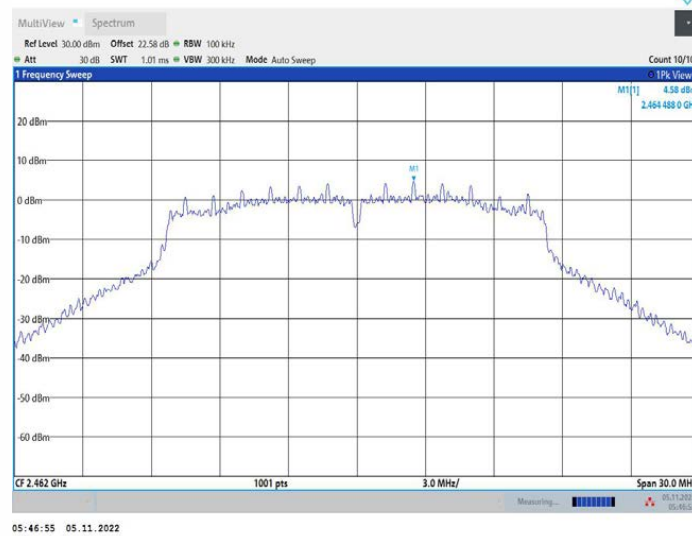
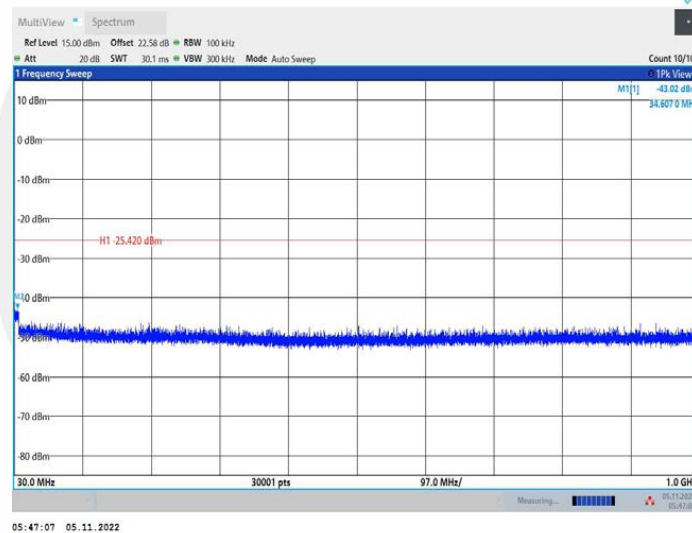


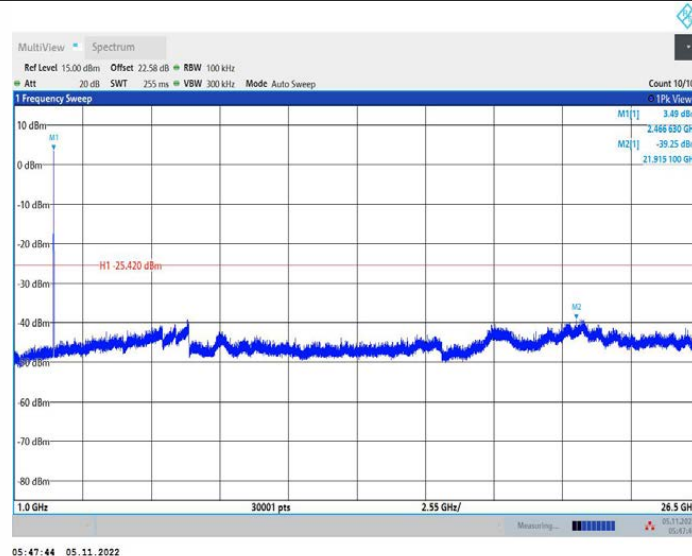
11G_Ant1_2462_0~Reference



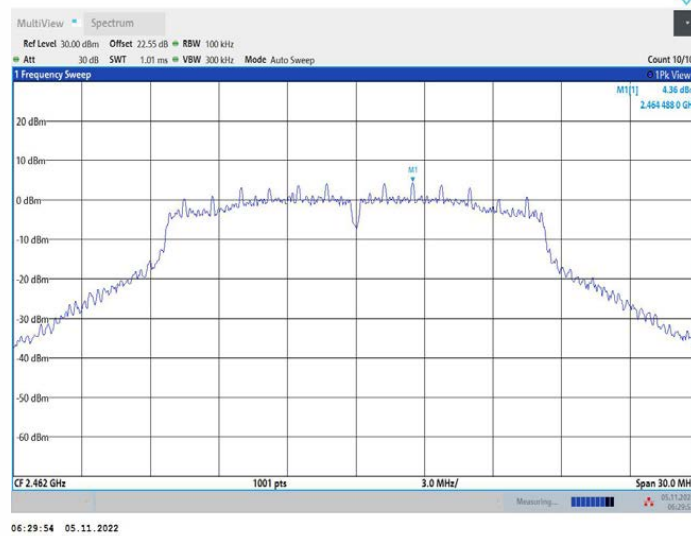
11G_Ant1_2462_30~1000



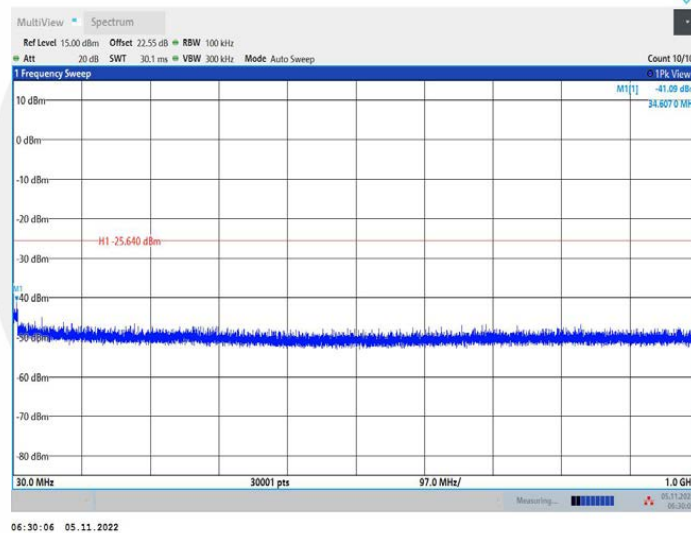
11G_Ant1_2462_1000~26500



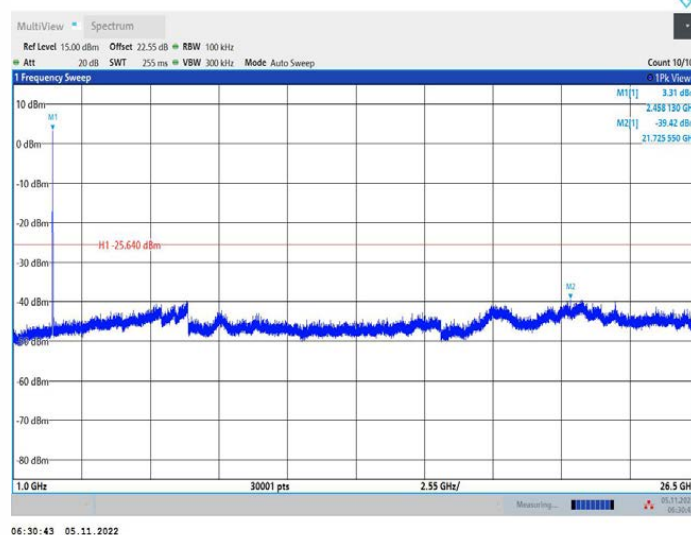
11G_Ant2_2462_0~Reference



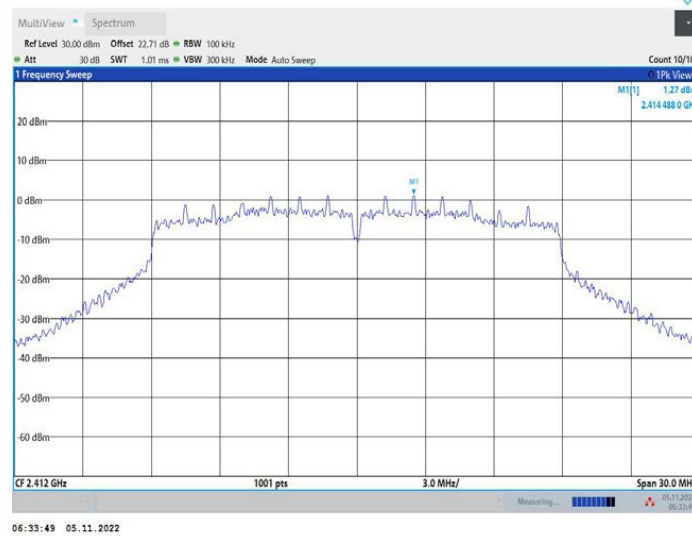
11G_Ant2_2462_30~1000



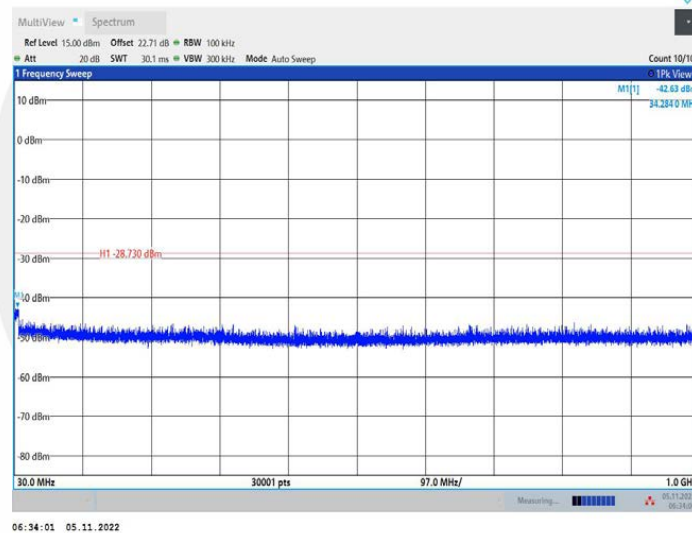
11G_Ant2_2462_1000~26500



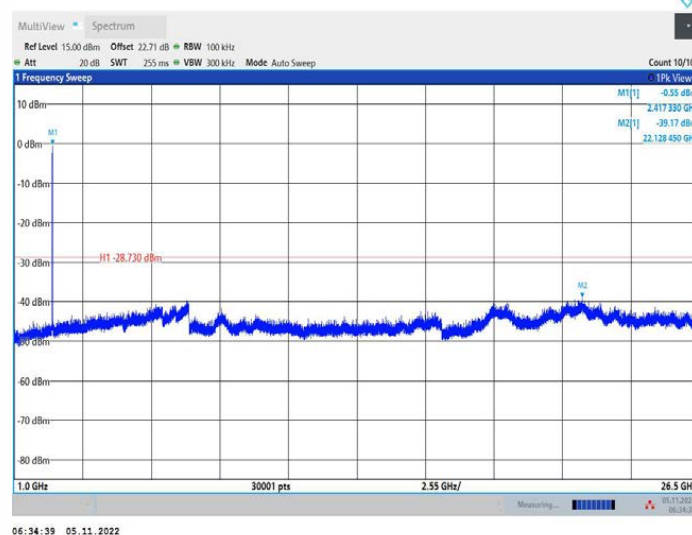
11N20MIMO_Ant1_2412_0~Reference



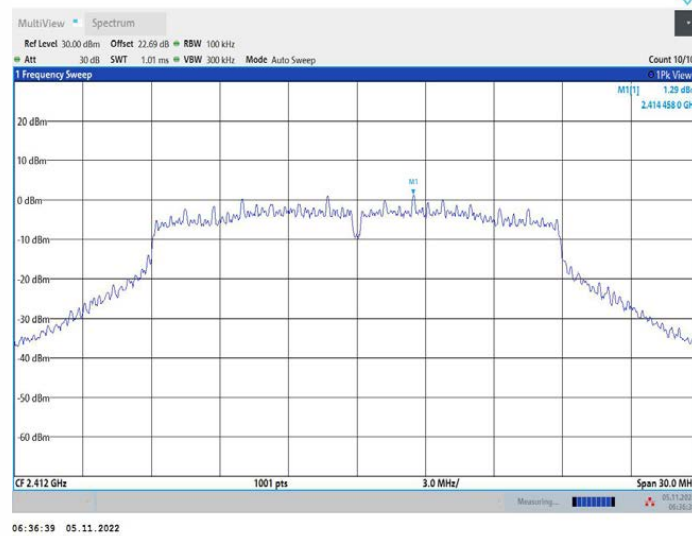
11N20MIMO_Ant1_2412_30~1000



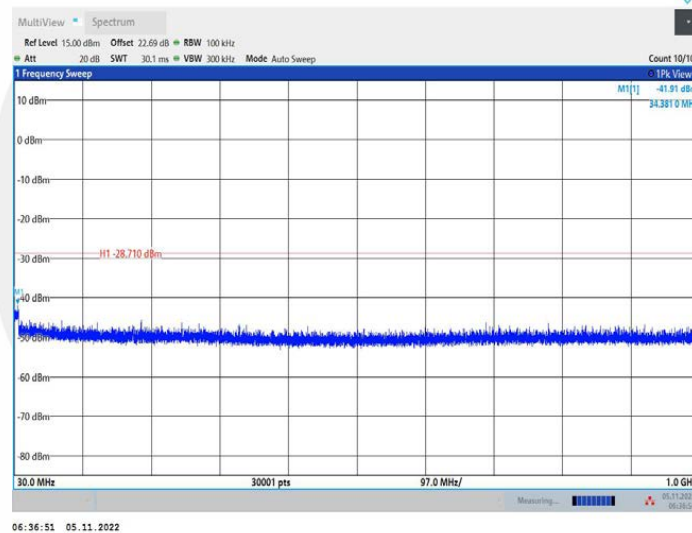
11N20MIMO_Ant1_2412_1000~26500



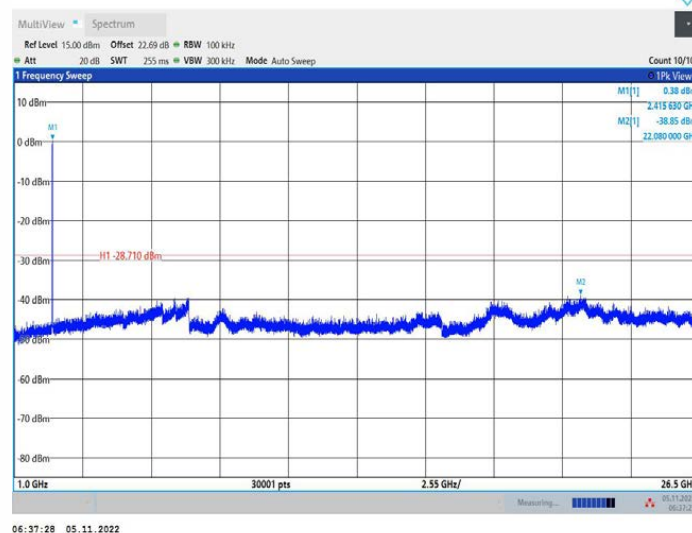
11N20MIMO_Ant2_2412_0~Reference



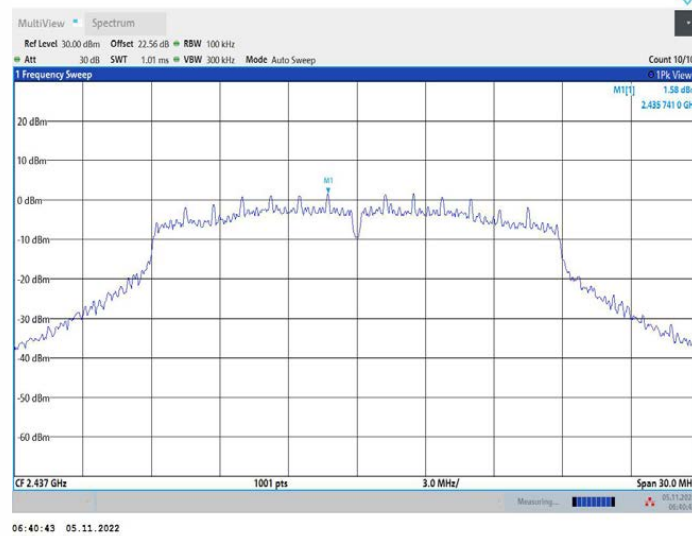
11N20MIMO_Ant2_2412_30~1000



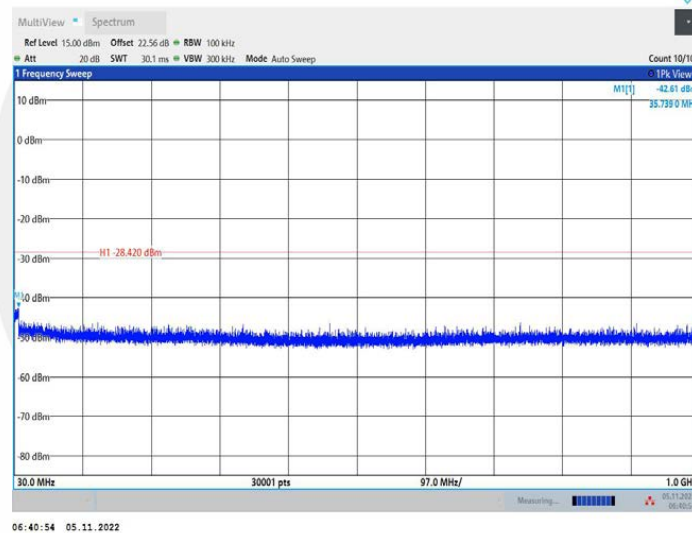
11N20MIMO_Ant2_2412_1000~26500



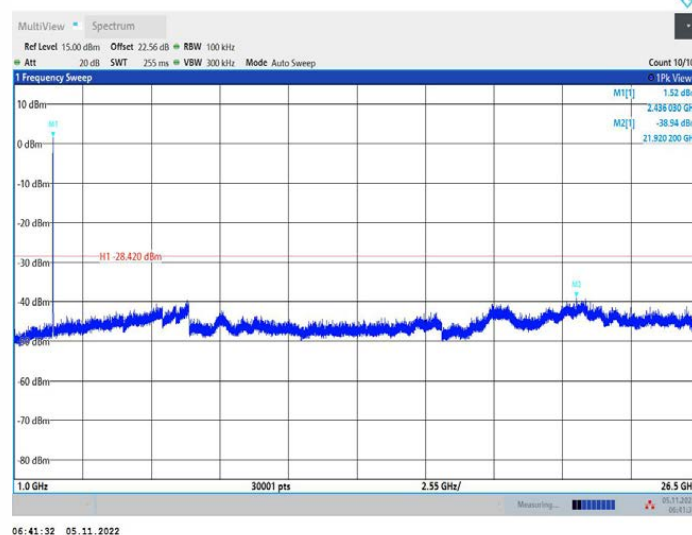
11N20MIMO_Ant1_2437_0~Reference



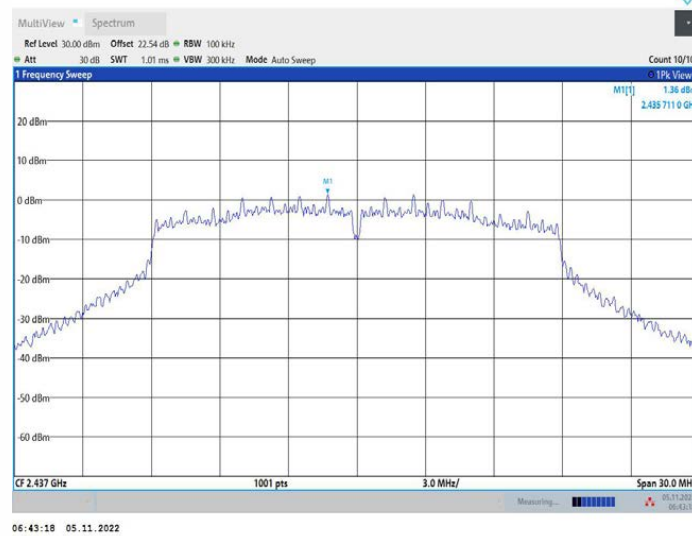
11N20MIMO_Ant1_2437_30~1000



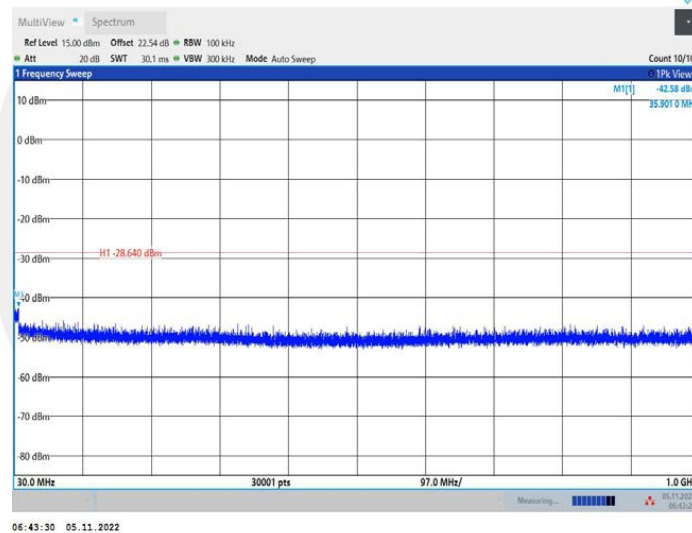
11N20MIMO_Ant1_2437_1000~26500



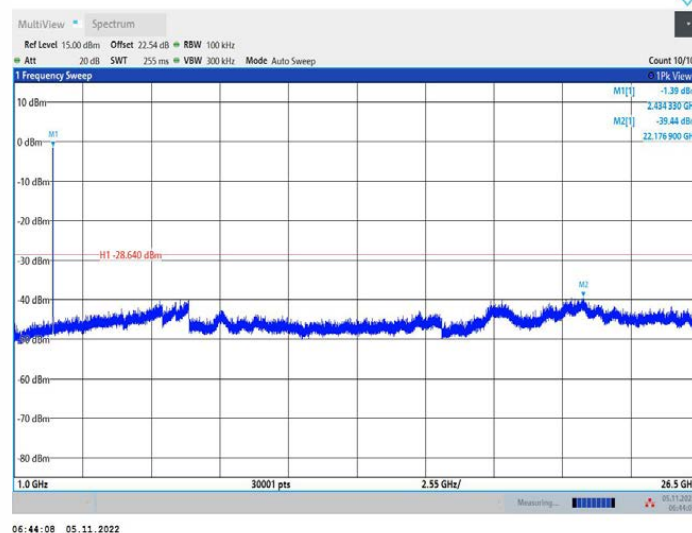
11N20MIMO_Ant2_2437_0~Reference



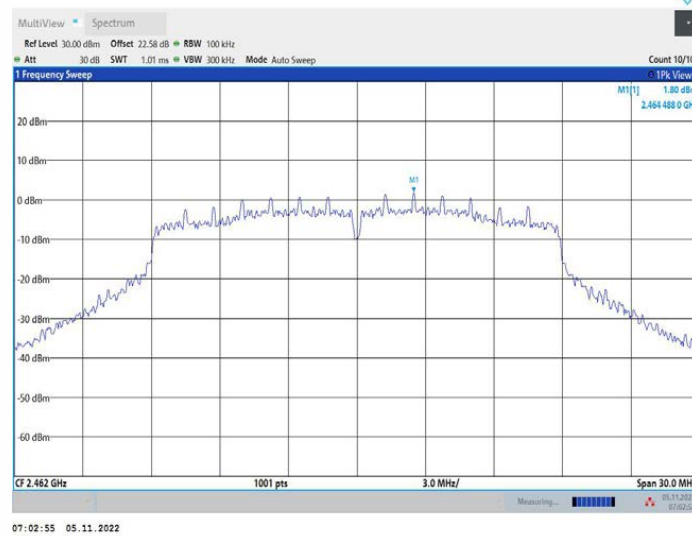
11N20MIMO_Ant2_2437_30~1000



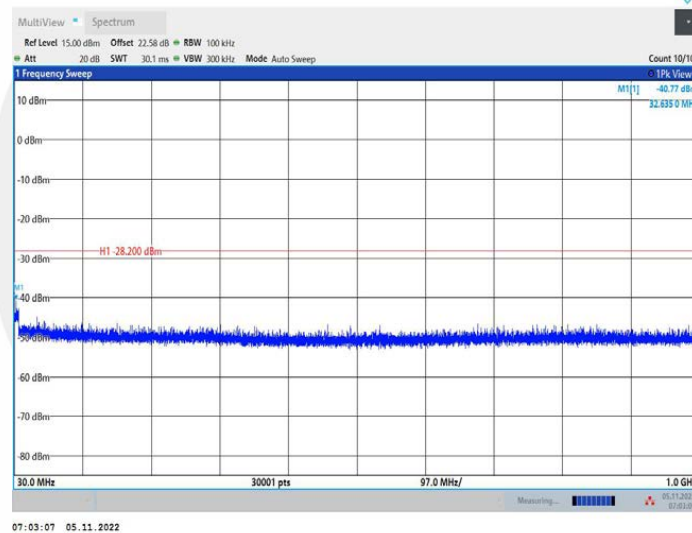
11N20MIMO_Ant2_2437_1000~26500



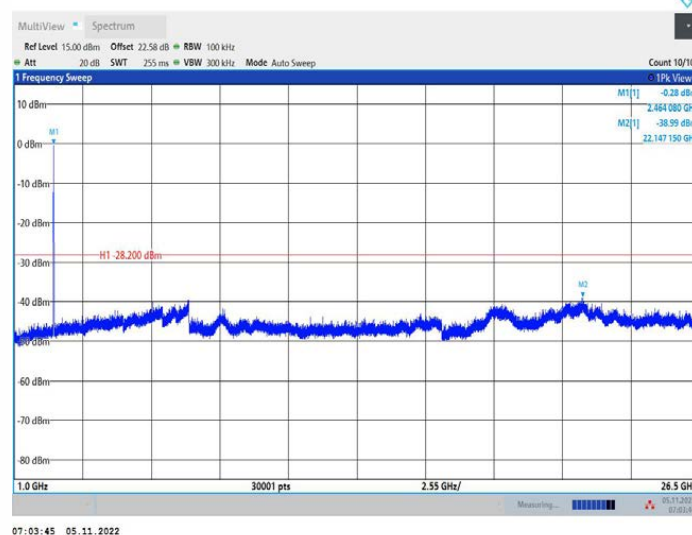
11N20MIMO_Ant1_2462_0~Reference



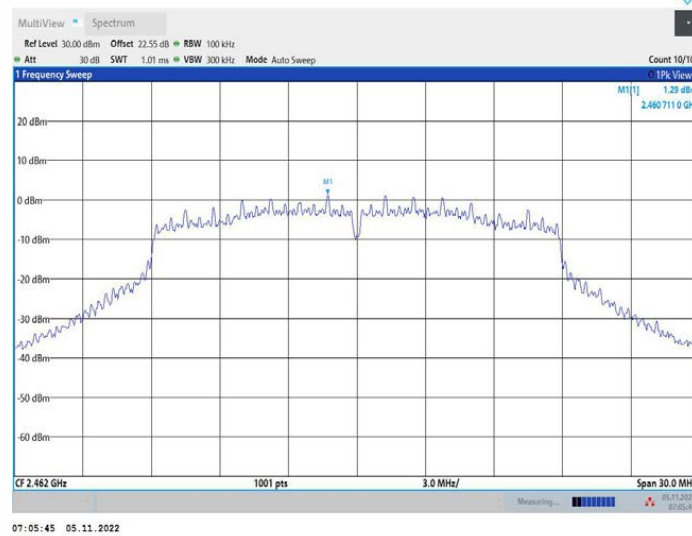
11N20MIMO_Ant1_2462_30~1000



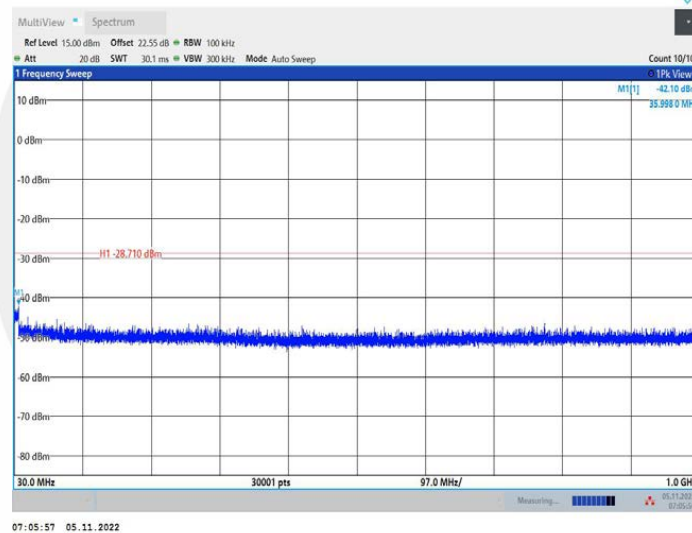
11N20MIMO_Ant1_2462_1000~26500



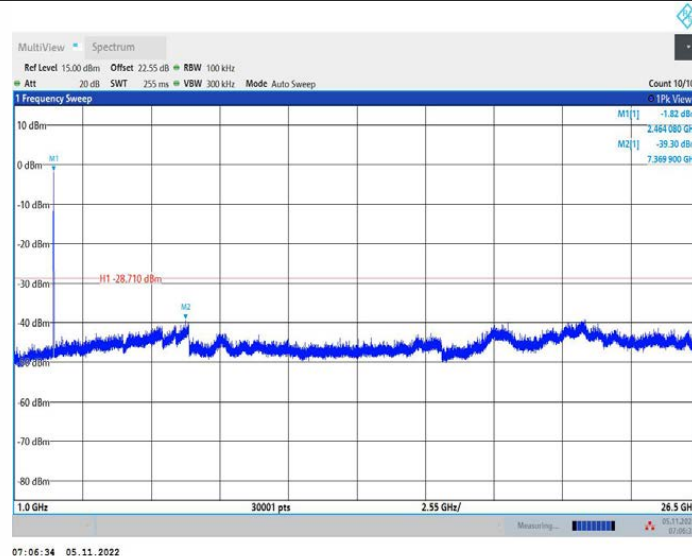
11N20MIMO_Ant2_2462_0~Reference



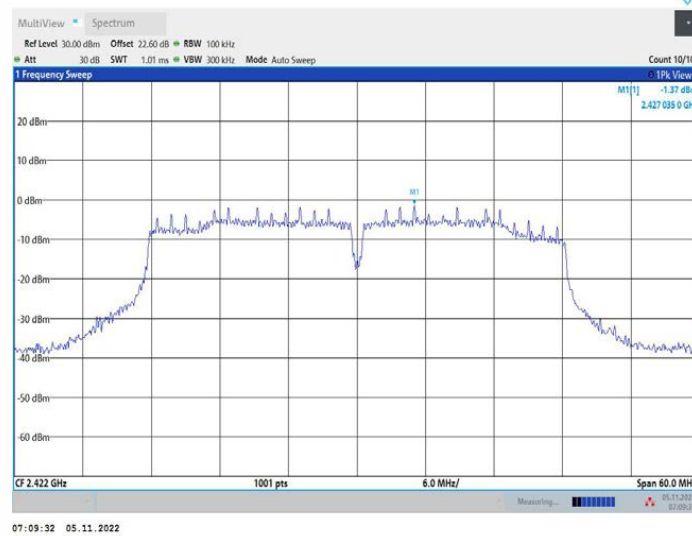
11N20MIMO_Ant2_2462_30~1000



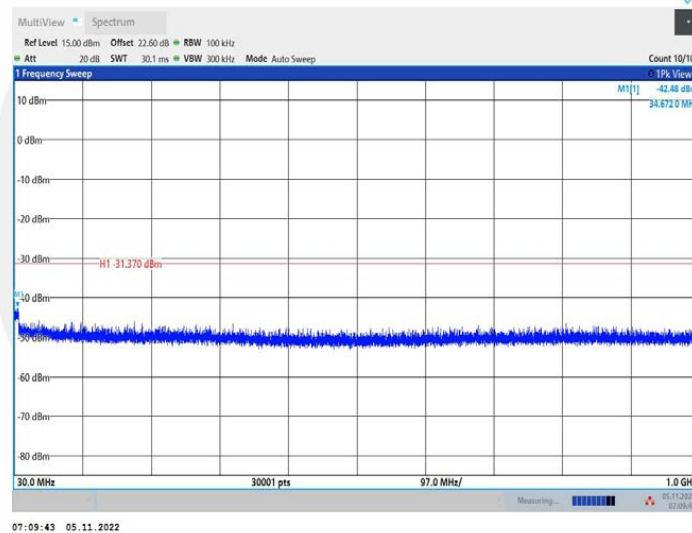
11N20MIMO_Ant2_2462_1000~26500



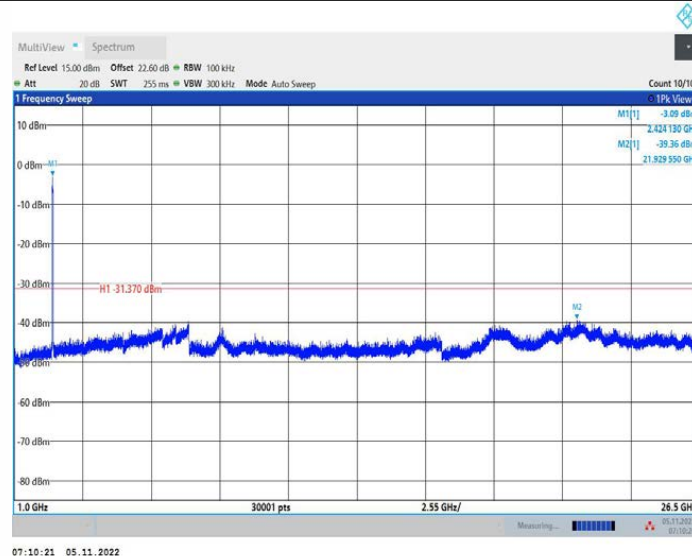
11N40MIMO_Ant1_2422_0~Reference



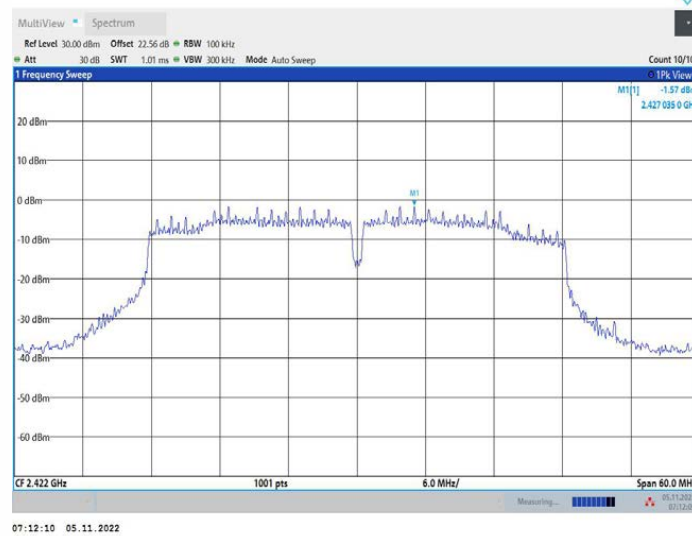
11N40MIMO_Ant1_2422_30~1000



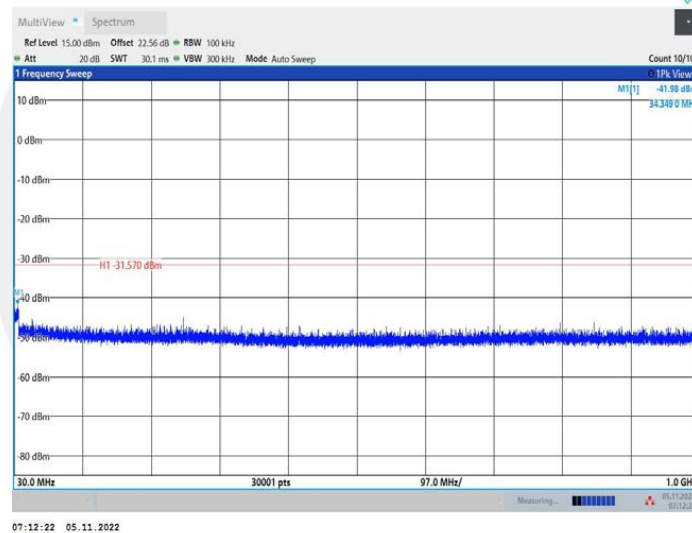
11N40MIMO_Ant1_2422_1000~26500



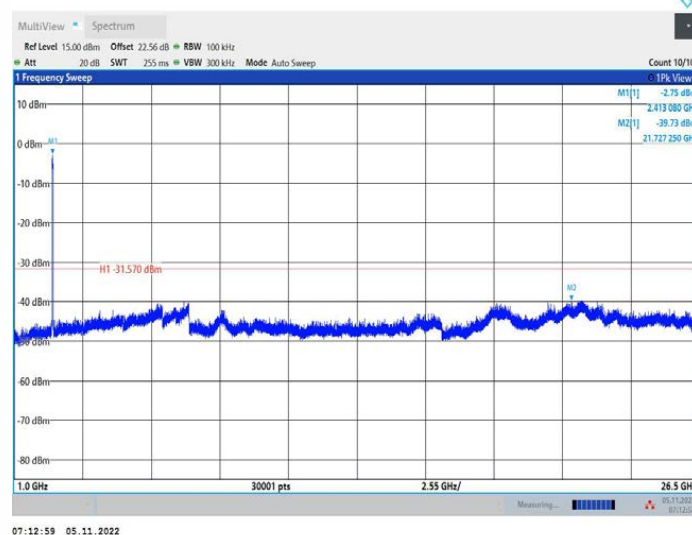
11N40MIMO_Ant2_2422_0~Reference



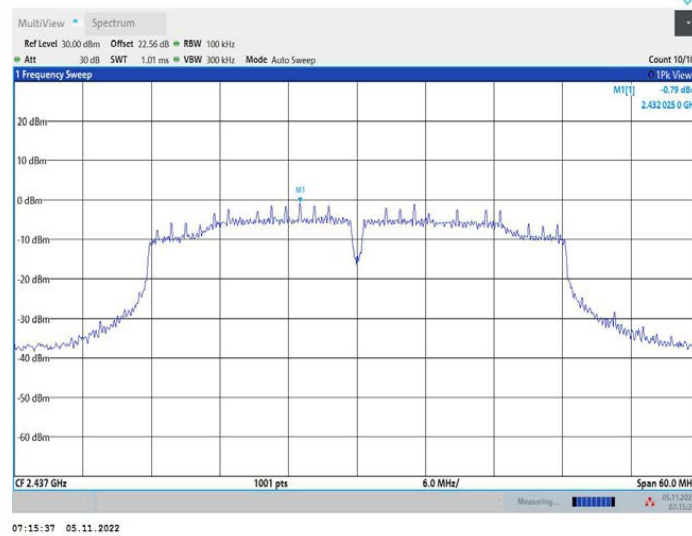
11N40MIMO_Ant2_2422_30~1000



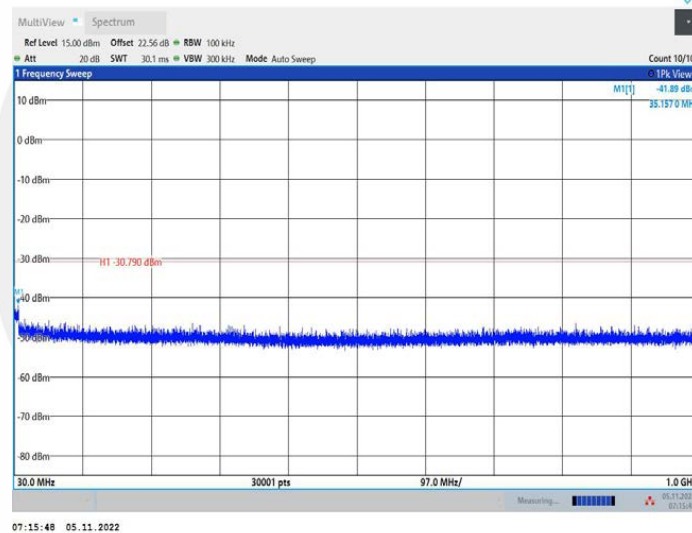
11N40MIMO_Ant2_2422_1000~26500



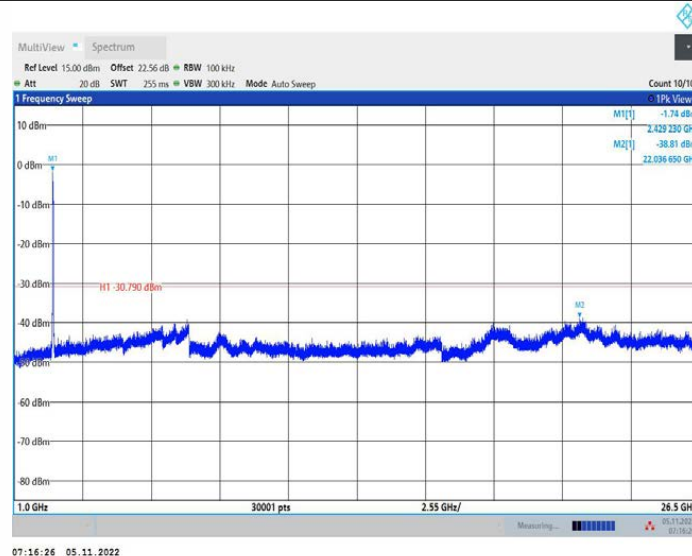
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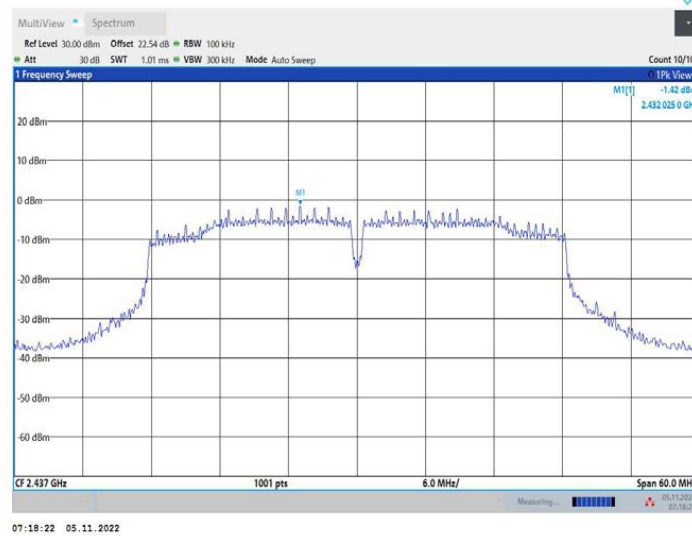
11N40MIMO_Ant1_2437_30~1000



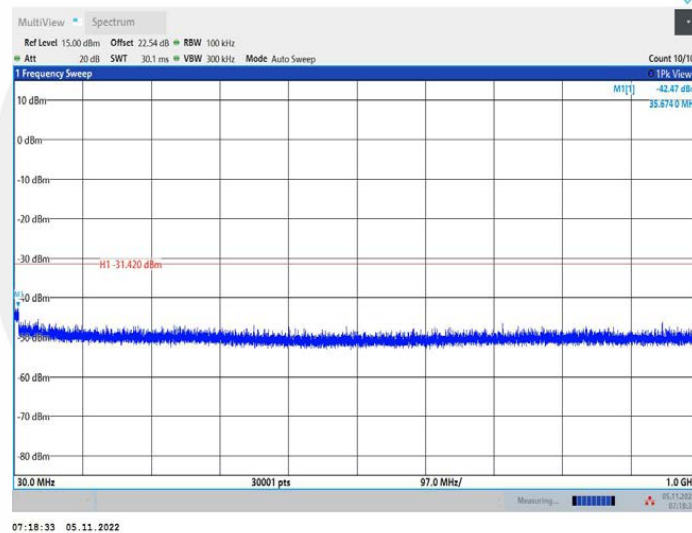
11N40MIMO_Ant1_2437_1000~26500



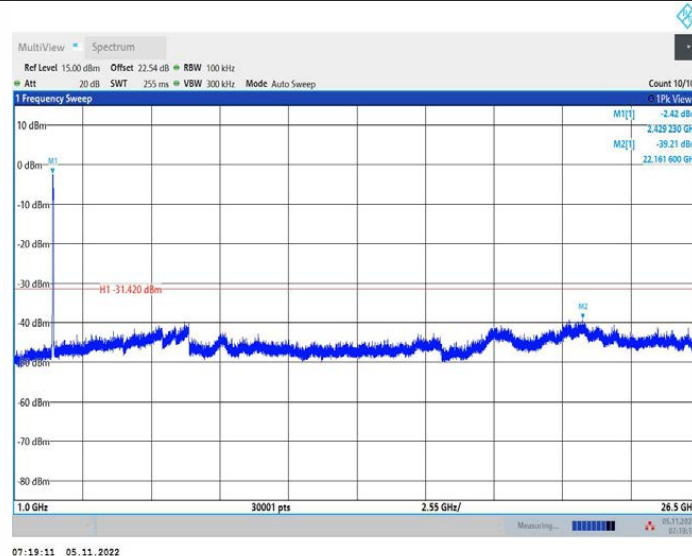
11N40MIMO_Ant2_2437_0~Reference



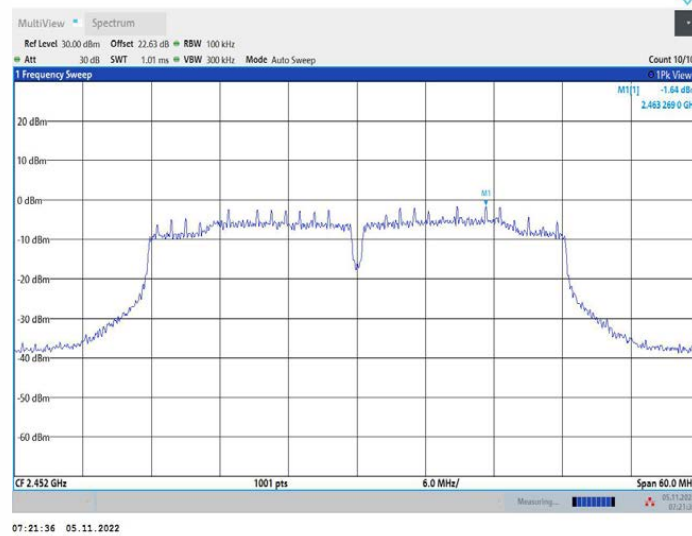
11N40MIMO_Ant2_2437_30~1000



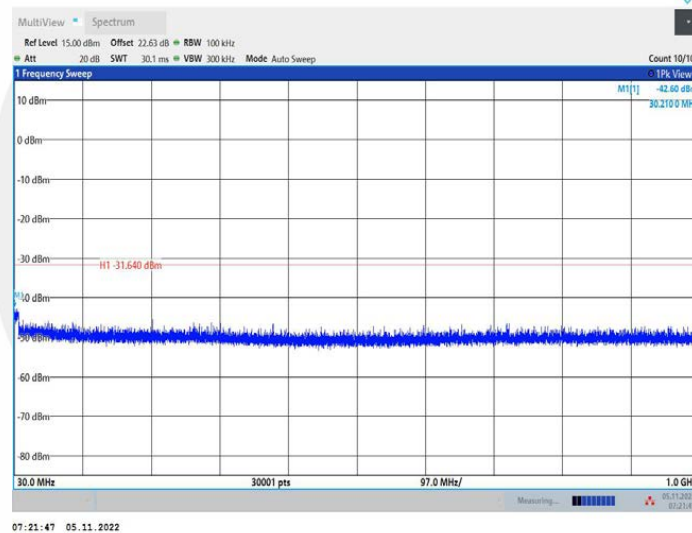
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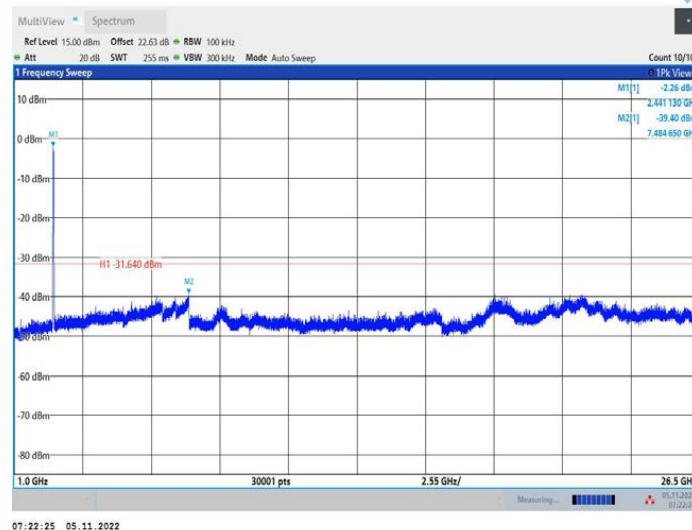
11N40MIMO_Ant1_2452_0~Reference



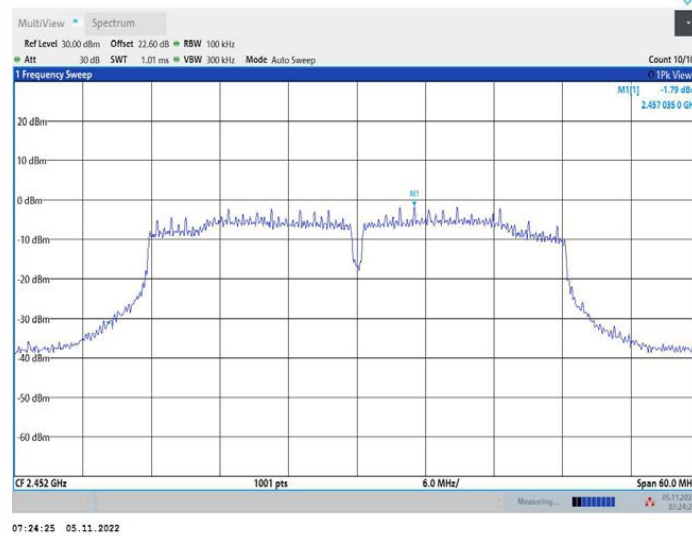
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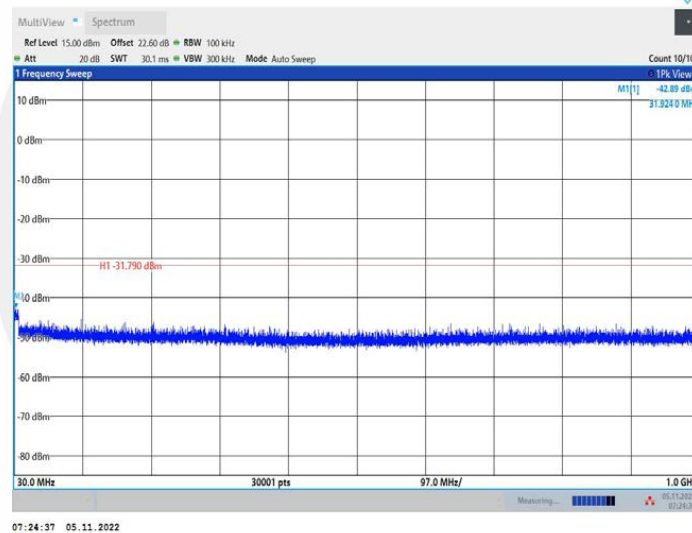
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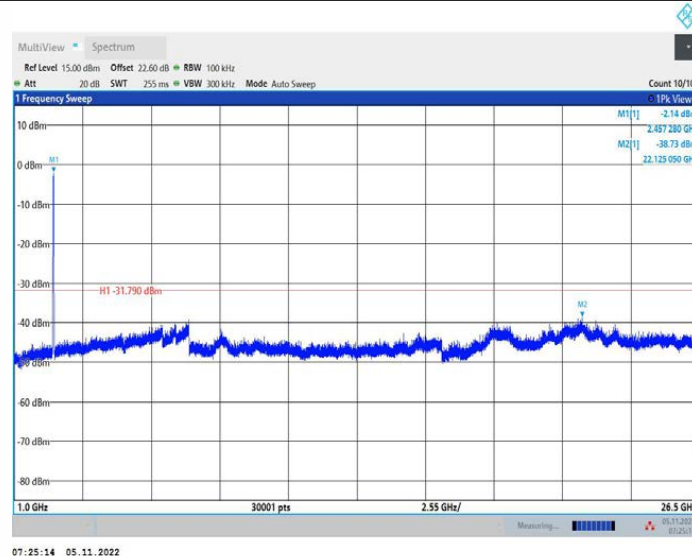
11N40MIMO_Ant2_2452_0~Reference



11N40MIMO_Ant2_2452_30~1000



11N40MIMO_Ant2_2452_1000~26500



7.5 RADIATED EMISSION

7.5.1 Applicable Standard

According to FCC Part 15.247(d) and 15.209 and KDB 558074 D01 15.247 Meas Guidance v05r02.

7.5.2 Conformance Limit

According to FCC Part 15.247(d): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

According to FCC Part 15.205, Restricted bands:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

According to FCC Part 15.205 the level of any transmitter spurious emission in Restricted bands shall not exceed the level of the emission specified in the following table.

Restricted Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log (uV/m)	300
0.490-1.705	24000/F(KHz)	20 log (uV/m)	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

7.5.3 Test Configuration

Test according to clause 6.2 radio frequency test setup 2.

7.5.4 Test Procedure

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

For Above 1GHz:

The EUT was placed on a turn table which is 1.5m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured.

RBW = 1 MHz.

VBW ≥ RBW.

Sweep = auto.

Detector function = peak.
Trace = max hold.

For Below 1GHz:

The EUT was placed on a turn table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured.
RBW = 100 kHz.
VBW $\geq$ RBW.
Sweep = auto.
Detector function = peak.
Trace = max hold.

For Below 30MHz:

The EUT was placed on a turn table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured.
RBW = 9kHz.
VBW $\geq$ RBW.
Sweep = auto.
Detector function = peak.
Trace = max hold.

For Below 150KHz:

The EUT was placed on a turn table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured.
RBW = 200Hz.
VBW $\geq$ RBW.
Sweep = auto.
Detector function = peak.
Trace = max hold.

Follow the guidelines in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit. Submit this data. Now set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit. If the dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a "duty cycle correction factor", derived from $20\log(\text{dwell time}/100 \text{ ms})$, in an effort to demonstrate compliance with the limit. Submit this data.
Repeat above procedures until all frequency measured was complete.

7.5.5 Test Results

Temperature:	28.1° C
Relative Humidity:	43%
ATM Pressure:	1011 mbar

■ Spurious Emission below 30MHz(9KHz to 30MHz)

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
--	--	--	--	--	--	--	--

Note: Data of measurement within this frequency range shown “ -- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

■ Spurious Emission Above 1GHz(1GHz to 25GHz)

All modes have been tested, and the worst result recorded was report as below:
Highest gain of each antenna and highest output power is ANT2 and MIMO as below:

ANT2:

Test mode: 802.11n(HT20) Frequency: Channel 1: 2412MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8075.625	V	56.45	74.00	17.55	peak
14694.375	V	64.00	74.00	10.00	peak
17623.125	V	70.06	74.00	3.94	peak
8075.625	V	36.35	54.00	17.65	AVG
14694.375	V	44.05	54.00	9.95	AVG
17623.125	V	48.72	54.00	5.28	AVG
11287.5	H	61.36	74.00	12.64	peak
14688.75	H	63.84	74.00	10.16	peak
17610	H	70.68	74.00	3.32	peak
11287.5	H	41.08	54.00	12.92	AVG
14688.75	H	43.84	54.00	10.16	AVG
17610	H	49.91	54.00	4.09	AVG

Test mode: 802.11n(HT20) Frequency: Channel 6: 2437MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9189.375	V	58.45	74.00	15.55	peak
14716.875	V	63.82	74.00	10.18	peak
17583.75	V	70.69	74.00	3.31	peak
9189.375	V	38.54	54.00	15.46	AVG
14716.875	V	43.82	54.00	10.18	AVG
17583.75	V	49.69	54.00	4.31	AVG
11311.875	H	60.63	74.00	13.37	peak
14707.5	H	64.85	74.00	9.15	peak
17600.625	H	70.72	74.00	3.28	peak
11311.875	H	40.83	54.00	13.17	AVG
14707.5	H	44.85	54.00	9.15	AVG
17600.625	H	49.72	54.00	4.28	AVG

Test mode: 802.11n(HT20) Frequency: Channel 11: 2462MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11311.875	V	61.17	74.00	12.83	peak
14692.5	V	63.91	74.00	10.09	peak
17628.75	V	70.09	74.00	3.91	peak
11311.875	V	41.16	54.00	12.84	AVG
14692.5	V	44.10	54.00	9.90	AVG
17628.75	V	49.09	54.00	4.91	AVG
11306.25	H	60.57	74.00	13.43	peak
14788.125	H	64.08	74.00	9.92	peak
17602.5	H	70.80	74.00	3.20	peak
11306.25	H	40.87	54.00	13.13	AVG
14788.125	H	44.13	54.00	9.87	AVG
17602.5	H	49.33	54.00	4.67	AVG

MIMO:

Test mode: 802.11n(HT20) Frequency: Channel 1: 2412MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8077.015	V	56.32	74.00	17.68	peak
14696.705	V	63.84	74.00	10.16	peak
17624.405	V	70.03	74.00	3.97	peak
8078.835	V	36.33	54.00	17.67	AVG
14697.265	V	43.94	54.00	10.06	AVG
17632.905	V	48.53	54.00	5.47	AVG
11299.190	H	61.28	74.00	12.72	peak
14691.310	H	63.63	74.00	10.37	peak
17611.360	H	70.52	74.00	3.48	peak
11290.380	H	40.94	54.00	13.06	AVG
14691.310	H	43.76	54.00	10.24	AVG
17611.780	H	49.78	54.00	4.22	AVG

Test mode: 802.11n(HT20) Frequency: Channel 6: 2437MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9190.765	V	58.32	74.00	15.68	peak
14719.205	V	63.66	74.00	10.34	peak
17585.030	V	70.66	74.00	3.34	peak
9192.585	V	38.52	54.00	15.48	AVG
14719.765	V	43.71	54.00	10.29	AVG
17593.530	V	49.50	54.00	4.5	AVG
11323.565	H	60.55	74.00	13.45	peak
14710.060	H	64.64	74.00	9.36	peak
17601.985	H	70.56	74.00	3.44	peak
11314.755	H	40.69	54.00	13.31	AVG
14710.060	H	44.77	54.00	9.23	AVG
17602.405	H	49.59	54.00	4.41	AVG

Test mode: 802.11n(HT20) Frequency: Channel 11: 2462MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11313.265	V	61.04	74.00	12.96	peak
14694.830	V	63.75	74.00	10.25	peak
17630.030	V	70.06	74.00	3.94	peak
11315.085	V	41.14	54.00	12.86	AVG
14695.390	V	43.99	54.00	10.01	AVG
17638.530	V	48.90	54.00	5.1	AVG
11317.940	H	60.49	74.00	13.51	peak
14790.685	H	63.87	74.00	10.13	peak
17603.860	H	70.64	74.00	3.36	peak
11309.130	H	40.73	54.00	13.27	AVG
14790.685	H	44.05	54.00	9.95	AVG
17604.280	H	49.20	54.00	4.8	AVG

Note: (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
 (2) Emission Level= Reading Level+Correct Factor.
 (3) Correct Factor= Ant_F + Cab_L - Preamp
 (4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

■ Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz
All modes have been tested, and the worst result recorded was report as below:

Test mode: 802.11n(20MHz) Frequency: Channel 1: 2412MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
2386.18	V	50.50	74.00	23.50	peak
2386.18	V	29.78	54.00	24.22	AVG
2385.96	H	45.87	74.00	28.13	peak
2385.96	H	24.78	54.00	29.22	AVG

Test mode: 802.11n(20MHz) Frequency: Channel 11: 2462MHz

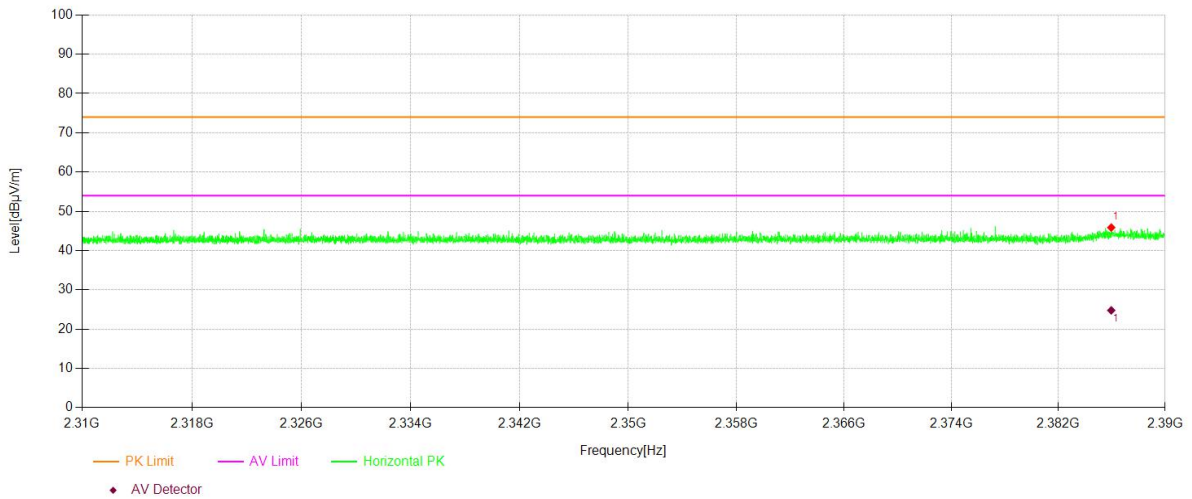
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
2483.823	V	50.25	74.00	23.75	peak
2483.823	V	29.73	54.00	24.27	AVG
2485.591	H	47.39	74.00	26.61	peak
2485.591	H	26.70	54.00	27.30	AVG

Note: (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Spurious Emission in Restricted Band 2310-2390MHz

Test Model	☐ 802.11b	☐ 802.11g	☒ 802.11n(HT20)	☐ 802.11n(HT40)
	☒ Channel 1:2412MHz	☐ Channel 3: 2422MHz	Polarity: H	

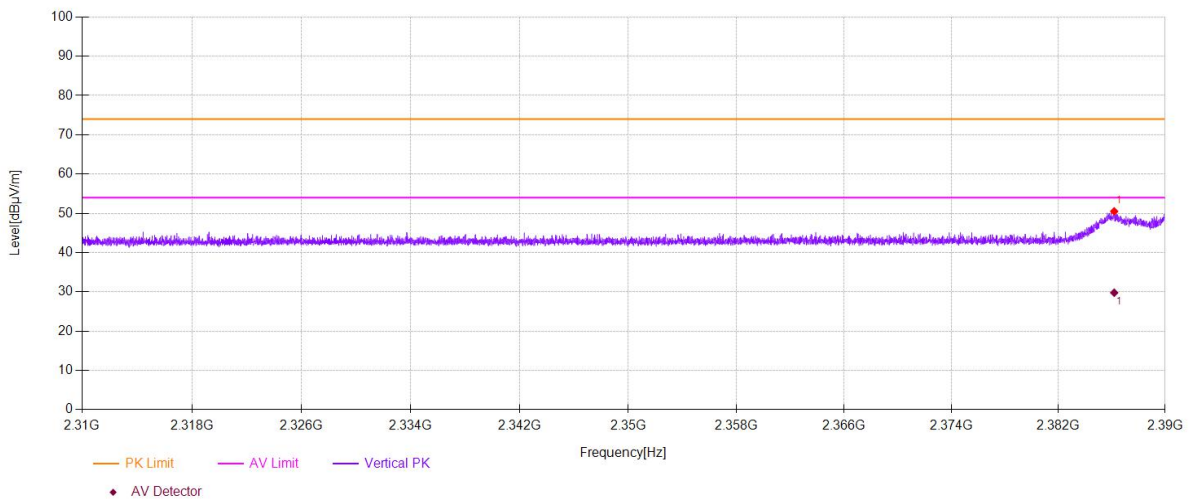
VBW=3MHz



Spurious Emission in Restricted Band 2310-2390MHz

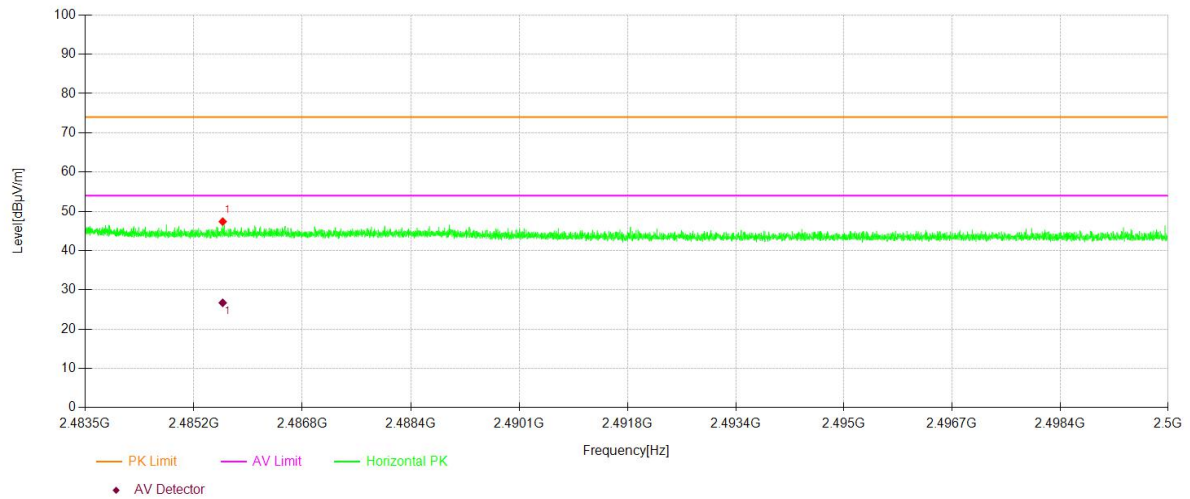
Test Model	☐ 802.11b	☐ 802.11g	☒ 802.11n(HT20)	☐ 802.11n(HT40)
	☒ Channel 1:2412MHz	☐ Channel 3: 2422MHz	Polarity: V	

VBW=3MHz



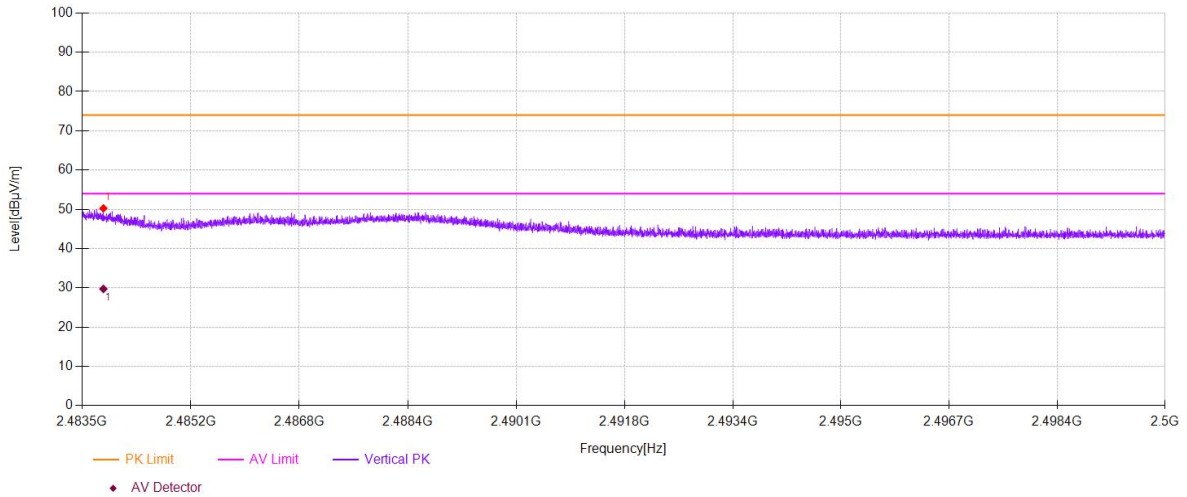
Spurious Emission in Restricted Band 2483.5-2500MHz

Test Model ☐ 802.11b ☐ 802.11g ☒ 802.11n(HT20) ☐ 802.11n(HT40)
☒ Channel 11: 2462MHz ☐ Channel 9: 2452MHz Polarity: H
 VBW=3MHz



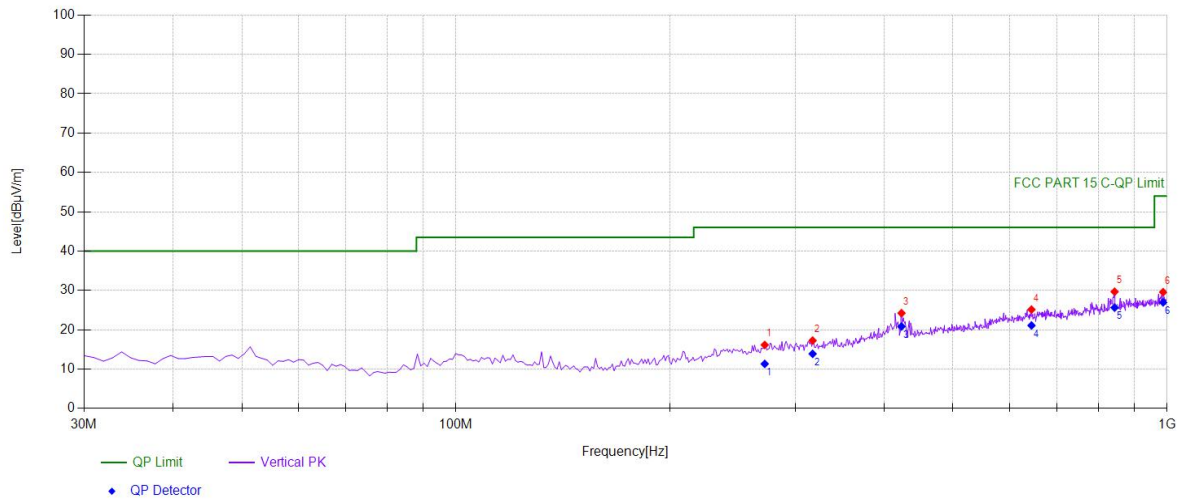
Spurious Emission in Restricted Band 2483.5-2500MHz

Test Model ☐ 802.11b ☐ 802.11g ☒ 802.11n(HT20) ☐ 802.11n(HT40)
☒ Channel 11: 2462MHz ☐ Channel 9: 2452MHz Polarity: V
 VBW=3MHz

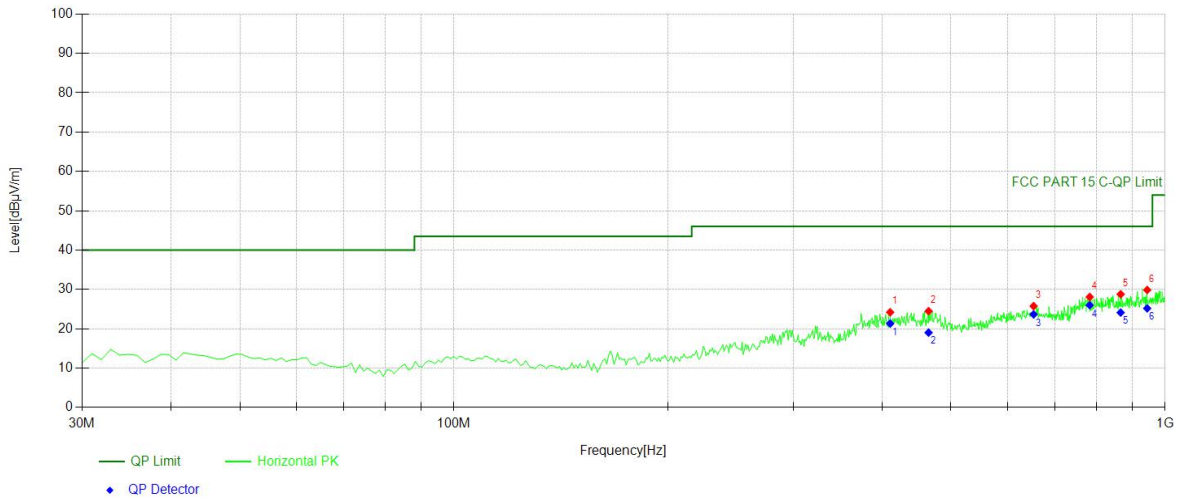


- Spurious Emission below 1GHz (30MHz to 1GHz)
All modes have been tested, and the worst result recorded was report as below:

Test mode: 802.11 b Frequency: Channel 1: 2412MHz



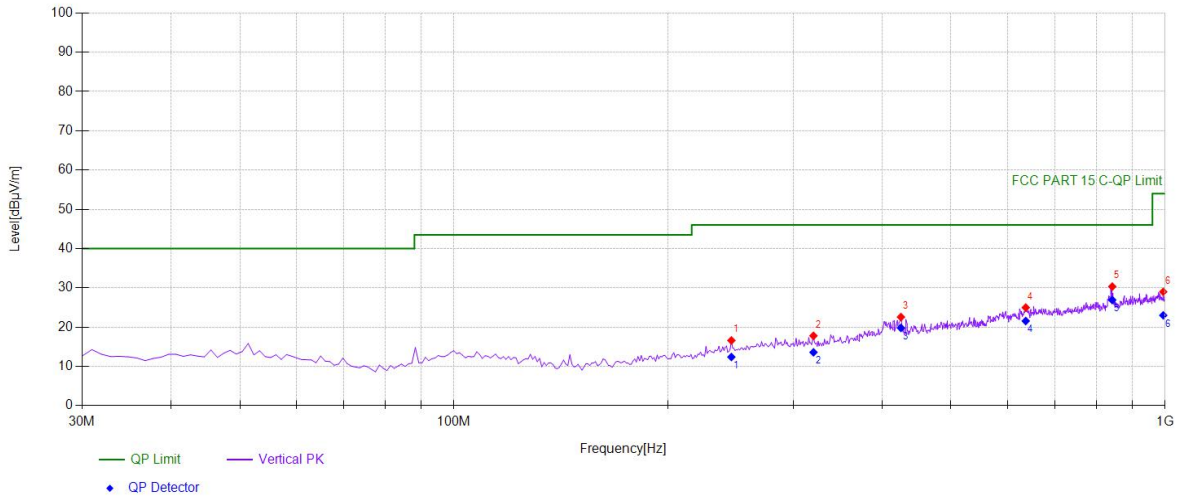
Suspected Data List							
NO.	Freq. [MHz]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	271.7718	16.15	46.00	29.85	100	91	Vertical
2	317.4074	17.27	46.00	28.73	100	31	Vertical
3	423.2432	24.23	46.00	21.77	100	63	Vertical
4	644.6246	25.14	46.00	20.86	100	31	Vertical
5	843.6737	29.68	46.00	16.32	100	31	Vertical
6	987.3774	29.57	54.00	24.43	100	45	Vertical



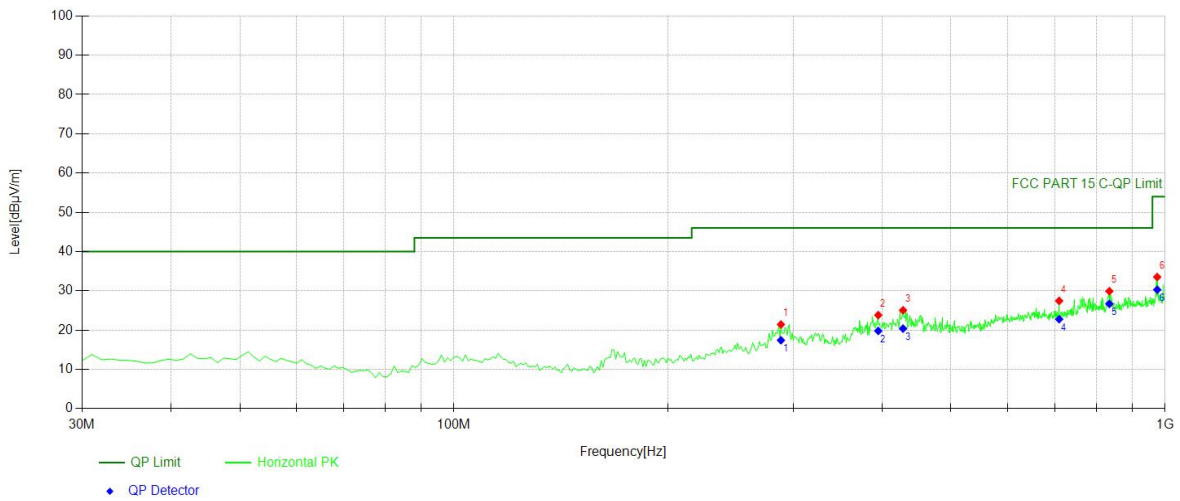
Suspected Data List

NO.	Freq. [MHz]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	410.6206	24.21	46.00	21.79	100	123	Horizontal
2	464.995	24.48	46.00	21.52	100	217	Horizontal
3	653.3634	25.76	46.00	20.24	100	192	Horizontal
4	783.4735	28.09	46.00	17.91	100	137	Horizontal
5	866.006	28.79	46.00	17.21	100	137	Horizontal
6	943.6837	29.86	46.00	16.14	100	91	Horizontal

Test mode: 802.11 b Frequency: Channel 6: 2437MHz



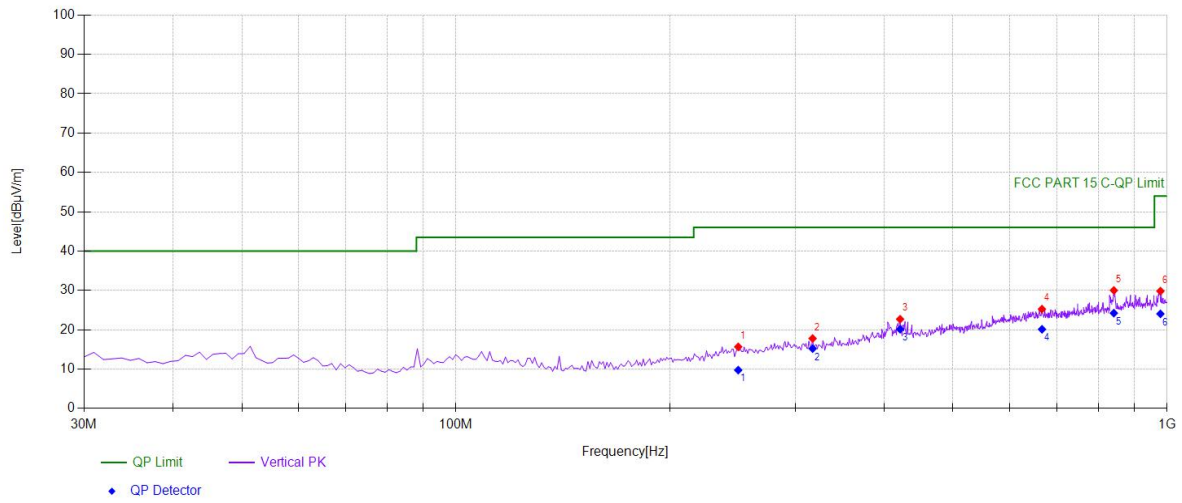
Suspected Data List							
NO.	Freq. [MHz]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	245.5556	16.60	46.00	29.40	100	316	Vertical
2	320.3203	17.79	46.00	28.21	100	141	Vertical
3	425.1852	22.57	46.00	23.43	100	270	Vertical
4	636.8569	24.98	46.00	21.02	100	201	Vertical
5	842.7027	30.33	46.00	15.67	100	270	Vertical
6	994.1742	28.99	54.00	25.01	100	353	Vertical



Suspected Data List

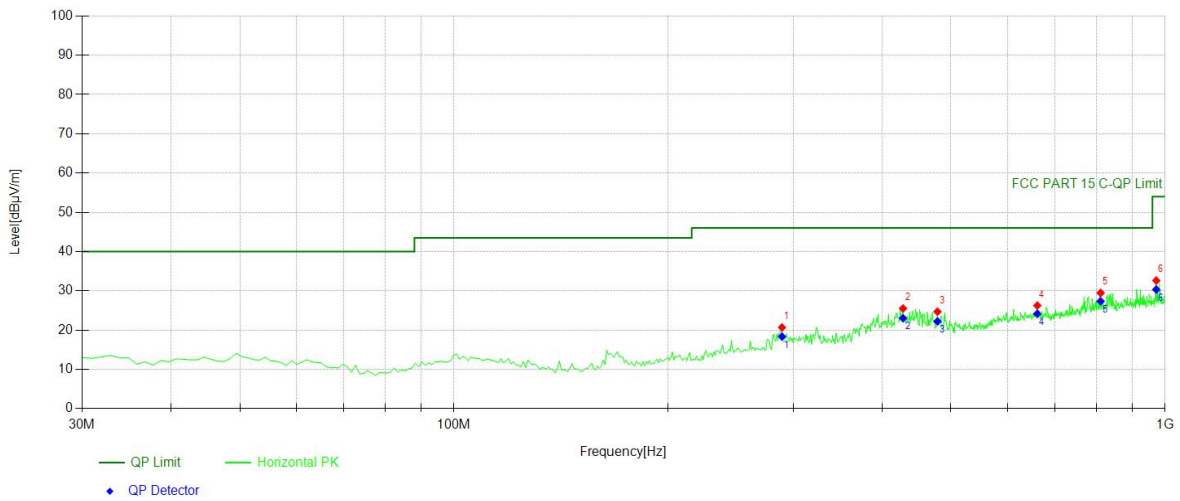
NO.	Freq. [MHz]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	288.2783	21.44	46.00	24.56	100	34	Horizontal
2	395.0851	23.82	46.00	22.18	100	154	Horizontal
3	428.0981	25.06	46.00	20.94	100	164	Horizontal
4	709.6797	27.46	46.00	18.54	100	76	Horizontal
5	834.9349	29.92	46.00	16.08	100	214	Horizontal
6	974.7548	33.53	54.00	20.47	100	200	Horizontal

Test mode: 802.11 b Frequency: Channel 11: 2462MHz



Suspected Data List

NO.	Freq. [MHz]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	249.4394	15.67	46.00	30.33	100	115	Vertical
2	317.4074	17.79	46.00	28.21	100	196	Vertical
3	421.3013	22.70	46.00	23.30	100	276	Vertical
4	666.957	25.26	46.00	20.74	100	276	Vertical
5	841.7317	30.02	46.00	15.98	100	233	Vertical
6	978.6386	29.84	54.00	24.16	100	40	Vertical



Suspected Data List

NO.	Freq. [MHz]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	289.2492	20.69	46.00	25.31	100	330	Horizontal
2	428.0981	25.52	46.00	20.48	100	128	Horizontal
3	478.5886	24.71	46.00	21.29	100	146	Horizontal
4	661.1311	26.27	46.00	19.73	100	58	Horizontal
5	811.6316	29.49	46.00	16.51	100	258	Horizontal
6	971.8418	32.63	54.00	21.37	100	202	Horizontal

7.6 CONDUCTED EMISSION TEST

7.6.1 Applicable Standard

According to IC RSS-Gen 8.8

7.6.2 Conformance Limit

FCC Part 15, Subpart B, Class B

Conducted Emission Limit		
Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note:
 1. The lower limit shall apply at the transition frequencies
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

7.6.3 Test Configuration

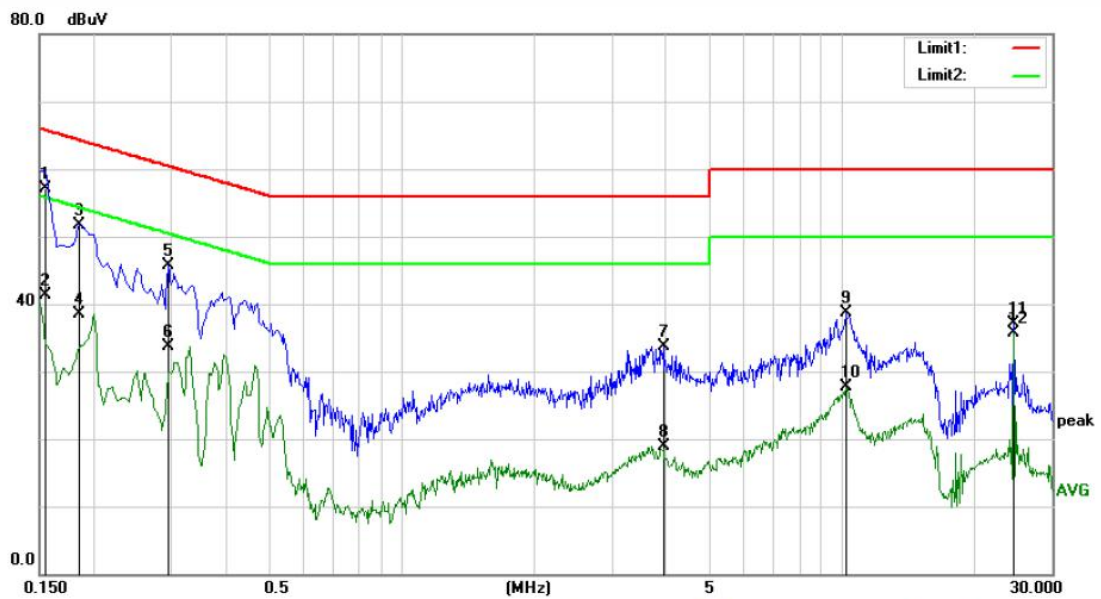
Test according to clause 6.3 conducted emission test setup 3.

7.6.4 Test Procedure

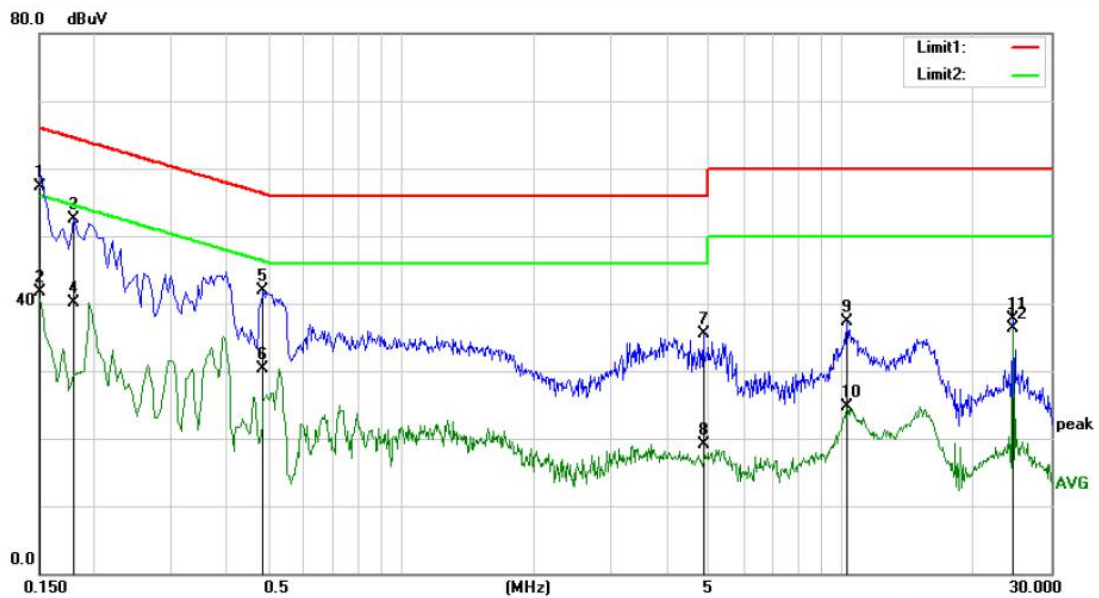
The EUT was placed on a table which is 0.8m above ground plane.
 Maximum procedure was performed on the highest emissions to ensure EUT compliance.
 Repeat above procedures until all frequency measured were complete.

7.6.5 Test Results

Pass



Site Conduction #1				Phase: N		Temperature: 21.9		
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.1550	47.67	9.53	57.20	65.73	-8.53	QP
2		0.1550	31.82	9.53	41.35	55.73	-14.38	AVG
3		0.1850	42.25	9.53	51.78	64.26	-12.48	QP
4		0.1850	28.97	9.53	38.50	54.26	-15.76	AVG
5		0.2950	36.08	9.53	45.61	60.38	-14.77	QP
6		0.2950	24.23	9.53	33.76	50.38	-16.62	AVG
7		3.9350	24.19	9.56	33.75	56.00	-22.25	QP
8		3.9350	9.32	9.56	18.88	46.00	-27.12	AVG
9		10.2300	28.94	9.70	38.64	60.00	-21.36	QP
10		10.2300	18.06	9.70	27.76	50.00	-22.24	AVG
11		24.5550	26.99	10.17	37.16	60.00	-22.84	QP
12		24.5550	25.60	10.17	35.77	50.00	-14.23	AVG



Site Conduction #1 Phase: **L1** Temperature: 21.9

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1500	47.77	9.53	57.30	66.00	-8.70	QP	
2		0.1500	32.19	9.53	41.72	56.00	-14.28	AVG	
3		0.1800	42.94	9.53	52.47	64.49	-12.02	QP	
4		0.1800	30.50	9.53	40.03	54.49	-14.46	AVG	
5		0.4850	32.35	9.53	41.88	56.25	-14.37	QP	
6		0.4850	20.74	9.53	30.27	46.25	-15.98	AVG	
7		4.8700	25.90	9.57	35.47	56.00	-20.53	QP	
8		4.8700	9.63	9.57	19.20	46.00	-26.80	AVG	
9		10.3300	27.67	9.70	37.37	60.00	-22.63	QP	
10		10.3300	15.10	9.70	24.80	50.00	-25.20	AVG	
11		24.5550	27.61	10.17	37.78	60.00	-22.22	QP	
12		24.5550	26.12	10.17	36.29	50.00	-13.71	AVG	

7.7 ANTENNA APPLICATION

7.7.1 Antenna Requirement

Standard	Requirement
FCC CRF Part15.203	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 an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

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 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi..

7.7.2 Result

PASS

The EUT integrated antenna, antenna1 gain is 1.65dBi, antenna2 gain is 2.75dBi.

- ☐ Antenna uses a permanently attached antenna which is not replaceable.
- ☒ Not using a standard antenna jack or electrical connector for antenna replacement.
- ☐ The antenna has to be professionally installed (please provide method of installation).

Which in accordance to section 15.203, please refer to the internal photos.

Detail of factor for radiated emission:

Frequency(MHz)	Ant_F(dB)	Cab_L(dB)	Preamp(dB)	Correct Factor(dB)
0.009	20.6	0.03	\	20.63
0.15	20.7	0.1	\	20.8
1	20.9	0.15	\	21.05
10	20.1	0.28	\	20.38
30	18.8	0.45	\	19.25
30	11.7	0.62	27.9	-15.58
100	12.5	1.02	27.8	-14.28
300	12.9	1.91	27.5	-12.69
600	19.2	2.92	27	-4.88
800	21.1	3.54	26.6	-1.96
1000	22.3	4.17	26.2	0.27
1000	25.6	1.76	41.4	-14.04
3000	28.9	3.27	43.2	-11.03
5000	31.1	4.2	44.6	-9.3
8000	36.2	5.95	44.7	-2.55
10000	38.4	6.3	43.9	0.8
12000	38.5	7.14	42.3	3.34
15000	40.2	8.15	41.4	6.95
18000	45.4	9.02	41.3	13.12
18000	37.9	1.81	47.9	-8.19
21000	37.9	1.95	48.7	-8.85
25000	39.3	2.01	42.8	-1.49
28000	39.6	2.16	46.0	-4.24
31000	41.2	2.24	44.5	-1.06
34000	41.5	2.29	46.6	-2.81
37000	43.8	2.30	46.4	-0.3
40000	43.2	2.50	42.2	3.5

--- End of Report ---