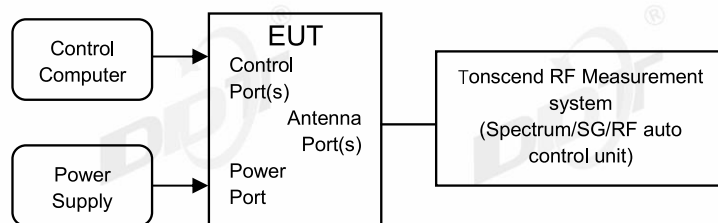


8. Band Edge Compliance (Conducted Method)

8.1. Block diagram of test setup



8.2. 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 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

8.3. Test procedure

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

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

RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
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.

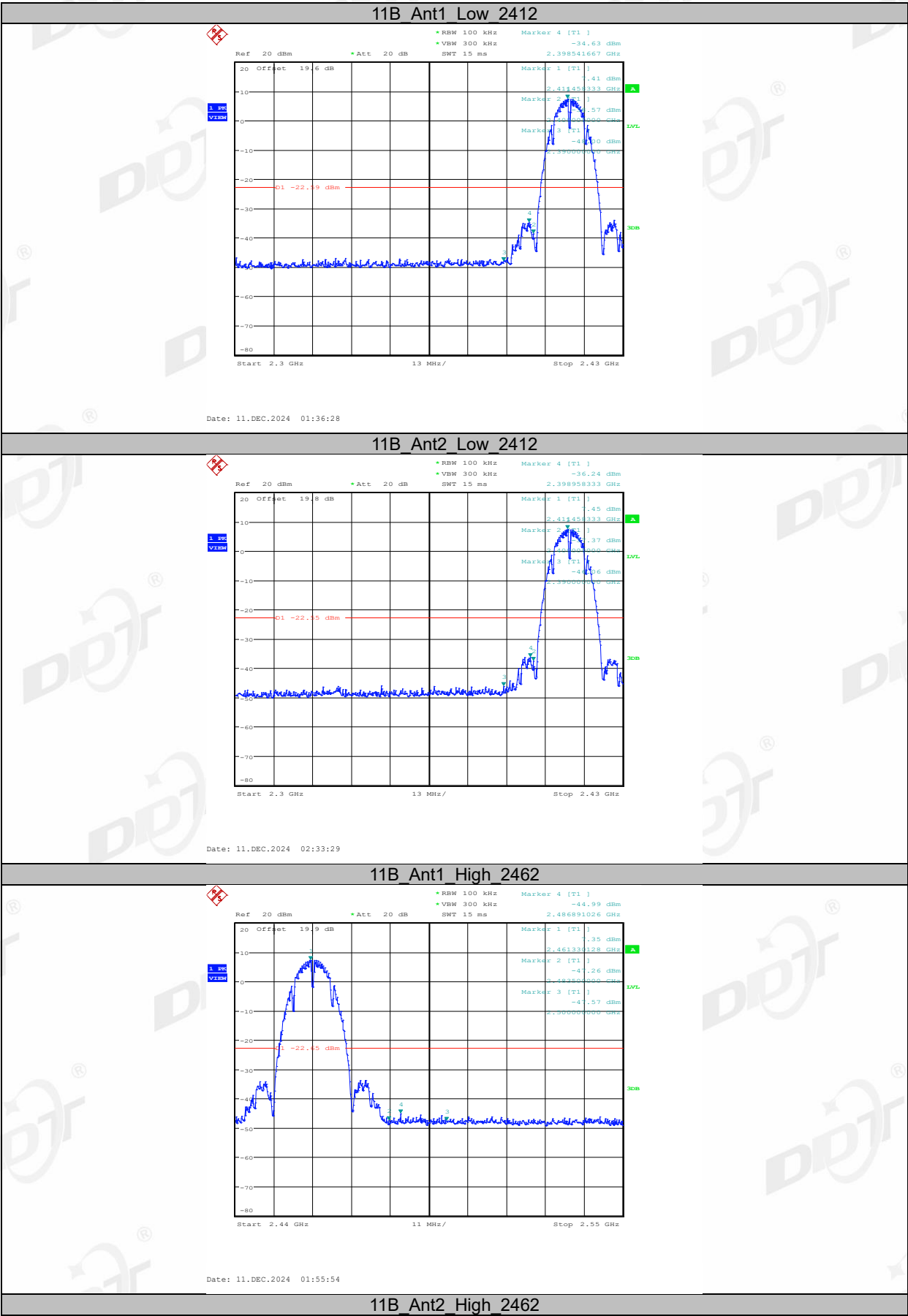
Then mark the maximum amplitude of all unwanted emissions outside of the authorized frequency band.

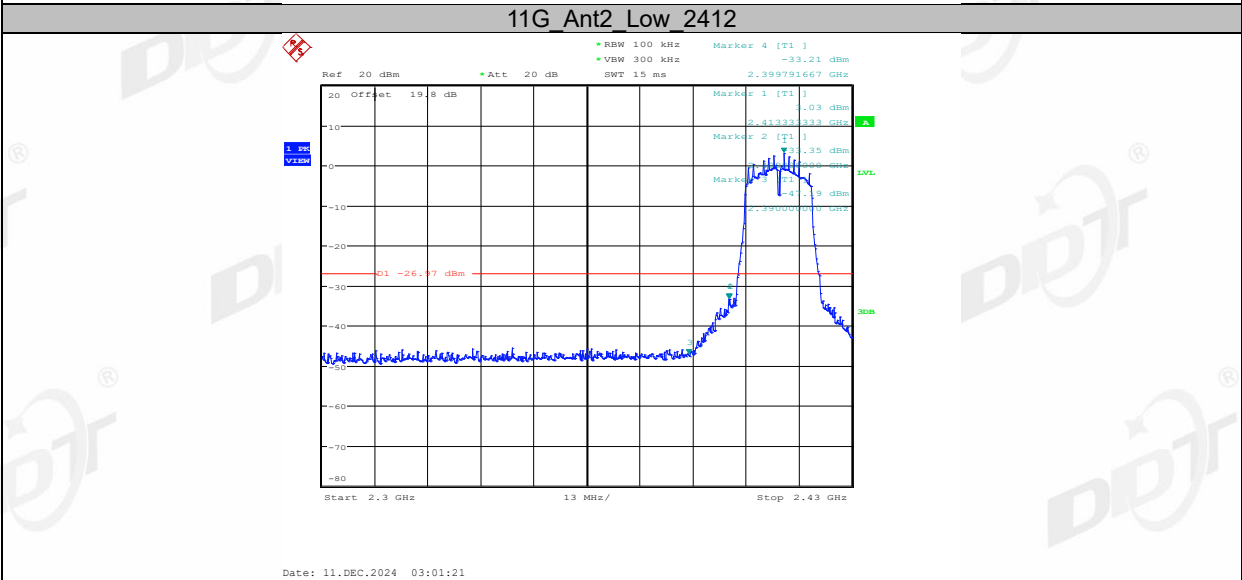
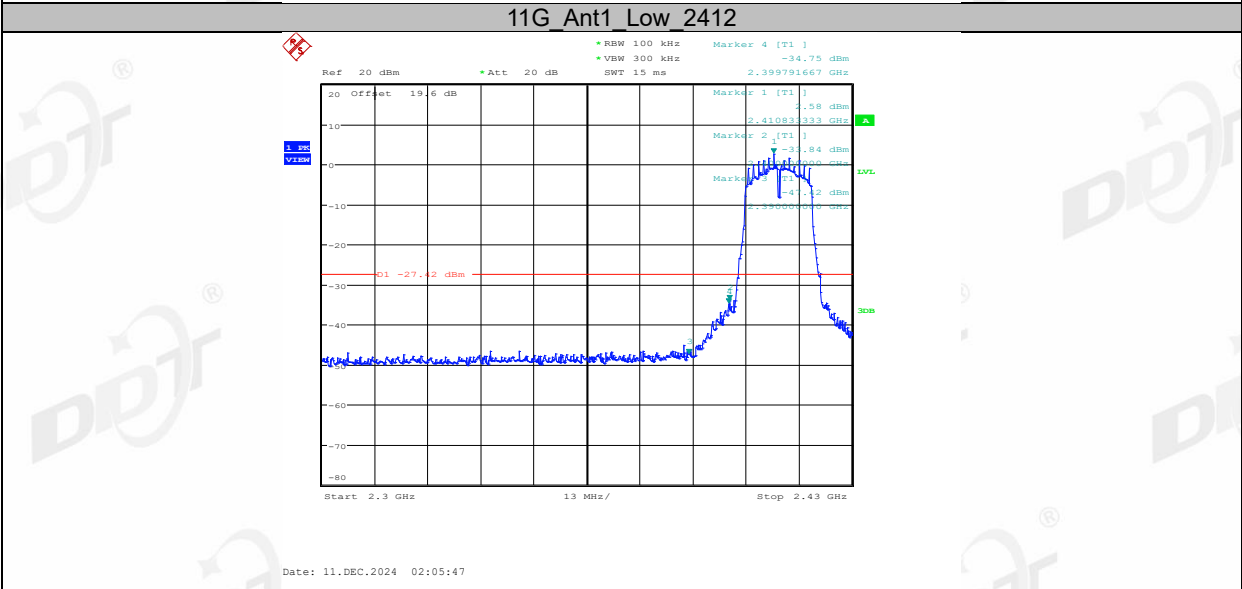
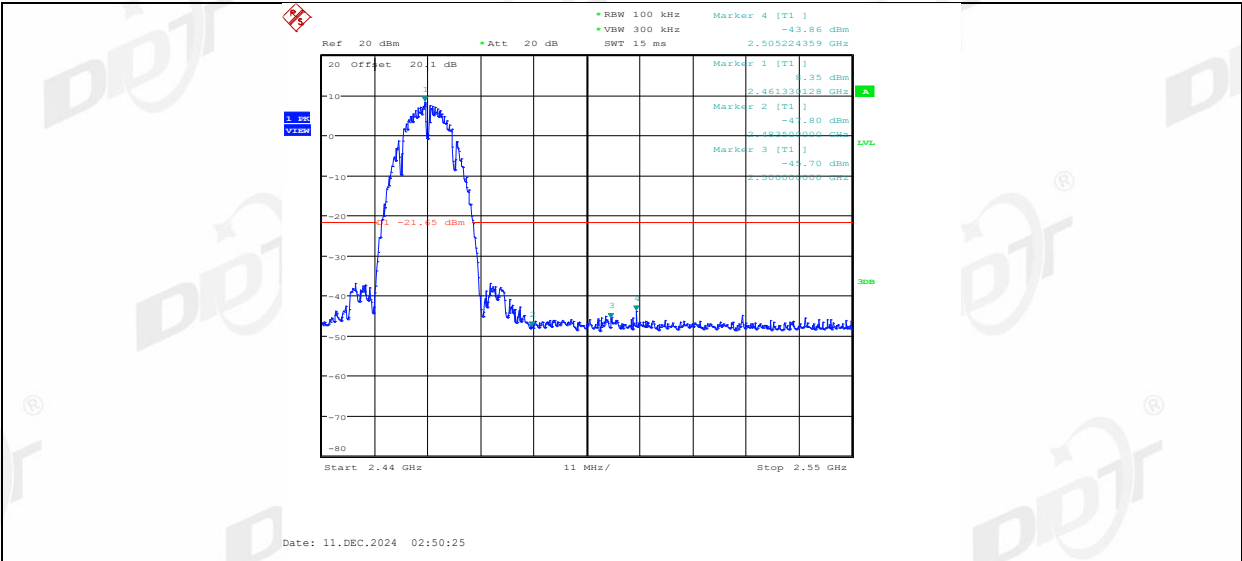
8.4. Test result

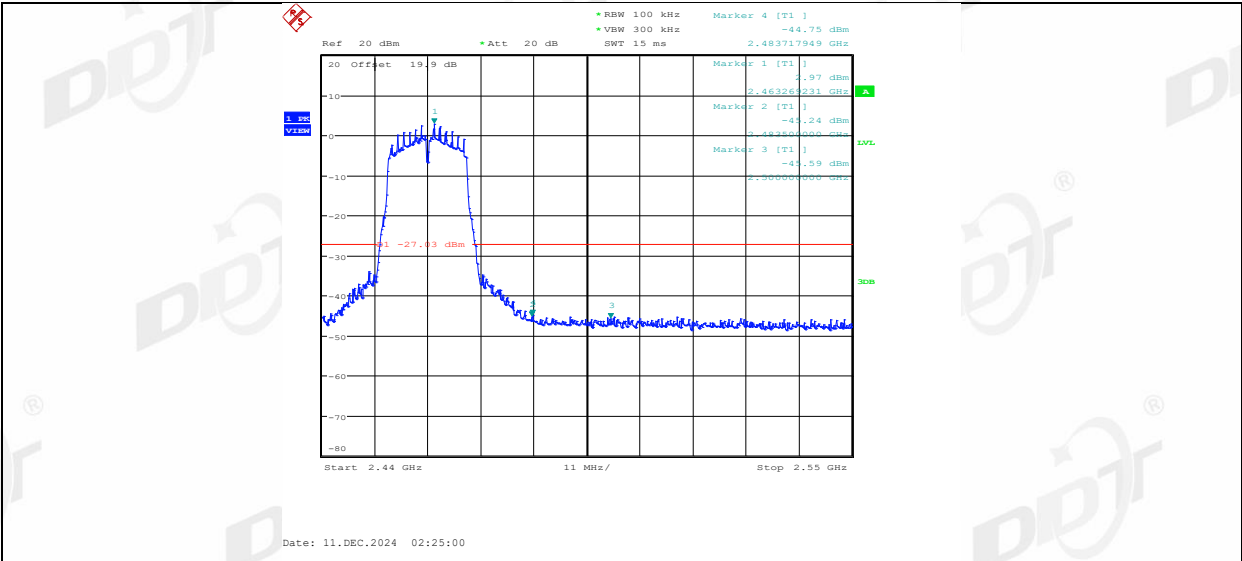
Test Engineer:	Haofeng	Test Site:	RF Measurement System 1#
Ambient Condition:	24.6℃,46.8%RH	Test Date:	2024.10.22/2024.12.11~2024.12.12
Test Power Supply:	AC120V/60Hz	Sample Number:	S24091913-002

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

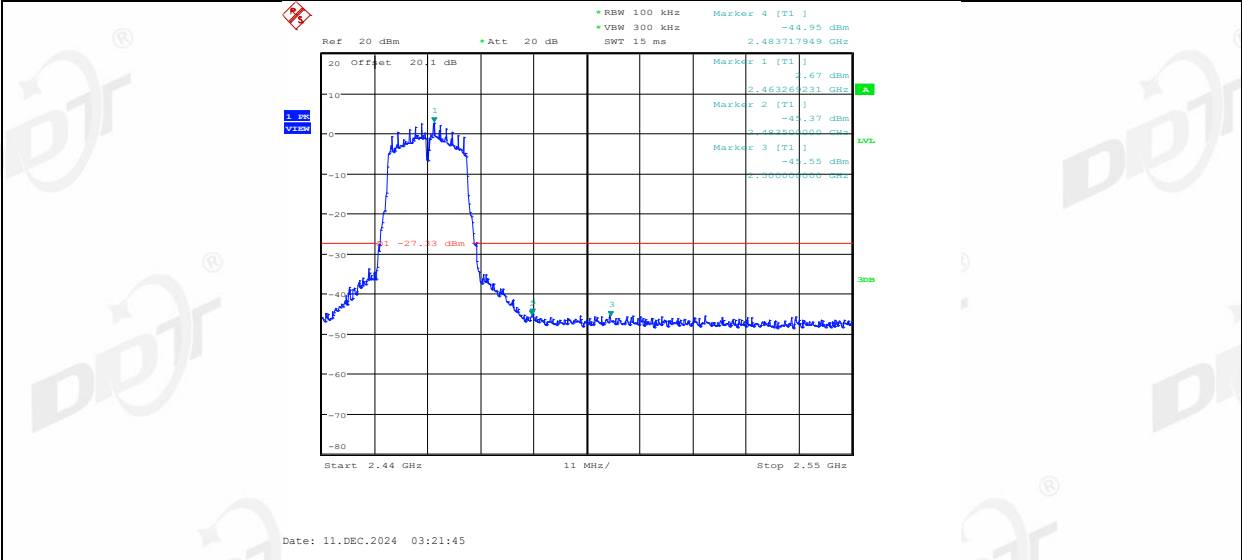
8.5. Test graphs



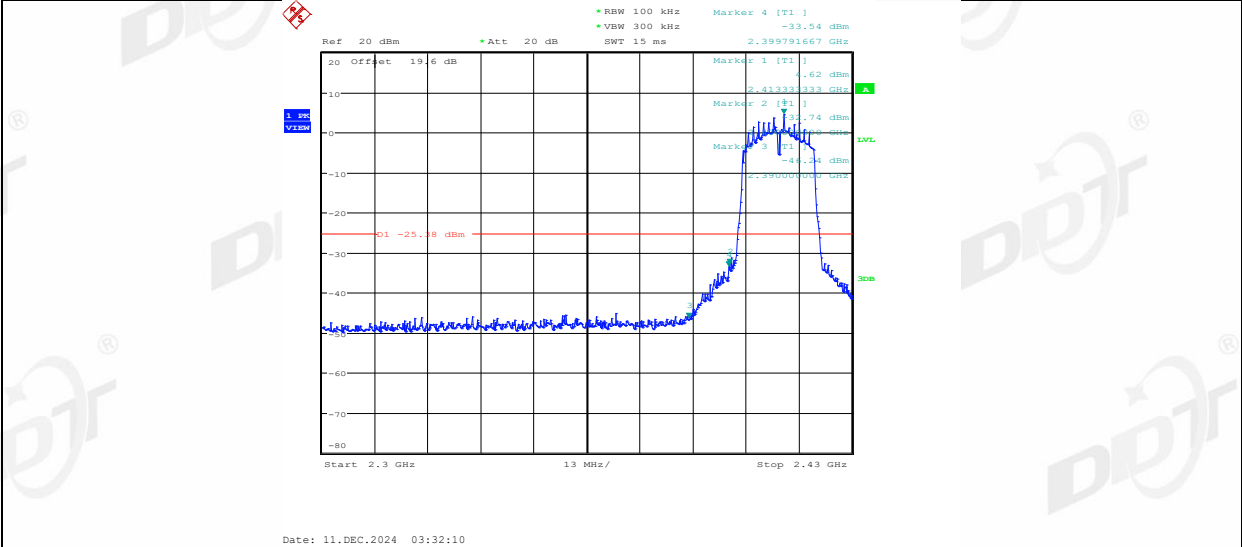




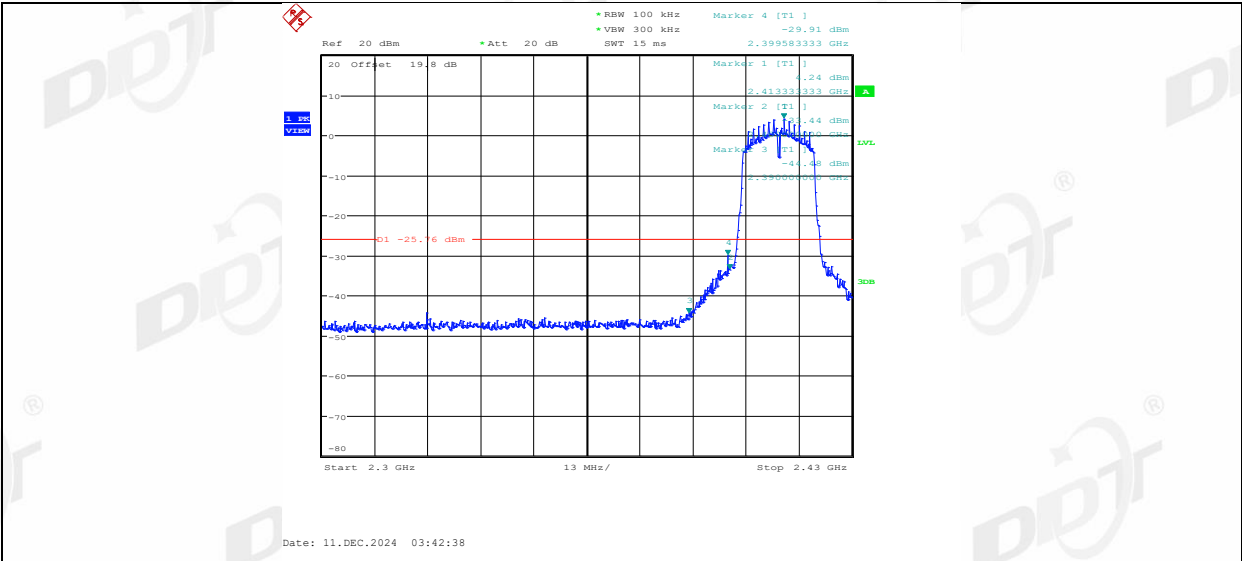
11G Ant2 High 2462



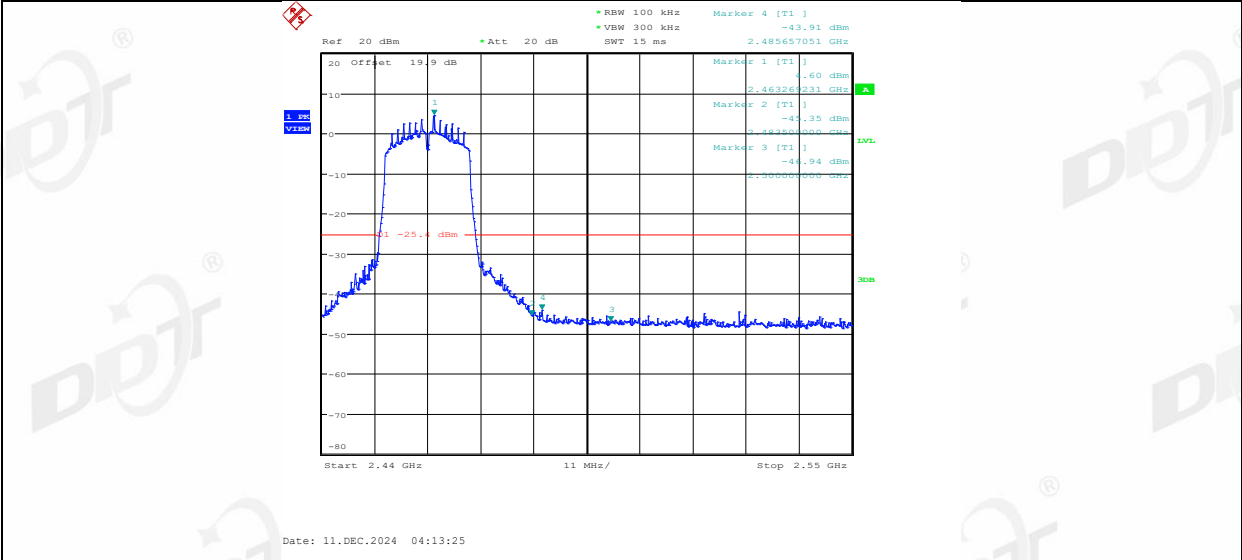
11N20MIMO Ant1 Low 2412



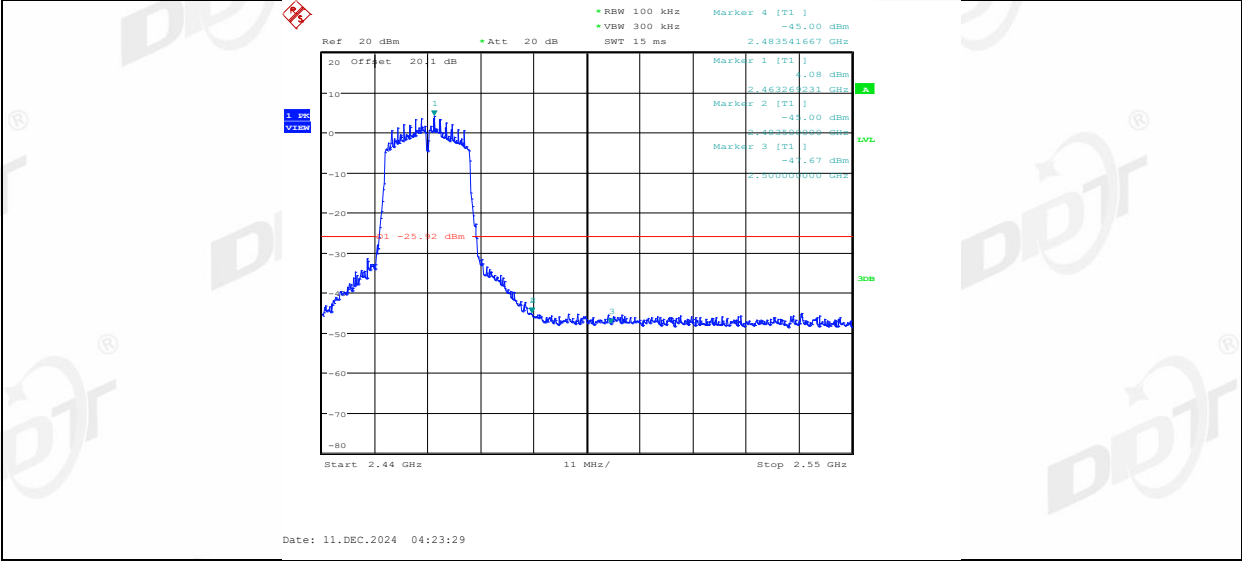
11N20MIMO Ant2 Low 2412



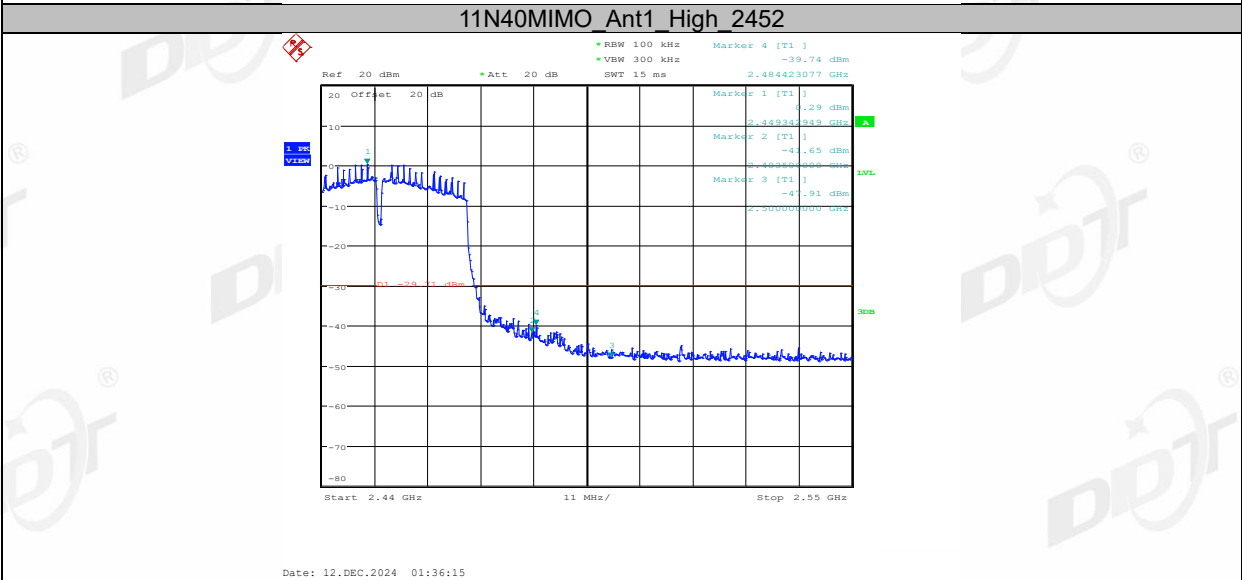
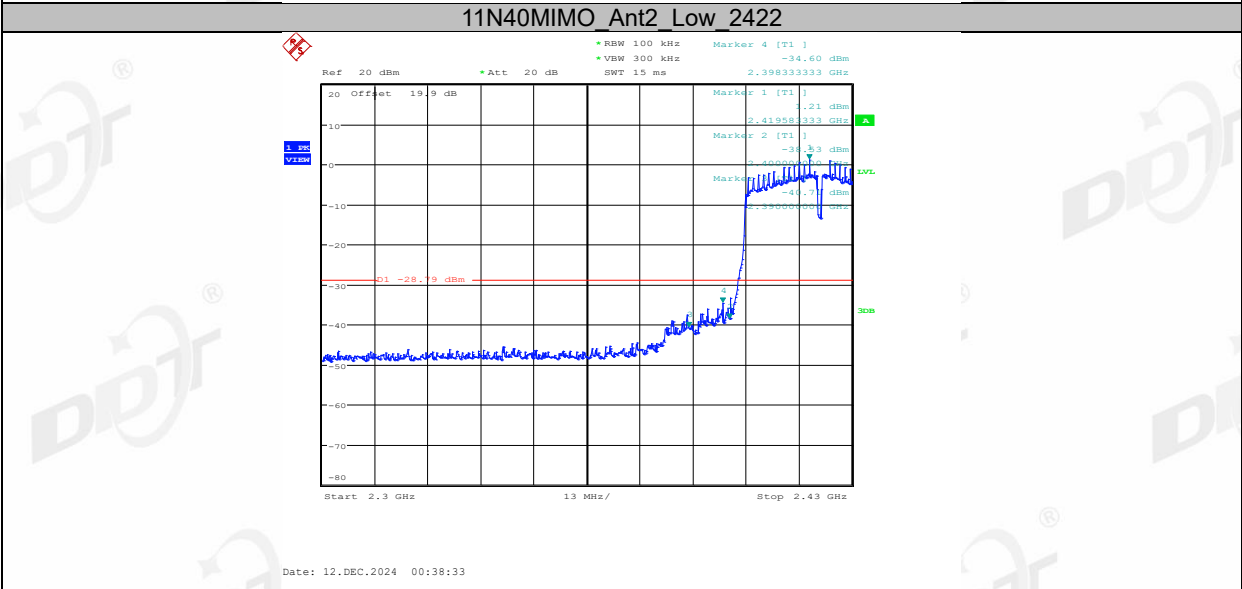
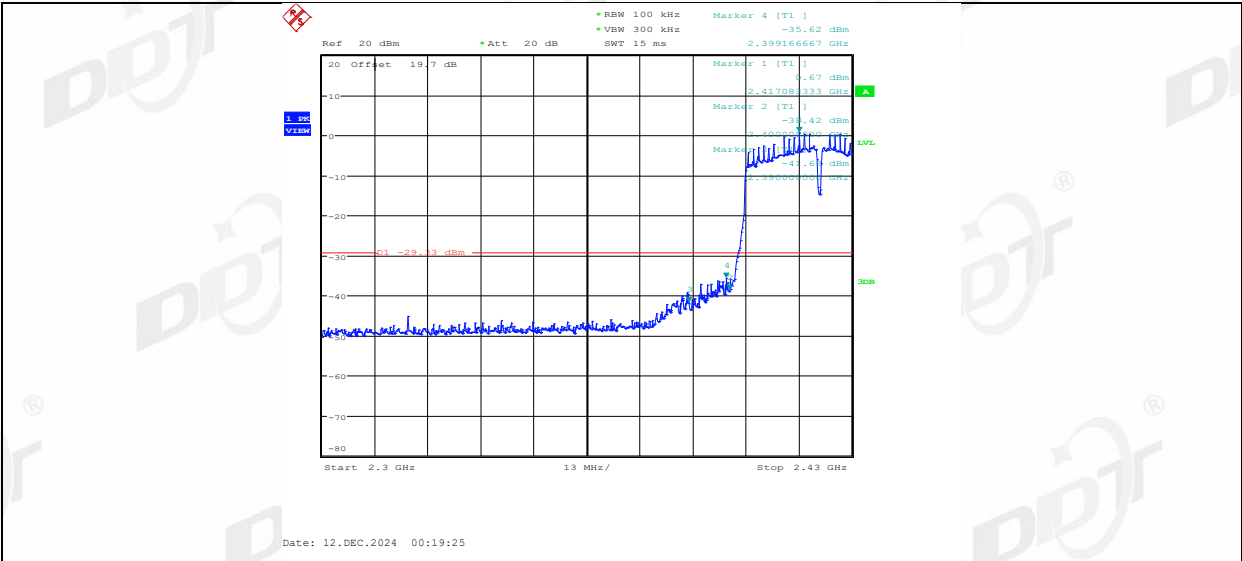
11N20MIMO_Ant1_High_2462



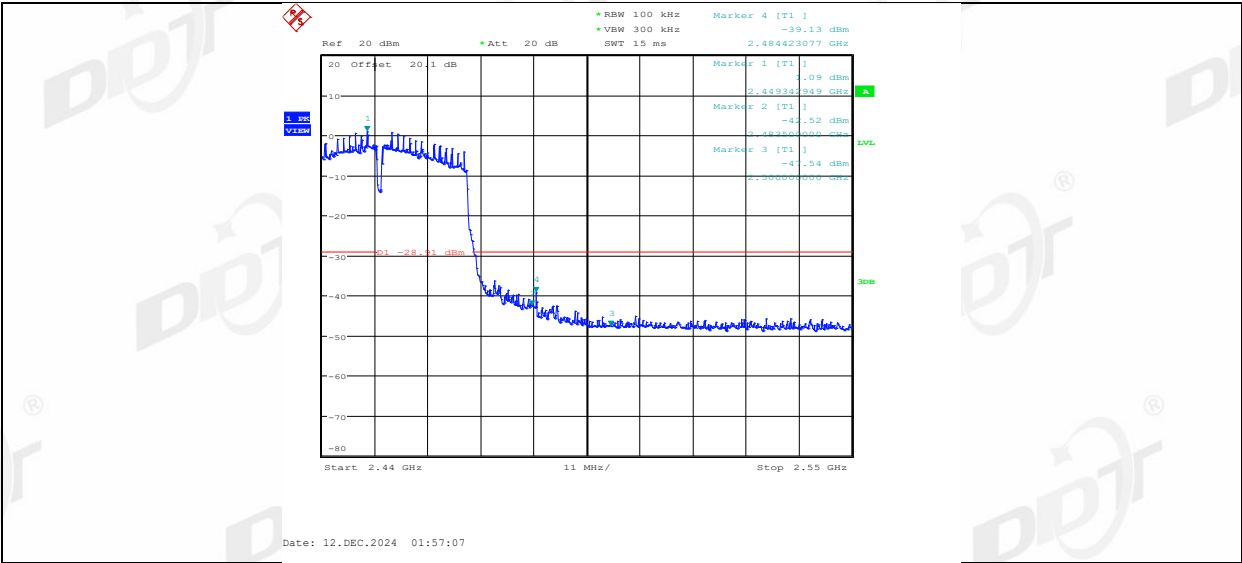
11N20MIMO_Ant2_High_2462



11N40MIMO_Ant1_Low_2422

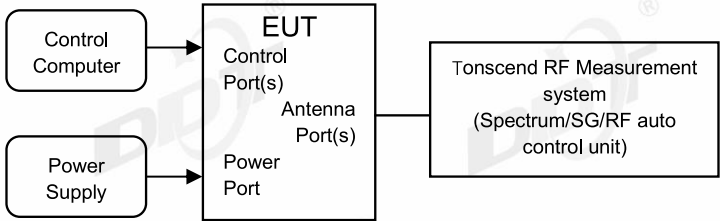


11N40MIMO_Ant2_High_2452



9. RF Conducted Spurious Emissions

9.1. Block diagram of test setup



9.2. 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 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

9.3. Test procedure

- Connect EUT's antenna output to spectrum analyzer by RF cable.
- Establish a reference level by using the following procedure:

Center frequency	Test frequency
RBW:	100 kHz
VBW:	300 kHz
Span	Wide enough to capture the peak level of the in-band emission
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold
- Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.
- Set the spectrum analyzer as follows:

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

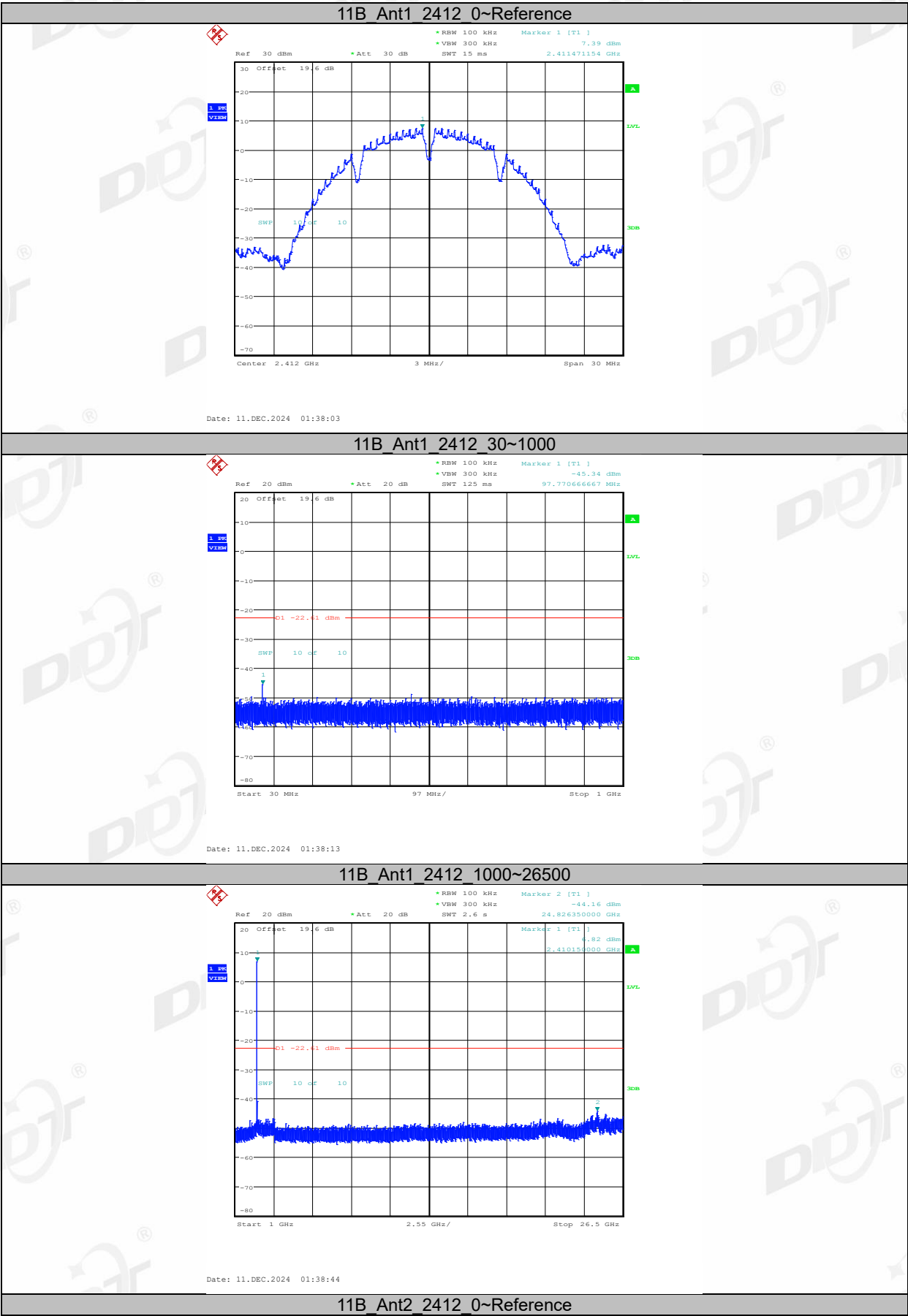
(5) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude of all unwanted emissions outside of the authorized frequency band

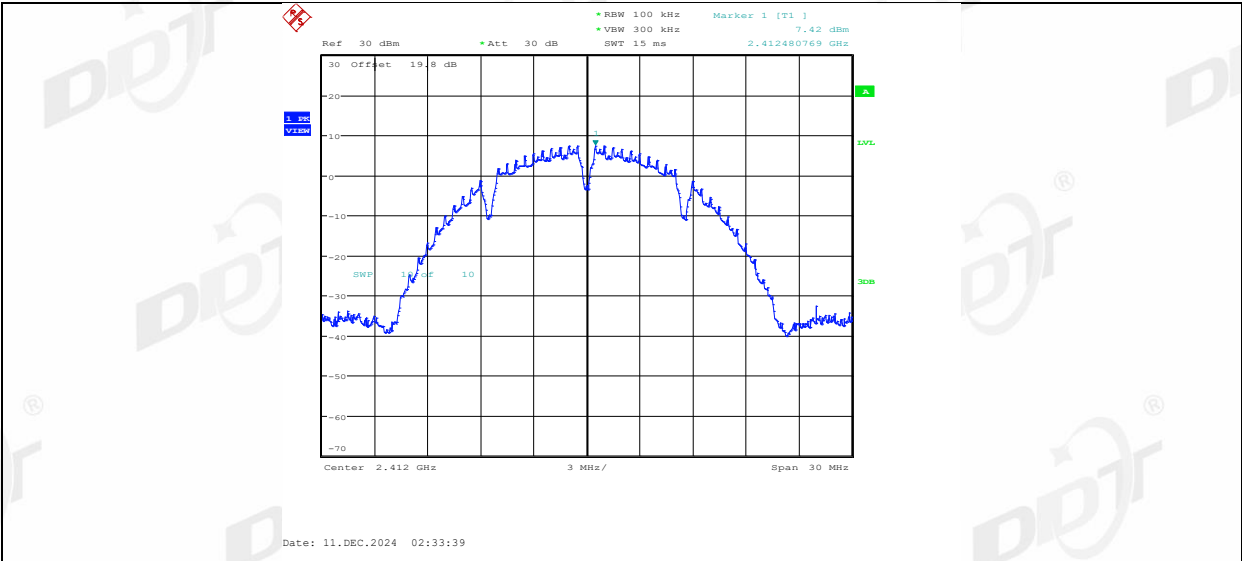
9.4. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 1#
Ambient Condition:	24.6℃,46.8%RH	Test Date:	2024.10.22/2024.12.11~2024.12.12
Test Power Supply:	AC120V/60Hz	Sample Number:	S24091913-002

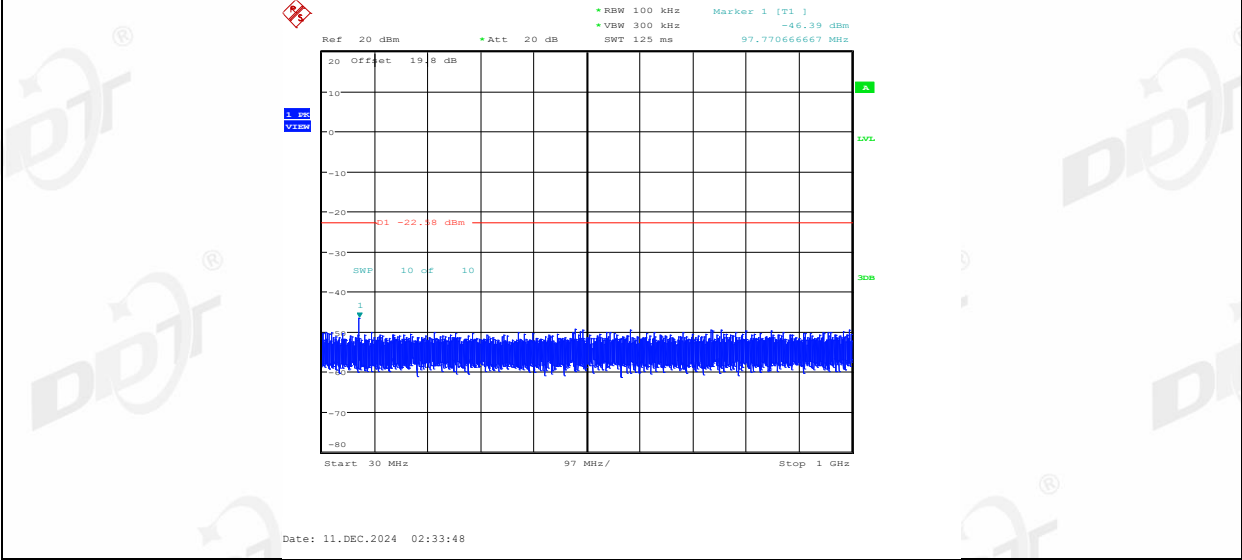
EUT Set Mode	CH or Frequency	Result(dBm)	EUT Set Mode	CH or Frequency	Result (dBm)
11b	CH1	Pass	11g	CH1	Pass
	CH11	Pass		CH11	Pass
11n HT 20	CH1	Pass	11n HT 40	CH3	Pass
	CH11	Pass		CH9	Pass

9.5. Test graphs

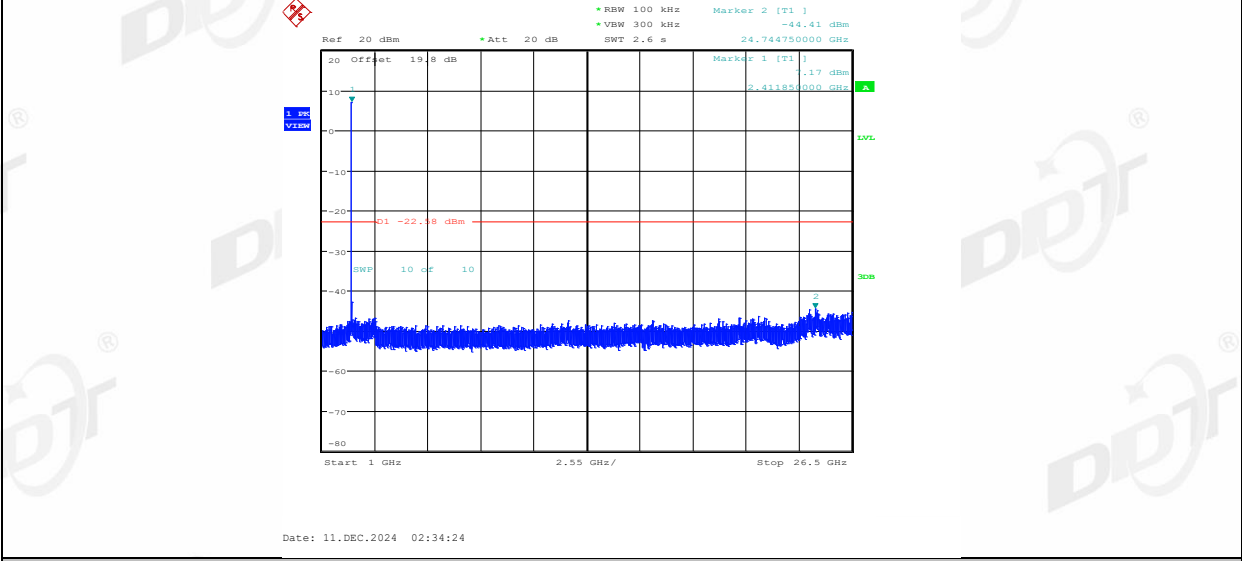




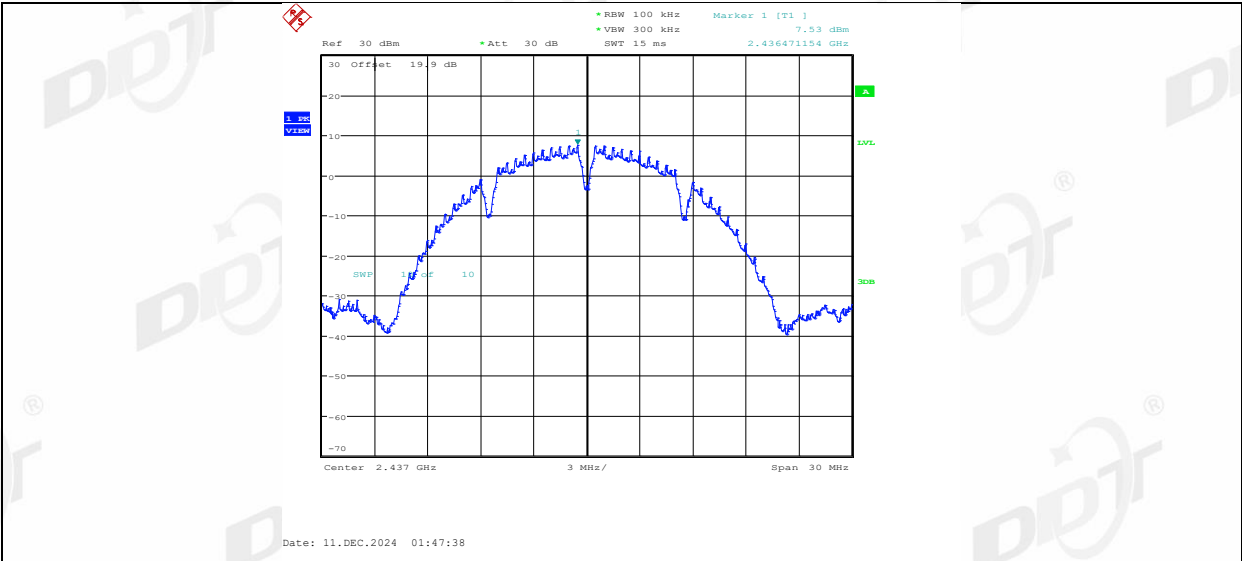
11B_Ant2_2412_30~1000



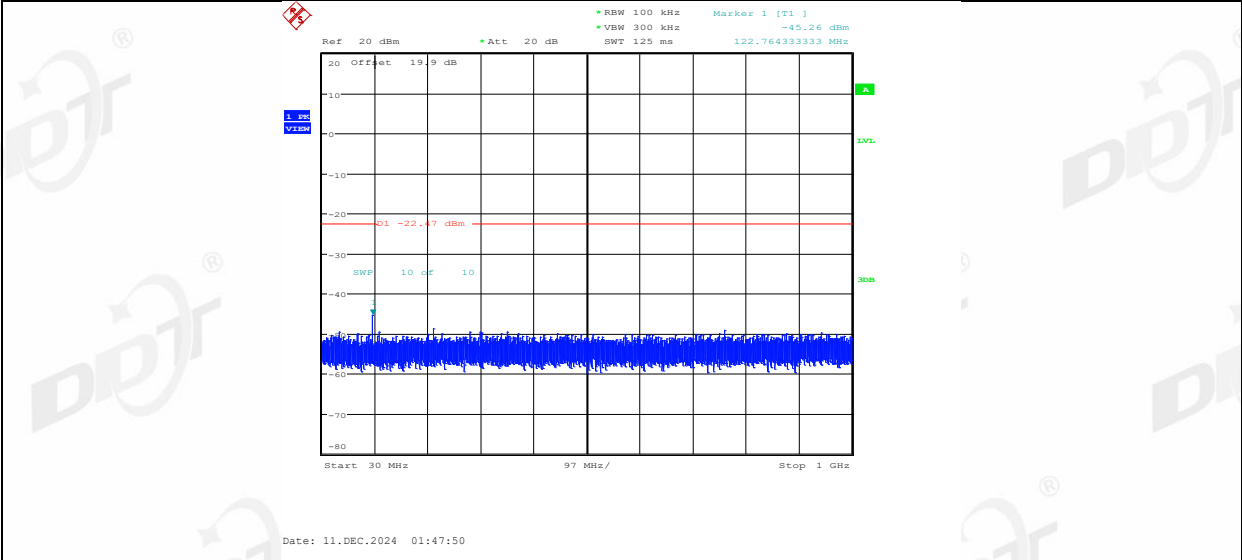
11B_Ant2_2412_1000~26500



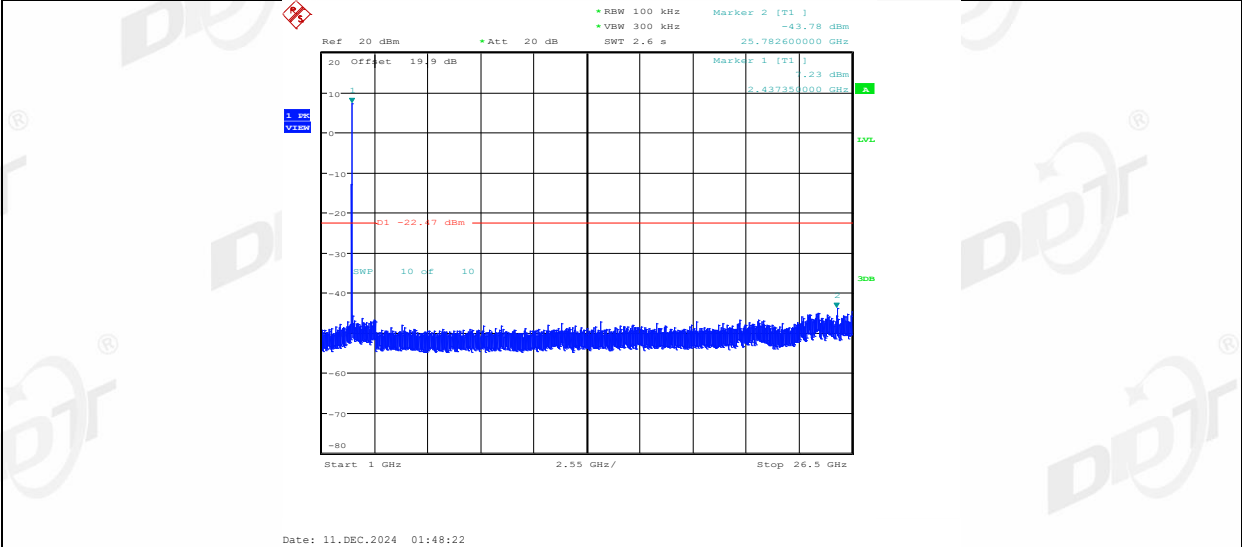
11B_Ant1_2437_0~Reference



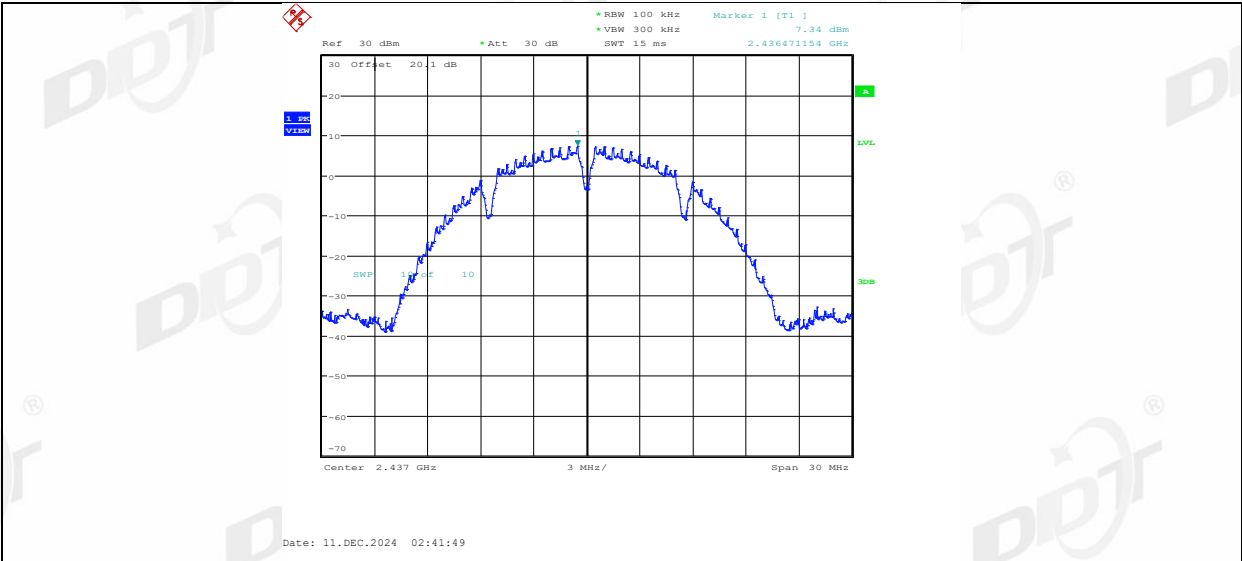
11B_Ant1 2437 30~1000



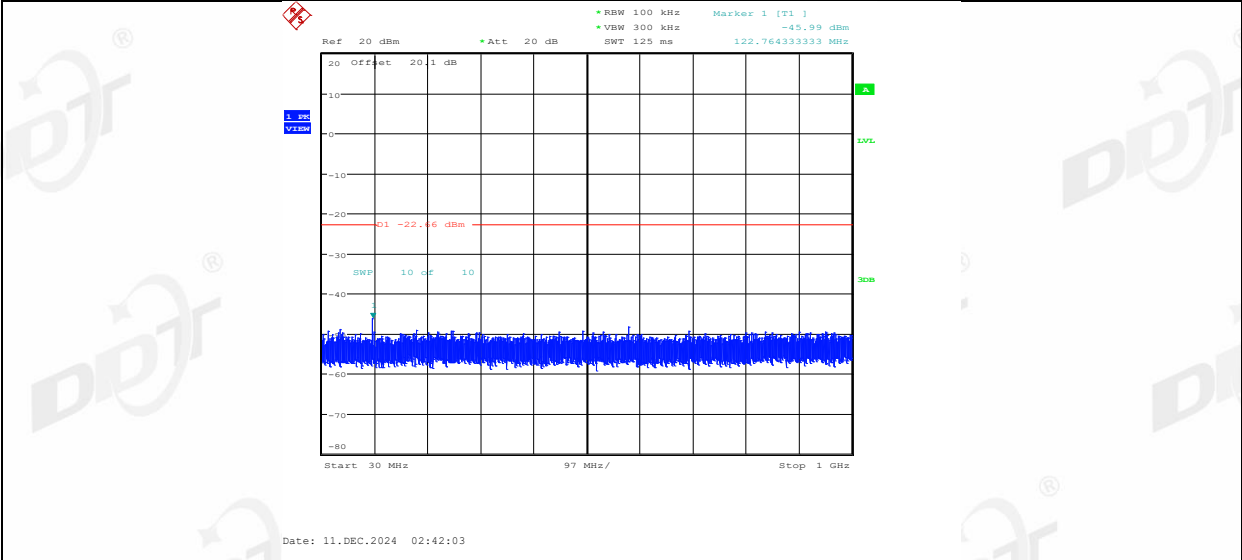
11B_Ant1 2437 1000~26500



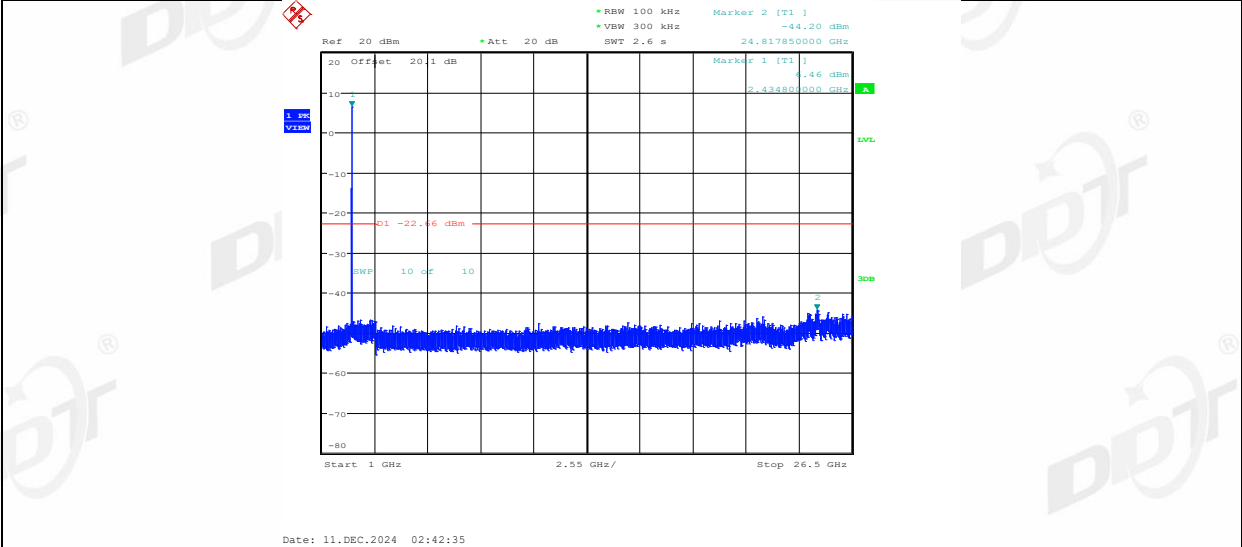
11B_Ant2 2437 0~Reference



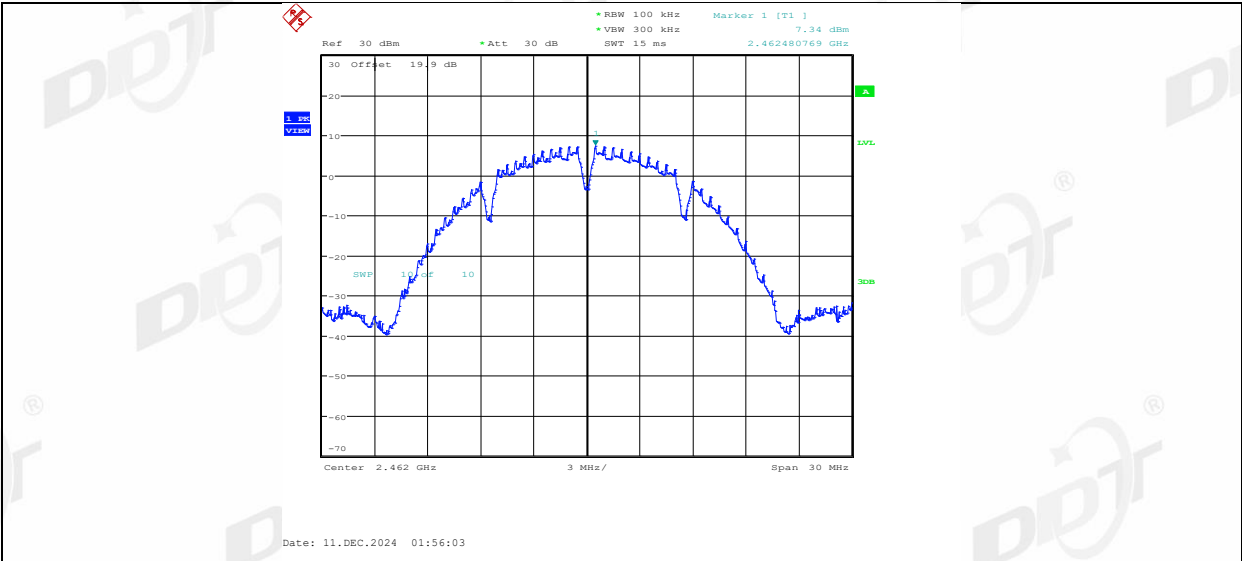
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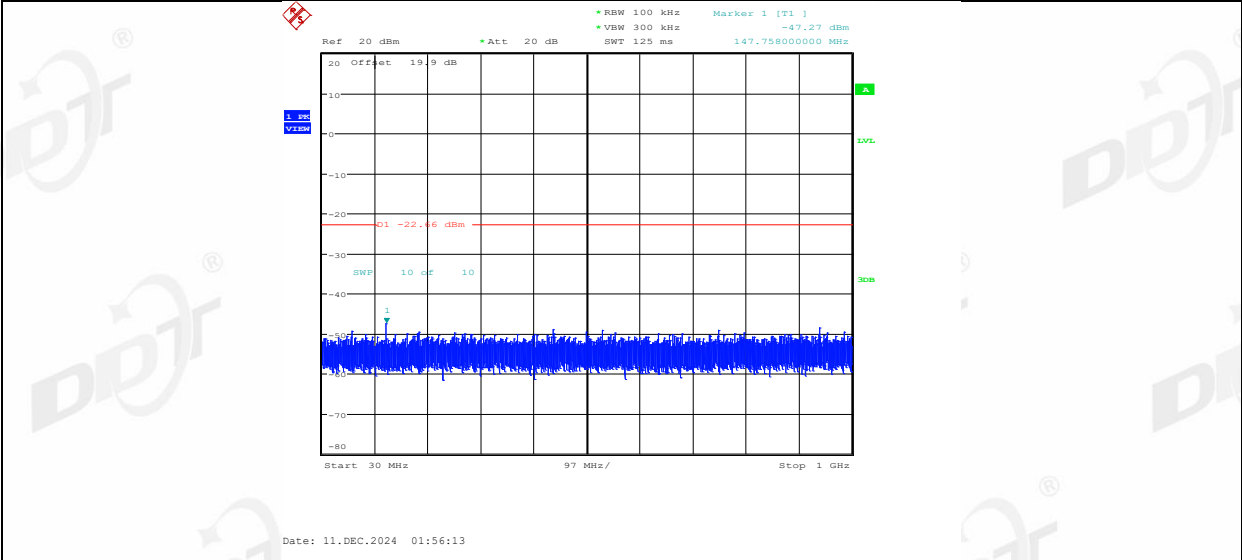
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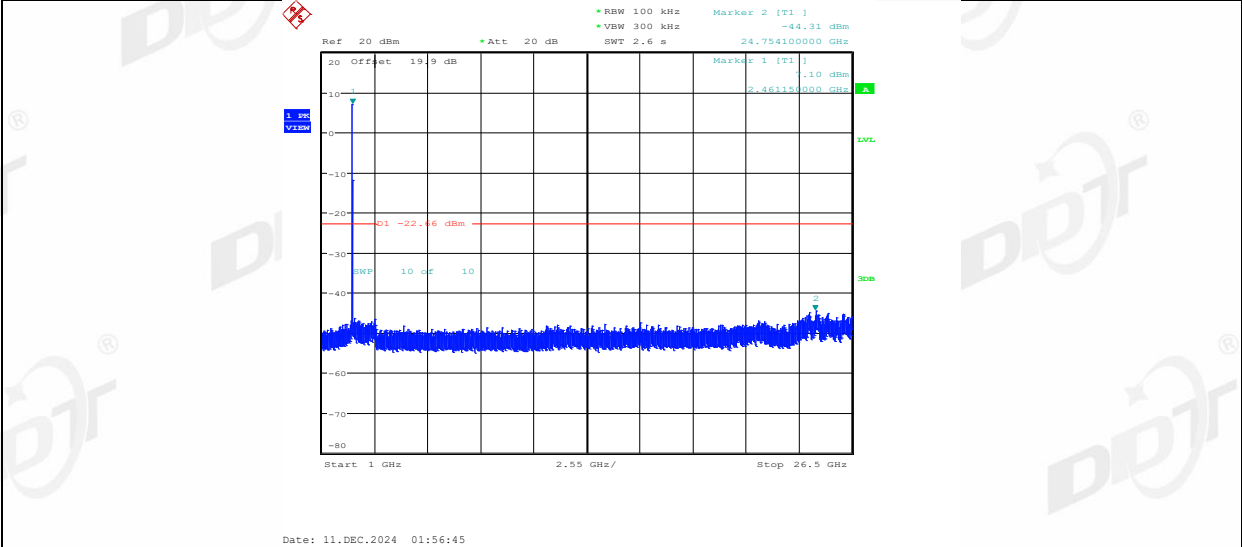
11B_Ant1_2462_0~Reference



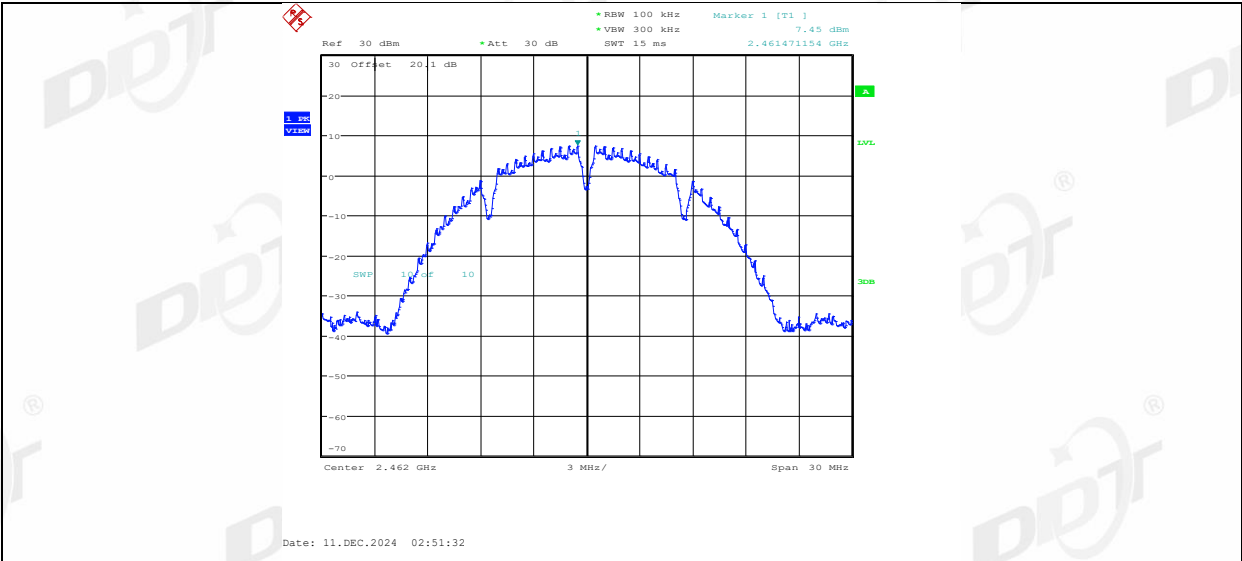
11B_Ant1_2462_30~1000



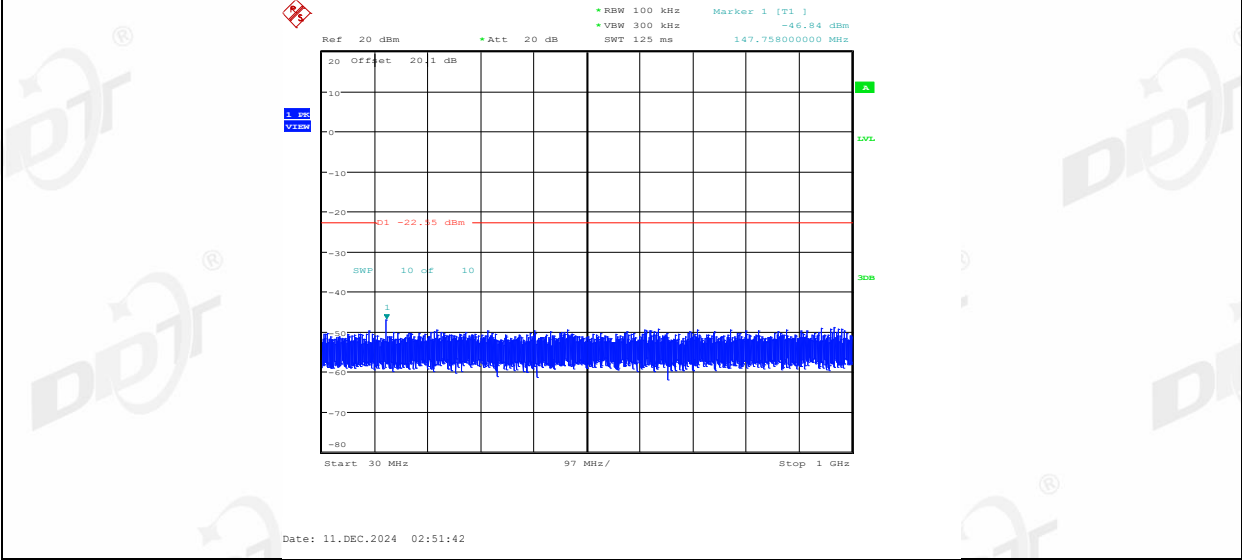
11B_Ant1_2462_1000~26500



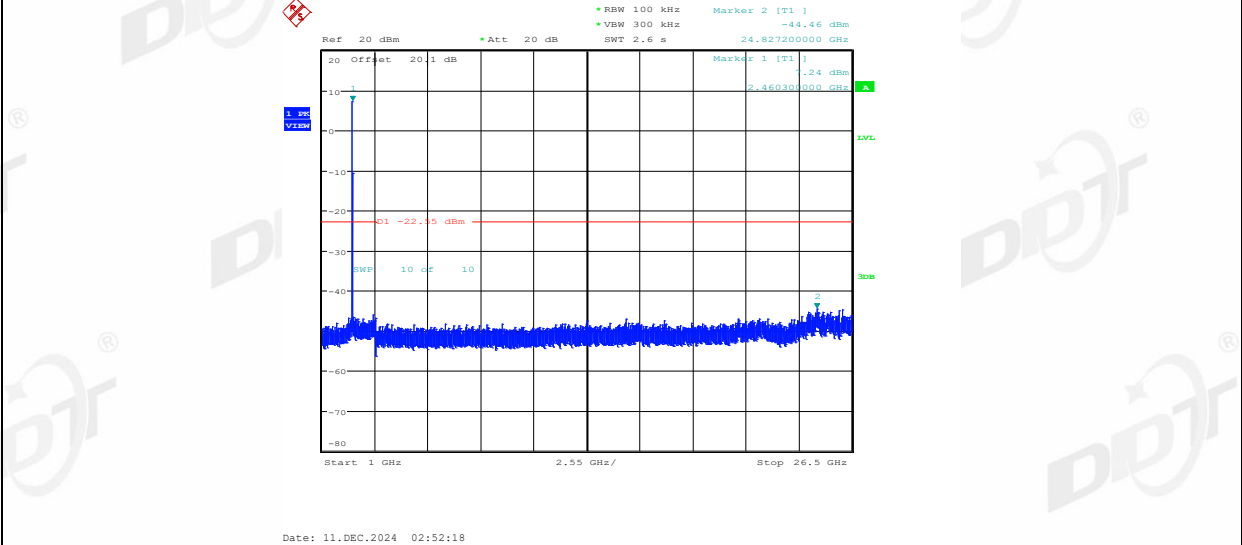
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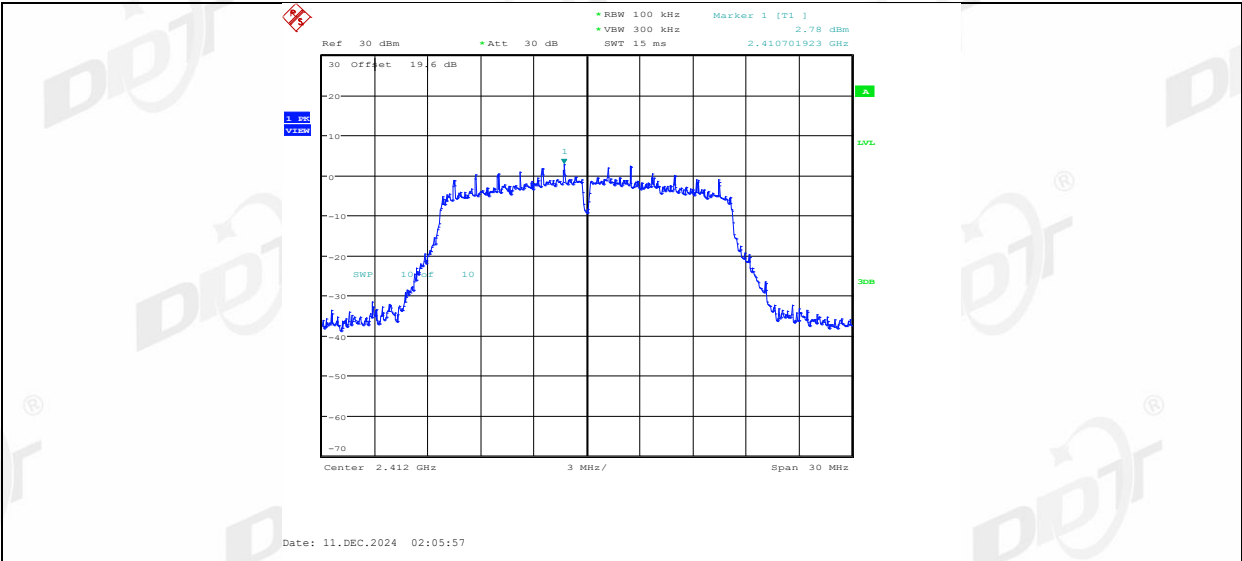
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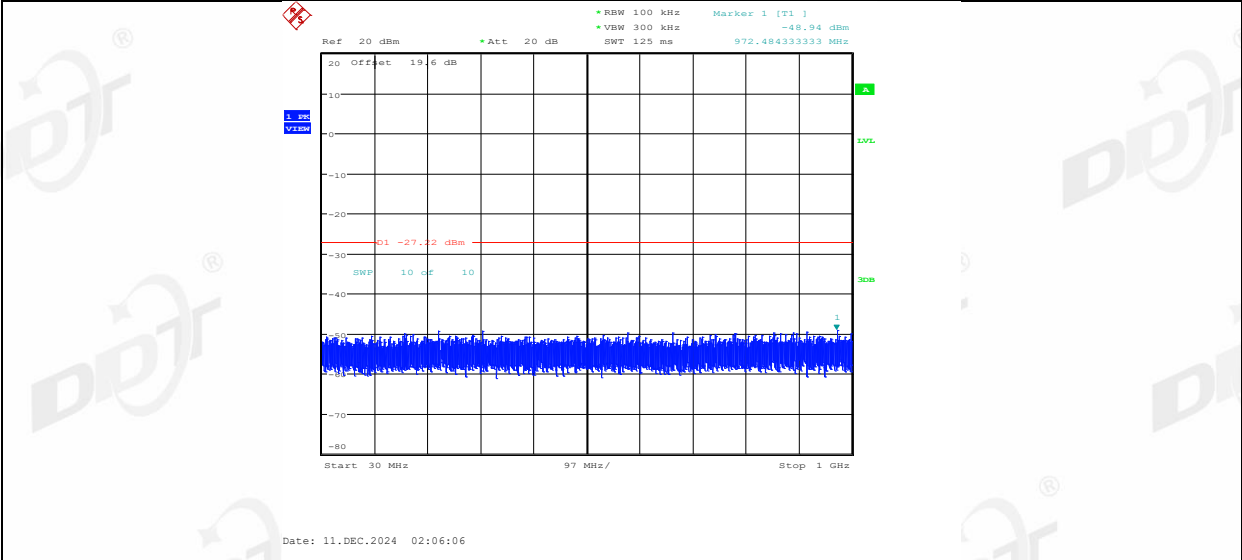
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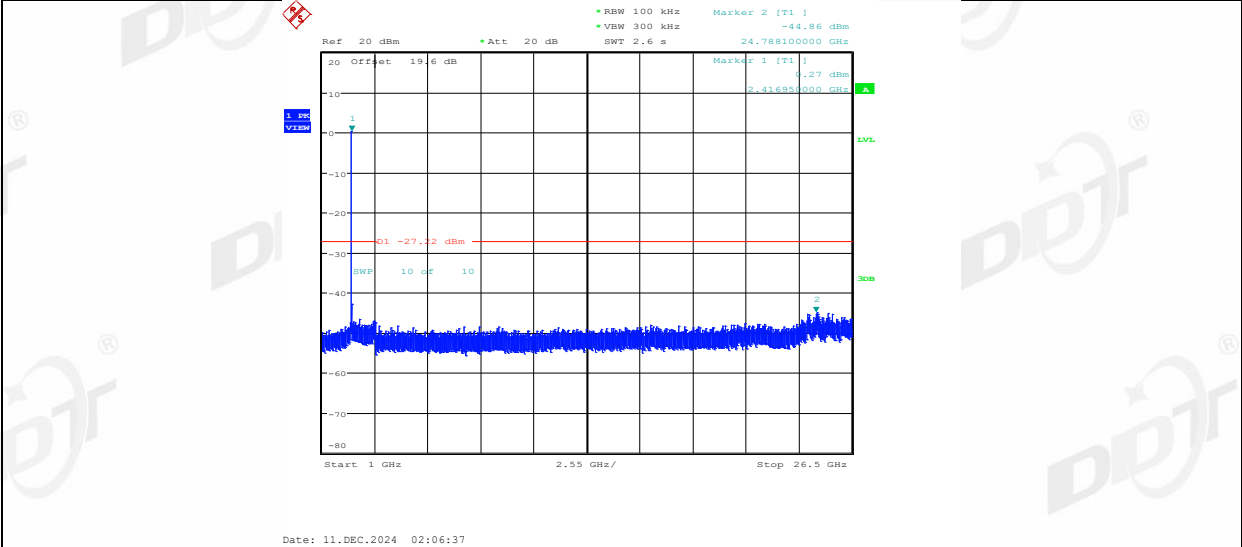
11G_Ant1_2412_0~Reference



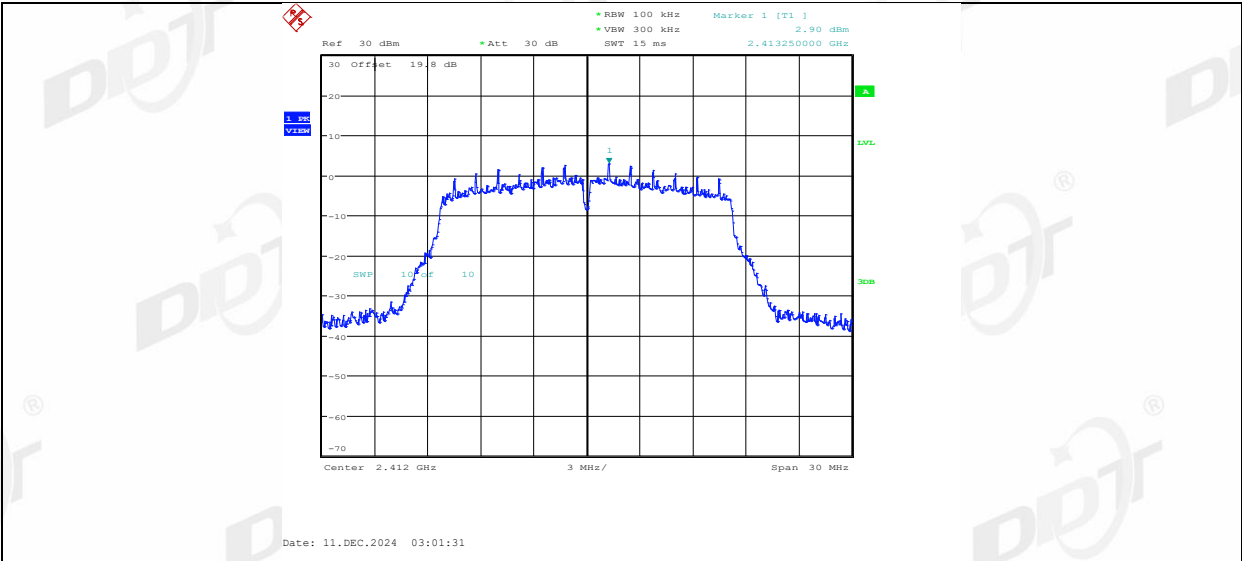
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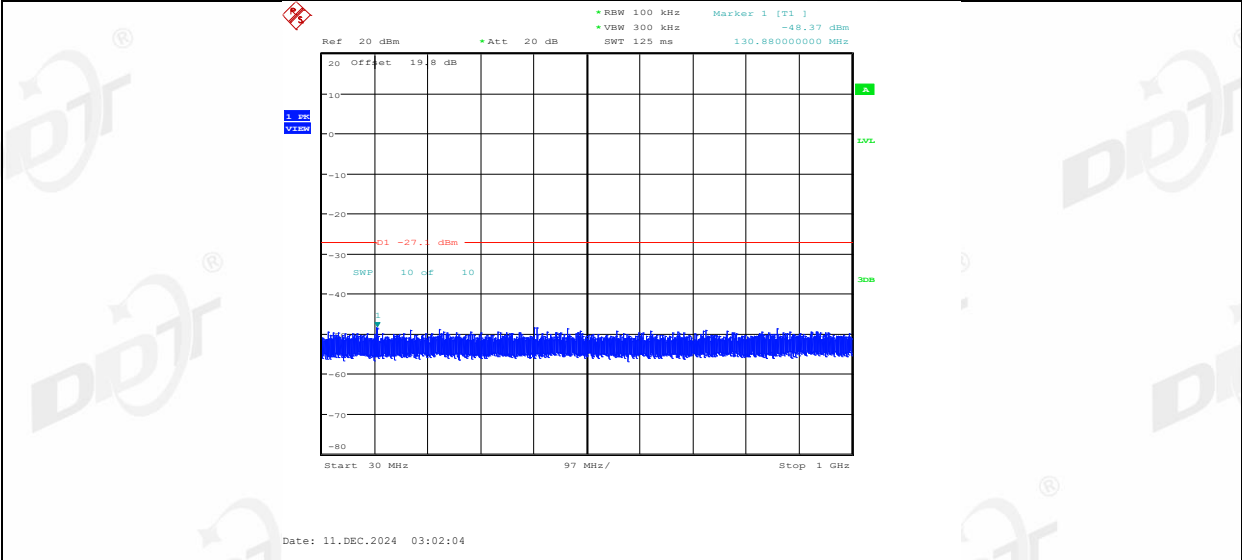
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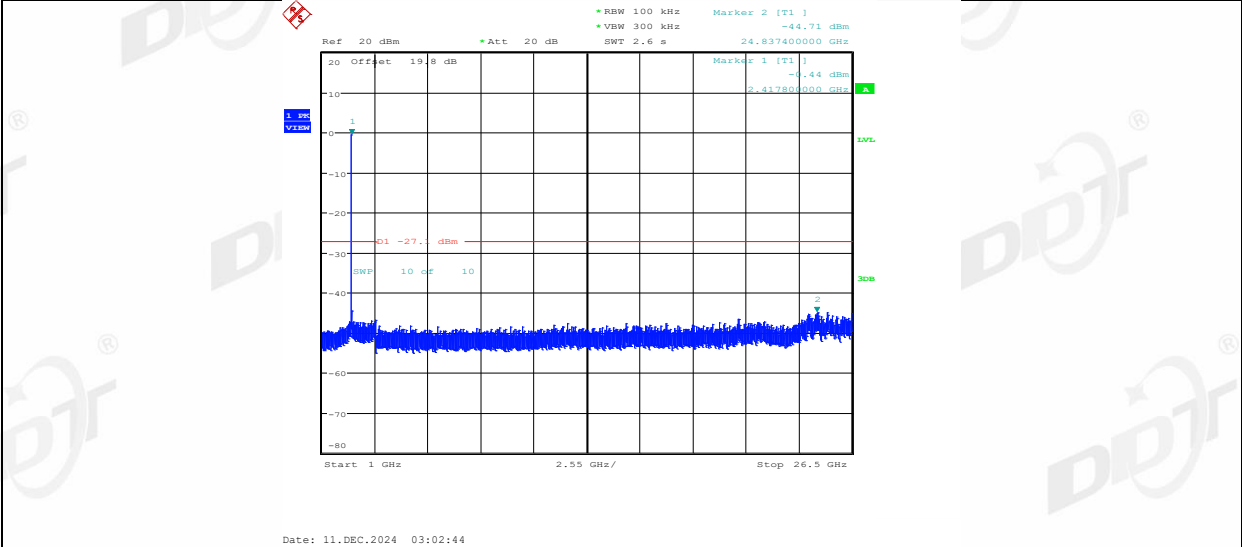
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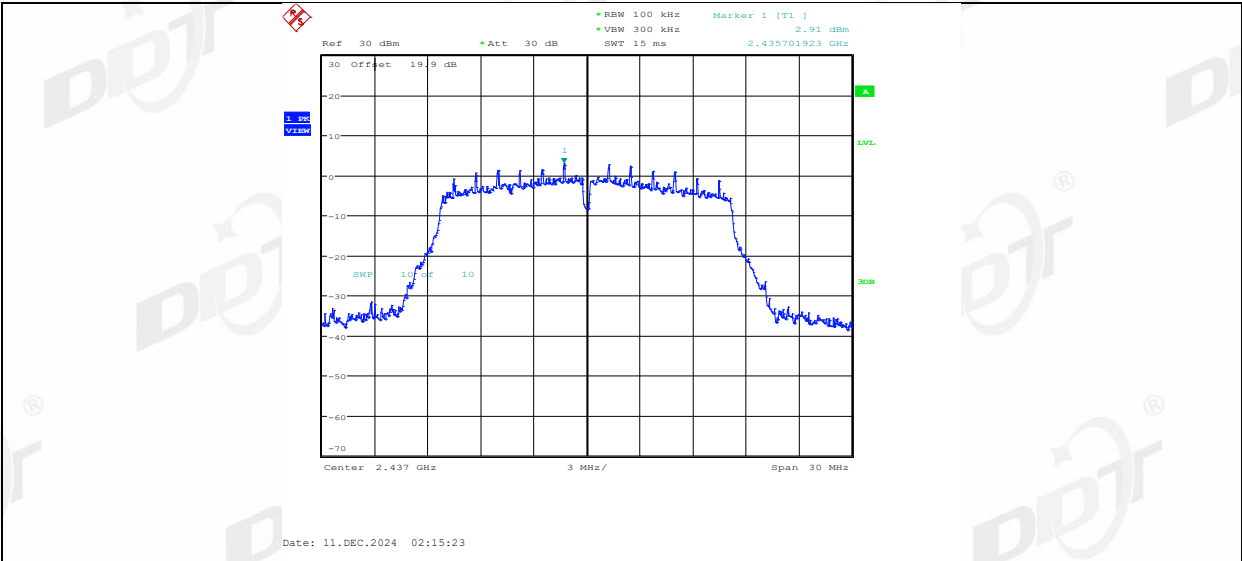
11G_Ant2_2412_30~1000



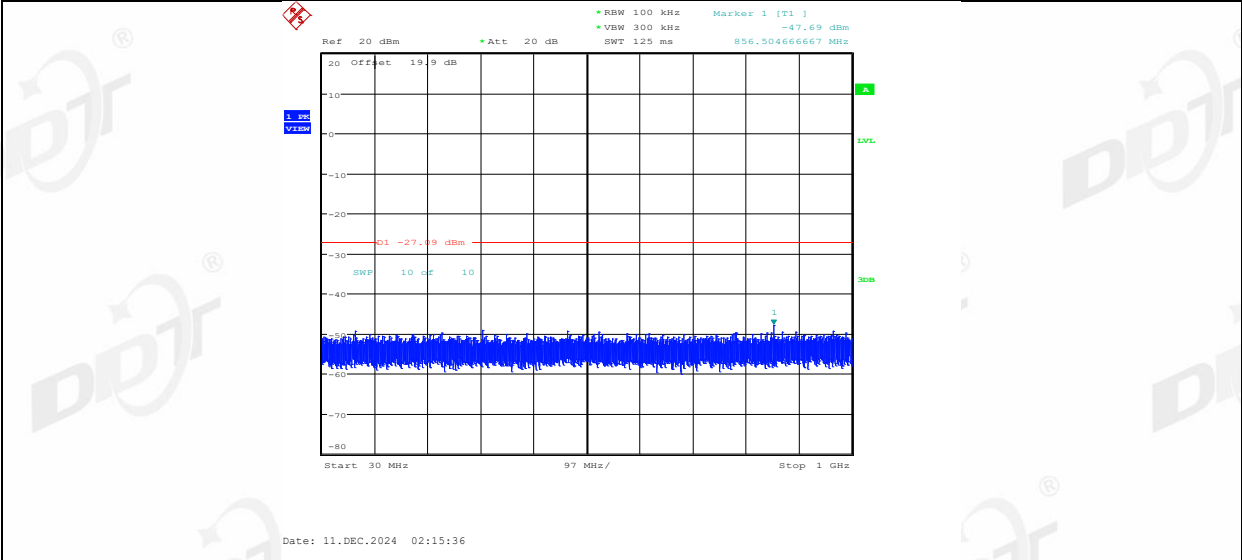
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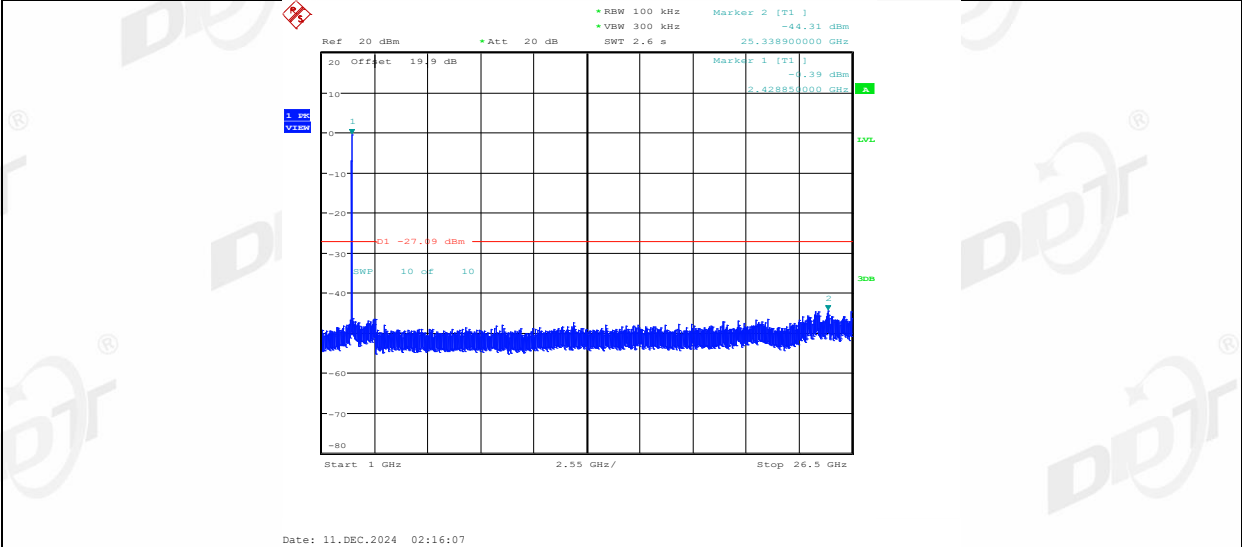
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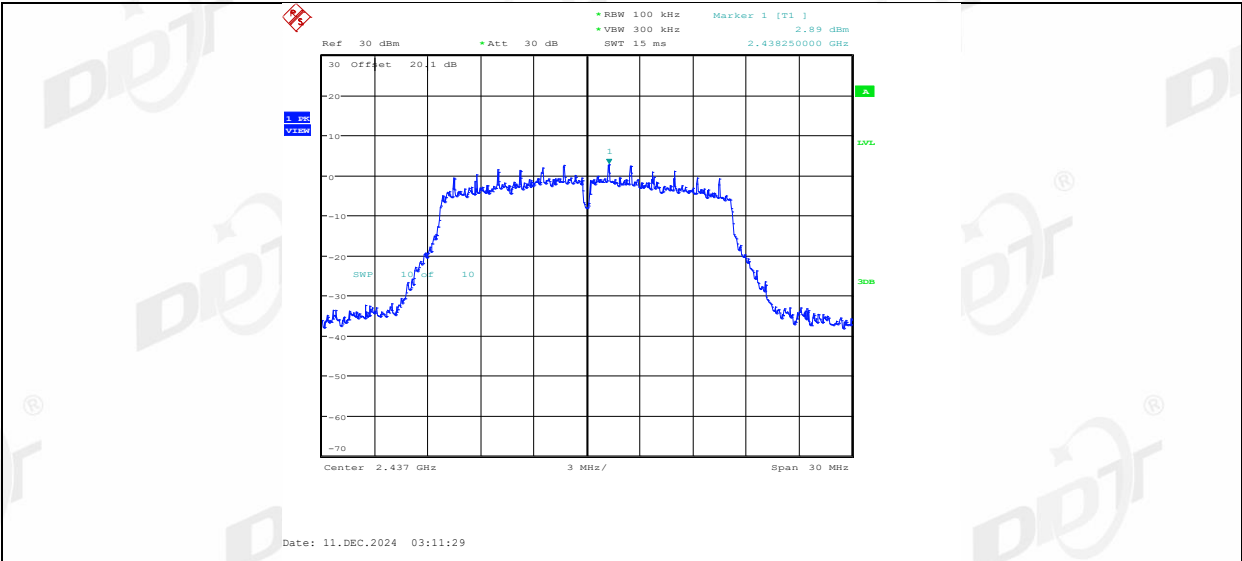
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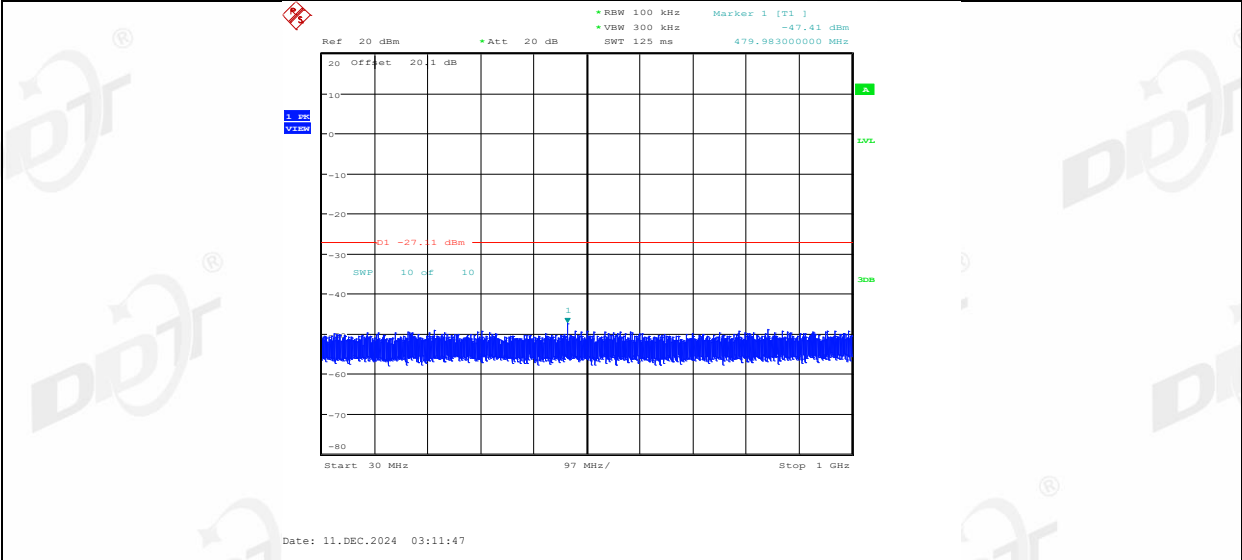
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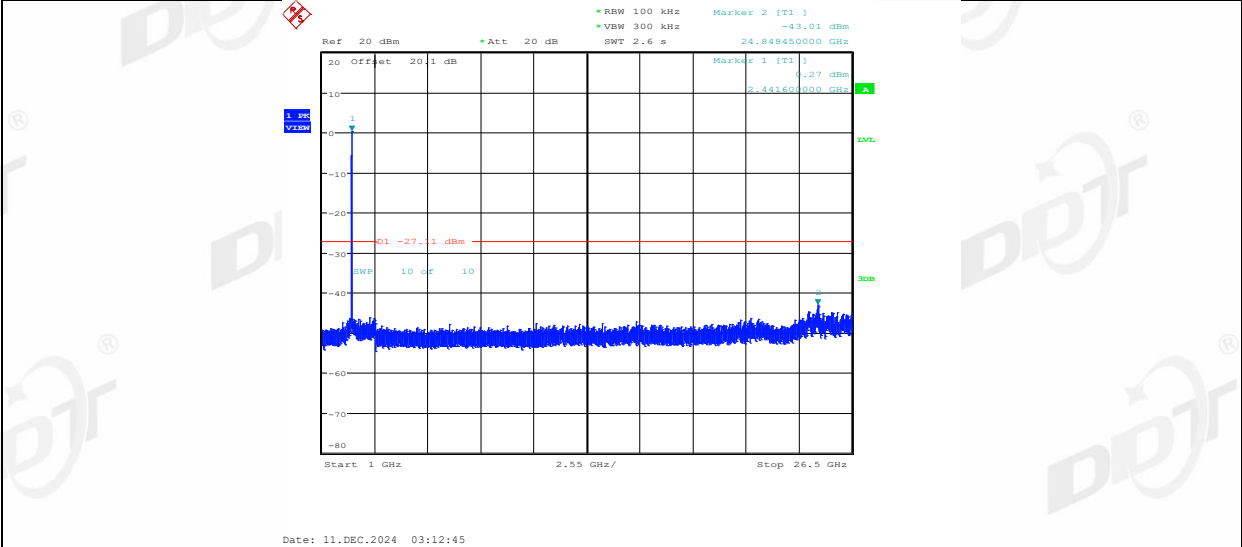
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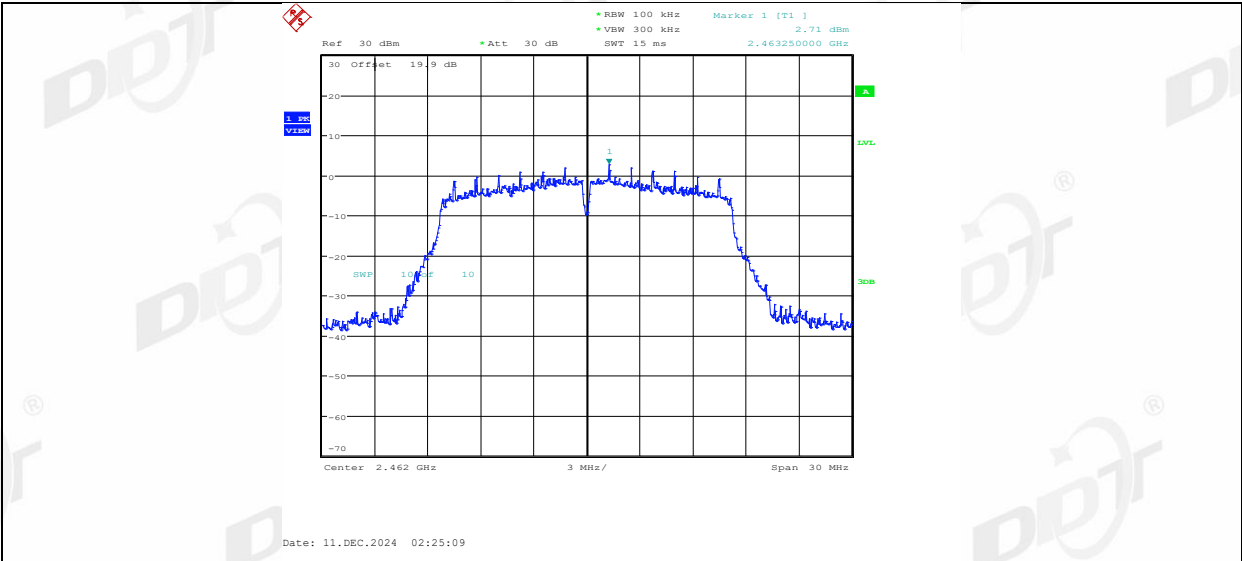
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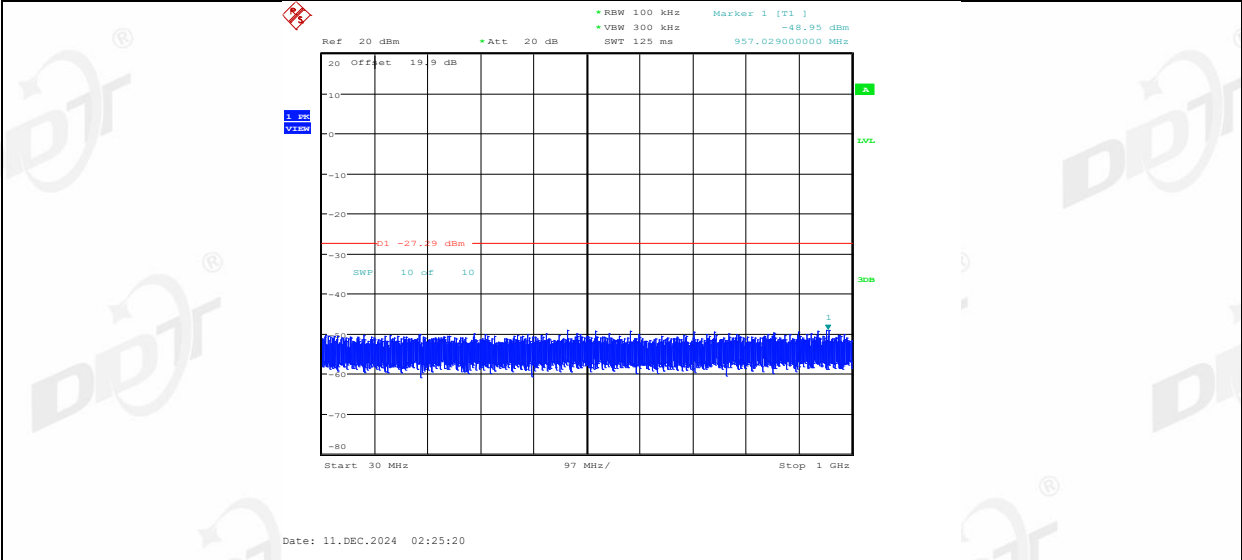
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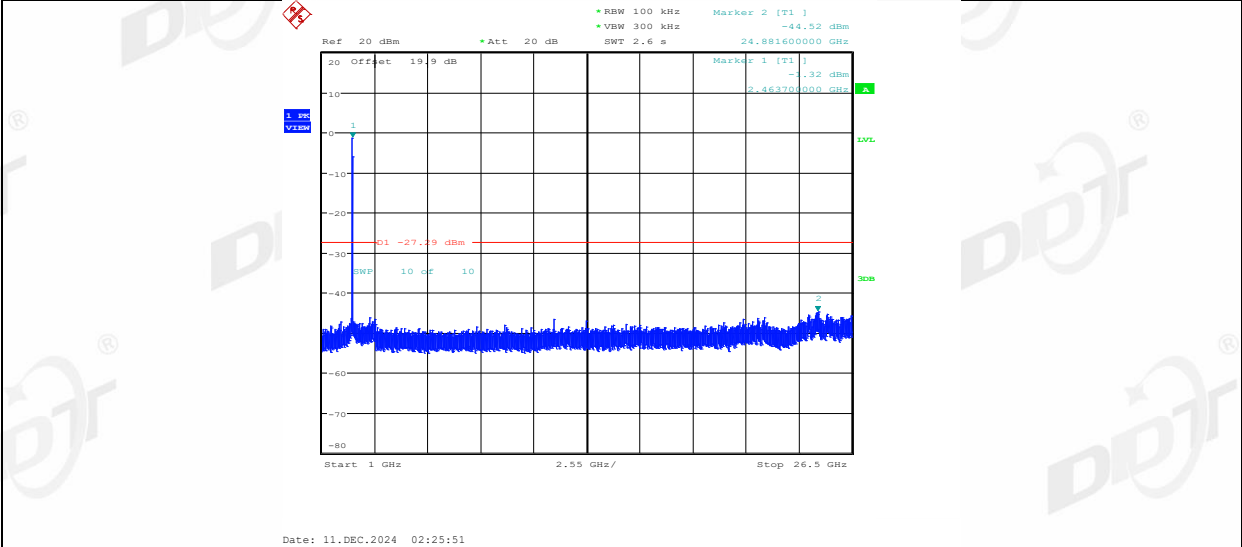
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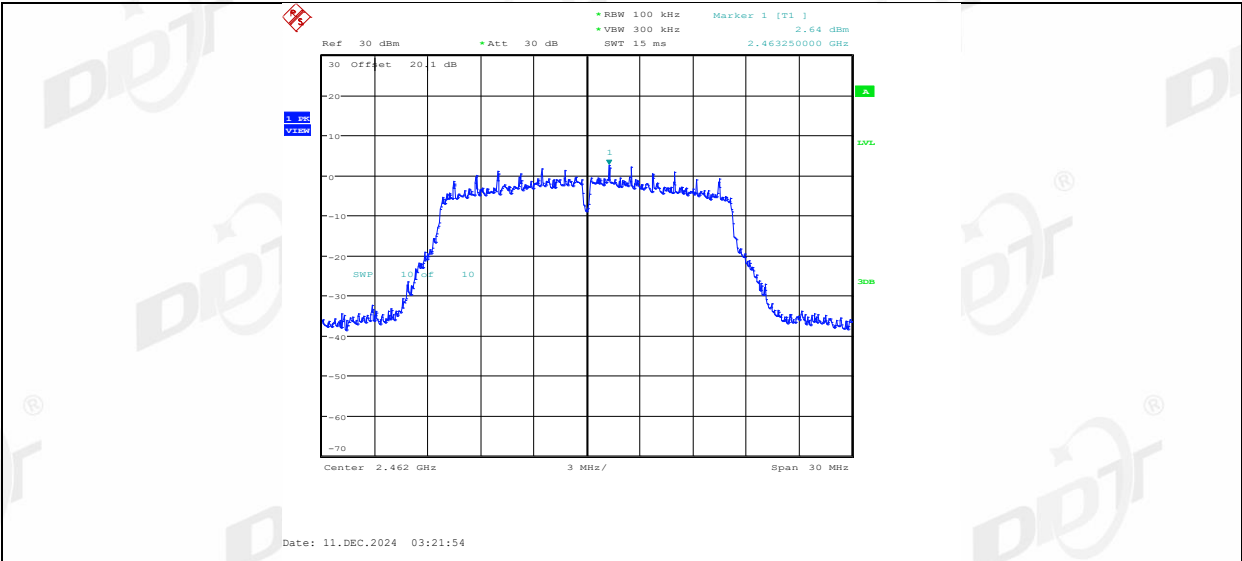
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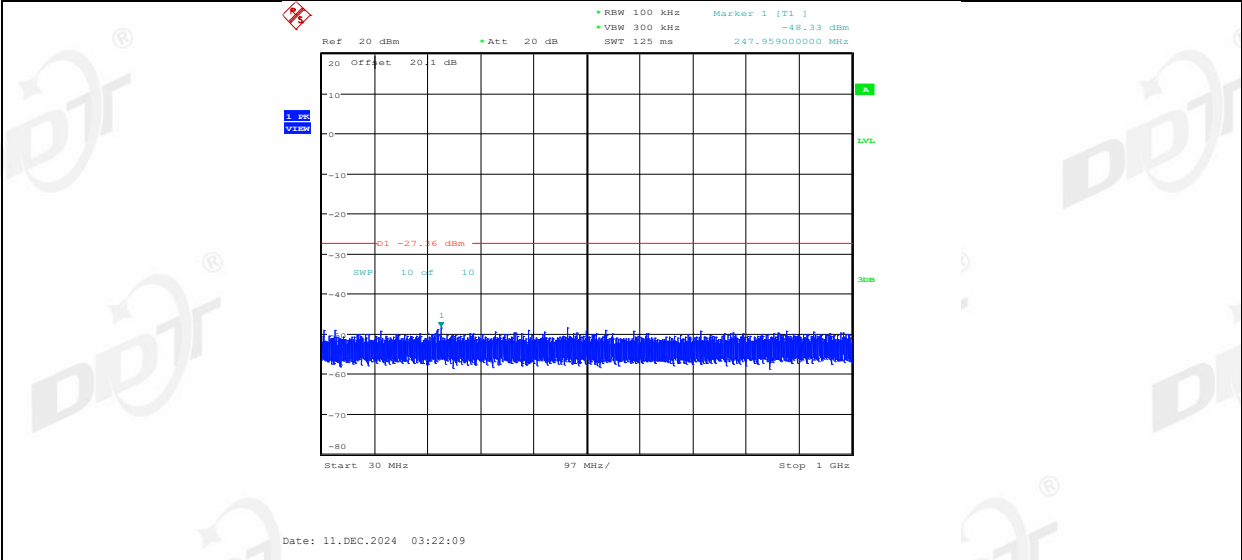
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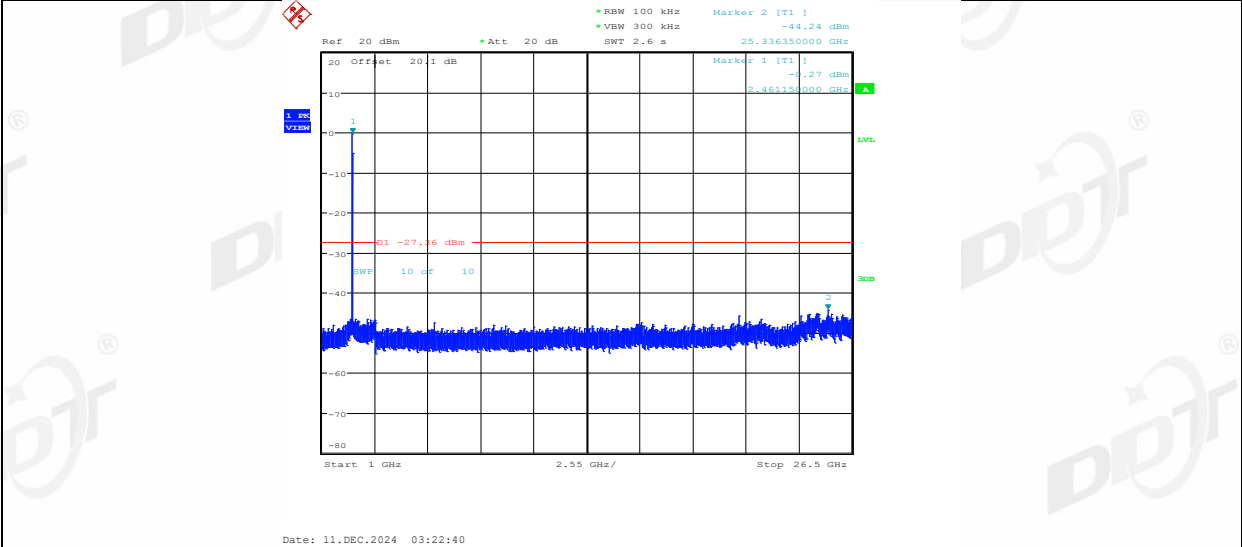
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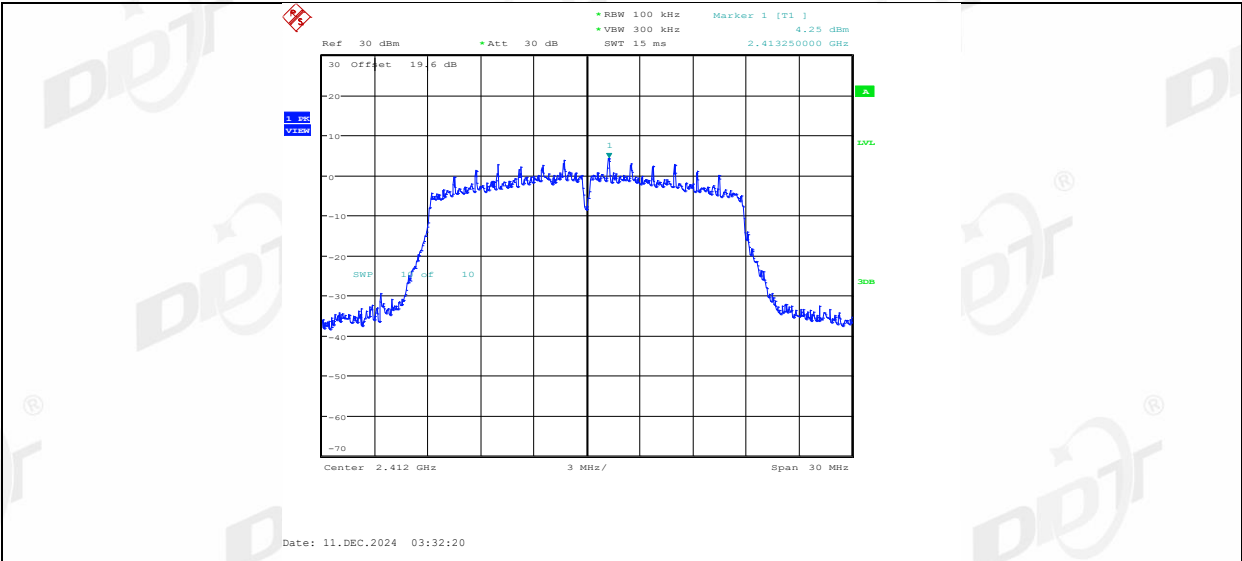
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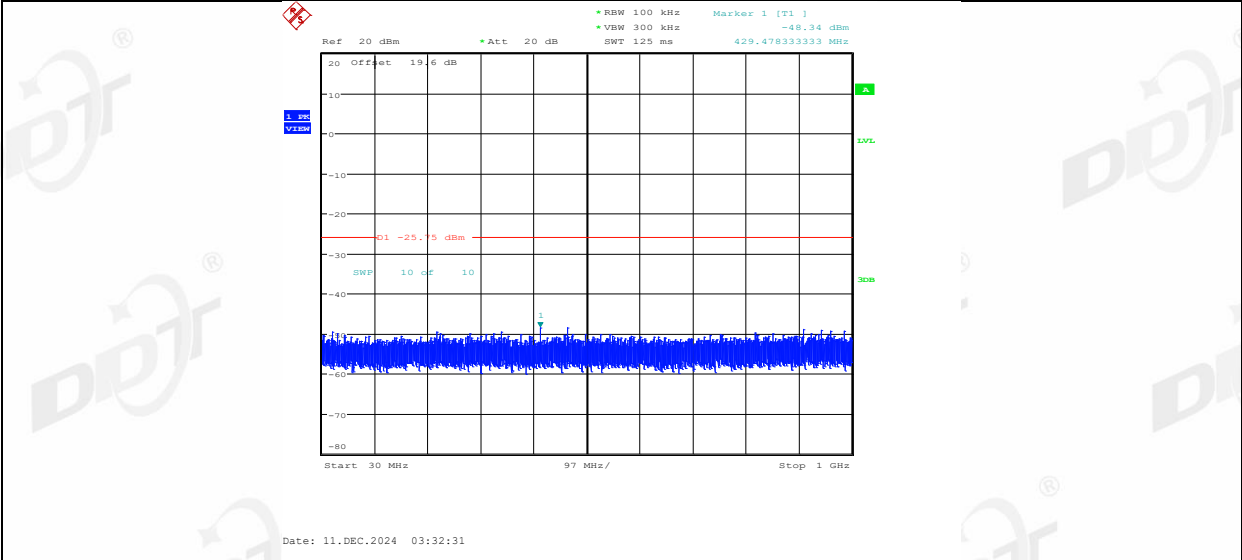
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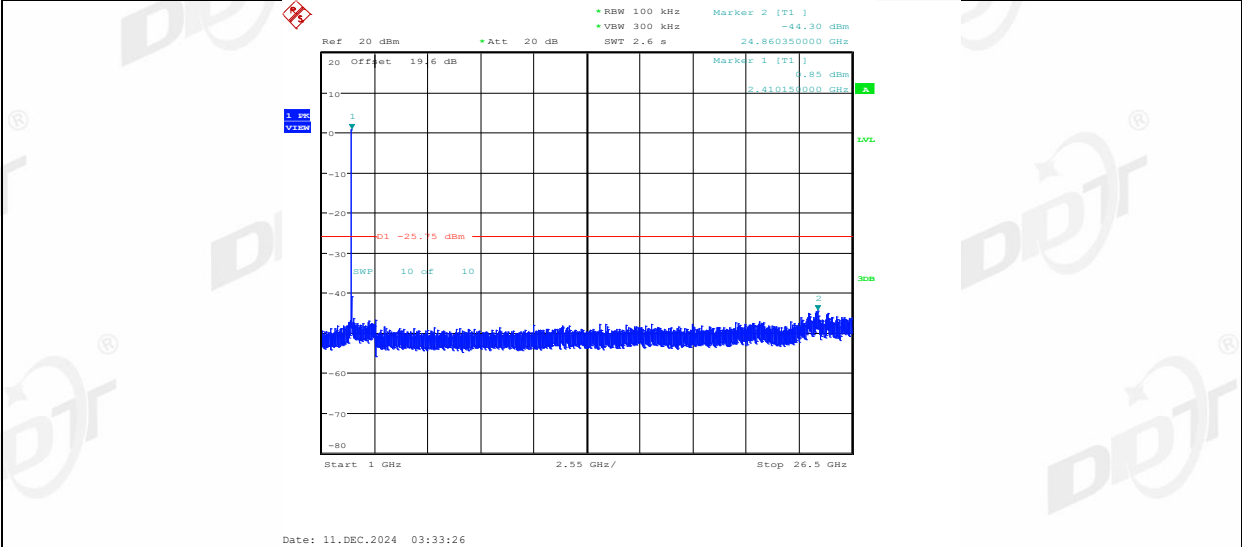
11N20MIMO_Ant1_2412_0~Reference



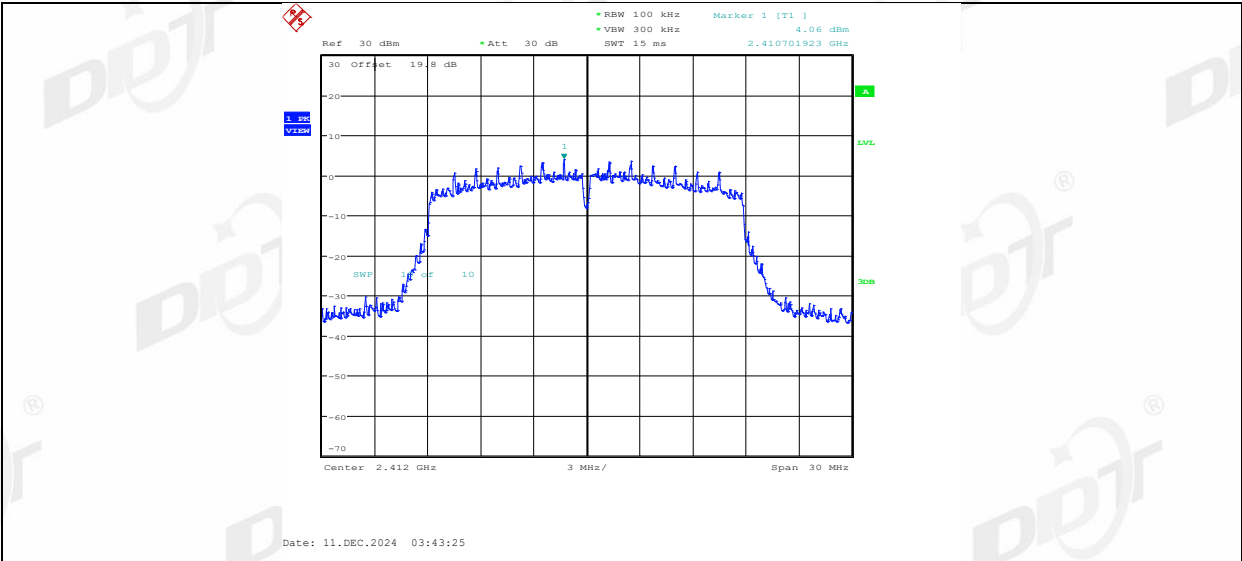
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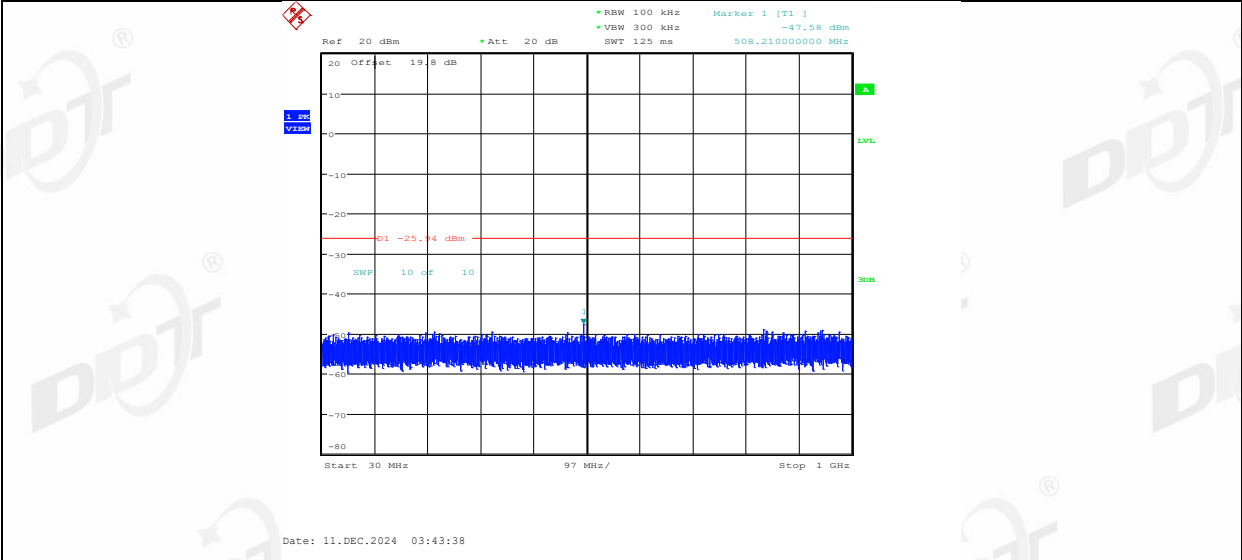
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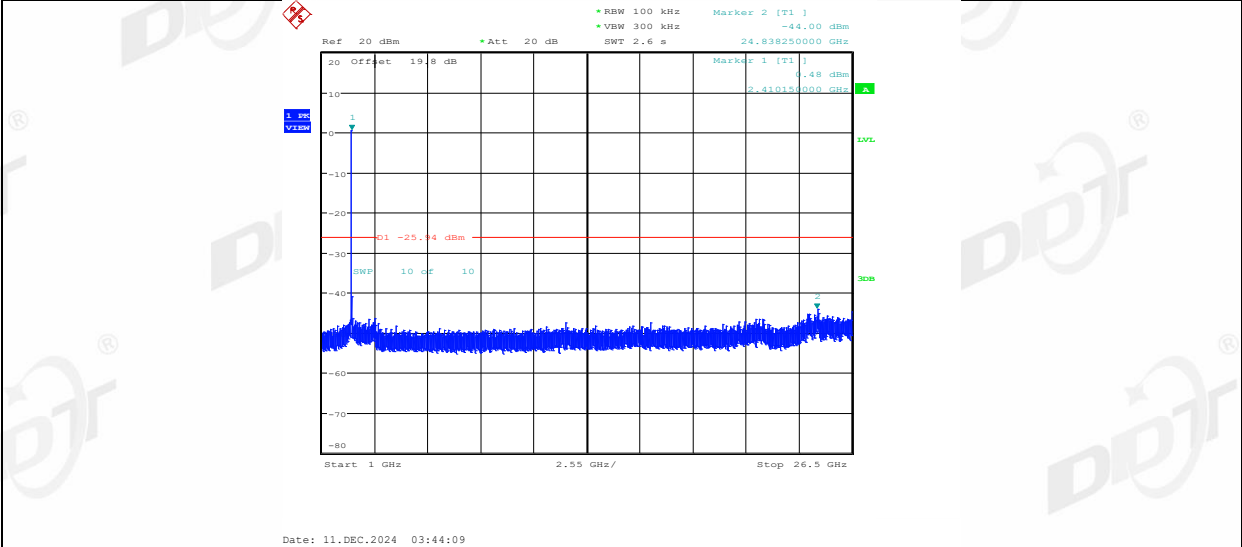
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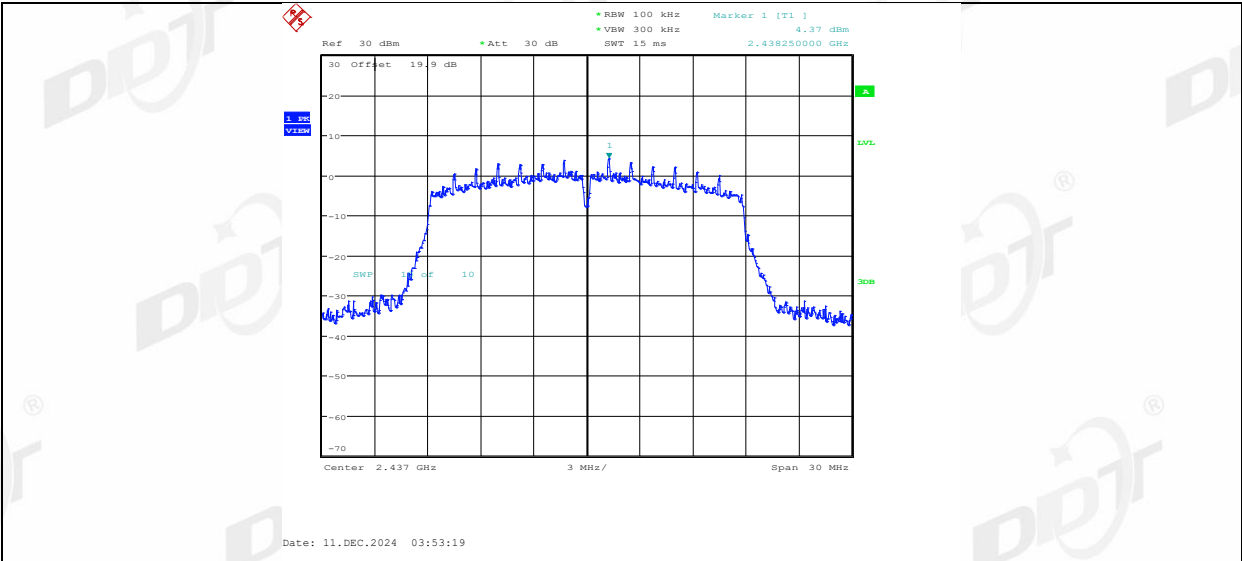
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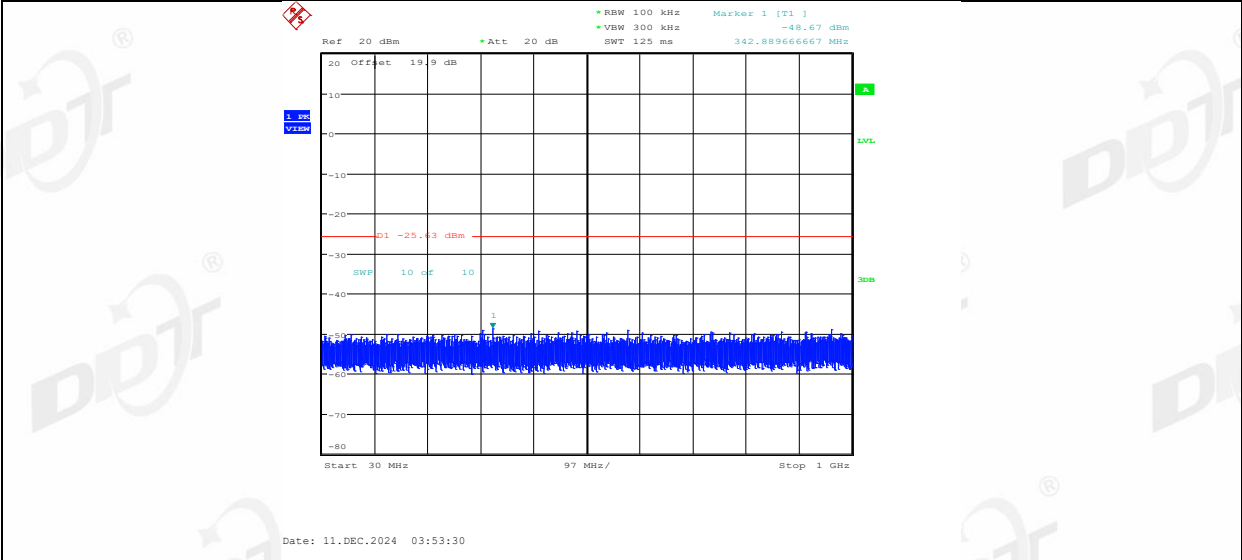
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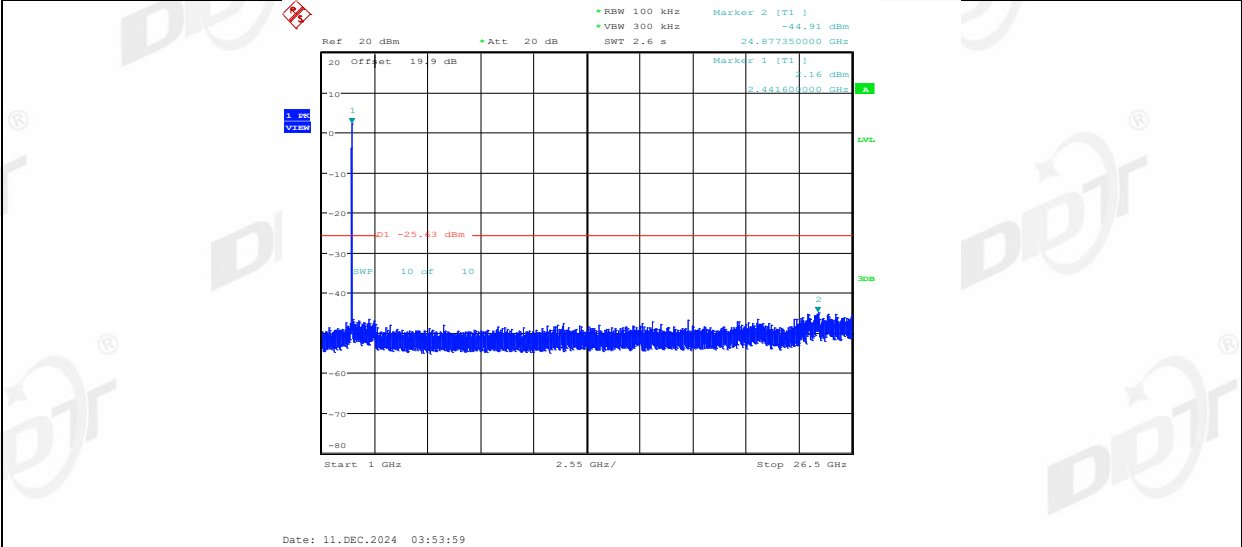
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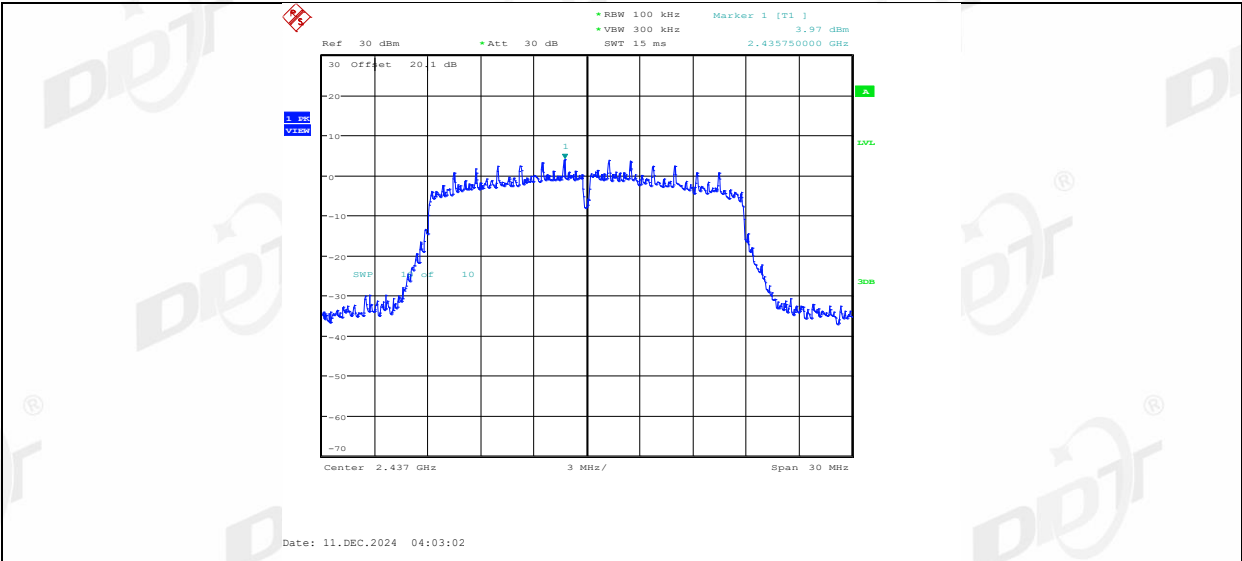
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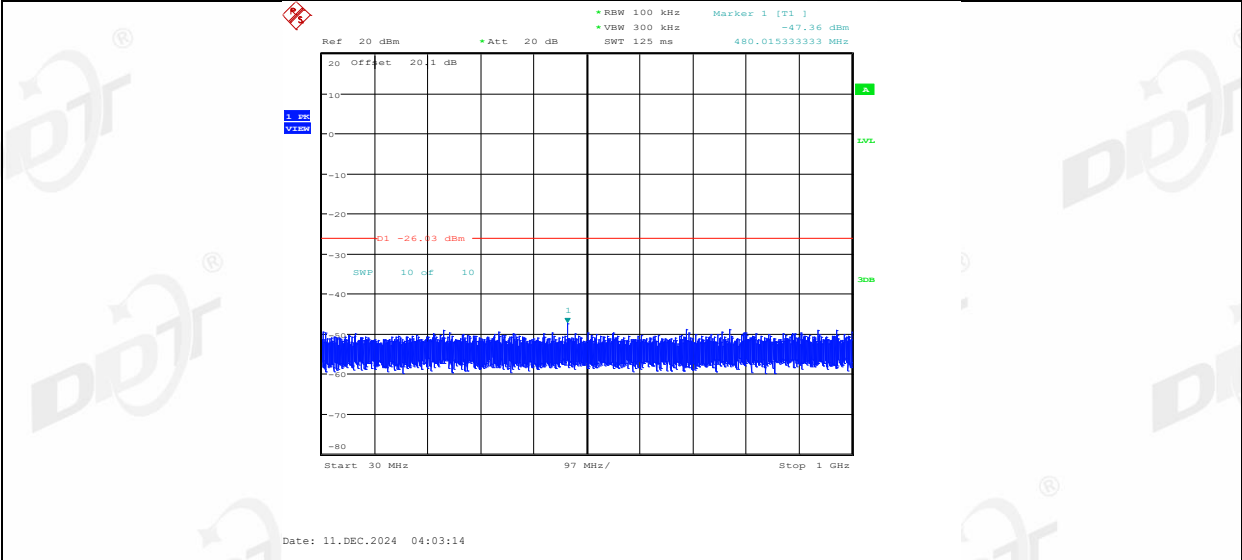
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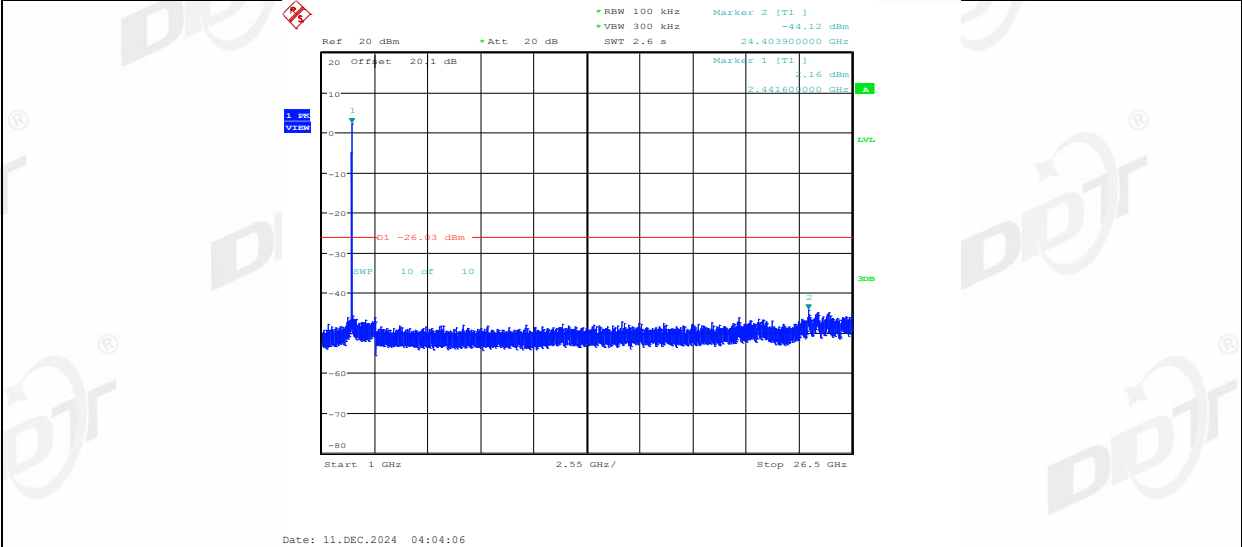
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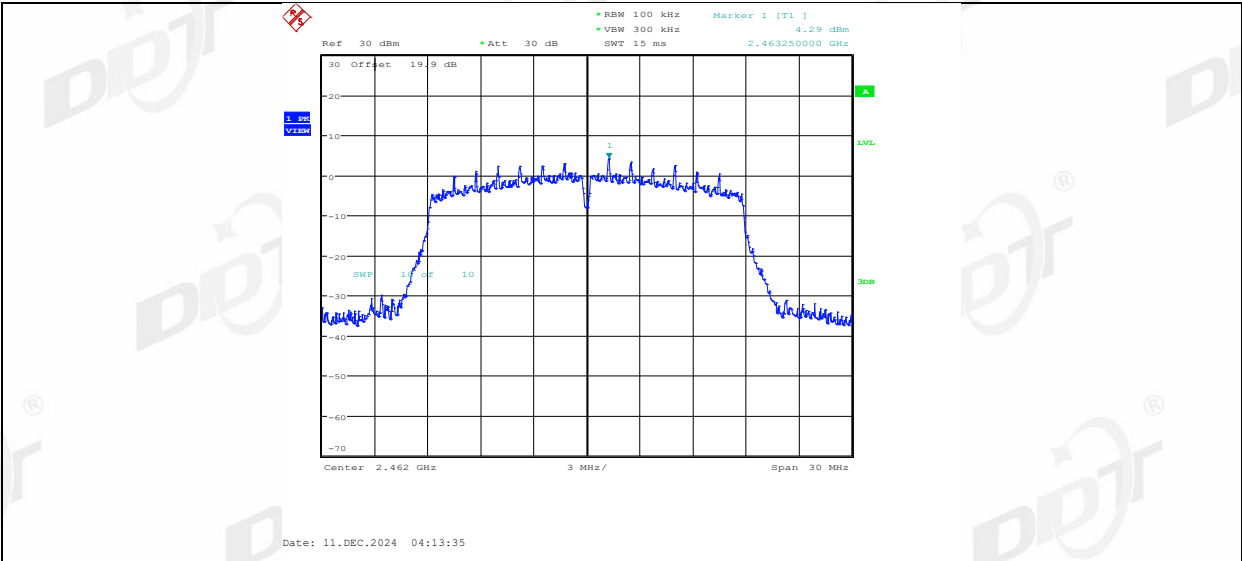
11N20MIMO_Ant2_2437_30~1000



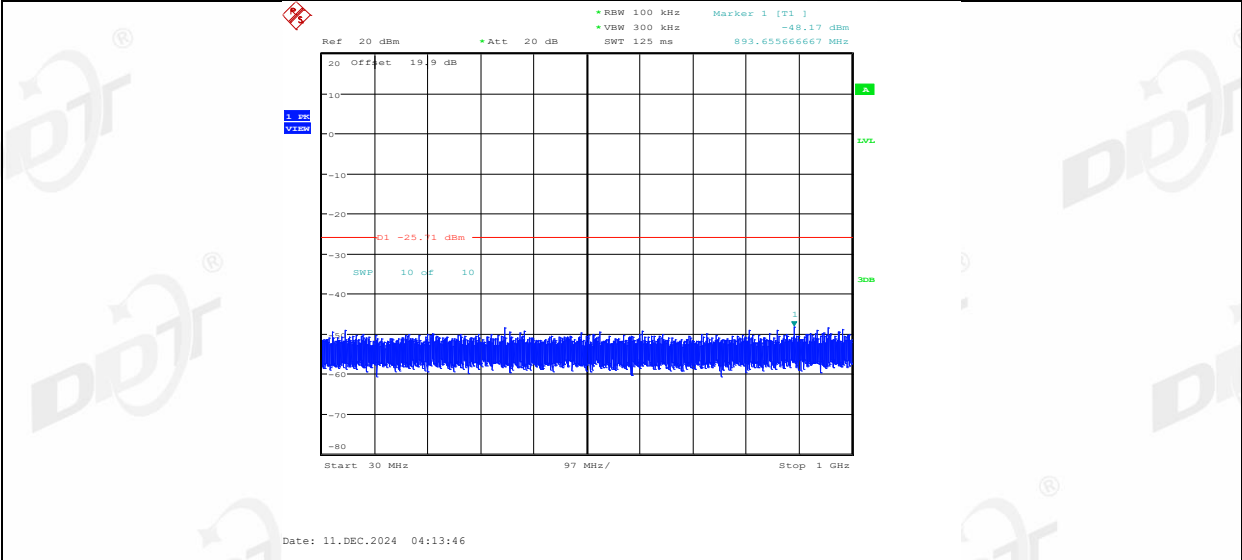
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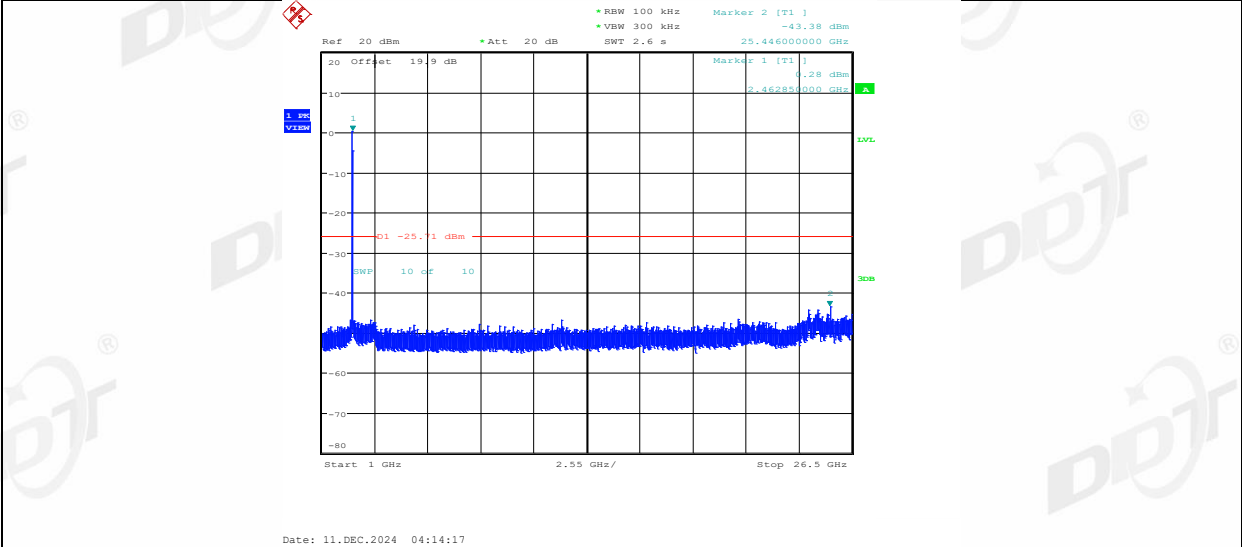
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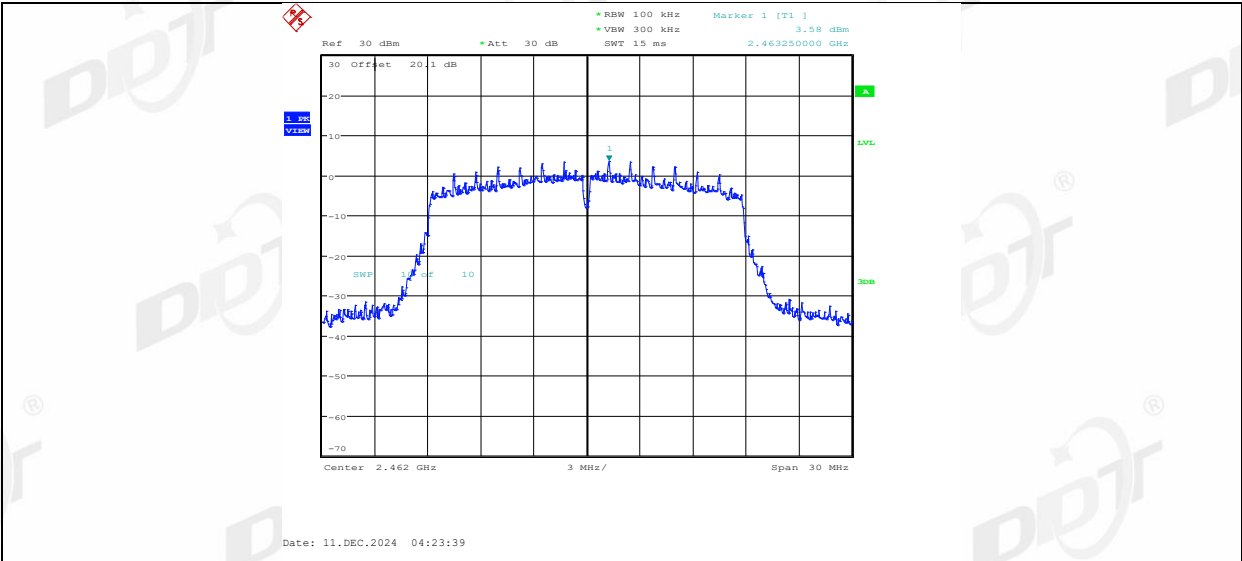
11N20MIMO_Ant1_2462_30~1000



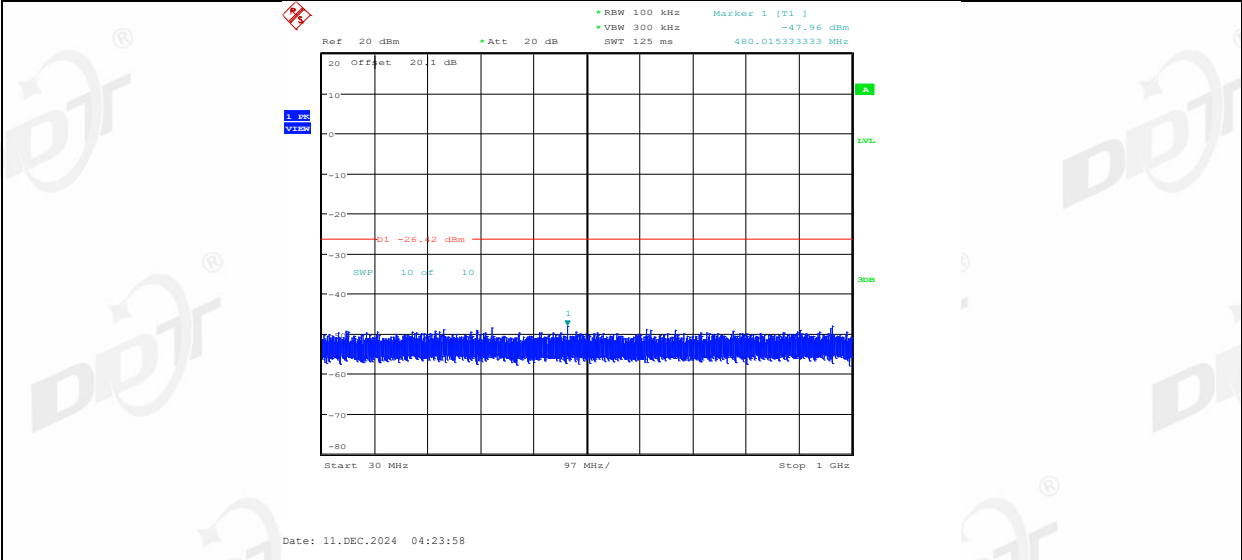
11N20MIMO_Ant1_2462_1000~26500



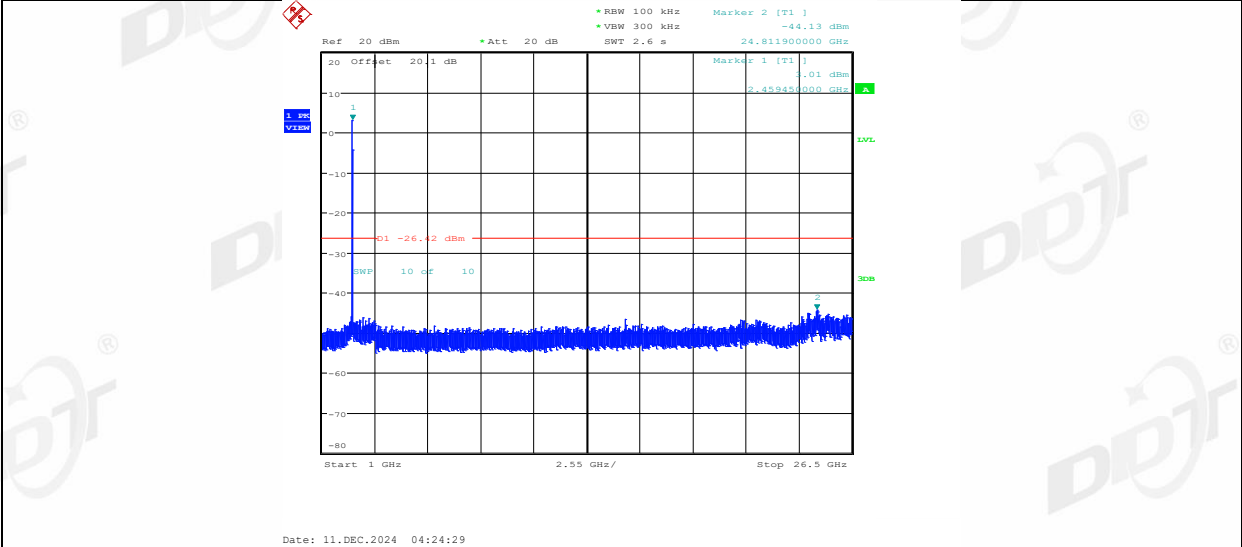
11N20MIMO_Ant2_2462_0~Reference



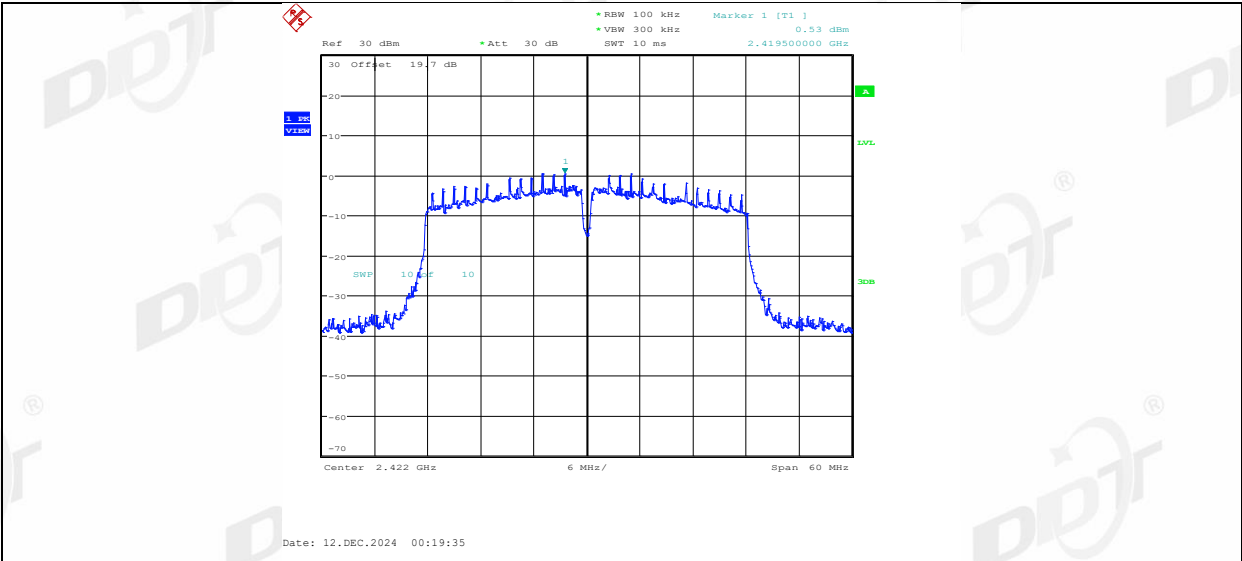
11N20MIMO_Ant2_2462_30~1000



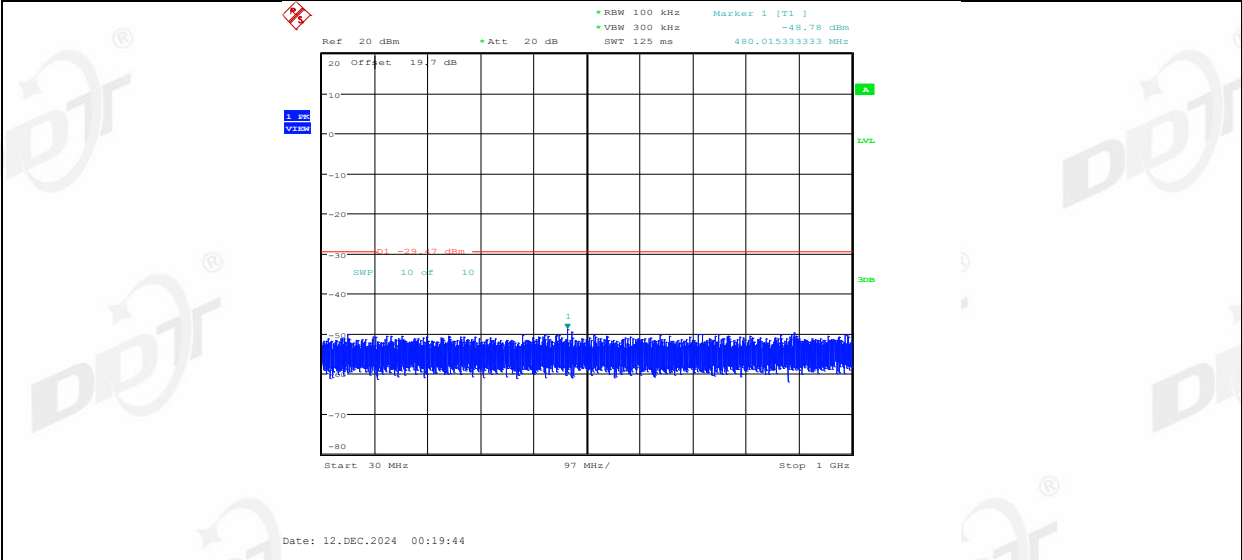
11N20MIMO_Ant2_2462_1000~26500



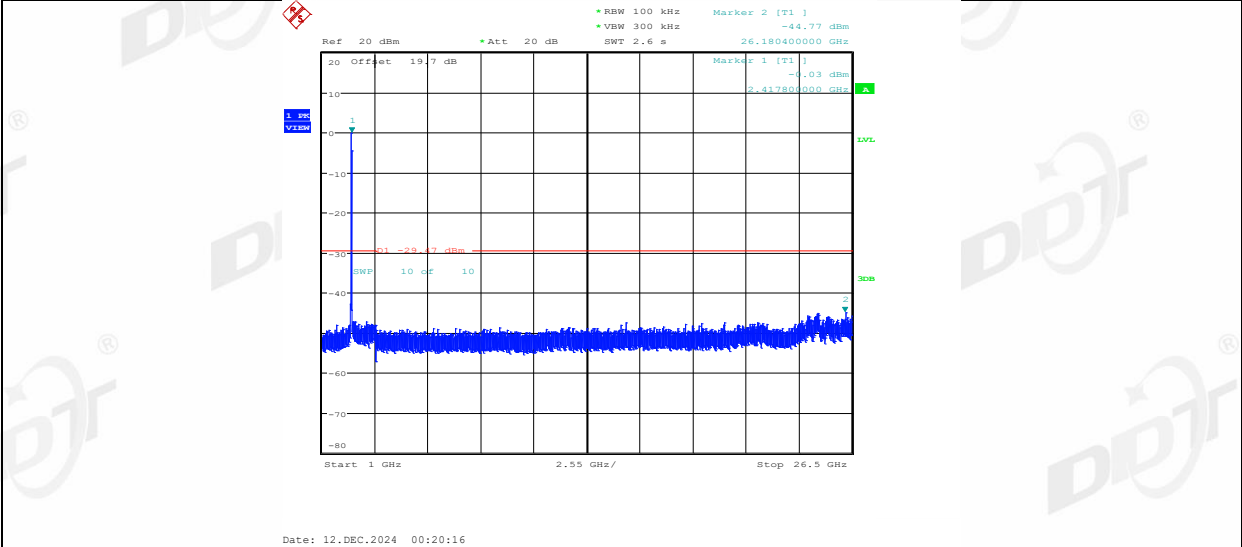
11N40MIMO_Ant1_2422_0~Reference



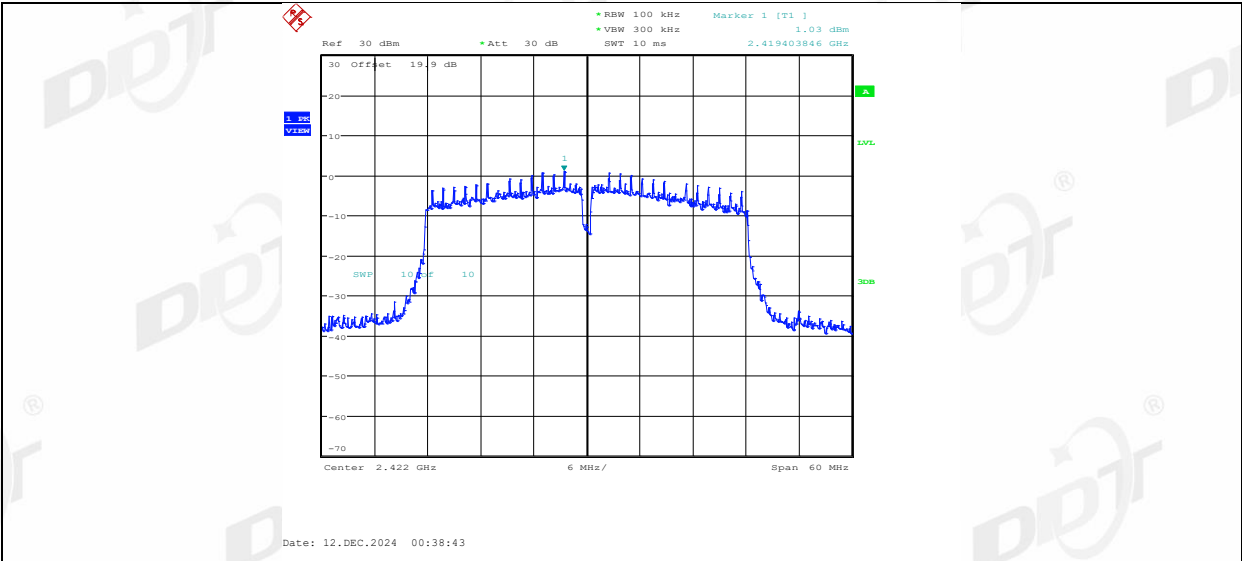
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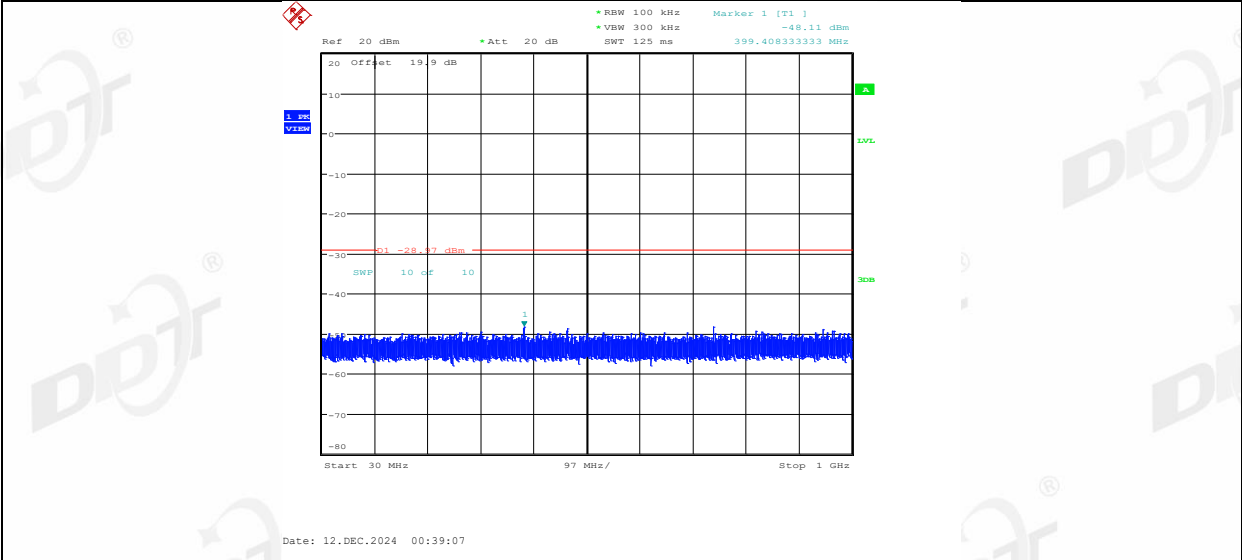
11N40MIMO_Ant1_2422_1000~26500



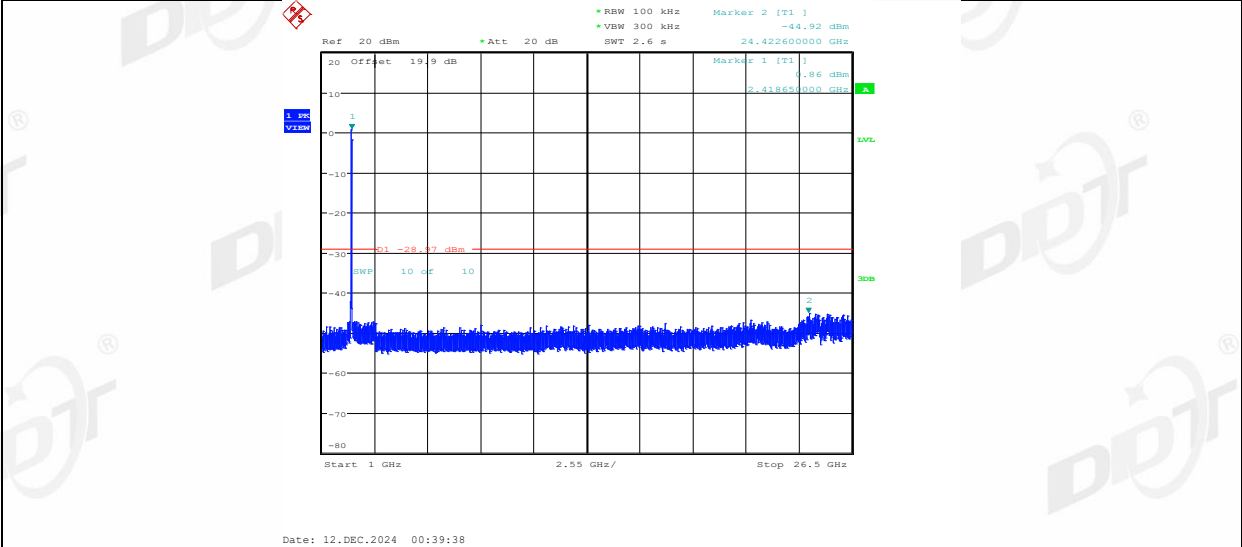
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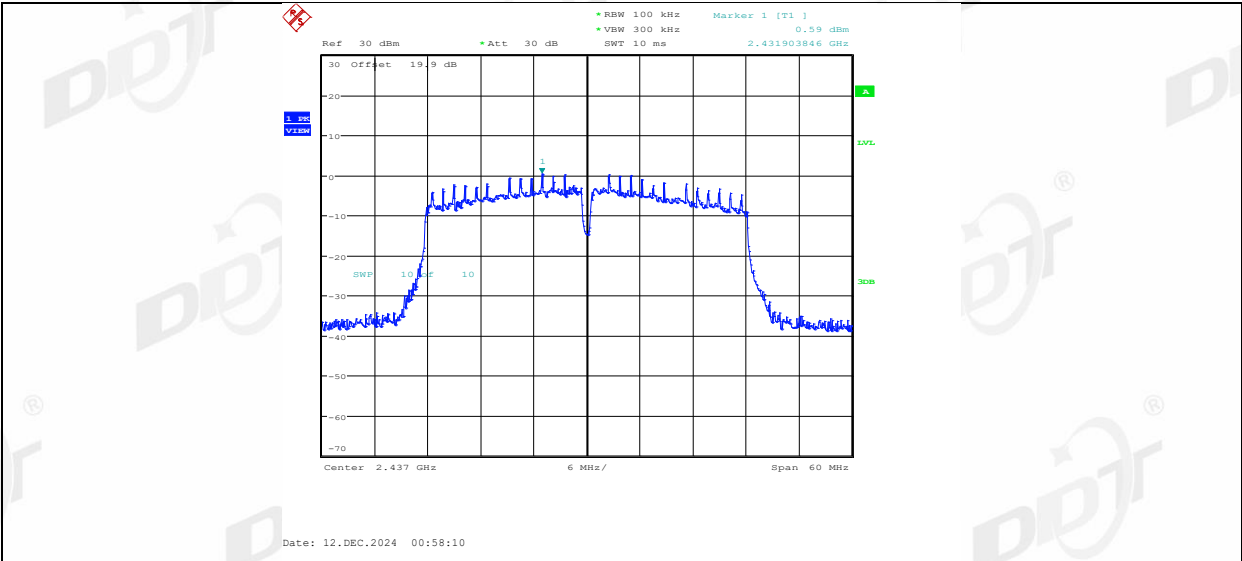
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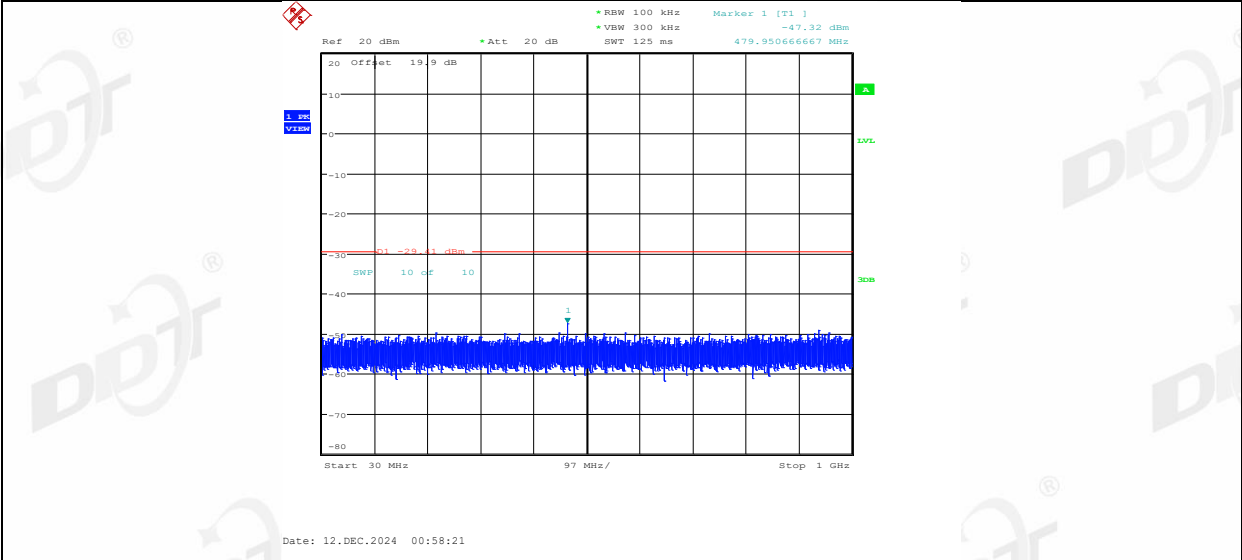
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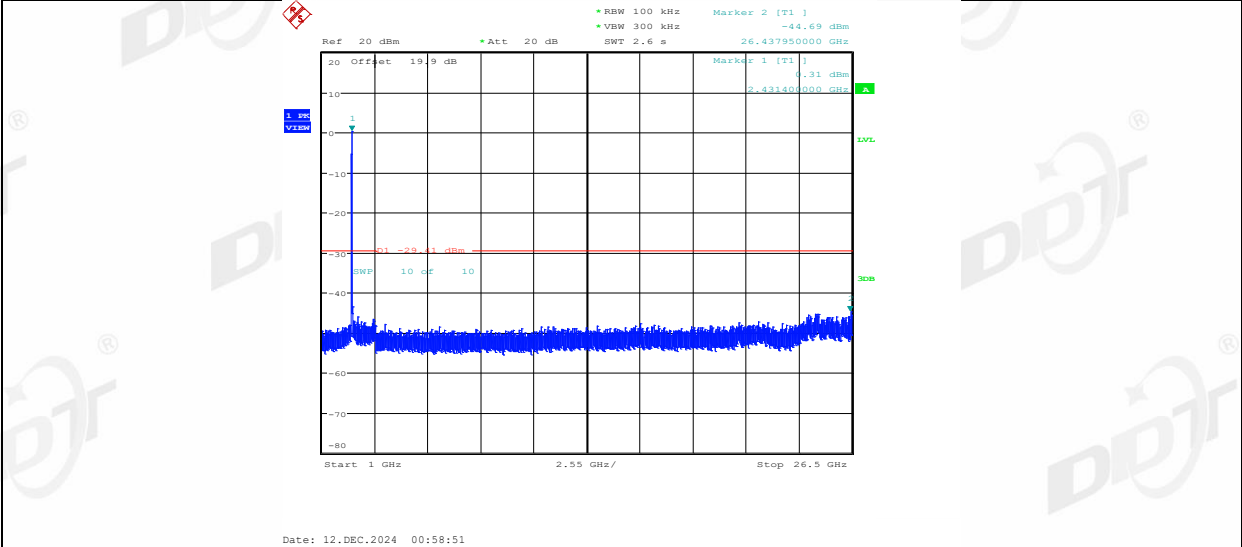
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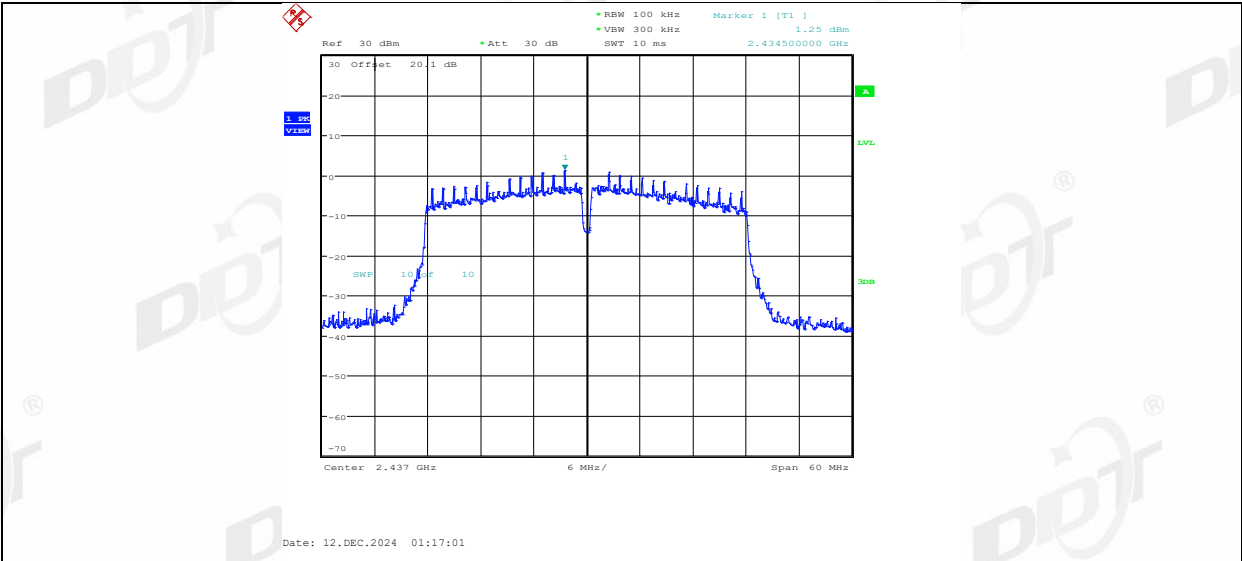
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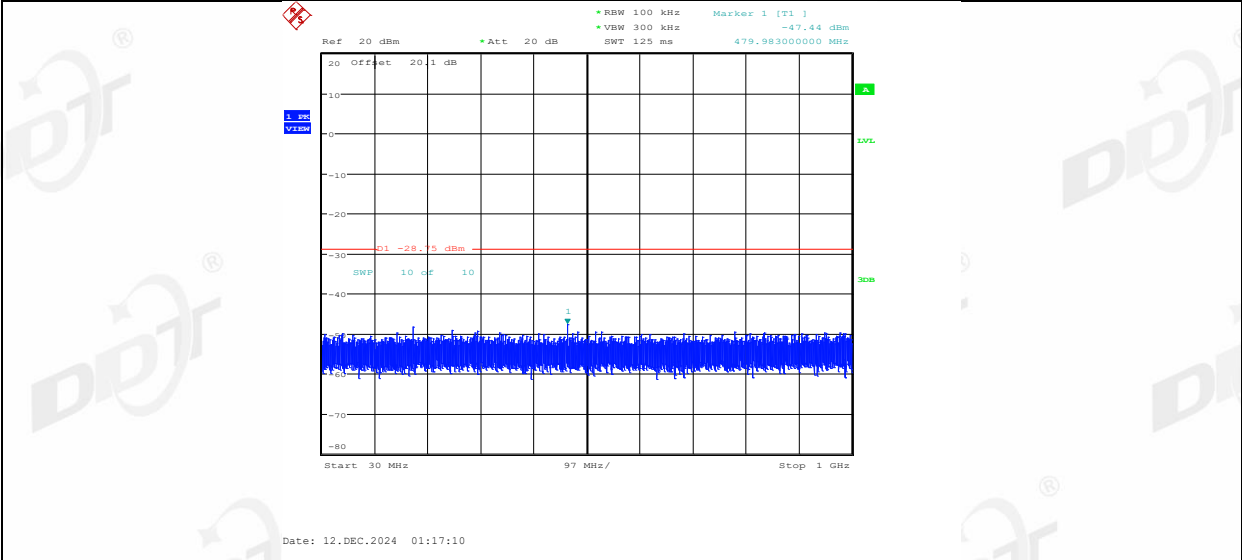
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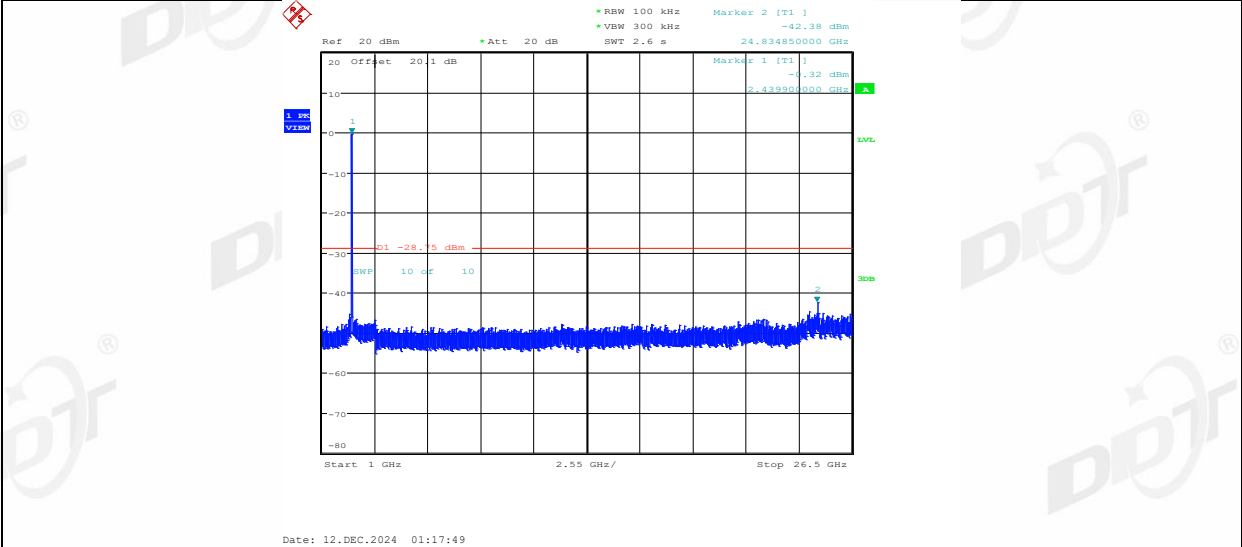
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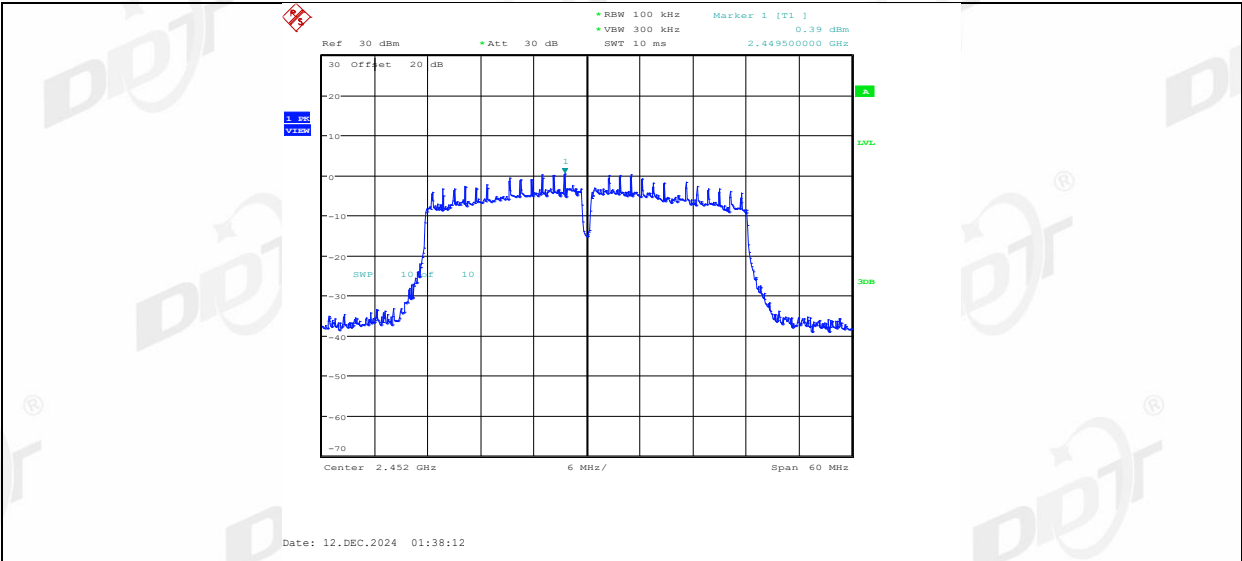
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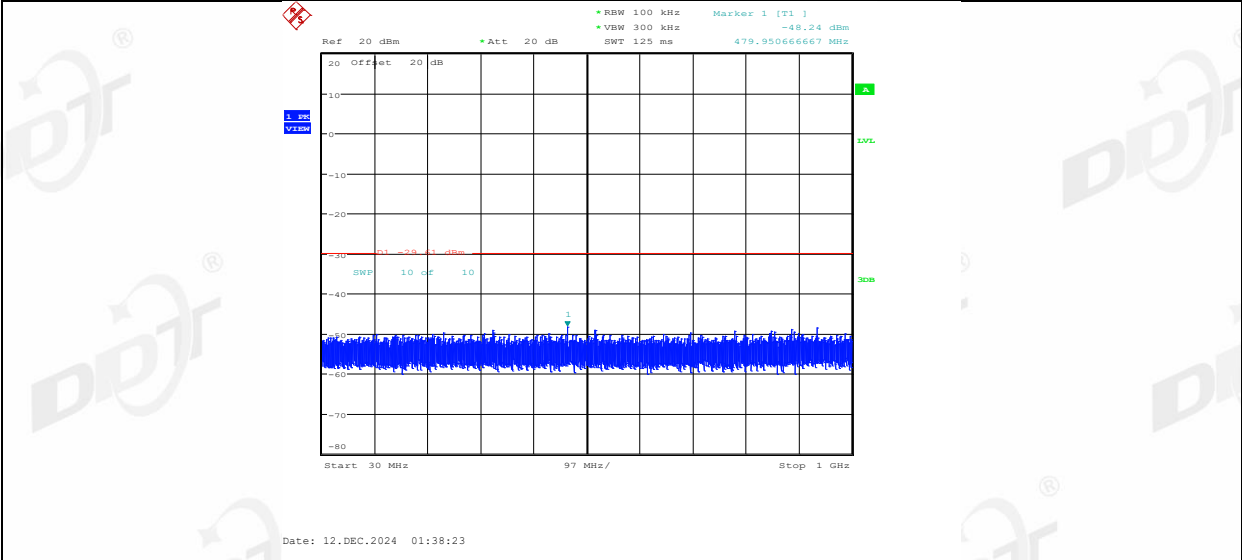
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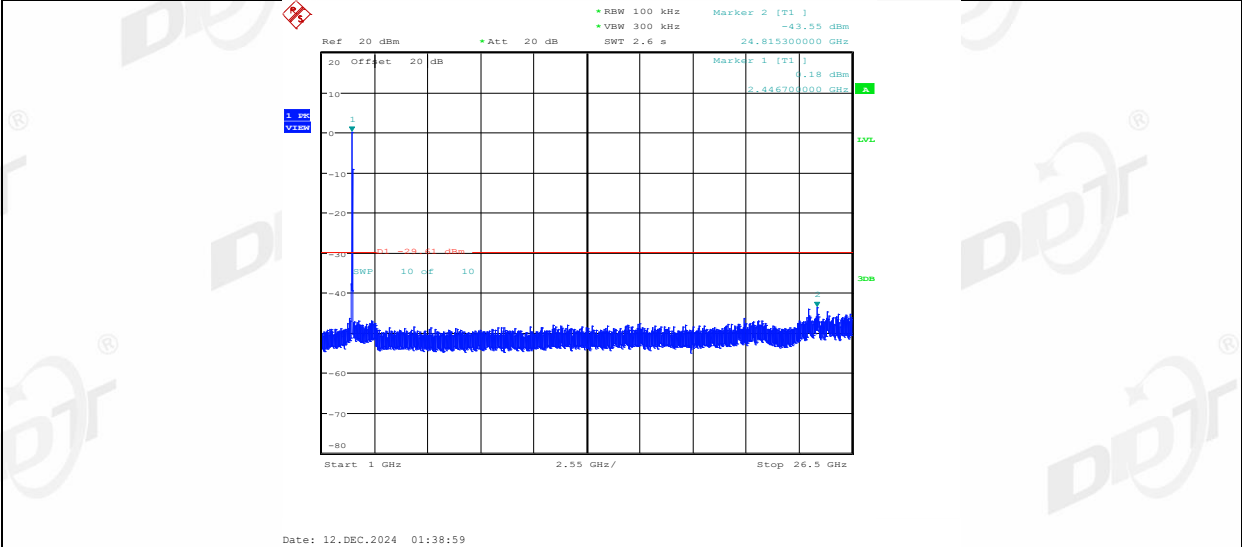
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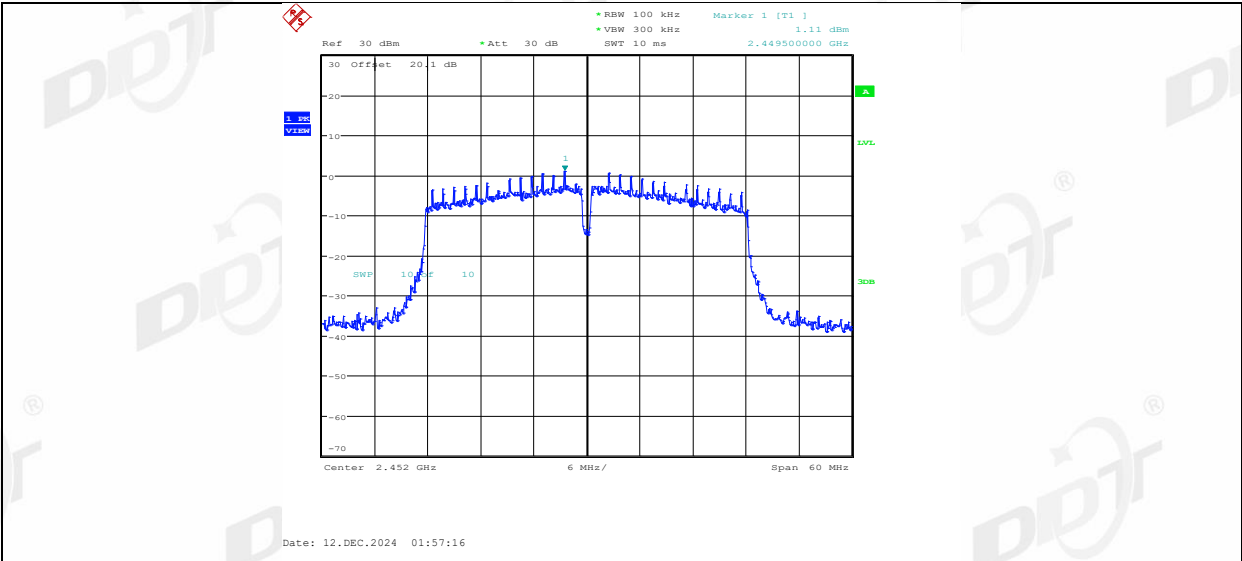
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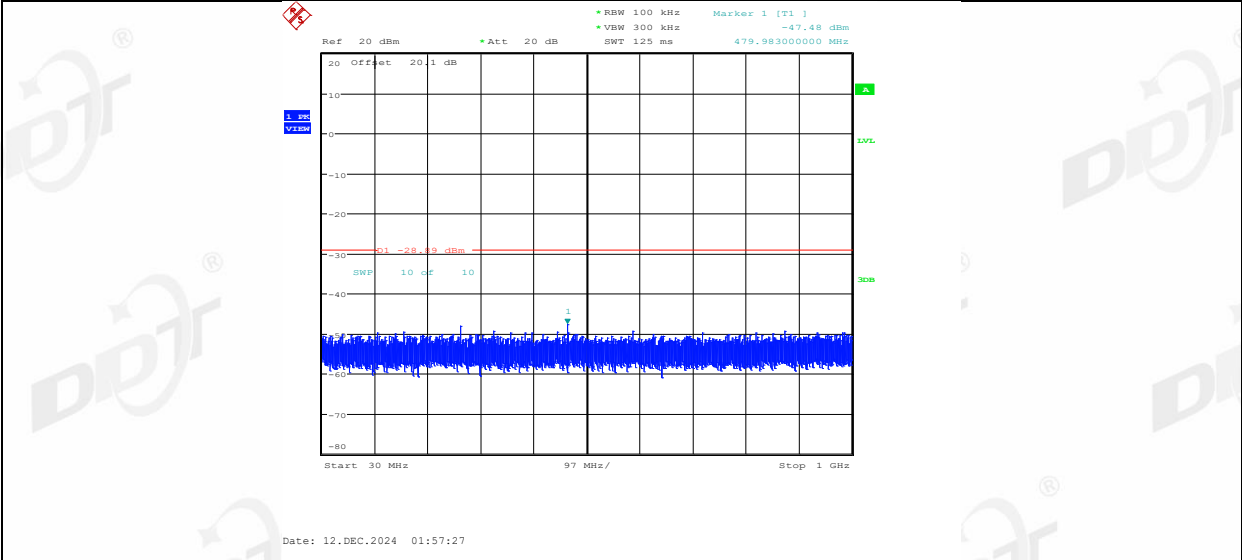
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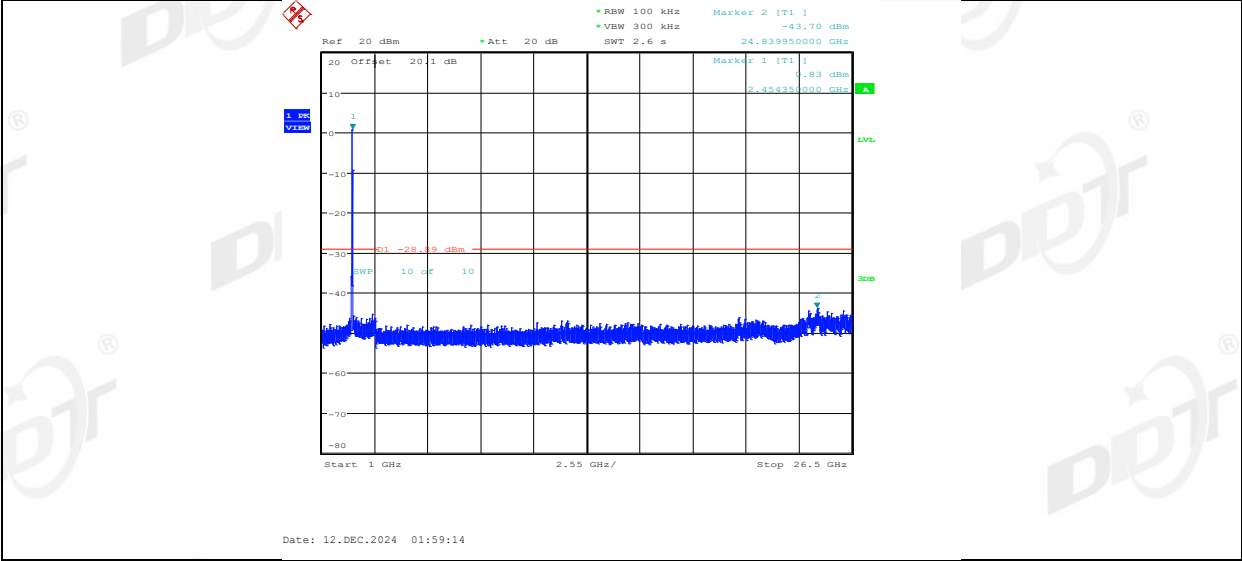
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11N40MIMO_Ant2_2452_30~1000

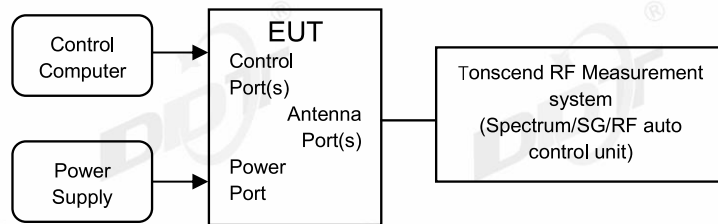


11N40MIMO_Ant2_2452_1000~26500



10. Duty Cycle

10.1. Block diagram of test setup



10.2. Limit

Just for Report.

10.3. Test procedure

- (1) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, The cable loss and attenuator loss have been put into spectrum analyzer as amplitude offset.
set the Spectrum Analyzer as below:
 - Centre Frequency: The centre frequency of the middle hopping channel.
 - Resolution BW: 10 MHz.
 - Video BW: 10 MHz.
 - Span: Zero span.
 - Detector: Peak.
 - Trace Mode: Clear Write.
 - Sweep: Video Trigger
- (2) When the trace is complete, measure the sending time of 1 burst and the duty cycle of 1 burst cycle.
- (3) Calculate dwell time follow below formula:
Duty cycle= Pulse's on time / Burst cycle

10.4. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 1#
Ambient Condition:	24.6℃,46.8%RH	Test Date:	2024.10.22/2024.12.11~2024.12.12
Test Power Supply:	AC120V/60Hz	Sample Number:	S24091913-002

Test Mode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11B	Ant1	2412	8.42	8.54	98.59
	Ant2	2412	8.44	8.60	98.14
	Ant1	2437	8.44	8.59	98.25
	Ant2	2437	8.42	8.60	97.91
	Ant1	2462	8.42	8.56	98.36
	Ant2	2462	8.43	8.58	98.25
11G	Ant1	2412	1.41	1.57	89.81
	Ant2	2412	1.40	1.57	89.17
	Ant1	2437	1.40	1.56	89.74
	Ant2	2437	1.40	1.55	90.32
	Ant1	2462	1.41	1.56	90.38
	Ant2	2462	1.40	1.56	89.74
11N20MIMO	Ant1	2412	0.68	0.85	80.00
	Ant2	2412	0.68	0.85	80.00
	Ant1	2437	0.68	0.85	80.00
	Ant2	2437	0.68	0.85	80.00
	Ant1	2462	0.68	0.84	80.95
	Ant2	2462	0.68	0.84	80.95
11N40MIMO	Ant1	2422	0.35	0.51	68.63
	Ant2	2422	0.35	0.52	67.31
	Ant1	2437	0.35	0.52	67.31
	Ant2	2437	0.35	0.52	67.31
	Ant1	2452	0.35	0.52	67.31
	Ant2	2452	0.35	0.52	67.31

11B Ant1 2412

RBW 10 MHz Delta 2 [T1] -0.01 dB
*VBW 10 MHz
SWT 20 ms 8.540000 ms

Ref 20 dBm Att 20 dB

20 Offset 19.6 dB

Marker 1 [T1] 1.89 dBm
Delta 1 [T1] -0.69 dB
8.540000 ms

TRG 6 dBm

SWP 1 cd 1

Center 2.412 GHz 2 ms/

Date: 22.OCT.2024 12:53:56

11B Ant2 2412

RBW 10 MHz Delta 2 [T1] 0.17 dB
*VBW 10 MHz
SWT 10 ms 8.600000 ms

Ref 20 dBm Att 20 dB

20 Offset 19.8 dB

Marker 1 [T1] 13.82 dBm
Delta 1 [T1] -0.01 dB
8.600000 ms

TRG 6.3 dBm

SWP 1 cd 1

Center 2.412 GHz 1 ms/

Date: 22.OCT.2024 13:04:07

11B Ant1 2437

RBW 10 MHz Delta 2 [T1] 0.01 dB
*VBW 10 MHz
SWT 15 ms 8.590000 ms

Ref 20 dBm Att 20 dB

20 Offset 19.9 dB

Marker 1 [T1] 11.75 dBm
Delta 1 [T1] -0.66 dB
8.590000 ms

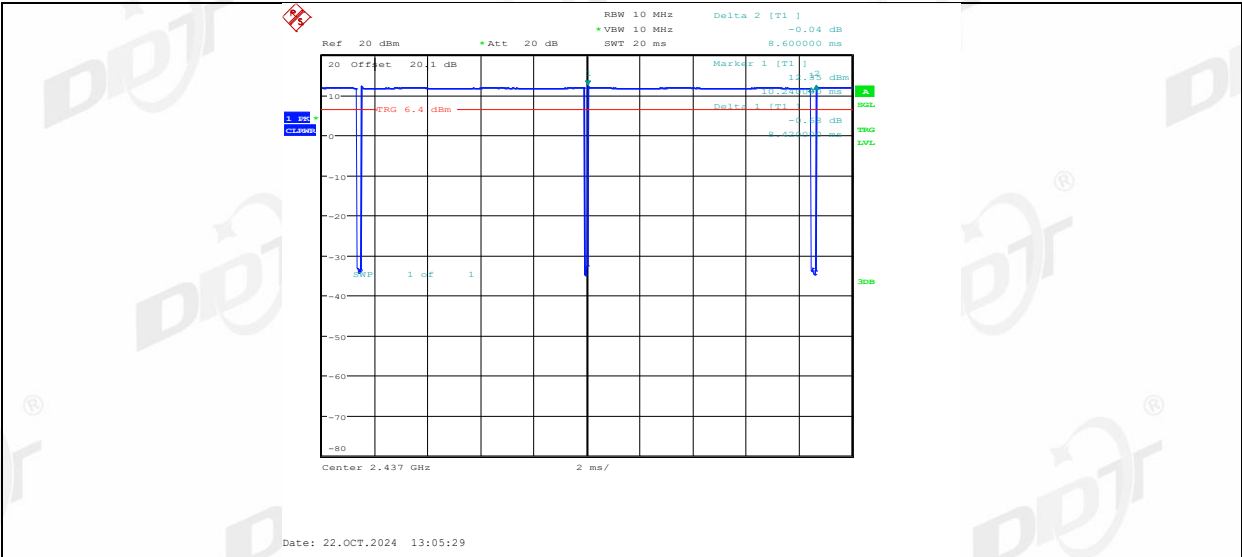
TRG 5.9 dBm

SWP 1 cd 1

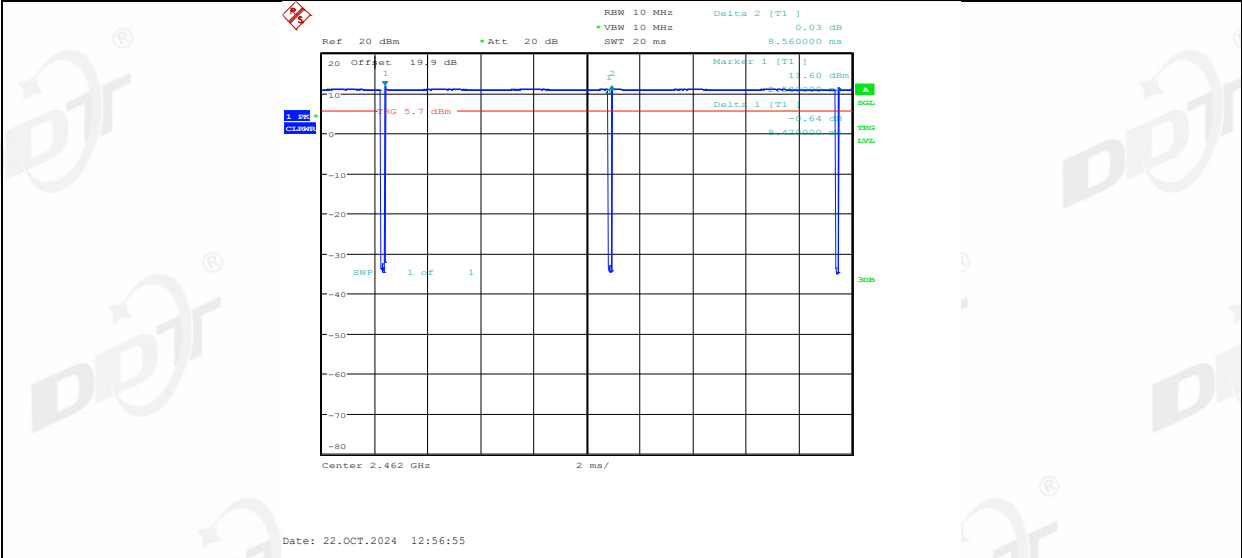
Center 2.437 GHz 1.5 ms/

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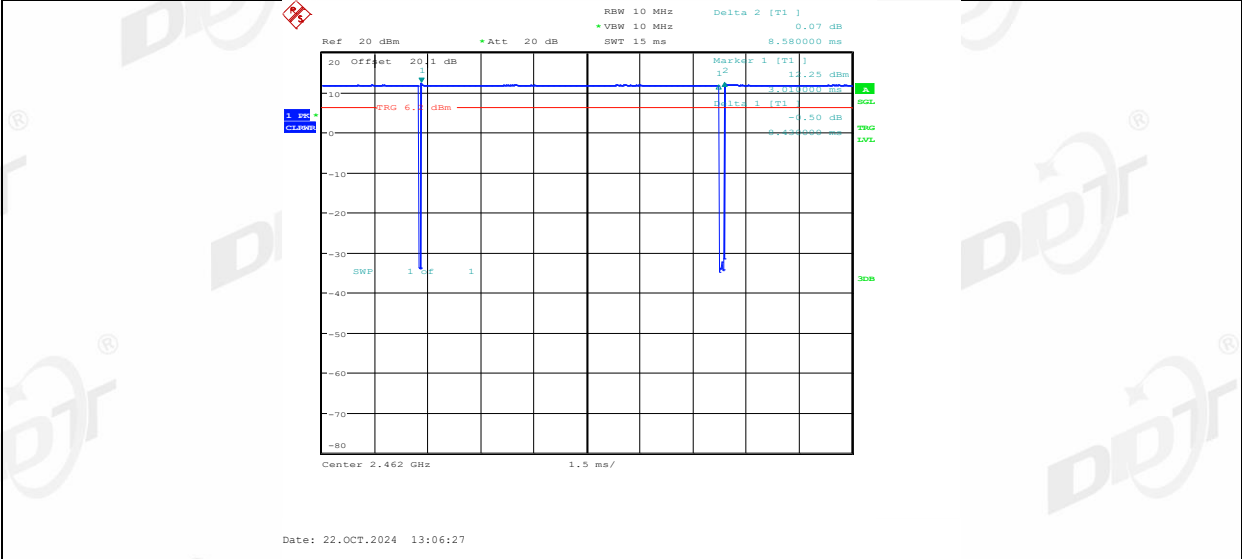
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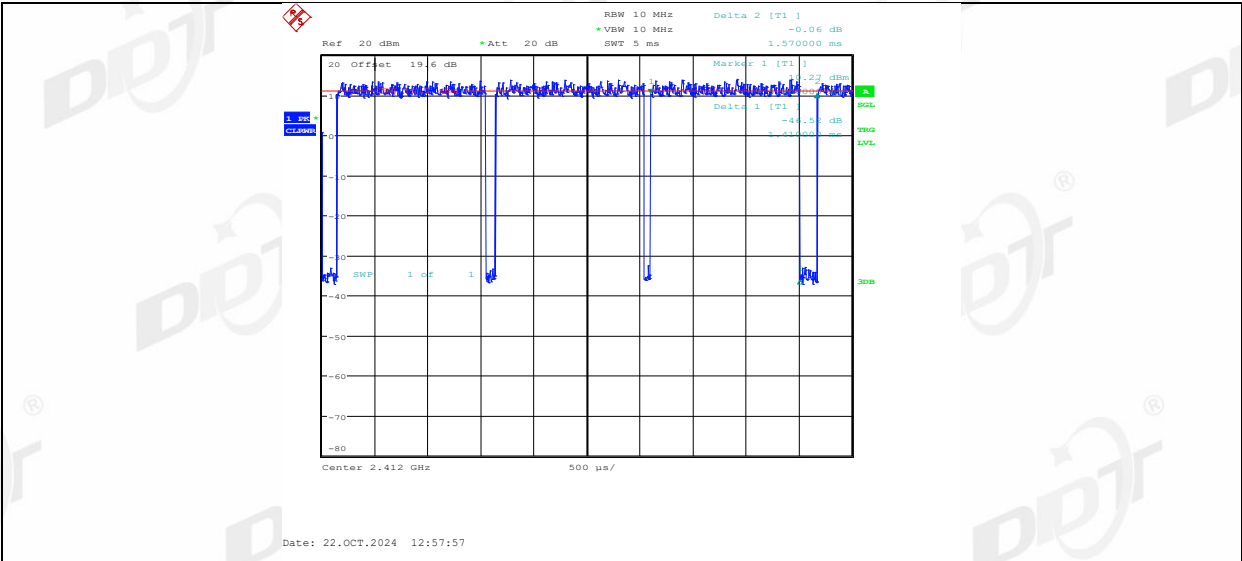
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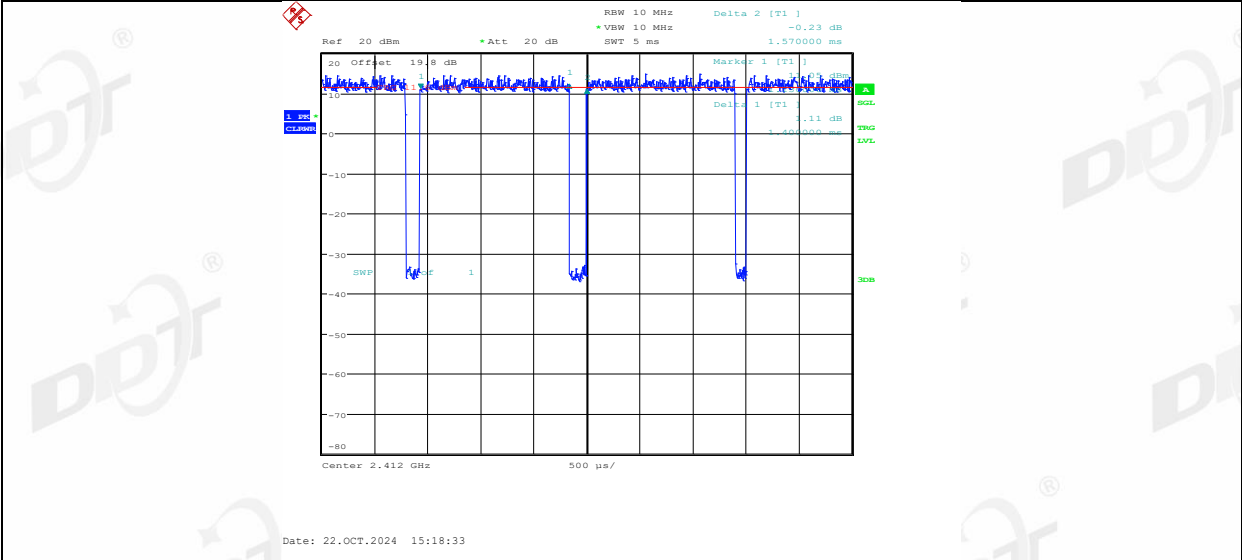
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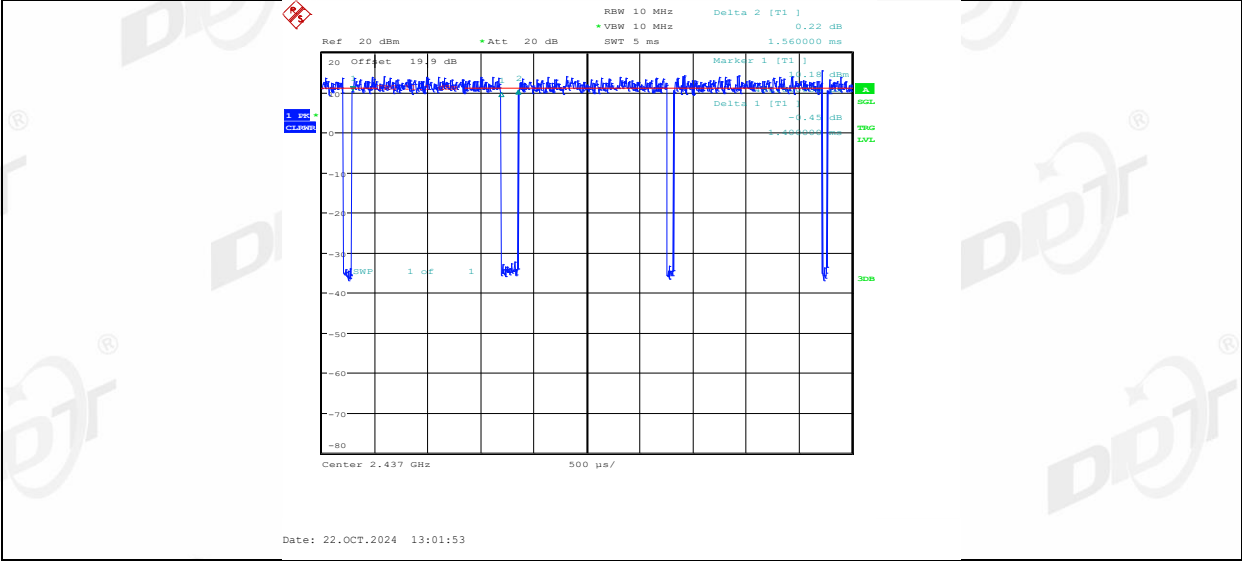
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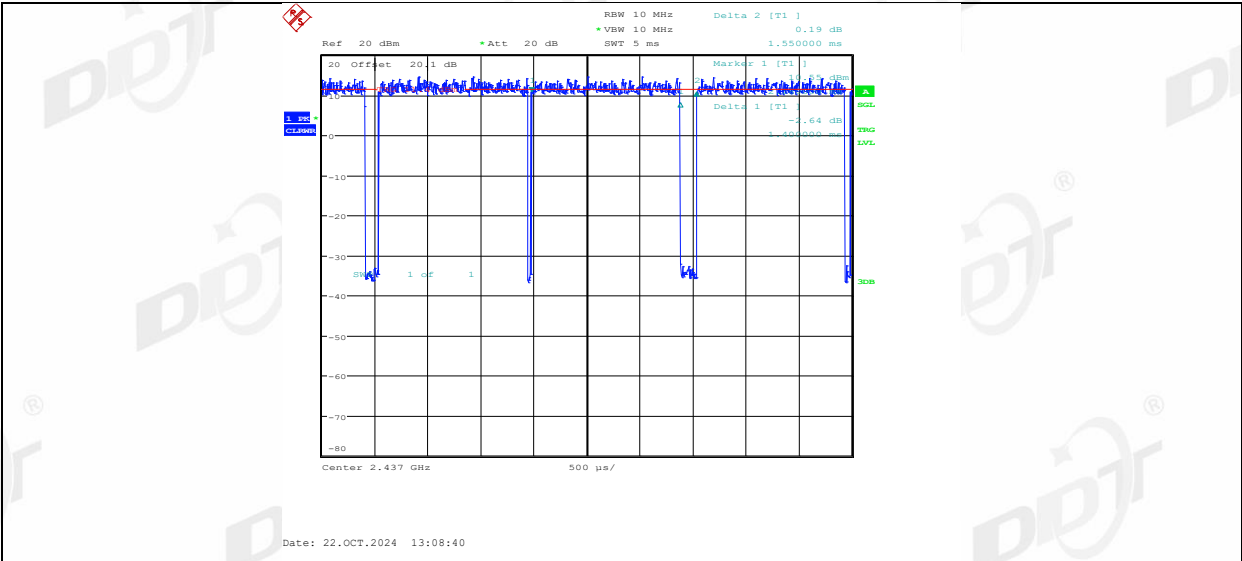
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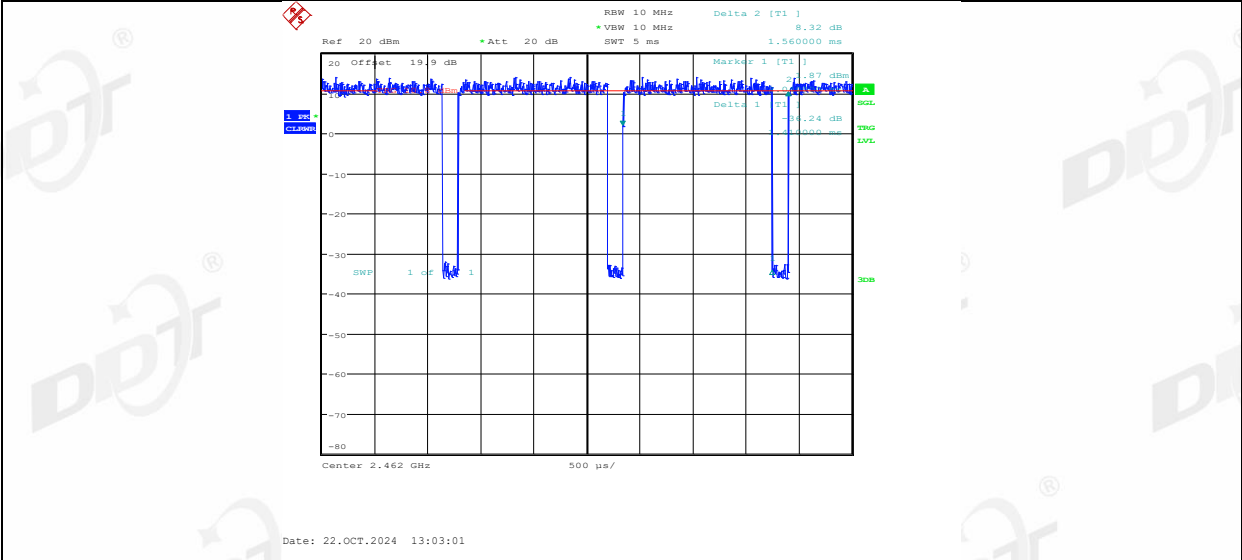
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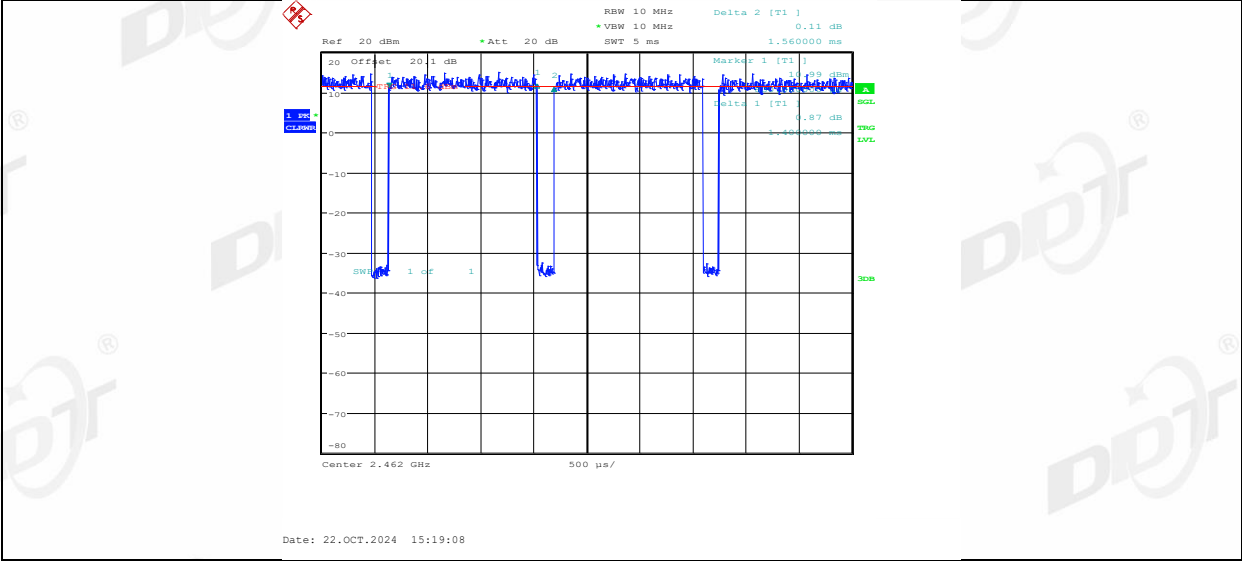
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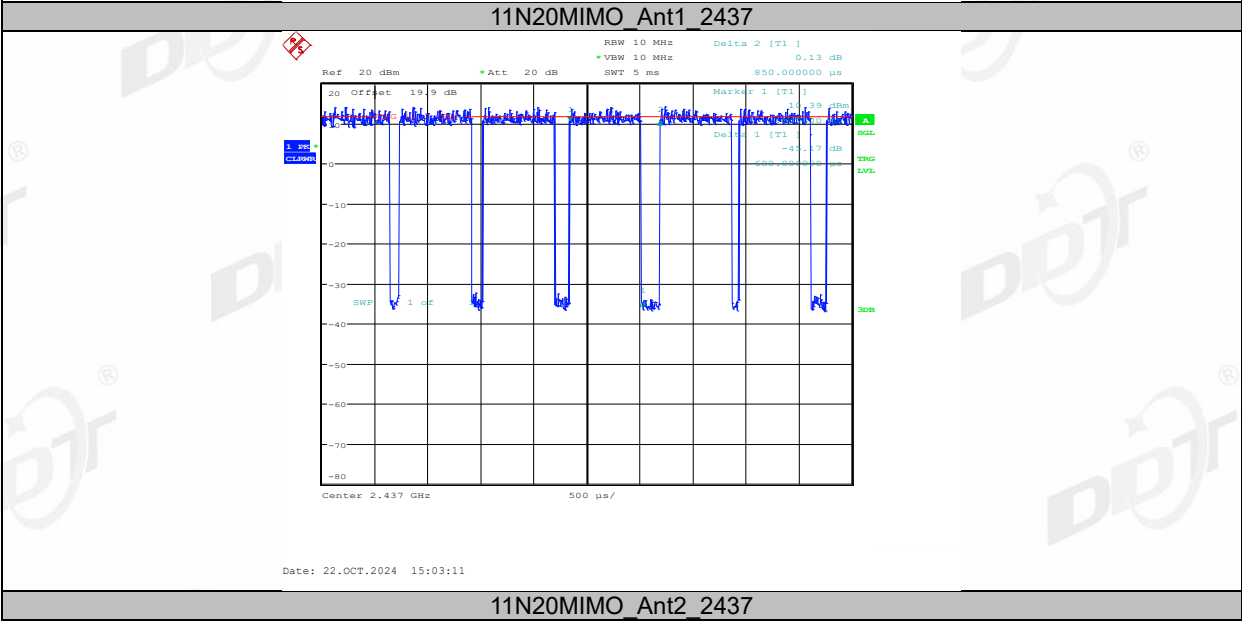
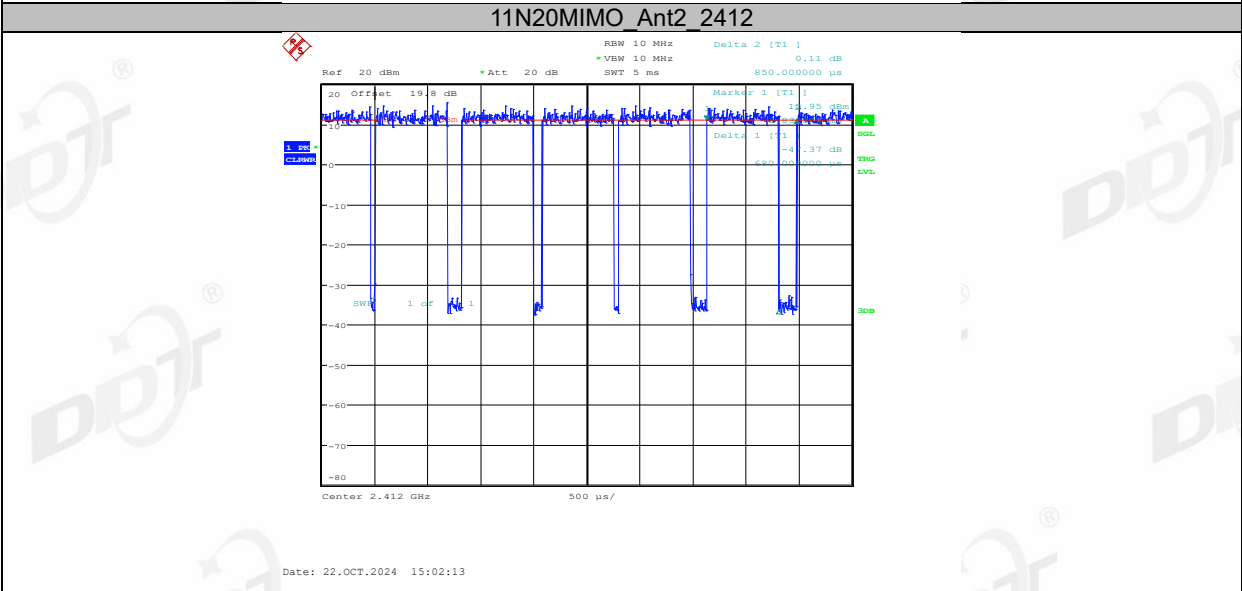
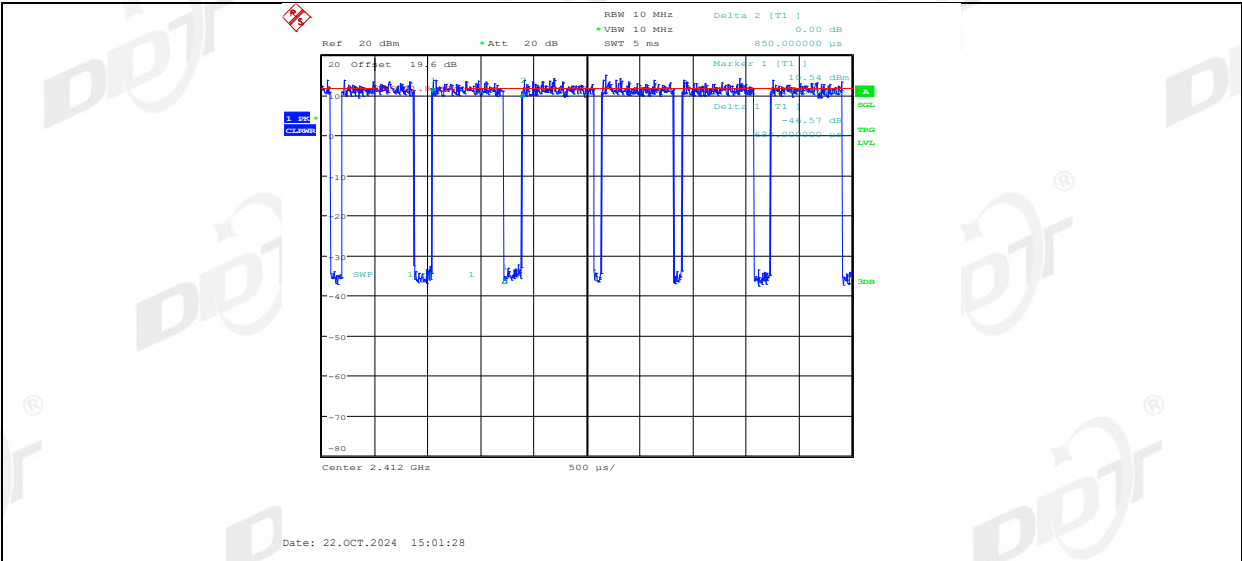
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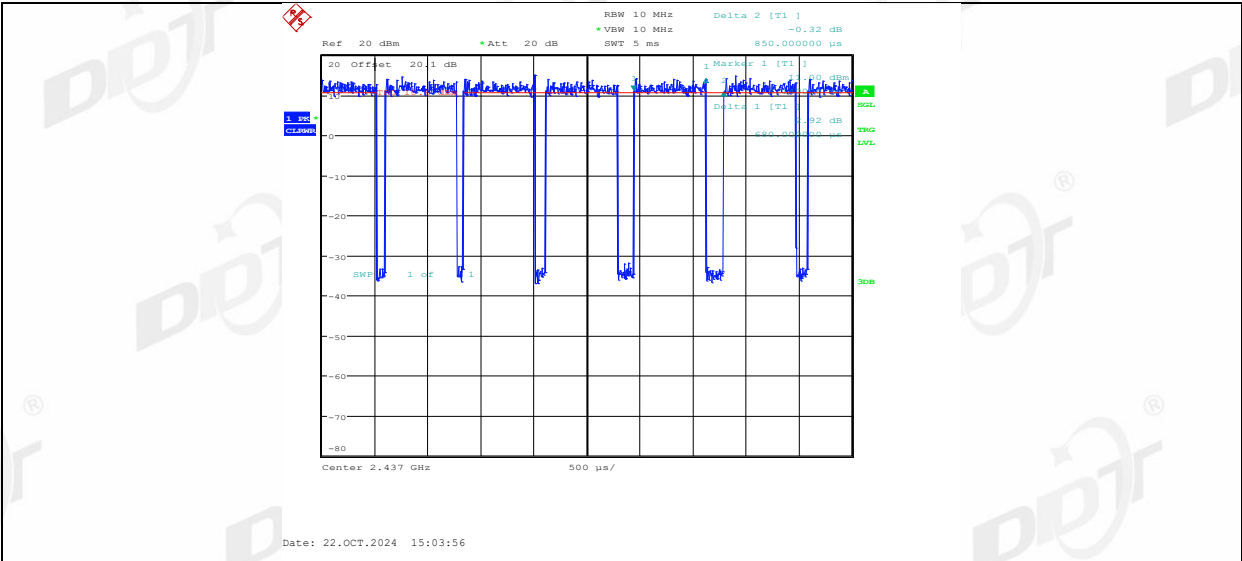


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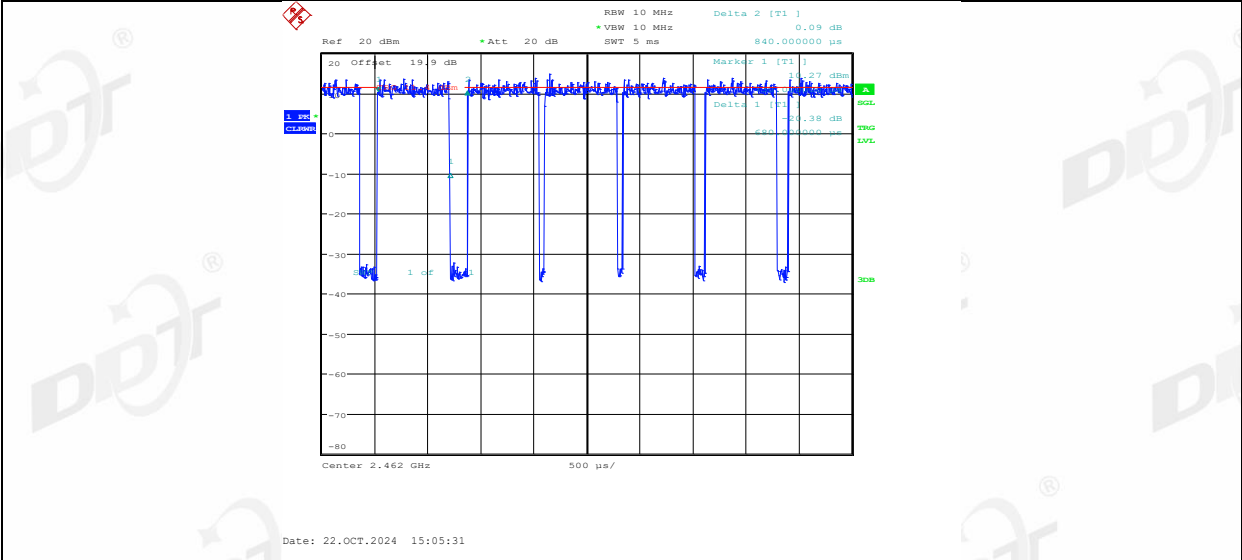


11N20MIMO_Ant1_2412

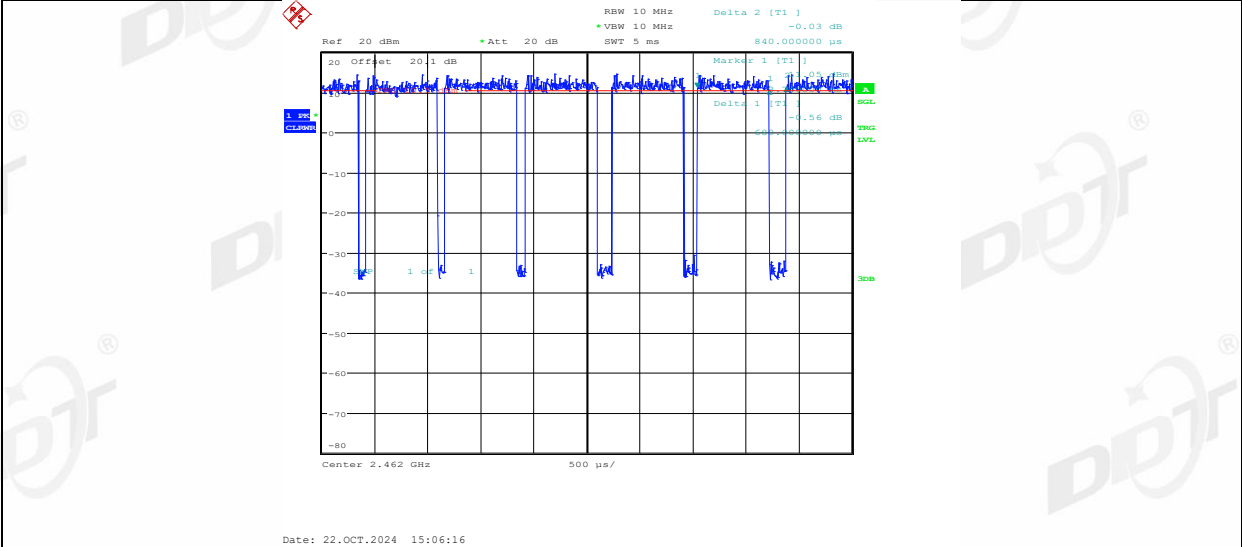




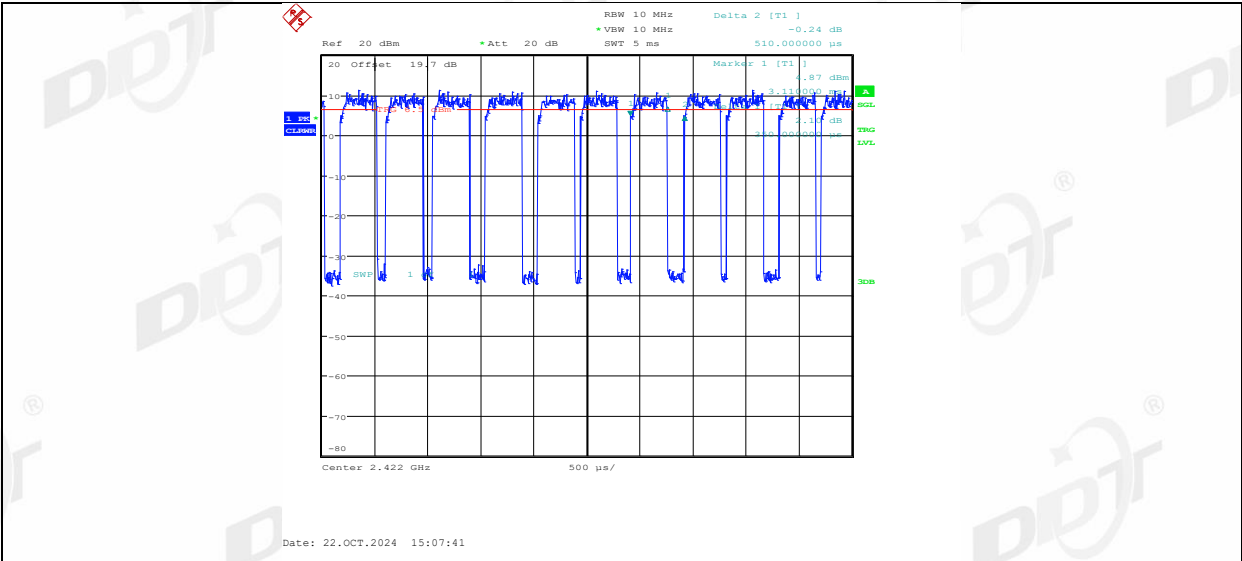
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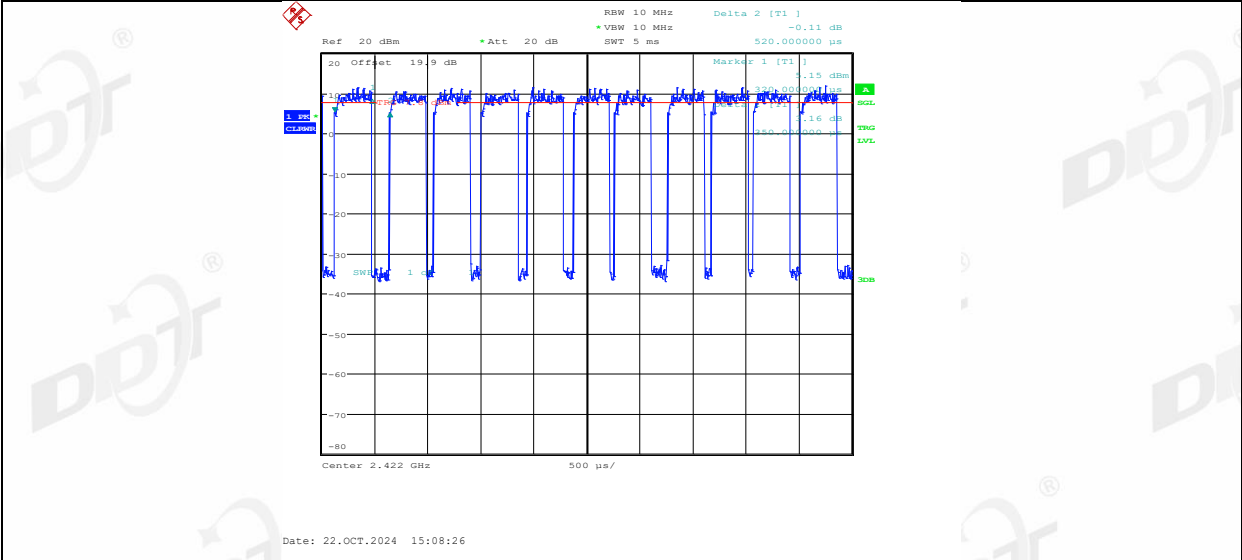
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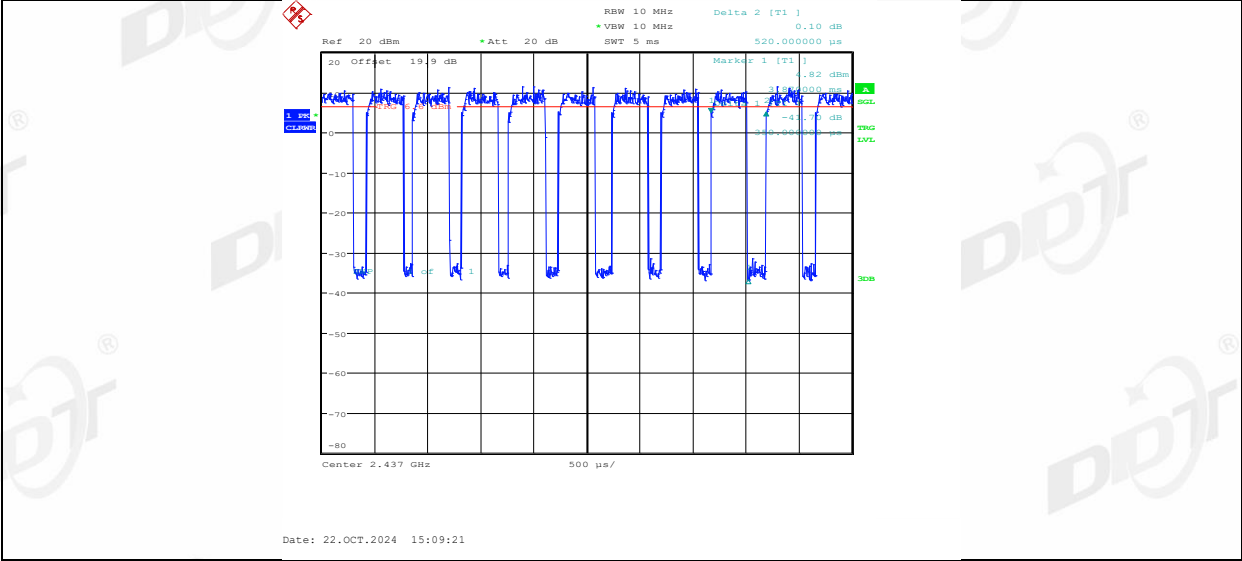
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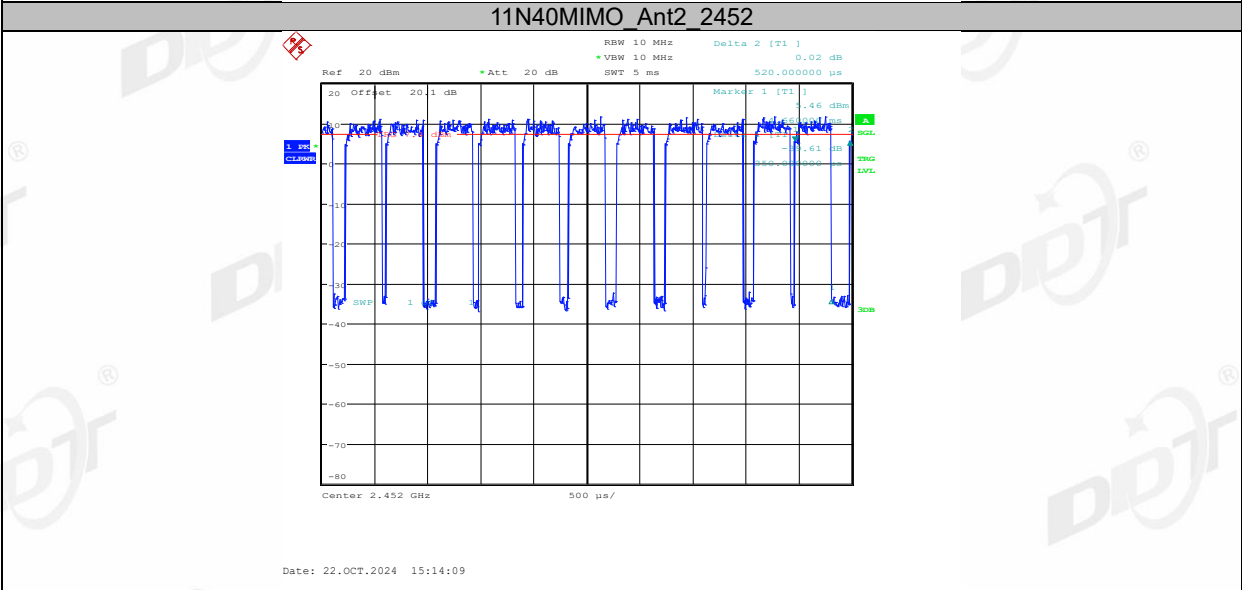
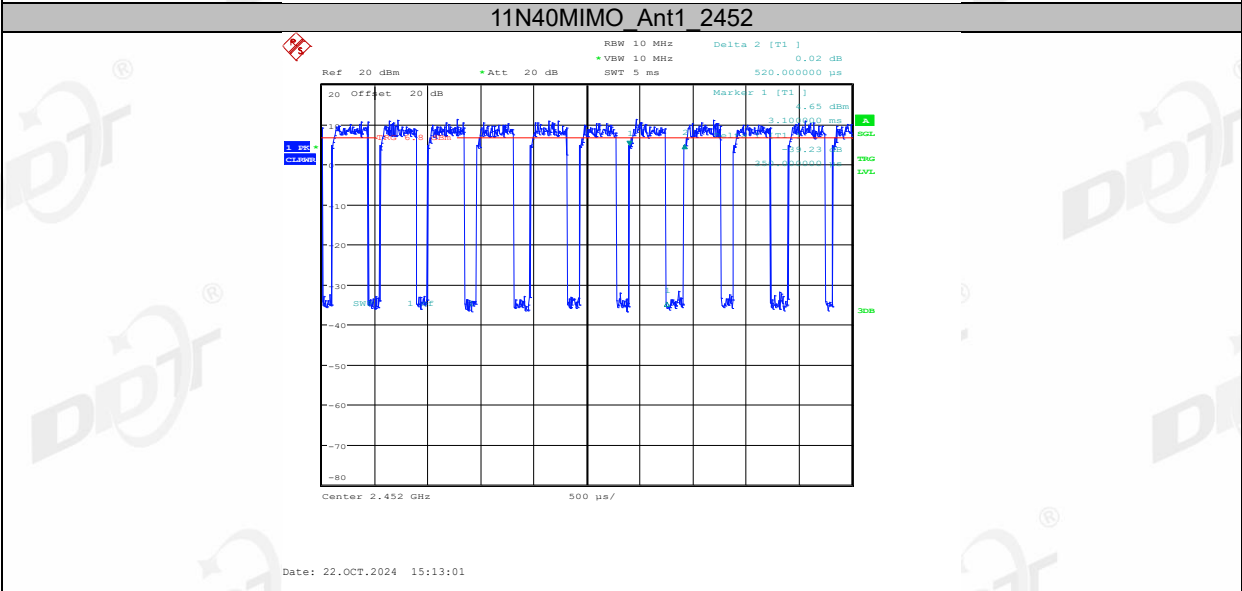
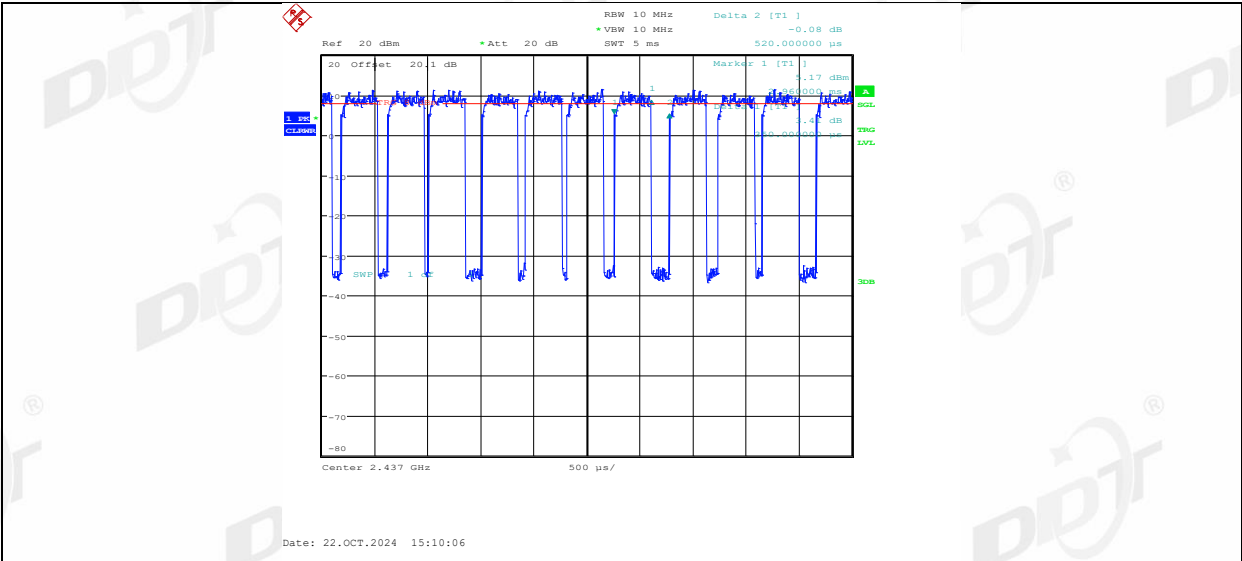
11N40MIMO_Ant2_2422



11N40MIMO_Ant1_2437



11N40MIMO_Ant2_2437



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.

11.2. Result

The antenna used for this product as Antenna information described in section 2.1 of the report, and there is no other antenna than that furnished by the responsible party shall be used with the device.