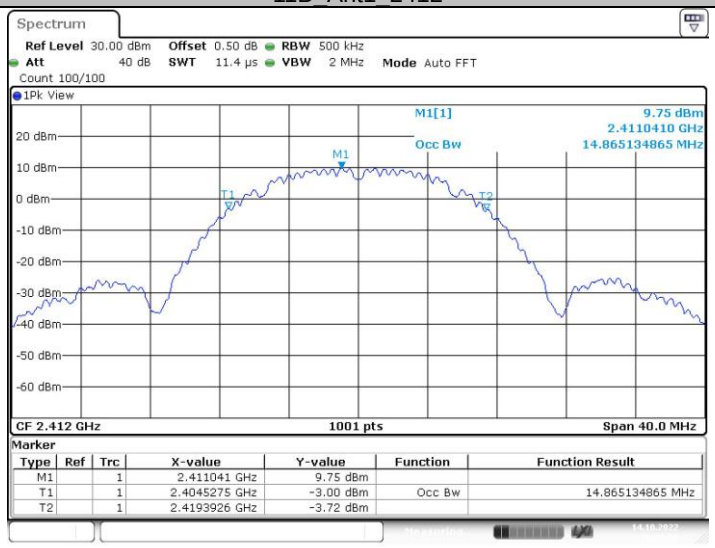
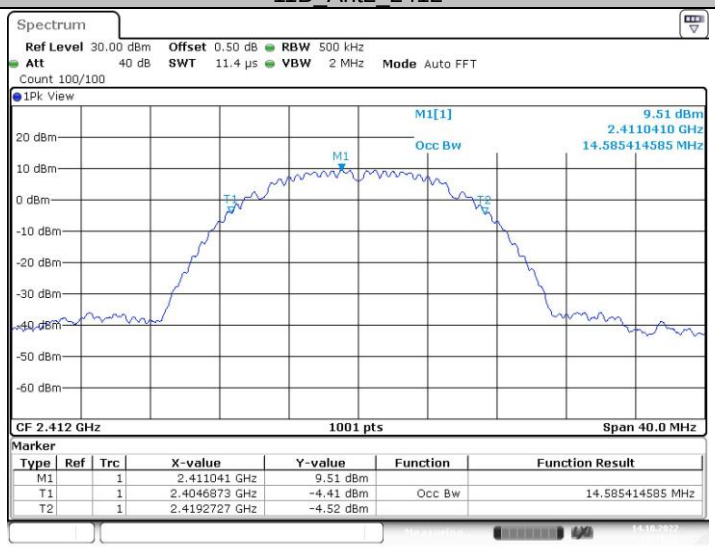
Occupied Channel Bandwidth Test Result

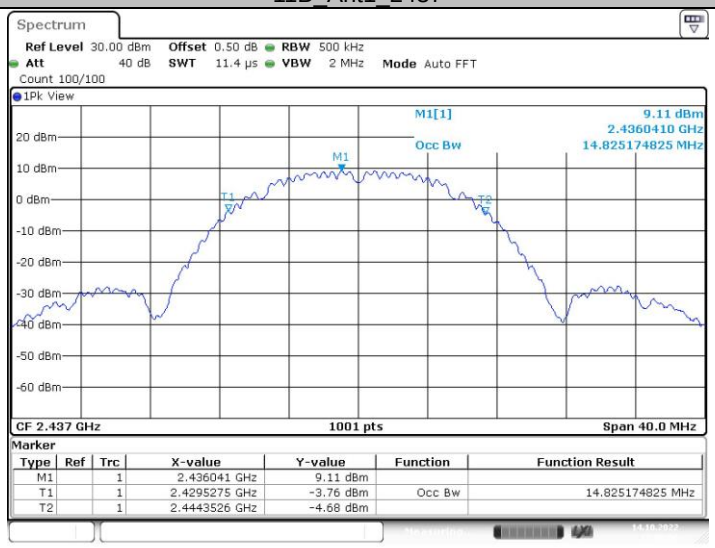
11B_Ant1_2412



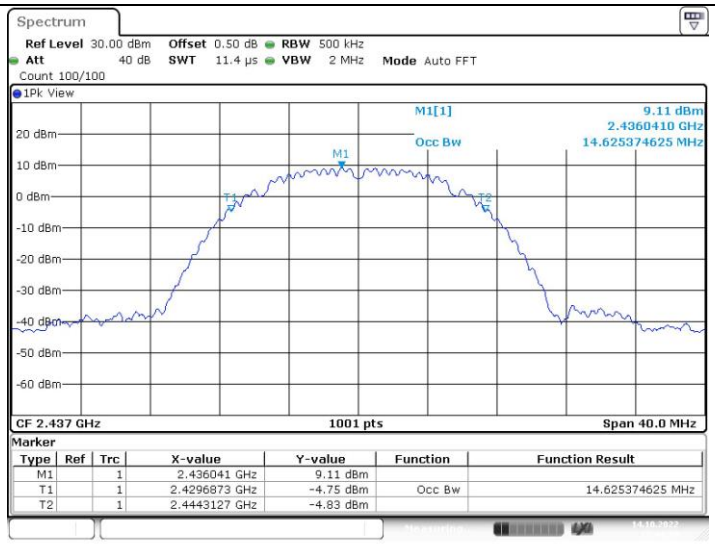
11B_Ant2_2412



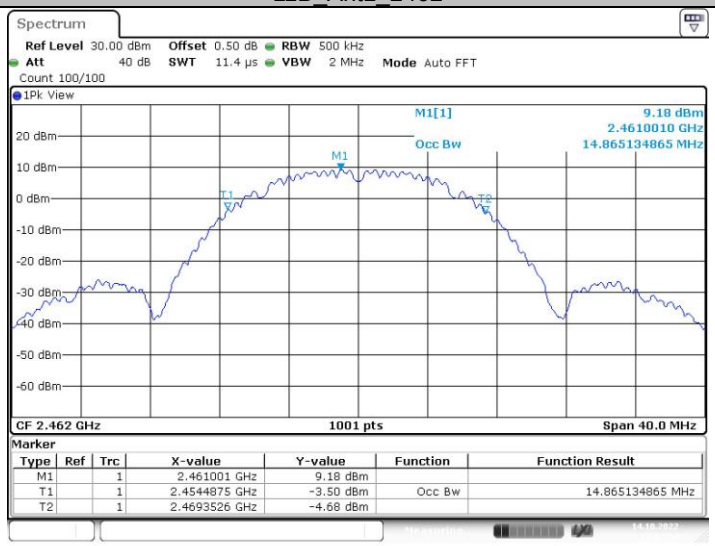
11B_Ant1_2437



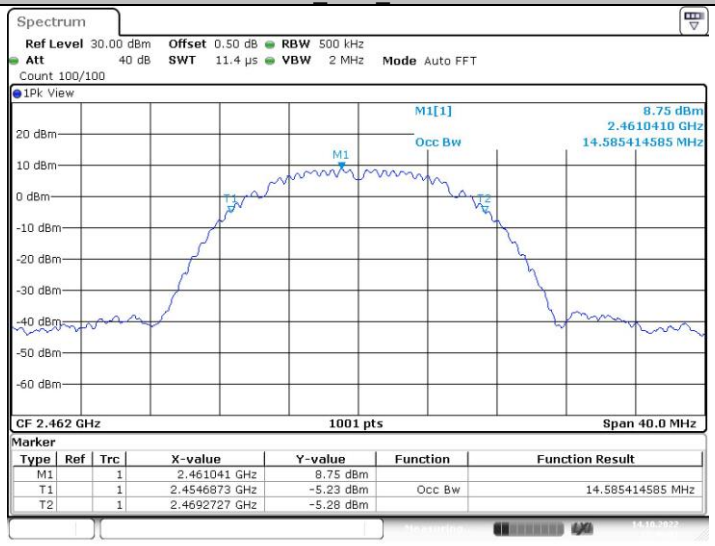
11B_Ant2_2437



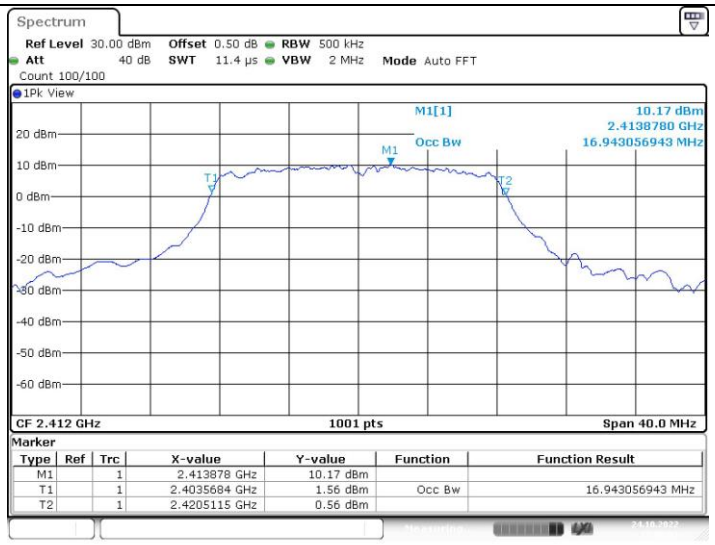
11B_Ant1_2462



11B_Ant2_2462



11G_Ant1_2412



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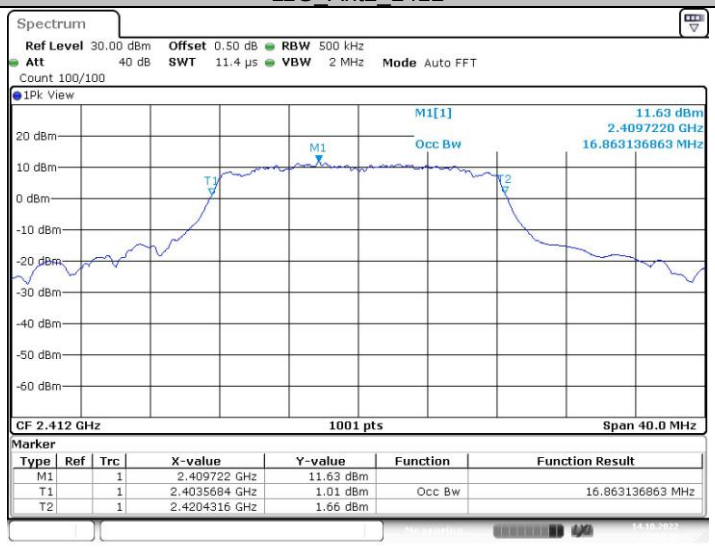
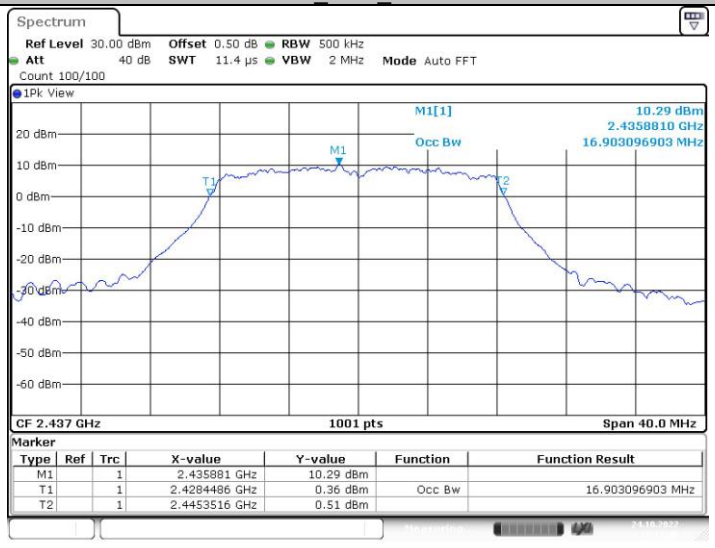


11G_Ant1_2437



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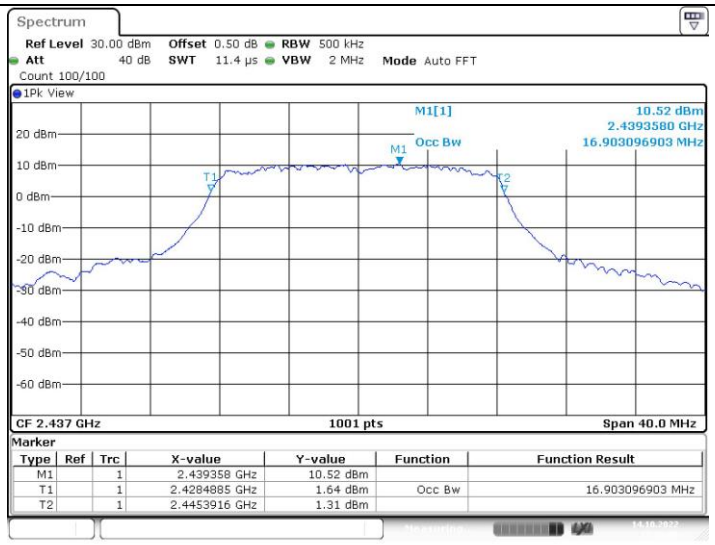

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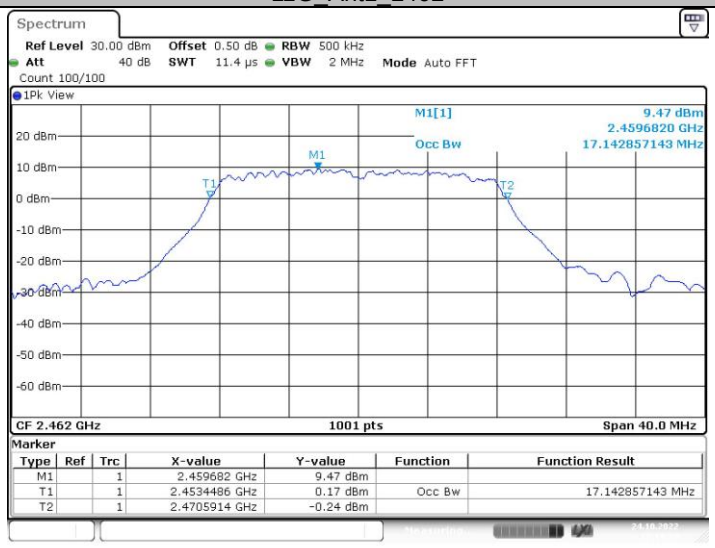

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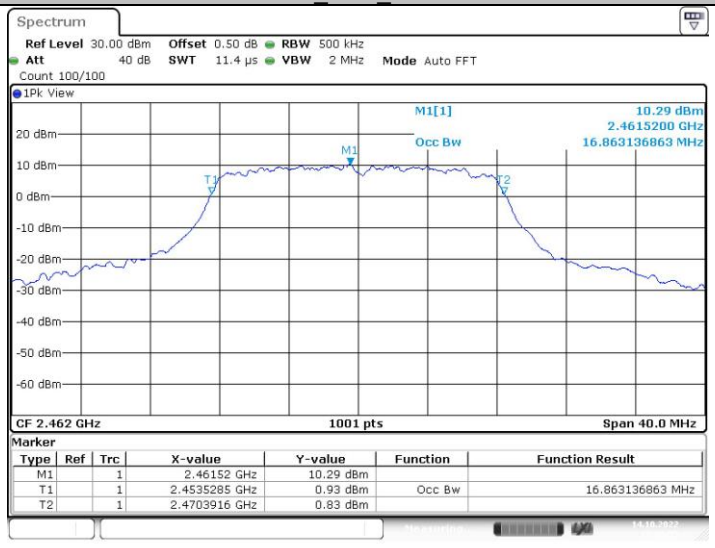
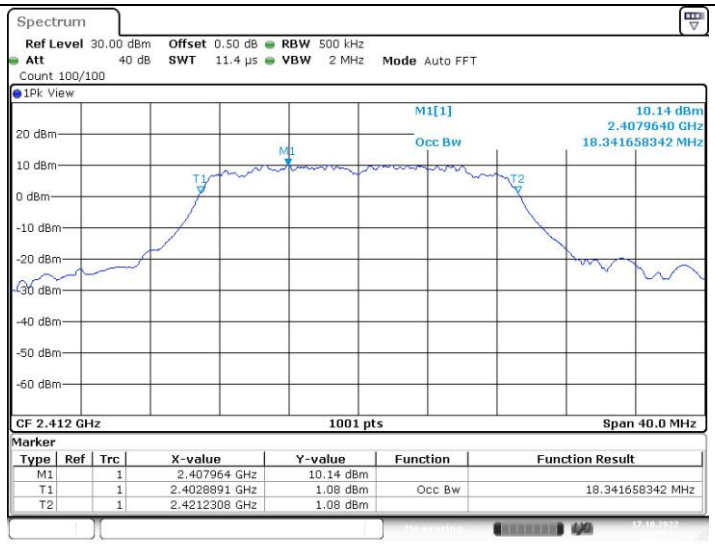
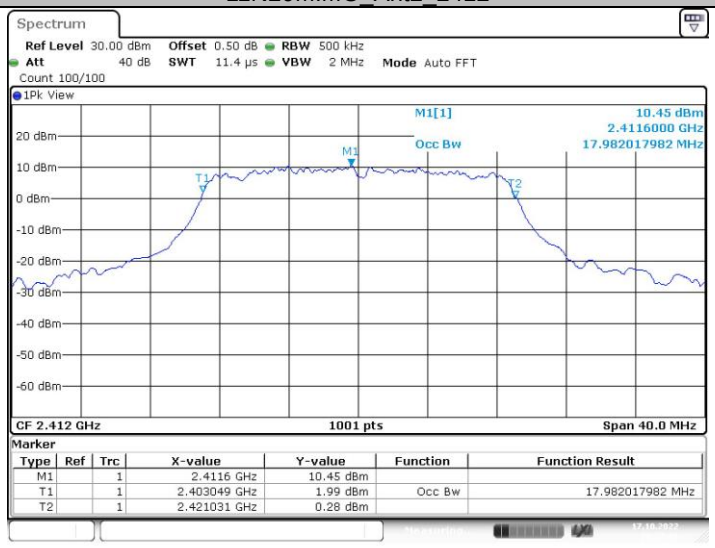


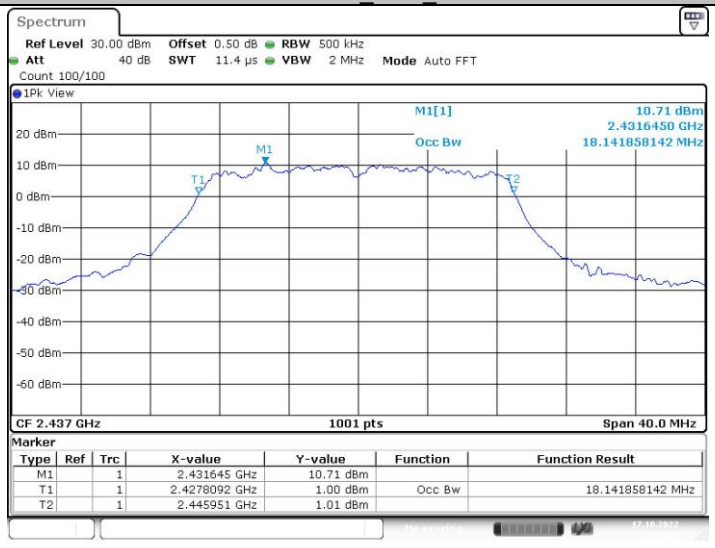
11N20MIMO_Ant1_2412



11N20MIMO_Ant2_2412



11N20MIMO_Ant1_2437



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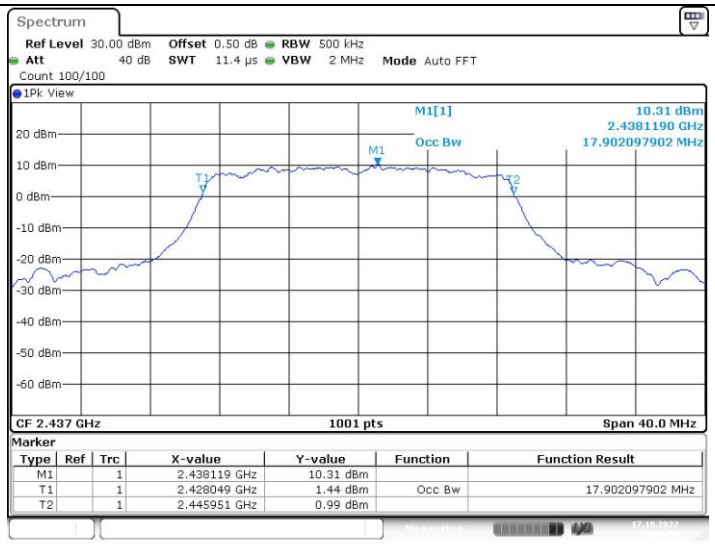
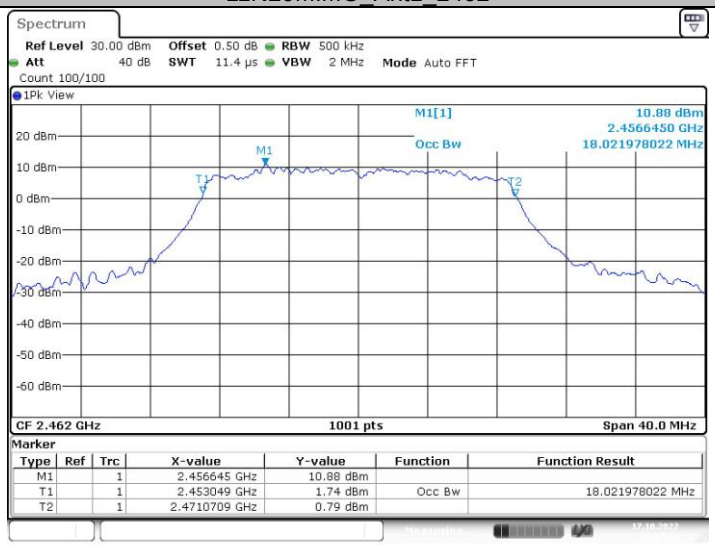
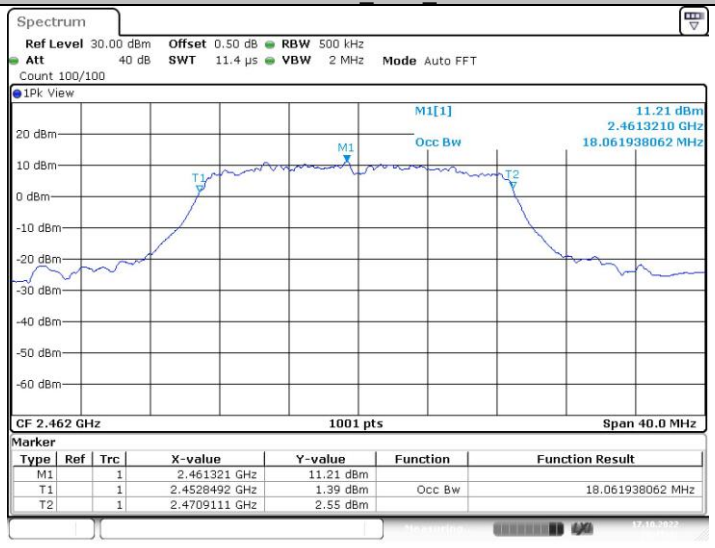


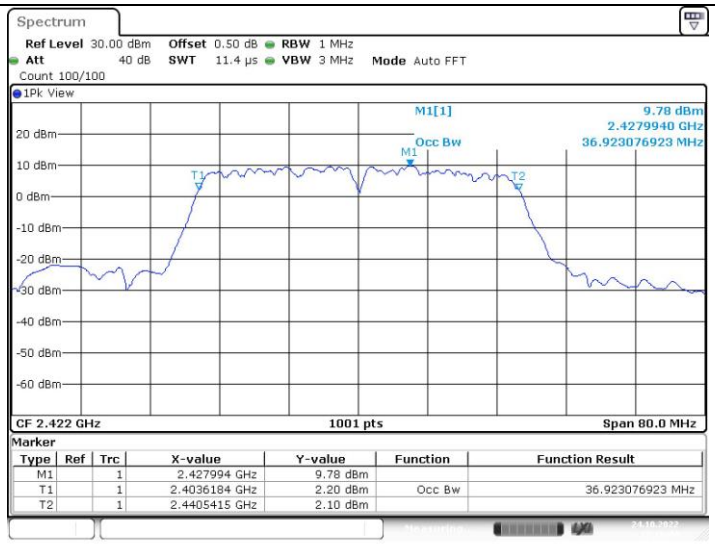
11N20MIMO_Ant1_2462



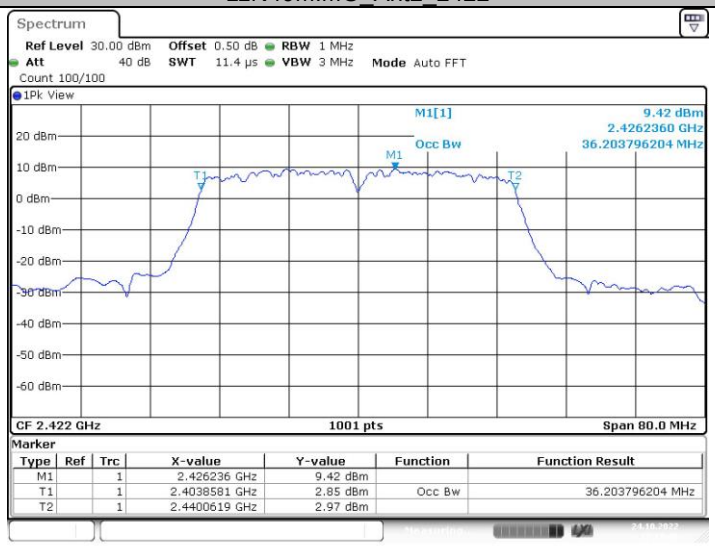
11N20MIMO_Ant2_2462



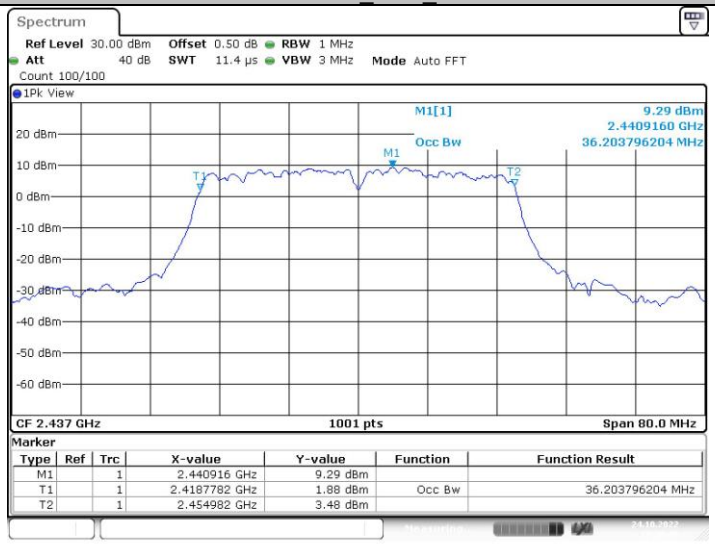
11N40MIMO_Ant1_2422



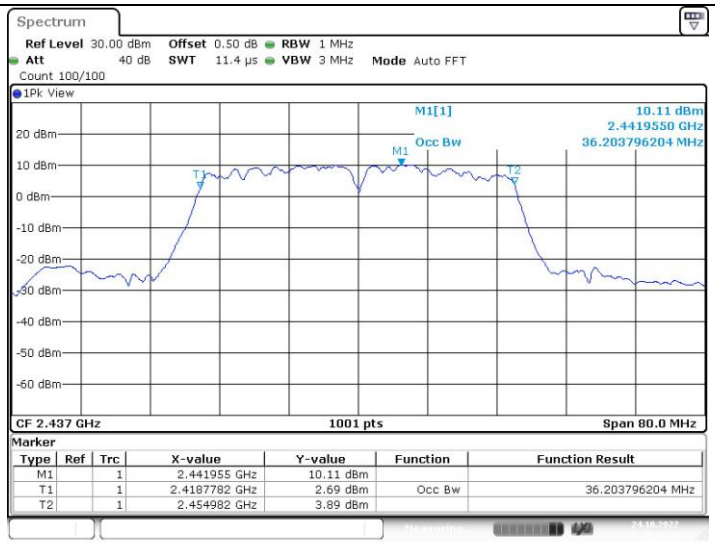
11N40MIMO_Ant2_2422



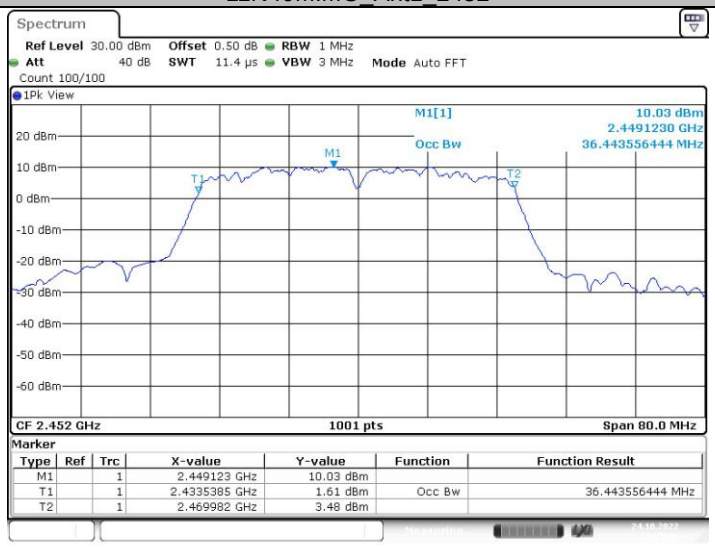
11N40MIMO_Ant1_2437



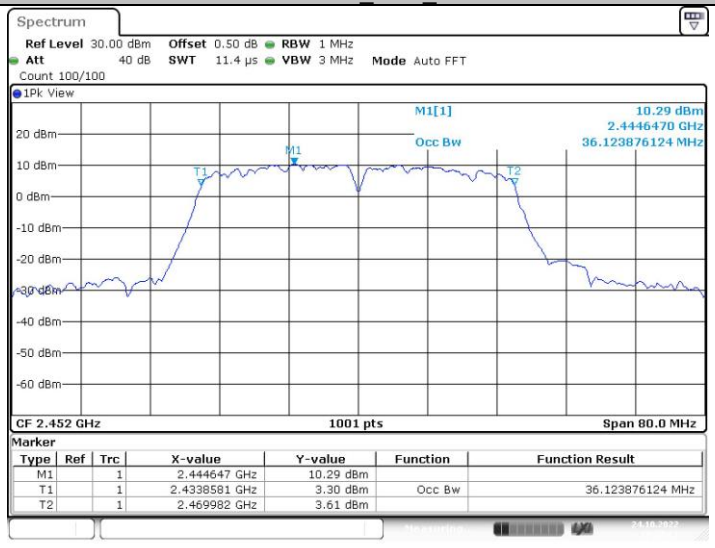
11N40MIMO_Ant2_2437



11N40MIMO_Ant1_2452



11N40MIMO_Ant2_2452



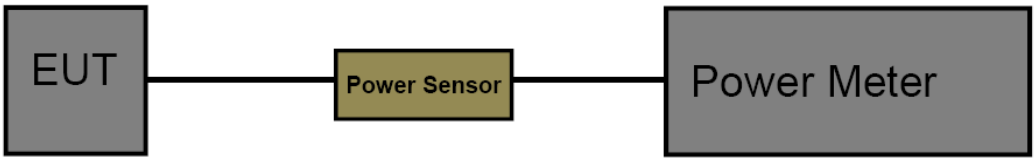
3.6. Output Power

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(3)

Section	Test Item	Limit	Frequency Range(MHz)
CFR 47 FCC 15.247(b)(3)	Maximum conducted output power	1 Watt or 30dBm	2400~2483.5

Test Configuration



Test Procedure

1. The maximum conducted output power may be measured using a broadband RF power meter.
2. Power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor.
3. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.
4. Record the measurement data.

Test Mode

Please refer to the clause 2.3

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	18.73	≤30	PASS
	Ant2	2412	18.45	≤30	PASS
	Ant1	2437	18.07	≤30	PASS
	Ant2	2437	18.06	≤30	PASS
	Ant1	2462	18.14	≤30	PASS
	Ant2	2462	17.70	≤30	PASS
11G	Ant1	2412	17.00	≤30	PASS
	Ant2	2412	17.40	≤30	PASS
	Ant1	2437	16.56	≤30	PASS
	Ant2	2437	17.44	≤30	PASS
	Ant1	2462	16.21	≤30	PASS
	Ant2	2462	17.06	≤30	PASS
11N20MIMO	Ant1	2412	17.19	≤30	PASS
	Ant2	2412	16.87	≤30	PASS
	total	2412	20.0	≤30	PASS
	Ant1	2437	17.00	≤30	PASS
	Ant2	2437	17.04	≤30	PASS
	total	2437	20.0	≤30	PASS
	Ant1	2462	16.97	≤30	PASS
	Ant2	2462	17.28	≤30	PASS
	total	2462	20.1	≤30	PASS
11N40MIMO	Ant1	2422	15.87	≤30	PASS
	Ant2	2422	15.84	≤30	PASS
	total	2422	18.9	≤30	PASS
	Ant1	2437	15.51	≤30	PASS
	Ant2	2437	16.07	≤30	PASS
	total	2437	18.8	≤30	PASS
	Ant1	2452	16.32	≤30	PASS
	Ant2	2452	16.28	≤30	PASS
	total	2452	19.3	≤30	PASS

Note:
1. Test results increased RF cable loss by 0.5dB.

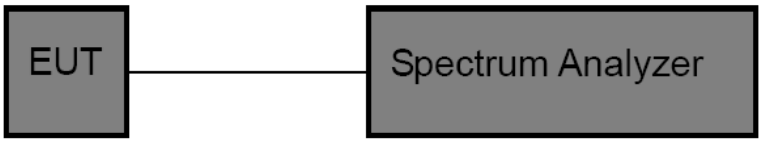
3.7. Power Spectral Density

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (e)

Test Item	Limit	Frequency Range(MHz)
Power Spectral Density	8dBm(in any 3 kHz)	2400~2483.5

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:

a) Set instrument center frequency to DTS channel center frequency.

b) Set span to at least 1.5 times the OBW.

c) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz.

d) Set VBW ≤ [3 × RBW].

e) Detector = power averaging (rms) or sample detector (when rms not available).

f) Ensure that the number of measurement points in the sweep ≥ [2 × span / RBW].

g) Sweep time = auto couple.

h) Employ trace averaging (rms) mode over a minimum of 100 traces.

i) Use the peak marker function to determine the maximum amplitude level.

j) If the measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced).

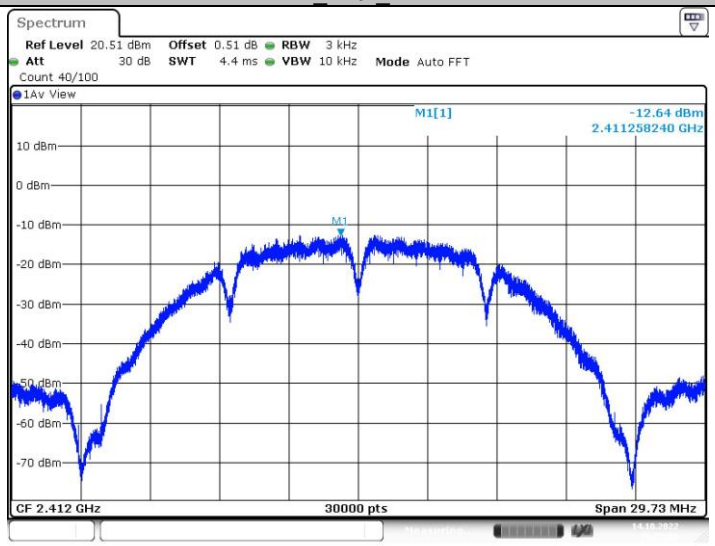
Test Mode

Please refer to the clause 2.3

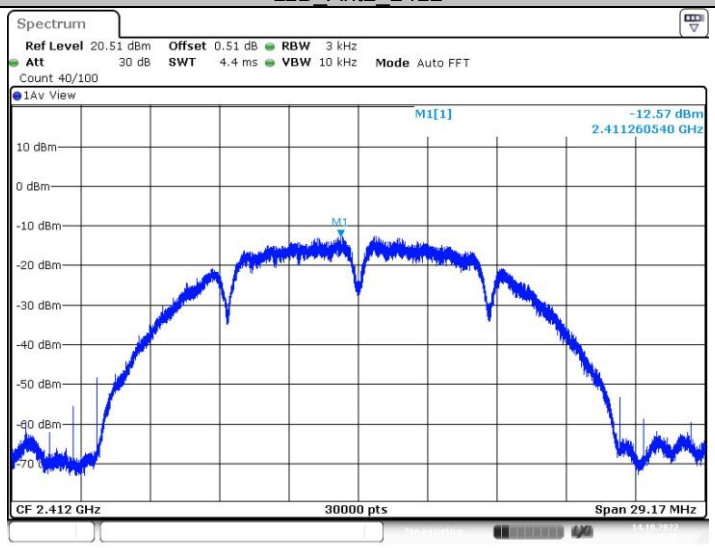
Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-12.64	≤8	PASS
	Ant2	2412	-12.57	≤8	PASS
	Ant1	2437	-11.85	≤8	PASS
	Ant2	2437	-12.97	≤8	PASS
	Ant1	2462	-12.28	≤8	PASS
	Ant2	2462	-13.19	≤8	PASS
11G	Ant1	2412	-12.81	≤8	PASS
	Ant2	2412	-13.02	≤8	PASS
	Ant1	2437	-13.42	≤8	PASS
	Ant2	2437	-13.8	≤8	PASS
	Ant1	2462	-14.5	≤8	PASS
	Ant2	2462	-13.6	≤8	PASS
11N20MIMO	Ant1	2412	-13.41	≤8	PASS
	Ant2	2412	-14.08	≤8	PASS
	total	2412	-10.72	≤8	PASS
	Ant1	2437	-11.61	≤8	PASS
	Ant2	2437	-13.58	≤8	PASS
	total	2437	-9.47	≤8	PASS
	Ant1	2462	-13.27	≤8	PASS
	Ant2	2462	-13.74	≤8	PASS
	total	2462	-10.49	≤8	PASS
11N40MIMO	Ant1	2422	-16.26	≤8	PASS
	Ant2	2422	-16.47	≤8	PASS
	total	2422	-13.35	≤8	PASS
	Ant1	2437	-15.43	≤8	PASS
	Ant2	2437	-15.39	≤8	PASS
	total	2437	-12.40	≤8	PASS
	Ant1	2452	-14.65	≤8	PASS
	Ant2	2452	-16.28	≤8	PASS
	total	2452	-12.38	≤8	PASS

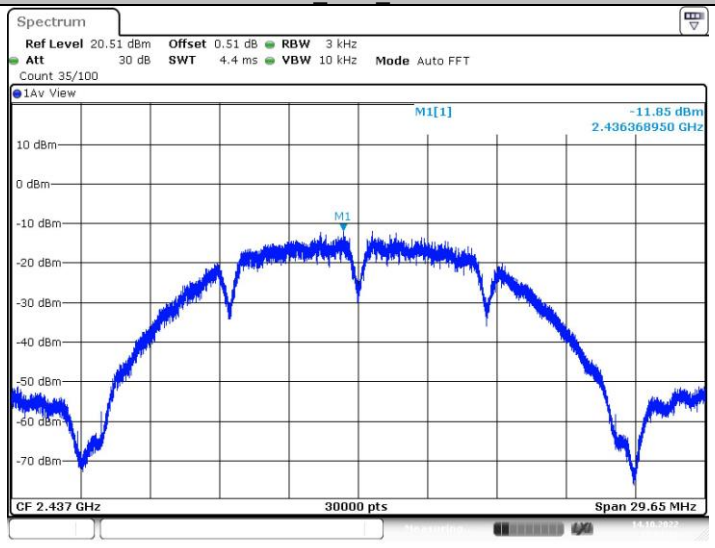
11B_Ant1_2412



11B_Ant2_2412



11B_Ant1_2437



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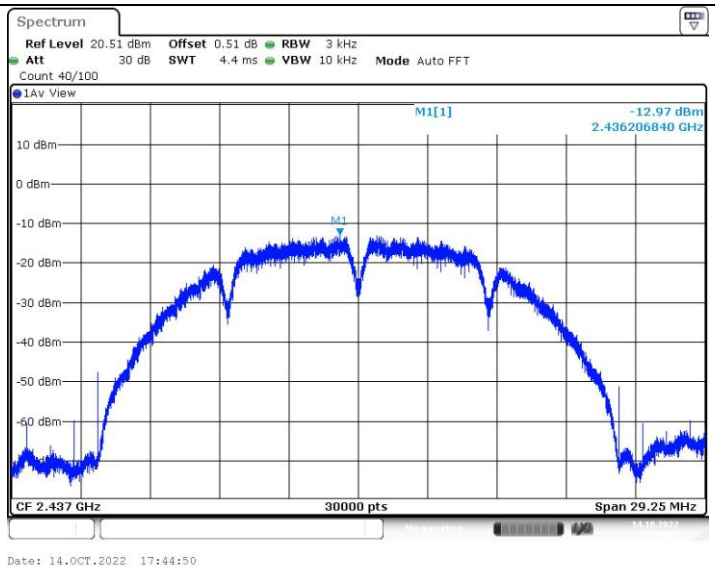
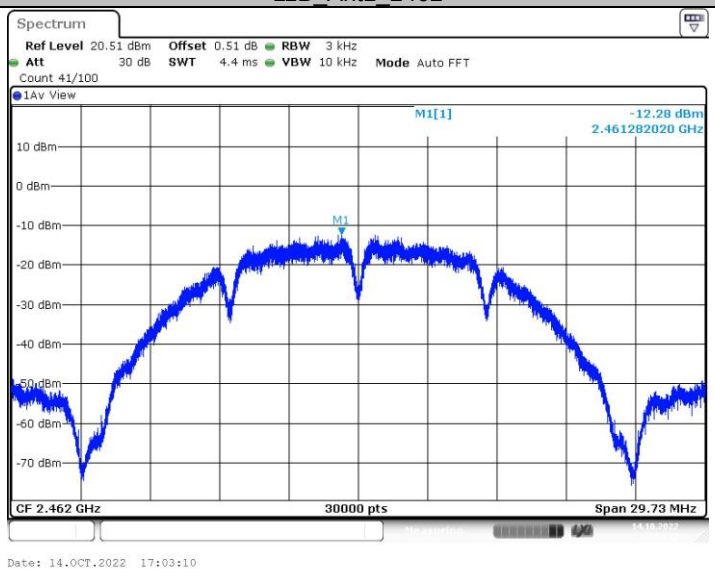
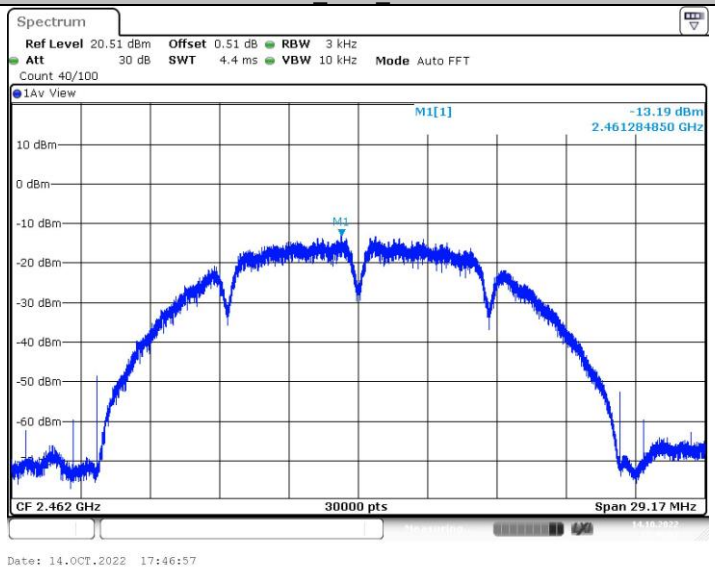


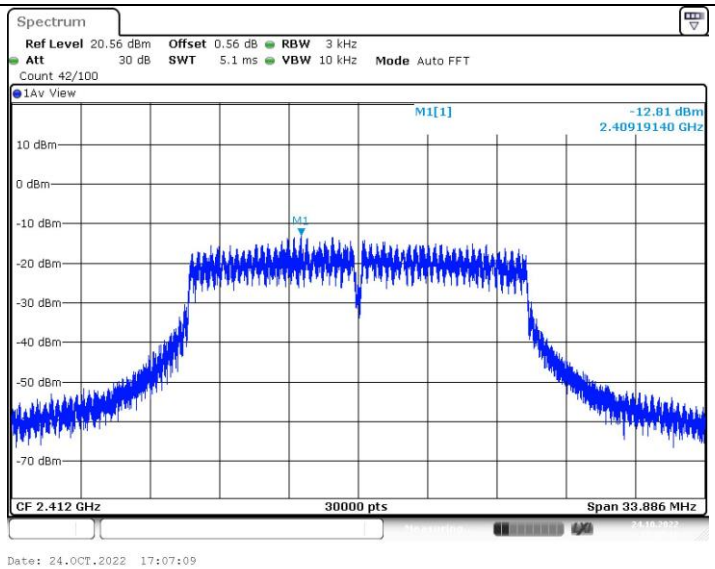
11B_Ant1_2462



11B_Ant2_2462



11G_Ant1_2412



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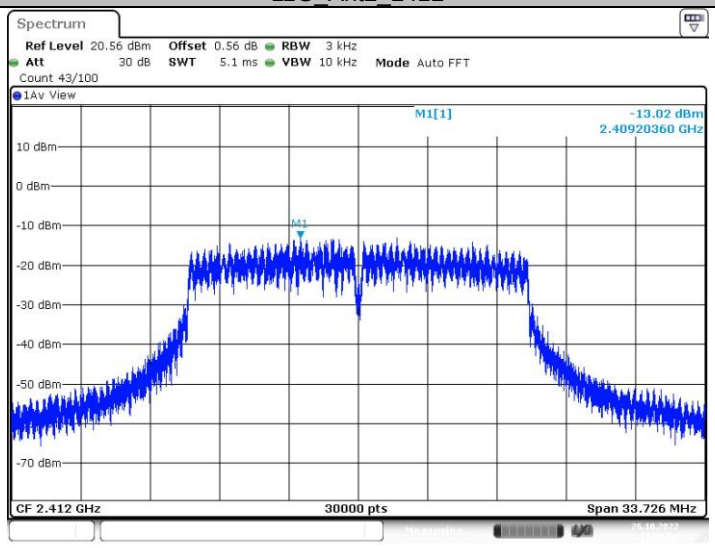

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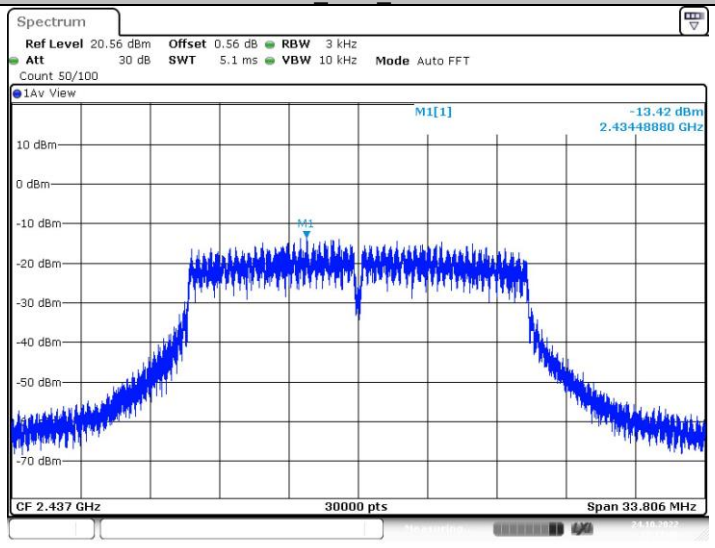

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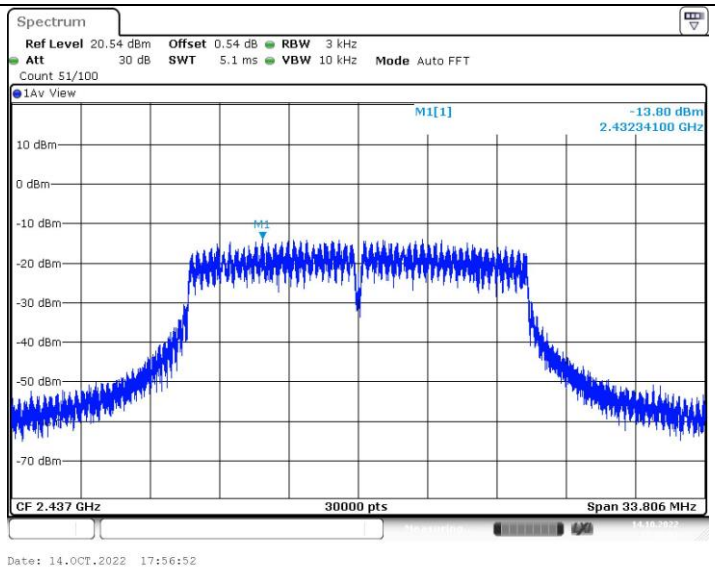

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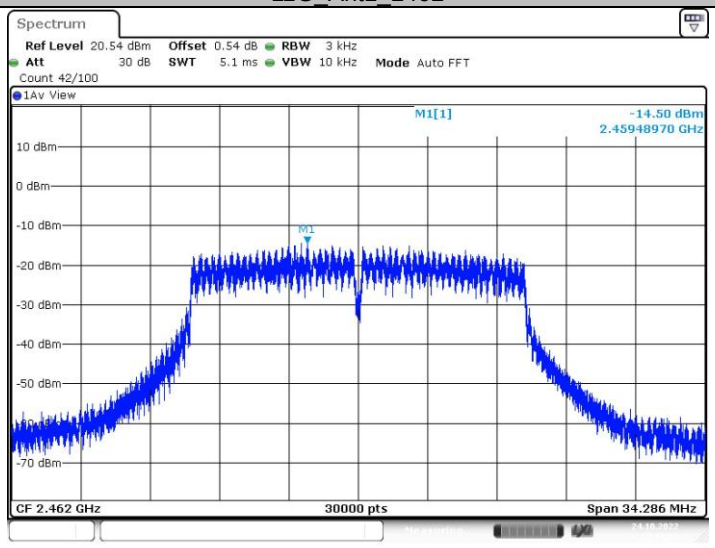
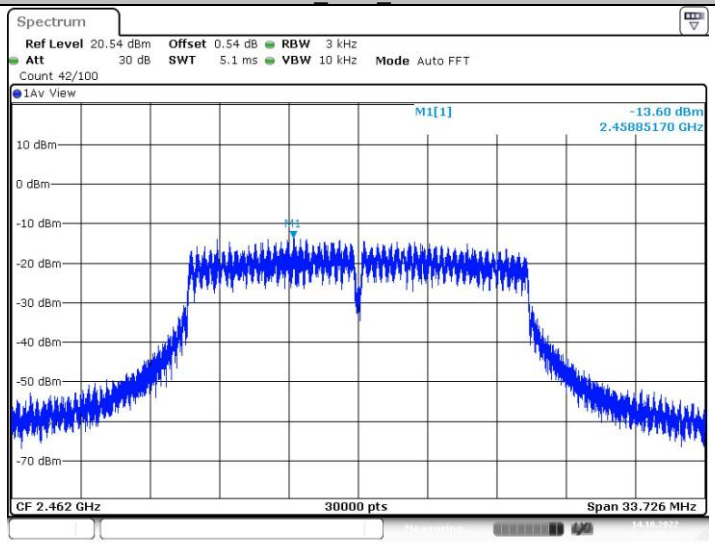
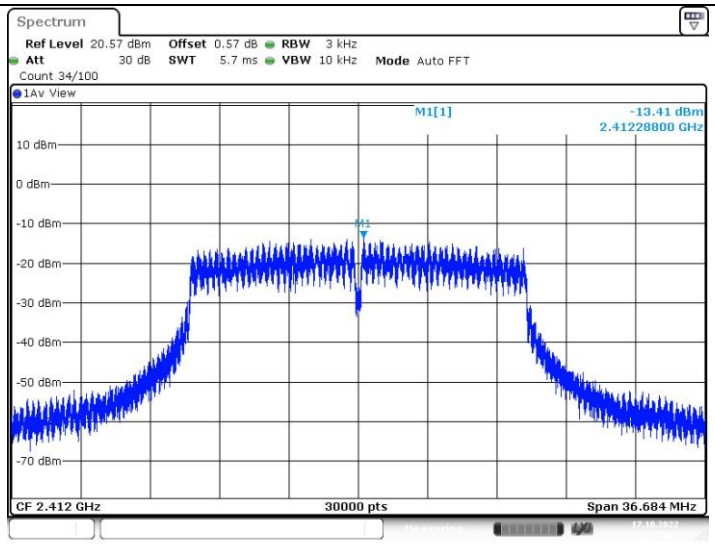


11G_Ant2_2462



11N20MIMO_Ant1_2412



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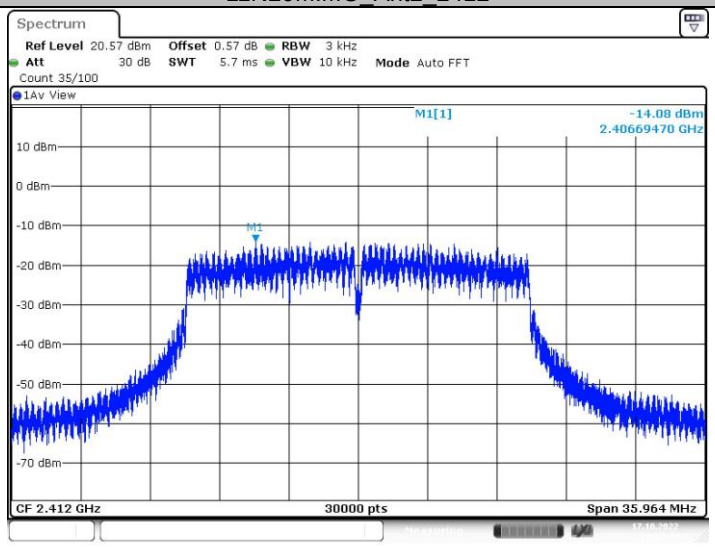

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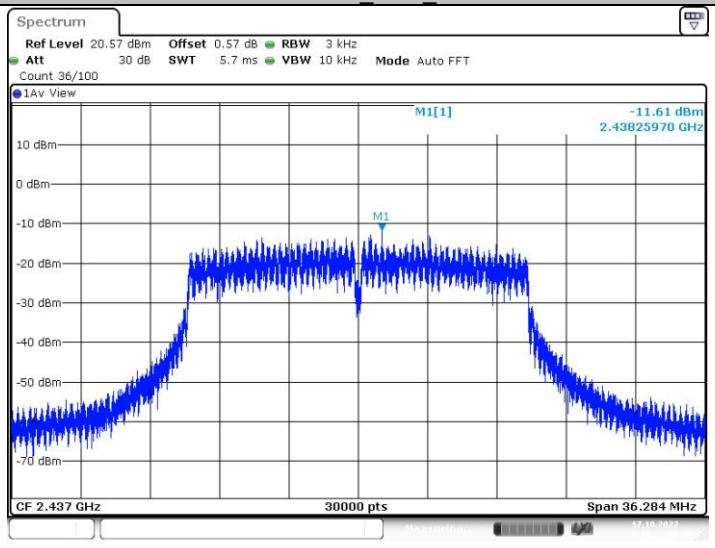
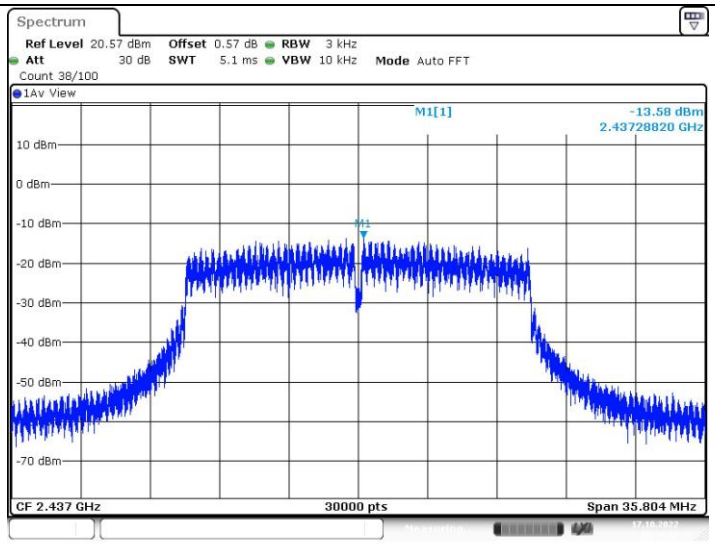


11N20MIMO_Ant2_2437



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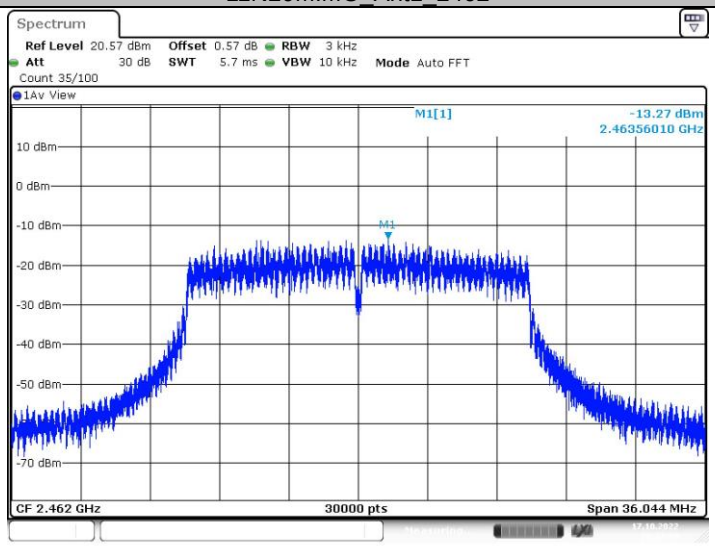

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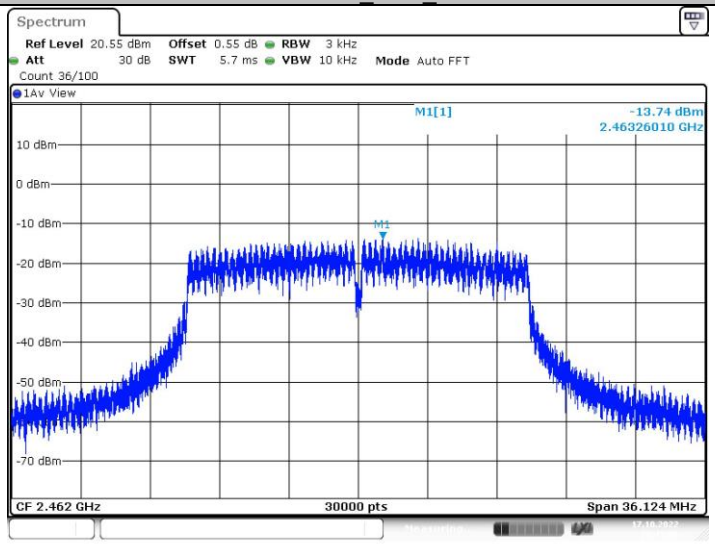

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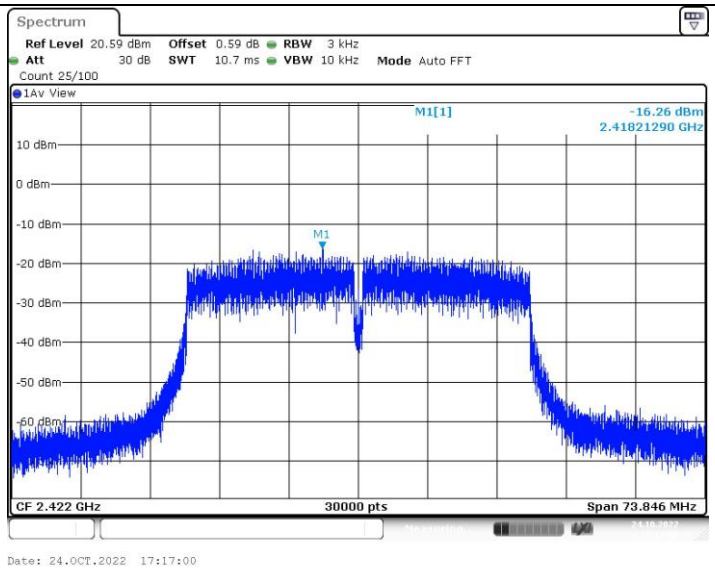
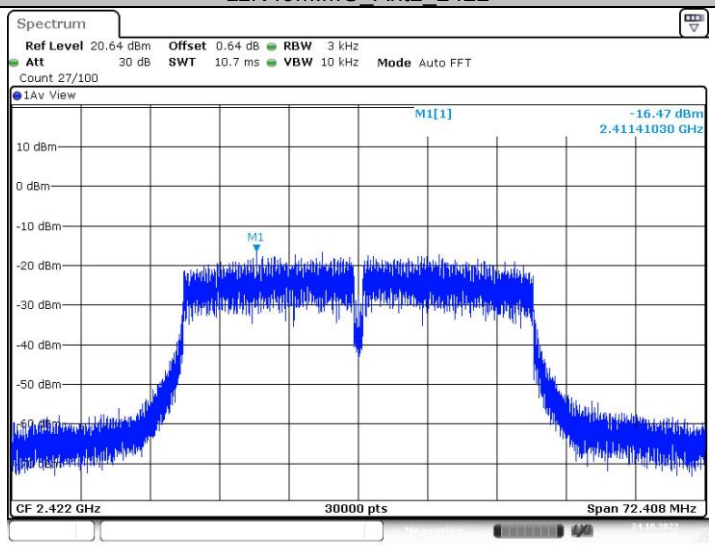
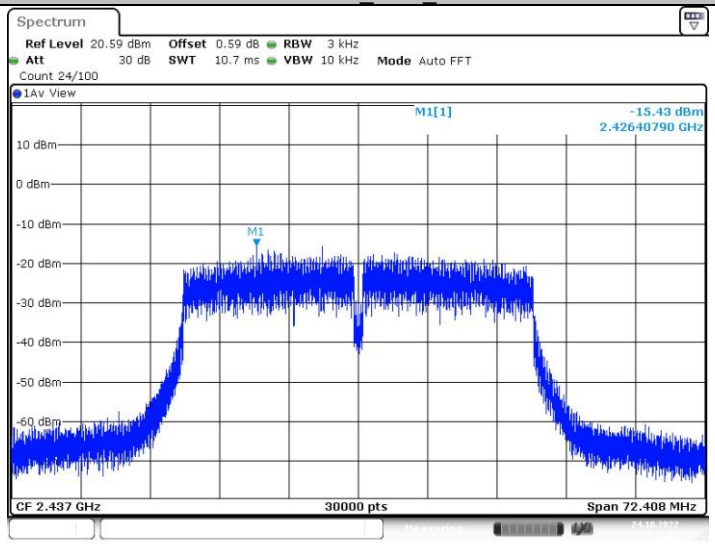


11N40MIMO_Ant2_2422



11N40MIMO_Ant1_2437



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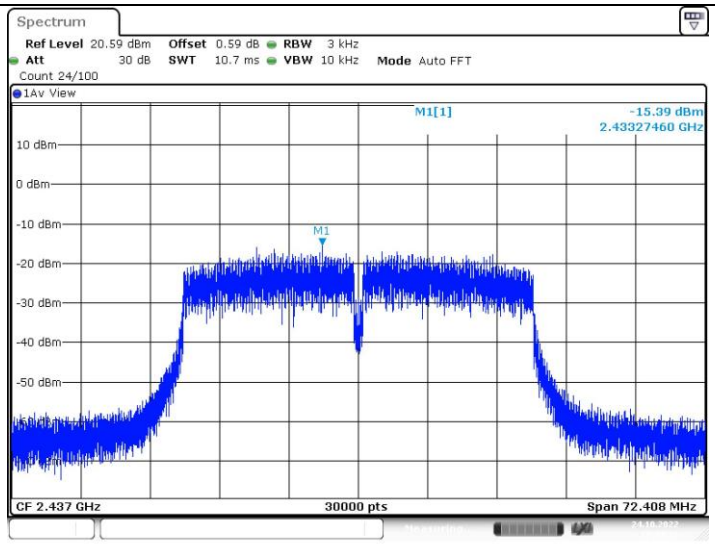

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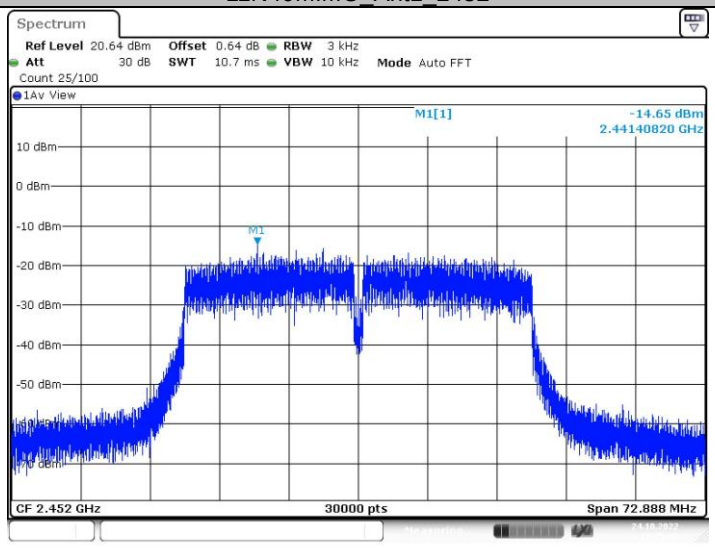

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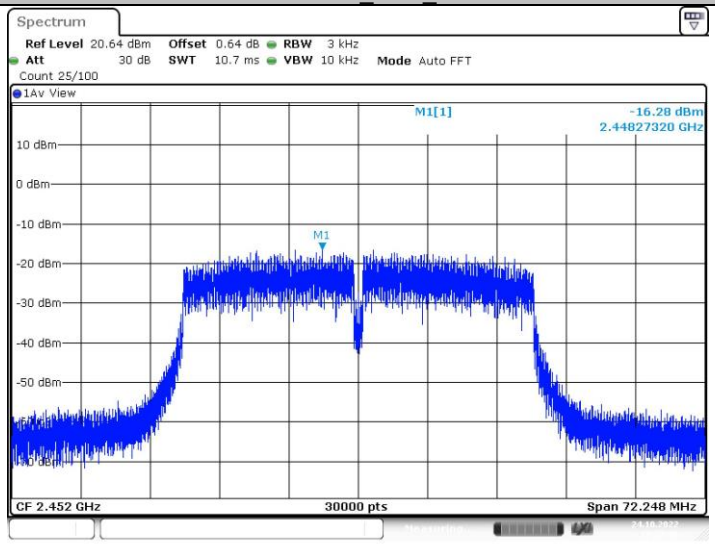

3.8. Antenna requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C 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. The use of a permanently attached antenna or of antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.
FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i):
(i) Systems operating in the 2400~2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

Test Result
The directional gain of the antenna less than 6dBi, please refer to the EUT internal photographs antenna photo.