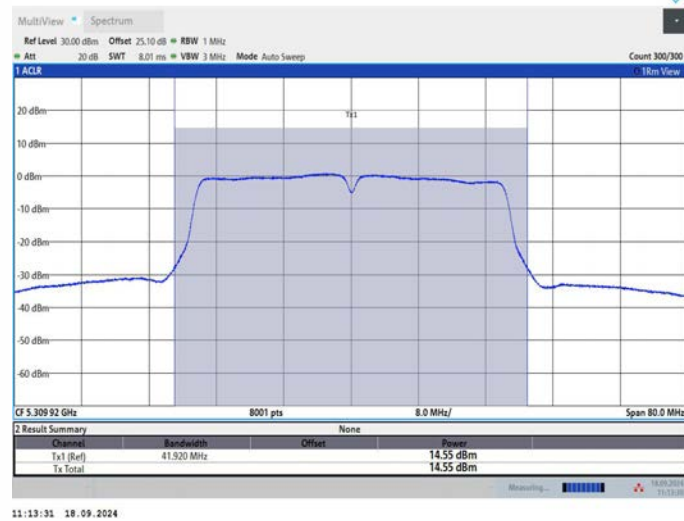
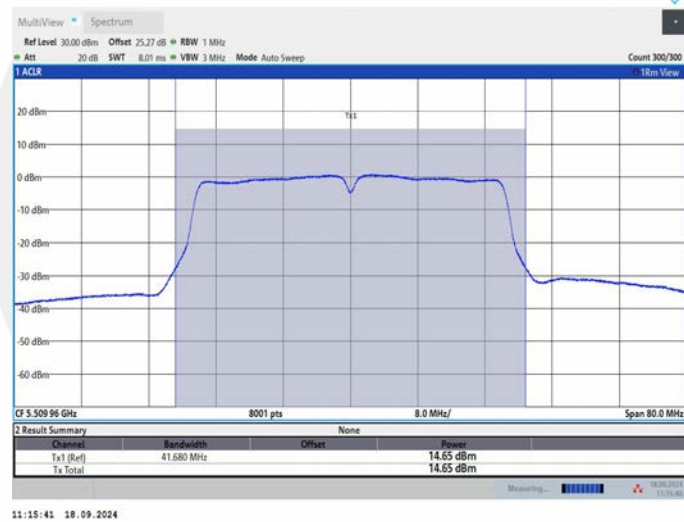


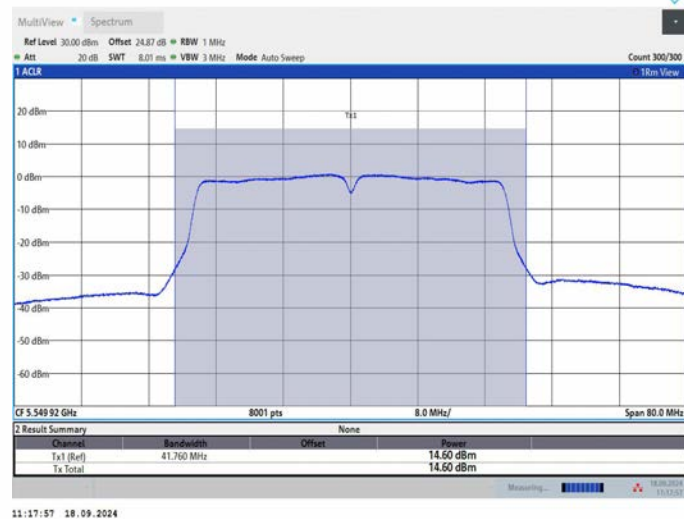
11N40SISO_Ant1_5310



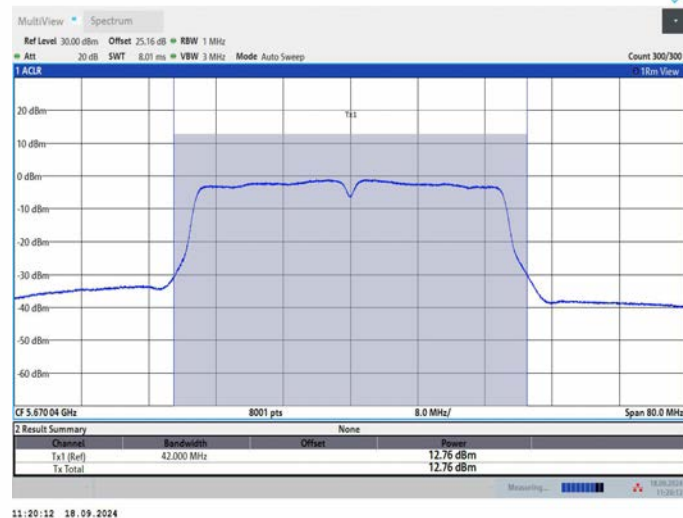
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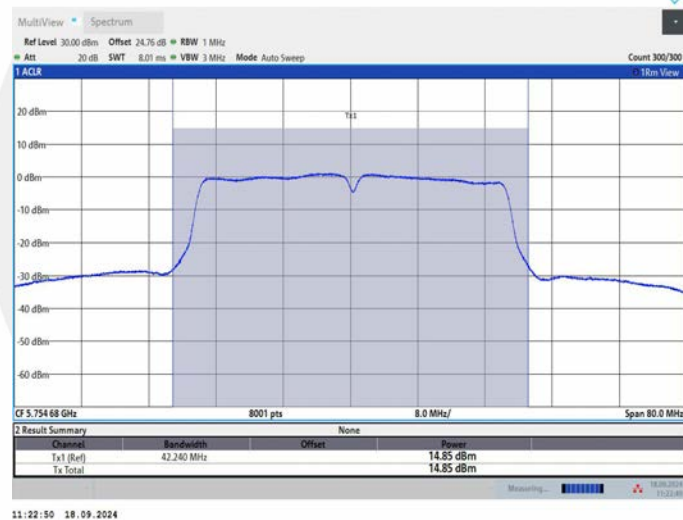
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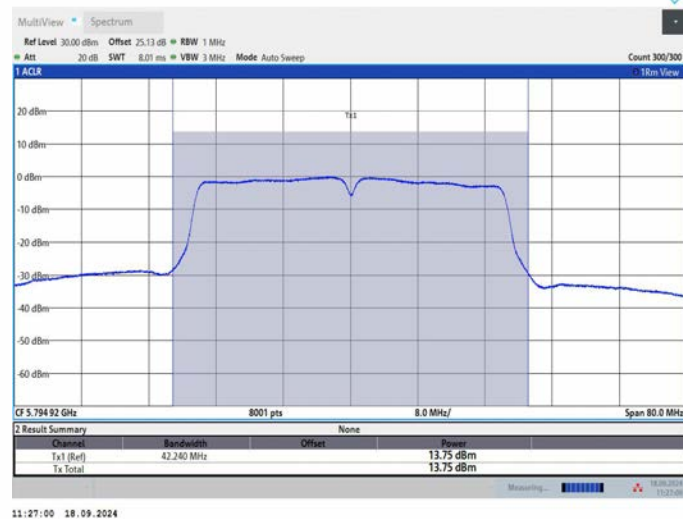
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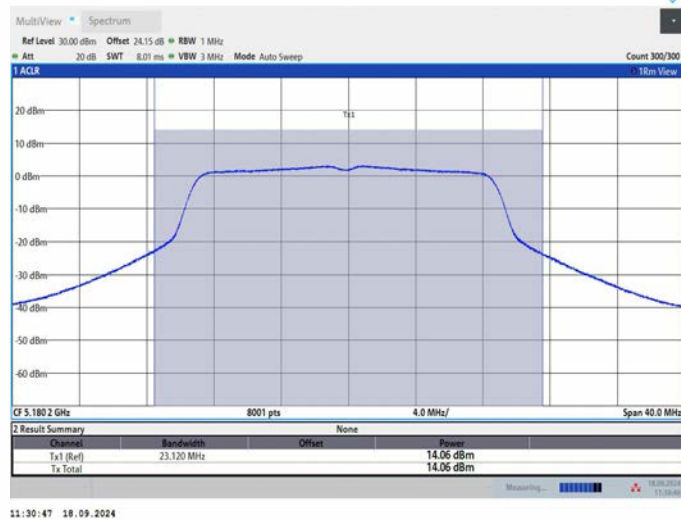
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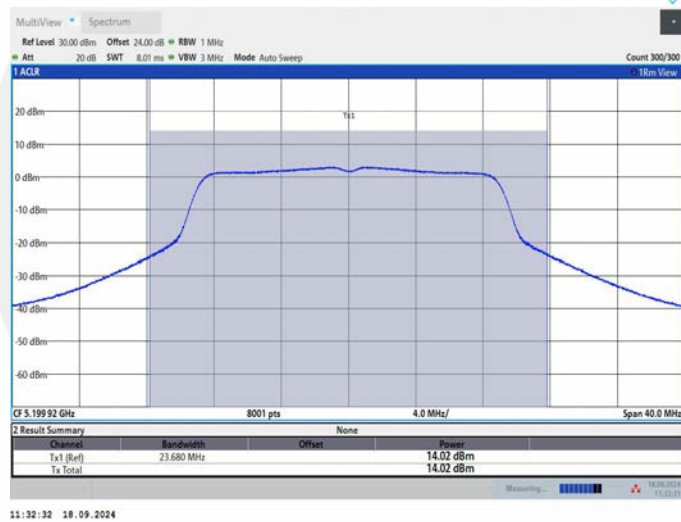
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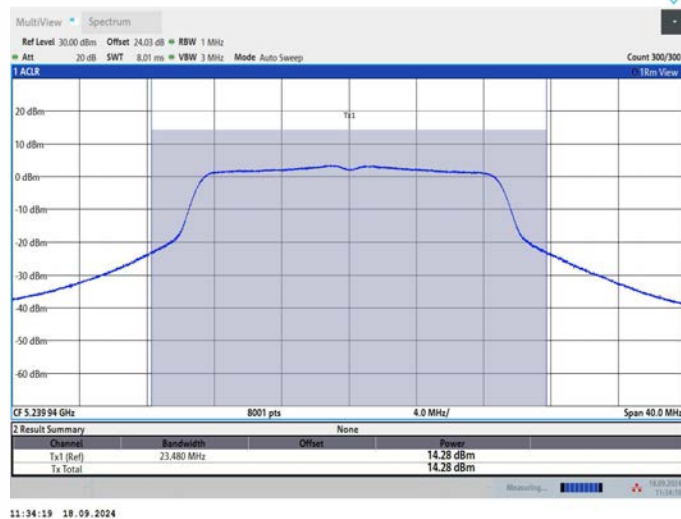
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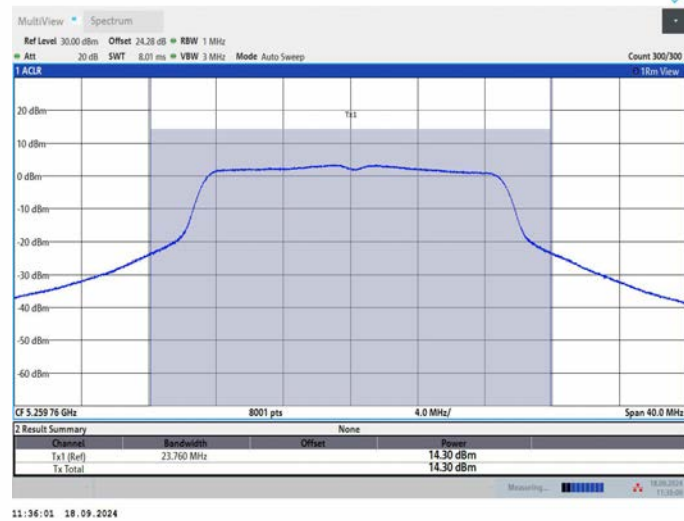
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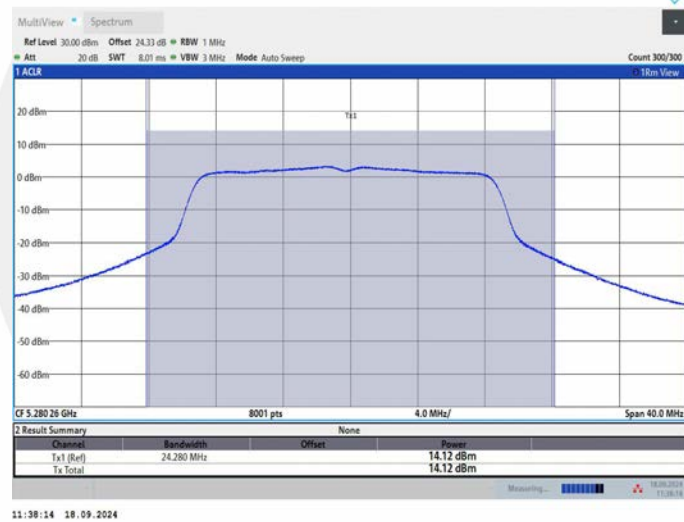
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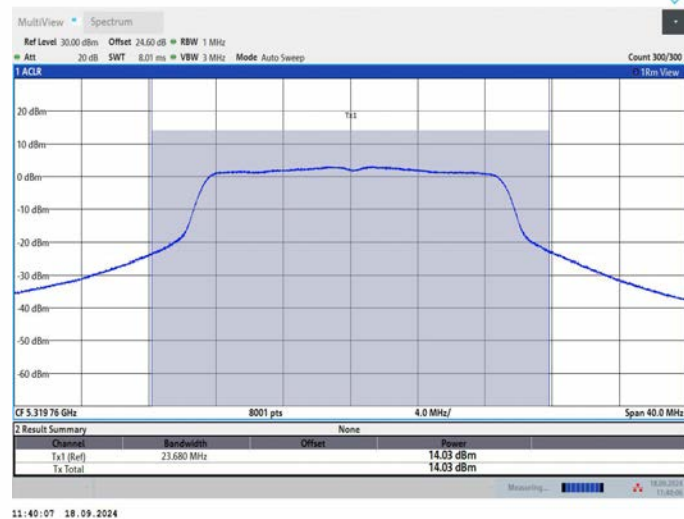
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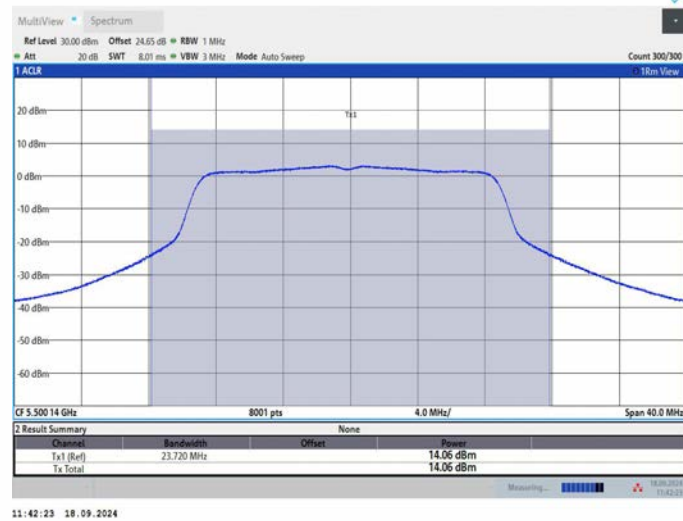
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11AC20SISO_Ant1_5320

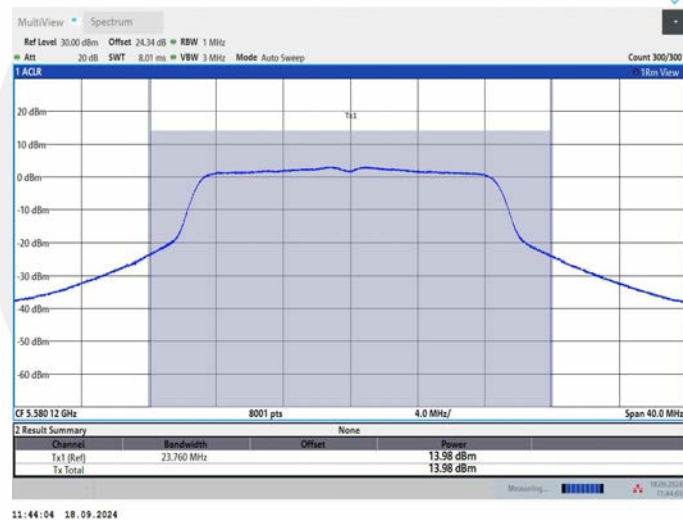


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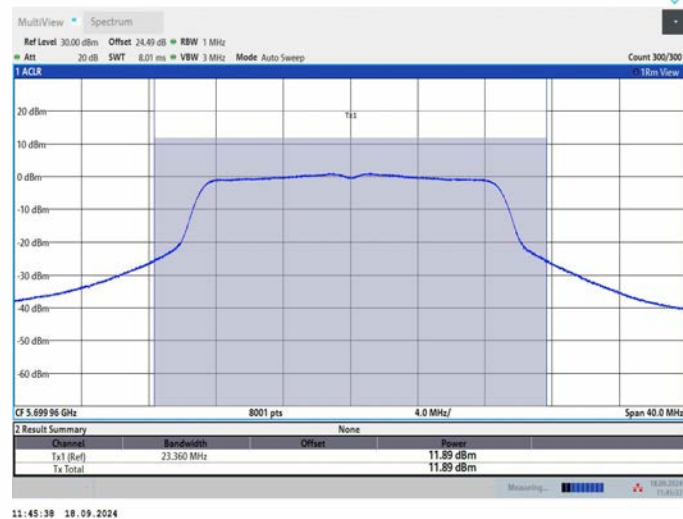
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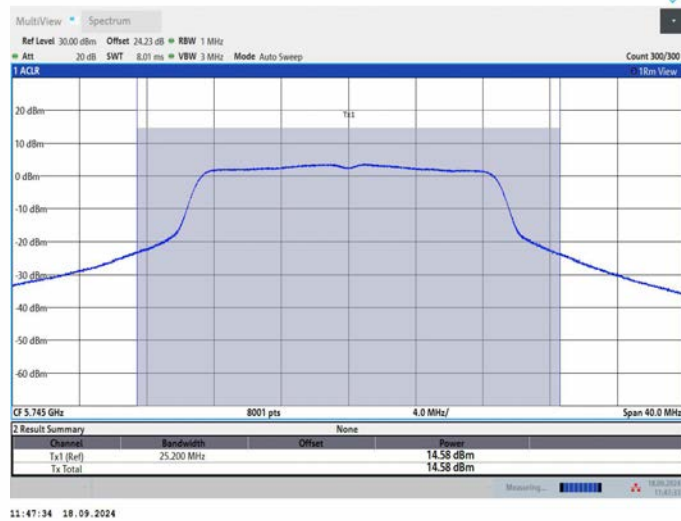
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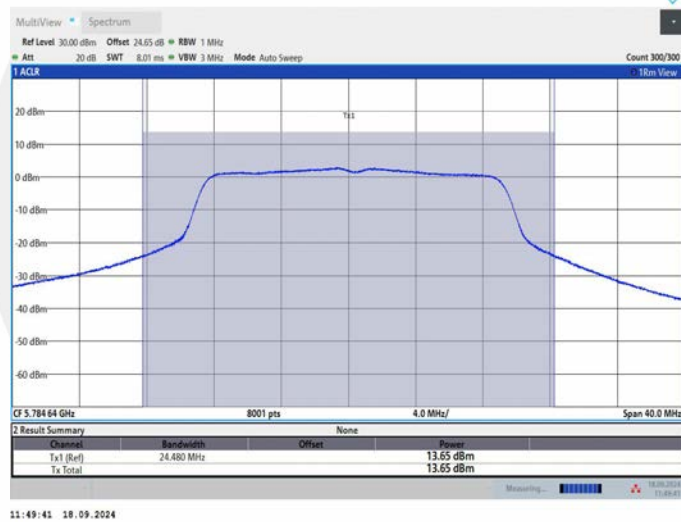


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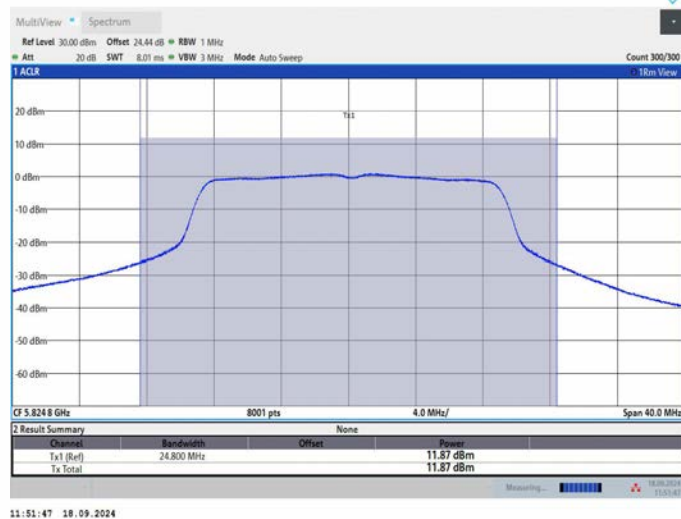
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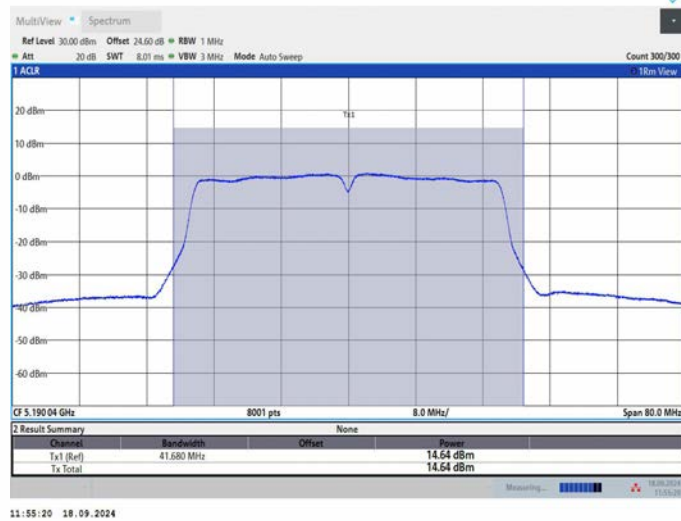
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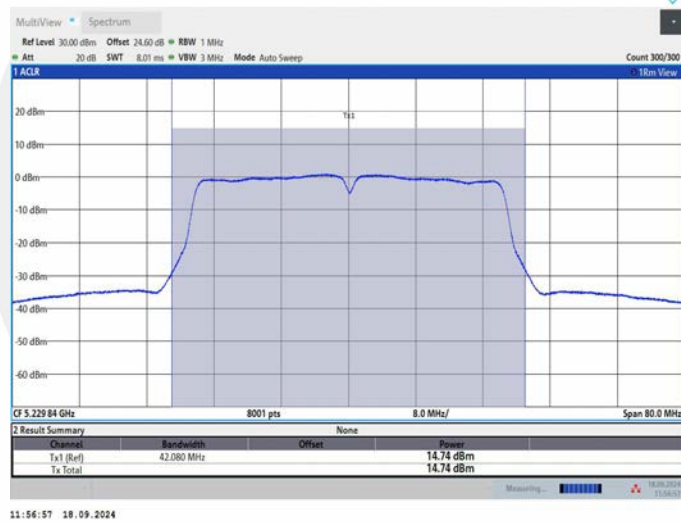
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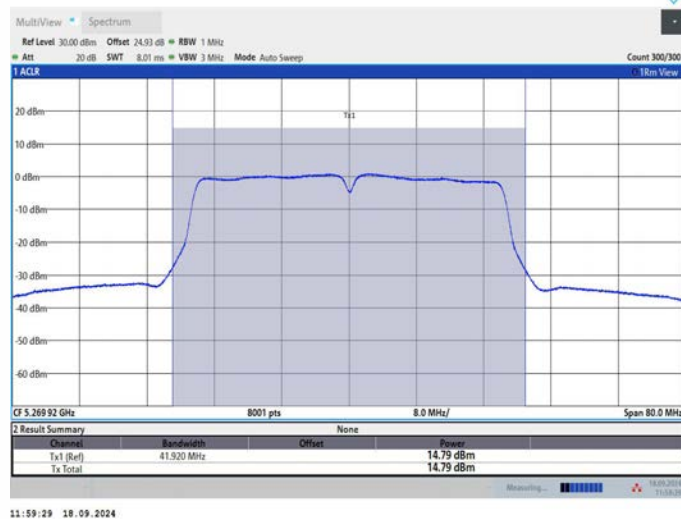
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11AC40SISO_Ant1_5230



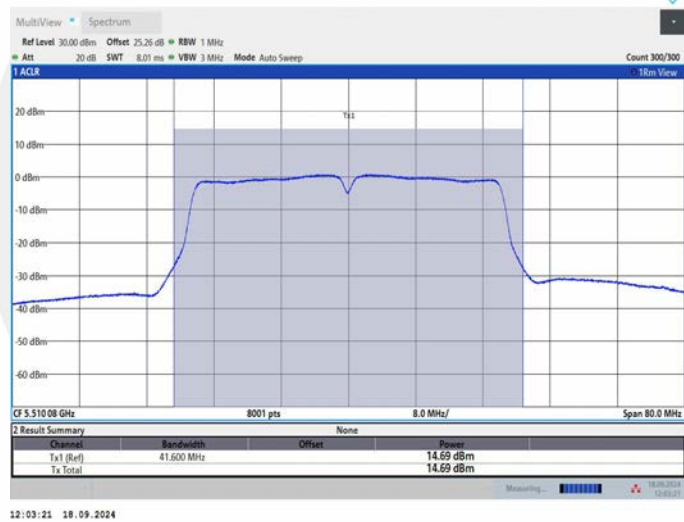
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11AC40SISO_Ant1_5310



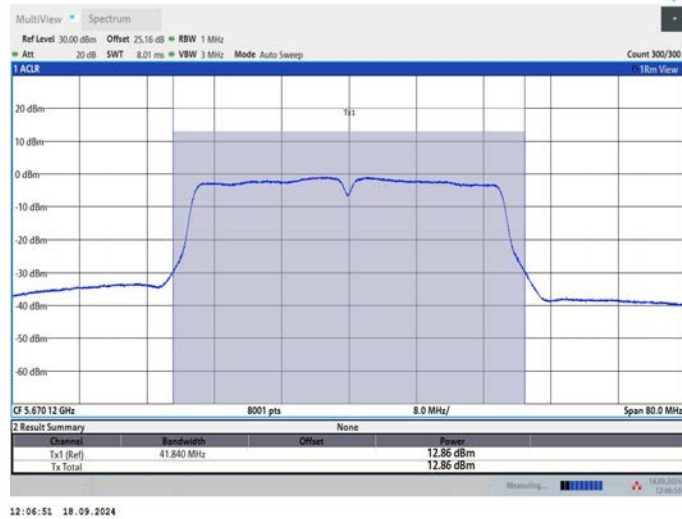
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11AC40SISO_Ant1_5550

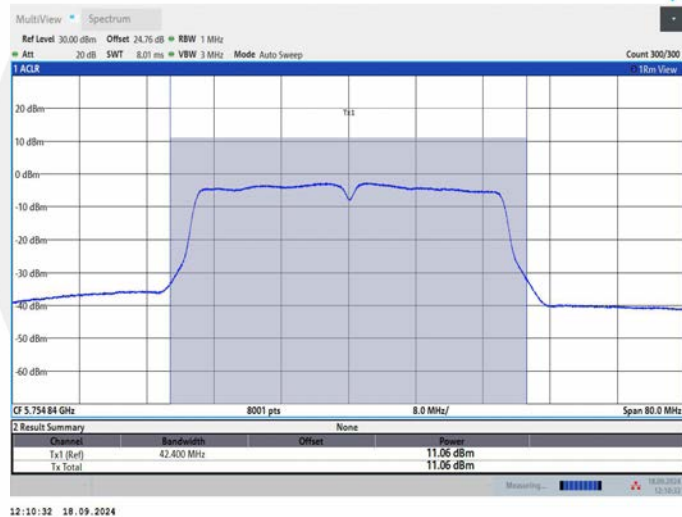


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12:06:51 18.09.2024

11AC40SISO_Ant1_5755



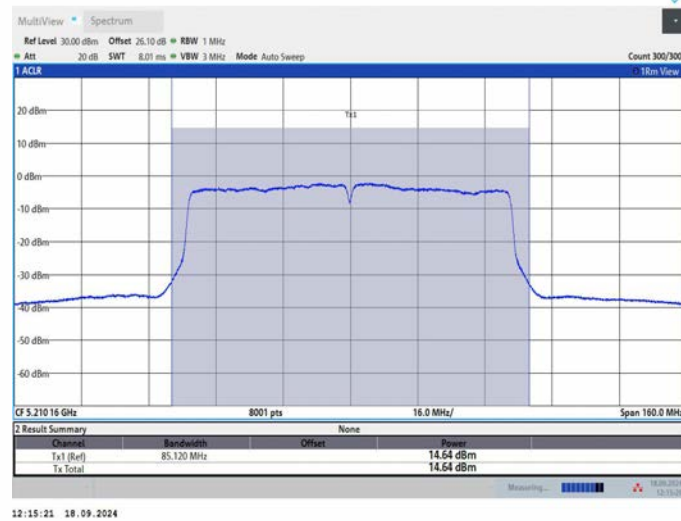
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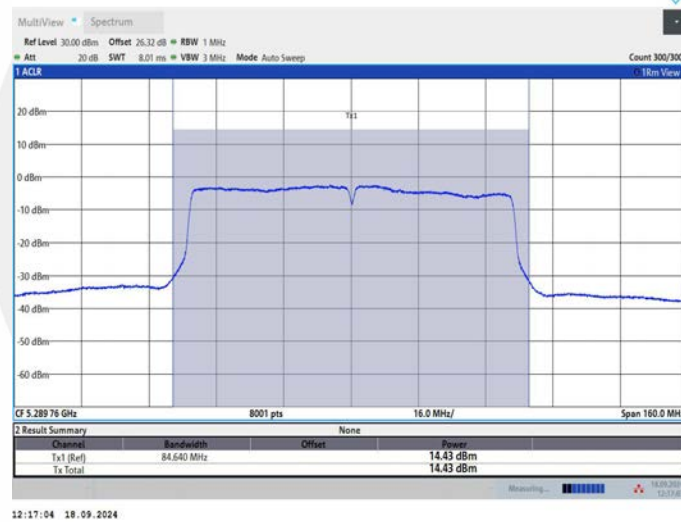


12:12:33 18.09.2024

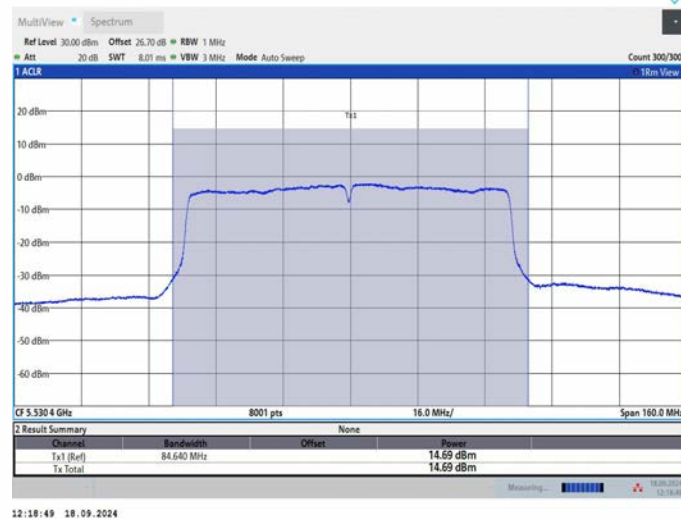
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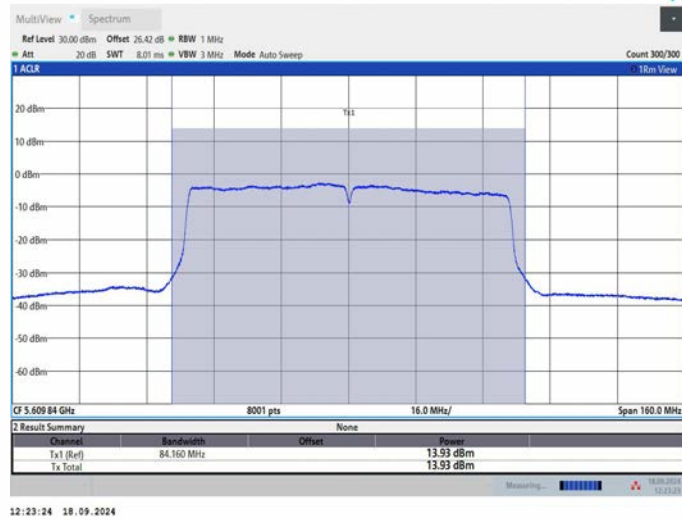
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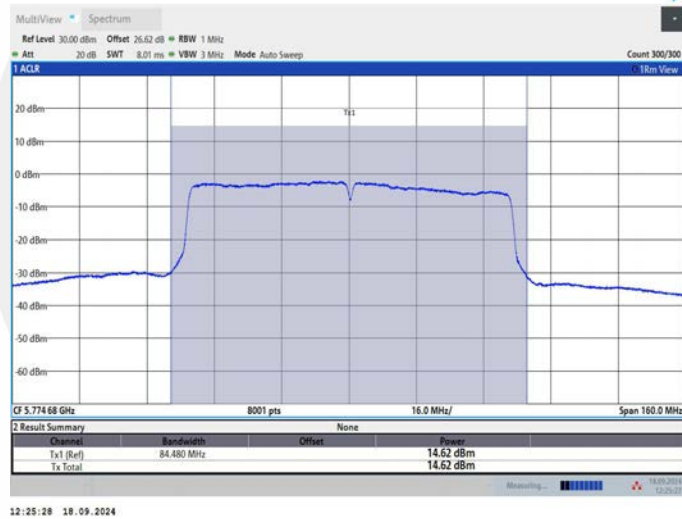


11AC80SISO_Ant1_5610



12:23:24 18.09.2024

11AC80SISO_Ant1_5775



12:25:28 18.09.2024

8.3 MAXIMUM PEAK POWER DENSITY

8.3.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNII Band I
According to FCC Part 15.407(a)(2) for UNII Band II-A and UNII Band II-C
According to FCC Part 15.407(a)(3) for UNII Band III
According to 789033 D02 Section II(F)

8.3.2 Conformance Limit

■ For the band 5.15-5.25 GHz

(a) (1) (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(a) (1) (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a) (1) (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(a) (1) (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the 5.25-5.35 GHz and 5.47-5.725 GHz

(b) (2) the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the band 5.725-5.85 GHz

(a) (3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.3.3 Test Configuration

Test according to clause 6.1 radio frequency test setup 1.

8.3.4 Test Procedure

Methods refer to FCC KDB 789033.

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:

- a) Set $RBW \geq 1/T$, where T is defined in section II.B.I.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/RBW)$ to the measured result, whereas $RBW (< 500 \text{ KHz})$ is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10\log(1\text{MHz}/RBW)$ to the measured result, whereas $RBW (< 1 \text{ MHz})$ is the reduced resolution bandwidth of spectrum analyzer set during measurement.
- e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections.

5.c) and 5.d) above, since $RBW=100 \text{ KHz}$ is available on nearly all spectrum analyzers.

8.3.5 Test Results

Temperature : 25℃
Humidity : 45 %

ATM Pressure: 1011 mbar
Test Engineer: GJ

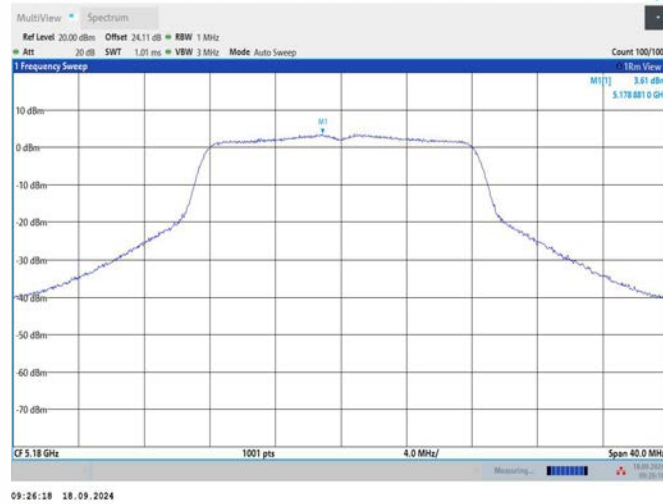
TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	3.61	≤11.00	PASS
		5200	3.65	≤11.00	PASS
		5240	4.03	≤11.00	PASS
		5260	3.75	≤11.00	PASS
		5280	3.56	≤11.00	PASS
		5320	3.47	≤11.00	PASS
		5500	3.64	≤11.00	PASS
		5580	3.31	≤11.00	PASS
		5700	1.48	≤11.00	PASS
		5745	1.09	≤30.00	PASS
		5785	0.10	≤30.00	PASS
		5825	-1.46	≤30.00	PASS
11N20SISO	Ant1	5180	3.36	≤11.00	PASS
		5200	3.24	≤11.00	PASS
		5240	3.52	≤11.00	PASS
		5260	3.30	≤11.00	PASS
		5280	3.35	≤11.00	PASS
		5320	3.20	≤11.00	PASS
		5500	3.25	≤11.00	PASS
		5580	3.18	≤11.00	PASS
		5700	1.05	≤11.00	PASS
		5745	0.99	≤30.00	PASS
		5785	-0.06	≤30.00	PASS
		5825	-1.96	≤30.00	PASS
11N40SISO	Ant1	5190	0.57	≤11.00	PASS
		5230	0.78	≤11.00	PASS
		5270	0.90	≤11.00	PASS
		5310	0.74	≤11.00	PASS
		5510	0.76	≤11.00	PASS
		5550	1.05	≤11.00	PASS
		5670	-1.14	≤11.00	PASS
		5755	-1.62	≤30.00	PASS
		5795	-2.73	≤30.00	PASS
11AC20SISO	Ant1	5180	3.41	≤11.00	PASS
		5200	3.30	≤11.00	PASS
		5240	3.61	≤11.00	PASS
		5260	3.44	≤11.00	PASS
		5280	3.38	≤11.00	PASS
		5320	3.22	≤11.00	PASS
		5500	3.41	≤11.00	PASS
		5580	3.26	≤11.00	PASS
		5700	1.69	≤11.00	PASS
		5745	0.95	≤30.00	PASS
		5785	0.01	≤30.00	PASS
		5825	-1.69	≤30.00	PASS
11AC40SISO	Ant1	5190	0.88	≤11.00	PASS

		5230	0.61	≤11.00	PASS
		5270	0.86	≤11.00	PASS
		5310	0.80	≤11.00	PASS
		5510	0.92	≤11.00	PASS
		5550	0.67	≤11.00	PASS
		5670	-1.22	≤11.00	PASS
		5755	-5.67	≤30.00	PASS
		5795	-6.72	≤30.00	PASS
11AC80SISO	Ant1	5210	-2.55	≤11.00	PASS
		5290	-2.25	≤11.00	PASS
		5530	-2.09	≤11.00	PASS
		5610	-2.46	≤11.00	PASS
		5775	-5.20	≤30.00	PASS

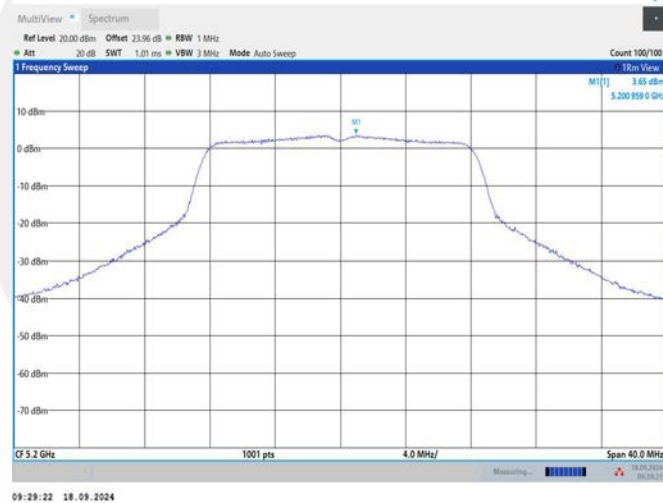


Test Graphs

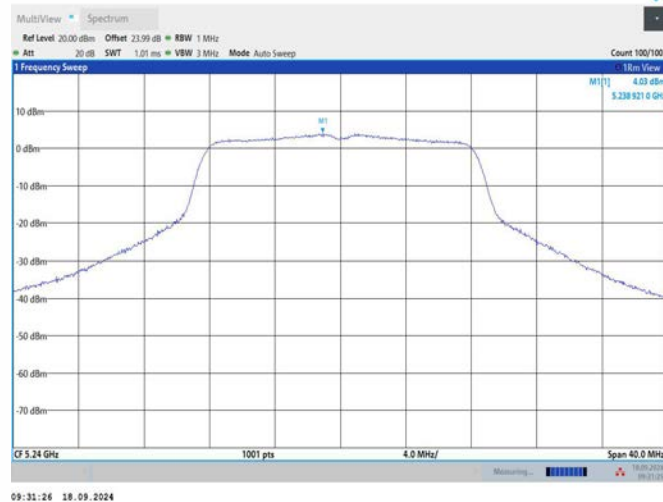
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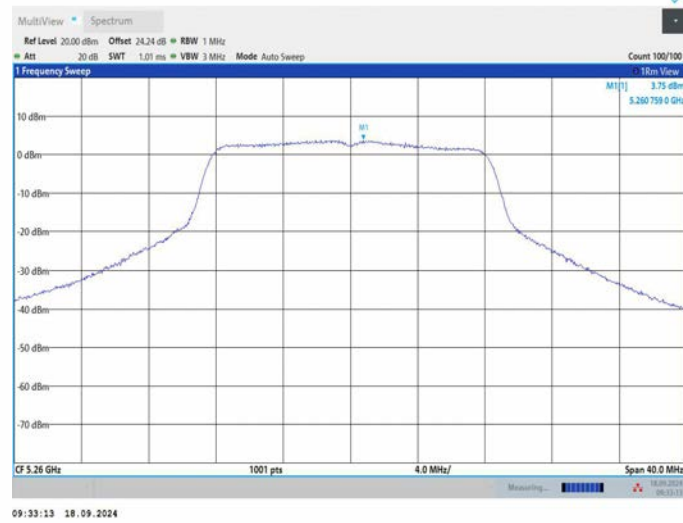
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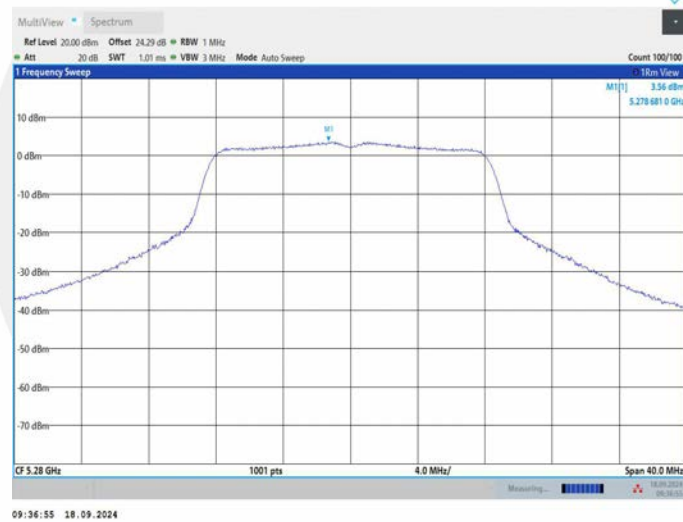
11A_Ant1_5240



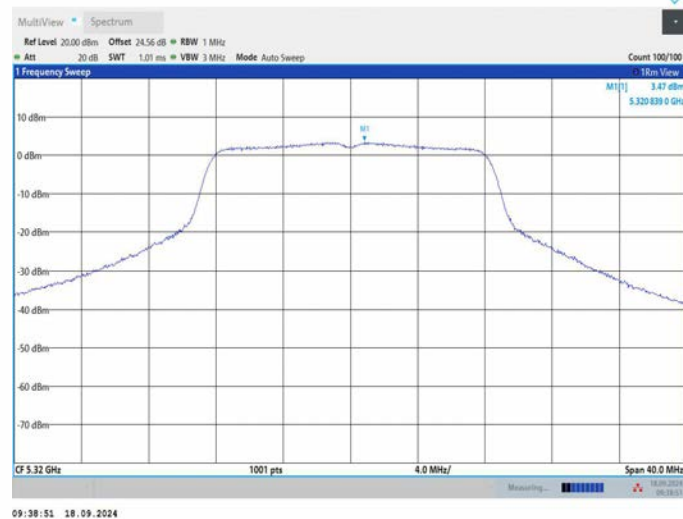
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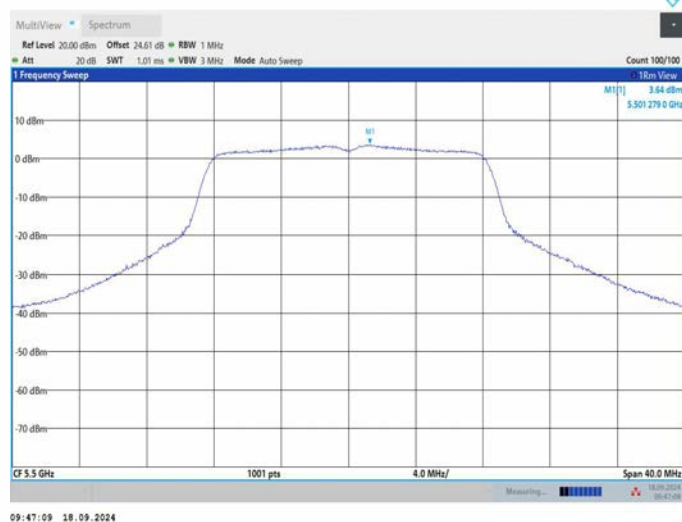
11A_Ant1_5280



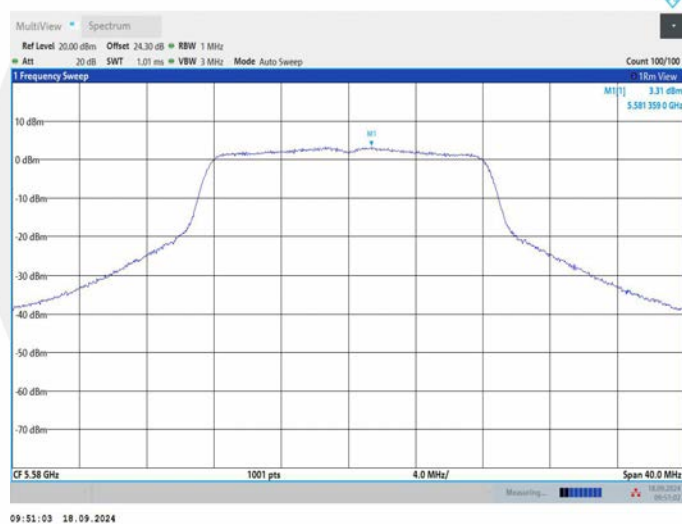
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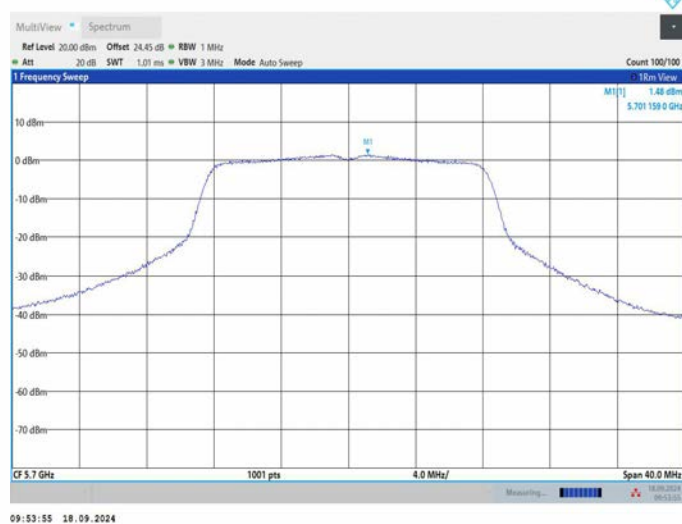
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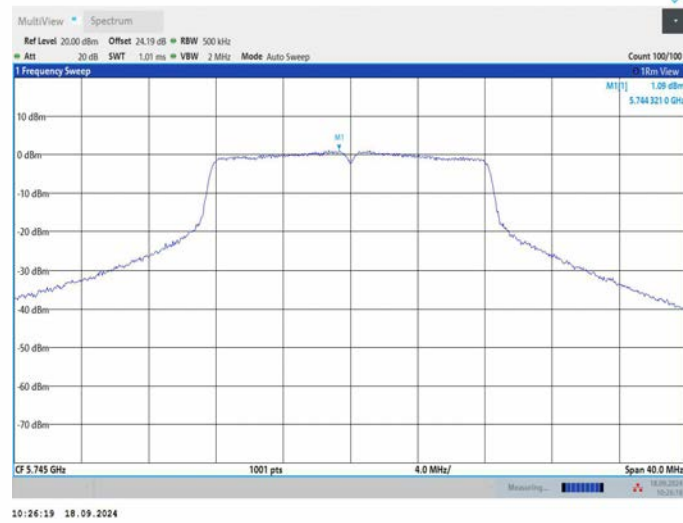
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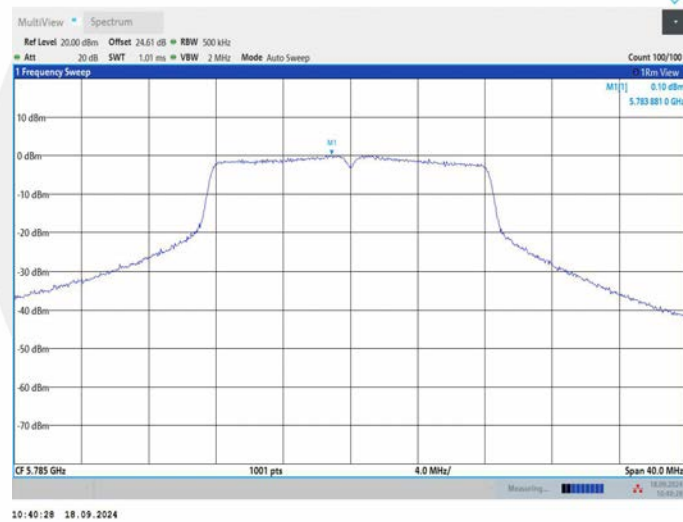
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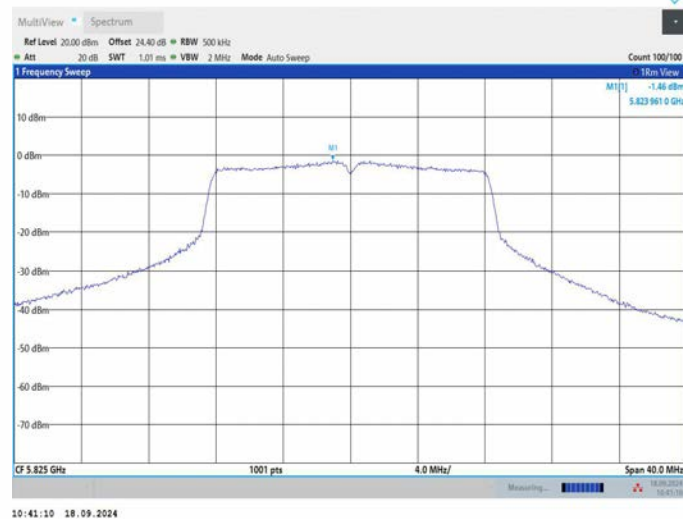
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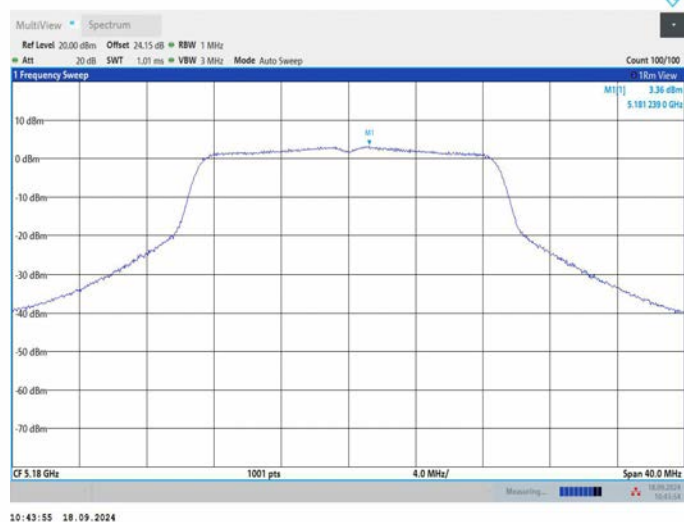
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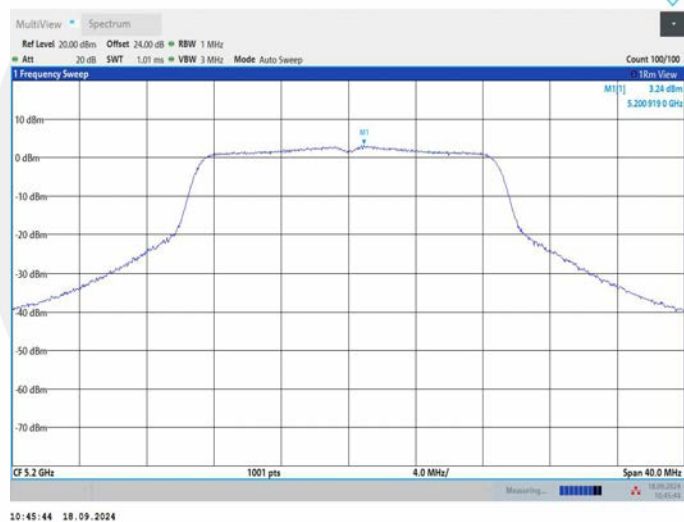
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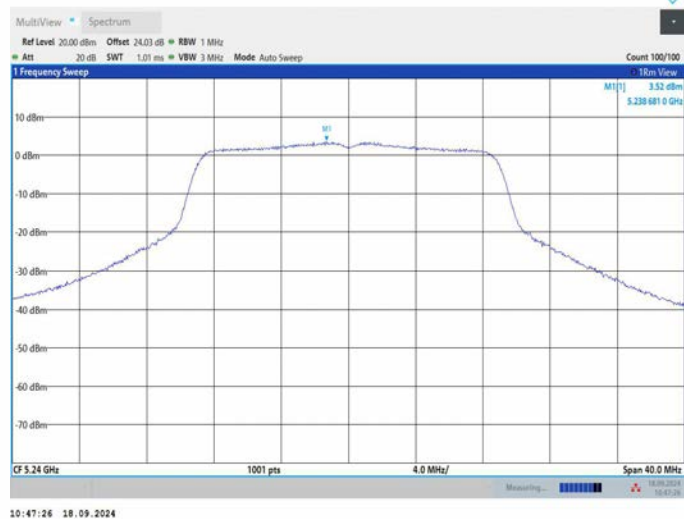
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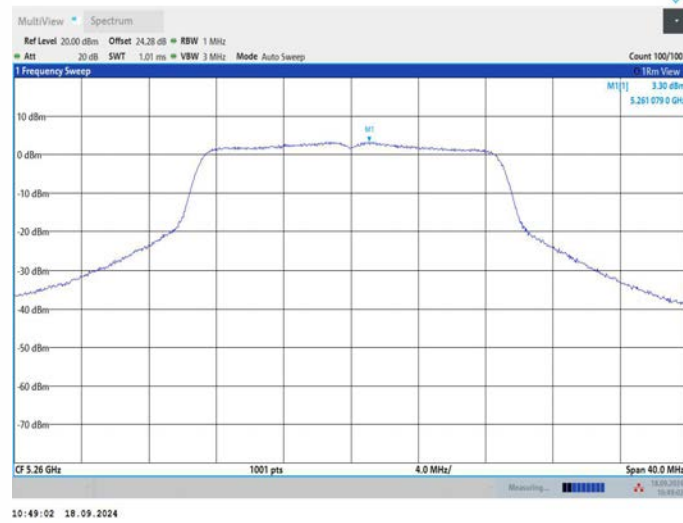
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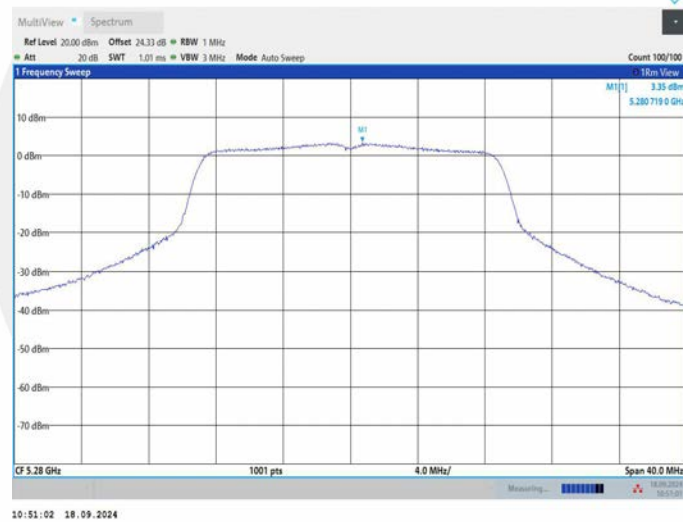
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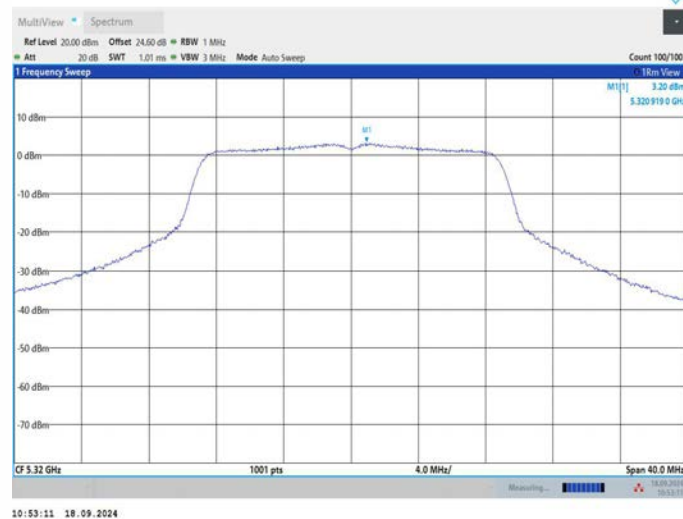
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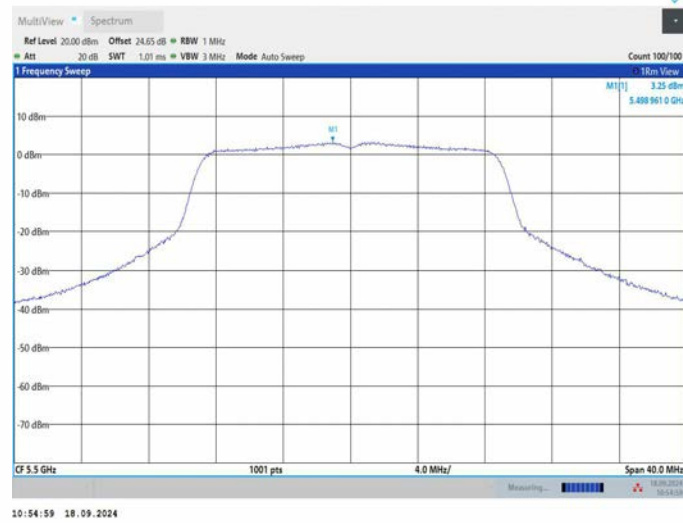
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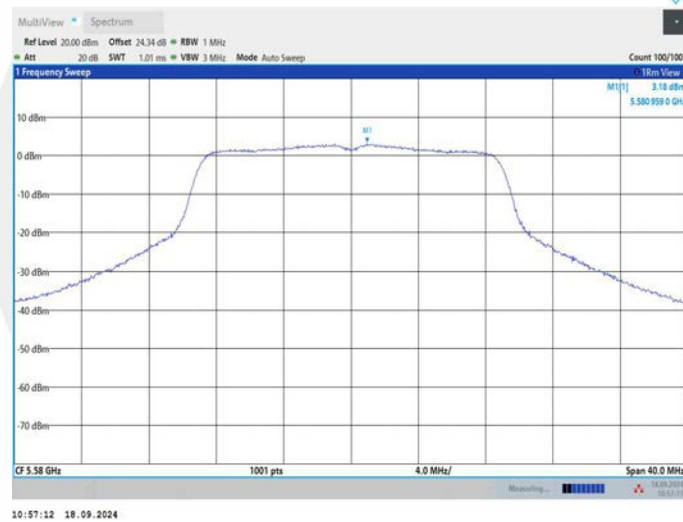
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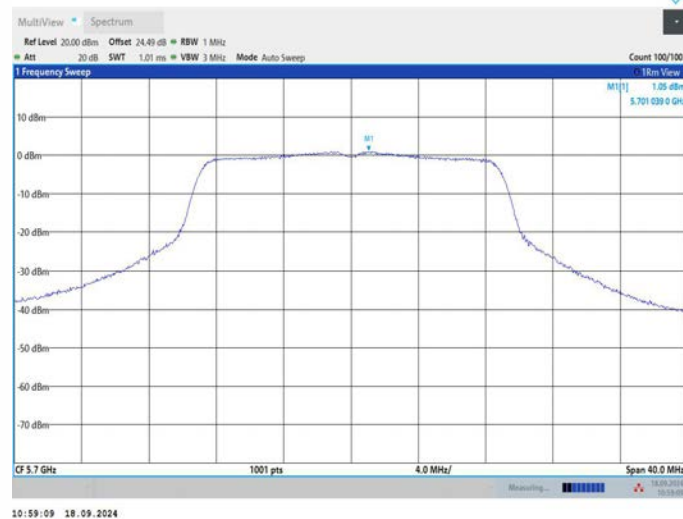
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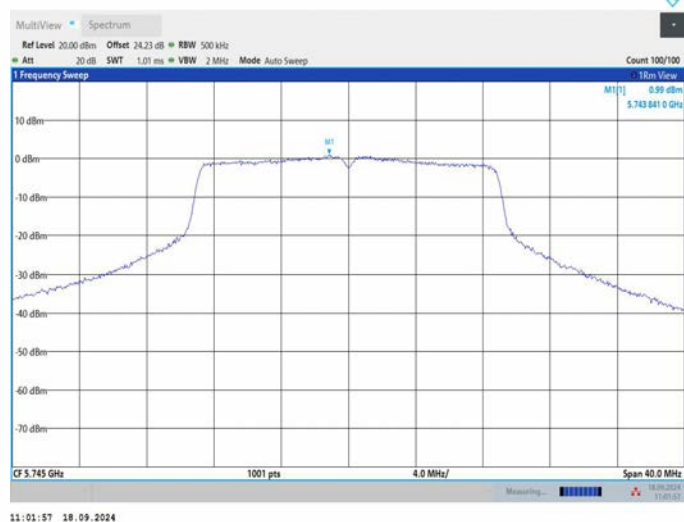
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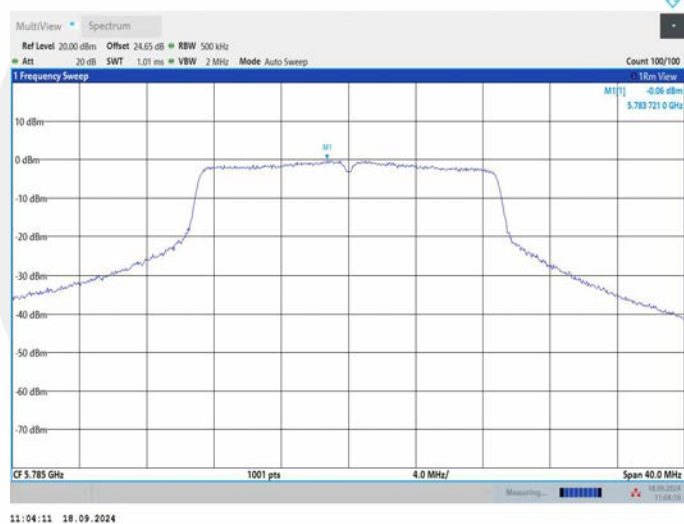
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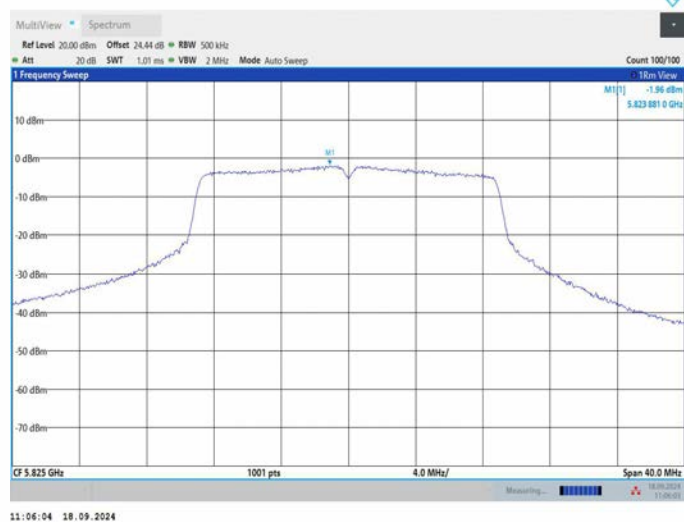
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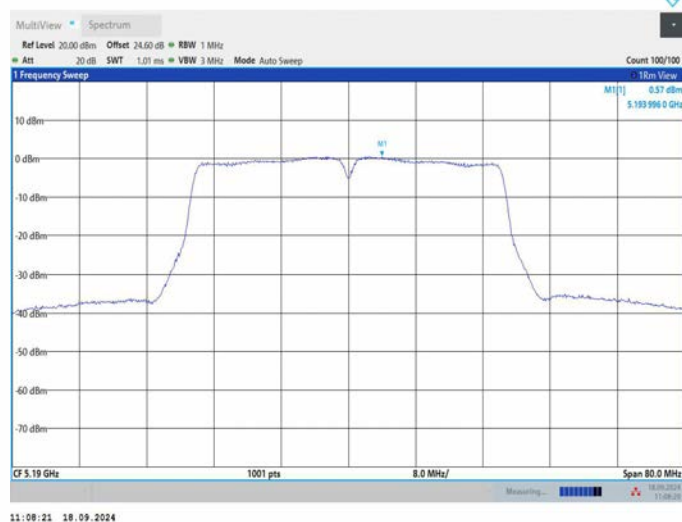
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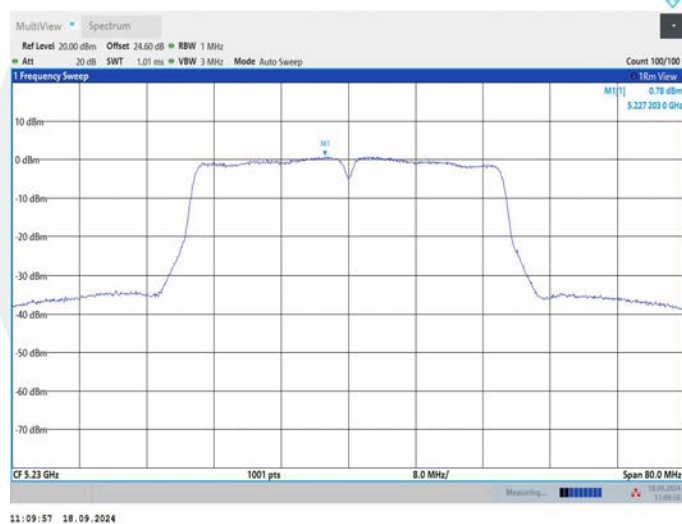
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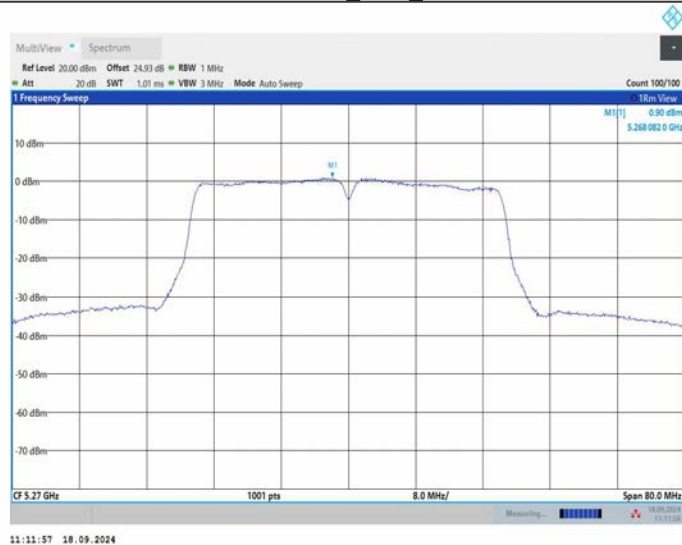
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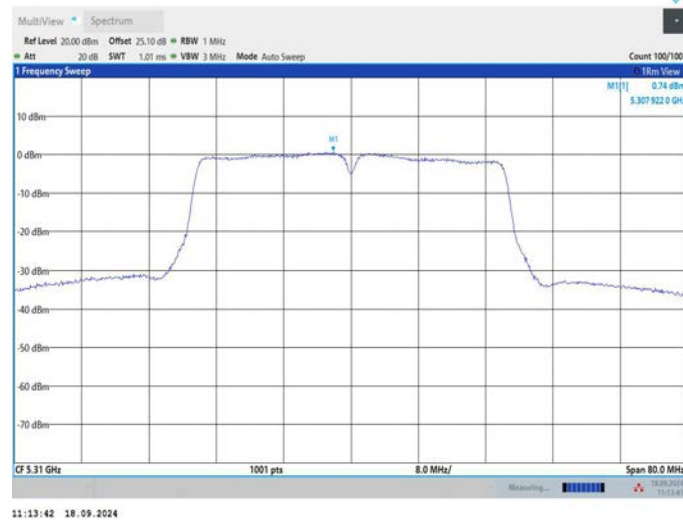
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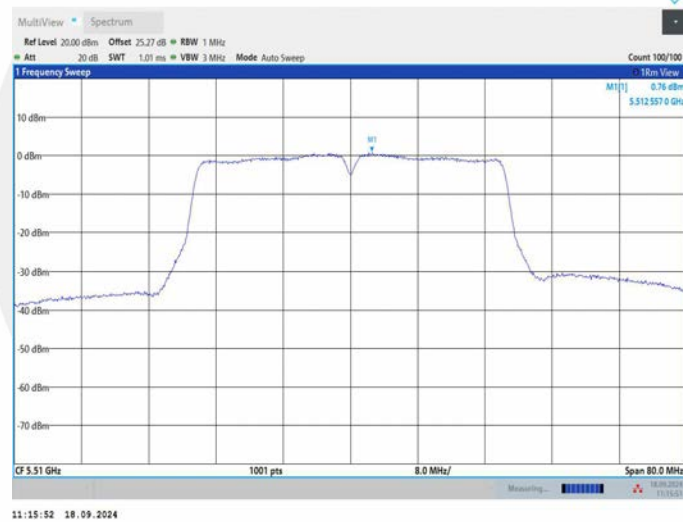
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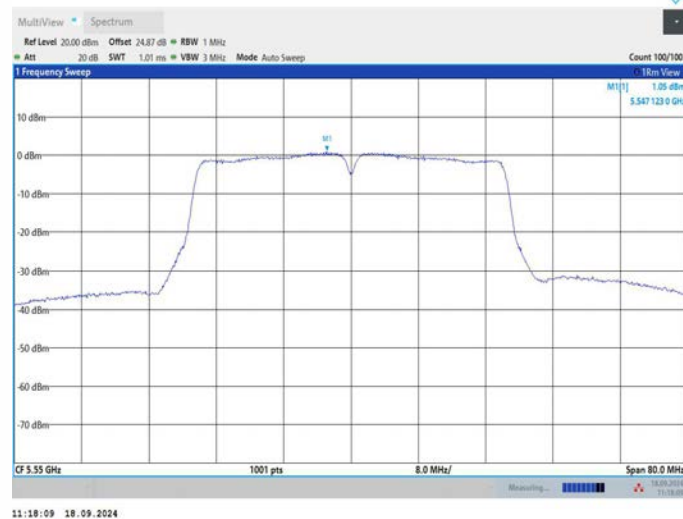
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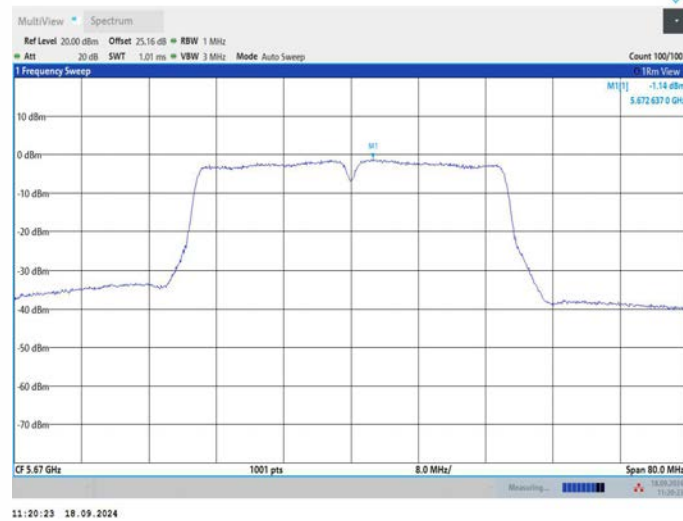
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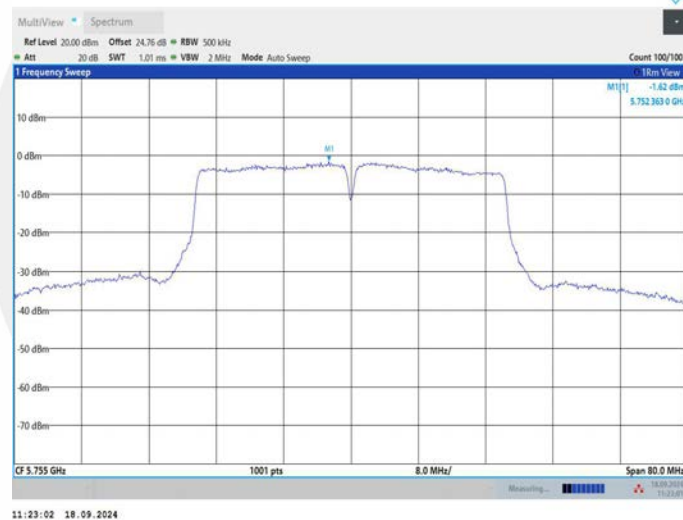
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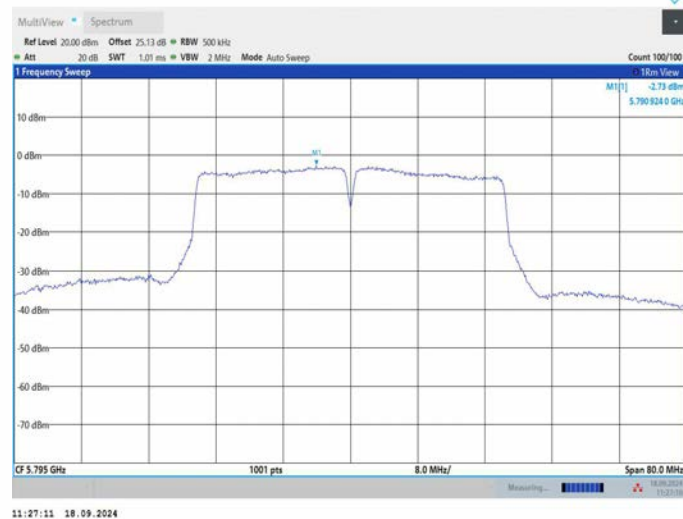
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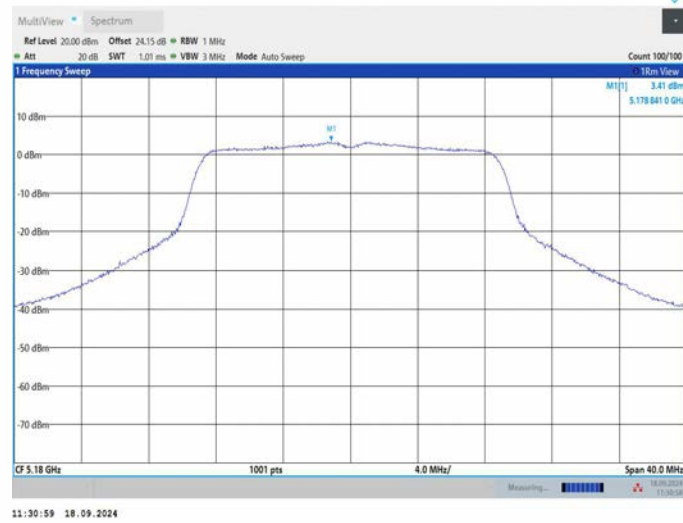
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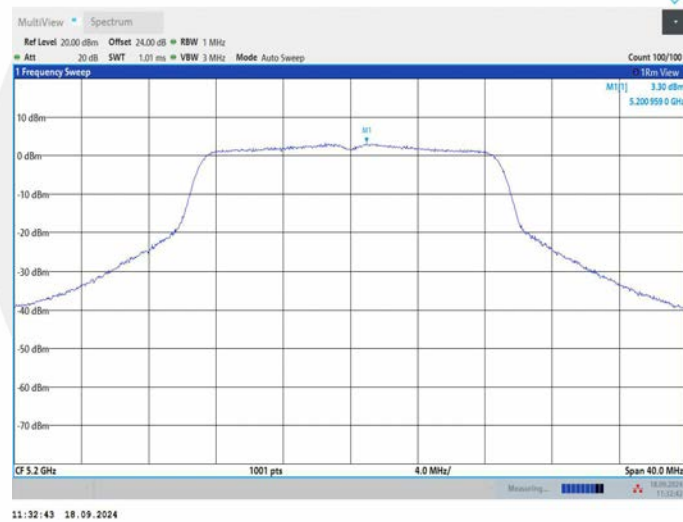
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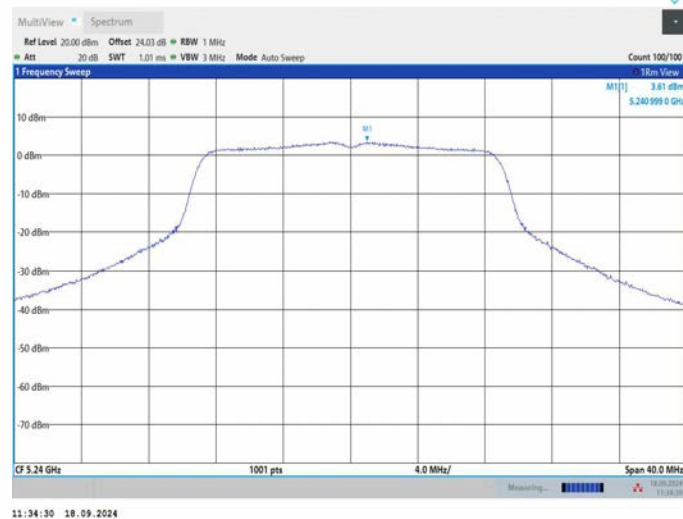
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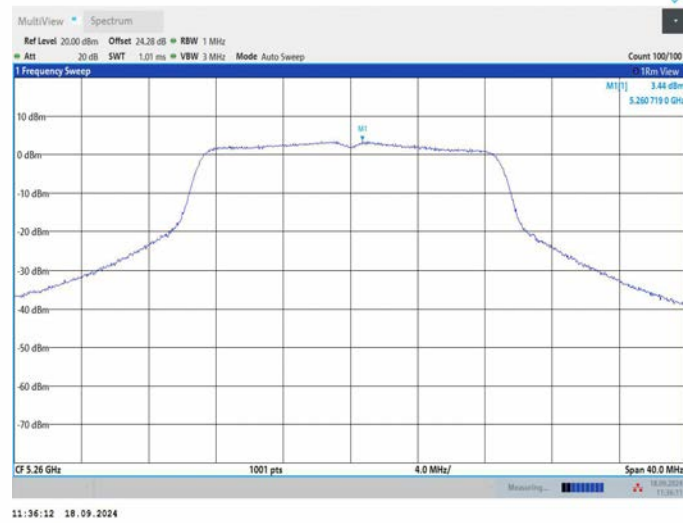
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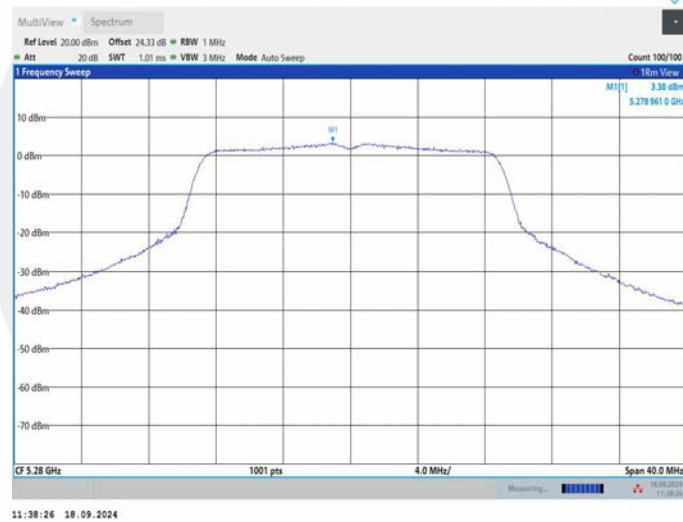
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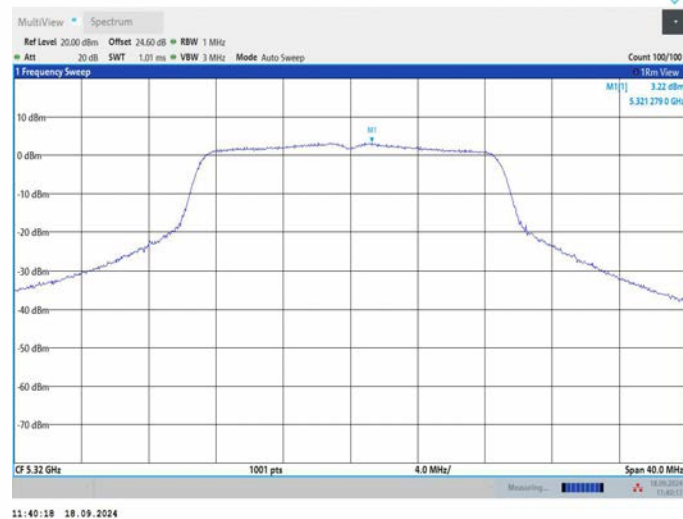
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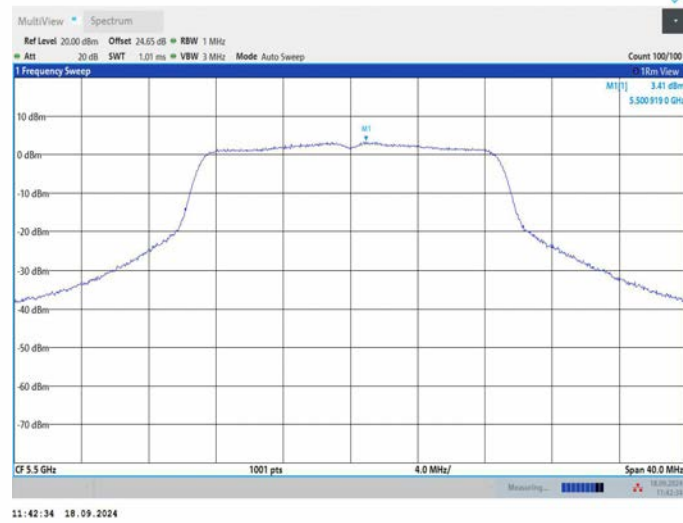
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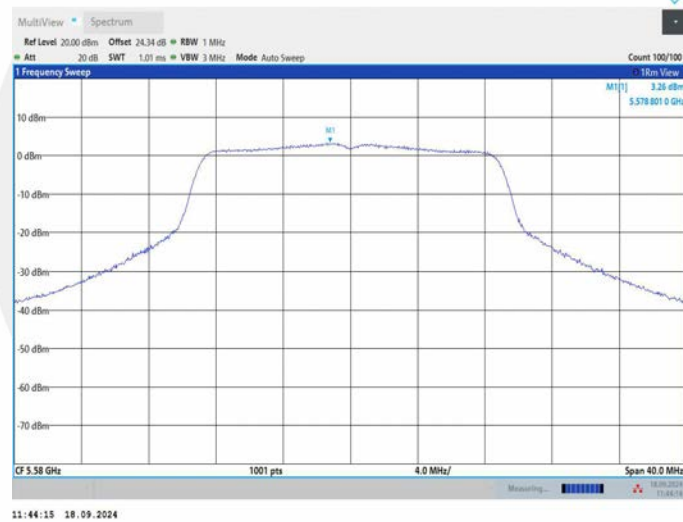
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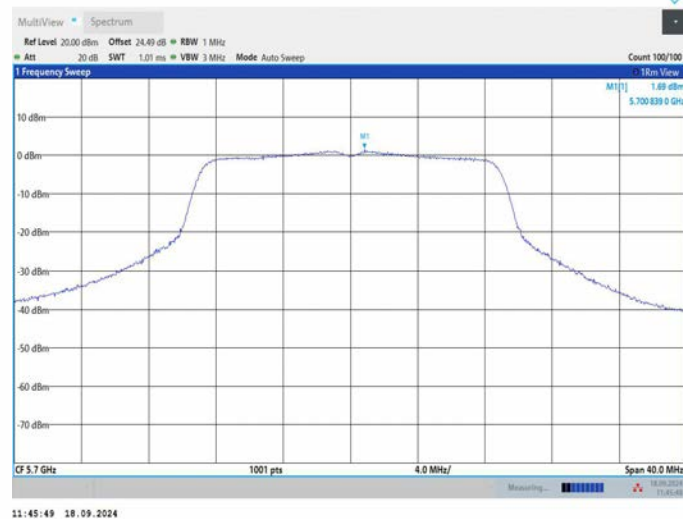
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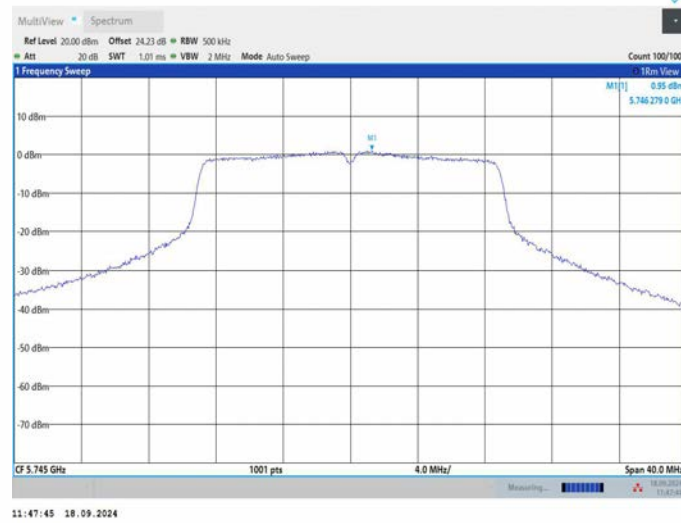
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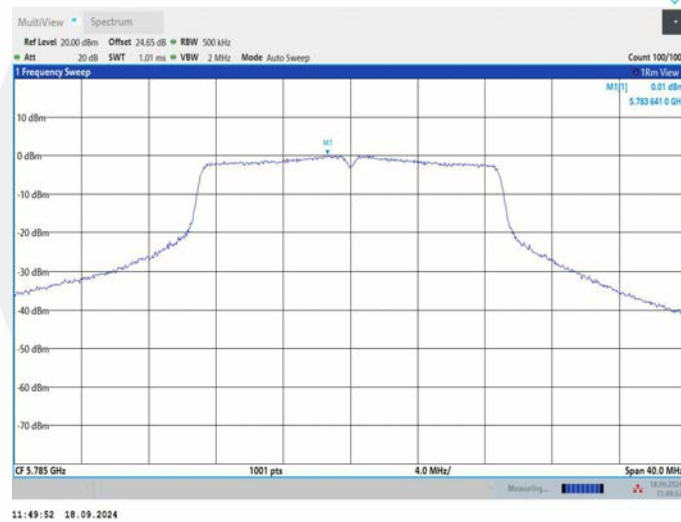
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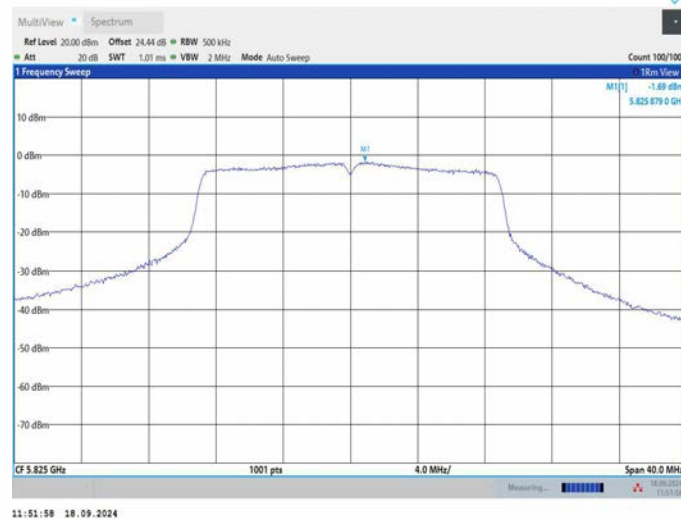
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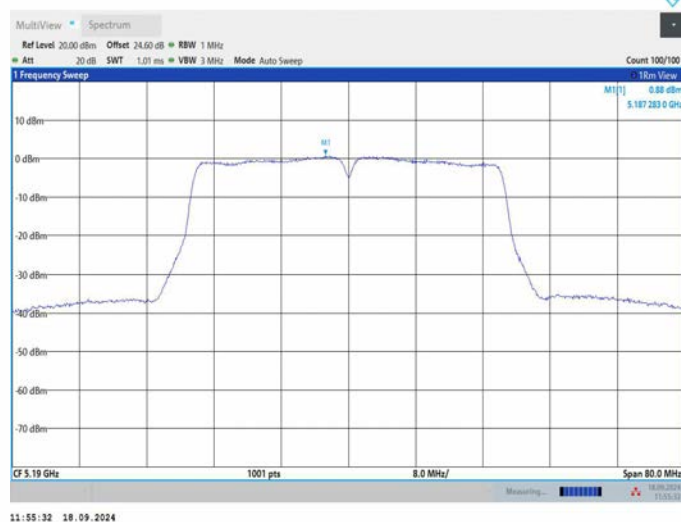
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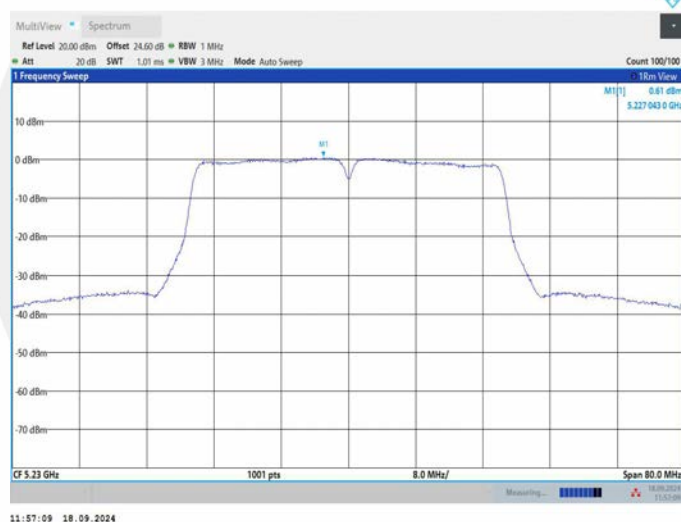
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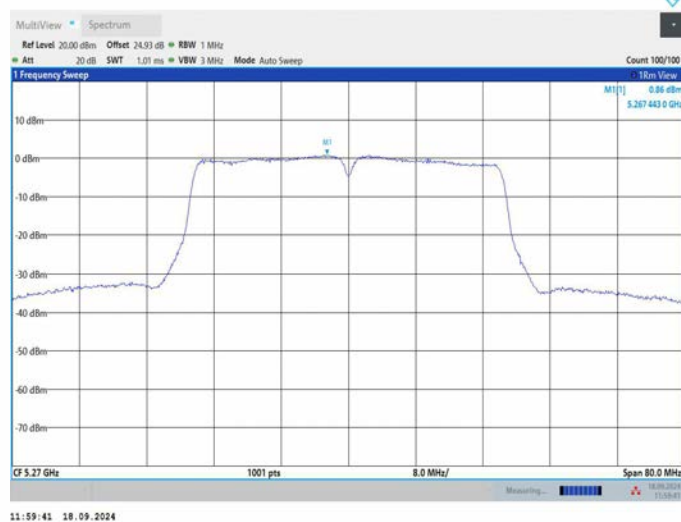
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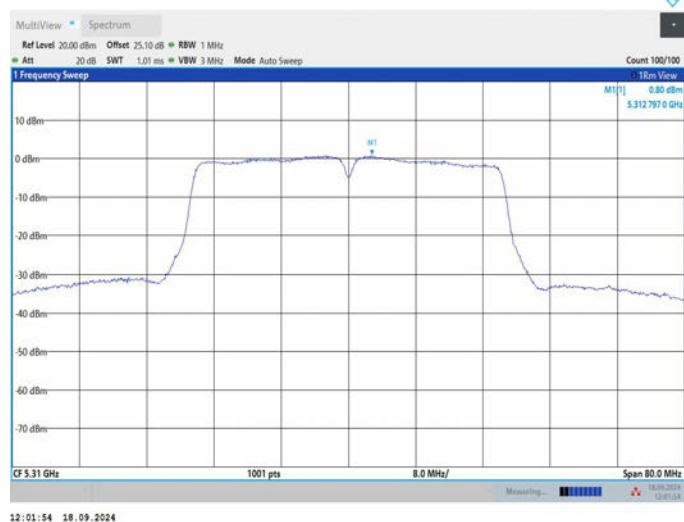
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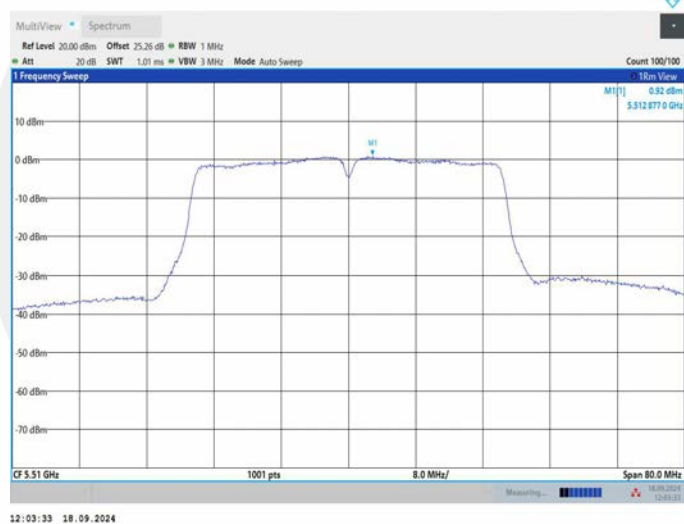
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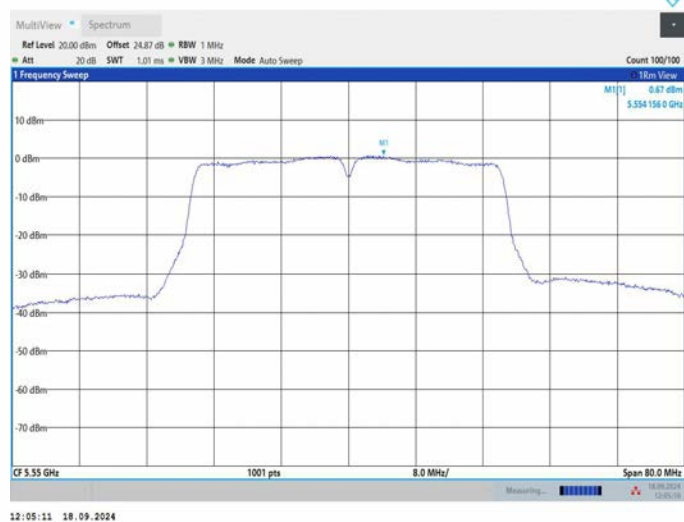
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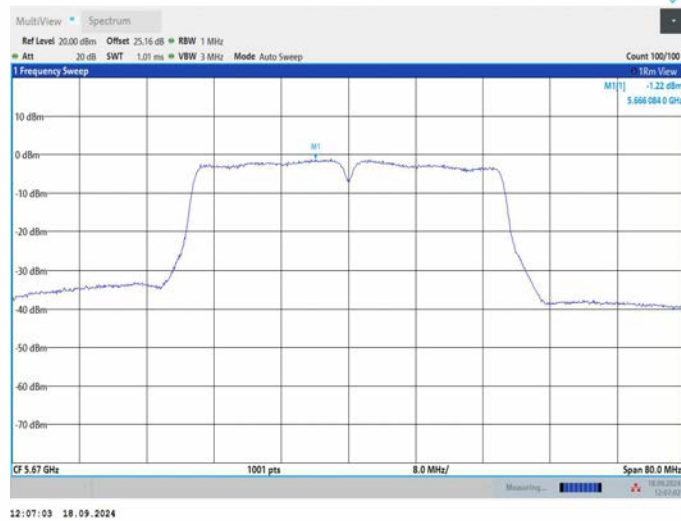
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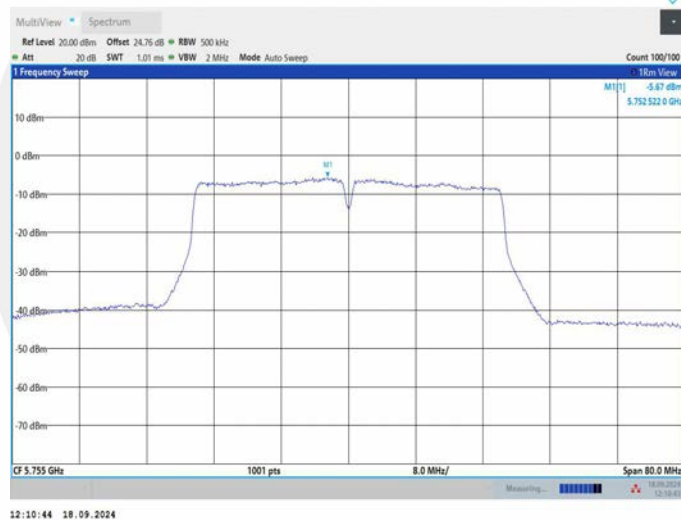
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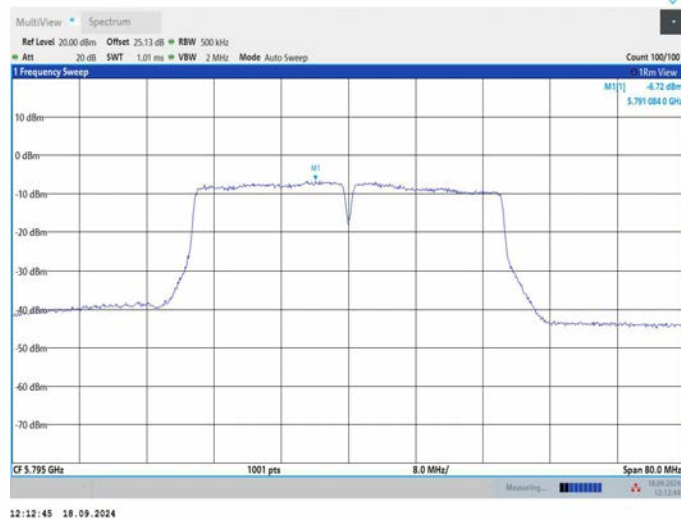
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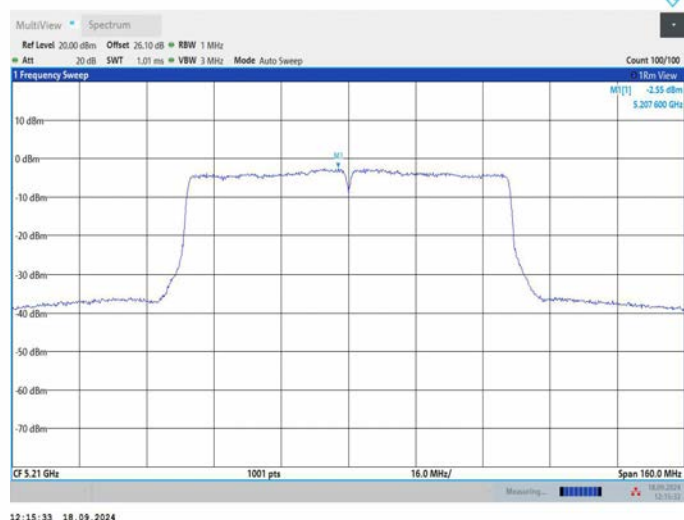
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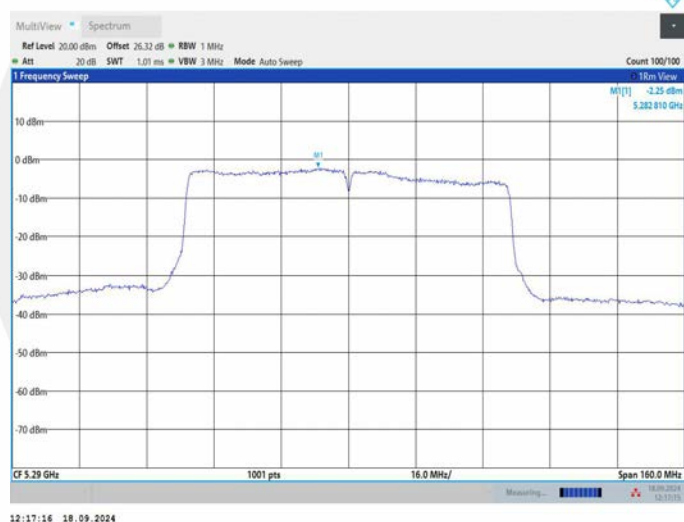
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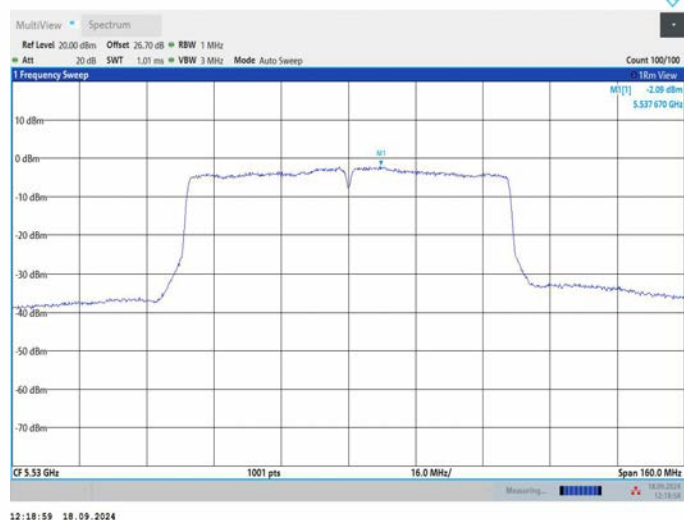
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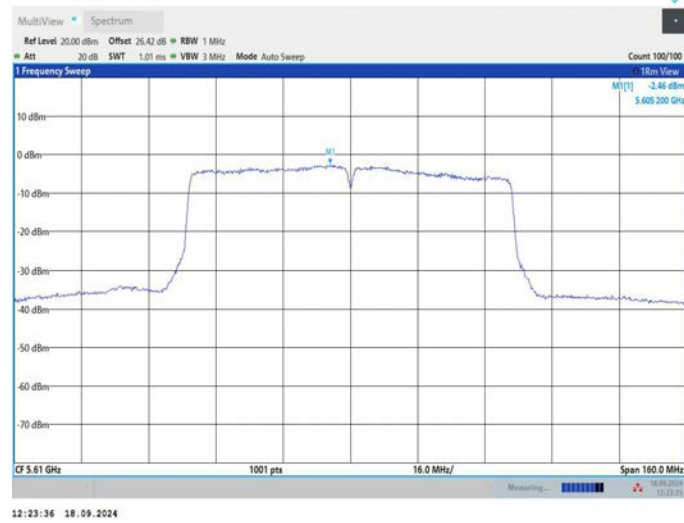
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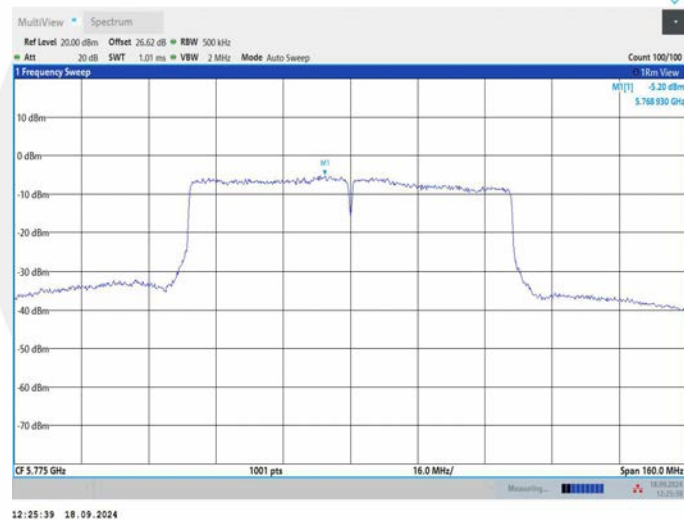
11AC80SISO_Ant1_5530



11AC80SISO_Ant1_5610



11AC80SISO_Ant1_5775



8.4 UNDESIRABLE RADIATED SPURIOUS EMISSION

8.4.1 Applicable Standard

According to FCC Part 15.407 (b)
According to 789033 D02 Section II(G)

8.4.2 Conformance Limit

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table 15.209(a):

Restricted Frequency(MHz)	Field Strength ($\mu\text{V/m}$)	Field Strength (dB $\mu\text{V/m}$)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log ($\mu\text{V/m}$)	300
0.490-1.705	2400/F(KHz)	20 log ($\mu\text{V/m}$)	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

The provisions of §15.205 apply to intentional radiators operating under this section, 15.205 Restricted bands of operation

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			

- Remark:
1. Emission level in dBuV/m=20 log (uV/m)
 2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
 3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of ξ 15.205, and the emissions located in restricted bands also comply with 15.209 limit.

8.4.3 Test Configuration

Test according to clause 6.2 radio frequency test setup 2.

8.4.4 Test Procedure

■ Unwanted Emissions Measurements below 1000 MHz

Compliance shall be demonstrated using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.

The EUT was placed on a turn table which is 0.8m above ground plane.

And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

Repeat above procedures until all frequency measured was complete.

We use software control the EUT, Let EUT hopping on and transmit with highest power, All the modes have been tested and the worst result was reported.

Use the following spectrum analyzer settings:

Set RBW=120kHz for $f < 1$ GHz(30MHz to 1GHz), 200Hz for $f < 150$ KHz(9KHz to 150KHz), 9KHz for < 30 MHz (150KHz to 30KHz).

Set the VBW > RBW.

Detector = Peak.

Trace mode = max hold.

Follow the guidelines in ANSI C63.10-2013 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 specified in Section 15.35(b). Submit this data.

Repeat above procedures until all frequency measured was complete.

■ Unwanted Maximum peak Emissions Measurements above 1000 MHz

Maximum emission levels are measured by setting the analyzer as follows:

RBW = 1 MHz.

VBW $\geq$ 3 MHz.

Detector = Peak.

Sweep time = auto.

Trace mode = max hold.

Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately $1/x$, where x is the duty cycle. For example, at 50 percent duty cycle, the measurement time will increase by a factor of two relative to measurement time for continuous transmission.

■ Unwanted Average Emissions Measurements above 1000 MHz

Method VB (Averaging using reduced video bandwidth): Alternative method.

RBW = 1 MHz.

Video bandwidth. • If the EUT is configured to transmit with duty cycle $\geq$ 98 percent, set $VBW \leq RBW/100$ (i.e., 10 kHz) but not less than 10 Hz.

• If the EUT duty cycle is < 98 percent, set $VBW \geq 1/T$, where T is defined in section II.B.1.a).

Video bandwidth mode or display mode • The instrument shall be set to ensure that video filtering is applied in the power domain. Typically, this requires setting the detector mode to RMS and setting the Average-VBW Type to Power (RMS).

• As an alternative, the analyzer may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some analyzers require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode.

Detector = Peak.

Sweep time = auto.

Trace mode = max hold.

Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of $1/x$, where x is the duty cycle. For example, use at least 200 traces if the duty cycle is 25 percent. (If a specific emission is demonstrated to be continuous—i.e., 100 percent duty cycle—rather than turning on and off with the transmit cycle, at least 50 traces shall be averaged).

■ Band edge measurements.

Unwanted band-edge emissions may be measured using either of the special band-edge measurement techniques (the marker-delta or integration methods) described below. Note that the marker-delta method is primarily a radiated measurement technique that requires the 99% occupied bandwidth edge to be within 2 MHz of the authorized band edge, whereas the integration method can be used in either a radiated or conducted measurement without any special requirement with regards to the displacement of the unwanted emission(s) relative to the authorized bandwidth.

Marker-Delta Method.

The marker-delta method, as described in ANSI C63.10, can be used to perform measurements of the radiated unwanted emissions level of emissions provided that the 99% occupied bandwidth of the fundamental is within 2 MHz of the authorized band-edge.

8.4.5 Test Results

Pass

Temperature :	25°C	ATM Pressure:	1011 mbar
Humidity :	45 %	Test Engineer:	CZF

All of the configurations or modes are tested, the data of the worst case is recorded as below.

☒ For Undesirable radiated Spurious Emission in U-NII – 1

☒ Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)

All of the configurations or modes are tested, the data of the worst case is recorded in the report.

Test mode: 802.11a Frequency(MHz): 5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6986.99	V	55.00	-40.23	-27	13.23
8670.83	V	57.56	-37.67	-27	10.67
17948.9	V	64.13	-31.1	-27	4.1
7981.99	H	58.40	-36.83	-27	9.83
10133.5	H	61.34	-33.89	-27	6.89
17056.0	H	64.33	-30.9	-27	3.9

Test mode: 802.11a Frequency(MHz): 5200

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8721.86	V	57.37	-37.86	-27	10.86
11077.5	V	61.49	-33.74	-27	6.74
17965.9	V	64.85	-30.38	-27	3.38
8738.86	H	58.00	-37.23	-27	10.23
11086.0	H	61.97	-33.26	-27	6.26
17897.9	H	63.20	-32.03	-27	5.03

Test mode: 802.11a Frequency(MHz): 5240

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8687.84	V	57.43	-37.8	-27	10.8
11094.5	V	62.00	-33.23	-27	6.23
15431.7	V	64.49	-30.74	-27	3.74
8662.33	H	57.80	-37.43	-27	10.43
9980.49	H	60.43	-34.8	-27	7.8
14113.5	H	62.83	-32.4	-27	5.4

Note: (1) All Readings are Peak Value (VBW=3MHz) and AV Value (VBW=10Hz).

(2) Emission Level= Reading Level+Probe Factor +Cable Loss.

(3) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77

d is the measurement distance in 3 meters

Test mode: 802.11a		Frequency(MHz): 5180			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
6986.99	V	55.00	74.00	19.00	peak
8670.83	V	57.56	74.00	16.44	peak
17948.9	V	64.13	74.00	9.87	peak
6986.99	V	40.07	54.00	13.93	AVG
8670.83	V	37.82	54.00	16.18	AVG
17948.9	V	47.98	54.00	6.02	AVG
7981.99	H	58.40	74.00	15.60	peak
10133.5	H	61.34	74.00	12.66	peak
17056.0	H	64.33	74.00	9.67	peak
7981.99	H	39.64	54.00	14.36	AVG
10133.5	H	41.68	54.00	12.32	AVG
17056.0	H	46.37	54.00	7.63	AVG

Test mode: 802.11a		Frequency(MHz): 5200			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8721.86	V	57.37	74.00	16.63	peak
11077.5	V	61.49	74.00	12.51	peak
17965.9	V	64.85	74.00	9.15	peak
8721.86	V	42.53	54.00	11.47	AVG
11077.5	V	44.54	54.00	9.46	AVG
17965.9	V	48.00	54.00	6.00	AVG
8738.86	H	58.00	74.00	16.00	peak
11086.0	H	61.97	74.00	12.03	peak
17897.9	H	63.20	74.00	10.80	peak
8738.86	H	42.55	54.00	11.45	AVG
11086.0	H	44.43	54.00	9.57	AVG
17897.9	H	45.97	54.00	8.03	AVG

Test mode: 802.11a		Frequency(MHz): 5240			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8687.84	V	57.43	74.00	16.57	peak
11094.5	V	62.00	74.00	12.00	peak
15431.7	V	64.49	74.00	9.51	peak
8687.84	V	42.93	54.00	11.07	AVG
11094.5	V	44.06	54.00	9.94	AVG
15431.7	V	43.77	54.00	10.23	AVG
8662.33	H	57.80	74.00	16.20	peak
9980.49	H	60.43	74.00	13.57	peak
14113.5	H	62.83	74.00	11.17	peak
8662.33	H	42.15	54.00	11.85	AVG
9980.49	H	41.99	54.00	12.01	AVG
14113.5	H	44.18	54.00	9.82	AVG

- Note:** (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(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.

☒ Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Test mode: 802.11ac(20) Frequency(MHz): 5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5149.91	H	57.69	-37.54	-27	Pass
5146.75	V	54.51	-40.72	-27	Pass

Test mode: 802.11ac(20) Frequency(MHz): 5240

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5354.62	H	52.95	-42.28	-27	Pass
5360.29	V	53.53	-41.7	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 (3) Correct Factor= Ant_F + Cab_L - Preamp
 (4) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77
 d is the measurement distance in 3 meters

Test mode: 802.11ac(20) Frequency(MHz): 5180

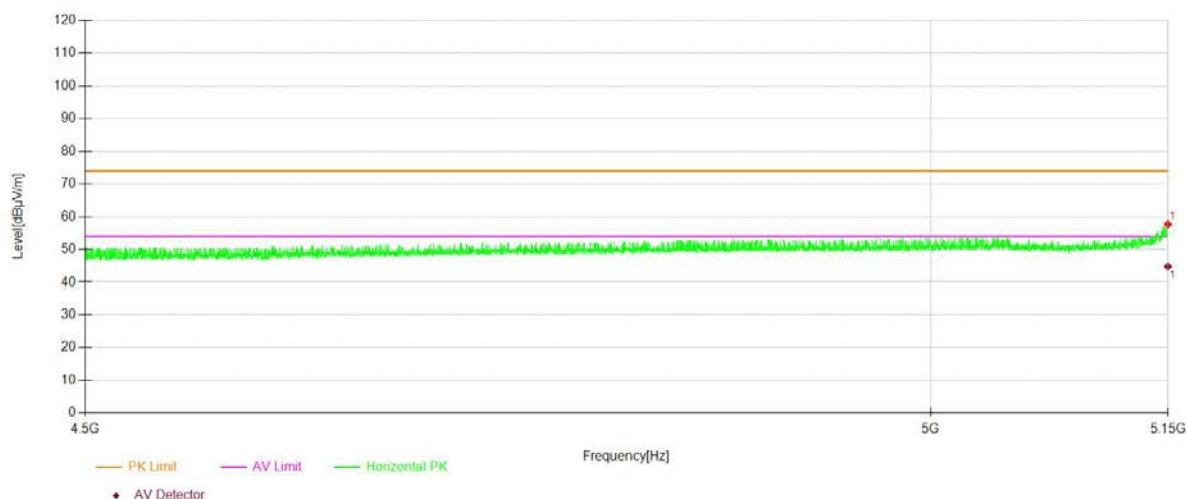
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5146.75	V	54.51	74.00	19.49	peak
5146.75	V	44.57	54.00	9.43	AVG
5149.91	H	57.69	74.00	16.31	peak
5149.91	H	44.81	54.00	9.19	AVG

Test mode: 802.11ac(20) Frequency(MHz): 5240

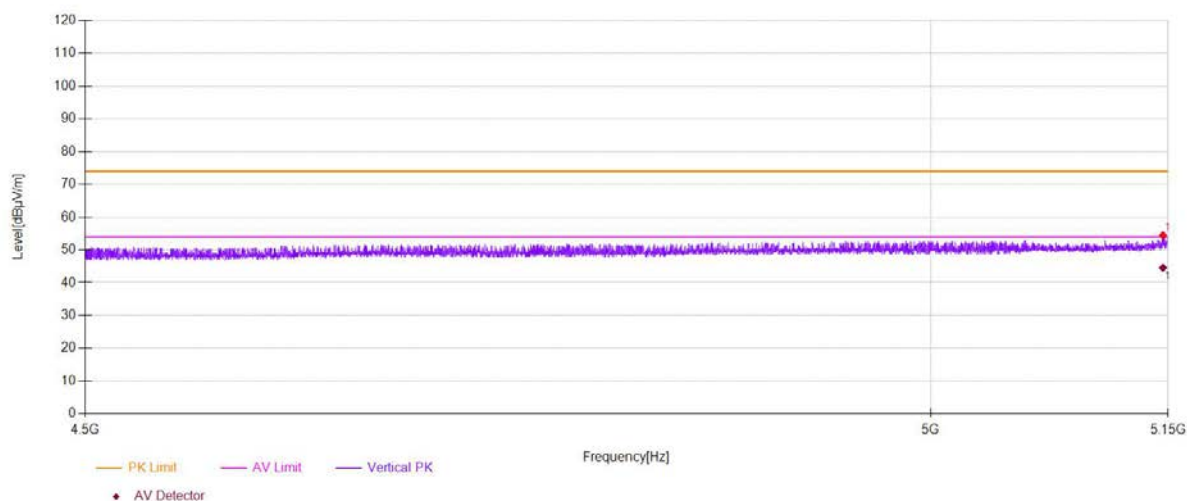
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5360.29	V	53.53	74.00	20.47	peak
5360.29	V	45.05	54.00	8.95	AVG
5354.62	H	52.95	74.00	21.05	peak
5354.62	H	45.57	54.00	8.43	AVG

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 (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.

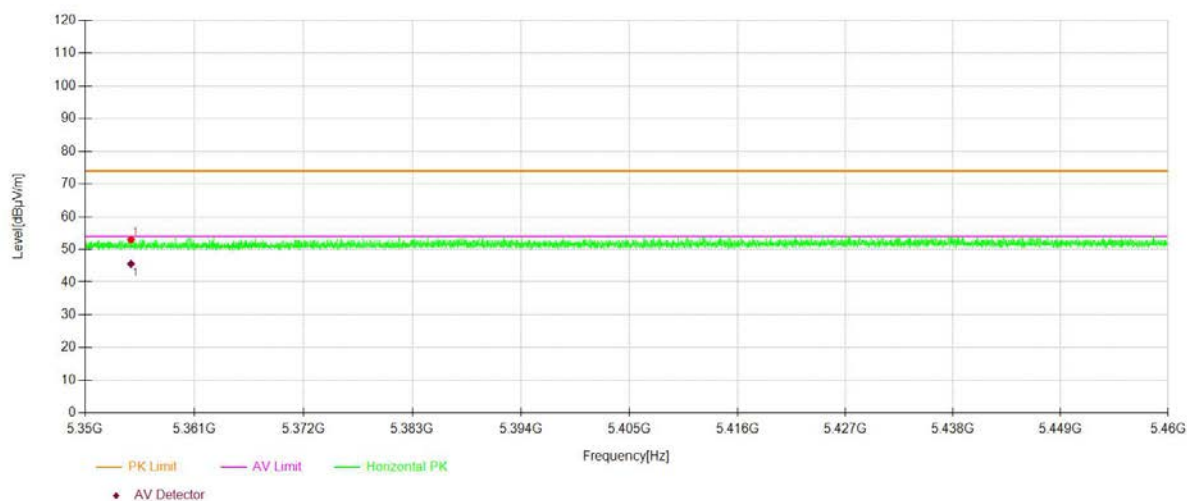
U-NII - 1				
Test Model	Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)			
	☐ 802.11a	☒ 802.11ac(HT20)	☐ 802.11n(HT40)	
	☒ 5180	☐ 5200	☐ 5240	Ant.Pol H



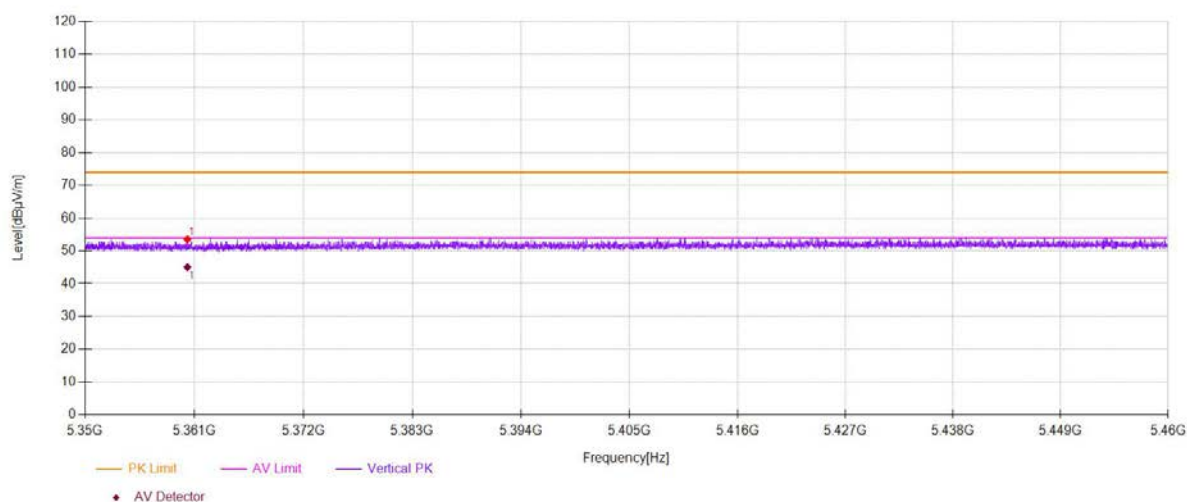
U-NII - 1				
Test Model	Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)			
	☐ 802.11a	☒ 802.11ac(HT20)	☐ 802.11n(HT40)	
	☒ 5180	☐ 5200	☐ 5240	Ant.Pol V



U-NII - 1			
Test Model	Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)		
	☐ 802.11a	☒ 802.11 ac(HT20)	☐ 802.11n(HT40)
	☐ 5180	☐ 5200	☒ 5240
			Ant.Pol H



U-NII - 1			
Test Model	Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)		
	☐ 802.11a	☒ 802.11 ac(HT20)	☐ 802.11n(HT40)
	☐ 5180	☐ 5200	☒ 5240
			Ant.Pol V



☒ For Undesirable radiated Spurious Emission in U-NII -2A

☒ Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)

All of the configurations or modes are tested, the data of the worst case is recorded in the report.

Test mode: 802.11a Frequency(MHz): 5260

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8696.34	V	57.85	-37.38	-27	10.38
11154.0	V	61.77	-33.46	-27	6.46
16860.4	V	63.91	-31.32	-27	4.32
7998.99	H	57.21	-38.02	-27	11.02
9971.98	H	61.57	-33.66	-27	6.66
17115.5	H	63.85	-31.38	-27	4.38

Test mode: 802.11a Frequency(MHz): 5280

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8704.85	V	57.28	-37.95	-27	10.95
10924.4	V	61.40	-33.83	-27	6.83
17889.4	V	62.85	-32.38	-27	5.38
8662.33	H	57.87	-37.36	-27	10.36
11077.5	H	61.63	-33.6	-27	6.6
17880.9	H	64.51	-30.72	-27	3.72

Test mode: 802.11a Frequency(MHz): 5320

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8696.34	V	57.51	-37.72	-27	10.72
11111.5	V	62.42	-32.81	-27	5.81
17149.5	V	63.29	-31.94	-27	4.94
8764.38	H	57.33	-37.9	-27	10.9
11154.0	H	62.39	-32.84	-27	5.84
17974.4	H	64.11	-31.12	-27	4.12

Note: (1) All Readings are Peak Value (VBW=3MHz) and AV Value (VBW=10Hz).

(2) Emission Level= Reading Level+Probe Factor +Cable Loss.

(3) EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77

d is the measurement distance in 3 meters

Test mode: 802.11a		Frequency(MHz): 5260			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8696.34	V	57.85	74.00	16.15	peak
11154.0	V	61.77	74.00	12.23	peak
16860.4	V	63.91	74.00	10.09	peak
8696.34	V	42.88	54.00	11.12	AVG
11154.0	V	43.50	54.00	10.50	AVG
16860.4	V	44.43	54.00	9.57	AVG
7998.99	H	57.21	74.00	16.79	peak
9971.98	H	61.57	74.00	12.43	peak
17115.55	H	63.85	74.00	10.15	peak
7998.99	H	39.87	54.00	14.13	AVG
9971.98	H	41.84	54.00	12.16	AVG
17115.5	H	45.97	54.00	8.03	AVG

Test mode: 802.11a		Frequency(MHz): 5280			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8704.85	V	57.28	74.00	16.72	peak
10924.4	V	61.40	74.00	12.60	peak
17889.4	V	62.85	74.00	11.15	peak
8704.85	V	42.90	54.00	11.10	AVG
10924.4	V	44.05	54.00	9.95	AVG
17889.4	V	46.74	54.00	7.26	AVG
8662.33	H	57.87	74.00	16.13	peak
11077.5	H	61.63	74.00	12.37	peak
17880.9	H	64.51	74.00	9.49	peak
8662.33	H	42.27	54.00	11.73	AVG
11077.5	H	44.53	54.00	9.47	AVG
17880.9	H	46.08	54.00	7.92	AVG

Test mode: 802.11a		Frequency(MHz): 5320			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8696.34	V	57.51	74.00	16.49	peak
11111.5	V	62.42	74.00	11.58	peak
17149.5	V	63.29	74.00	10.71	peak
8696.34	V	42.87	54.00	11.13	AVG
11111.5	V	44.63	54.00	9.37	AVG
17149.5	V	46.13	54.00	7.87	AVG
8764.38	H	57.33	74.00	16.67	peak
11154.0	H	62.39	74.00	11.61	peak
17974.4	H	64.11	74.00	9.89	peak
8764.38	H	42.30	54.00	11.70	AVG
11154.0	H	43.66	54.00	10.34	AVG
17974.4	H	46.34	54.00	7.66	AVG

- Note:**
- (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 - (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 - (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.



● ☒ Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Test mode: 802.11ac(20) Frequency(MHz): 5260

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5100.84	H	62.68	-32.55	-27	Pass
5095.31	V	62.78	-32.45	-27	Pass

Test mode: 802.11ac(20) Frequency(MHz): 5320

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5353.69	H	62.96	-32.27	-27	Pass
5354.42	V	63.88	-31.35	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

Test mode: 802.11ac(20) Frequency(MHz): 5260

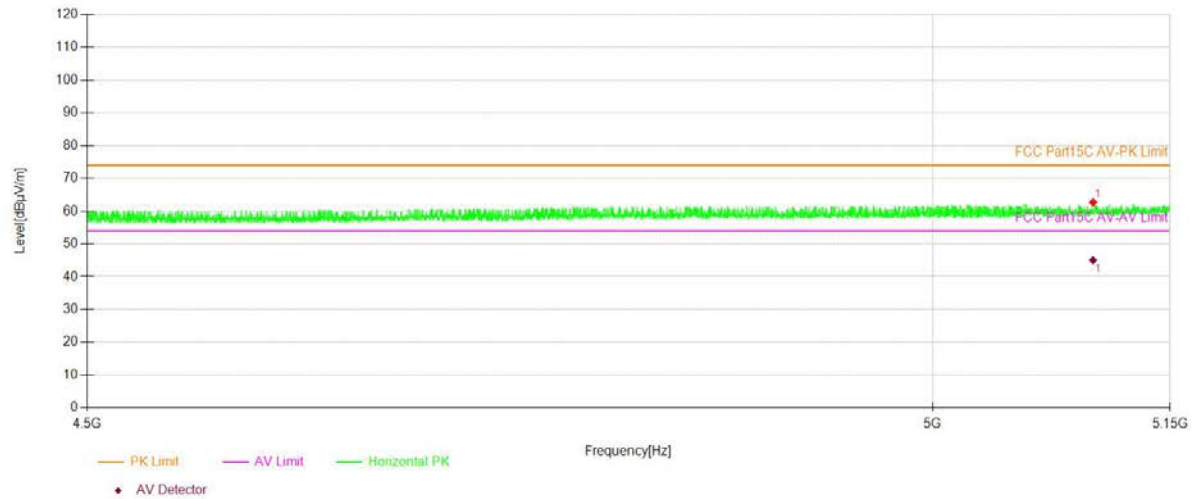
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5095.31	V	62.78	74.00	11.22	peak
5095.31	V	44.44	54.00	9.56	AVG
5100.84	H	62.68	74.00	11.32	peak
5100.84	H	45.03	54.00	8.97	AVG

Test mode: 802.11ac(20) Frequency(MHz): 5320

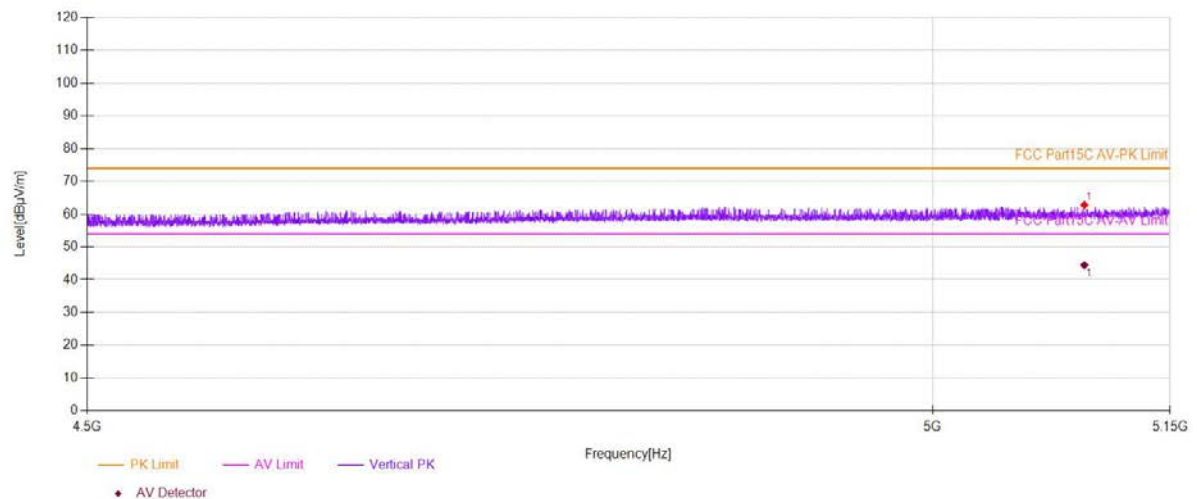
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5354.42	V	63.88	74.00	10.12	peak
5354.42	V	45.67	54.00	8.33	AVG
5353.69	H	62.96	74.00	11.04	peak
5353.69	H	45.18	54.00	8.82	AVG

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(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.

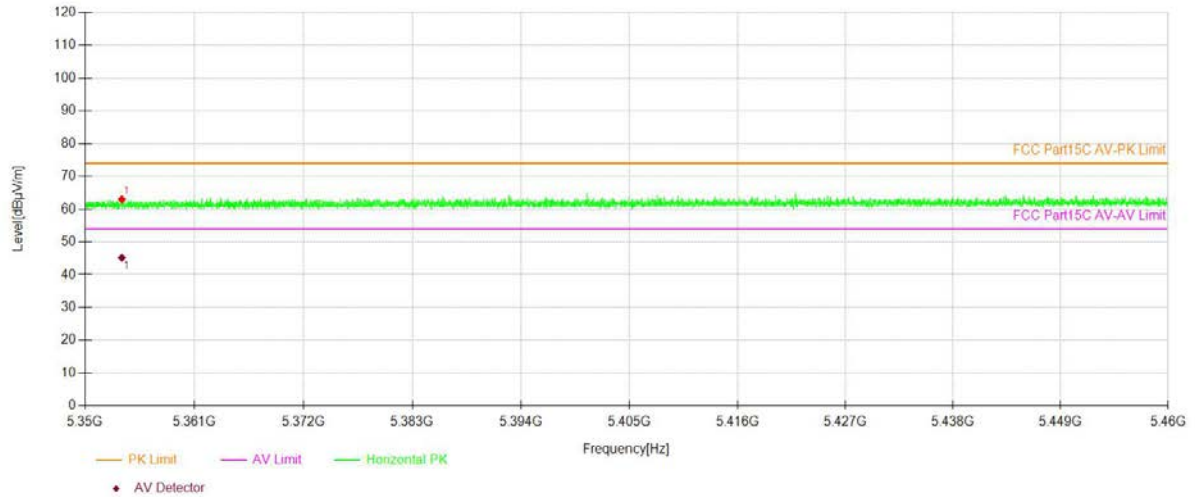
Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☒ 5260 ☐ 5300 ☐ 5320 Ant.Pol H



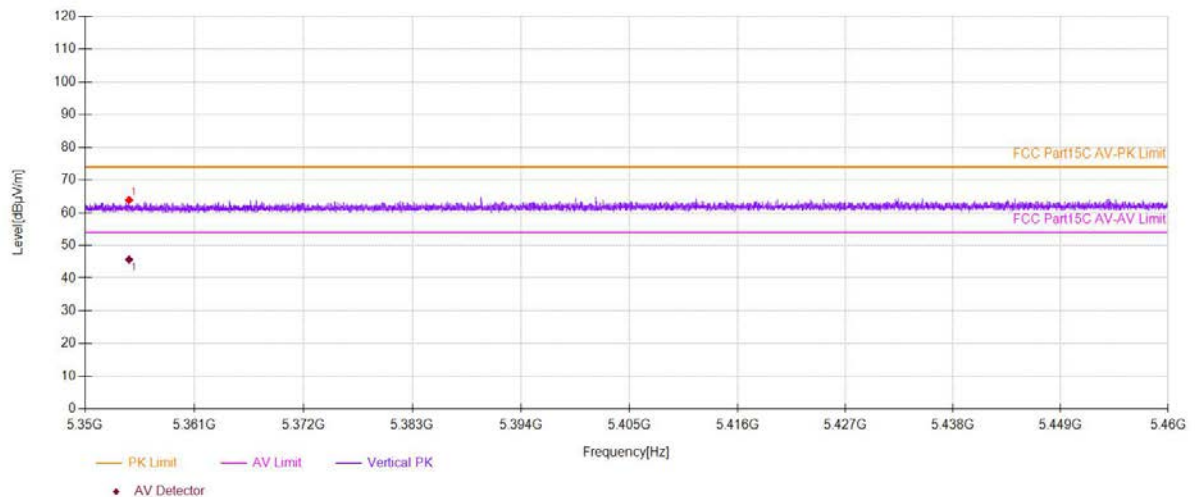
Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac(VHT20)
☒ 5260 ☐ 5300 ☐ 5320 Ant.Pol V



Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☐ 5260 ☐ 5300 ☒ 5320 Ant.Pol H



Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☐ 5260 ☐ 5300 ☒ 5320 Ant.Pol V



- ☒ For Undesirable radiated Spurious Emission in U-NII -2C
☒ Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)

All of the configurations or modes are tested, the data of the worst case is recorded in the report.

Test mode:		802.11a		Frequency(MHz):		5500	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)		
8084.04	V	57.25	-37.98	-27	10.98		
10108.0	V	61.12	-34.11	-27	7.11		
16579.7	V	64.10	-31.13	-27	4.13		
8679.33	H	58.66	-36.57	-27	9.57		
10745.8	H	61.95	-33.28	-27	6.28		
16222.6	H	63.30	-31.93	-27	4.93		

Test mode:		802.11a		Frequency(MHz):		5580	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)		
9325.66	V	58.24	-36.99	-27	9.99		
11162.5	V	62.21	-33.02	-27	6.02		
17821.4	V	63.26	-31.97	-27	4.97		
8679.33	H	58.27	-36.96	-27	9.96		
11392.1	H	61.62	-33.61	-27	6.61		
17642.8	H	63.64	-31.59	-27	4.59		

Test mode:		802.11a		Frequency(MHz): 5700	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8653.82	V	58.81	-36.42	-27	9.42
11137.0	V	63.03	-32.2	-27	5.2
17642.8	V	64.12	-31.11	-27	4.11
8687.84	H	57.52	-37.71	-27	10.71
10040.0	H	61.66	-33.57	-27	6.57
16010.0	H	64.33	-30.9	-27	3.9

Note: (1) All Readings are Peak Value (VBW=3MHz) and AV Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

Test mode: 802.11a		Frequency(MHz): 5500			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8084.04	V	57.25	74.00	16.75	peak
10108.0	V	61.12	74.00	12.88	peak
16579.7	V	64.10	74.00	9.90	peak
8084.04	V	40.84	54.00	13.16	AVG
10108.0	V	42.76	54.00	11.24	AVG
16579.7	V	45.23	54.00	8.77	AVG
8679.33	H	58.66	74.00	15.34	peak
10745.8	H	61.95	74.00	12.05	peak
16222.61	H	63.30	74.00	10.70	peak
8679.33	H	42.56	54.00	11.44	AVG
10745.8	H	44.79	54.00	9.21	AVG
16222.6	H	44.11	54.00	9.89	AVG

Test mode: 802.11a		Frequency(MHz): 5580			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9325.66	V	58.24	74.00	15.76	peak
11162.5	V	62.21	74.00	11.79	peak
17821.4	V	63.26	74.00	10.74	peak
9325.66	V	43.65	54.00	10.35	AVG
11162.5	V	43.46	54.00	10.54	AVG
17821.4	V	46.47	54.00	7.53	AVG
8679.33	H	58.27	74.00	15.73	peak
11392.1	H	61.62	74.00	12.38	peak
17642.8	H	63.64	74.00	10.36	peak
8679.33	H	42.43	54.00	11.57	AVG
11392.1	H	42.87	54.00	11.13	AVG
17642.8	H	46.58	54.00	7.42	AVG

Test mode: 802.11a		Frequency(MHz): 5700			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8653.82	V	58.81	74.00	15.19	peak
11137.0	V	63.03	74.00	10.97	peak
17642.8	V	64.12	74.00	9.88	peak
8653.82	V	42.10	54.00	11.90	AVG
11137.0	V	43.79	54.00	10.21	AVG
17642.8	V	46.82	54.00	7.18	AVG
8687.84	H	57.52	74.00	16.48	peak
10040.0	H	61.66	74.00	12.34	peak
16010.0	H	64.33	74.00	9.67	peak
8687.84	H	42.73	54.00	11.27	AVG
10040.0	H	42.32	54.00	11.68	AVG
16010.0	H	45.24	54.00	8.76	AVG

- Note:**
- (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 - (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 - (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.



☒ Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Test mode: 802.11ac(20) Frequency(MHz): 5500

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5469.86	H	59.84	-35.39	-27	Pass
5466.52	V	56.59	-38.64	-27	Pass

Test mode: 802.11ac(20) Frequency(MHz): 5700

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5725.73	H	57.46	-37.77	-27	Pass
5727.36	V	55.76	-39.47	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

Test mode: 802.11ac(20) Frequency(MHz): 5500

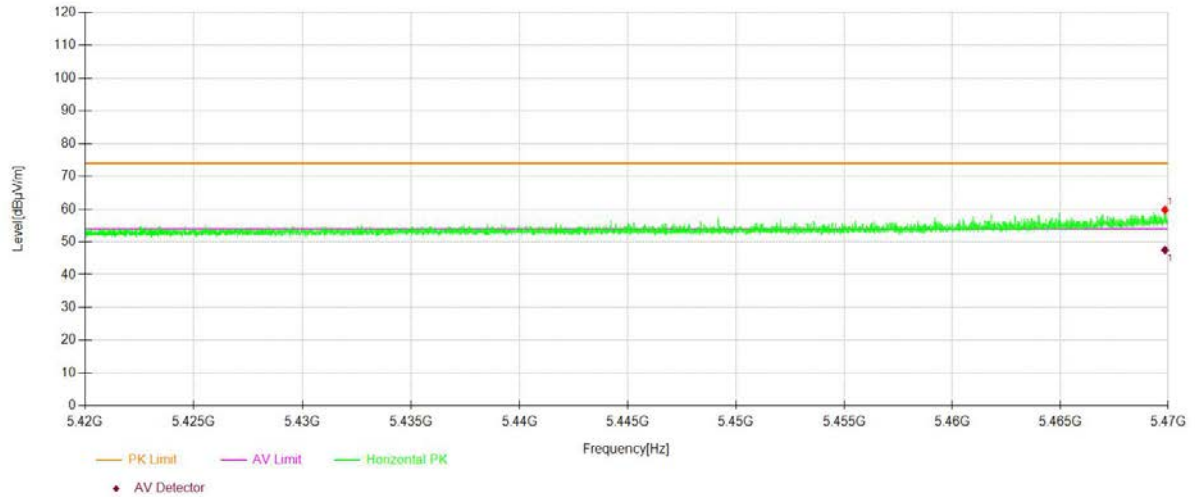
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5466.52	V	56.59	74.00	17.41	peak
5466.52	V	46.19	54.00	7.81	AVG
5469.86	H	59.84	74.00	14.16	peak
5469.86	H	47.53	54.00	6.47	AVG

Test mode: 802.11ac(20) Frequency(MHz): 5700

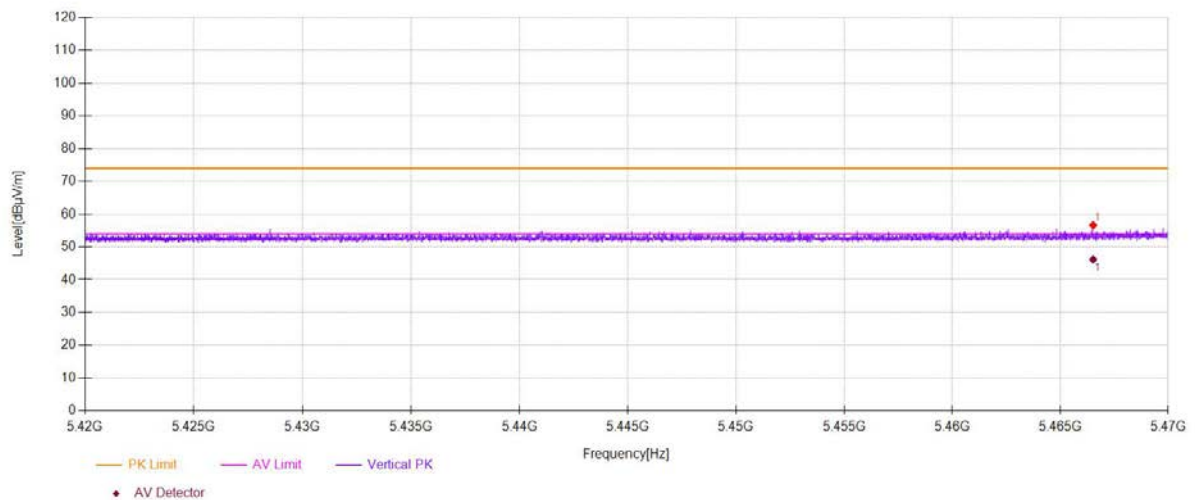
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5727.36	V	55.76	74.00	18.24	peak
5727.36	V	45.93	54.00	8.07	AVG
5725.73	H	57.46	74.00	16.54	peak
5725.73	H	45.67	54.00	8.33	AVG

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(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.

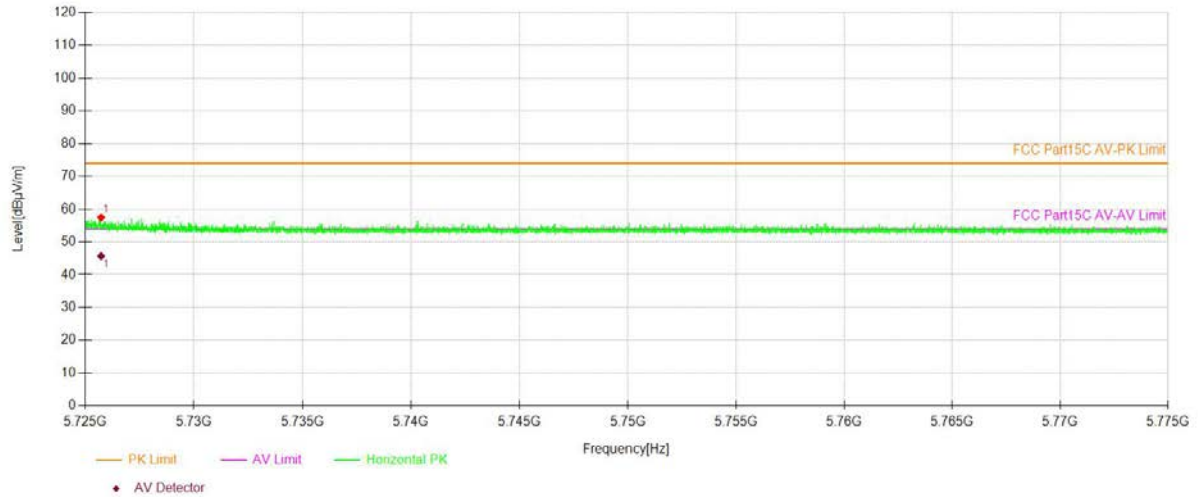
Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac(VHT20)
☒ 5500 ☐ 5580 ☐ 5700 Ant.Pol H



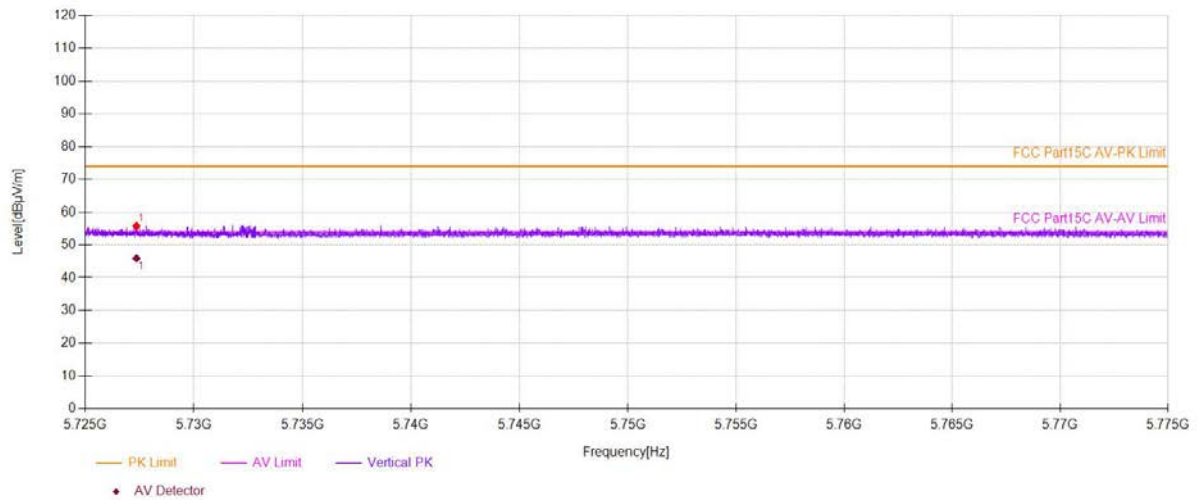
Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac(VHT20)
☒ 5500 ☐ 5580 ☐ 5700 Ant.Pol V



Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac(VHT20)
☐ 5500 ☐ 5580 ☒ 5700 Ant.Pol H



Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☐ 5500 ☐ 5580 ☒ 5700 Ant.Pol V



☒ For Undesirable radiated Spurious Emission in U-NII -3

☒ Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)

All of the configurations or modes are tested, the data of the worst case is recorded in the report.

Test mode:		802.11a		Frequency(MHz):		5745	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)		
8670.83	V	57.67	-37.56	-27	10.56		
11094.5	V	61.66	-33.57	-27	6.57		
17659.8	V	64.45	-30.78	-27	3.78		
8696.34	H	57.93	-37.3	-27	10.3		
10745.8	H	61.77	-33.46	-27	6.46		
17515.2	H	64.16	-31.07	-27	4.07		

Test mode:		802.11a		Frequency(MHz): 5785	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8662.33	V	57.81	-37.42	-27	10.42
11103.0	V	61.63	-33.6	-27	6.6
16511.7	V	63.93	-31.3	-27	4.3
8653.82	H	57.49	-37.74	-27	10.74
11494.2	H	62.24	-32.99	-27	5.99
17863.9	H	64.64	-30.59	-27	3.59

Test mode:		802.11a		Frequency(MHz): 5825	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8075.53	V	56.93	-38.3	-27	11.3
10006.0	V	61.34	-33.89	-27	6.89
16792.3	V	64.29	-30.94	-27	3.94
8169.08	H	56.95	-38.28	-27	11.28
9946.47	H	60.79	-34.44	-27	7.44
17302.65	H	63.48	-31.75	-27	4.75

Note: (1) All Readings are Peak Value (VBW=3MHz) and AV Value (VBW=10Hz).

(2) Emission Level= Reading Level+Probe Factor +Cable Loss.

(3) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77

d is the measurement distance in 3 meters

Test mode: 802.11a		Frequency(MHz): 5745			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8670.83	V	57.67	74.00	16.33	peak
11094.5	V	61.66	74.00	12.34	peak
17659.8	V	64.45	74.00	9.55	peak
8670.83	V	42.54	54.00	11.46	AVG
11094.5	V	44.01	54.00	9.99	AVG
17659.8	V	47.22	54.00	6.78	AVG
8696.34	H	57.93	74.00	16.07	peak
10745.8	H	61.77	74.00	12.23	peak
17515.2	H	64.16	74.00	9.84	peak
8696.34	H	42.72	54.00	11.28	AVG
10745.8	H	44.52	54.00	9.48	AVG
17515.2	H	45.56	54.00	8.44	AVG

Test mode: 802.11a		Frequency(MHz): 5785			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8662.33	V	57.81	74.00	16.19	peak
11103.0	V	61.63	74.00	12.37	peak
16511.7	V	63.93	74.00	10.07	peak
8662.33	V	42.25	54.00	11.75	AVG
11103.0	V	44.08	54.00	9.92	AVG
16511.7	V	45.38	54.00	8.62	AVG
8653.82	H	57.49	74.00	16.51	peak
11494.2	H	62.24	74.00	11.76	peak
17863.9	H	64.64	74.00	9.36	peak
8653.82	H	42.10	54.00	11.90	AVG
11494.2	H	43.22	54.00	10.78	AVG
17863.9	H	46.21	54.00	7.79	AVG

Test mode: 802.11a		Frequency(MHz): 5825			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8075.53	V	56.93	74.00	17.07	peak
10006.0	V	61.34	74.00	12.66	peak
16792.3	V	64.29	74.00	9.71	peak
8075.53	V	40.90	54.00	13.10	AVG
10006.0	V	41.54	54.00	12.46	AVG
16792.3	V	45.18	54.00	8.82	AVG
8169.08	H	56.95	74.00	17.05	peak
9946.47	H	60.79	74.00	13.21	peak
17302.6	H	63.48	74.00	10.52	peak
8169.08	H	40.61	54.00	13.39	AVG
9946.47	H	41.61	54.00	12.39	AVG
17302.6	H	44.68	54.00	9.32	AVG

- Note:**
- (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 - (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 - (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.

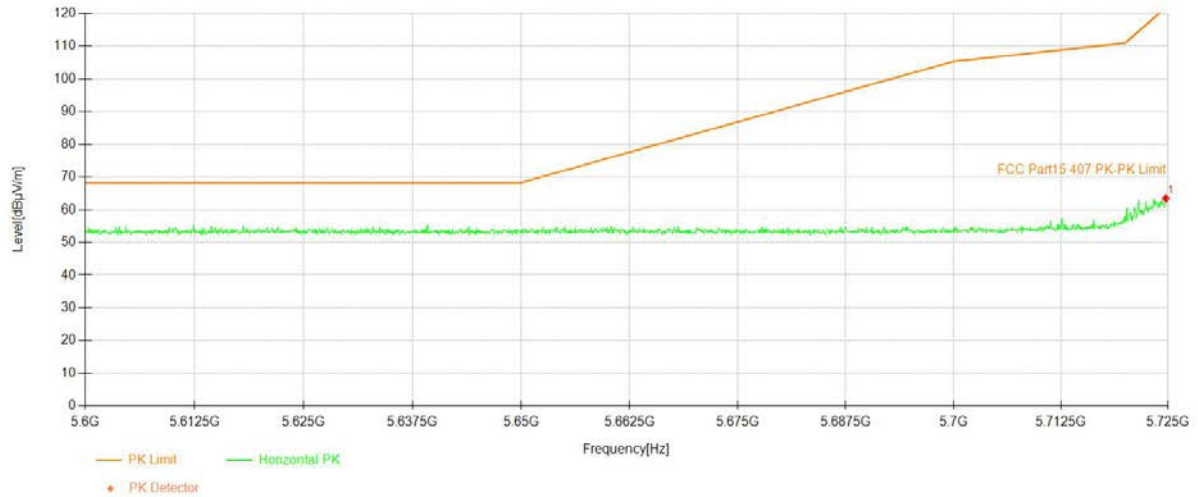
☒ Undesirable radiated Spurious Emission in band edge

Test mode:		Frequency:			
802.11ac(20)		5745			
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5724.74	H	63.44	-31.79	-27	PASS
5723.31	V	60.50	-34.73	-27	PASS

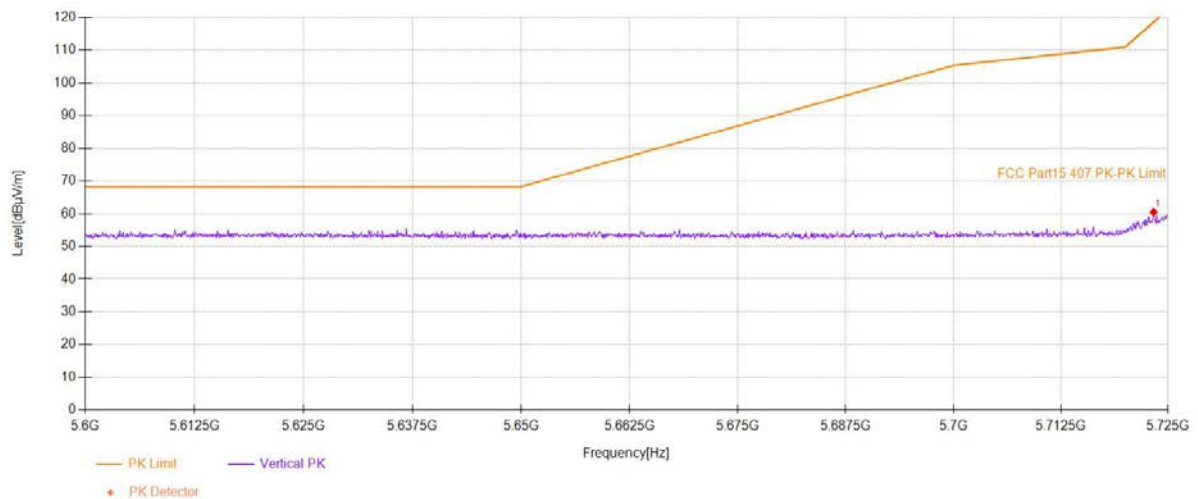
Test mode:		Frequency:			
802.11ac(20)		5825			
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5852.87	H	56.74	-38.49	-27	PASS
5860.44	V	56.13	-39.1	-27	PASS

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 (3) Correct Factor= Ant_F + Cab_L - Preamp
 (4) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77
 d is the measurement distance in 3 meters

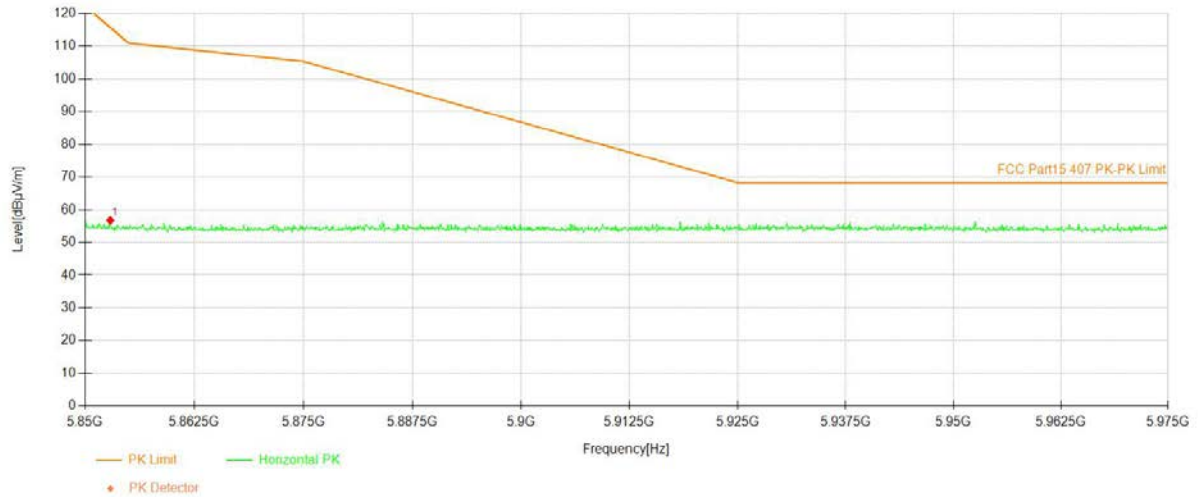
Test Model U-NII -3
 Undesirable radiated ☐ 802.11a Undesirable radiated ☐ 802.11n(HT20) Spurious Emission in Band Edge ☒ 802.11 ac (VHT20)
☒ 5745 Ant.Pol H



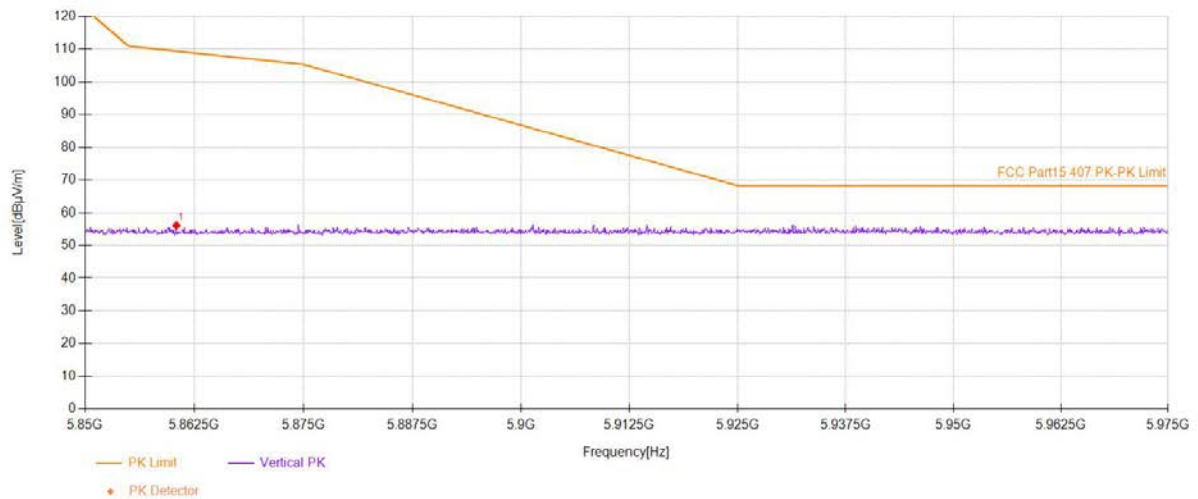
Test Model U-NII -3
 Undesirable radiated ☐ 802.11a Undesirable radiated ☐ 802.11n(HT20) Spurious Emission in Band Edge ☒ 802.11 ac (VHT20)
☒ 5745 Ant.Pol V



Test Model U-NII -3
Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☒ 5825 Ant.Pol H



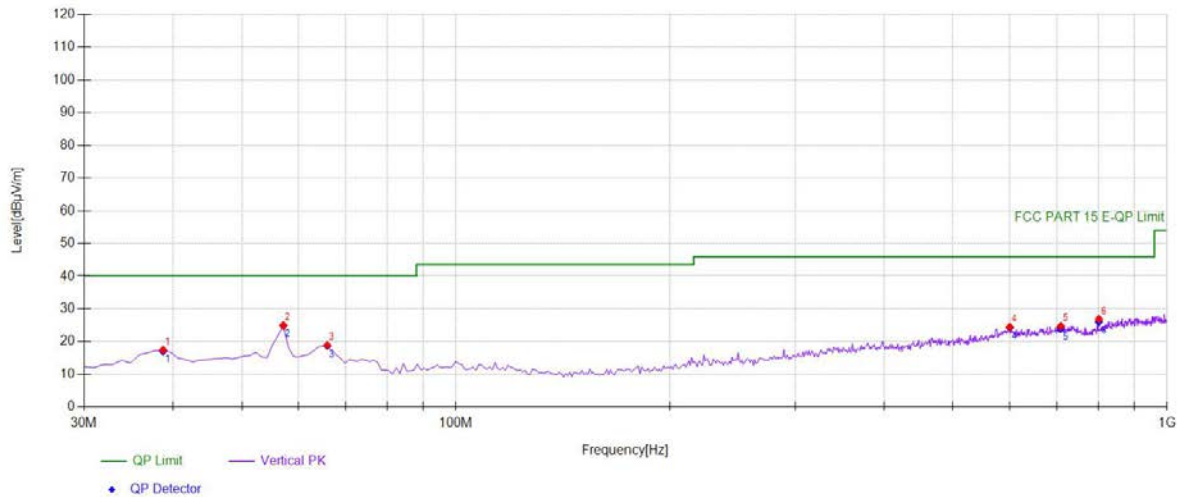
Test Model U-NII -3
Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☒ 5825 Ant.Pol V



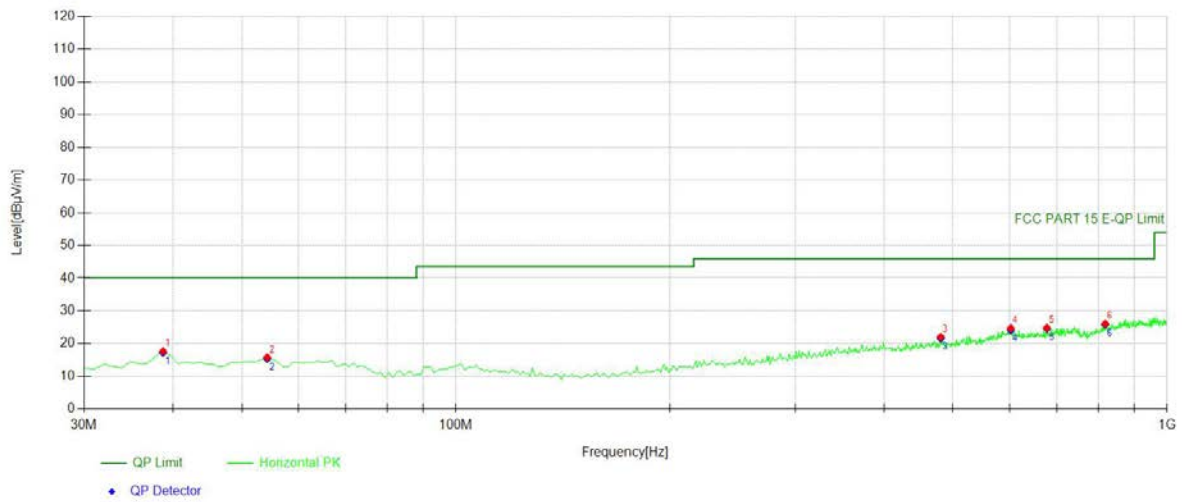
Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)

All of the configurations or modes are tested, the data of the worst case is recorded as below.

Test mode: 802.11a Frequency(MHz): 5180



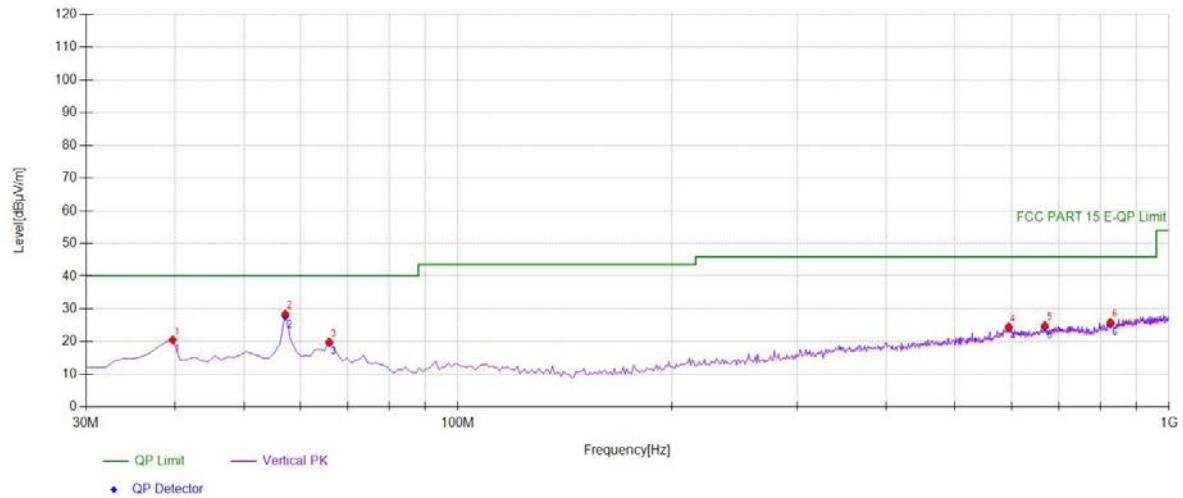
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	38.7387	34.99	-17.58	17.41	PK	40.00	22.59	Vertical
2	57.1872	41.87	-16.94	24.93	PK	40.00	15.07	Vertical
3	65.9259	37.02	-18.14	18.88	PK	40.00	21.12	Vertical
4	600.930	30.98	-6.49	24.49	PK	46.00	21.51	Vertical
5	708.708	30.82	-6.09	24.73	PK	46.00	21.27	Vertical
6	801.921	32.27	-5.38	26.89	PK	46.00	19.11	Vertical



Suspected Data List

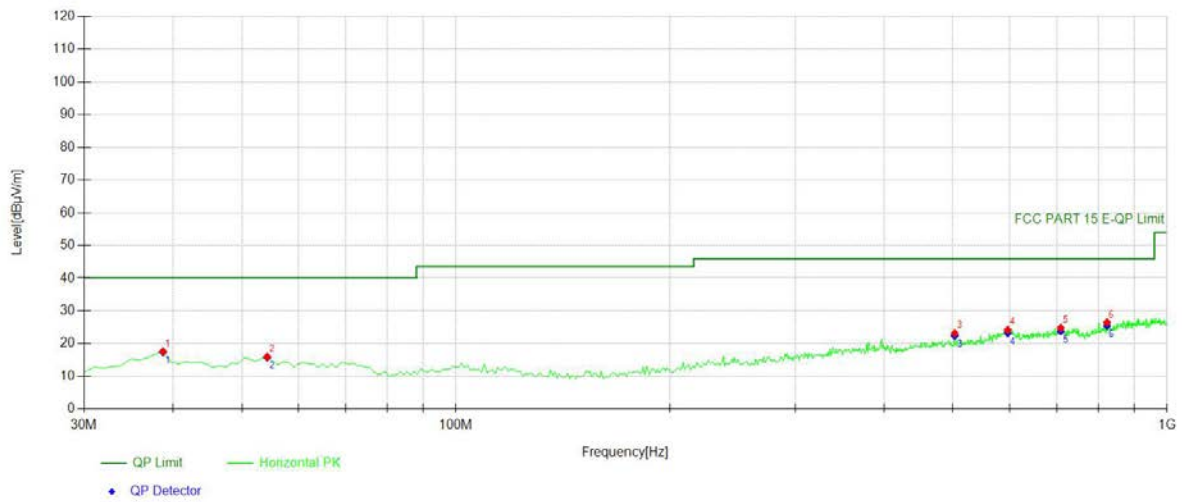
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	38.7387	35.22	-17.58	17.64	PK	40.00	22.36	Horizontal
2	54.2743	32.36	-16.56	15.80	PK	40.00	24.20	Horizontal
3	480.530	32.10	-10.08	22.02	PK	46.00	23.98	Horizontal
4	602.872	31.30	-6.59	24.71	PK	46.00	21.29	Horizontal
5	677.637	31.74	-6.92	24.82	PK	46.00	21.18	Horizontal
6	818.428	31.16	-5.12	26.04	PK	46.00	19.96	Horizontal

Test mode: 802.11a Frequency(MHz): 5200



Suspected Data List

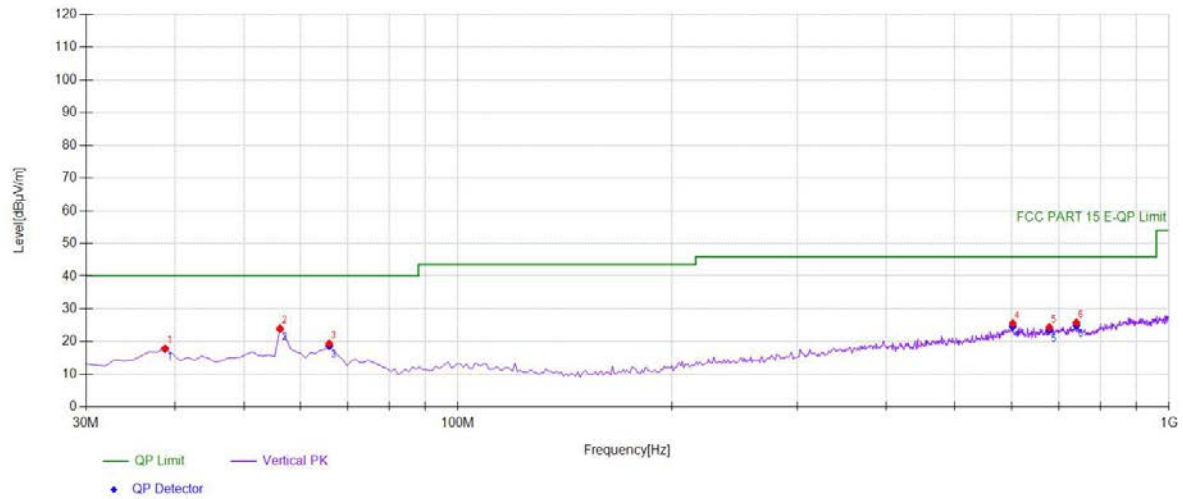
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	39.7097	38.04	-17.45	20.59	PK	40.00	19.41	Vertical
2	57.1872	45.47	-16.94	28.53	PK	40.00	11.47	Vertical
3	65.9259	38.13	-18.14	19.99	PK	40.00	20.01	Vertical
4	595.105	31.34	-6.68	24.66	PK	46.00	21.34	Vertical
5	668.898	32.00	-7.00	25.00	PK	46.00	21.00	Vertical
6	827.167	30.95	-4.97	25.98	PK	46.00	20.02	Vertical



Suspected Data List

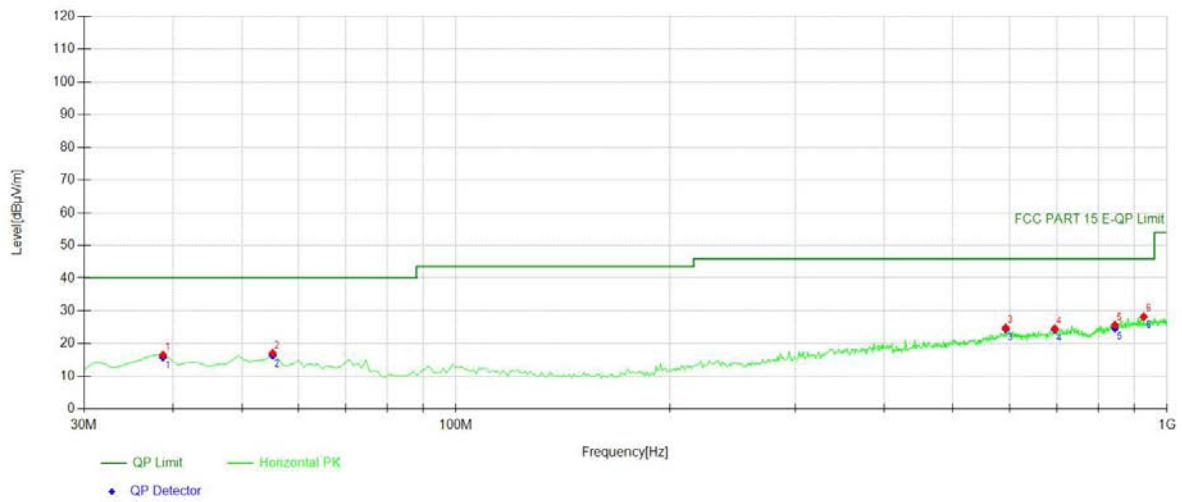
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	38.7387	35.14	-17.58	17.56	PK	40.00	22.44	Horizontal
2	54.2743	32.53	-16.56	15.97	PK	40.00	24.03	Horizontal
3	502.862	33.18	-10.01	23.17	PK	46.00	22.83	Horizontal
4	597.047	30.77	-6.59	24.18	PK	46.00	21.82	Horizontal
5	708.708	30.86	-6.09	24.77	PK	46.00	21.23	Horizontal
6	823.283	31.47	-5.03	26.44	PK	46.00	19.56	Horizontal

Test mode: 802.11a Frequency(MHz): 5240



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	38.7387	35.47	-17.58	17.89	PK	40.00	22.11	Vertical
2	56.2162	40.82	-16.81	24.01	PK	40.00	15.99	Vertical
3	65.9259	37.54	-18.14	19.40	PK	40.00	20.60	Vertical
4	602.872	32.13	-6.59	25.54	PK	46.00	20.46	Vertical
5	678.608	31.32	-6.91	24.41	PK	46.00	21.59	Vertical
6	740.750	31.46	-5.69	25.77	PK	46.00	20.23	Vertical



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	38.7387	34.12	-17.58	16.54	PK	40.00	23.46	Horizontal
2	55.2452	33.74	-16.69	17.05	PK	40.00	22.95	Horizontal
3	593.163	31.63	-6.78	24.85	PK	46.00	21.15	Horizontal
4	695.115	30.94	-6.33	24.61	PK	46.00	21.39	Horizontal
5	844.644	30.08	-4.42	25.66	PK	46.00	20.34	Horizontal
6	927.177	31.39	-3.15	28.24	PK	46.00	17.76	Horizontal

8.5 POWER LINE CONDUCTED EMISSIONS

8.5.1 Applicable Standard

According to FCC Part 15.207(a)

8.5.2 Conformance Limit

Frequency(MHz)	Conducted Emission Limit	
	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.

8.5.3 Test Configuration

Test according to clause 6.3 conducted emission test setup

8.5.4 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.

8.5.5 Test Results

N/A

Not applicable, since EUT is battery power supply.

8.6 ANTENNA APPLICATION

8.6.1 Antenna Requirement

Standard	Requirement
FCC CRF Part 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 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 15.407 (a), 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.

8.6.2 Result

PASS

Temperature : 25°C ATM Pressure: 1011 mbar
Humidity : 45 % Test Engineer: GJ

The EUT is integrated antenna, the antenna gain is 3.34dBi.

- ☒ Antennas use 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 ---

声 明 Statement

1. 本报告无授权批准人签字及“检验检测专用章”无效。
1. This report is invalid without the signature of the authorized approver and "special seal for testing".
2. 未经许可本报告不得部分复制。
2. This report shall not be copied partly without authorization.
3. 本报告的检测结果仅对送测样品有效，委托方对样品的代表性和资料的真实性负责。
3. The test results or observations are applicable only to tested sample. Client shall be responsible for representativeness of the sample and authenticity of the material.
4. 本检测报告中检测项目标注有特殊符号则该项目不在资质认定范围内，仅作为客户委托、科研、教学或内部质量控制等目的使用。
4. The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.
5. 本检测报告以实测值进行符合性判定，未考虑不确定度所带来的风险，本实验室不承担相关责任，特别约定、标准或规范中有明确规定的除外。
5. The test results or observations are provided in accordance with measured value, without taking risks caused by uncertainty into account. Without explicit stipulation in special agreements, standards or regulations, EMTEK shall not assume any responsibility.
6. 对本检验报告若有异议，请于收到报告之日起 20 日内提出。
6. Objections shall be raised within 20 days from the date receiving the report.