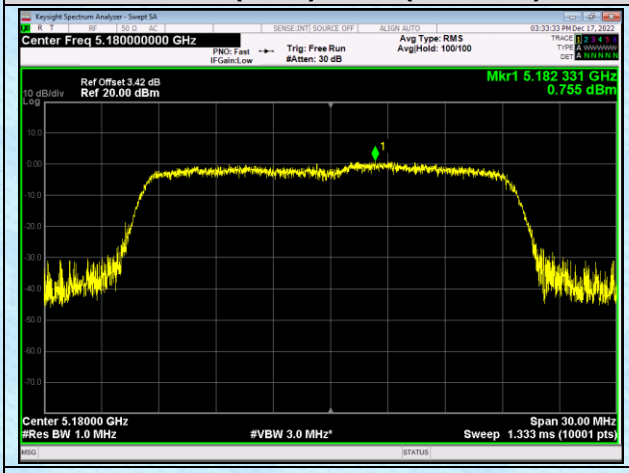
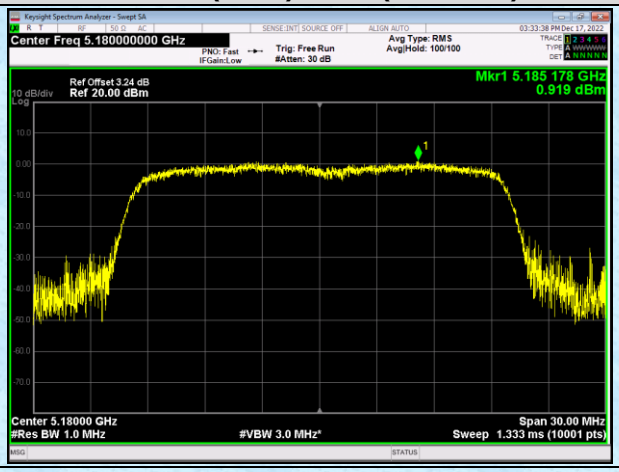
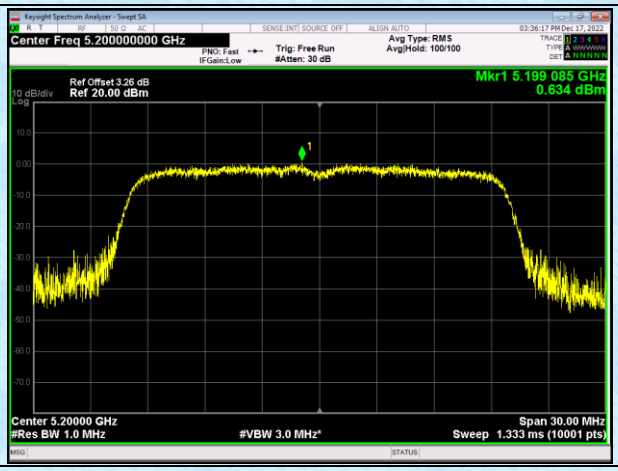
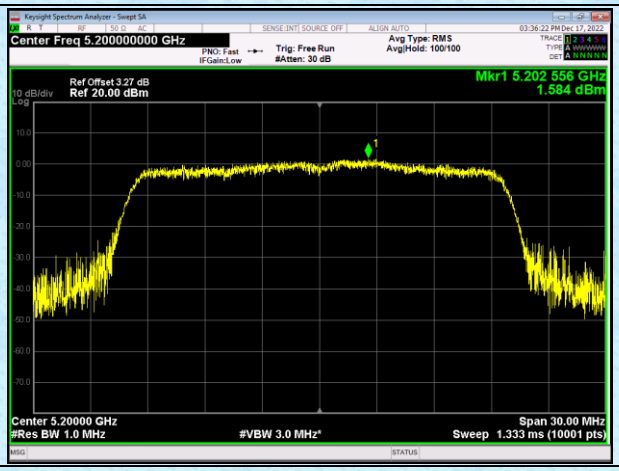
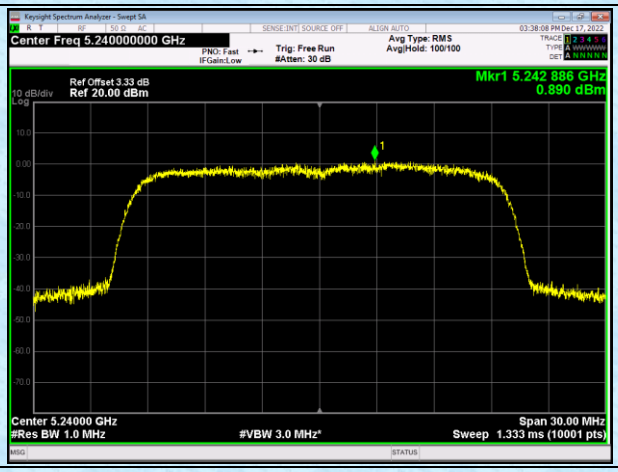
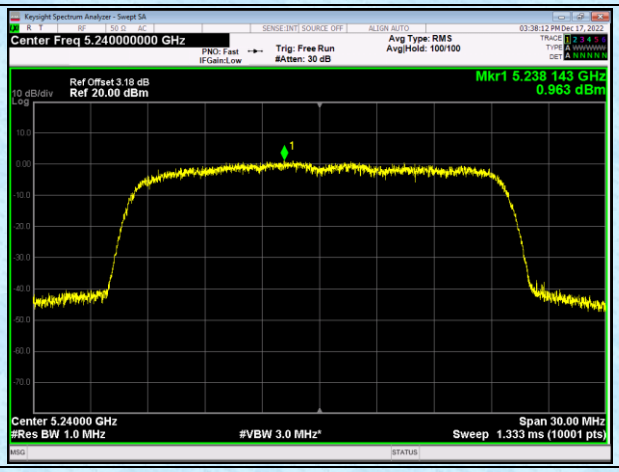
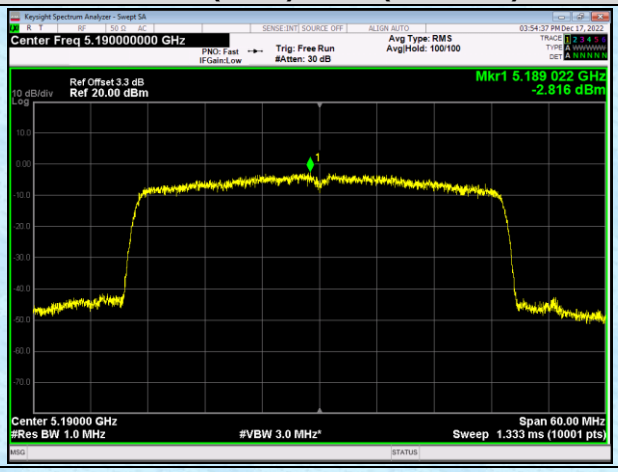
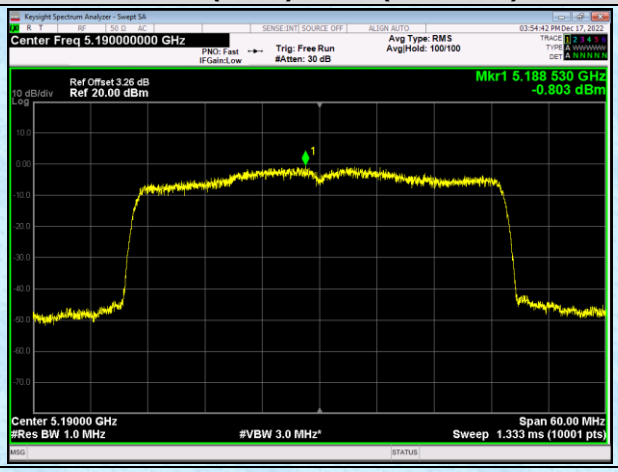
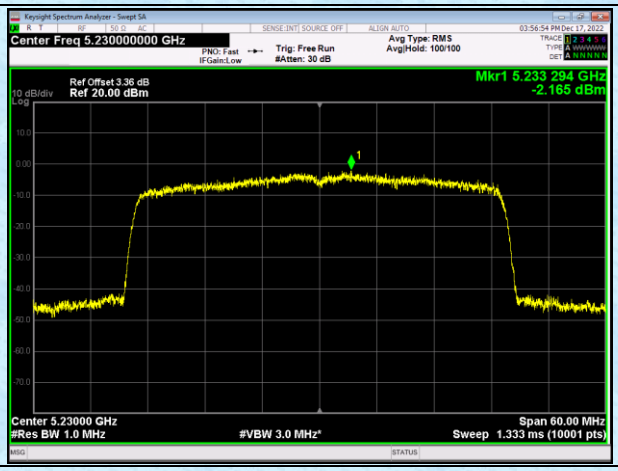
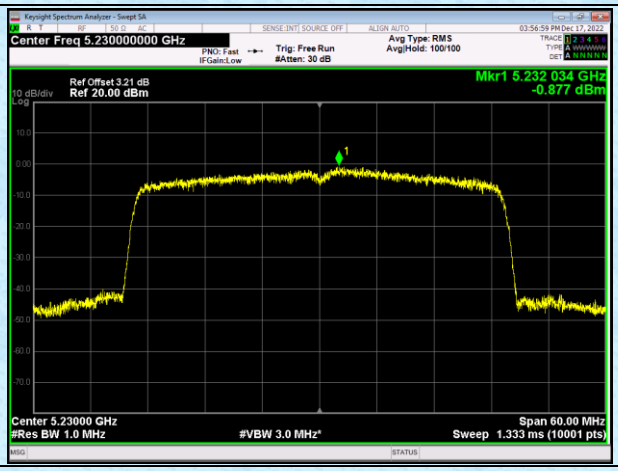
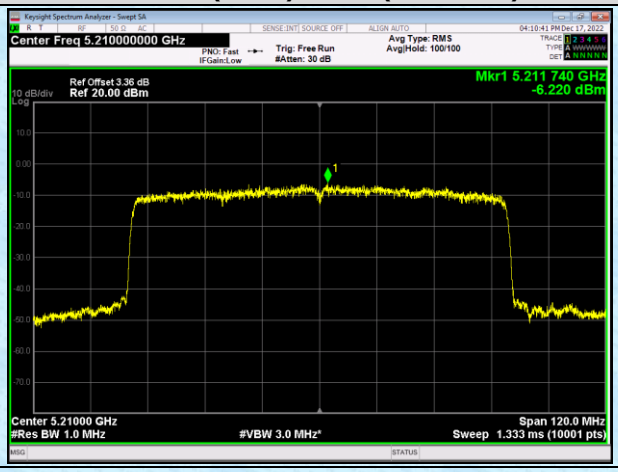
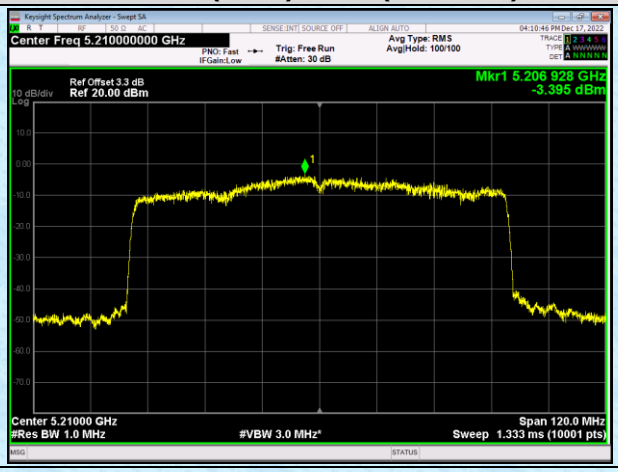
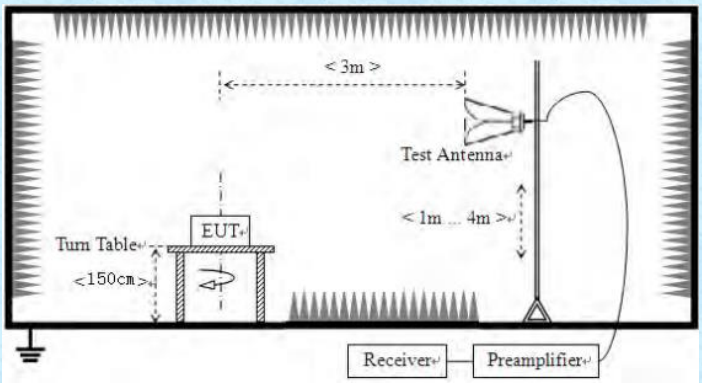
802.11ax(HE20) mode (Antenna1)	802.11ax(HE20) mode (Antenna2)
	
5180	**5180**
	
5200	**5200**
	
5240	**5240**

802.11ax(HE40) mode (Antenna1)	802.11ax(HE40) mode (Antenna2)
	
5190	**5190**
	
5230	**5230**

802.11ax(HE80) mode (Antenna1)	802.11ax(HE80) mode (Antenna2)
	
5210	**5210**

7.5 Band Edge

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 E Section 15.407 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>AV</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>68.2</td><td>Peak Value</td></tr>
</table>
Undesirable emission limits:
(1) 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 EIRP of -27 dBm/MHz.
(2) 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 EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.
(3) 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 EIRP of −27 dBm/MHz.
</td></tr>
<tr><td>Test Procedure:</td><td>
a. The EUT was placed on the top of a rotating table 1.5 m above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not
</td></tr>
</table>

	have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test setup:	For radiated emissions above 1GHz 
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Remarks:

1. *We tested all the modes and only recorded the worst case (Beamforming) in the report*
2. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
4. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*
5. *According to KDB 789033 D02 v02r01 section G) 1) (d), for For measurements above 1000 MHz @ 3m distance, the limit of field strength is computed as follows:*
   E[dBuV/m] = EIRP[dBm] + 95.2;
   For example, if EIRP = -27dBm
   E[dBuV/m] = -27 + 95.2 = 68.2dBuV/m.

Worse case mode: SUM		802.11a		Test Frequency:		5180MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	53.17	-3.63	49.54	68.2	-18.66	peak	H
5150	50.28	-3.63	46.65	54	-7.35	AVG	H
5150	46.18	-3.63	42.55	68.2	-25.65	peak	V
5150	44.84	-3.63	41.21	54	-12.79	AVG	V

Worse case mode: SUM		802.11a		Test Frequency:		5240MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	52.98	-3.59	49.39	68.2	-18.81	peak	H
5350	50.08	-3.59	46.49	54	-7.51	AVG	H
5350	45.96	-3.59	42.37	68.2	-25.83	peak	V
5350	44.17	-3.59	40.58	54	-13.42	AVG	V

Worse case mode: SUM		802.11n(HT20)		Test Frequency:		5180MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	52.41	-3.63	48.78	68.2	-19.42	peak	H
5150	49.35	-3.63	45.72	54	-8.28	AVG	H
5150	45.39	-3.63	41.76	68.2	-26.44	peak	V
5150	43.44	-3.63	39.81	54	-14.19	AVG	V

Worse case mode: SUM		802.11n(HT20)		Test Frequency:		5240MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	51.85	-3.59	48.26	68.2	-19.94	peak	H
5350	48.4	-3.59	44.81	54	-9.19	AVG	H
5350	44.63	-3.59	41.04	68.2	-27.16	peak	V
5350	42.71	-3.59	39.12	54	-14.88	AVG	V

Worse case mode: SUM		802.11n(HT40)		Test Frequency:		5190MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	51.84	-3.63	48.21	68.2	-19.99	peak	H
5150	47.61	-3.63	43.98	54	-10.02	AVG	H
5150	44.33	-3.63	40.7	68.2	-27.5	peak	V
5150	42.51	-3.63	38.88	54	-15.12	AVG	V

Worse case mode: SUM		802.11n(HT40)		Test Frequency:		5230MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	52.33	-3.59	48.74	68.2	-19.46	peak	H
5350	47.77	-3.59	44.18	54	-9.82	AVG	H
5350	44.47	-3.59	40.88	68.2	-27.32	peak	V
5350	42.69	-3.59	39.1	54	-14.9	AVG	V

Worse case mode: SUM		802.11ac(VHT20)		Test Frequency:		5180MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	53.32	-3.63	49.69	68.2	-18.51	peak	H
5150	48.46	-3.63	44.83	54	-9.17	AVG	H
5150	45.43	-3.63	41.8	68.2	-26.4	peak	V
5150	43.11	-3.63	39.48	54	-14.52	AVG	V

Worse case mode: SUM		802.11ac(VHT20)		Test Frequency:		5240MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	52.59	-3.59	49	68.2	-19.2	peak	H
5350	48.41	-3.59	44.82	54	-9.18	AVG	H
5350	45.27	-3.59	41.68	68.2	-26.52	peak	V
5350	42.48	-3.59	38.89	54	-15.11	AVG	V

Worse case mode: SUM		802.11ac(VHT40)		Test Frequency:		5190MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	52.54	-3.63	48.91	68.2	-19.29	peak	H
5150	47.2	-3.63	43.57	54	-10.43	AVG	H
5150	50.75	-3.63	47.12	68.2	-21.08	peak	V
5150	48.16	-3.63	44.53	54	-9.47	AVG	V

Worse case mode: SUM		802.11ac(VHT40)		Test Frequency:		5230MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	51.51	-3.59	47.92	68.2	-20.28	peak	H
5350	47.01	-3.59	43.42	54	-10.58	AVG	H
5350	50.19	-3.59	46.6	68.2	-21.6	peak	V
5350	47.19	-3.59	43.6	54	-10.4	AVG	V

Worse case mode: SUM		802.11ac(VHT80)		Test Frequency:		5210MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	51.79	-3.63	48.16	68.2	-20.04	peak	H
5150	44.59	-3.63	40.96	54	-13.04	AVG	H
5150	53.14	-3.63	49.51	68.2	-18.69	peak	V
5150	46.47	-3.63	42.84	54	-11.16	AVG	V
5350	50.52	-3.59	46.93	68.2	-21.27	peak	H
5350	44.75	-3.59	41.16	54	-12.84	AVG	H
5350	53.96	-3.59	50.37	68.2	-17.83	peak	V
5350	46.96	-3.59	43.37	54	-10.63	AVG	V

Worse case mode: SUM		802.11ax(HE20)		Test Frequency:		5180MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	52.82	-3.63	49.19	68.2	-19.01	peak	H
5150	47.91	-3.63	44.28	54	-9.72	AVG	H
5150	45.12	-3.63	41.49	68.2	-26.71	peak	V
5150	42.47	-3.63	38.84	54	-15.16	AVG	V

Worse case mode: SUM		802.11ax(HE20)		Test Frequency:		5240MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	52.14	-3.59	48.55	68.2	-19.65	peak	H
5350	47.88	-3.59	44.29	54	-9.71	AVG	H
5350	44.62	-3.59	41.03	68.2	-27.17	peak	V
5350	41.53	-3.59	37.94	54	-16.06	AVG	V

Worse case mode: SUM		802.11ax(HE40)		Test Frequency:		5190MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	51.58	-3.63	47.95	68.2	-20.25	peak	H
5150	46.66	-3.63	43.03	54	-10.97	AVG	H
5150	49.77	-3.63	46.14	68.2	-22.06	peak	V
5150	47.29	-3.63	43.66	54	-10.34	AVG	V

Worse case mode: SUM		802.11ax(HE40)		Test Frequency:		5230MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	51	-3.59	47.41	68.2	-20.79	peak	H
5350	46.31	-3.59	42.72	54	-11.28	AVG	H
5350	49.21	-3.59	45.62	68.2	-22.58	peak	V
5350	46.69	-3.59	43.1	54	-10.9	AVG	V

Worse case mode: SUM		802.11ax(HE80)		Test Frequency:		5210MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	51.74	-3.63	48.11	68.2	-20.09	peak	H
5150	43.79	-3.63	40.16	54	-13.84	AVG	H
5150	52.87	-3.63	49.24	68.2	-18.96	peak	V
5150	46.11	-3.63	42.48	54	-11.52	AVG	V
5350	50.12	-3.59	46.53	68.2	-21.67	peak	H
5350	44.51	-3.59	40.92	54	-13.08	AVG	H
5350	53.43	-3.59	49.84	68.2	-18.36	peak	V
5350	46.48	-3.59	42.89	54	-11.11	AVG	V

7.6 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.209 and 15.205, Part 15E Section 15.407(b)(4)
Test Method:	ANSI C63.10:2013
Test Frequency Range:	9kHz to 40GHz
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)
Receiver setup:	

Frequency	Detector	RBW	VBW	Value
9kHz-150KHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
Above 1GHz	Peak	1MHz	3MHz	Peak Value
	AV	1MHz	3MHz	Average Value

Limit:

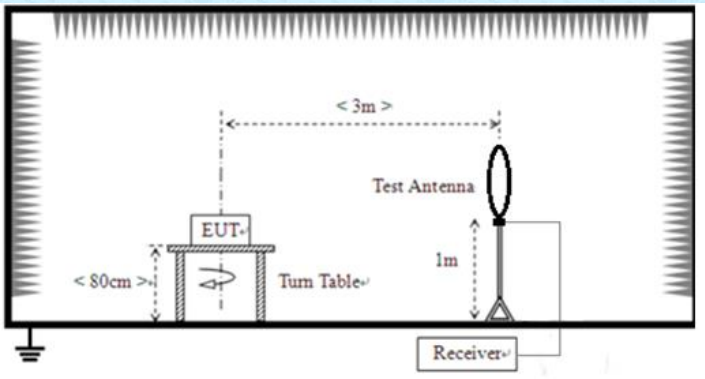
Frequency	Limit (uV/m)	Value	Measurement Distance
0.009MHz-0.490MHz	2400/F(KHz)	QP	300m
0.490MHz-1.705MHz	24000/F(KHz)	QP	300m
1.705MHz-30MHz	30	QP	30m
30MHz-88MHz	100	QP	3m
88MHz-216MHz	150	QP	
216MHz-960MHz	200	QP	
960MHz-1GHz	500	QP	

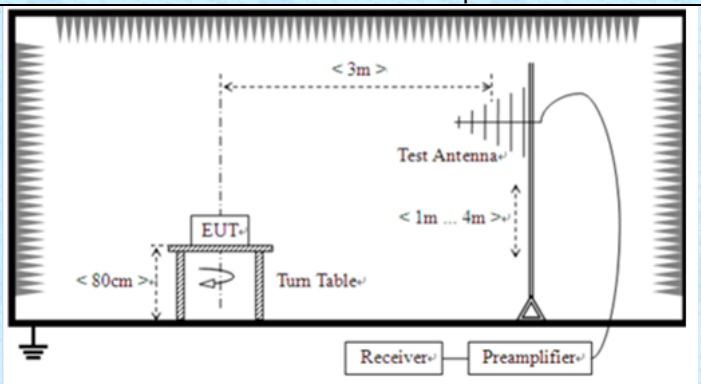
Frequency	Limit (dBuV/m)	Remark
Above 1GHz	68.20	Peak
	54.00	Average

Test Procedure:

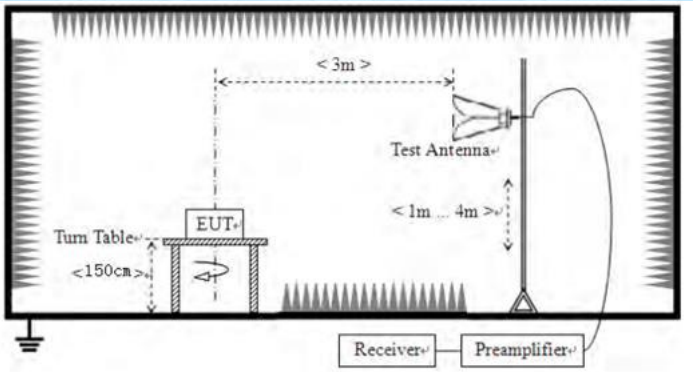
Substitution method was performed to determine the actual ERP emission levels of the EUT.
The following test procedure as below:
1>.Below 1GHz test procedure:

1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported

	in a data sheet. 2>.Above 1GHz test procedure: 1. On the test site as test setup graph above,the EUT shall be placed at the 0.8m support on the turntable and in the position closest to normal use as declared by the provider. 2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter.The output of the test antenna shall be connected to the measuring receiver. 3. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test. 4. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. 5. Repeat step 4 for test frequency with the test antenna polarized horizontally. 6. Remove the transmitter and replace it with a substitution antenna 7. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output. 8. Repeat step 7 with both antennas horizontally polarized for each test frequency. 9. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula: EIRP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBi) where: Pg is the generator output power into the substitution antenna.
Test setup:	For radiated emissions from 9kHz to 30MHz  For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



Test Instruments:	Refer to section 6 for details					
Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	DC 3.3V					
Test results:	Pass					

Remarks:

1. For 802.11a/ n(HT20)/ 802.11n(HT40)/ 802.11ac(VHT20)/ 802.11ac(VHT40)/ 802.11ac(VHT80) / 802.11ax(HE20)/ 802.11ax(HE40)/ 802.11ax(HE80), only the worse case(Beamforming) test result recorded in the report.
2. *Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.*

Measurement Data:

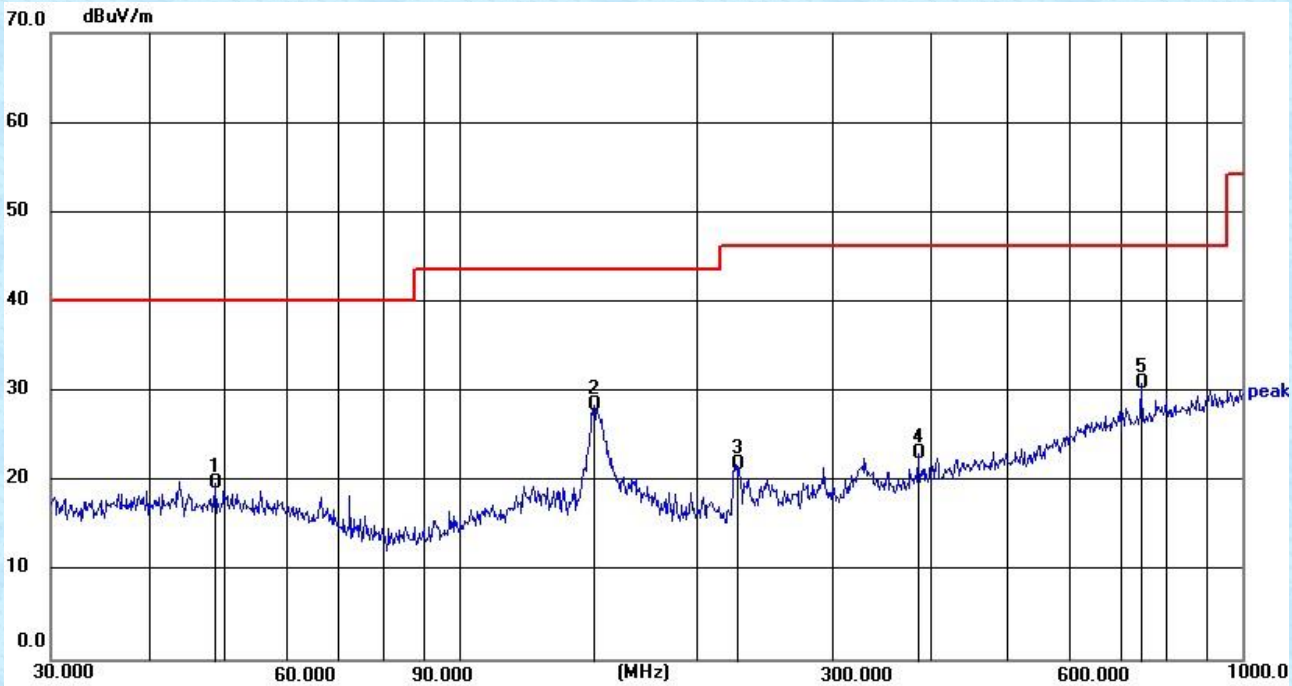
9 kHz ~ 30 MHz

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

30MHz~ 1GHz

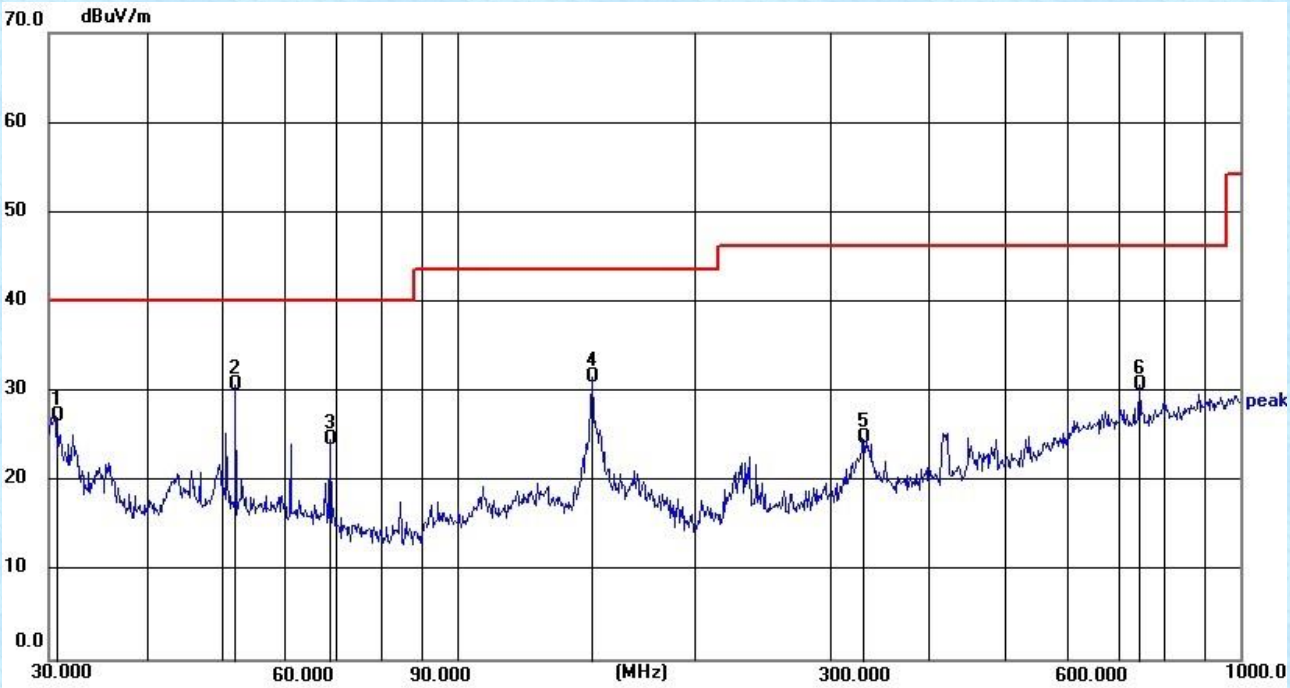
Pre-scan all test modes, found worst case at 802.11n(HT20) 5180MHz of Beamforming, and so only show the test result of 802.11n(HT20) 5180MHz of Beamforming.

Horizont



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	48.6719	5.17	14.55	19.72	40.00	20.28	QP
2	148.4410	12.75	15.66	28.41	43.50	15.09	QP
3	225.3080	9.06	12.75	21.81	46.00	24.19	QP
4	385.2805	6.52	16.51	23.03	46.00	22.97	QP
5	742.2587	8.44	22.47	30.91	46.00	15.09	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.6379	14.37	12.90	27.27	40.00	12.73	QP
2	52.0251	16.36	14.41	30.77	40.00	9.23	QP
3	68.6310	12.25	12.38	24.63	40.00	15.37	QP
4	148.4410	15.94	15.66	31.60	43.50	11.90	QP
5	329.0390	9.30	15.47	24.77	46.00	21.23	QP
6	742.2587	8.32	22.47	30.79	46.00	15.21	QP

Above 1GHz:

802.11a					Test Frequency: 5180MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360	28.54	38.96	8.27	35.64	40.13	68.2	-28.07	Vertical
15540	26.62	38.4	10.57	35.35	40.24	68.2	-27.96	Vertical
10360	30.88	38.96	8.27	35.64	42.47	68.2	-25.73	Horizontal
15540	26.13	38.4	10.57	35.35	39.75	68.2	-28.45	Horizontal
10360	35.8	38.96	8.27	35.64	47.39	54	-6.61	Vertical
15540	32.56	38.4	10.57	35.35	46.18	54	-7.82	Vertical
10360	31.38	38.96	8.27	35.64	42.97	54	-11.03	Horizontal
15540	32.01	38.4	10.57	35.35	45.63	54	-8.37	Horizontal

802.11a					Test Frequency: 5200MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400	32.21	39.01	8.29	35.67	43.84	68.2	-24.36	Vertical
15600	30.1	38.3	10.62	35.36	43.66	68.2	-24.54	Vertical
10400	30.81	39.01	8.29	35.67	42.44	68.2	-25.76	Horizontal
15600	26.57	38.3	10.62	35.36	40.13	68.2	-28.07	Horizontal
10400	28.28	39.01	8.29	35.67	39.91	54	-14.09	Vertical
15600	26.33	38.3	10.62	35.36	39.89	54	-14.11	Vertical
10400	22.51	39.01	8.29	35.67	34.14	54	-19.86	Horizontal
15600	22.37	38.3	10.62	35.36	35.93	54	-18.07	Horizontal

802.11a					Test Frequency: 5240MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480	33.25	39.15	8.32	35.78	44.94	68.2	-23.26	Vertical
15720	30.75	38	10.72	35.37	44.1	68.2	-24.1	Vertical
10480	34.45	39.15	8.32	35.78	46.14	68.2	-22.06	Horizontal
15720	29.69	38	10.72	35.37	43.04	68.2	-25.16	Horizontal
10480	29.2	39.15	8.32	35.78	40.89	54	-13.11	Vertical
15720	30.13	38	10.72	35.37	43.48	54	-10.52	Vertical
10480	30.36	39.15	8.32	35.78	42.05	54	-11.95	Horizontal
15720	26.46	38	10.72	35.37	39.81	54	-14.19	Horizontal

802.11n(HT20)					Test Frequency: 5180MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360	39.51	38.96	8.27	35.64	51.1	68.2	-17.1	Vertical
15540	37.34	38.4	10.57	35.35	50.96	68.2	-17.24	Vertical
10360	39.17	38.96	8.27	35.64	50.76	68.2	-17.44	Horizontal
15540	36.43	38.4	10.57	35.35	50.05	68.2	-18.15	Horizontal
10360	31.42	38.96	8.27	35.64	43.01	54	-10.99	Vertical
15540	29.73	38.4	10.57	35.35	43.35	54	-10.65	Vertical
10360	28.62	38.96	8.27	35.64	40.21	54	-13.79	Horizontal
15540	31.2	38.4	10.57	35.35	44.82	54	-9.18	Horizontal

802.11n(HT20)					Test Frequency: 5200MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400	32.57	39.01	8.29	35.67	44.2	68.2	-24	Vertical
15600	31.14	38.3	10.62	35.36	44.7	68.2	-23.5	Vertical
10400	31.93	39.01	8.29	35.67	43.56	68.2	-24.64	Horizontal
15600	28.18	38.3	10.62	35.36	41.74	68.2	-26.46	Horizontal
10400	29.17	39.01	8.29	35.67	40.8	54	-13.2	Vertical
15600	27.86	38.3	10.62	35.36	41.42	54	-12.58	Vertical
10400	23.9	39.01	8.29	35.67	35.53	54	-18.47	Horizontal
15600	23.38	38.3	10.62	35.36	36.94	54	-17.06	Horizontal

802.11n(HT20)					Test Frequency: 5240MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480	32.43	39.15	8.32	35.78	44.12	68.2	-24.08	Vertical
15720	30.33	38	10.72	35.37	43.68	68.2	-24.52	Vertical
10480	34.37	39.15	8.32	35.78	46.06	68.2	-22.14	Horizontal
15720	29.4	38	10.72	35.37	42.75	68.2	-25.45	Horizontal
10480	29.25	39.15	8.32	35.78	40.94	54	-13.06	Vertical
15720	31.08	38	10.72	35.37	44.43	54	-9.57	Vertical
10480	30.92	39.15	8.32	35.78	42.61	54	-11.39	Horizontal
15720	27.1	38	10.72	35.37	40.45	54	-13.55	Horizontal

802.11n(HT40)					Test Frequency: 5190MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380	41.98	39.01	8.28	35.67	53.6	68.2	-14.6	Vertical
15570	37.79	38.3	10.6	35.36	51.33	68.2	-16.87	Vertical
10380	38.81	39.01	8.28	35.67	50.43	68.2	-17.77	Horizontal
15570	36.47	38.3	10.6	35.36	50.01	68.2	-18.19	Horizontal
10380	32.07	39.01	8.28	35.67	43.69	54	-10.31	Vertical
15570	31.5	38.3	10.6	35.36	45.04	54	-8.96	Vertical
10380	32.2	39.01	8.28	35.67	43.82	54	-10.18	Horizontal
15570	28.68	38.3	10.6	35.36	42.22	54	-11.78	Horizontal

802.11n(HT40)					Test Frequency: 5230MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460	39.71	39.11	8.31	35.75	51.38	68.2	-16.82	Vertical
15690	38.76	38.1	10.7	35.37	52.19	68.2	-16.01	Vertical
10460	39.41	39.11	8.31	35.75	51.08	68.2	-17.12	Horizontal
15690	36.42	38.1	10.7	35.37	49.85	68.2	-18.35	Horizontal
10460	36.32	39.11	8.31	35.75	47.99	54	-6.01	Vertical
15690	31.82	38.1	10.7	35.37	45.25	54	-8.75	Vertical
10460	31.2	39.11	8.31	35.75	42.87	54	-11.13	Horizontal
15690	31.08	38.1	10.7	35.37	44.51	54	-9.49	Horizontal

802.11ac(VHT20)					Test Frequency: 5180MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360	39.33	38.96	8.27	35.64	50.92	68.2	-17.28	Vertical
15540	39.31	38.4	10.57	35.35	52.93	68.2	-15.27	Vertical
10360	40.14	38.96	8.27	35.64	51.73	68.2	-16.47	Horizontal
15540	35.4	38.4	10.57	35.35	49.02	68.2	-19.18	Horizontal
10360	31.06	38.96	8.27	35.64	42.65	54	-11.35	Vertical
15540	30.47	38.4	10.57	35.35	44.09	54	-9.91	Vertical
10360	30.47	38.96	8.27	35.64	42.06	54	-11.94	Horizontal
15540	30.65	38.4	10.57	35.35	44.27	54	-9.73	Horizontal

802.11ac(VHT20)					Test Frequency: 5200MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400	32.9	39.01	8.29	35.67	44.53	68.2	-23.67	Vertical
15600	31.2	38.3	10.62	35.36	44.76	68.2	-23.44	Vertical
10400	32.41	39.01	8.29	35.67	44.04	68.2	-24.16	Horizontal
15600	28.89	38.3	10.62	35.36	42.45	68.2	-25.75	Horizontal
10400	29.69	39.01	8.29	35.67	41.32	54	-12.68	Vertical
15600	28.07	38.3	10.62	35.36	41.63	54	-12.37	Vertical
10400	24.57	39.01	8.29	35.67	36.2	54	-17.8	Horizontal
15600	24.27	38.3	10.62	35.36	37.83	54	-16.17	Horizontal

802.11ac(VHT20)					Test Frequency: 5240MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480	32.36	39.15	8.32	35.78	44.05	68.2	-24.15	Vertical
15720	29.56	38	10.72	35.37	42.91	68.2	-25.29	Vertical
10480	34.35	39.15	8.32	35.78	46.04	68.2	-22.16	Horizontal
15720	28.92	38	10.72	35.37	42.27	68.2	-25.93	Horizontal
10480	29.66	39.15	8.32	35.78	41.35	54	-12.65	Vertical
15720	31.48	38	10.72	35.37	44.83	54	-9.17	Vertical
10480	31.61	39.15	8.32	35.78	43.3	54	-10.7	Horizontal
15720	28.03	38	10.72	35.37	41.38	54	-12.62	Horizontal

802.11ac(VHT40)					Test Frequency: 5190MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380	42.46	39.01	8.28	35.67	54.08	68.2	-14.12	Vertical
15570	37.96	38.3	10.6	35.36	51.5	68.2	-16.7	Vertical
10380	39.08	39.01	8.28	35.67	50.7	68.2	-17.5	Horizontal
15570	36.74	38.3	10.6	35.36	50.28	68.2	-17.92	Horizontal
10380	33.01	39.01	8.28	35.67	44.63	54	-9.37	Vertical
15570	32.19	38.3	10.6	35.36	45.73	54	-8.27	Vertical
10380	32.77	39.01	8.28	35.67	44.39	54	-9.61	Horizontal
15570	29.59	38.3	10.6	35.36	43.13	54	-10.87	Horizontal

802.11ac(VHT40)					Test Frequency: 5230MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460	40.31	39.11	8.31	35.75	51.98	68.2	-16.22	Vertical
15690	39.32	38.1	10.7	35.37	52.75	68.2	-15.45	Vertical
10460	39.93	39.11	8.31	35.75	51.6	68.2	-16.6	Horizontal
15690	37.27	38.1	10.7	35.37	50.7	68.2	-17.5	Horizontal
10460	36.67	39.11	8.31	35.75	48.34	54	-5.66	Vertical
15690	32.11	38.1	10.7	35.37	45.54	54	-8.46	Vertical
10460	31.43	39.11	8.31	35.75	43.1	54	-10.9	Horizontal
15690	31.37	38.1	10.7	35.37	44.8	54	-9.2	Horizontal

802.11ac(VHT80)					Test Frequency: 5210MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10420	37.53	39.06	8.29	35.71	49.17	68.2	-19.03	Vertical
15630	34.86	38.2	10.65	35.36	48.35	68.2	-19.85	Vertical
10420	36.78	39.06	8.29	35.71	48.42	68.2	-19.78	Horizontal
15630	33.22	38.2	10.65	35.36	46.71	68.2	-21.49	Horizontal
10420	31.25	39.06	8.29	35.71	42.89	54	-11.11	Vertical
15630	29.09	38.2	10.65	35.36	42.58	54	-11.42	Vertical
10420	25.08	39.06	8.29	35.71	36.72	54	-17.28	Horizontal
15630	28.1	38.2	10.65	35.36	41.59	54	-12.41	Horizontal

802.11ax(HE20)					Test Frequency: 5180MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360	30.98	38.96	8.27	35.64	42.57	68.2	-25.63	Vertical
15540	30.49	38.4	10.57	35.35	44.11	68.2	-24.09	Vertical
10360	39.08	38.96	8.27	35.64	50.67	68.2	-17.53	Horizontal
15540	35.89	38.4	10.57	35.35	49.51	68.2	-18.69	Horizontal
10360	36.75	38.96	8.27	35.64	48.34	54	-5.66	Vertical
15540	33.46	38.4	10.57	35.35	47.08	54	-6.92	Vertical
10360	32.05	38.96	8.27	35.64	43.64	54	-10.36	Horizontal
15540	32.61	38.4	10.57	35.35	46.23	54	-7.77	Horizontal

802.11ax(HE20)					Test Frequency: 5200MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400	30.37	39.01	8.29	35.67	42	68.2	-26.2	Vertical
15600	30.14	38.3	10.62	35.36	43.7	68.2	-24.5	Vertical
10400	38.73	39.01	8.29	35.67	50.36	68.2	-17.84	Horizontal
15600	35.21	38.3	10.62	35.36	48.77	68.2	-19.43	Horizontal
10400	37.33	39.01	8.29	35.67	48.96	54	-5.04	Vertical
15600	33.74	38.3	10.62	35.36	47.3	54	-6.7	Vertical
10400	32.79	39.01	8.29	35.67	44.42	54	-9.58	Horizontal
15600	32.94	38.3	10.62	35.36	46.5	54	-7.5	Horizontal

802.11ax(HE20)					Test Frequency: 5240MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480	31.28	39.15	8.32	35.78	42.97	68.2	-25.23	Vertical
15720	30.7	38	10.72	35.37	44.05	68.2	-24.15	Vertical
10480	38.94	39.15	8.32	35.78	50.63	68.2	-17.57	Horizontal
15720	35.54	38	10.72	35.37	48.89	68.2	-19.31	Horizontal
10480	37.35	39.15	8.32	35.78	49.04	54	-4.96	Vertical
15720	33.95	38	10.72	35.37	47.3	54	-6.7	Vertical
10480	33.04	39.15	8.32	35.78	44.73	54	-9.27	Horizontal
15720	33.83	38	10.72	35.37	47.18	54	-6.82	Horizontal

802.11ax(HE40)					Test Frequency: 5190MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380	30.39	39.01	8.28	35.67	42.01	68.2	-26.19	Vertical
15570	29.96	38.3	10.6	35.36	43.5	68.2	-24.7	Vertical
10380	38.16	39.01	8.28	35.67	49.78	68.2	-18.42	Horizontal
15570	34.45	38.3	10.6	35.36	47.99	68.2	-20.21	Horizontal
10380	37.91	39.01	8.28	35.67	49.53	54	-4.47	Vertical
15570	34.75	38.3	10.6	35.36	48.29	54	-5.71	Vertical
10380	33.99	39.01	8.28	35.67	45.61	54	-8.39	Horizontal
15570	33.92	38.3	10.6	35.36	47.46	54	-6.54	Horizontal

802.11ax(HE40)					Test Frequency: 5230MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460	29.95	39.11	8.31	35.75	41.62	68.2	-26.58	Vertical
15690	29.25	38.1	10.7	35.37	42.68	68.2	-25.52	Vertical
10460	37.46	39.11	8.31	35.75	49.13	68.2	-19.07	Horizontal
15690	34.11	38.1	10.7	35.37	47.54	68.2	-20.66	Horizontal
10460	37.55	39.11	8.31	35.75	49.22	54	-4.78	Vertical
15690	34.47	38.1	10.7	35.37	47.9	54	-6.1	Vertical
10460	33.13	39.11	8.31	35.75	44.8	54	-9.2	Horizontal
15690	33.47	38.1	10.7	35.37	46.9	54	-7.1	Horizontal

802.11ax(HE80)					Test Frequency: 5210MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10420	37.3	39.06	8.29	35.71	48.94	68.2	-19.26	Vertical
15630	34.54	38.2	10.65	35.36	48.03	68.2	-20.17	Vertical
10420	36.59	39.06	8.29	35.71	48.23	68.2	-19.97	Horizontal
15630	32.82	38.2	10.65	35.36	46.31	68.2	-21.89	Horizontal
10420	30.98	39.06	8.29	35.71	42.62	54	-11.38	Vertical
15630	28.37	38.2	10.65	35.36	41.86	54	-12.14	Vertical
10420	24.58	39.06	8.29	35.71	36.22	54	-17.78	Horizontal
15630	27.11	38.2	10.65	35.36	40.6	54	-13.4	Horizontal

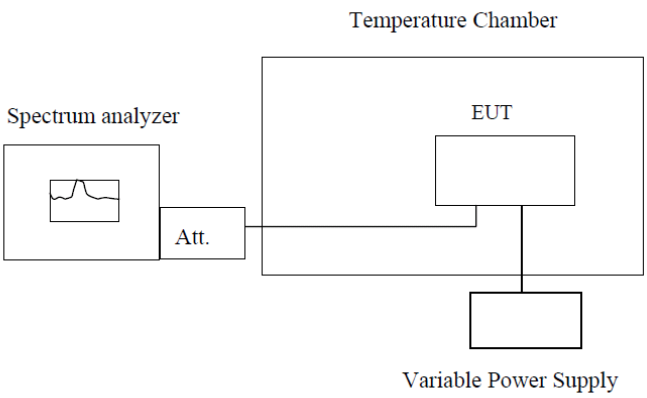
Notes:

1. Level = Read Level + Antenna Factor+ Cable loss- Preamp Factor.

2. The test trace is same as the ambient noise (the test frequency range: 18GHz~40GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

7.7 Frequency stability

Test Requirement:	FCC Part15 C Section 15.407(g)
Test Method:	ANSI C63.10:2013, FCC Part 2.1055
Limit:	Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified
Test Procedure:	The EUT was setup to ANSI C63.4, 2003; tested to 2.1055 for compliance to FCC Part 15.407(g) requirements.
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Remark: Set the EUT transmits at un-modulation mode to test frequency stability.

Measurement data:

Frequency stability versus Temp.													
Worst Case Operating Frequency：5180MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	3.3	5180.0262	5.06	P	5180.0283	5.46	P	5180.0313	6.04	P	5180.0325	6.27	P
-20	3.3	5179.9896	-2.01	P	5179.9934	-1.27	P	5179.9939	-1.18	P	5179.99	-1.93	P
-10	3.3	5179.9769	-4.46	P	5179.9837	-3.15	P	5179.9829	-3.3	P	5179.9785	-4.15	P
0	3.3	5180.0237	4.58	P	5180.0172	3.32	P	5180.0258	4.98	P	5180.0254	4.9	P
10	3.3	5179.9573	-8.24	P	5179.9556	-8.57	P	5179.9589	-7.93	P	5179.955	-8.69	P
20	3.3	5179.9517	-9.32	P	5179.9522	-9.23	P	5179.9533	-9.02	P	5179.9489	-9.86	P
30	3.3	5180.0182	3.51	P	5180.0182	3.51	P	5180.0258	4.98	P	5180.0156	3.01	P
40	3.3	5179.9953	-0.91	P	5179.9979	-0.41	P	5179.9998	-0.04	P	5180.0099	1.91	P
50	3.3	5179.9819	-3.49	P	5179.9812	-3.63	P	5179.9757	-4.69	P	5179.9812	-3.63	P

Frequency stability versus Voltage.													
Worst Case Operating Frequency：5180MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	2.805	5180.0347	6.7	P	5180.0358	6.91	P	5180.033	6.37	P	5180.0271	5.23	P
25	3.3	5179.9864	-2.63	P	5179.9893	-2.07	P	5179.9853	-2.84	P	5179.9933	-1.29	P
25	3.795	5179.9775	-4.34	P	5179.9758	-4.67	P	5179.9757	-4.69	P	5179.9773	-4.38	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5200MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	3.3	5200.0094	1.81	P	5200.0106	2.04	P	5200.0099	1.9	P	5200.0059	1.13	P
-20	3.3	5199.9889	-2.13	P	5199.9857	-2.75	P	5199.9912	-1.69	P	5199.9893	-2.06	P
-10	3.3	5199.9769	-4.44	P	5199.9759	-4.63	P	5199.9829	-3.29	P	5199.9805	-3.75	P
0	3.3	5200.0214	4.12	P	5200.0212	4.08	P	5200.0208	4	P	5200.0254	4.88	P
10	3.3	5199.9535	-8.94	P	5199.9604	-7.62	P	5199.9562	-8.42	P	5199.9605	-7.6	P
20	3.3	5199.952	-9.23	P	5199.949	-9.81	P	5199.9507	-9.48	P	5199.9526	-9.12	P
30	3.3	5200.0185	3.56	P	5200.0184	3.54	P	5200.0157	3.02	P	5200.0185	3.56	P
40	3.3	5200.0071	1.37	P	5200.0031	0.6	P	5200.0023	0.44	P	5200.0031	0.6	P
50	3.3	5199.9822	-3.42	P	5199.9786	-4.12	P	5199.9752	-4.77	P	5199.9744	-4.92	P

Frequency stability versus Voltage.													
Worst Case Operating Frequency：5200MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	2.805	5200.0167	3.21	P	5200.0174	3.35	P	5200.0118	2.27	P	5200.012	2.31	P
25	3.3	5199.9947	-1.02	P	5199.9941	-1.13	P	5199.993	-1.35	P	5199.9919	-1.56	P
25	3.795	5199.9833	-3.21	P	5199.9782	-4.19	P	5199.9764	-4.54	P	5199.9805	-3.75	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5240MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	3.3	5240.0084	1.6	P	5240.0062	1.18	P	5240.0078	1.49	P	5240.011	2.1	P
-20	3.3	5239.993	-1.34	P	5239.9903	-1.85	P	5239.9892	-2.06	P	5239.9907	-1.77	P
-10	3.3	5239.9746	-4.85	P	5239.9739	-4.98	P	5239.975	-4.77	P	5239.9767	-4.45	P
0	3.3	5240.0235	4.48	P	5240.0209	3.99	P	5240.0173	3.3	P	5240.0177	3.38	P
10	3.3	5239.9632	-7.02	P	5239.9607	-7.5	P	5239.9545	-8.68	P	5239.9551	-8.57	P
20	3.3	5239.9528	-9.01	P	5239.9499	-9.56	P	5239.9504	-9.47	P	5239.9524	-9.08	P
30	3.3	5240.0205	3.91	P	5240.0223	4.26	P	5240.0222	4.24	P	5240.0202	3.85	P
40	3.3	5240.0095	1.81	P	5239.9998	-0.04	P	5240.0012	0.23	P	5240.0067	1.28	P
50	3.3	5239.9775	-4.29	P	5239.981	-3.63	P	5239.9801	-3.8	P	5239.9807	-3.68	P

Frequency stability versus Voltage.													
Worst Case Operating Frequency：5240MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	2.805	5239.9738	-5	P	5239.9771	-4.37	P	5239.9786	-4.08	P	5239.9761	-4.56	P
25	3.3	5240.0199	3.8	P	5240.0216	4.12	P	5240.0215	4.1	P	5240.0178	3.4	P
25	3.795	5240.0099	1.89	P	5239.999	-0.19	P	5239.9987	-0.25	P	5240.0082	1.56	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5190MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	3.3	5190.0206	3.97	P	5190.0189	3.64	P	5190.0229	4.41	P	5190.0209	4.03	P
-20	3.3	5189.9876	-2.39	P	5189.9869	-2.52	P	5189.9883	-2.25	P	5189.9845	-2.99	P
-10	3.3	5189.9774	-4.35	P	5189.984	-3.08	P	5189.9812	-3.62	P	5189.977	-4.43	P
0	3.3	5190.0234	4.51	P	5190.019	3.66	P	5190.0174	3.35	P	5190.0234	4.51	P
10	3.3	5189.9575	-8.19	P	5189.9601	-7.69	P	5189.9579	-8.11	P	5189.9564	-8.4	P
20	3.3	5189.9503	-9.58	P	5189.9488	-9.87	P	5189.949	-9.83	P	5189.9526	-9.13	P
30	3.3	5190.0207	3.99	P	5190.0177	3.41	P	5190.0188	3.62	P	5190.0169	3.26	P
40	3.3	5190.0042	0.81	P	5190.0047	0.91	P	5190.0059	1.14	P	5190.0052	1	P
50	3.3	5189.9827	-3.33	P	5189.983	-3.28	P	5189.978	-4.24	P	5189.9747	-4.87	P

Frequency stability versus Voltage.													
Worst Case Operating Frequency：5190MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	2.805	5189.98	-3.85	P	5189.9819	-3.49	P	5189.9808	-3.7	P	5189.9806	-3.74	P
25	3.3	5190.0211	4.07	P	5190.0174	3.35	P	5190.0199	3.83	P	5190.0231	4.45	P
25	3.795	5190.0028	0.54	P	5190.0071	1.37	P	5189.9992	-0.15	P	5189.9983	-0.33	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5230MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	3.3	5230.0165	3.15	P	5230.0153	2.93	P	5230.0126	2.41	P	5230.0244	4.67	P
-20	3.3	5229.988	-2.29	P	5229.9903	-1.85	P	5229.9906	-1.8	P	5229.9931	-1.32	P
-10	3.3	5229.9828	-3.29	P	5229.976	-4.59	P	5229.9745	-4.88	P	5229.9771	-4.38	P
0	3.3	5230.0205	3.92	P	5230.0236	4.51	P	5230.0215	4.11	P	5230.0183	3.5	P
10	3.3	5229.9589	-7.86	P	5229.9549	-8.62	P	5229.9618	-7.3	P	5229.958	-8.03	P
20	3.3	5229.9496	-9.64	P	5229.9528	-9.02	P	5229.9479	-9.96	P	5229.9508	-9.41	P
30	3.3	5230.0258	4.93	P	5230.0225	4.3	P	5230.019	3.63	P	5230.0162	3.1	P
40	3.3	5230.0078	1.49	P	5229.9994	-0.11	P	5230.0104	1.99	P	5230.0018	0.34	P
50	3.3	5229.9823	-3.38	P	5229.9799	-3.84	P	5229.9763	-4.53	P	5229.9805	-3.73	P

Frequency stability versus Voltage.													
Worst Case Operating Frequency：5230MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	2.805	5229.9846	-2.94	P	5229.9746	-4.86	P	5229.9754	-4.7	P	5229.9802	-3.79	P
25	3.3	5230.0236	4.51	P	5230.021	4.02	P	5230.0178	3.4	P	5230.0226	4.32	P
25	3.795	5230.0102	1.95	P	5230.0076	1.45	P	5229.9987	-0.25	P	5230.0031	0.59	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5210MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	3.3	5210.0122	2.34	P	5210.0173	3.32	P	5210.0126	2.42	P	5210.0201	3.86	P
-20	3.3	5209.9877	-2.36	P	5209.9921	-1.52	P	5209.9875	-2.4	P	5209.9887	-2.17	P
-10	3.3	5209.9768	-4.45	P	5209.9803	-3.78	P	5209.9756	-4.68	P	5209.9762	-4.57	P
0	3.3	5210.0199	3.82	P	5210.0184	3.53	P	5210.0165	3.17	P	5210.018	3.45	P
10	3.3	5209.9535	-8.93	P	5209.9597	-7.74	P	5209.9631	-7.08	P	5209.9576	-8.14	P
20	3.3	5209.9498	-9.64	P	5209.9483	-9.92	P	5209.9519	-9.23	P	5209.949	-9.79	P
30	3.3	5210.0248	4.76	P	5210.0231	4.43	P	5210.0214	4.11	P	5210.0231	4.43	P
40	3.3	5210.0018	0.35	P	5209.9948	-1	P	5210.0047	0.9	P	5210.0082	1.57	P
50	3.3	5209.9768	-4.45	P	5209.9818	-3.49	P	5209.9767	-4.47	P	5209.974	-4.99	P

Frequency stability versus Voltage.													
Worst Case Operating Frequency：5210MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	2.805	5209.9787	-4.09	P	5209.9771	-4.4	P	5209.9857	-2.74	P	5209.987	-2.5	P
25	3.3	5210.021	4.03	P	5210.0188	3.61	P	5210.0225	4.32	P	5210.0185	3.55	P
25	3.795	5210.0029	0.56	P	5210.0031	0.6	P	5210.0003	0.06	P	5210.0032	0.61	P

Note: P for PASS and F for Fail.

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

---END---