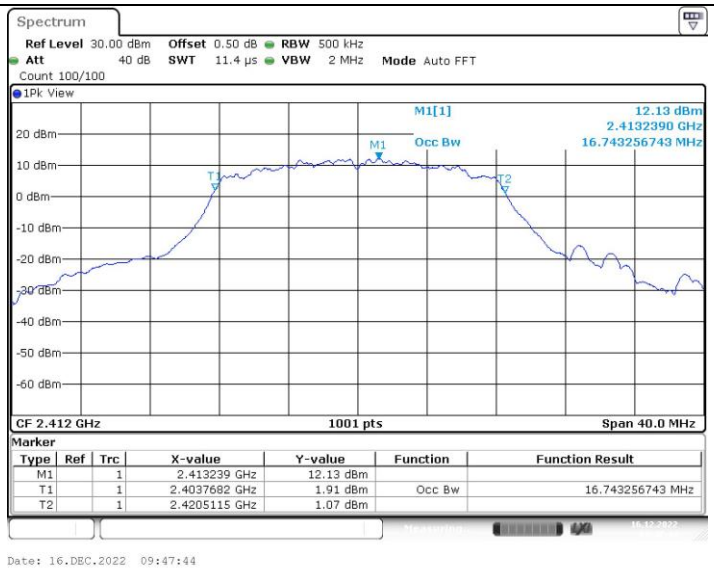

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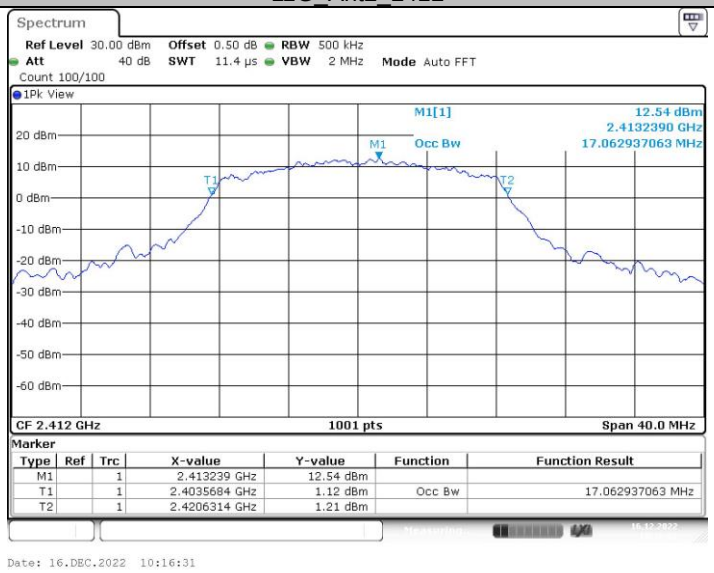

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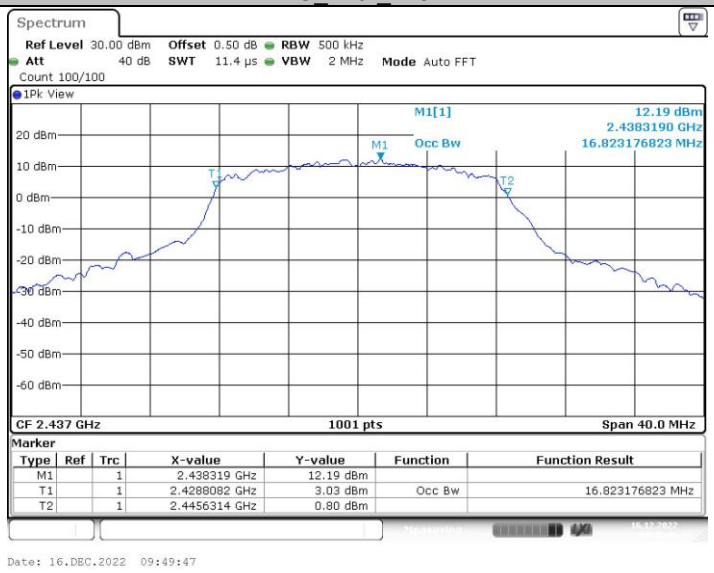

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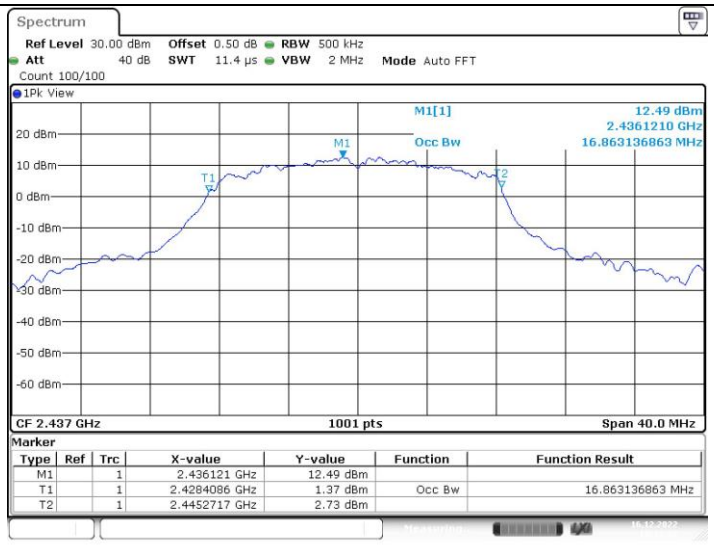

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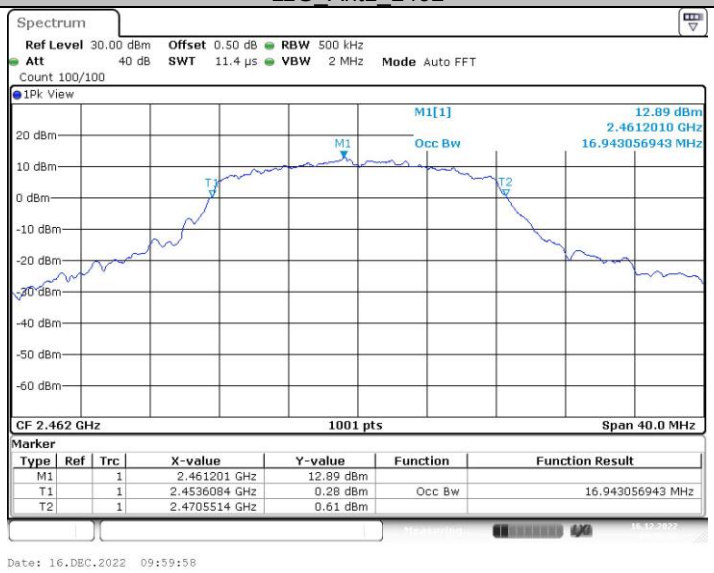

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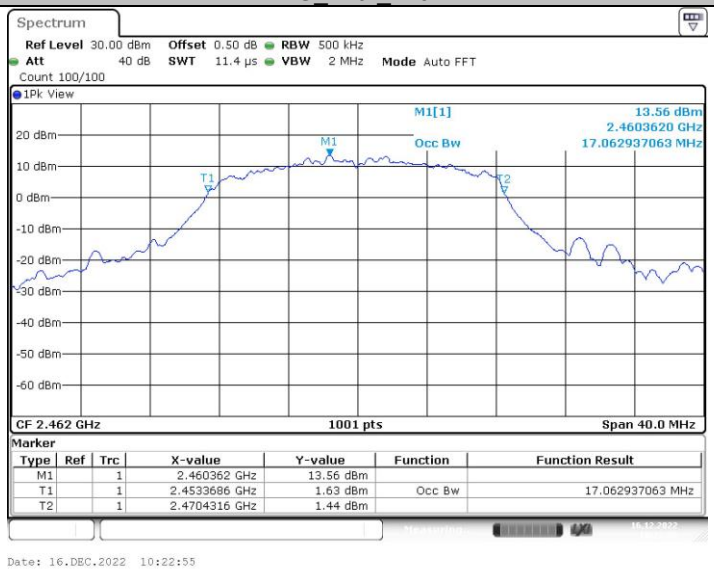

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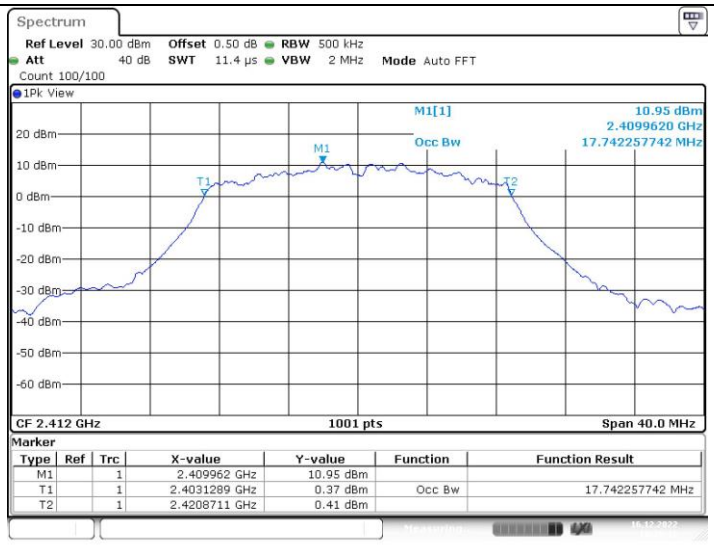

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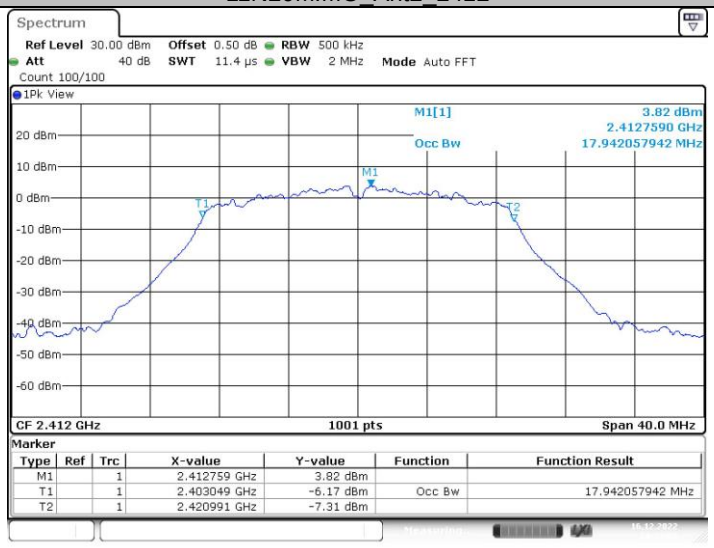

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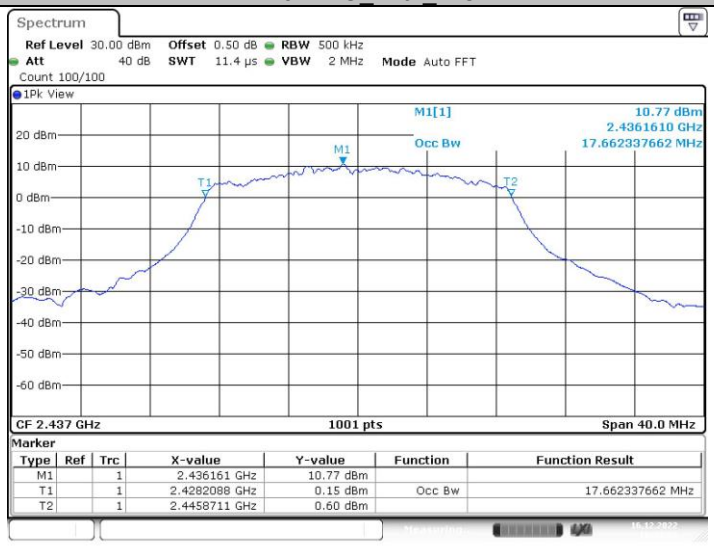

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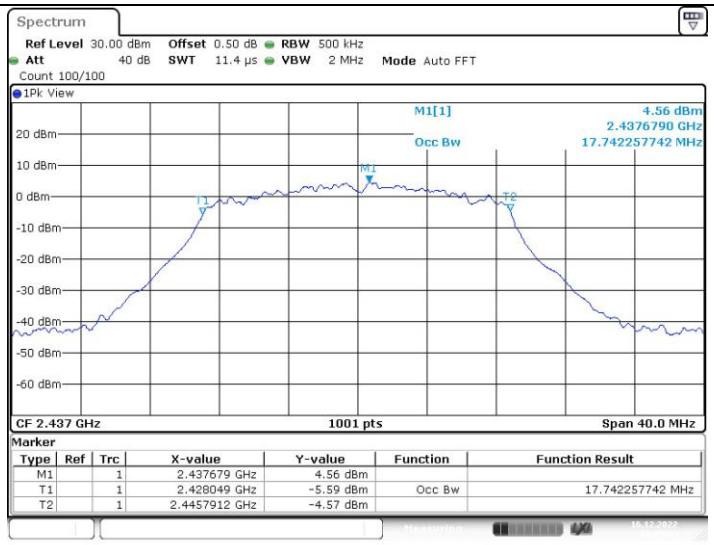

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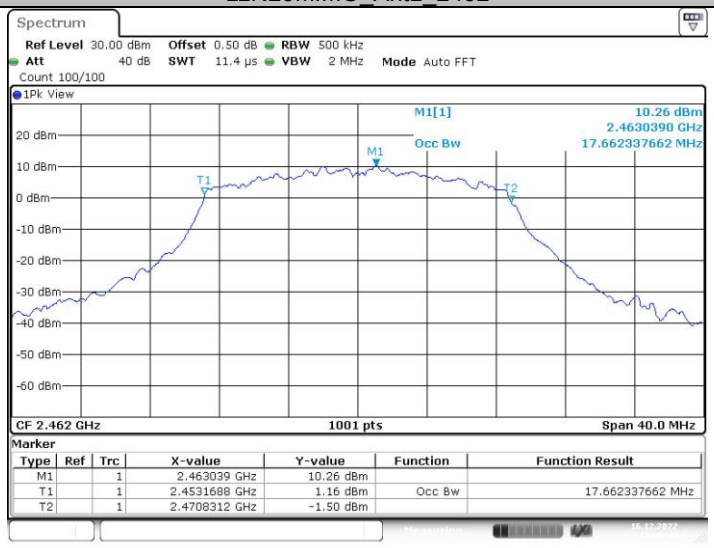

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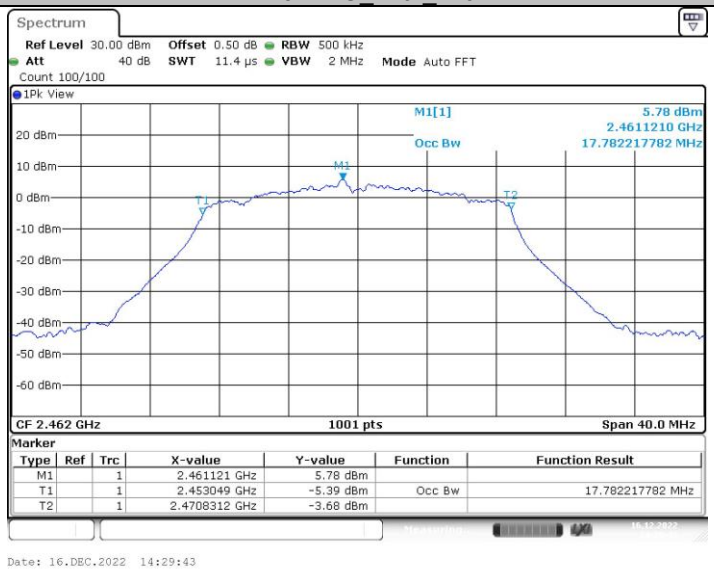

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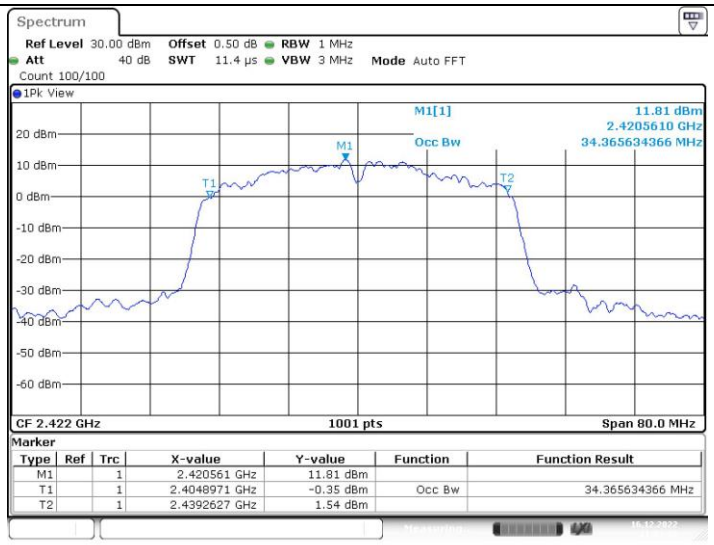

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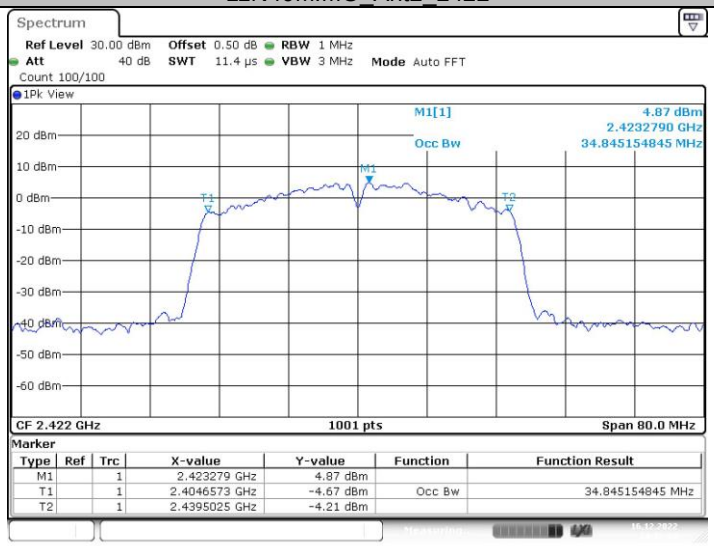

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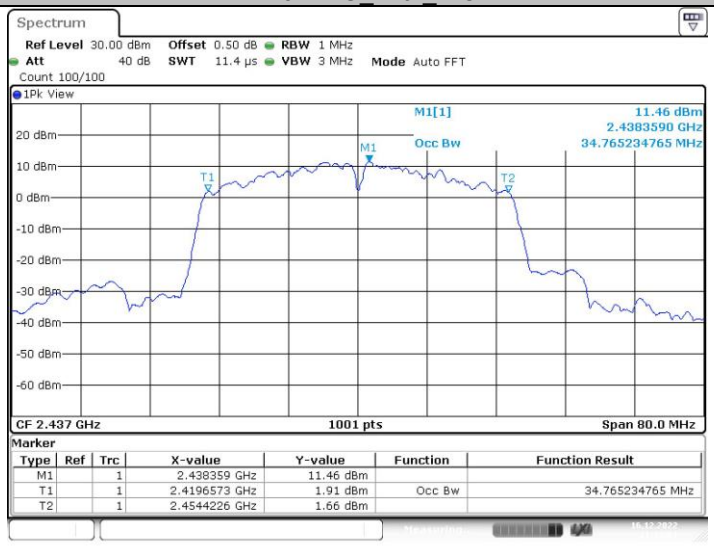

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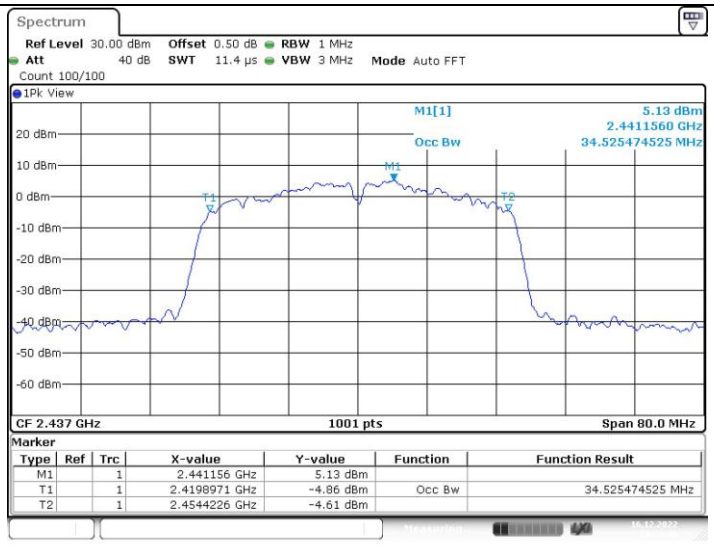
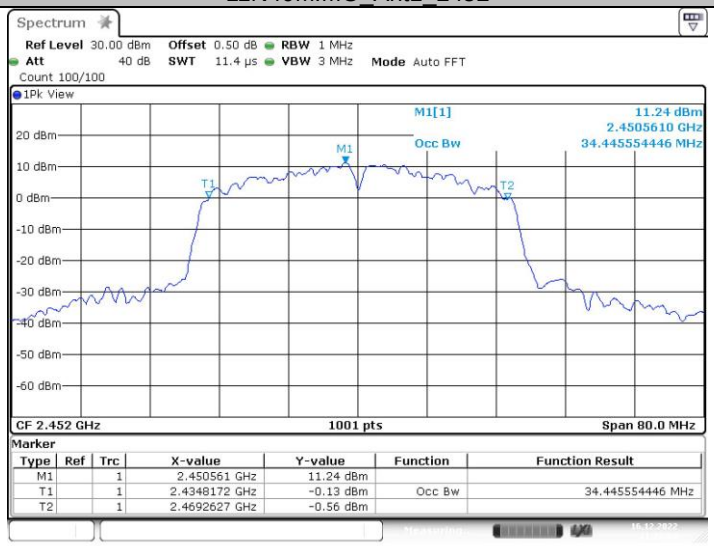


11N40MIMO_Ant1_2452



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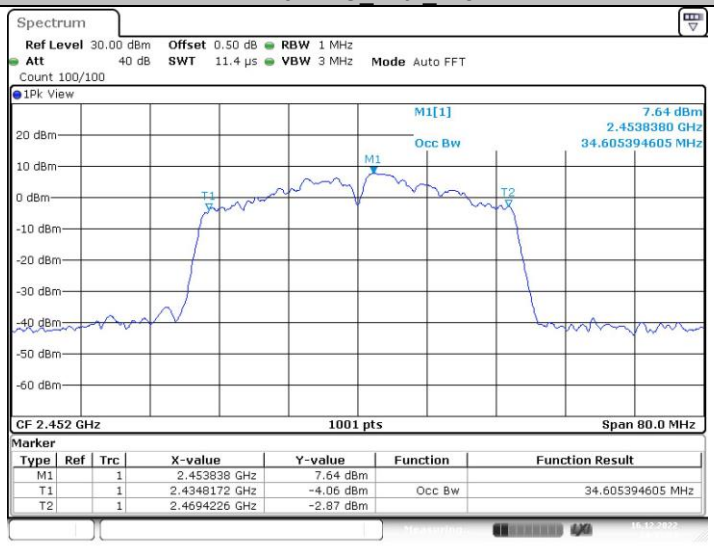


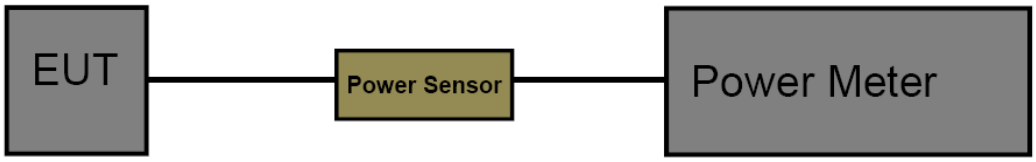
3.6. Peak Output Power

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(3)/ RSS-247 5.4:

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
ISED RSS-247 5.4 d	EIRP	4 Watt or 36dBm	2400~2483.5

Test Configuration



Test Procedure

1. The maximum conducted output power may be measured using a broadband Peak RF power meter.
2. Power measurements were performed only when the EUT was transmitting at its AVG 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 2.4.

Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	17.67	≤30	PASS
	Ant2	2412	16.59	≤30	PASS
	Ant1	2437	17.55	≤30	PASS
	Ant2	2437	17.34	≤30	PASS
	Ant1	2462	17.60	≤30	PASS
	Ant2	2462	17.39	≤30	PASS
11G	Ant1	2412	16.94	≤30	PASS
	Ant2	2412	17.06	≤30	PASS
	Ant1	2437	17.63	≤30	PASS
	Ant2	2437	17.38	≤30	PASS
	Ant1	2462	16.88	≤30	PASS
	Ant2	2462	17.54	≤30	PASS
11N20MIMO	Ant1	2412	15.16	≤28.75	PASS
	Ant2	2412	8.58	≤28.75	PASS
	total	2412	16.00	≤28.75	PASS
	Ant1	2437	15.20	≤28.75	PASS
	Ant2	2437	9.29	≤28.75	PASS
	total	2437	16.20	≤28.75	PASS
	Ant1	2462	15.36	≤28.75	PASS
	Ant2	2462	9.47	≤28.75	PASS
	total	2462	16.40	≤28.75	PASS
11N40MIMO	Ant1	2422	14.75	≤28.75	PASS
	Ant2	2422	8.86	≤28.75	PASS
	total	2422	15.70	≤28.75	PASS
	Ant1	2437	14.76	≤28.75	PASS
	Ant2	2437	8.99	≤28.75	PASS
	total	2437	15.80	≤28.75	PASS
	Ant1	2452	14.37	≤28.75	PASS
	Ant2	2452	9.88	≤28.75	PASS
	total	2452	15.70	≤28.75	PASS

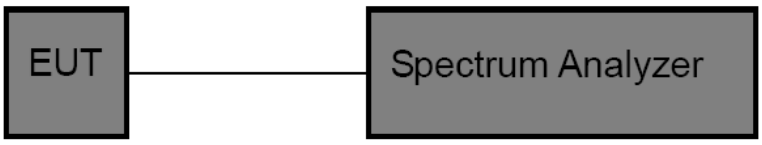
3.7. Power Spectral Density

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (e)/ RSS-247 5.2 b:

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:

Set analyzer center frequency to DTS channel center frequency.
Set the span to 1.5 times the DTS bandwidth.
Set the RBW to: 3 kHz
Set the VBW to: 10 kHz
Detector: Avg
Sweep time: Auto
Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

Please refer to the clause 2.4.

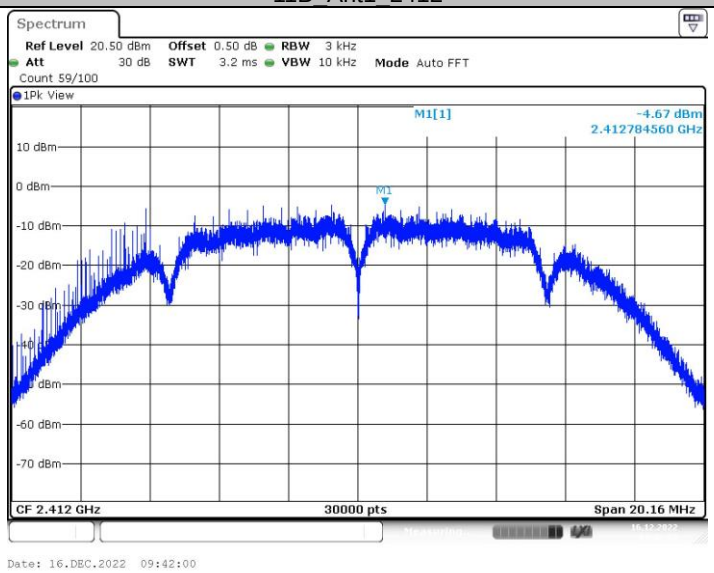
Test Result

Test Mode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-4.67	≤8	PASS
	Ant2	2412	-5.93	≤8	PASS
	Ant1	2437	-4.49	≤8	PASS
	Ant2	2437	-4.25	≤8	PASS
	Ant1	2462	-4.35	≤8	PASS
	Ant2	2462	-3.15	≤8	PASS
11G	Ant1	2412	-7.55	≤8	PASS
	Ant2	2412	-7.26	≤8	PASS
	Ant1	2437	-8.74	≤8	PASS
	Ant2	2437	-7.78	≤8	PASS
	Ant1	2462	-8.45	≤8	PASS
	Ant2	2462	-8.08	≤8	PASS
11N20MIMO	Ant1	2412	-9.14	≤6.75	PASS
	Ant2	2412	-15.29	≤6.75	PASS
	total	2412	-8.20	≤6.75	PASS
	Ant1	2437	-9.04	≤6.75	PASS
	Ant2	2437	-14.79	≤6.75	PASS
	total	2437	-8.02	≤6.75	PASS
	Ant1	2462	-9.63	≤6.75	PASS
	Ant2	2462	-14.49	≤6.75	PASS
	total	2462	-8.40	≤6.75	PASS
11N40MIMO	Ant1	2422	-11.48	≤6.75	PASS
	Ant2	2422	-17.00	≤6.75	PASS
	total	2422	-10.41	≤6.75	PASS
	Ant1	2437	-11.61	≤6.75	PASS
	Ant2	2437	-16.37	≤6.75	PASS
	total	2437	-10.36	≤6.75	PASS
	Ant1	2452	-10.67	≤6.75	PASS
	Ant2	2452	-15.79	≤6.75	PASS
	total	2452	-9.51	≤6.75	PASS

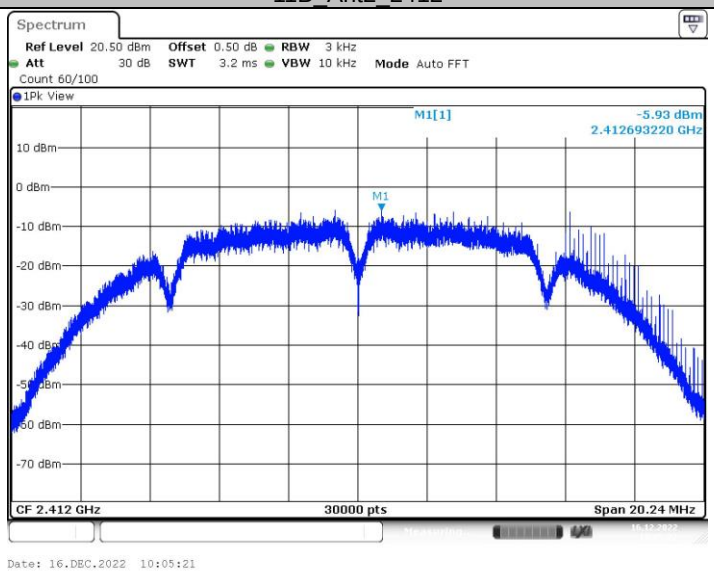
*Note: 1. Duty Cycle Correction Factor = 10*log(1/duty cycle)*
2. The Duty Cycle Correction Factor is compensated in the graph.

Test Graphs:

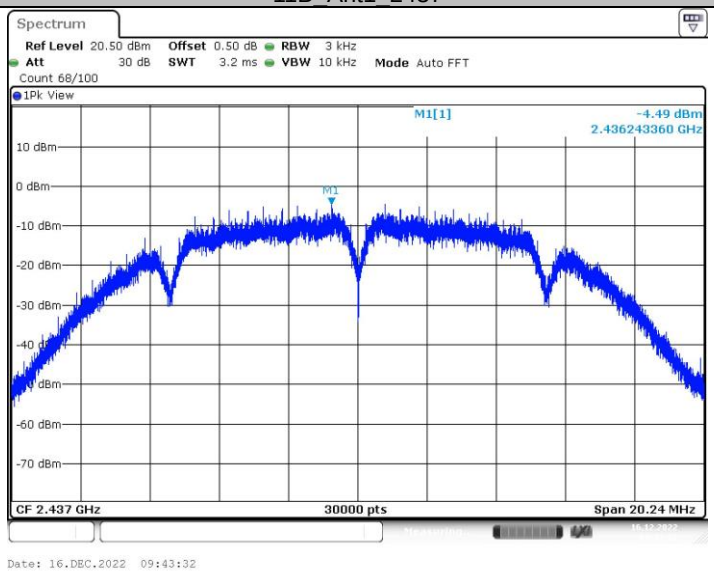
11B_Ant1_2412



11B_Ant2_2412



11B_Ant1_2437



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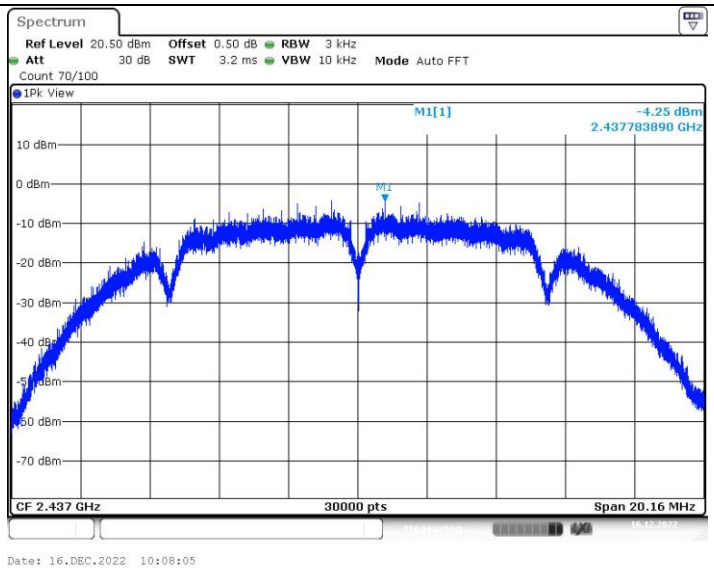

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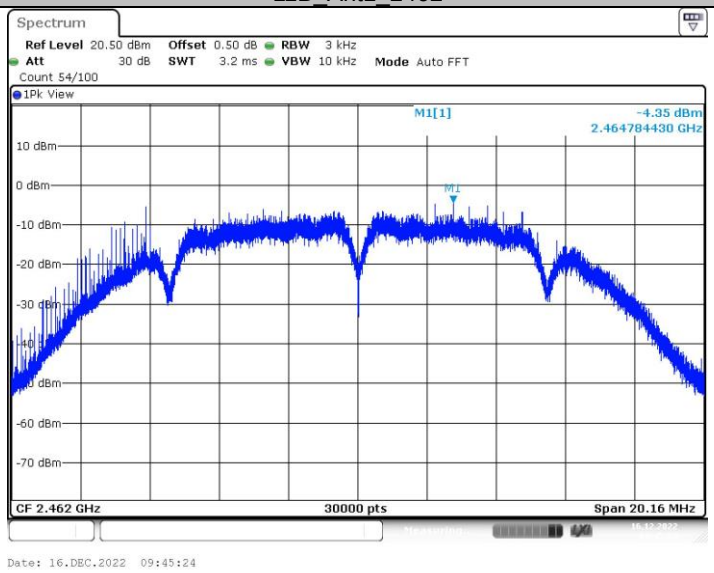

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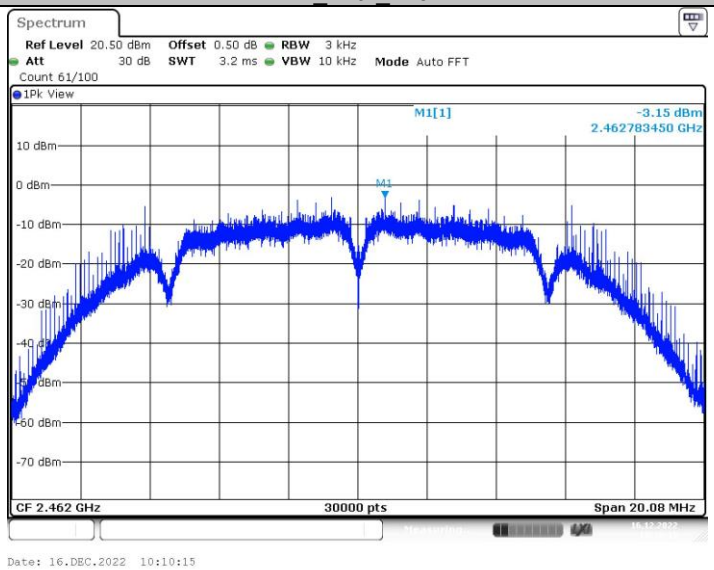

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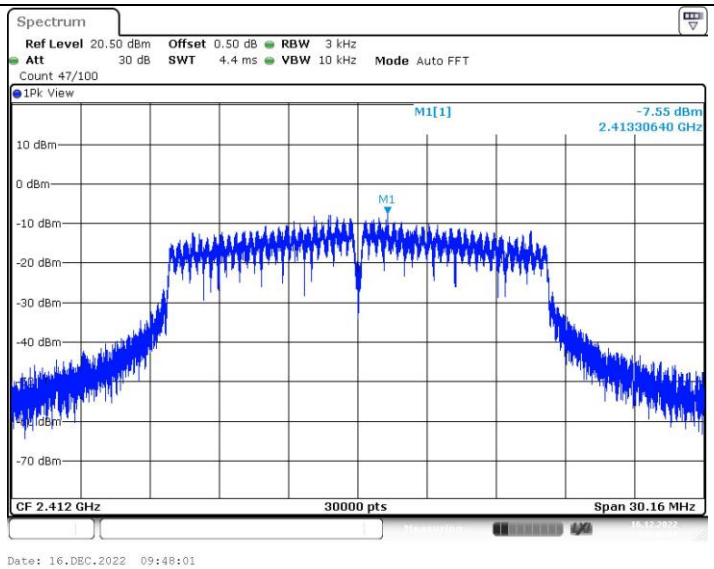

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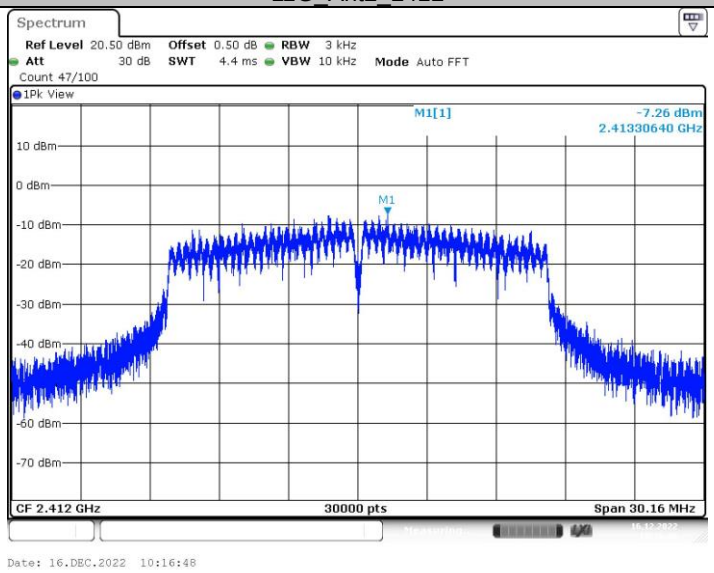

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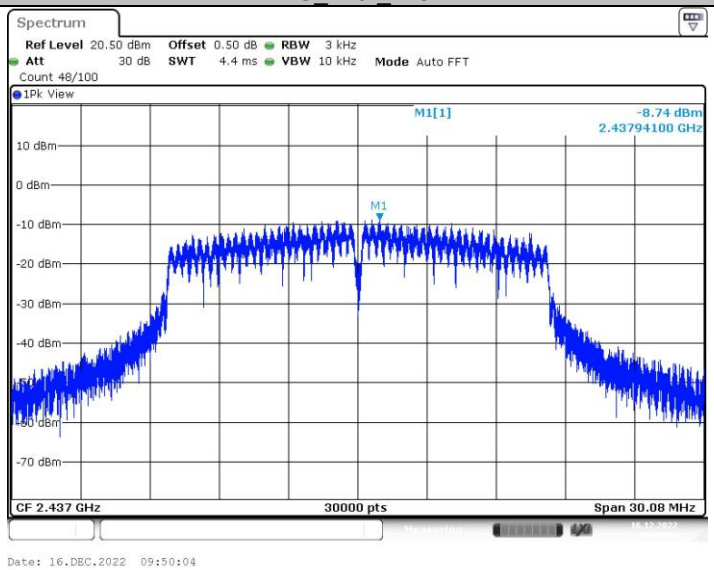

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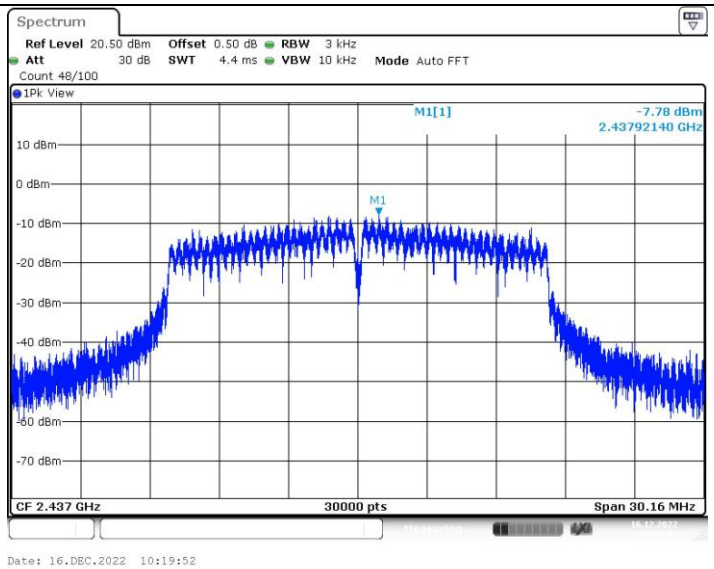

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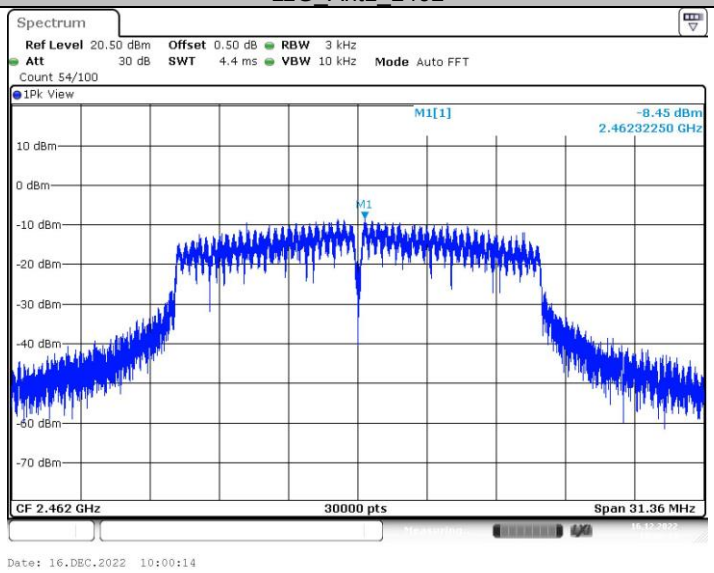

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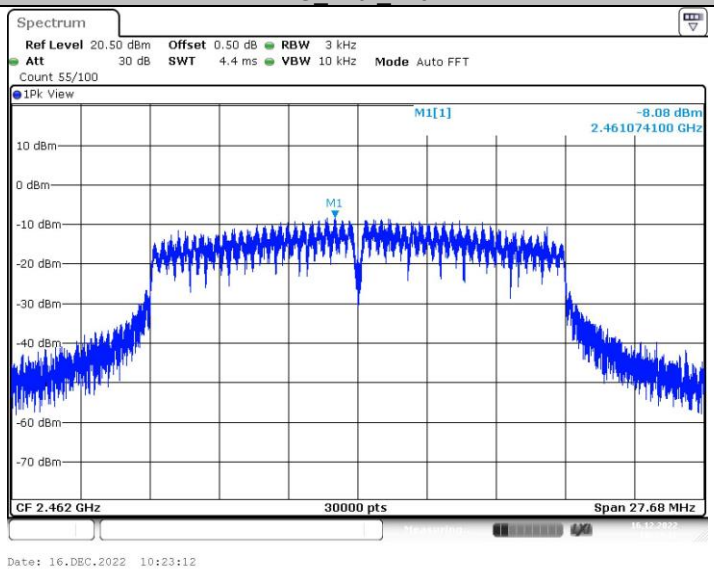

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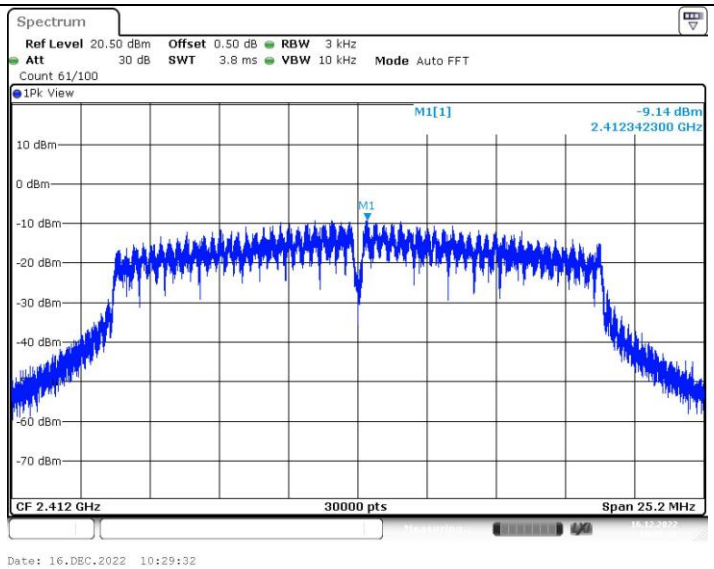

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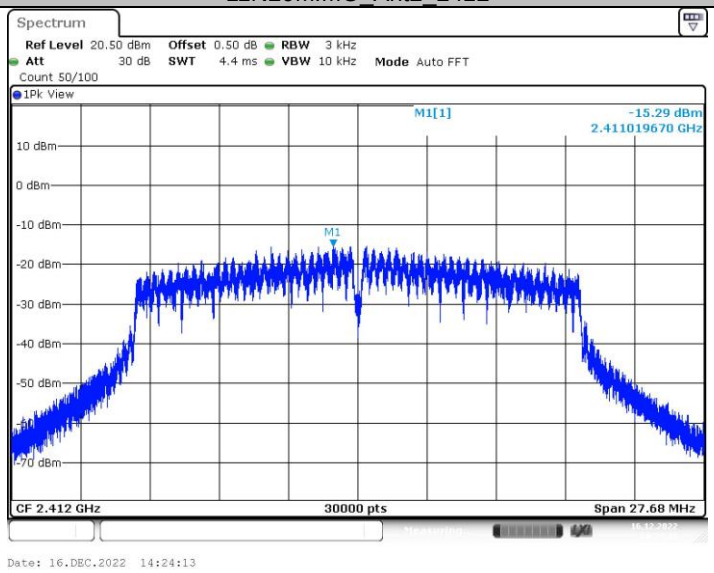

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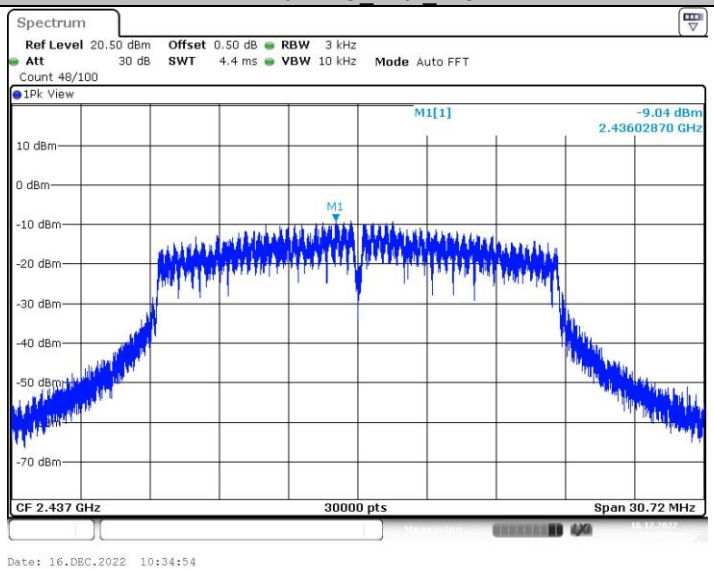

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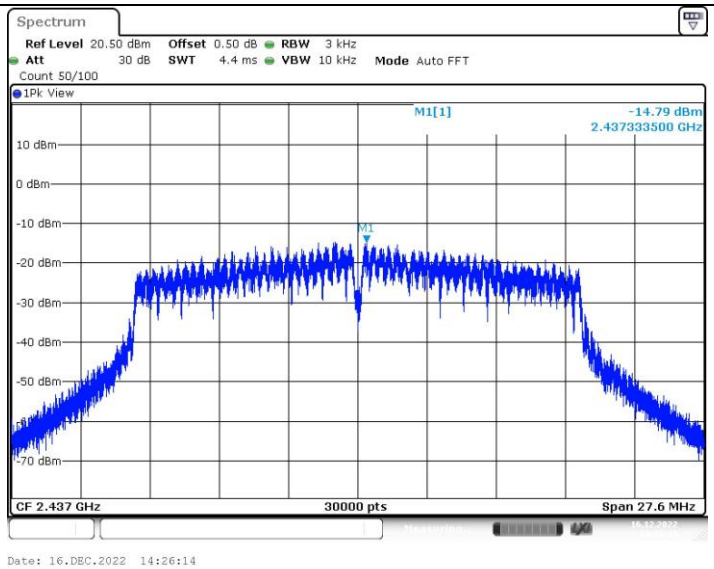

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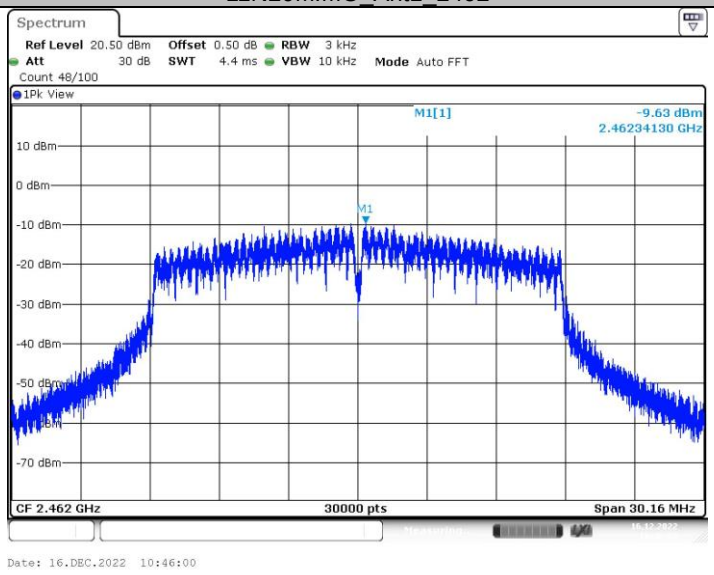

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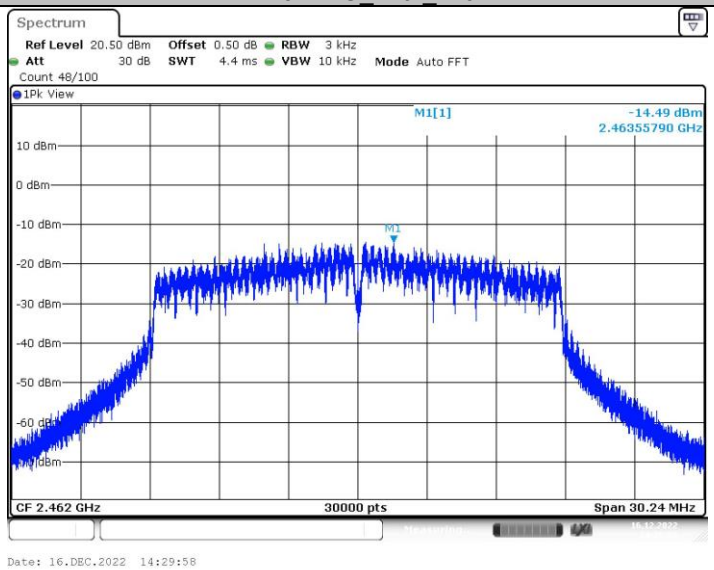

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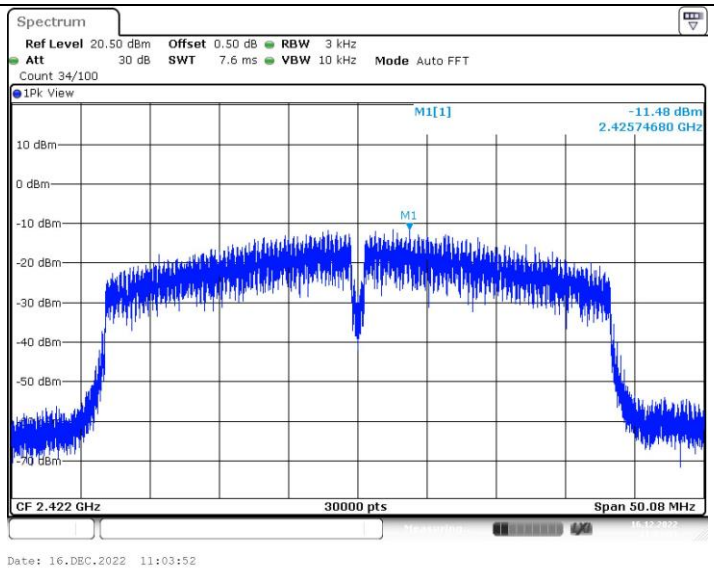

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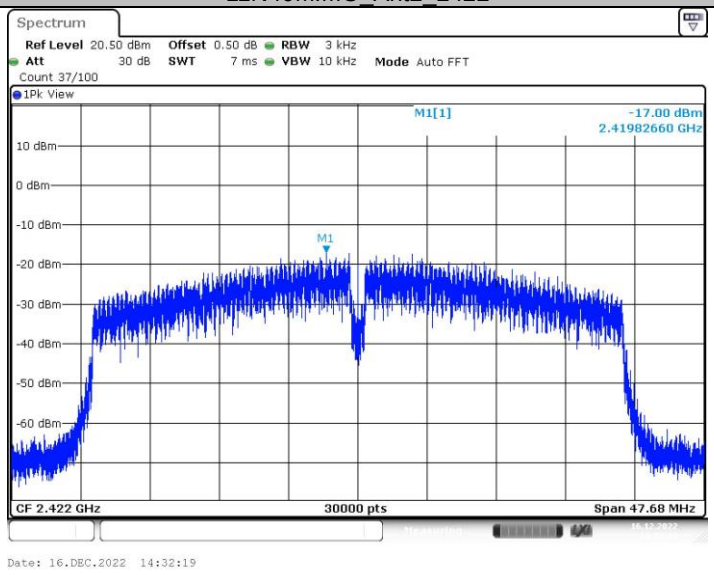

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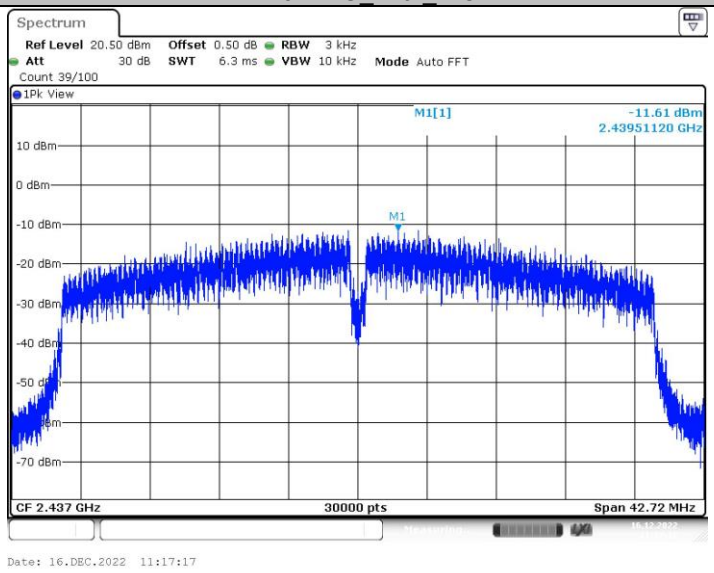

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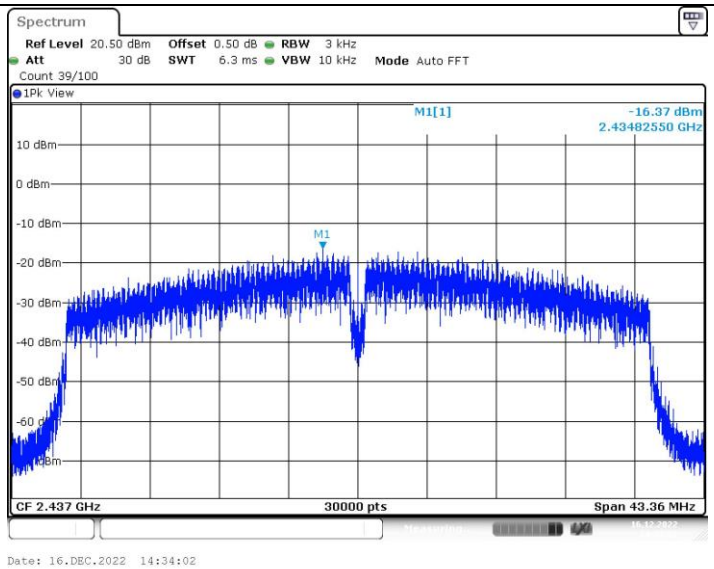
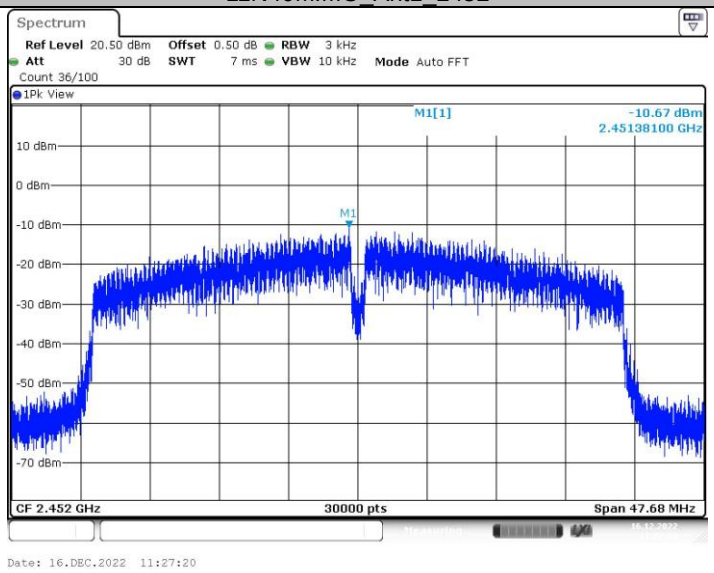
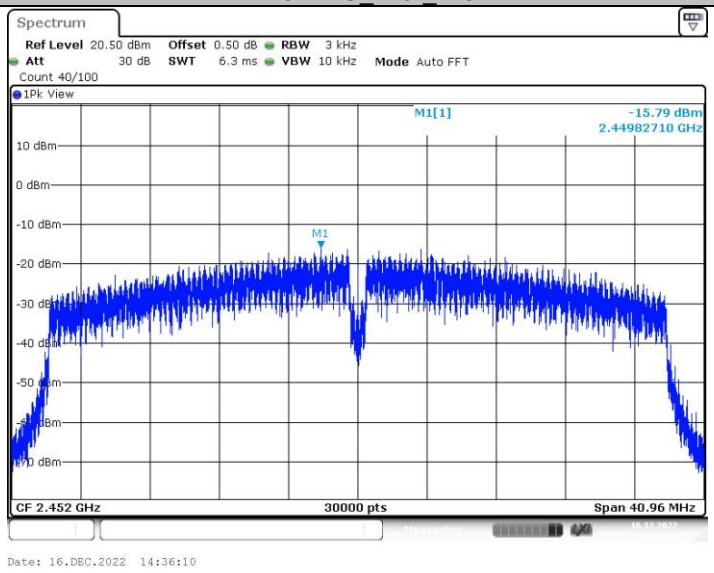


11N40MIMO_Ant1_2452



11N40MIMO_Ant2_2452

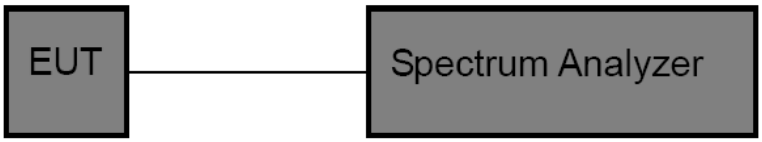


3.8. Duty Cycle

Limit

None, for report purposes only.

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:

Set analyzer center frequency to DTS channel center frequency.
Set the span to 0Hz
Set the RBW to 10MHz
Set the VBW to 10MHz
Detector: peak
Sweep time: auto
Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

Please refer to the clause 2.3

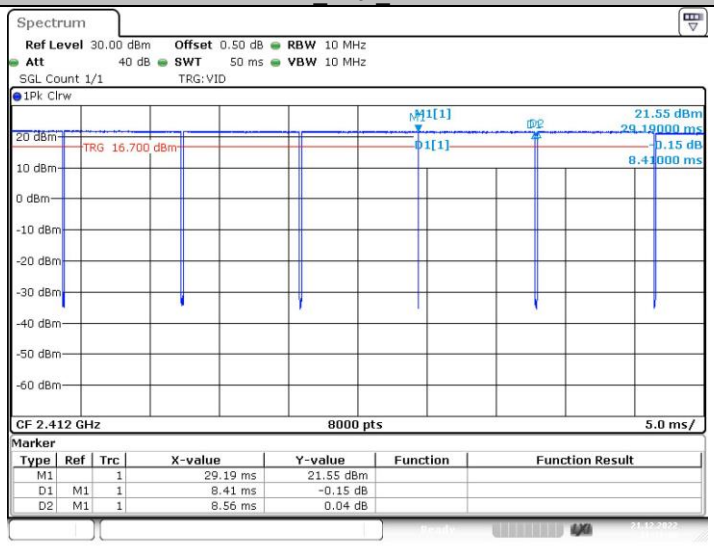
Test Result

Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
11B	Ant1	2412	8.41	8.56	98.25	/	0.01
	Ant2	2412	8.40	8.57	98.02	/	0.01
	Ant1	2437	8.41	8.59	97.90	0.12	1
	Ant2	2437	8.41	8.55	98.36	/	0.01
	Ant1	2462	8.41	8.56	98.25	/	0.01
	Ant2	2462	8.41	8.58	98.02	/	0.01
11G	Ant1	2412	1.39	1.58	87.97	0.72	1
	Ant2	2412	1.39	1.55	89.68	0.72	1
	Ant1	2437	1.39	1.60	86.88	0.72	1
	Ant2	2437	1.39	1.57	88.54	0.72	1
	Ant1	2462	1.38	1.57	87.90	0.72	1
	Ant2	2462	1.39	1.57	88.54	0.72	1
11N20MIMO	Ant1	2412	1.30	1.52	85.53	0.77	1
	Ant2	2412	1.30	1.42	91.55	0.77	1
	Ant1	2437	1.30	1.48	87.84	0.77	1
	Ant2	2437	1.30	1.46	89.04	0.77	1
	Ant1	2462	1.30	1.47	88.44	0.77	1
	Ant2	2462	1.30	1.47	88.44	0.77	1
11N40MIMO	Ant1	2422	0.65	0.81	80.25	1.54	3
	Ant2	2422	0.64	0.83	77.11	1.56	3
	Ant1	2437	0.64	0.82	78.05	1.56	3
	Ant2	2437	0.65	0.82	79.27	1.54	3
	Ant1	2452	0.64	0.81	79.01	1.56	3
	Ant2	2452	0.64	0.83	77.11	1.56	3

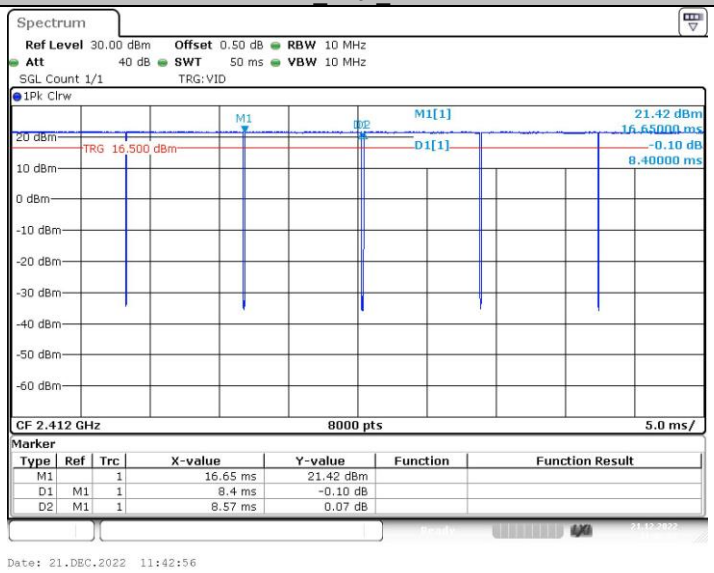
Note: Duty Cycle>98%, VBW=10Hz

Test Graphs:

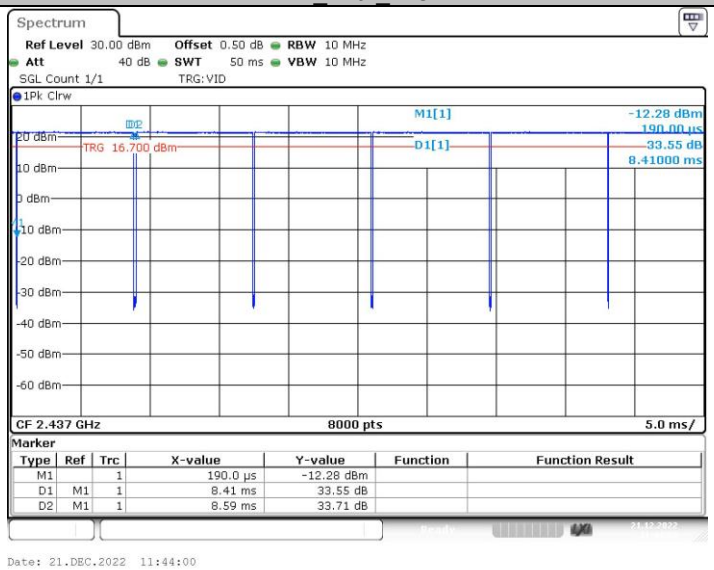
11B_Ant1_2412



11B_Ant2_2412



11B_Ant1_2437



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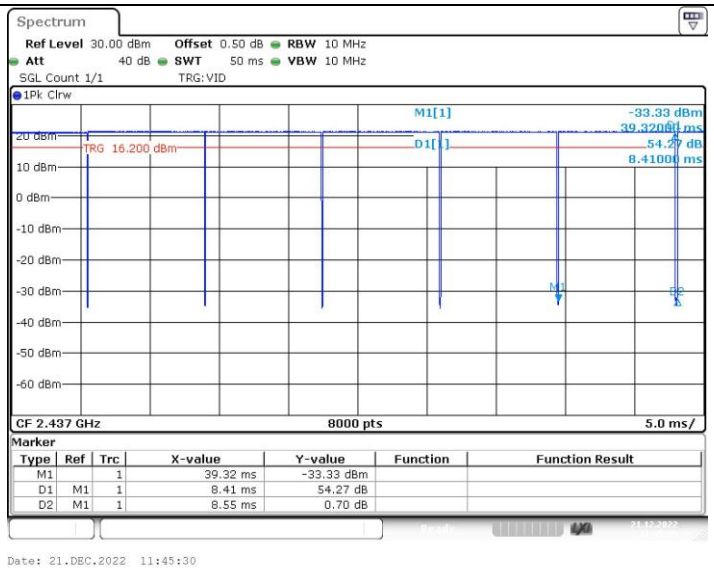

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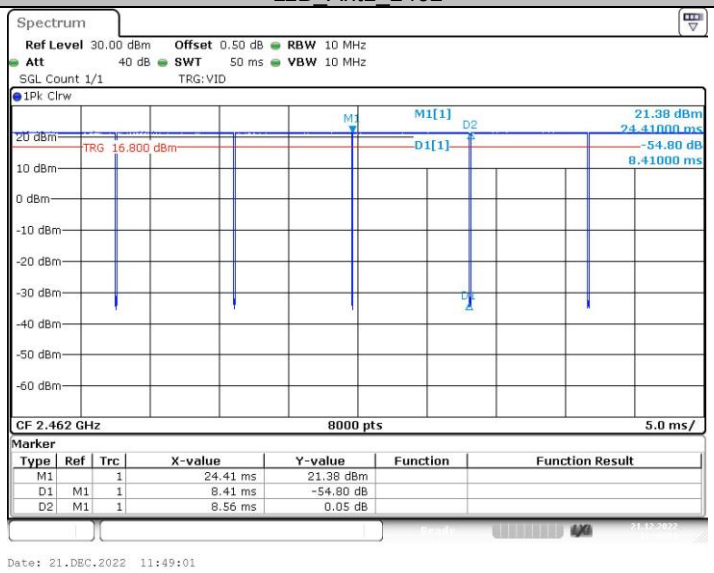

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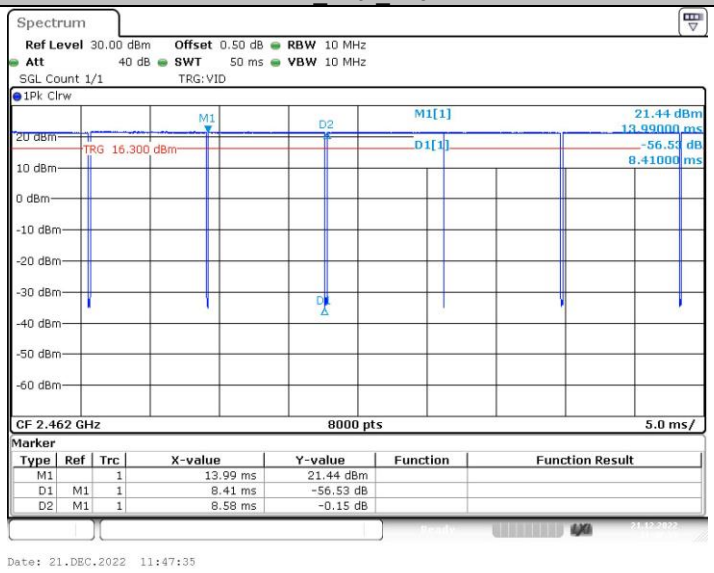

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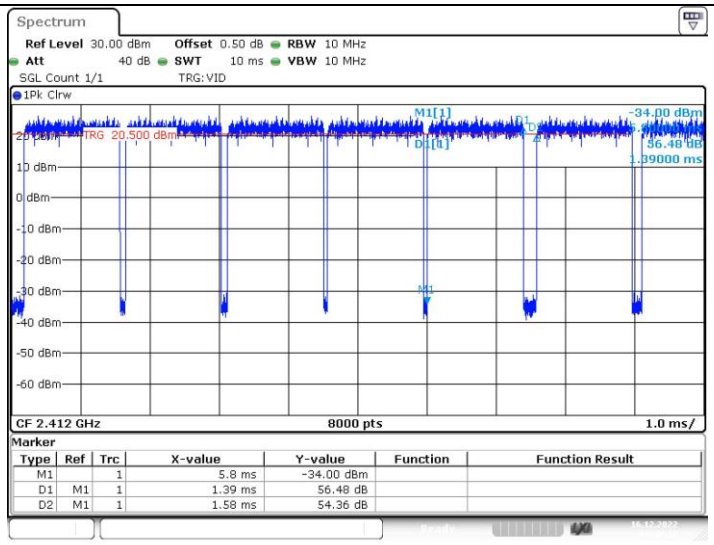

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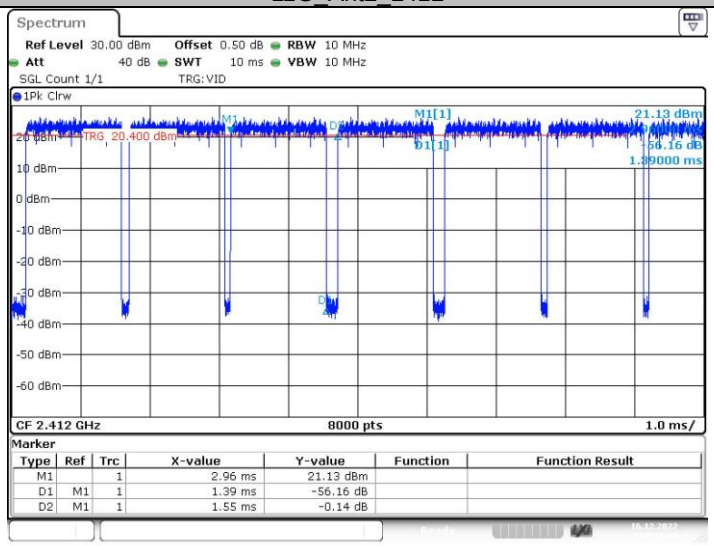

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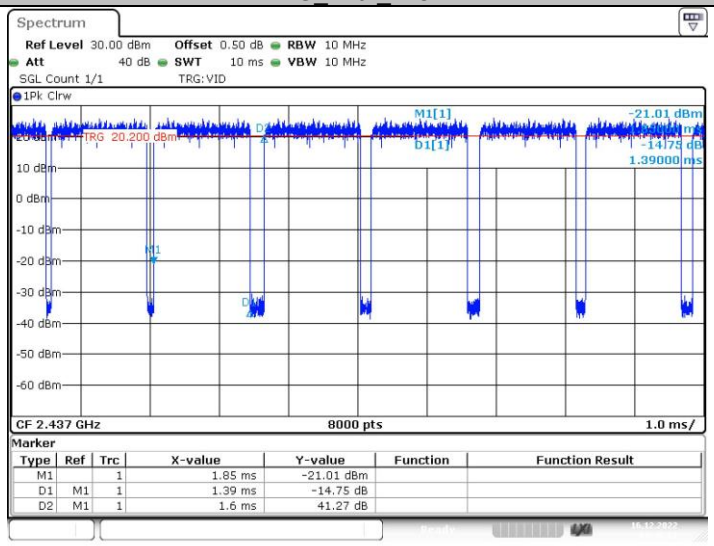

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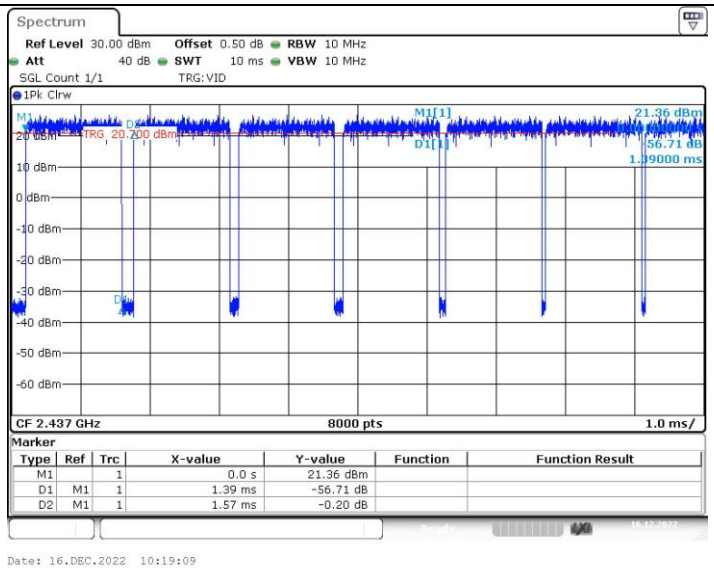

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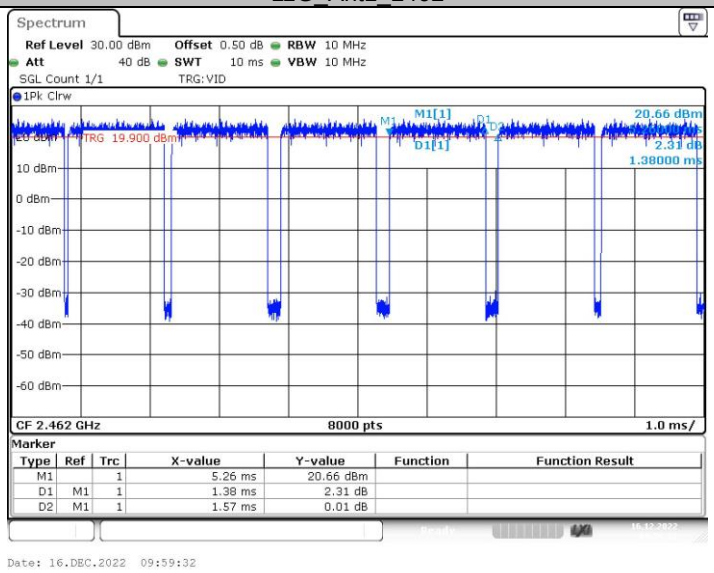

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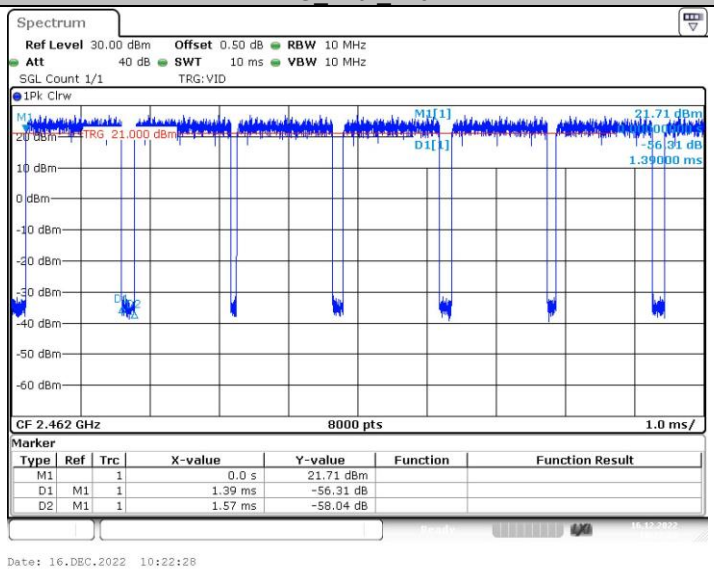

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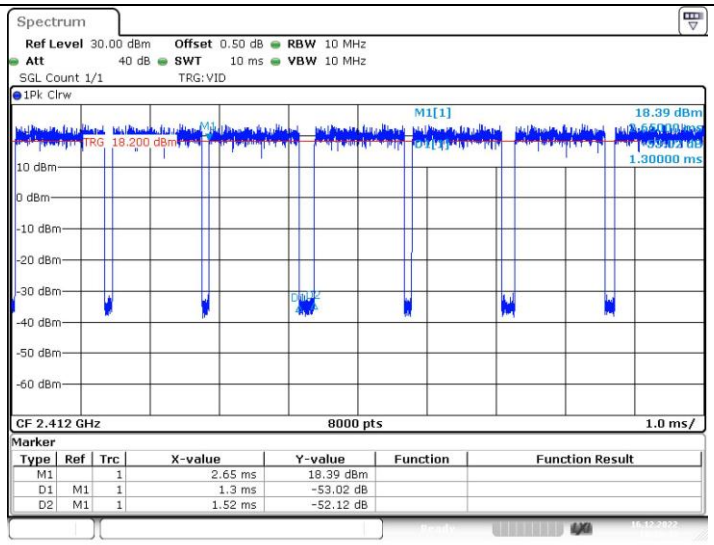

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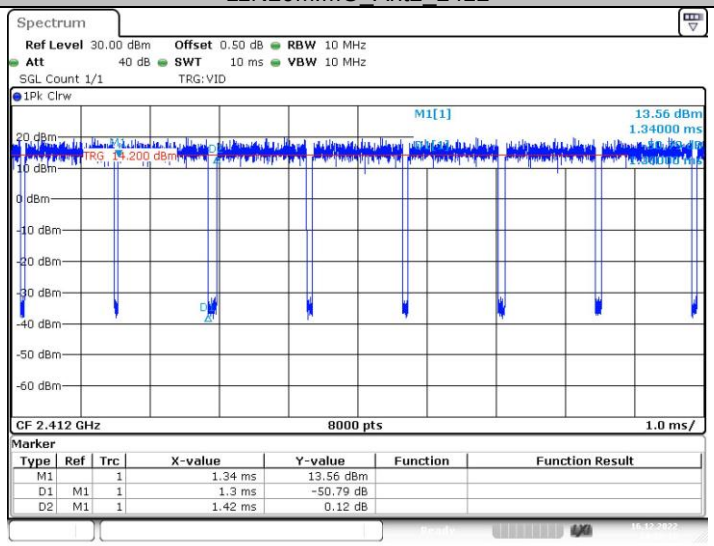

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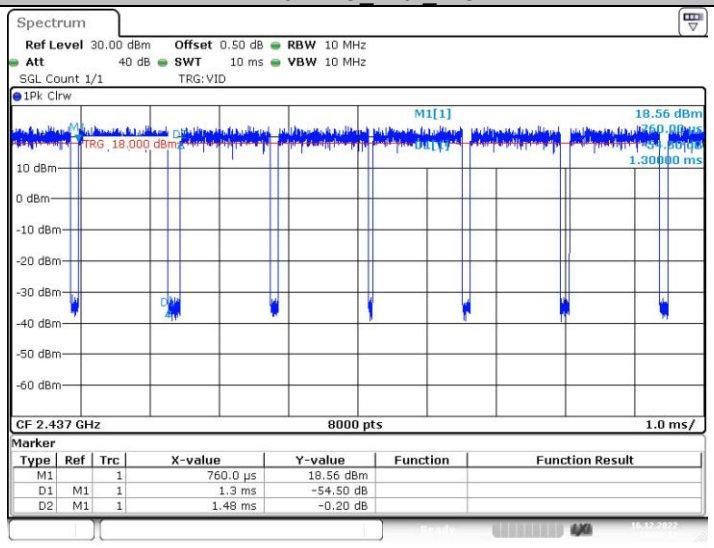

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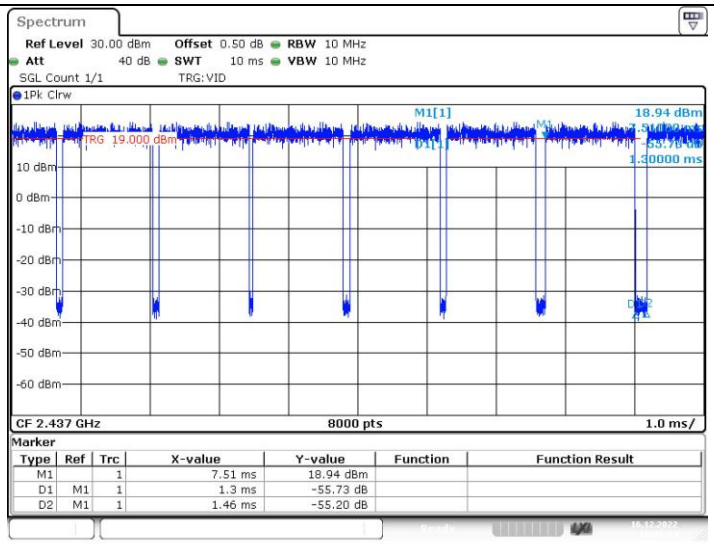

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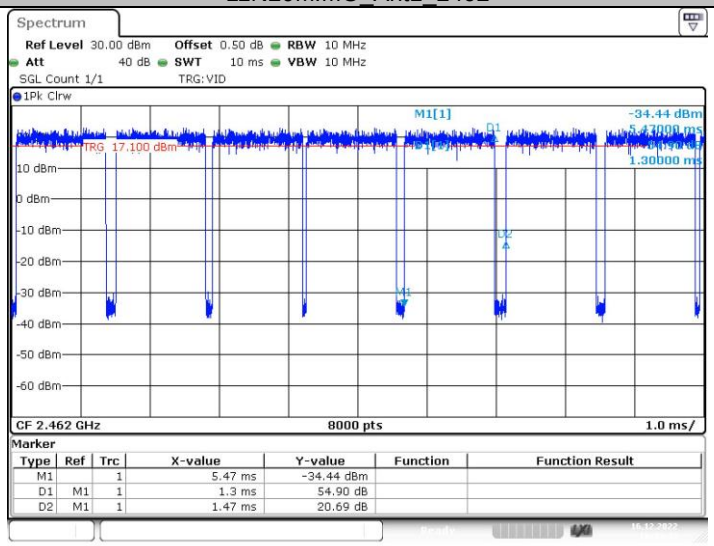

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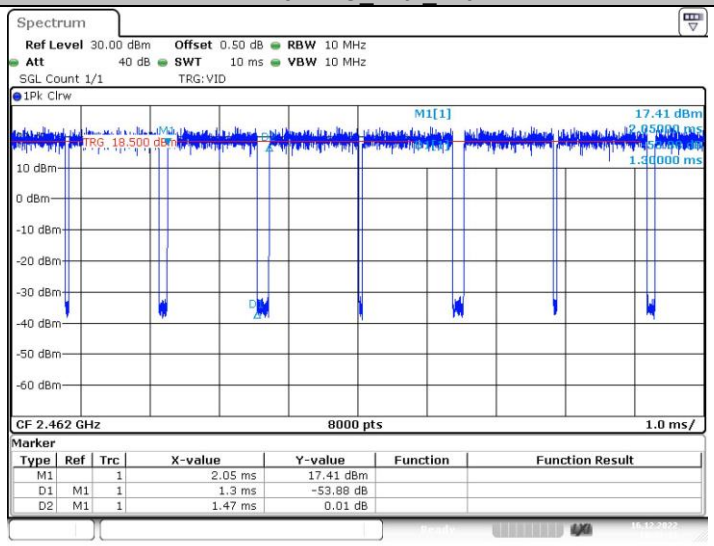

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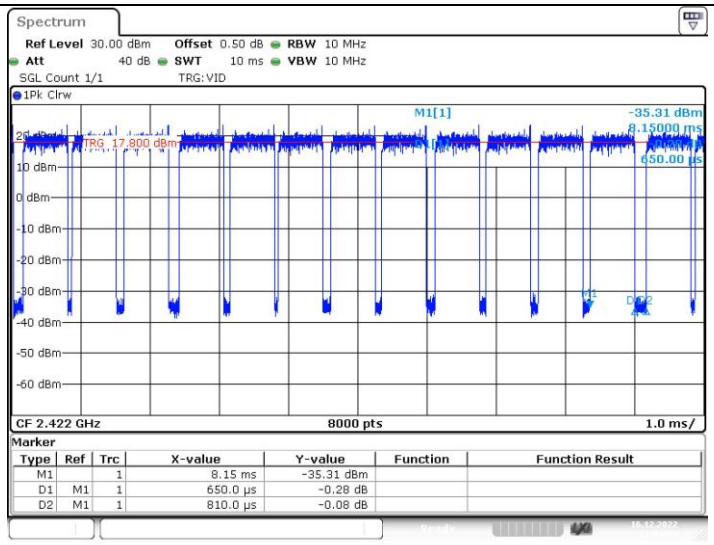

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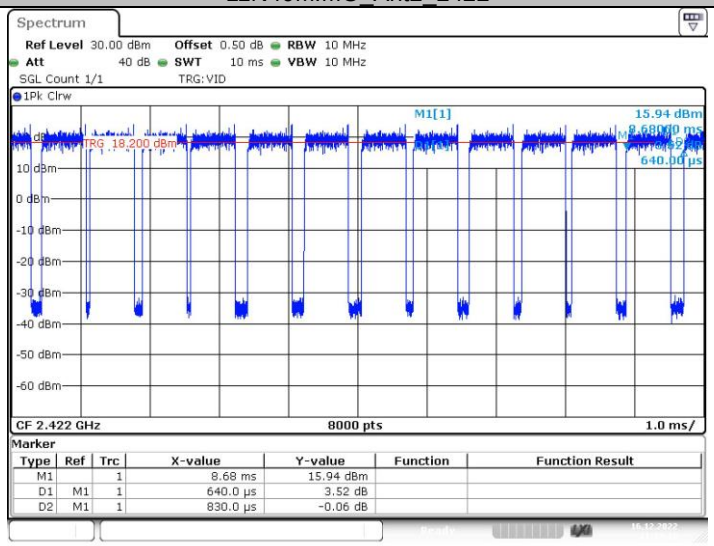

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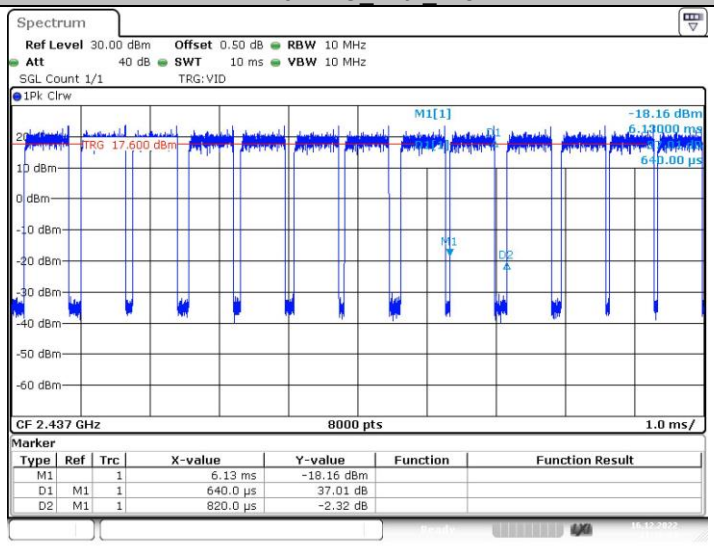

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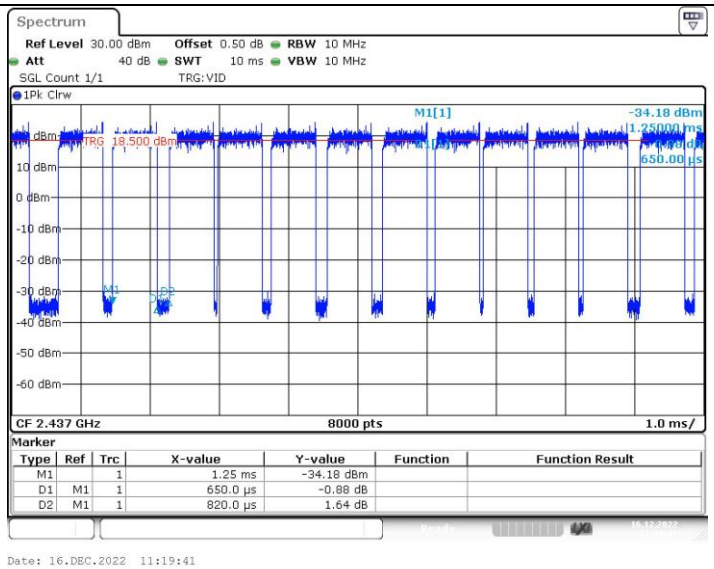

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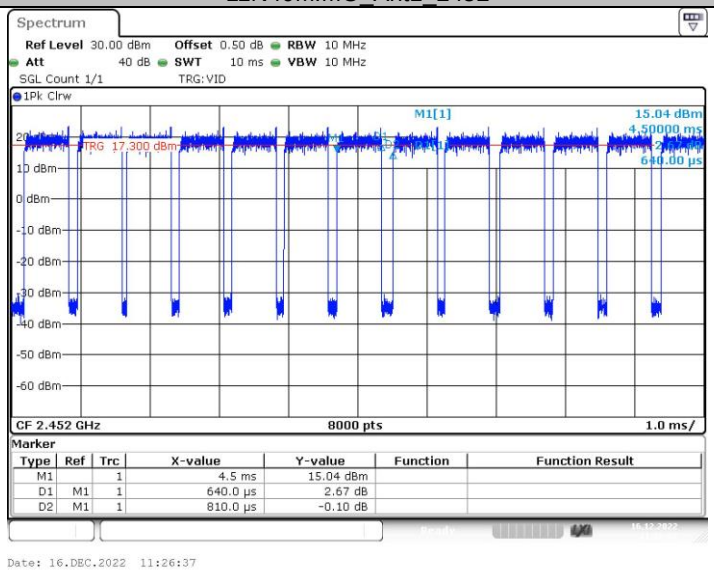

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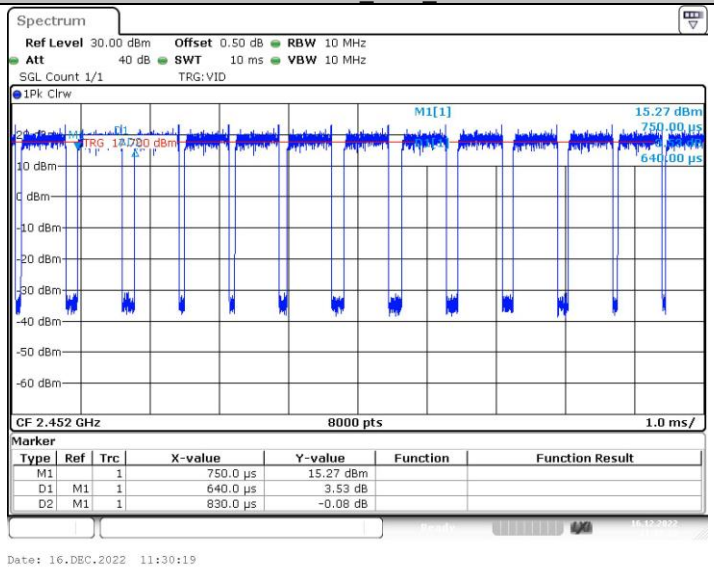

3.9. Antenna Requirement

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 is 7.25dBi, please refer to the EUT internal photographs antenna photo.

**********THE END**********