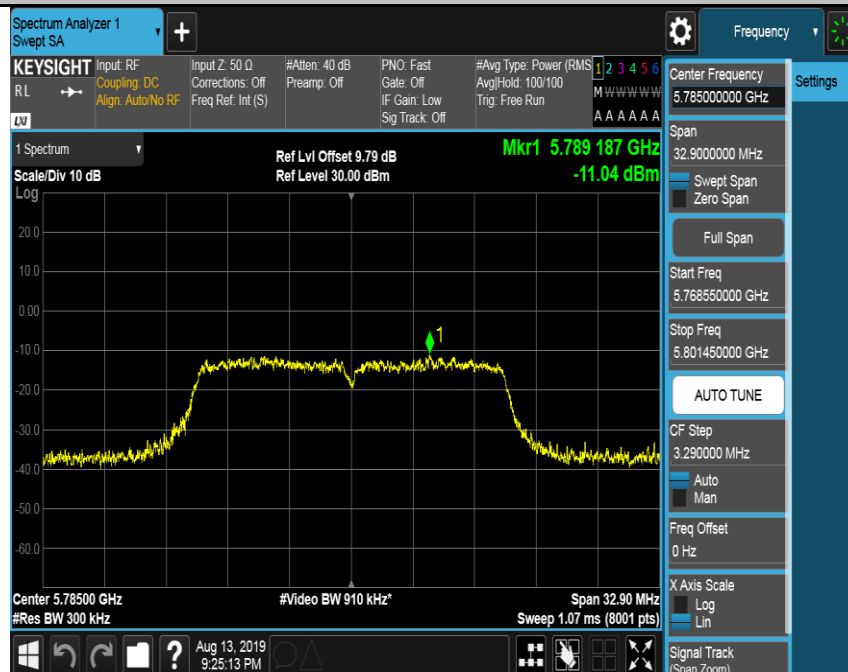
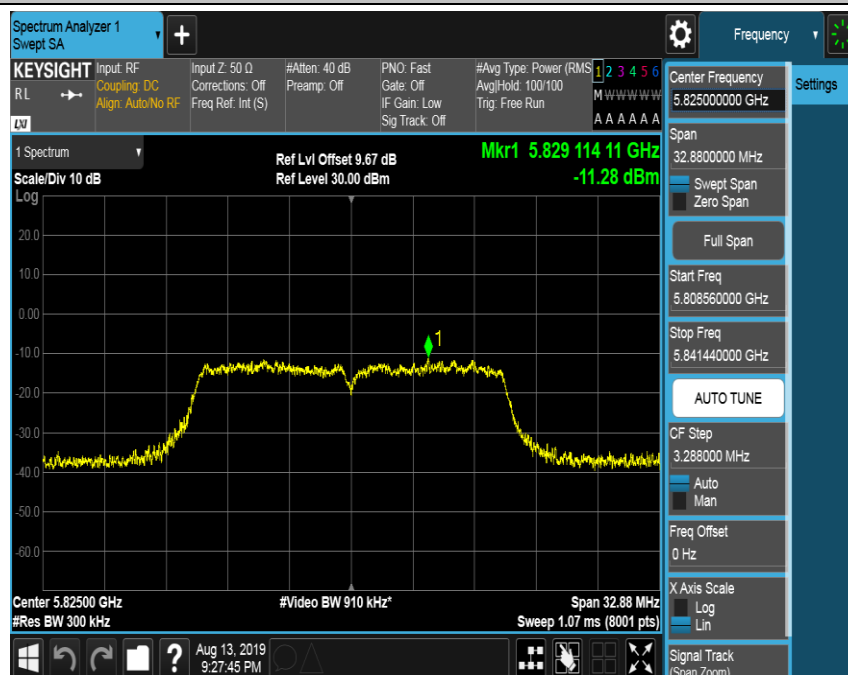




Maximum Power Spectral Density_TNVN_11A_5785

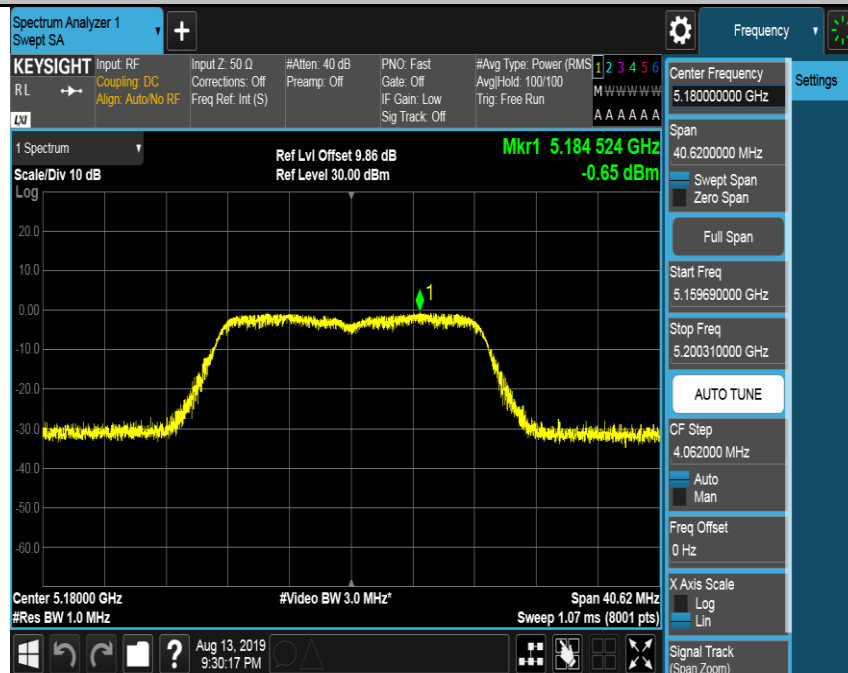


Maximum Power Spectral Density_TNVN_11A_5825

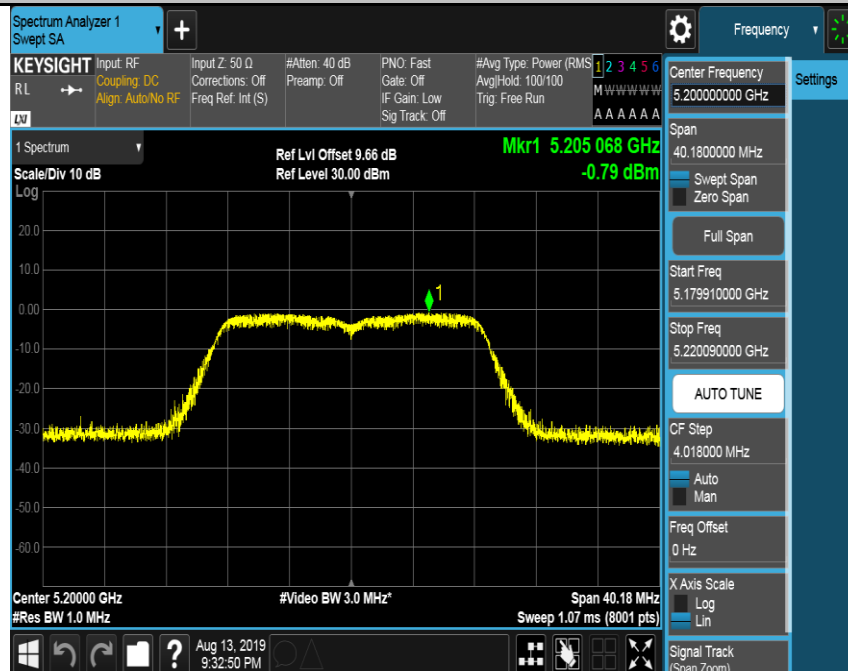




Maximum Power Spectral Density_TNVN_11AC20_5180

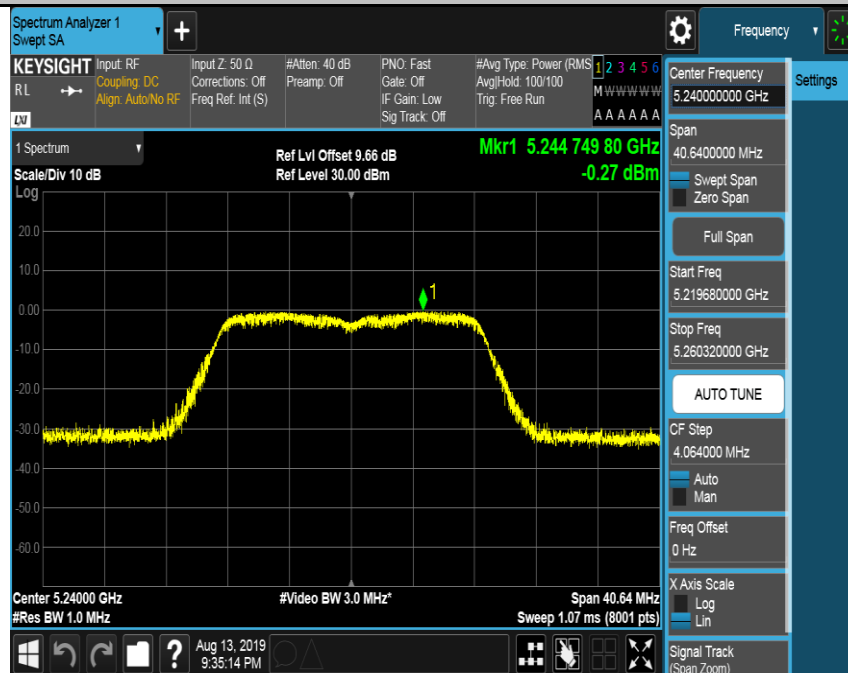


Maximum Power Spectral Density_TNVN_11AC20_5200

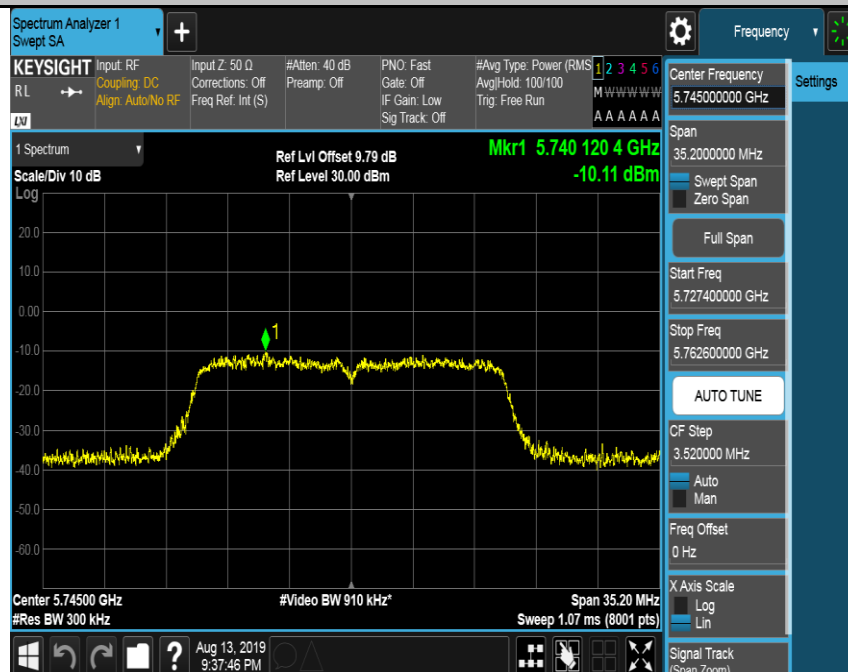




Maximum Power Spectral Density_TNVN_11AC20_5240



Maximum Power Spectral Density_TNVN_11AC20_5745

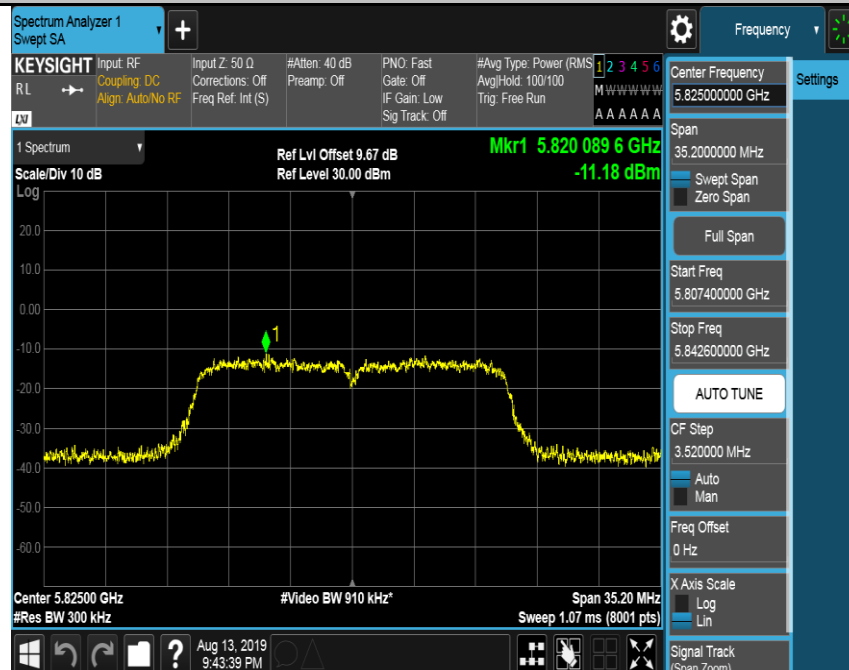




Maximum Power Spectral Density_TNVN_11AC20_5785

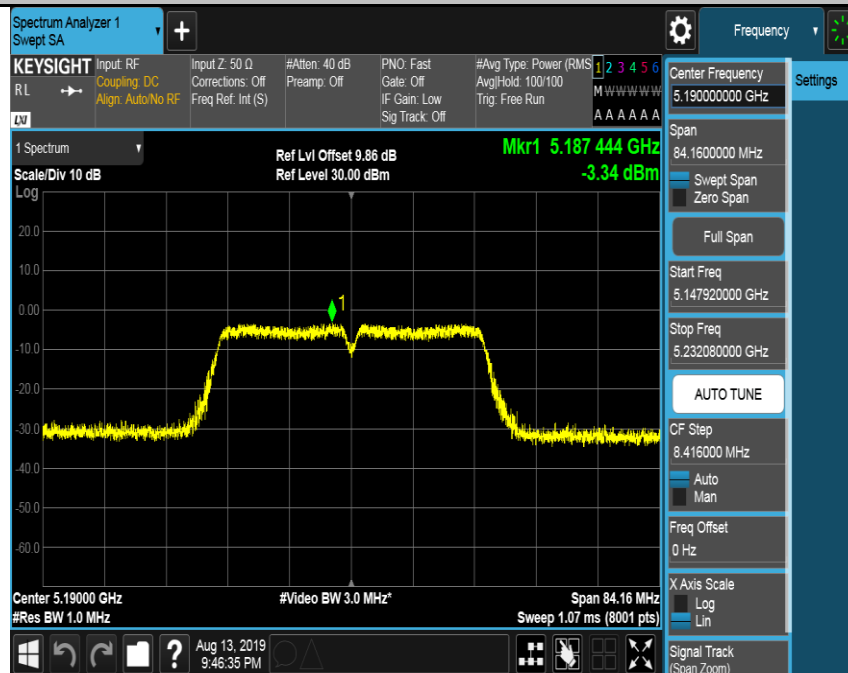


Maximum Power Spectral Density_TNVN_11AC20_5825

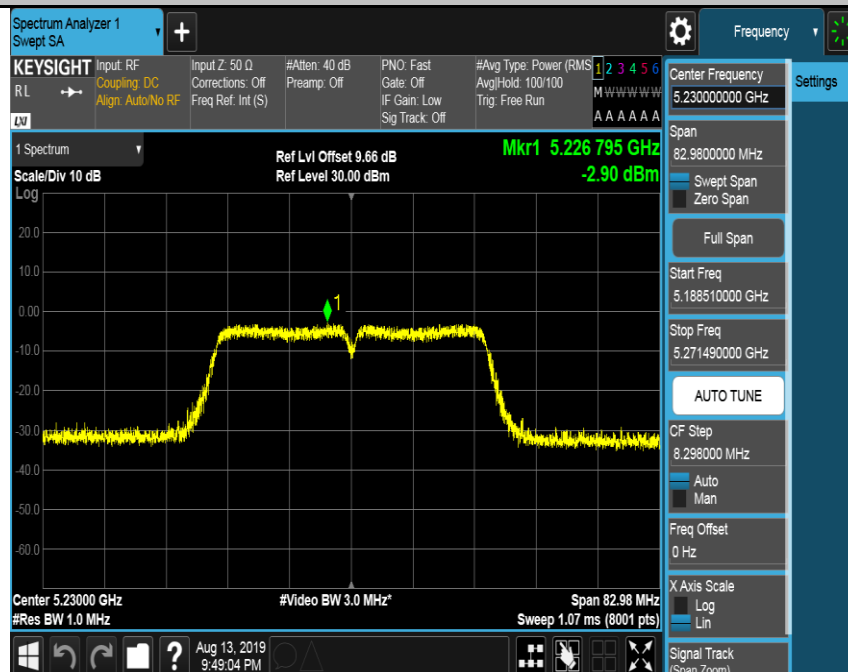




Maximum Power Spectral Density_TNVN_11AC40_5190

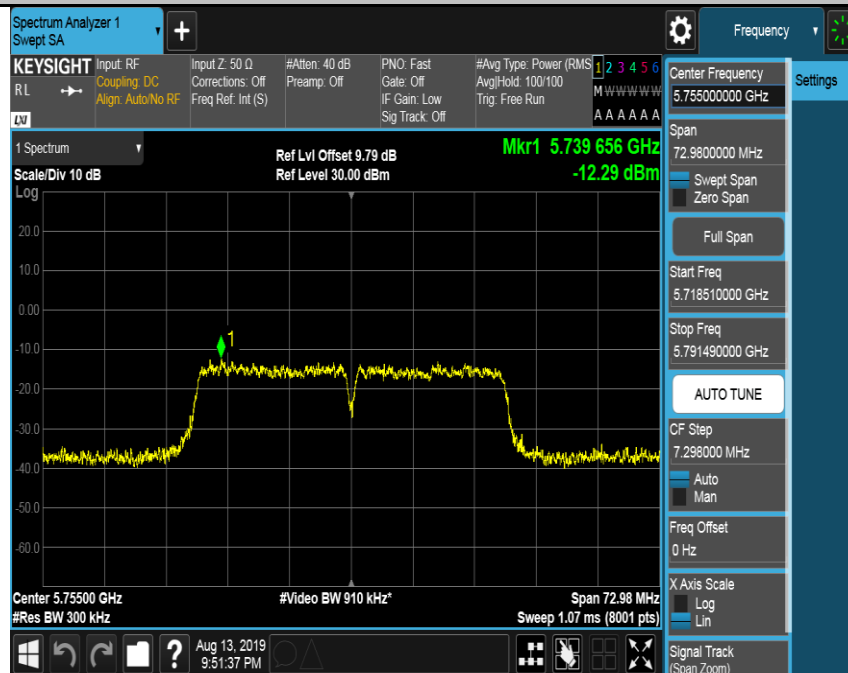


Maximum Power Spectral Density_TNVN_11AC40_5230

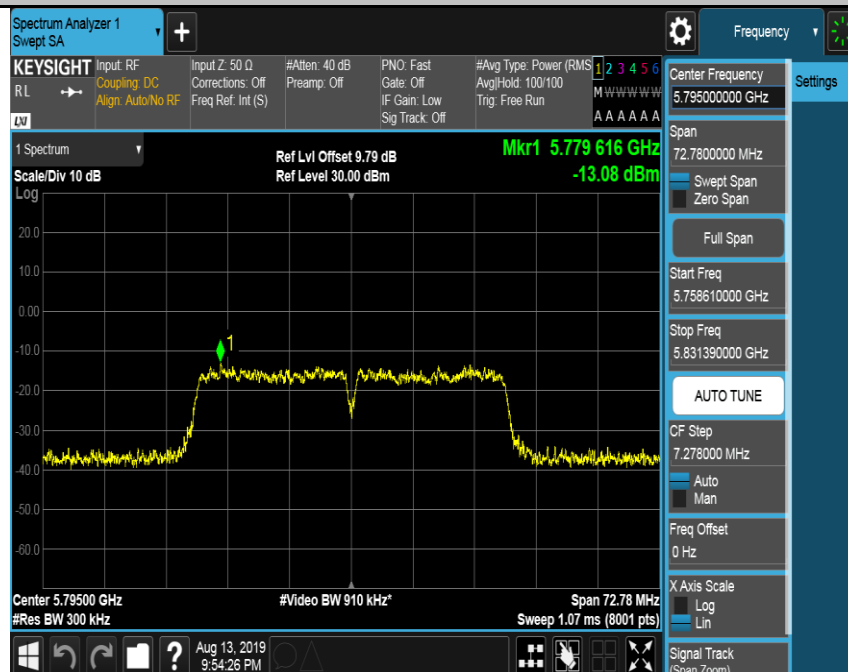




Maximum Power Spectral Density_TNVN_11AC40_5755

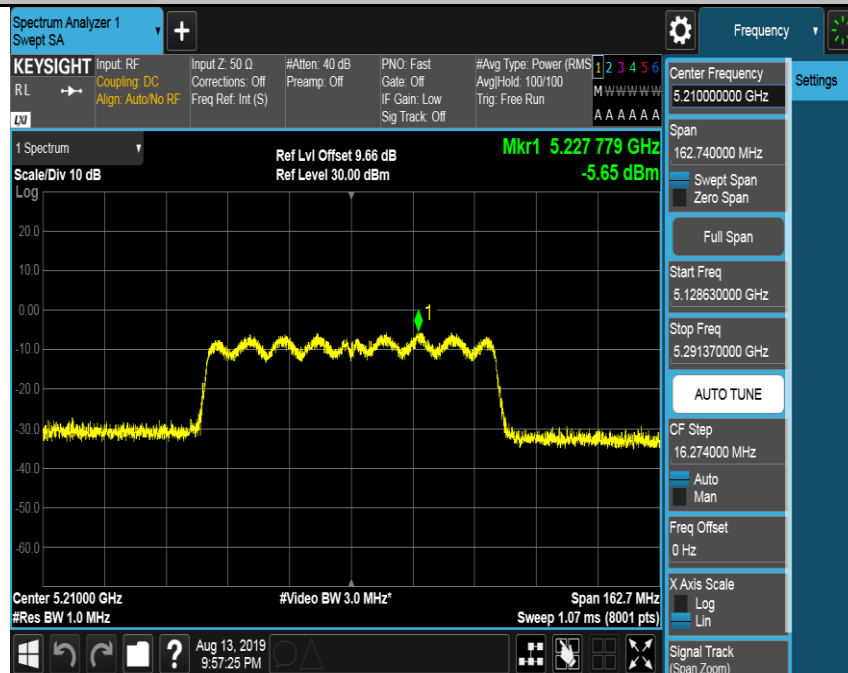


Maximum Power Spectral Density_TNVN_11AC40_5795

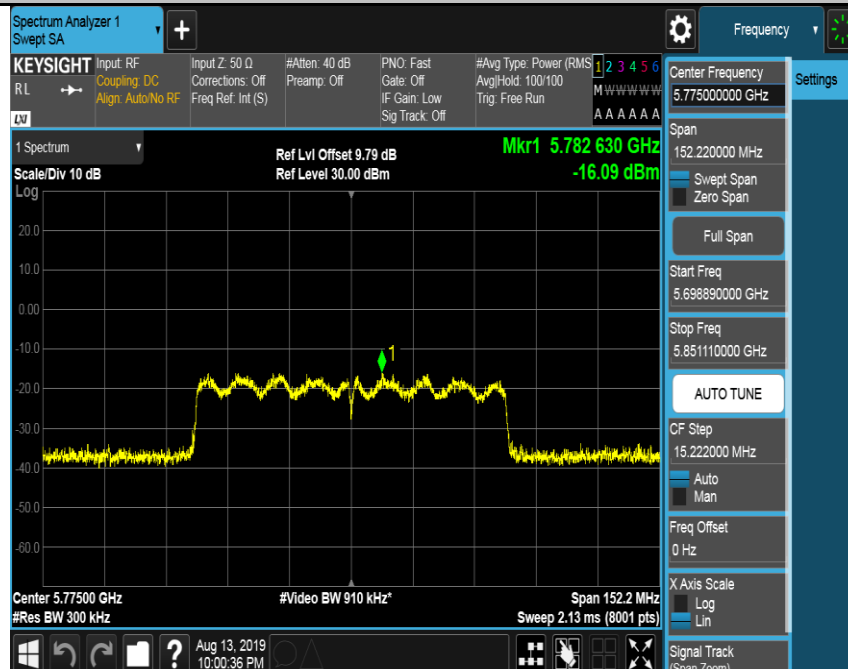




Maximum Power Spectral Density_TNVN_11AC80_5210



Maximum Power Spectral Density_TNVN_11AC80_5775





7. RADIATED TEST RESULTS

7.1. LIMITS

Please refer to FCC §15.205, §15.209 and §15.407(b) (4)

Radiation Disturbance Test Limit for FCC (Class B)(9KHz-1GHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Note: 1) At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

(2) At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). This paragraph (f) shall not apply to Access BPL devices operating below 30 MHz.



Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

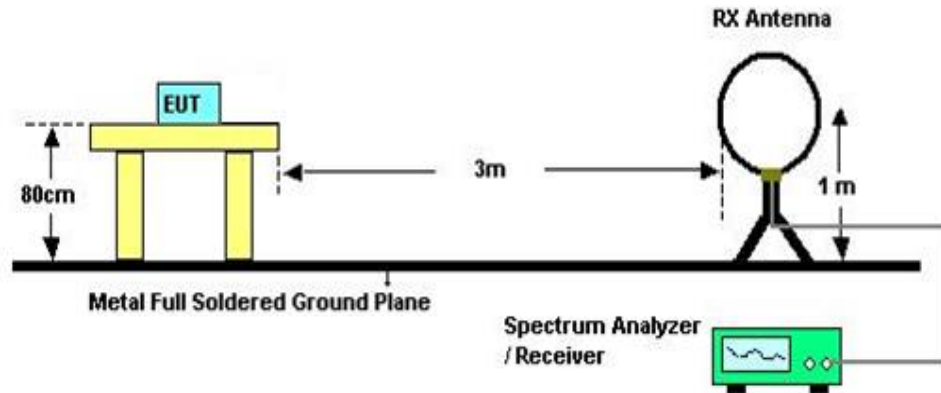
LIMITS OF RADIATED EMISSION MEASUREMENT (Below 1GHz)			
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m	
		Quasi-Peak	
30 - 88	100	40	
88 - 216	150	43.5	
216 - 960	200	46	
Above 960	500	54	
Above 1000	500	Peak	Average
		74	54

Limits of unwanted emission out of the restricted bands

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1GHz)		
Frequency Range (MHz)	EIRP Limit	Field Strength Limit (dBuV/m) at 3 m
5150~5250 MHz	PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
5725~5850 MHz	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2(dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8(dBμV/m) *3 PK:122.2 (dBμV/m) *4
Note: *1 beyond 75 MHz or more above of the band edge. *2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. *3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. *4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.		

7.2. TEST SETUP AND PROCEDURE

Below 30MHz

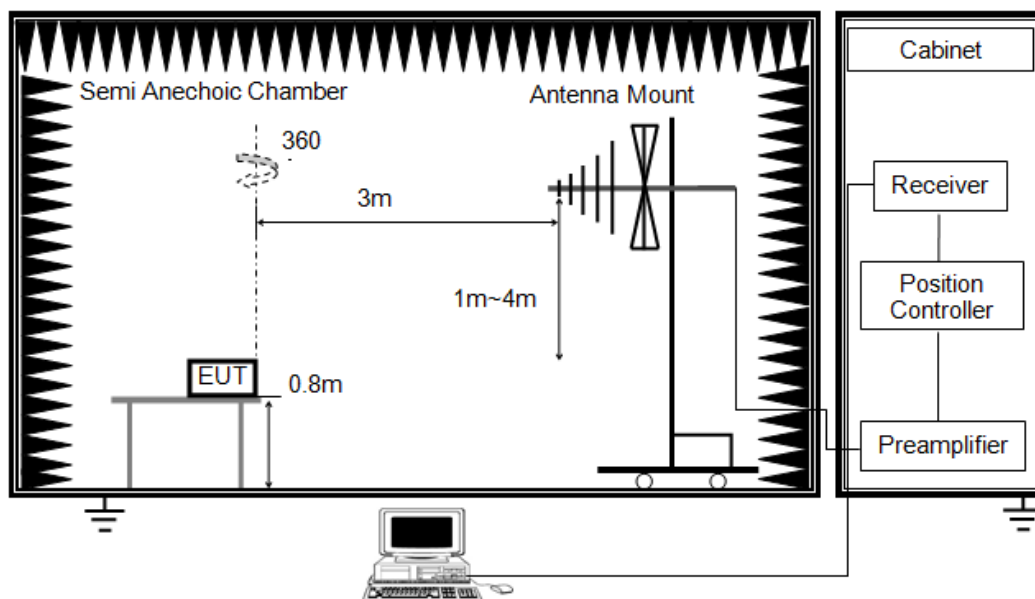


The setting of the spectrum analyser

RBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
VBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
Sweep	Auto
Detector	Peak/QP/ Average
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013
2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1m height antenna tower.
5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
6. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

Below 1G

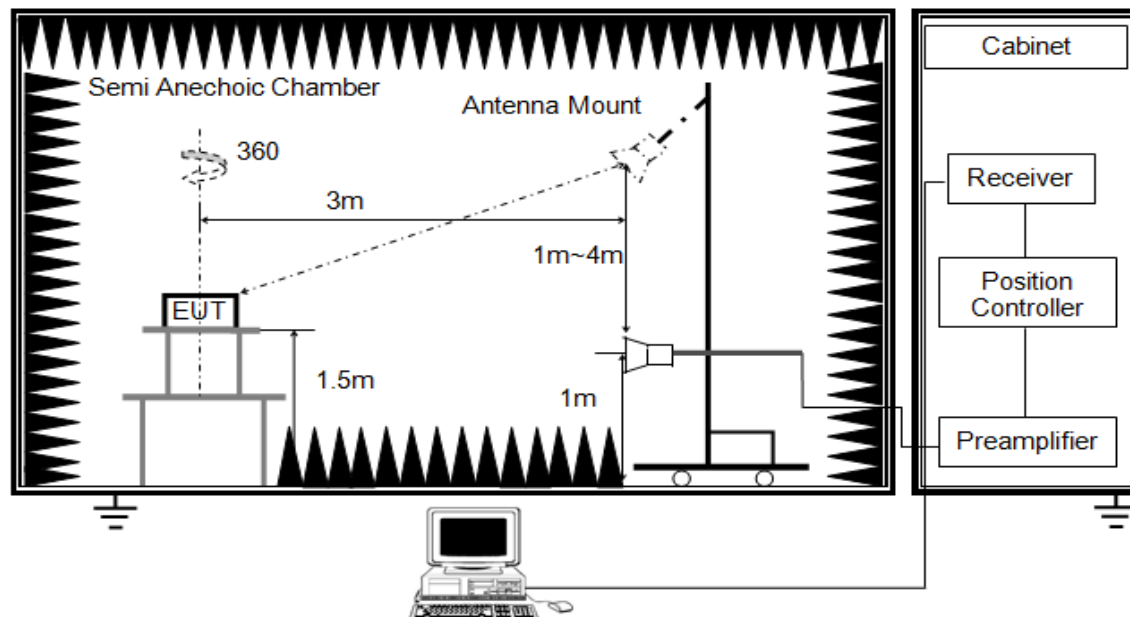


The setting of the spectrum analyser

RBW	120K
VBW	300K
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
6. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

Above 1G

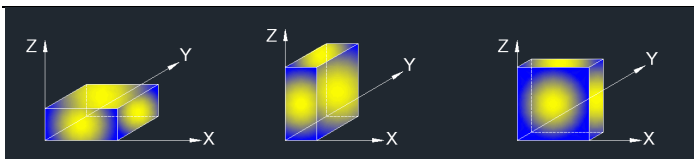


The setting of the spectrum analyser

RBW	1M
VBW	PEAK: 3M AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 1.5m above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.
6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector. For the Duty Cycle please refer to clause 7.1.ON TIME AND DUTY CYCLE.
7. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

X axis, Y axis, Z axis positions:



Note: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (Z axis) data recorded in the report.

7.3. TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V



7.4. RESTRICTED BANDEDGE

7.4.1. UNII BAND I

Test Result Table

Test Mode	Test Antenna	Channel	Puw(dBm)	Verdict
11A	Ant1+Ant2	5180	<Limit	PASS
		5240	<Limit	PASS
11AC20	Ant1+Ant2	5180	<Limit	PASS
		5240	<Limit	PASS
11AC40	Ant1+Ant2	5190	<Limit	PASS
		5230	<Limit	PASS
11AC80	Ant1+Ant2	5210	<Limit	PASS

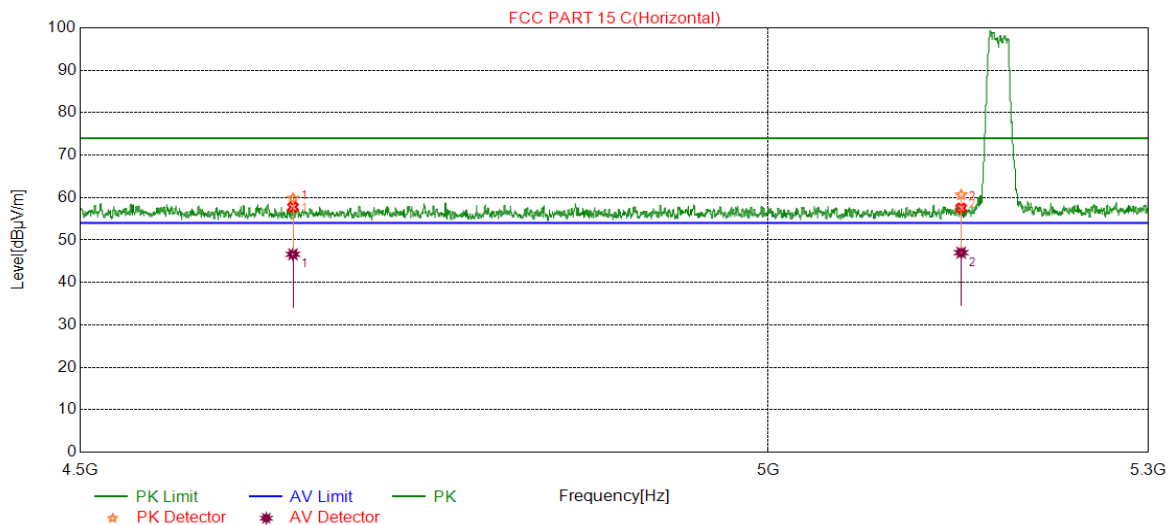
Remark:

- 1) For this product, it has two antennas, antenna1 and antenna2, the 802.11a is use the SISO technical, but the ant1 and ant2 can transmitter in the same time under those modes. The 802.11n and 802.11ac are both use the SISO and MIMO technical.
- 2) EUT support for SISO and CDD MIMO Transmission, only 802.11n/ac supports CDD MIMO Mode, SISO mode sets the same power level as MIMO mode, so MIMO mode is the worst case.
- 3) 11n HT20 mode set the same power level as 11ac HT20 mode, and 11n HT40 mode set the same power level as 11ac HT40 mode, besides the 11ac HT20 mode and 11ac HT40 mode were worse case, so only the 11ac HT20 mode and 11ac HT40 mode were tested in this report.



Test Graphs:

Test Mode	Channel	Polarization	Verdict
11A	5180	Horizontal	PASS

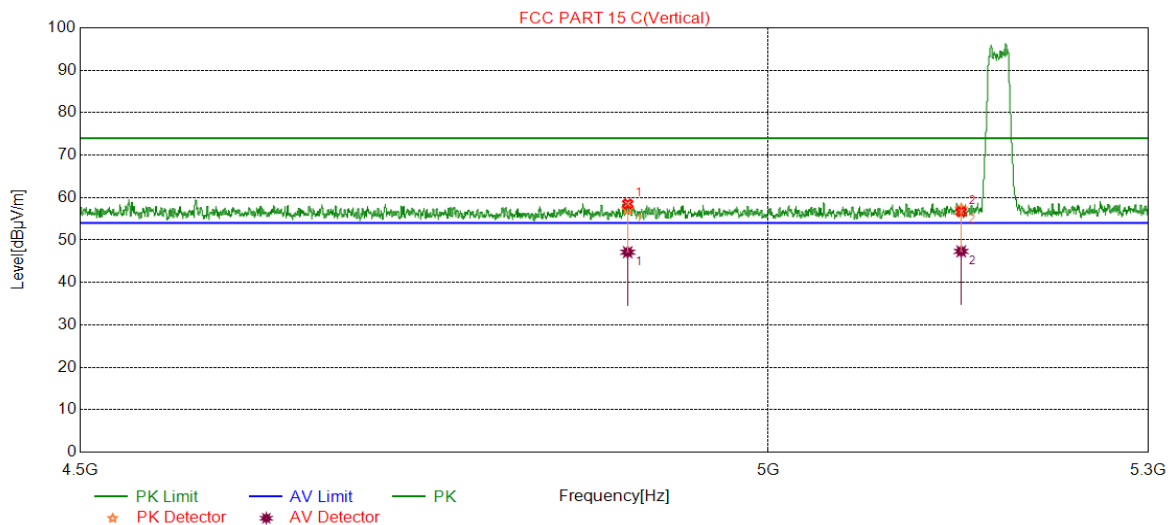


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	4648.9749	37.24	20.52	57.76	74.00	-16.24	peak
		26.11	20.52	46.63	54.00	-7.37	average
2	5150.0000	36.70	20.84	57.54	74.00	-16.46	peak
		26.18	20.84	47.02	54.00	-6.98	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11A	5180	Vertical	PASS

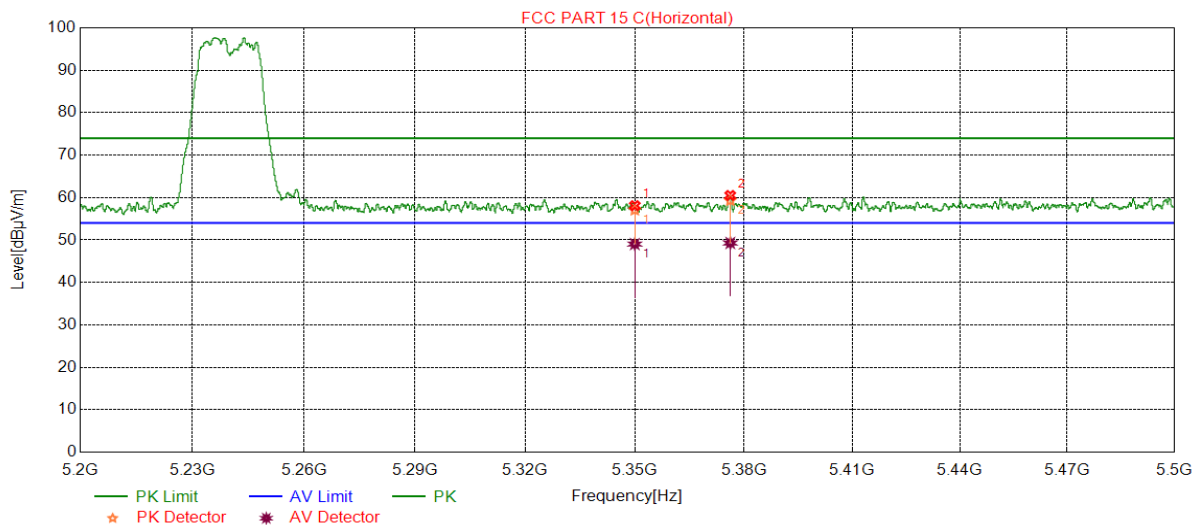


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	4893.5594	37.78	20.73	58.51	74.00	-15.49	peak
		26.40	20.73	47.13	54.00	-6.87	average
2	5150.0000	35.80	20.84	56.64	74.00	-17.36	peak
		26.48	20.84	47.32	54.00	-6.68	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11A	5240	Horizontal	PASS

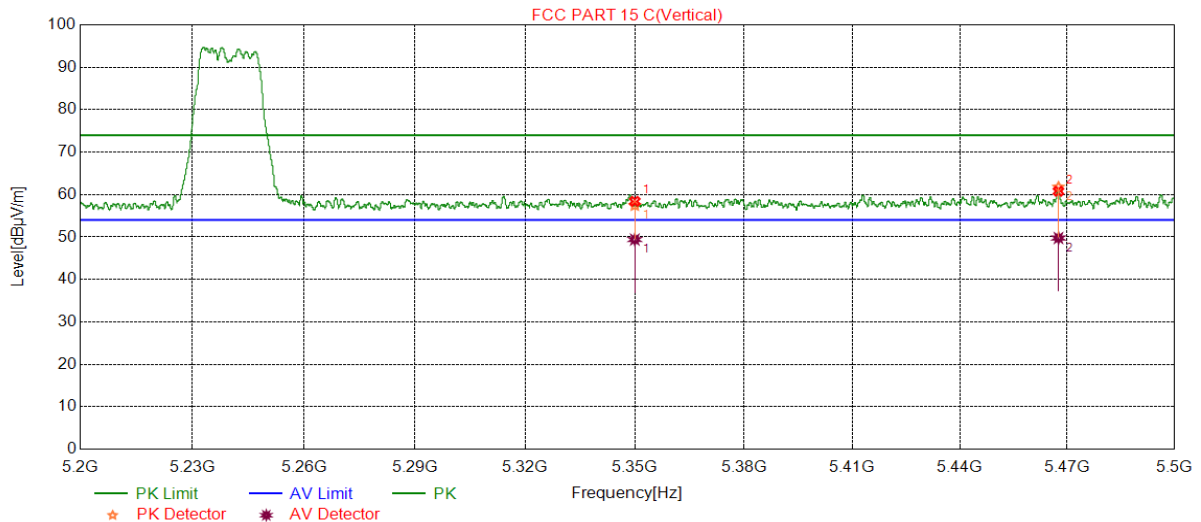


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.0000	36.35	21.74	58.09	74.00	-15.91	peak
		27.30	21.74	49.04	54.00	-4.96	average
2	5376.2676	38.63	21.87	60.50	74.00	-13.50	peak
		27.42	21.87	49.29	54.00	-4.71	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11A	5240	Vertical	PASS

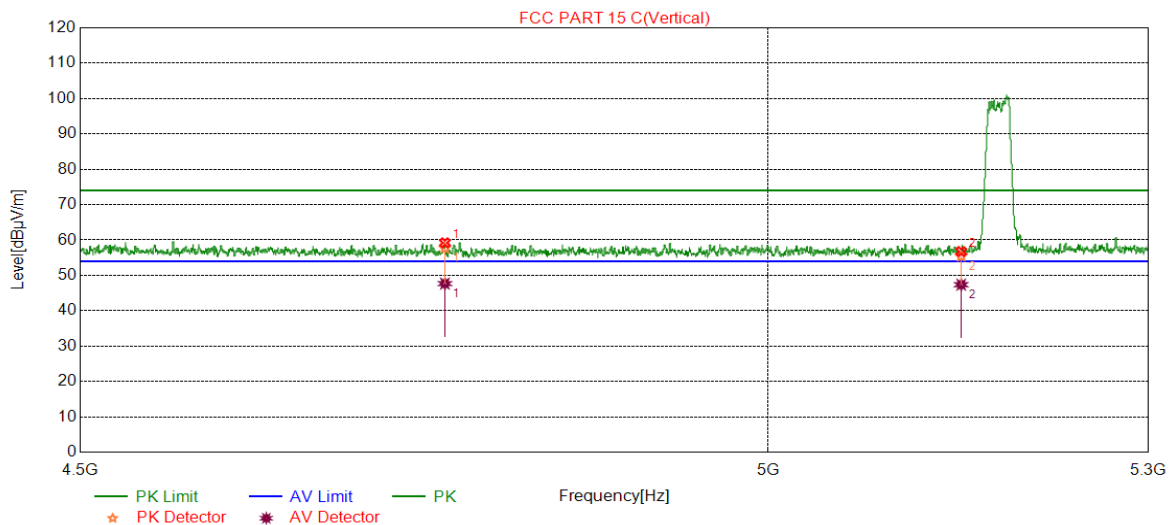


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.0000	36.66	21.74	58.40	74.00	-15.60	peak
		27.66	21.74	49.40	54.00	-4.60	average
2	5467.5368	38.71	22.06	60.77	74.00	-13.23	peak
		27.70	22.06	49.76	54.00	-4.24	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC20	5180	Horizontal	PASS

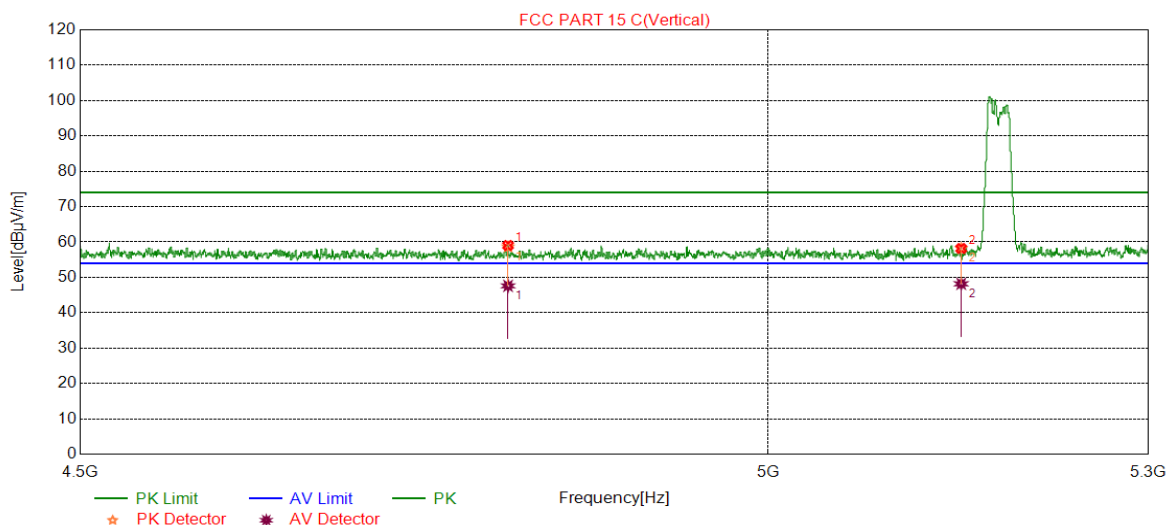


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	4758.4258	38.73	20.48	59.21	74.00	-14.79	peak
		27.19	20.48	47.67	54.00	-6.33	average
2	5150.0000	35.91	20.84	56.75	74.00	-17.25	peak
		26.53	20.84	47.37	54.00	-6.63	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 20	5180	Vertical	PASS

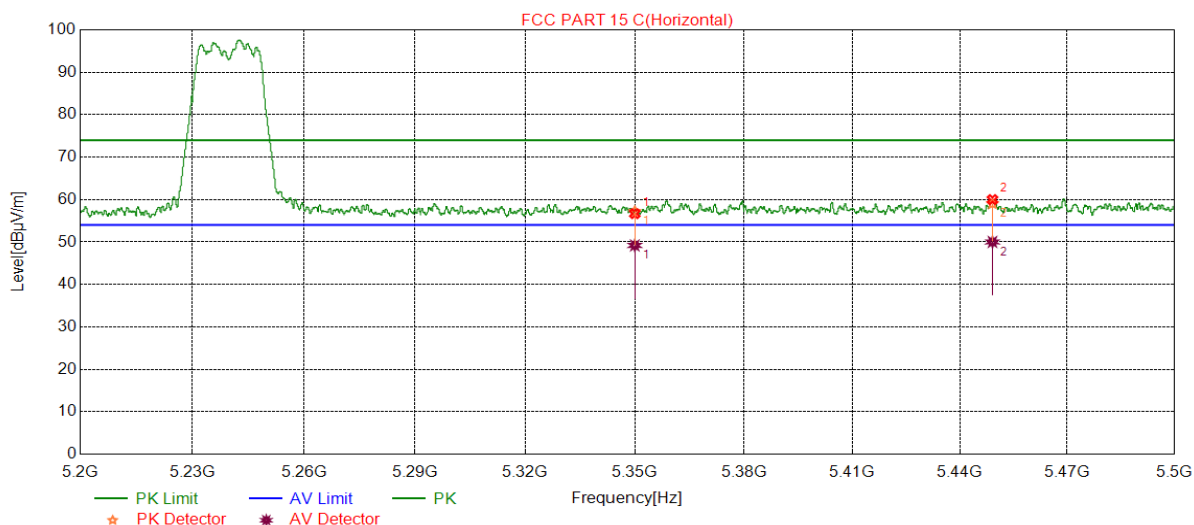


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	4804.6705	38.56	20.47	59.03	74.00	-14.97	peak
		27.13	20.47	47.60	54.00	-6.40	average
2	5150.0000	37.33	20.84	58.17	74.00	-15.83	peak
		27.33	20.84	48.17	54.00	-5.83	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 20	5240	Horizontal	PASS

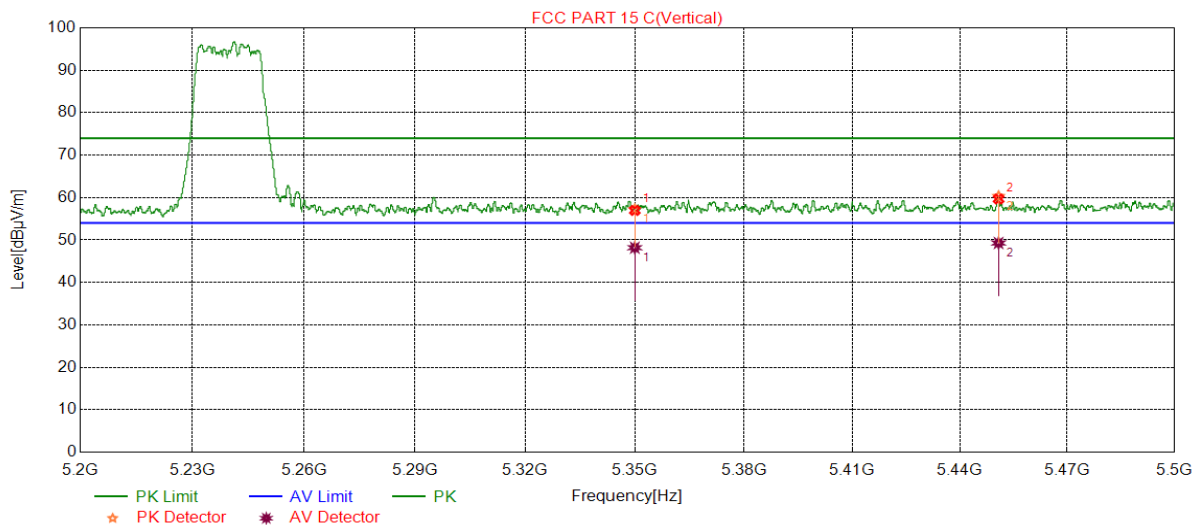


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.0000	34.93	21.74	56.67	74.00	-17.33	peak
		27.45	21.74	49.19	54.00	-4.81	average
2	5449.0549	37.96	22.03	59.99	74.00	-14.01	peak
		27.98	22.03	50.01	54.00	-3.99	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 20	5240	Vertical	PASS

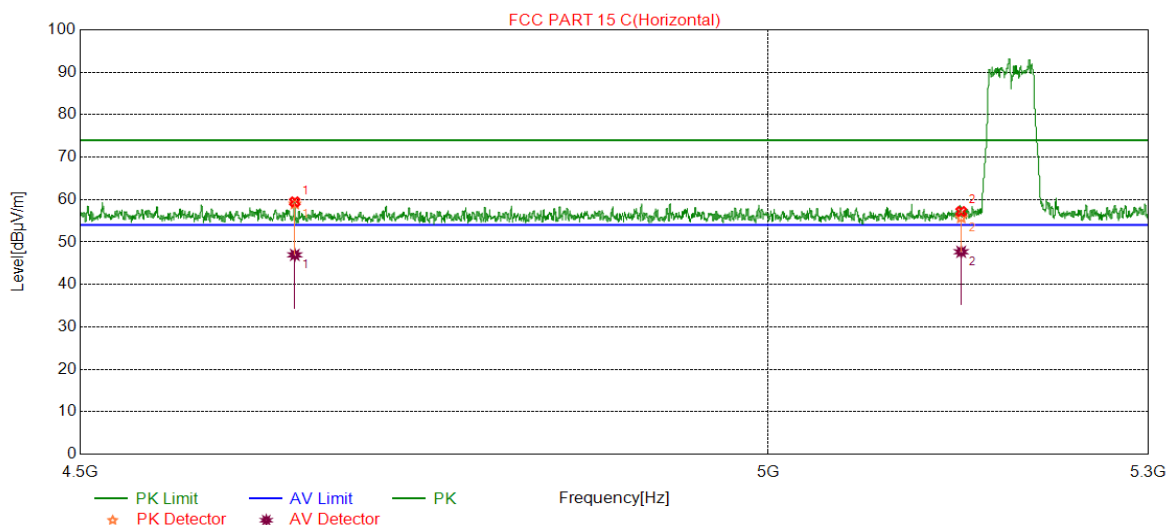


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.0000	35.22	21.74	56.96	74.00	-17.04	peak
		26.44	21.74	48.18	54.00	-5.82	average
2	5450.7651	37.65	22.01	59.66	74.00	-14.34	peak
		27.28	22.01	49.29	54.00	-4.71	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 40	5190	Horizontal	PASS

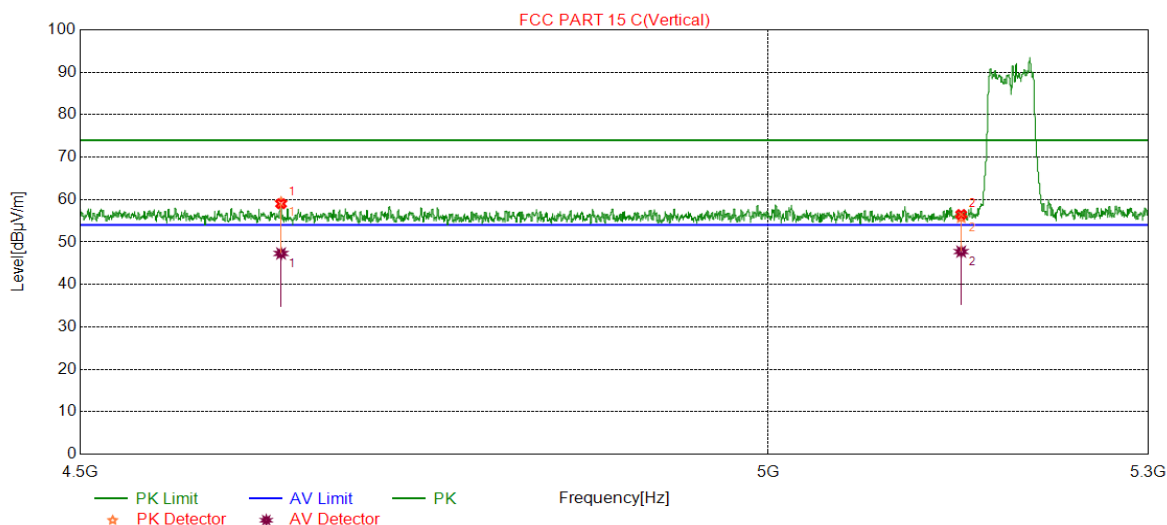


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	4650.2550	38.97	20.48	59.45	74.00	-14.55	peak
		26.48	20.48	46.96	54.00	-7.04	average
2	5150.0000	36.35	20.84	57.19	74.00	-16.81	peak
		26.85	20.84	47.69	54.00	-6.31	average

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 40	5190	Vertical	PASS

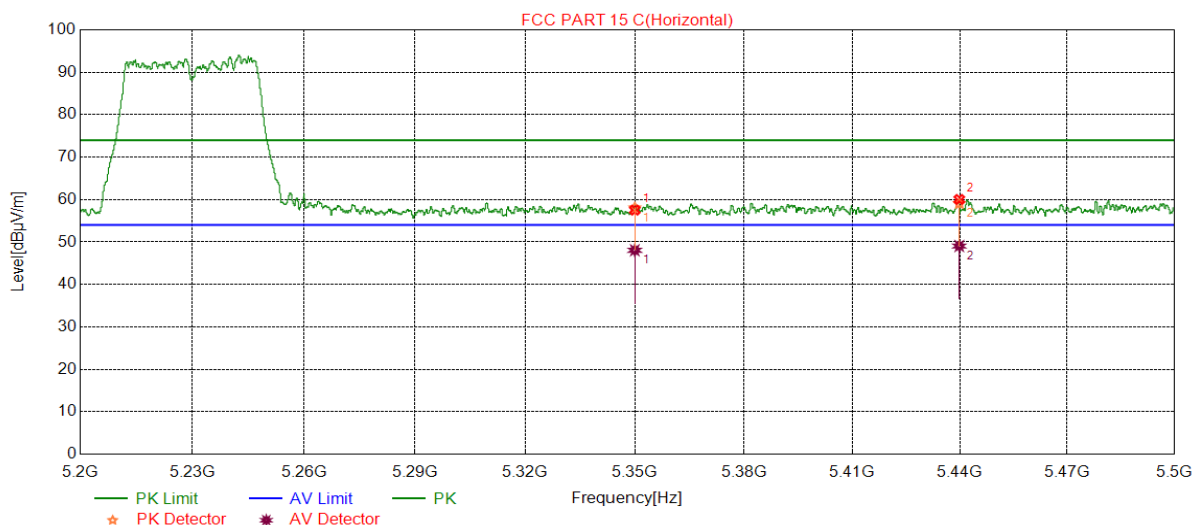


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	4640.4940	38.44	20.57	59.01	74.00	-14.99	peak
		26.73	20.57	47.30	54.00	-6.70	average
2	5150.0000	35.63	20.84	56.47	74.00	-17.53	peak
		26.90	20.84	47.74	54.00	-6.26	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 40	5230	Horizontal	PASS

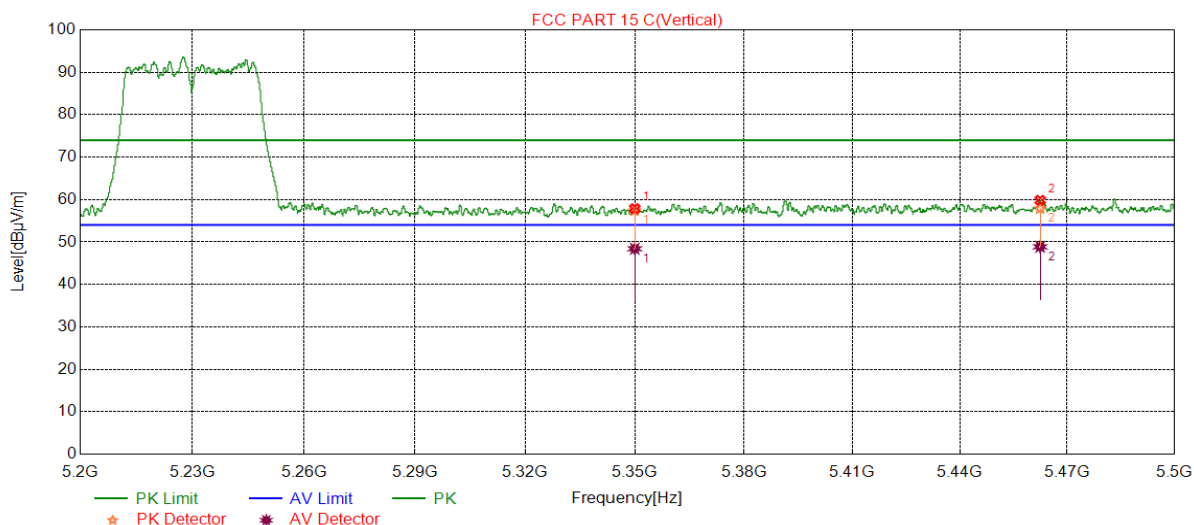


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.0000	35.78	21.74	57.52	74.00	-16.48	peak
		26.31	21.74	48.05	54.00	-5.95	average
2	5439.7840	37.97	22.06	60.03	74.00	-13.97	peak
		26.99	22.06	49.05	54.00	-4.95	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 40	5230	Vertical	PASS

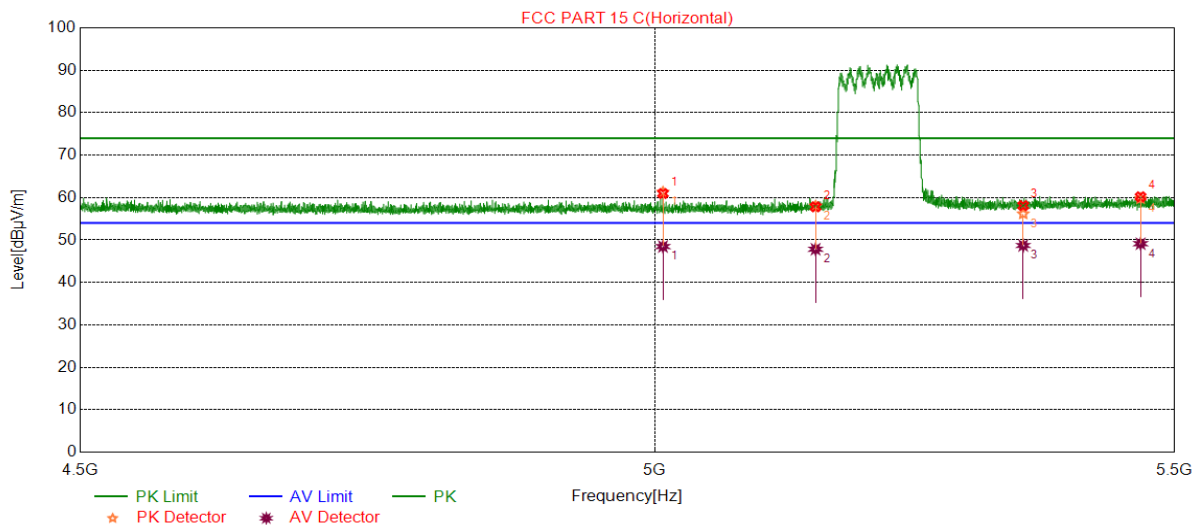


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.0000	36.12	21.74	57.86	74.00	-16.14	peak
		26.67	21.74	48.41	54.00	-5.59	average
2	5462.4062	37.81	22.02	59.83	74.00	-14.17	peak
		26.85	22.02	48.87	54.00	-5.13	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 80	5210	Horizontal	PASS

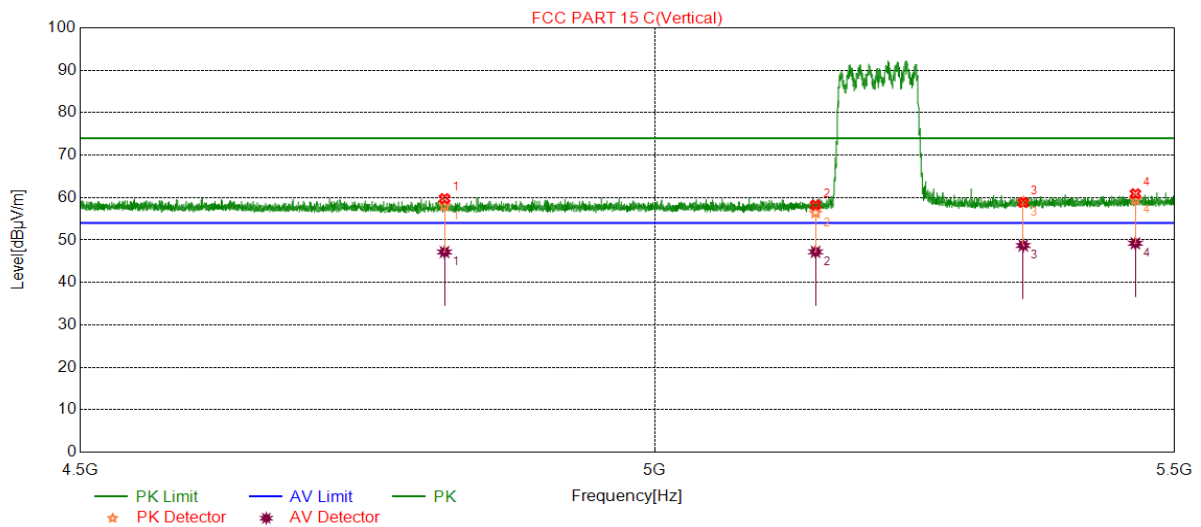


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5007.7508	40.28	20.66	60.94	74.00	-13.06	peak
		27.80	20.66	48.46	54.00	-5.54	average
2	5150.0000	36.98	20.84	57.82	74.00	-16.18	peak
		26.99	20.84	47.83	54.00	-6.17	average
3	5350.0000	36.35	21.74	58.09	74.00	-15.91	peak
		26.96	21.74	48.70	54.00	-5.30	average
4	5466.4967	38.13	22.05	60.18	74.00	-13.82	peak
		27.08	22.05	49.13	54.00	-4.87	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 80	5210	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	4811.0311	39.25	20.51	59.76	74.00	-14.24	peak
		26.66	20.51	47.17	54.00	-6.83	average
2	5150.0000	37.44	20.84	58.28	74.00	-15.72	peak
		26.37	20.84	47.21	54.00	-6.79	average
3	5350.0000	37.09	21.74	58.83	74.00	-15.17	peak
		26.96	21.74	48.70	54.00	-5.30	average
4	5461.2961	38.87	22.02	60.89	74.00	-13.11	peak
		27.21	22.02	49.23	54.00	-4.77	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



7.4.2. UNII BAND III

Test Mode	Test Antenna	Channel	Puw(dBm)	Verdict
11A	Ant1+Ant2	5745	<Limit	PASS
		5825	<Limit	PASS
11AC20	Ant1+Ant2	5745	<Limit	PASS
		5825	<Limit	PASS
11AC40	Ant1+Ant2	5755	<Limit	PASS
		5795	<Limit	PASS
11AC80	Ant1+Ant2	5775	<Limit	PASS

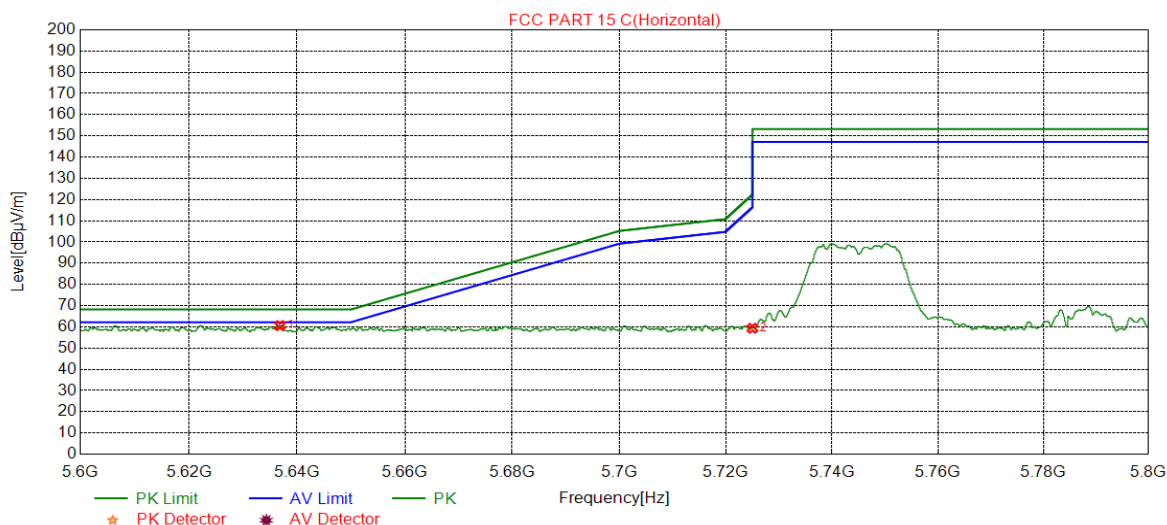
Remark:

- 1) For this product, it has two antennas, antenna1 and antenna2, the 802.11a is use the SISO technical, but the ant1 and ant2 can transmitter in the same time under those modes. The 802.11n and 802.11ac are both use the SISO and MIMO technical.
- 2) EUT support for SISO and CDD MIMO Transmission, only 802.11n/ac supports CDD MIMO Mode, SISO mode sets the same power level as MIMO mode, so MIMO mode is the worst case.
- 3) 11n HT20 mode set the same power level as 11ac HT20 mode, and 11n HT40 mode set the same power level as 11ac HT40 mode, besides the 11ac HT20 mode and 11ac HT40 mode were worse case, so only the 11ac HT20 mode and 11ac HT40 mode were tested in this report.
- 4) Pre-testing all test, find the modes of 11A and 11AC are the worst case, so only the data of the 11A mode and 11AC mode are included in this test report.



Test Graphs:

Test Mode	Channel	Polarization	Verdict
11A	5745	Horizontal	PASS

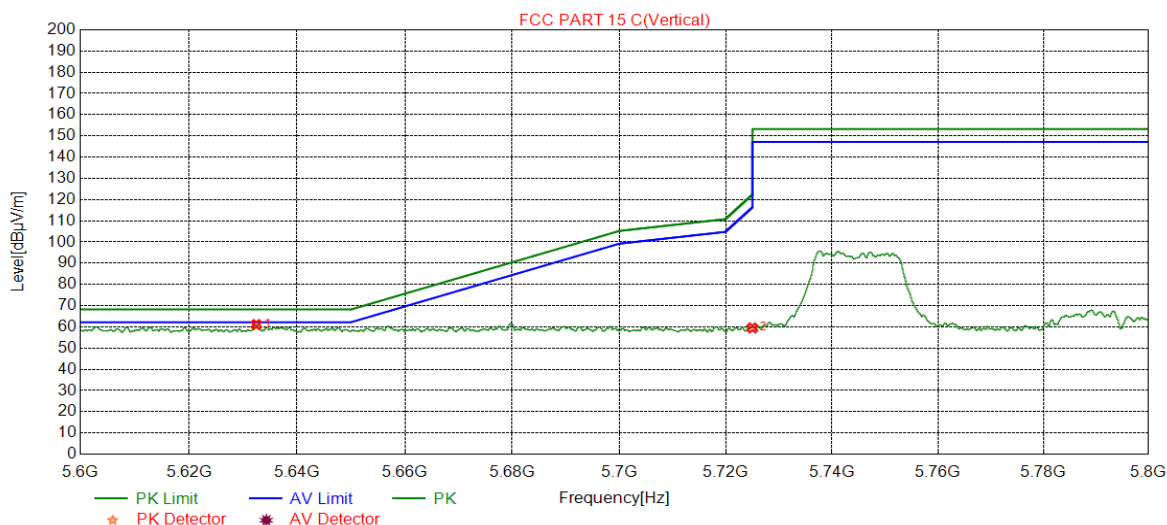


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5636.8437	38.08	22.52	60.60	68.20	-7.60	peak
2	5725.0000	36.82	22.51	59.33	122.20	-62.87	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11A	5745	Vertical	PASS

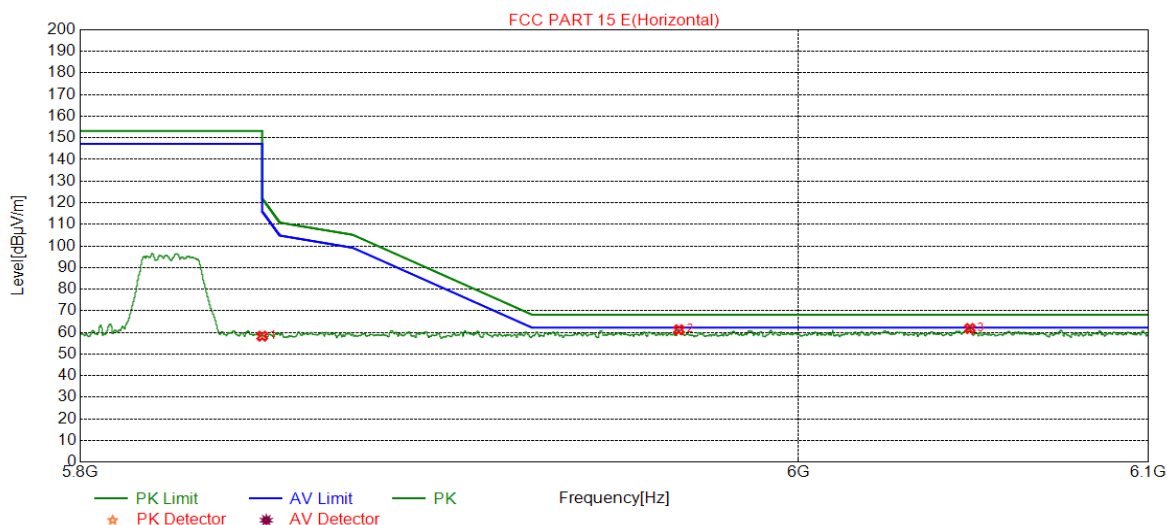


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5632.4632	38.62	22.47	61.09	68.20	-7.11	peak
2	5725.0000	37.00	22.51	59.51	122.20	-62.69	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11A	5825	Horizontal	PASS

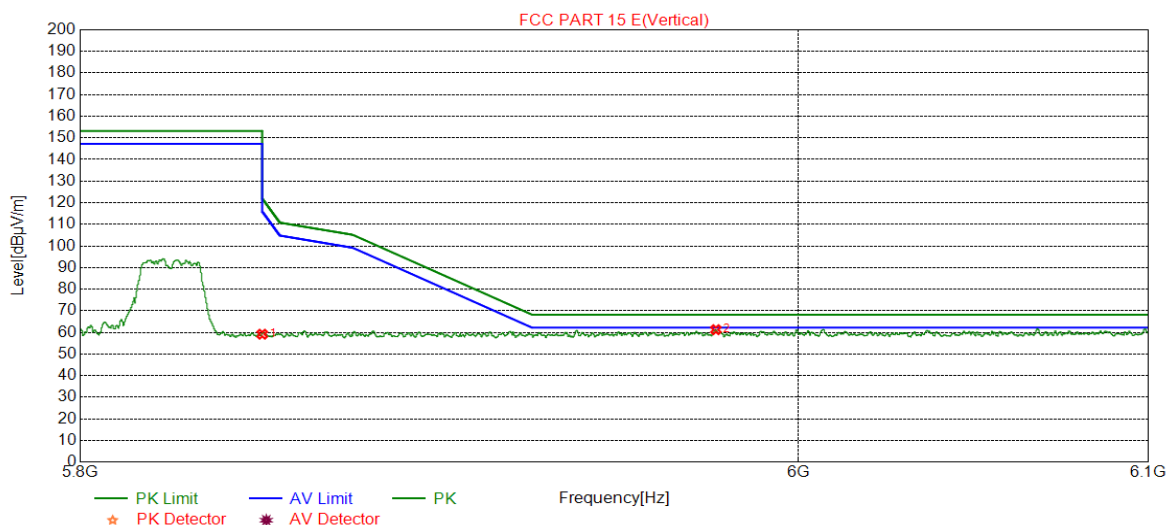


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.0000	35.34	22.93	58.27	122.2	-63.93	peak
2	5966.2466	37.84	23.39	61.23	68.20	-6.97	peak
3	6048.7549	38.38	23.41	61.79	68.20	-6.41	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11A	5825	Vertical	PASS

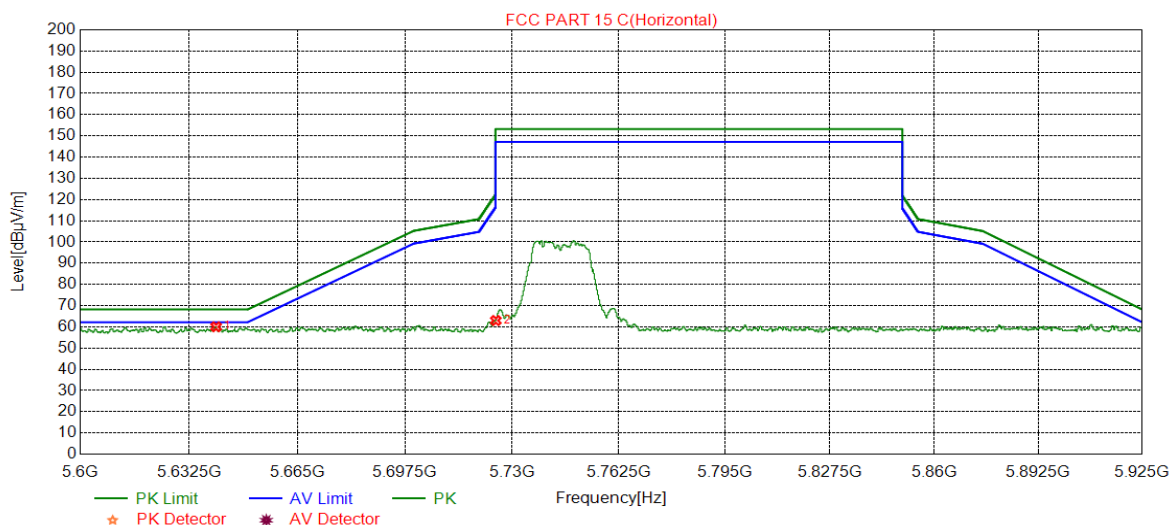


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.0000	36.23	22.93	59.16	122.2	-63.04	peak
2	5976.6577	37.80	23.46	61.26	68.20	-6.94	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC20	5745	Horizontal	PASS

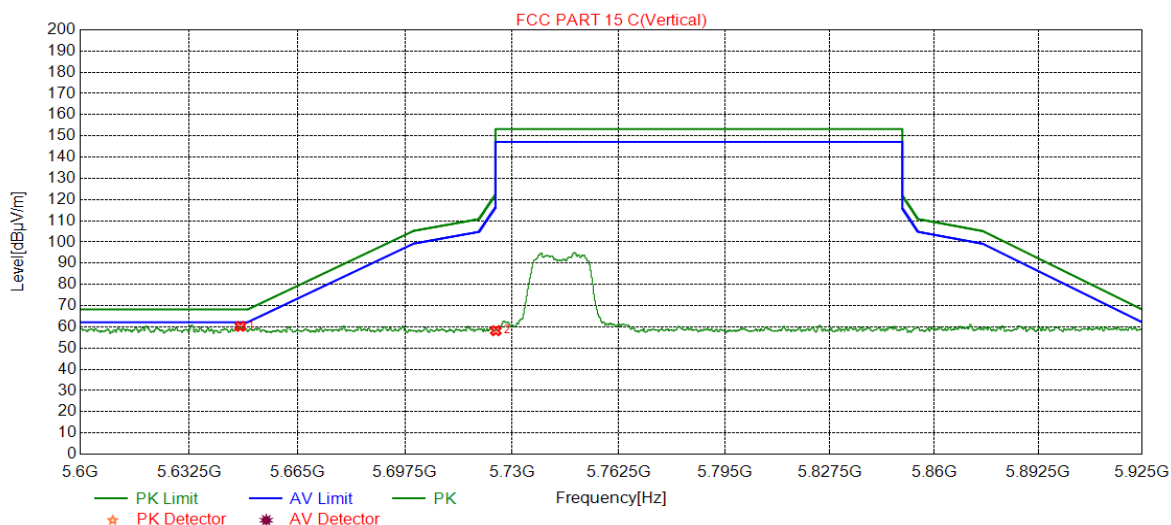


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5640.5316	37.46	22.57	60.03	68.20	-8.17	peak
2	5725.0000	40.48	22.51	62.99	122.20	-59.21	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 20	5745	Vertical	PASS

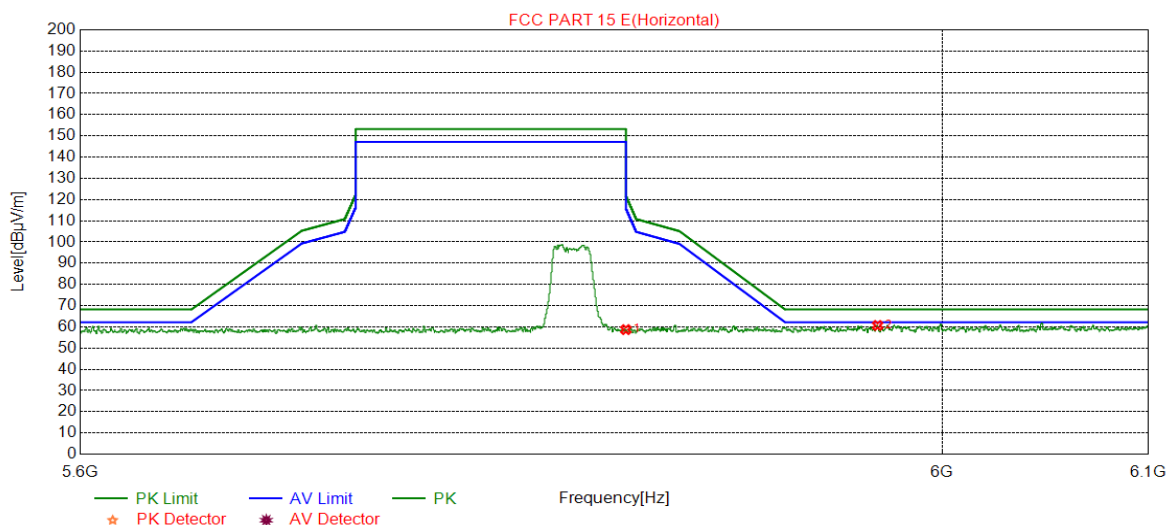


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5647.8123	37.48	22.74	60.22	68.20	-7.98	peak
2	5725.0000	35.68	22.51	58.19	122.20	-64.01	peak

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 20	5825	Horizontal	PASS

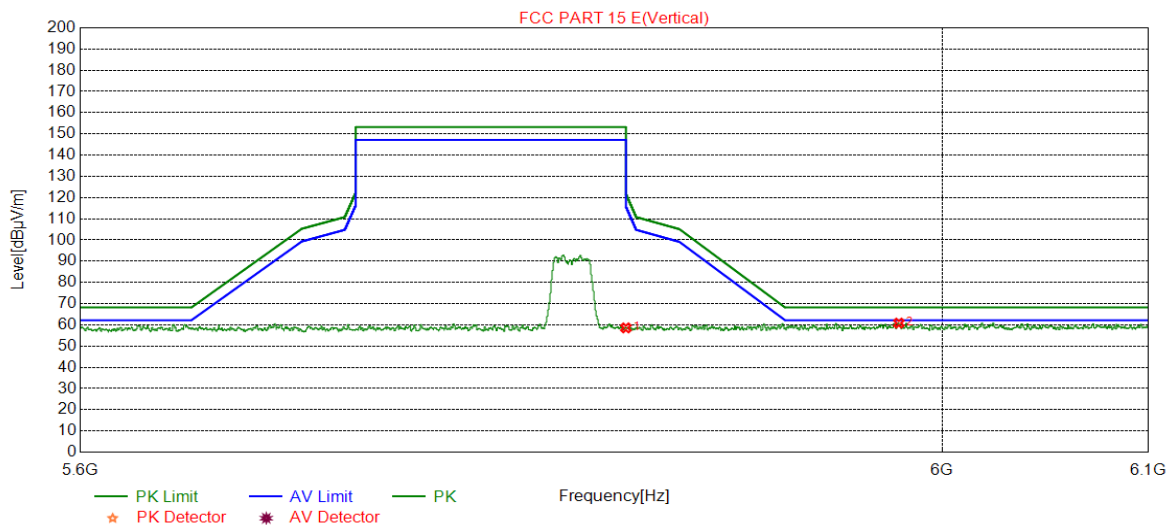


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.0000	35.78	22.93	58.71	122.2	-63.49	peak
2	5969.0869	37.26	23.41	60.67	68.20	-7.53	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 20	5825	Vertical	PASS

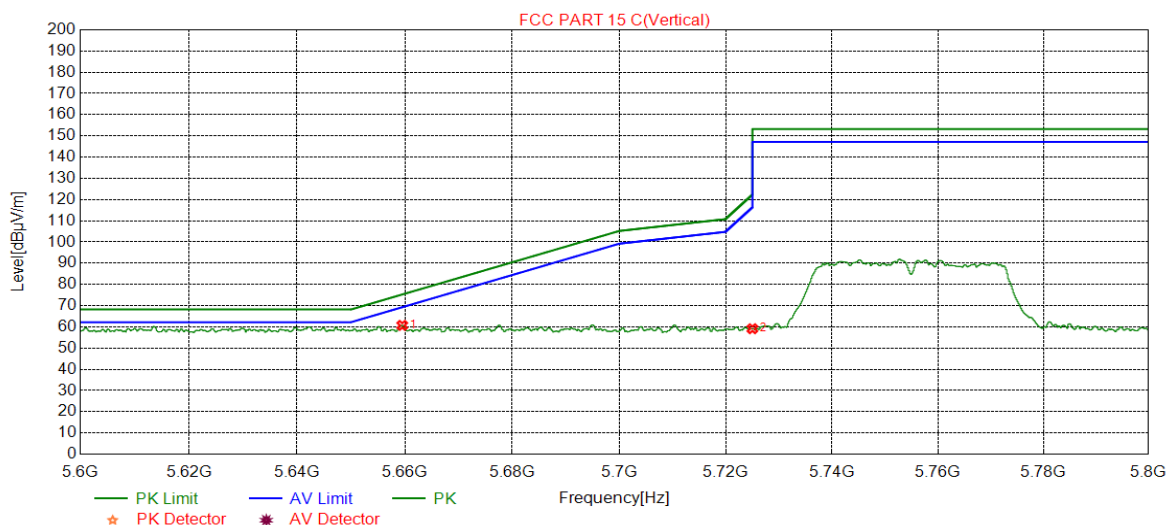


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.0000	35.66	22.93	58.59	122.2	-63.61	peak
2	5979.2379	37.44	23.39	60.83	68.20	-7.37	peak

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 40	5755	Horizontal	PASS

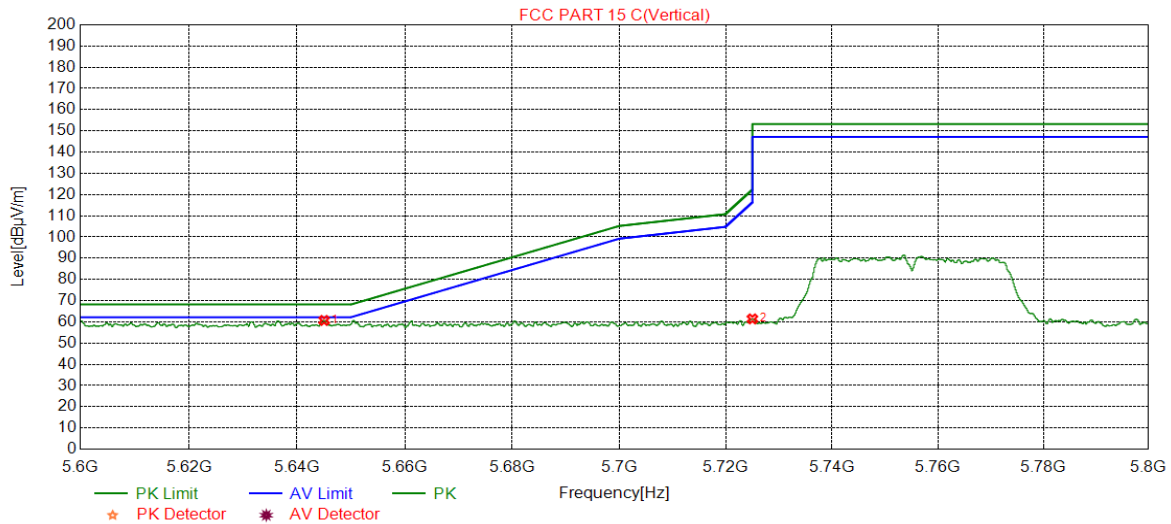


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5659.5260	37.96	22.74	60.70	75.27	-14.57	peak
2	5725.0000	36.62	22.51	59.13	122.20	-63.07	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 40	5755	Vertical	PASS

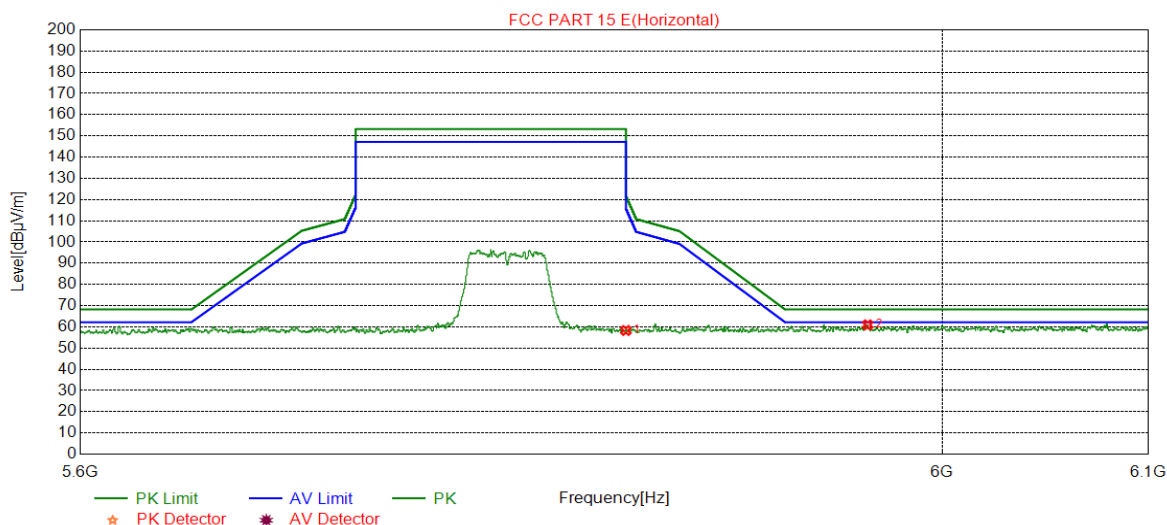


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5645.0245	38.00	22.68	60.68	68.20	-7.52	peak
2	5725.0000	38.88	22.51	61.39	122.20	-60.81	peak

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 40	5795	Horizontal	PASS

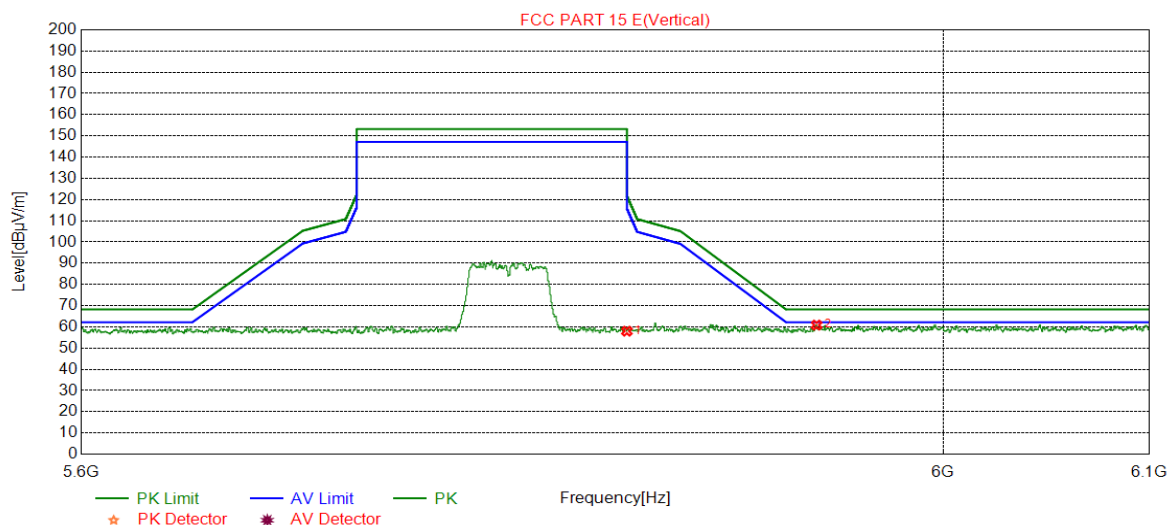


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.0000	35.37	22.93	58.30	122.2	-63.90	peak
2	5964.3364	37.63	23.33	60.96	68.20	-7.24	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 40	5795	Vertical	PASS

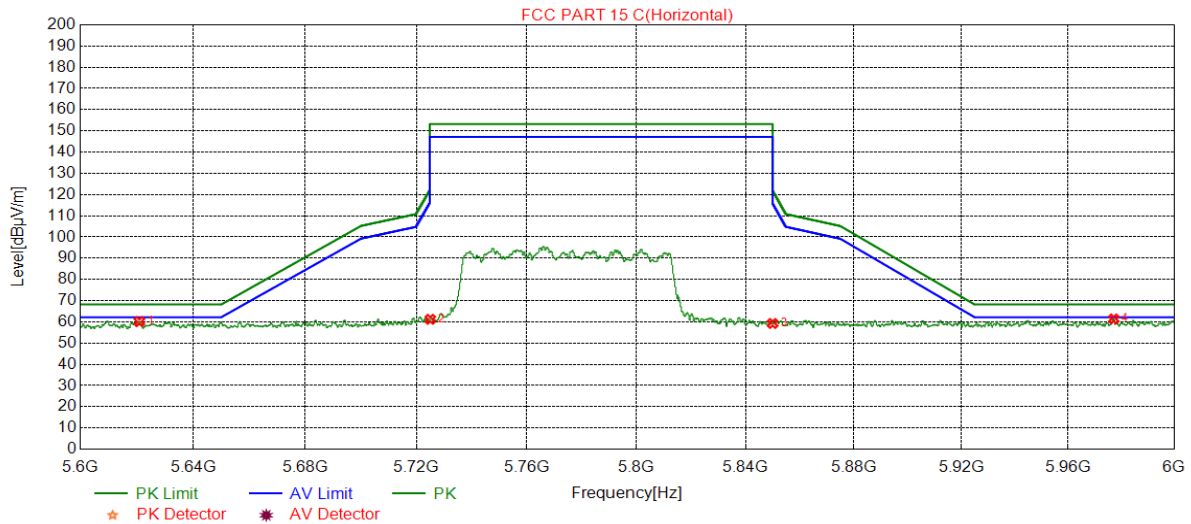


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.0000	35.04	22.93	57.97	122.2	-64.23	peak
2	5939.5340	37.67	23.17	60.84	68.20	-7.36	peak

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 80	5775	Horizontal	PASS

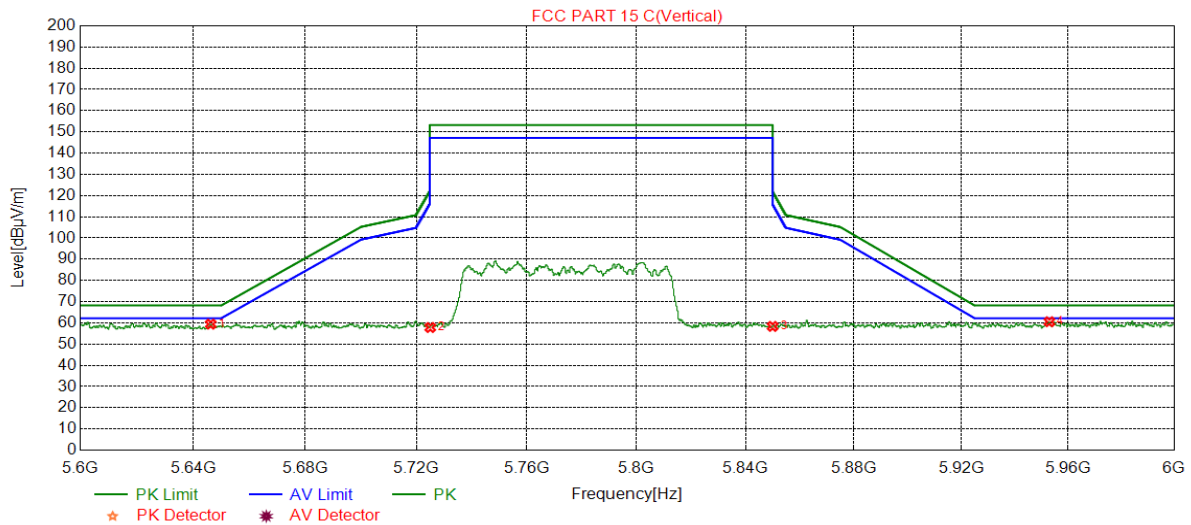


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5620.8821	37.62	22.51	60.13	68.20	-8.07	peak
2	5725.0000	38.71	22.51	61.22	122.20	-60.98	peak
3	5850.0000	36.31	22.93	59.24	122.2	-62.96	peak
4	5977.2777	37.93	23.45	61.38	68.20	-6.82	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11AC 80	5775	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	5646.2446	36.68	22.71	59.39	68.20	-8.81	peak
2	5725.0000	35.30	22.51	57.81	122.20	-64.39	peak
3	5850.0000	35.40	22.93	58.33	122.2	-63.87	peak
4	5953.0753	37.33	23.21	60.54	68.20	-7.66	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. For average power measurement, set the VBW to Minimum VBW=10 Hz.
5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



7.5. HARMONICS AND SPURIOUS EMISSIONS

7.5.1. UNII-I BAND

Test Result Table

Test Mode	Channel	P _{uw} (dBm)	Verdict
11A	5180	<Limit	PASS
	5200	<Limit	PASS
	5240	<Limit	PASS
11AC20	5180	<Limit	PASS
	5200	<Limit	PASS
	5240	<Limit	PASS
11AC40	5190	<Limit	PASS
	5230	<Limit	PASS
11AC80	5210	<Limit	PASS

Remark:

1) For this product, it has two antennas, antenna1 and antenna2, the 802.11a is use the SISO technical, but the ant1 and ant2 can transmitter in the same time under those modes. The 802.11n and 802.11ac are both use the SISO and MIMO technical.

2) EUT support for SISO and CDD MIMO Transmission, only 802.11n/ac supports CDD MIMO Mode, SISO mode sets the same power level as MIMO mode, so MIMO mode is the worst case.

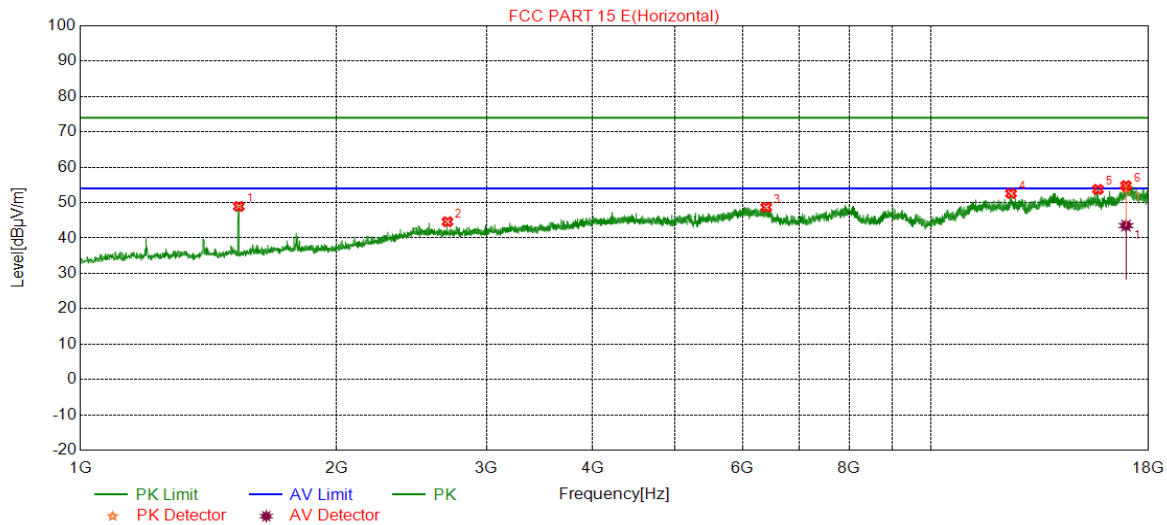
3) 11n HT20 mode set the same power level as 11ac HT20 mode, and 11n HT40 mode set the same power level as 11ac HT40 mode, besides the 11ac HT20 mode and 11ac HT40 mode were worse case, so only the 11ac HT20 mode and 11ac HT40 mode were tested in this report.

4) Pre-testing all test, find the modes of 11A and 11AC are the worst case, so only the data of the 11A mode and 11AC mode are included in this test report.



Test Graphs:

Test Mode	Channel	Polarization	Verdict
11A	5180	Horizontal	PASS

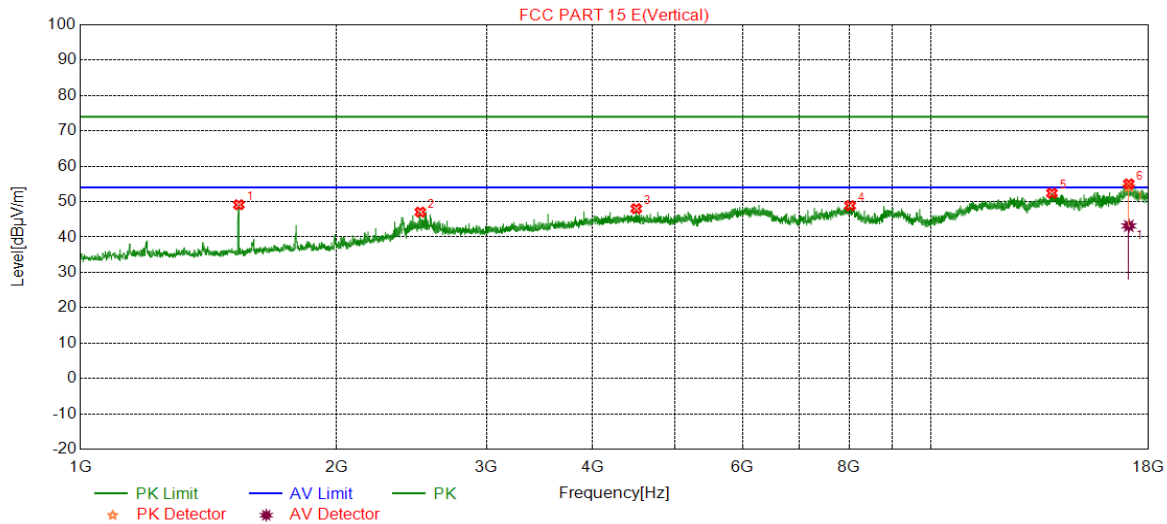


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	1535.4226	51.16	-2.25	48.91	74.00	-25.09	peak
2	2699.7833	40.82	3.78	44.60	74.00	-29.40	peak
3	6396.3994	37.47	11.20	48.67	74.00	-25.33	peak
4	12404.3174	36.78	15.79	52.57	74.00	-21.43	peak
5	15693.8656	35.93	17.81	53.74	74.00	-20.26	peak
6	16930.3217	35.49	19.31	54.80	74.00	-19.20	peak
		24.18	19.31	43.49	54.00	-10.51	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW=10 Hz.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11A	5180	Vertical	PASS

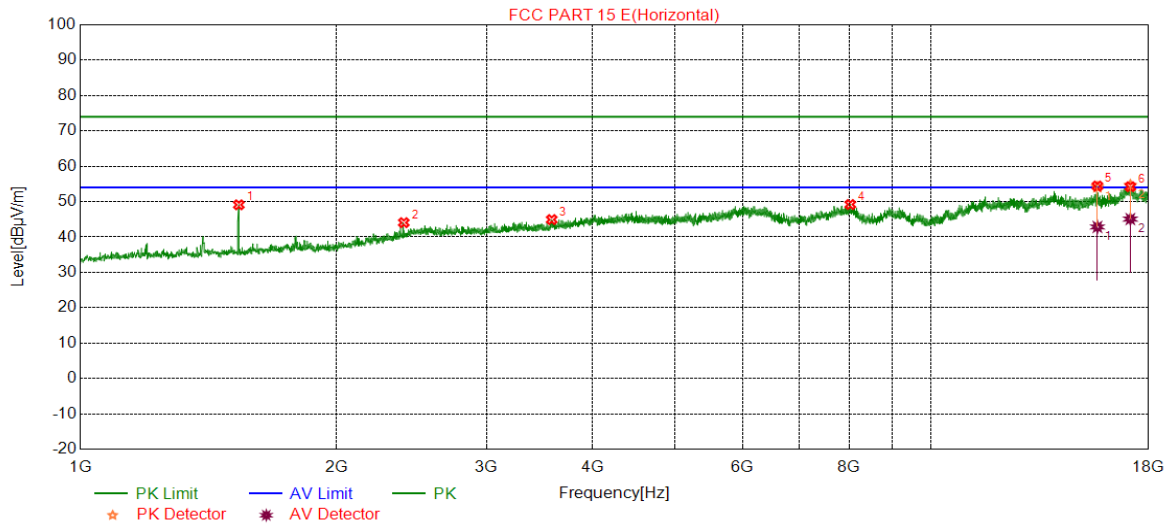


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	1535.4226	51.37	-2.25	49.12	74.00	-24.88	peak
2	2509.0848	43.48	3.55	47.03	74.00	-26.97	peak
3	4500.4167	39.87	8.14	48.01	74.00	-25.99	peak
4	8025.9210	36.62	12.25	48.87	74.00	-25.13	peak
5	13857.3929	35.93	16.46	52.39	74.00	-21.61	peak
6	17060.6768	34.90	20.12	55.02	74.00	-18.98	peak
		23.01	20.12	43.13	54.00	-10.87	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW=10 Hz.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11A	5200	Horizontal	PASS

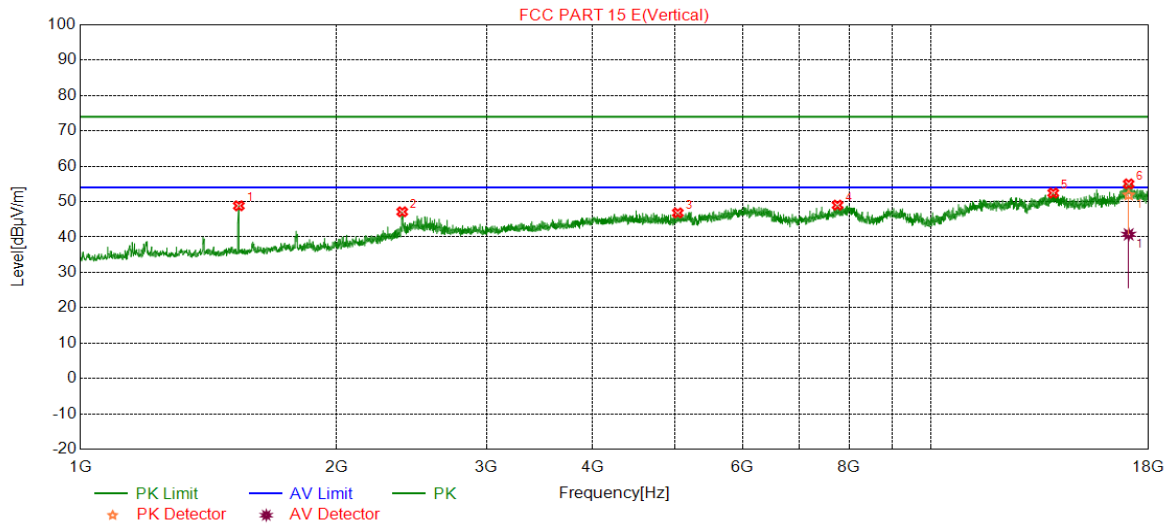


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	1535.4226	51.35	-2.25	49.10	74.00	-24.90	peak
2	2399.0665	41.39	2.67	44.06	74.00	-29.94	peak
3	3579.9300	38.80	6.12	44.92	74.00	-29.08	peak
4	8029.7550	36.99	12.19	49.18	74.00	-24.82	peak
5	15670.8618	36.11	18.30	54.41	74.00	-19.59	peak
		24.54	18.30	42.84	54.00	-11.16	average
6	17131.6053	35.02	19.19	54.21	74.00	-19.79	peak
		25.88	19.19	45.07	54.00	-8.93	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW=10 Hz.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11A	5200	Vertical	PASS

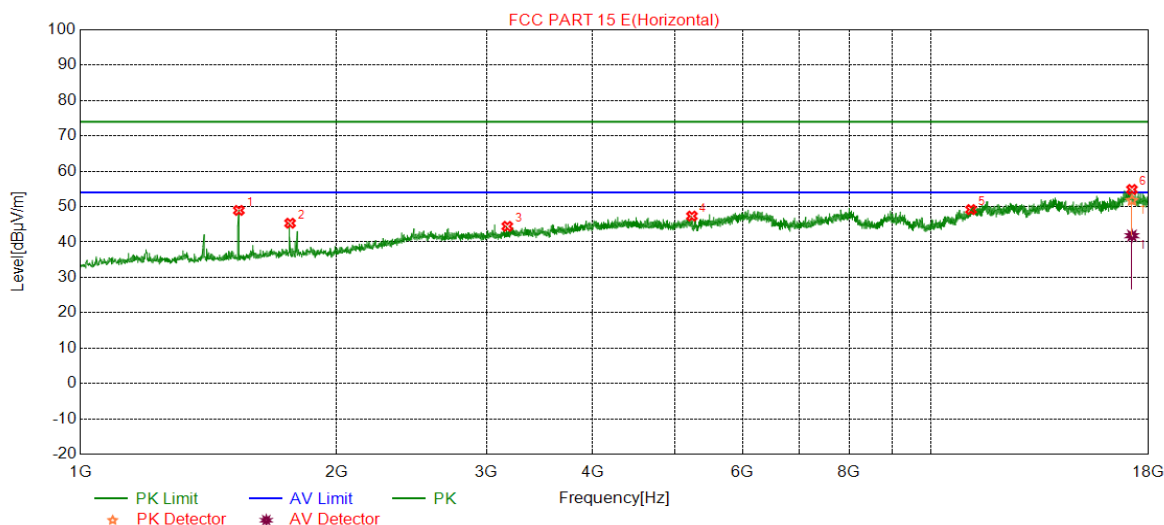


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	1535.4226	51.07	-2.25	48.82	74.00	-25.18	peak
2	2388.9815	44.52	2.60	47.12	74.00	-26.88	peak
3	5034.9225	38.99	7.83	46.82	74.00	-27.18	peak
4	7757.5429	37.55	11.46	49.01	74.00	-24.99	peak
5	13905.3176	35.77	16.66	52.43	74.00	-21.57	peak
6	17053.0088	35.42	19.59	55.01	74.00	-18.99	peak
		21.14	19.59	40.73	54.00	-13.27	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW=10 Hz.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11A	5240	Horizontal	PASS

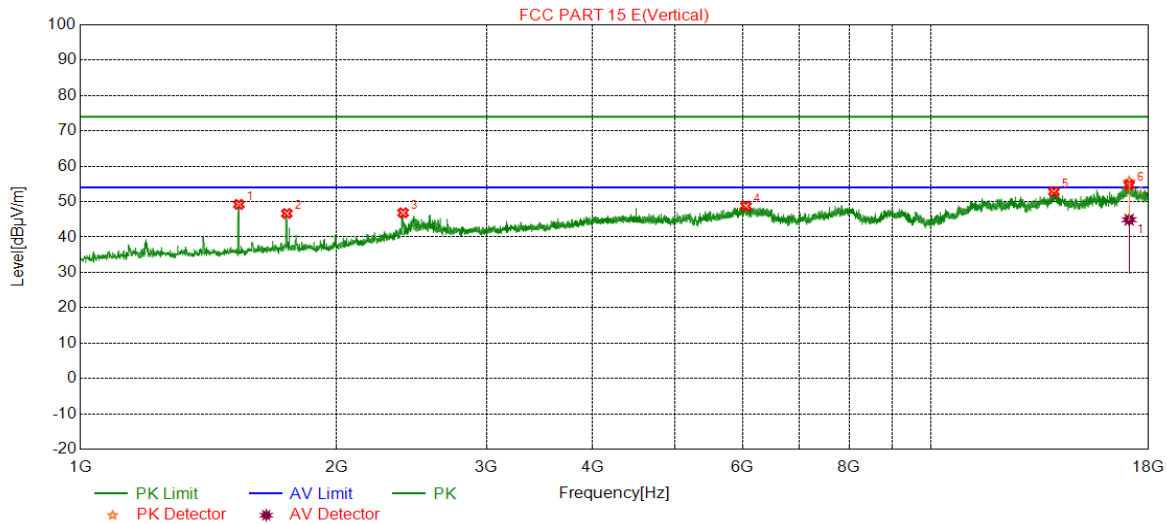


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	1535.4226	51.18	-2.25	48.93	74.00	-25.07	peak
2	1763.7106	46.76	-1.45	45.31	74.00	-28.69	peak
3	3174.6958	40.01	4.41	44.42	74.00	-29.58	peak
4	5231.1219	38.91	8.41	47.32	74.00	-26.68	peak
5	11133.3556	35.14	14.02	49.16	74.00	-24.84	peak
6	17204.4507	35.82	19.02	54.84	74.00	-19.16	peak
		22.76	19.02	41.78	54.00	-12.22	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW=10 Hz.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11A	5240	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	1535.4226	51.47	-2.25	49.22	74.00	-24.78	peak
2	1748.1247	48.01	-1.35	46.66	74.00	-27.34	peak
3	2394.4824	44.21	2.63	46.84	74.00	-27.16	peak
4	6055.3426	37.93	10.81	48.74	74.00	-25.26	peak
5	13930.2384	35.98	16.82	52.80	74.00	-21.20	peak
6	17076.0127	35.52	19.22	54.74	74.00	-19.26	peak
		25.66	19.22	44.88	54.00	-9.12	average

- Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW=10 Hz.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.