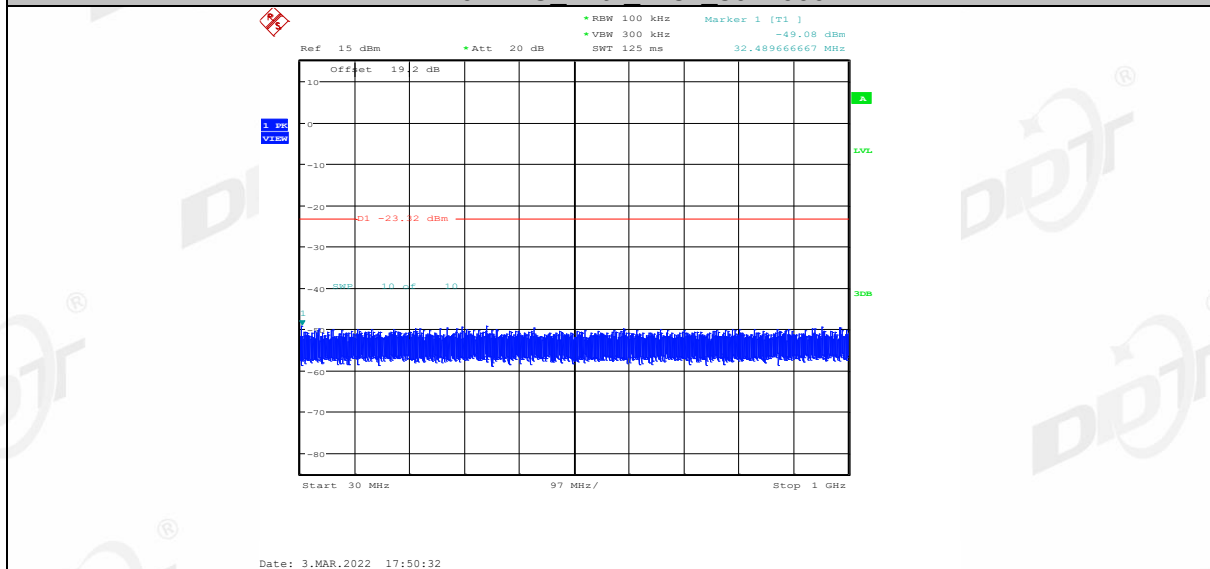
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11N40MIMO Ant2 2437 0~Reference



11N40MIMO Ant2 2437 30~1000



11N40MIMO Ant2 2437 1000~26500