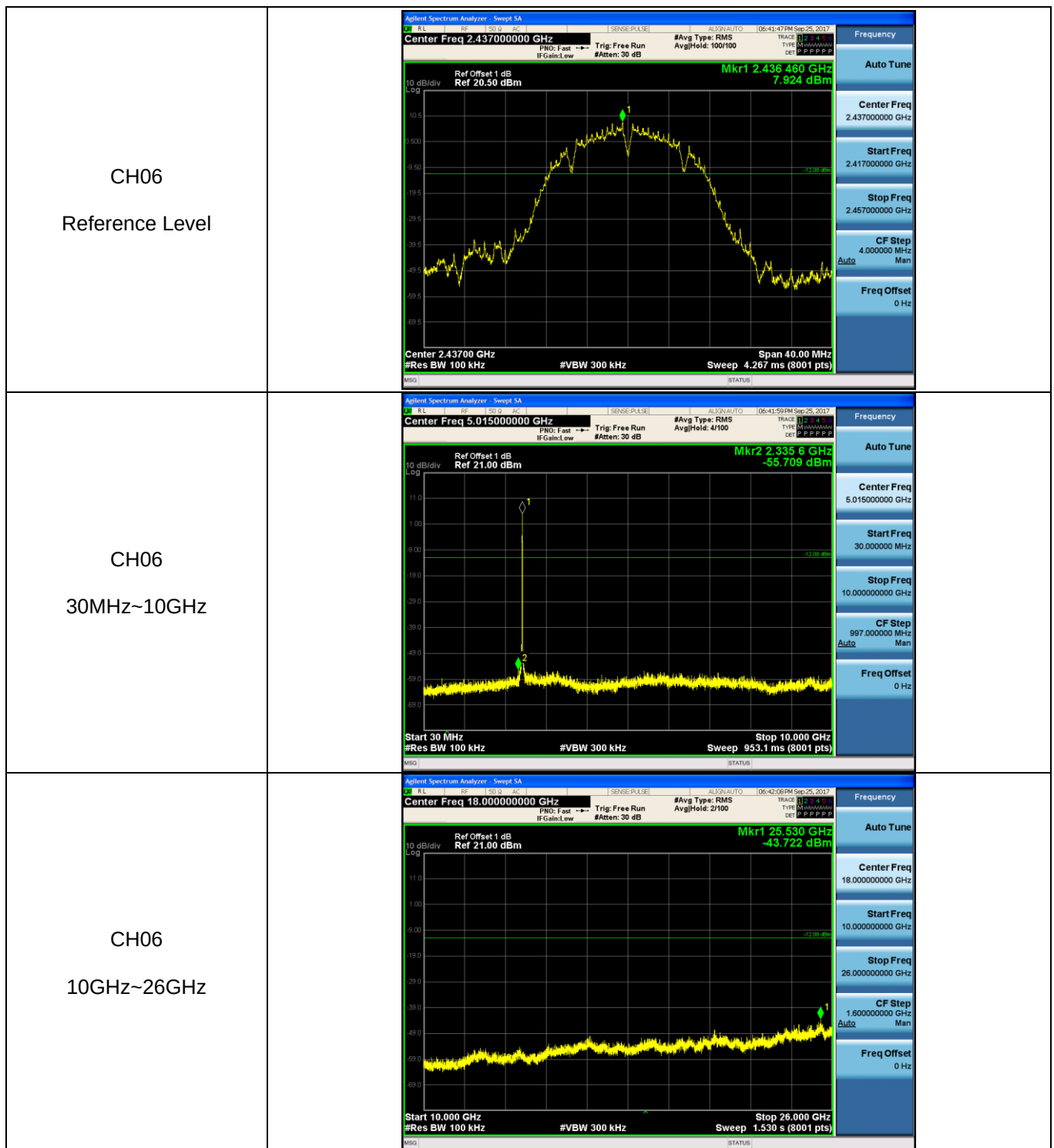
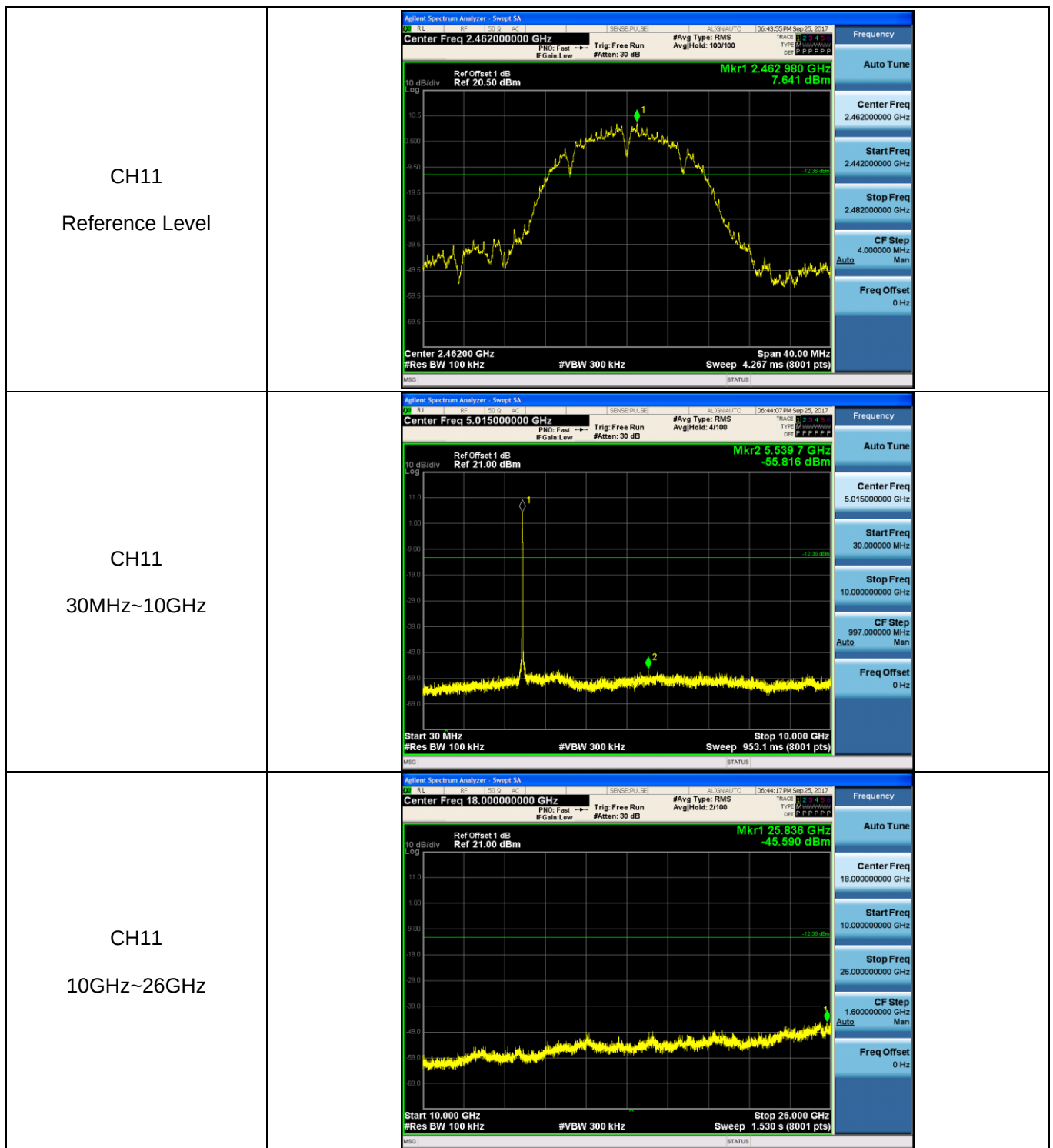
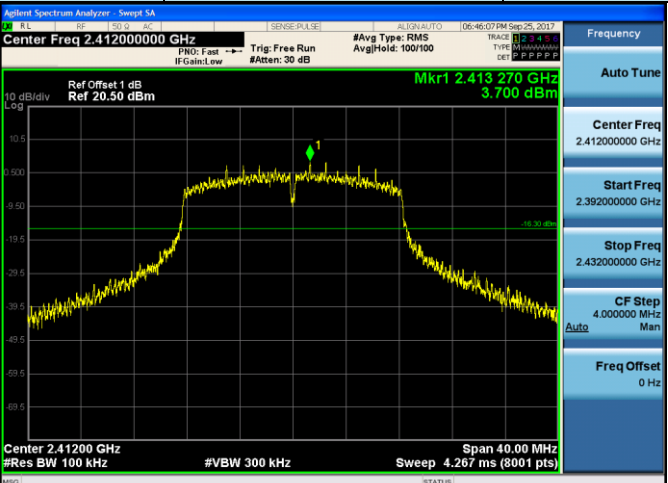
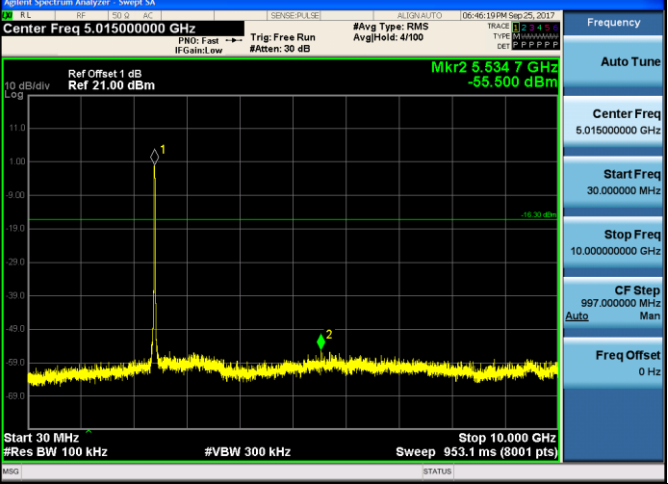
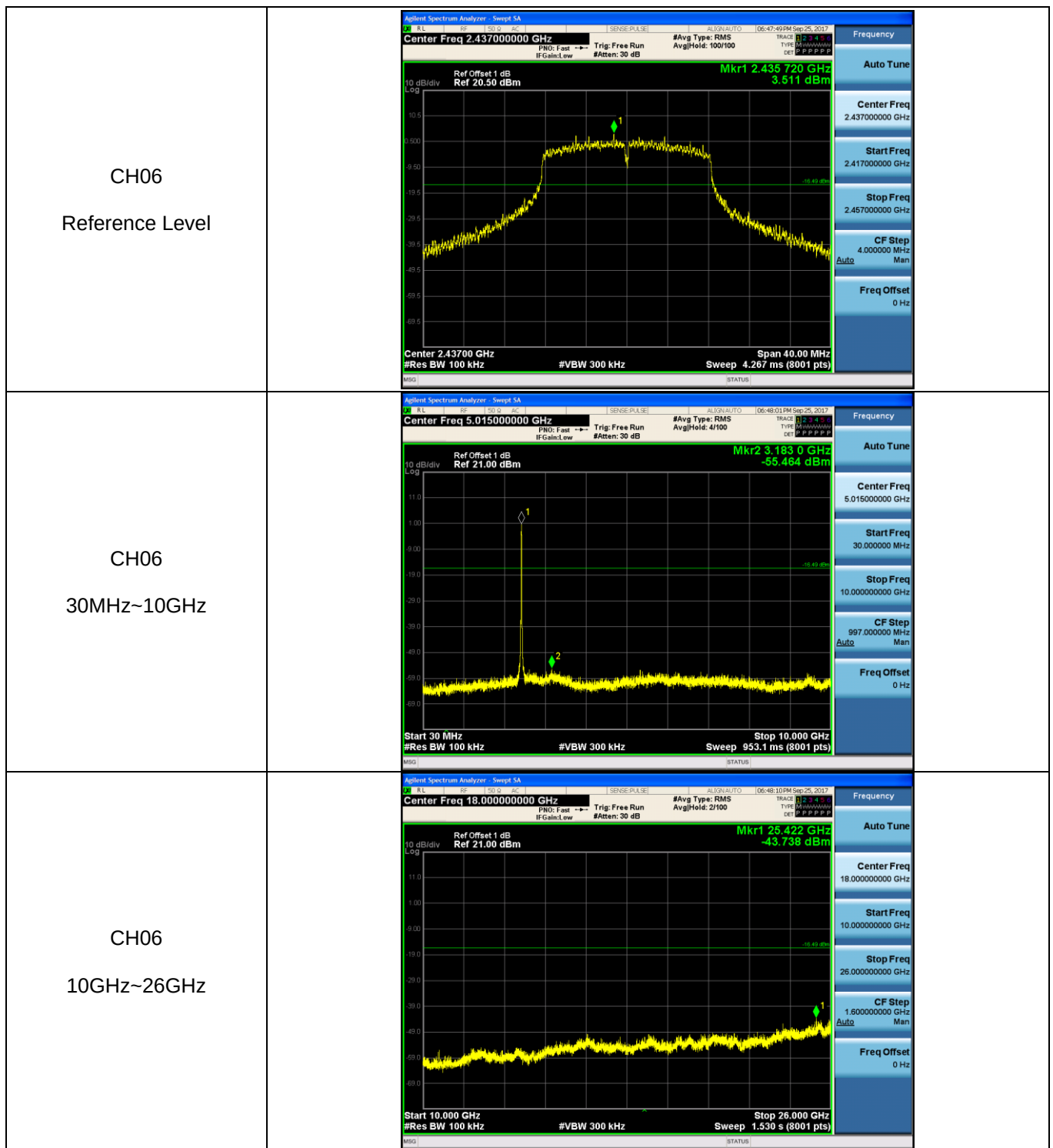
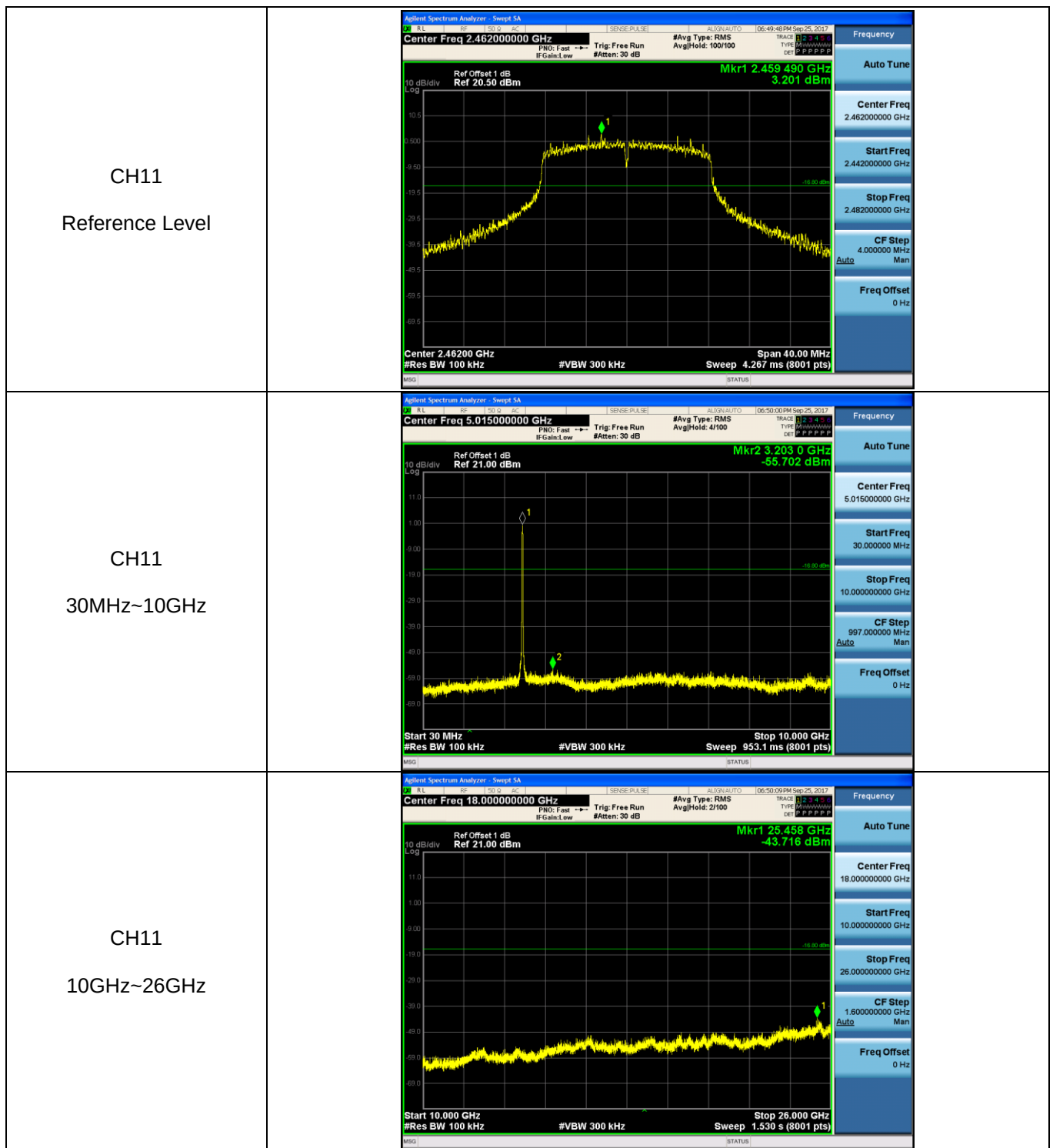


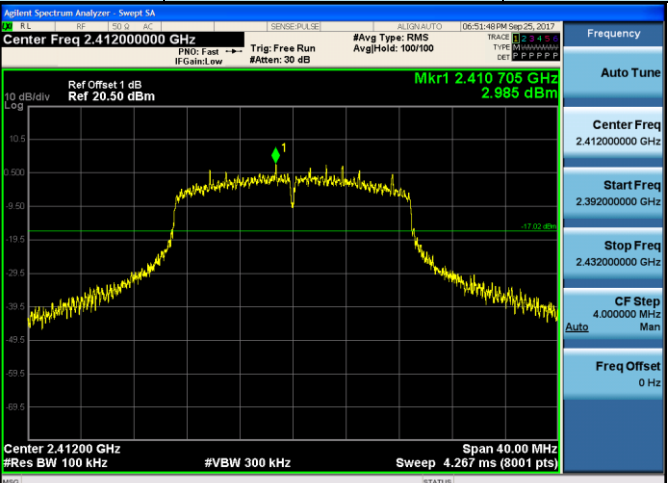
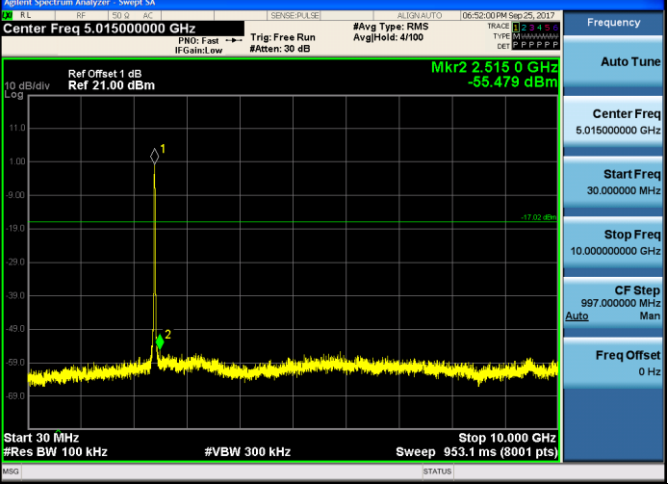


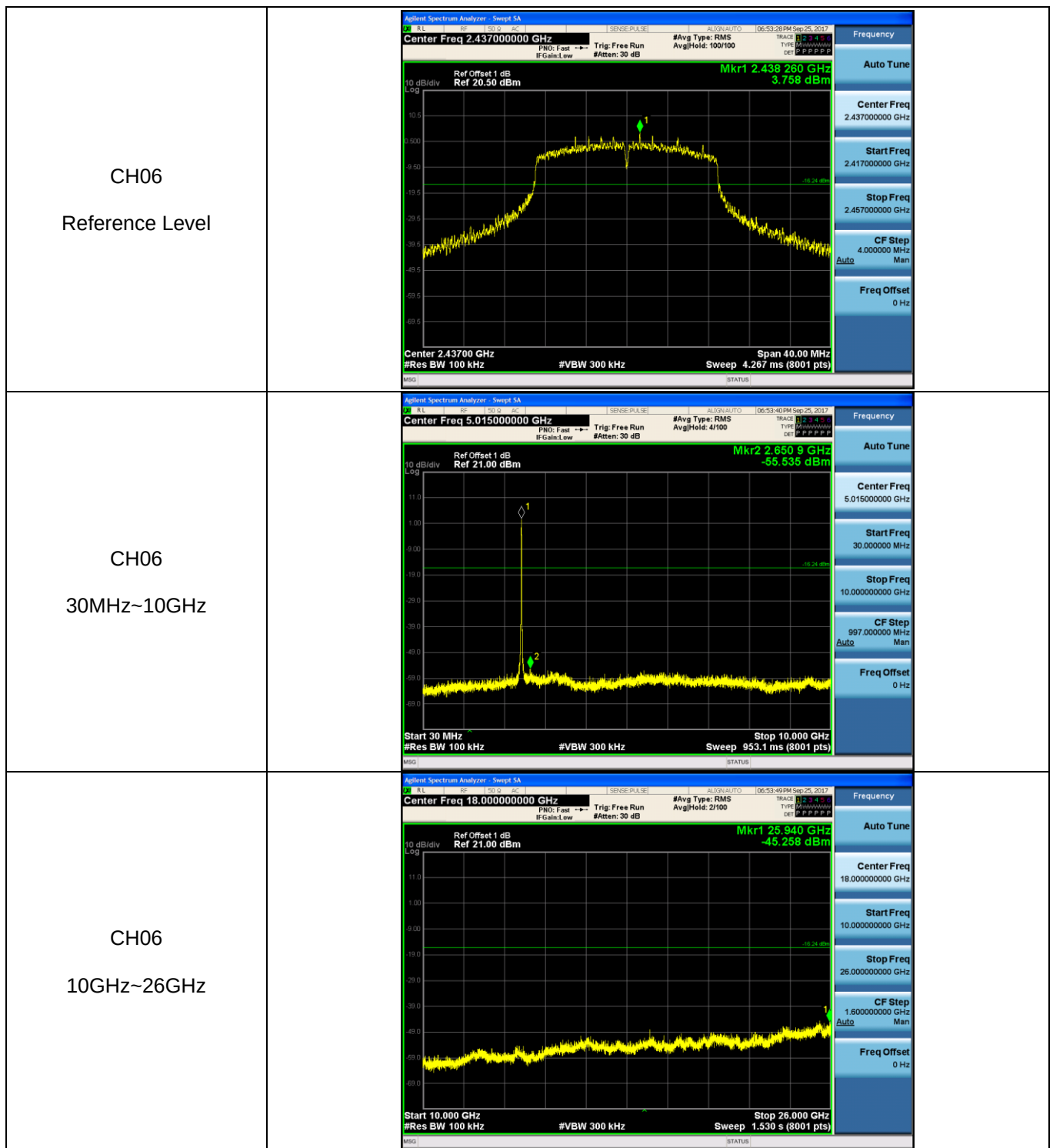


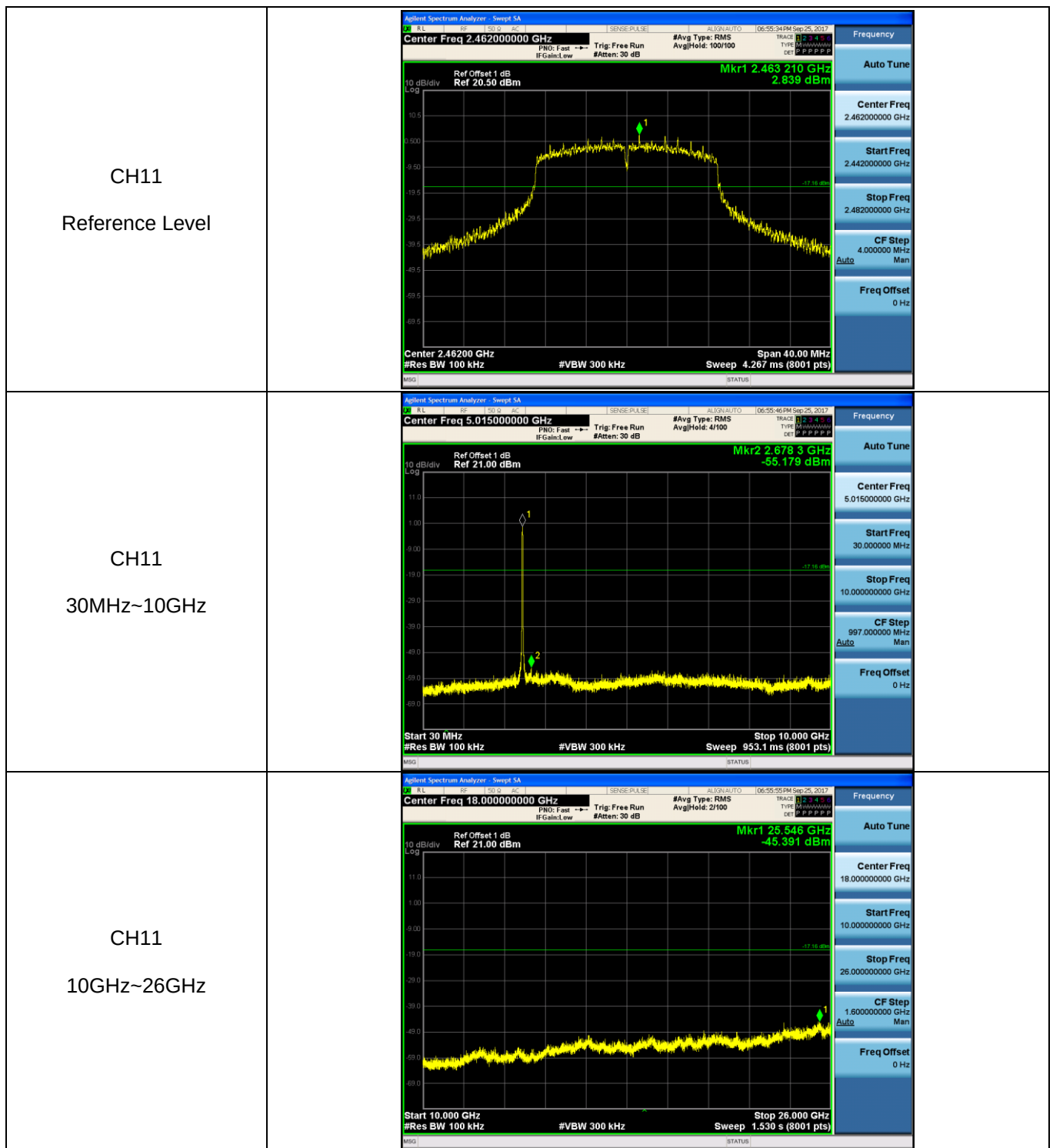
Test Item:	SE	Type:	802.11 g
CH01 Reference Level			Frequency Auto Tune Center Freq 2.412000000 GHz Start Freq 2.392000000 GHz Stop Freq 2.432000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
CH01 30MHz~10GHz			Frequency Auto Tune Center Freq 5.015000000 GHz Start Freq 30.000000 MHz Stop Freq 10.000000000 GHz CF Step 997.000000 MHz Auto Man Freq Offset 0 Hz
CH01 10GHz~26GHz			Frequency Auto Tune Center Freq 18.000000000 GHz Start Freq 10.000000000 GHz Stop Freq 26.000000000 GHz CF Step 1.600000000 GHz Auto Man Freq Offset 0 Hz





Test Item:	SE	Type:	802.11 n(HT20)
CH01 Reference Level			Frequency Auto Tune Center Freq 2.412000000 GHz Start Freq 2.392000000 GHz Stop Freq 2.432000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
CH01 30MHz~10GHz			Frequency Auto Tune Center Freq 5.015000000 GHz Start Freq 30.000000 MHz Stop Freq 10.000000000 GHz CF Step 997.000000 MHz Auto Man Freq Offset 0 Hz
CH01 10GHz~26GHz			Frequency Auto Tune Center Freq 18.000000000 GHz Start Freq 10.000000000 GHz Stop Freq 26.000000000 GHz CF Step 1.600000000 GHz Auto Man Freq Offset 0 Hz





5.8. Spurious Emissions (radiated)

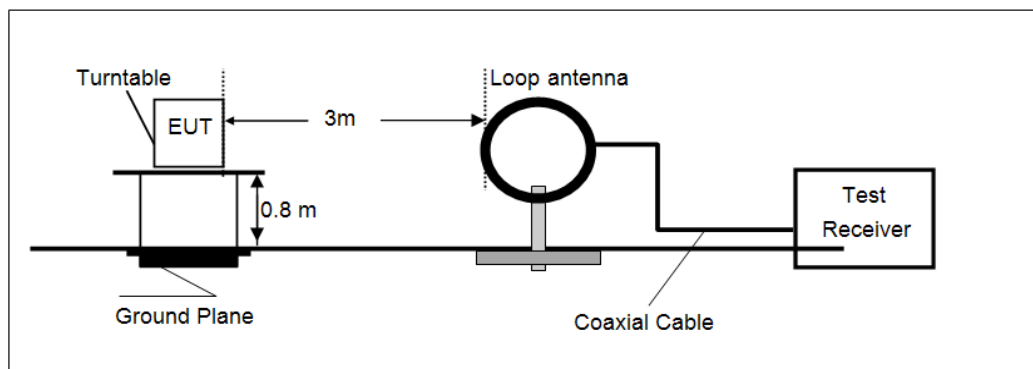
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209

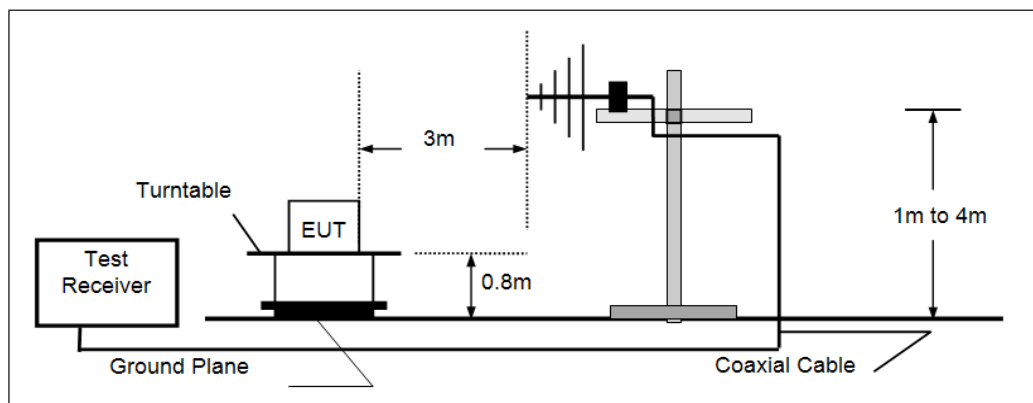
Frequency	Limit (dBuV/m @3m)	Value
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

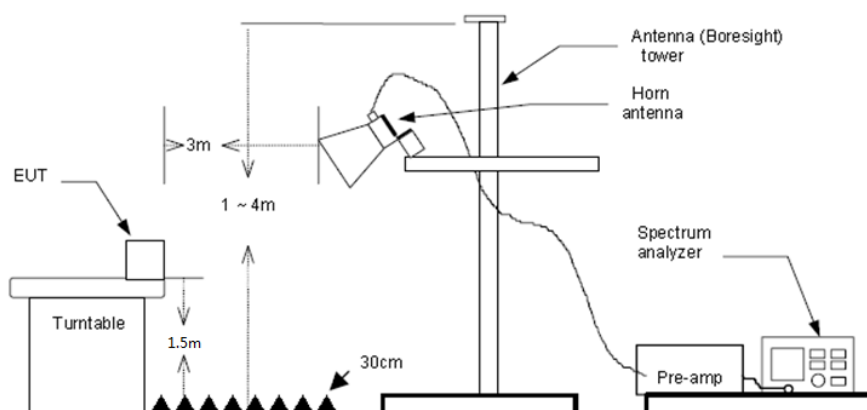
➤ 9kHz ~30MHz



➤ 30MHz ~ 1GHz



➤ Above 1GHz



TEST PROCEDURE

1. The EUT was tested according to ANSI C63.10:2013 for compliance to FCC 47CFR 15.247 requirements.
2. The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna.
5. Use the following spectrum analyzer settings
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Below 1GHz, RBW=120kHz, VBW=300kHz, Sweep=auto, Detector function=QP, Trace=max hold;
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.
 - (3) Above 1GHz, RBW=1MHz, VBW=3MHz PEAK detector for Peak value.
RBW=1MHz, VBW=3MHz RMS detector for Average value.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

Note:

- 1) Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2) The emission levels of other frequencies are very lower than the limit and not show in test report.

➤ **9kHz ~ 30MHz**

The EUT was pre-scanned the frequency band (9kHz~30MHz), found the radiated level lower than the limit, so don't show on the report.

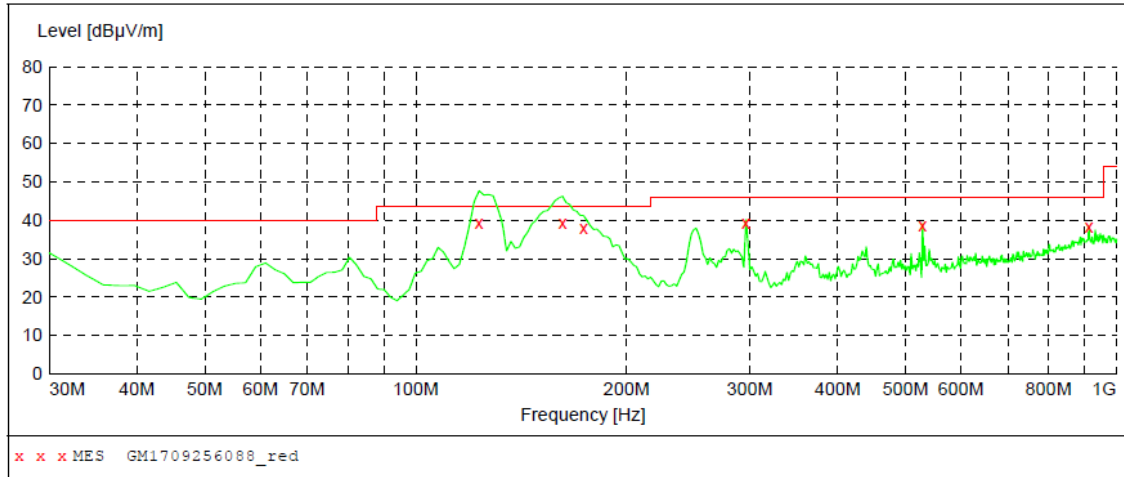
➤ **30MHz ~1000MHz**

Have pre-scan all modulation mode, found the 802.11b mode CH01 which it was worst case, so only the worst case's data on the test report.

➤ 30MHz ~ 1GHz

Polarization:

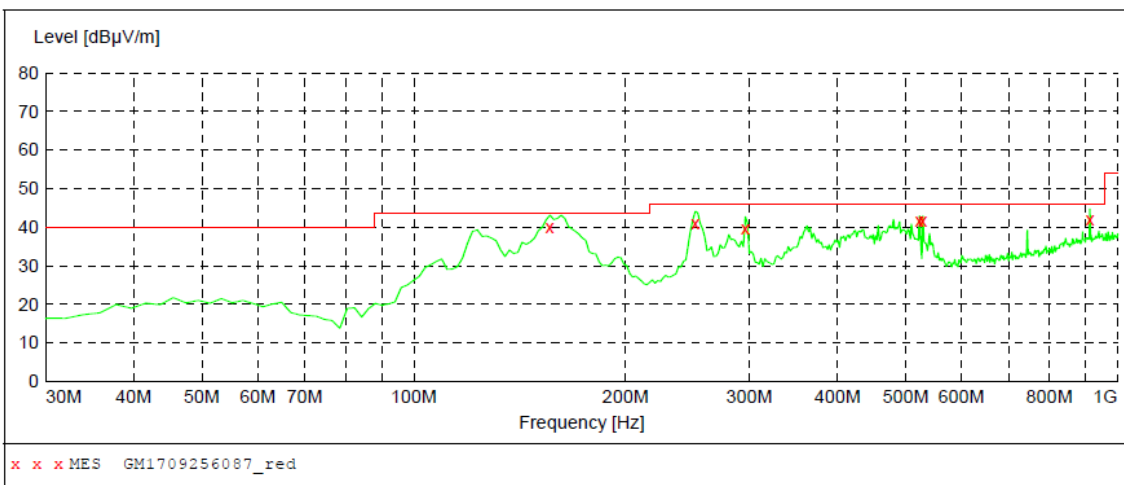
Vertical



Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
123.120000	39.60	-12.7	43.5	3.9	QP	100.0	231.00	VERTICAL
161.920000	38.20	-13.3	43.5	5.3	QP	100.0	322.00	VERTICAL
173.560000	37.10	-12.8	43.5	6.4	QP	100.0	322.00	VERTICAL
295.780000	39.00	-7.3	46.0	7.0	QP	100.0	111.00	VERTICAL
528.580000	38.10	-1.2	46.0	7.9	QP	100.0	215.00	VERTICAL
912.700000	37.30	6.9	46.0	8.7	QP	100.0	266.00	VERTICAL

Polarization:

Horizontal



Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
156.100000	39.10	-13.6	43.5	4.4	QP	300.0	127.00	HORIZONTAL
251.160000	41.10	-8.4	46.0	4.9	QP	100.0	292.00	HORIZONTAL
295.780000	40.70	-7.3	46.0	5.3	QP	100.0	292.00	HORIZONTAL
522.760000	39.90	-1.3	46.0	6.1	QP	100.0	320.00	HORIZONTAL
528.580000	39.90	-1.2	46.0	6.1	QP	100.0	27.00	HORIZONTAL
912.700000	41.70	6.9	46.0	4.3	QP	100.0	200.00	HORIZONTAL

➤ Above 1 GHz

802.11b					CH01				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1943.29	40.52	25.74	6.18	37.25	35.19	74.00	-38.81	Vertical	Peak
2965.19	40.78	28.57	7.46	38.25	38.56	74.00	-35.44	Vertical	Peak
4559.15	40.29	30.82	9.39	37.30	43.20	74.00	-30.80	Vertical	Peak
7117.84	33.58	35.71	11.86	34.96	46.19	74.00	-27.81	Vertical	Peak
1254.27	37.10	26.24	4.75	36.54	31.55	74.00	-42.45	Horizontal	Peak
3018.50	38.37	28.64	7.50	38.23	36.28	74.00	-37.72	Horizontal	Peak
4641.12	36.75	31.02	9.48	37.17	40.08	74.00	-33.92	Horizontal	Peak
7063.69	32.29	35.49	11.85	34.88	44.75	74.00	-29.25	Horizontal	Peak

802.11b					CH06				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1746.25	44.76	25.29	5.86	37.03	38.88	74.00	-35.12	Vertical	Peak
2965.19	40.83	28.57	7.46	38.25	38.61	74.00	-35.39	Vertical	Peak
4455.89	38.01	30.61	9.22	37.47	40.37	74.00	-33.63	Vertical	Peak
7045.74	33.30	35.44	11.85	34.86	45.73	74.00	-28.27	Vertical	Peak
1768.62	37.81	25.34	5.90	37.07	31.98	74.00	-42.02	Horizontal	Peak
3018.50	38.87	28.64	7.50	38.23	36.78	74.00	-37.22	Horizontal	Peak
5151.68	34.97	31.69	9.79	36.25	40.20	74.00	-33.80	Horizontal	Peak
7045.74	33.17	35.44	11.85	34.86	45.60	74.00	-28.40	Horizontal	Peak

802.11b					CH11				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1746.25	46.31	25.29	5.86	37.03	40.43	74.00	-33.57	Vertical	Peak
3873.75	36.67	29.67	8.60	38.19	36.75	74.00	-37.25	Vertical	Peak
5806.41	32.16	32.11	10.59	35.32	39.54	74.00	-34.46	Vertical	Peak
7394.88	32.69	36.30	12.06	34.83	46.22	74.00	-27.78	Vertical	Peak
1346.93	35.82	26.06	4.91	36.49	30.30	74.00	-43.70	Horizontal	Peak
3010.83	38.89	28.62	7.49	38.23	36.77	74.00	-37.23	Horizontal	Peak
4605.81	34.82	30.92	9.46	37.22	37.98	74.00	-36.02	Horizontal	Peak
6219.51	32.15	32.94	11.01	35.29	40.81	74.00	-33.19	Horizontal	Peak

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The peak level is lower than average limit (54 dBuV/m), this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

802.11g					CH01				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1800.42	36.48	25.40	5.96	37.14	30.70	74.00	-43.30	Vertical	Peak
2965.19	39.87	28.57	7.46	38.25	37.65	74.00	-36.35	Vertical	Peak
4559.15	35.63	30.82	9.39	37.30	38.54	74.00	-35.46	Vertical	Peak
6628.18	32.37	34.20	11.39	35.31	42.65	74.00	-31.35	Vertical	Peak
1746.25	42.39	25.29	5.86	37.03	36.51	74.00	-37.49	Horizontal	Peak
2942.64	38.10	28.54	7.45	38.27	35.82	74.00	-38.18	Horizontal	Peak
5151.68	33.72	31.69	9.79	36.25	38.95	74.00	-35.05	Horizontal	Peak
6713.08	32.22	34.17	11.50	35.15	42.74	74.00	-31.26	Horizontal	Peak

802.11g					CH06				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1668.04	36.06	25.11	5.70	36.86	30.01	74.00	-43.99	Vertical	Peak
3049.39	38.89	28.70	7.54	38.22	36.91	74.00	-37.09	Vertical	Peak
5086.52	35.25	31.85	9.74	36.31	40.53	74.00	-33.47	Vertical	Peak
7432.62	32.52	36.23	12.18	34.85	46.08	74.00	-27.92	Vertical	Peak
1943.29	38.01	25.74	6.18	37.25	32.68	74.00	-41.32	Horizontal	Peak
3018.50	39.74	28.64	7.50	38.23	37.65	74.00	-36.35	Horizontal	Peak
4559.15	36.13	30.82	9.39	37.30	39.04	74.00	-34.96	Horizontal	Peak
6461.58	32.87	33.73	11.10	35.33	42.37	74.00	-31.63	Horizontal	Peak

802.11g					CH11				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1741.81	37.61	25.29	5.85	37.02	31.73	74.00	-42.27	Vertical	Peak
2987.92	41.34	28.59	7.47	38.24	39.16	74.00	-34.84	Vertical	Peak
4559.15	39.03	30.82	9.39	37.30	41.94	74.00	-32.06	Vertical	Peak
6833.77	33.01	34.24	11.64	34.96	43.93	74.00	-30.07	Vertical	Peak
1741.81	37.61	25.29	5.85	37.02	31.73	74.00	-42.27	Horizontal	Peak
2965.19	39.43	28.57	7.46	38.25	37.21	74.00	-36.79	Horizontal	Peak
4455.89	37.19	30.61	9.22	37.47	39.55	74.00	-34.45	Horizontal	Peak
6347.47	31.89	33.20	11.00	35.30	40.79	74.00	-33.21	Horizontal	Peak

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The peak level is lower than average limit(54 dBuV/m), this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

802.11n(HT20)					CH01				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1498.91	35.20	25.80	5.28	36.59	29.69	74.00	-44.31	Vertical	Peak
3135.99	36.76	28.80	7.64	38.21	34.99	74.00	-39.01	Vertical	Peak
4559.15	35.63	30.82	9.39	37.30	38.54	74.00	-35.46	Vertical	Peak
7190.69	31.94	36.14	11.86	35.07	44.87	74.00	-29.13	Vertical	Peak
1296.47	36.44	26.20	4.82	36.52	30.94	74.00	-43.06	Horizontal	Peak
3003.17	36.85	28.61	7.48	38.23	34.71	74.00	-39.29	Horizontal	Peak
4712.55	33.81	31.25	9.51	37.08	37.49	74.00	-36.51	Horizontal	Peak
6379.86	32.05	33.26	10.99	35.31	40.99	74.00	-33.01	Horizontal	Peak

802.11n(HT20)					CH06				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1668.04	36.06	25.11	5.70	36.86	30.01	74.00	-43.99	Vertical	Peak
3168.08	37.50	28.80	7.68	38.20	35.78	74.00	-38.22	Vertical	Peak
4310.85	34.81	30.23	9.05	37.60	36.49	74.00	-37.51	Vertical	Peak
7209.02	32.17	36.21	11.87	35.07	45.18	74.00	-28.82	Vertical	Peak
1442.76	36.20	25.86	5.12	36.52	30.66	74.00	-43.34	Horizontal	Peak
3018.50	39.74	28.64	7.50	38.23	37.65	74.00	-36.35	Horizontal	Peak
4343.90	35.21	30.33	9.08	37.59	37.03	74.00	-36.97	Horizontal	Peak
6461.58	32.87	33.73	11.10	35.33	42.37	74.00	-31.63	Horizontal	Peak

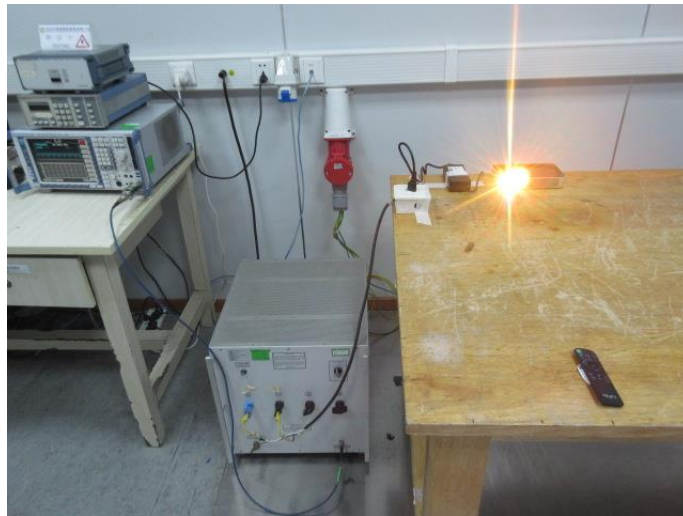
802.11n(HT20)					CH11				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1741.81	37.61	25.29	5.85	37.02	31.73	74.00	-42.27	Vertical	Peak
4267.18	35.93	30.13	9.00	37.62	37.44	74.00	-36.56	Vertical	Peak
5747.59	33.56	31.84	10.51	35.46	40.45	74.00	-33.55	Vertical	Peak
8002.06	33.08	37.10	12.30	34.53	47.95	74.00	-26.05	Vertical	Peak
1336.68	34.71	26.09	4.89	36.49	29.20	74.00	-44.80	Horizontal	Peak
4278.06	35.41	30.16	9.01	37.61	36.97	74.00	-37.03	Horizontal	Peak
6347.47	31.89	33.20	11.00	35.30	40.79	74.00	-33.21	Horizontal	Peak
7117.84	32.75	35.71	11.86	34.96	45.36	74.00	-28.64	Horizontal	Peak

Remark:

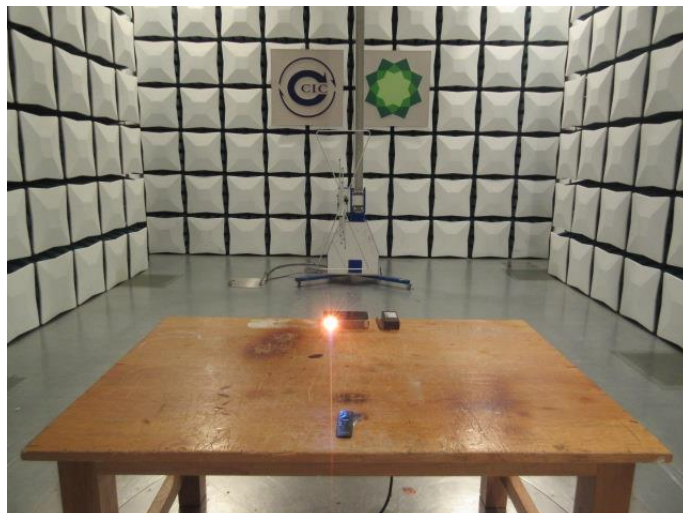
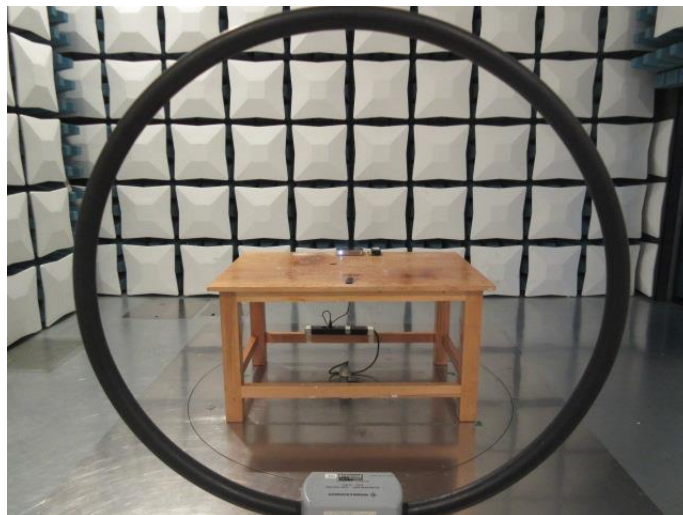
1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The peak level is lower than average limit(54 dBuV/m), this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

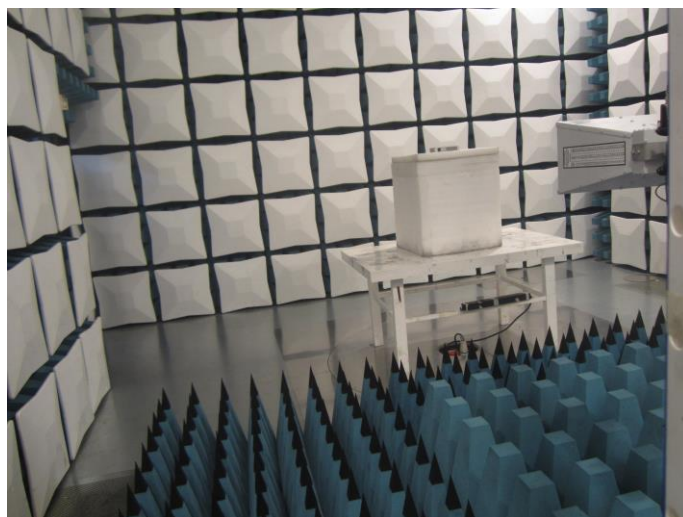
6. TEST SETUP PHOTOS

Conducted Emissions



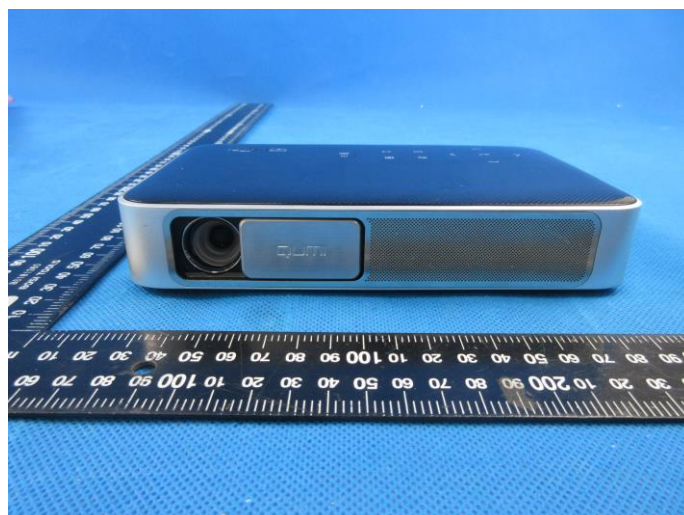
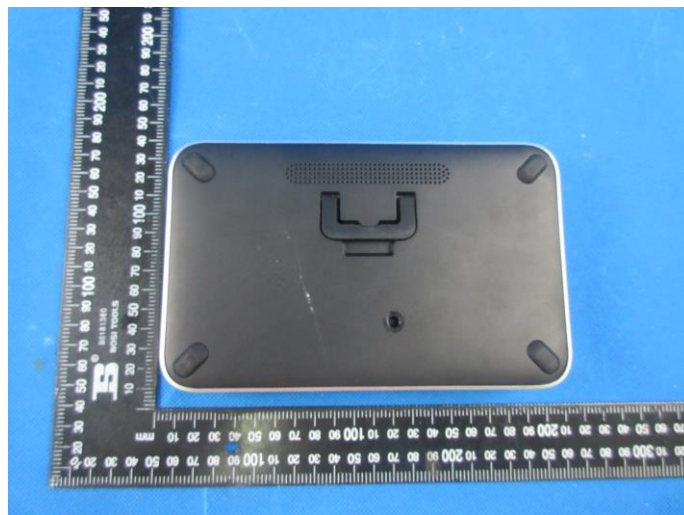
Radiated Emissions

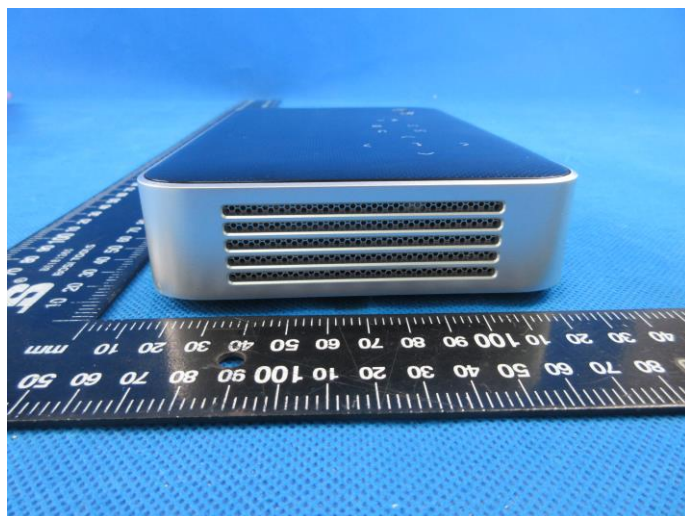
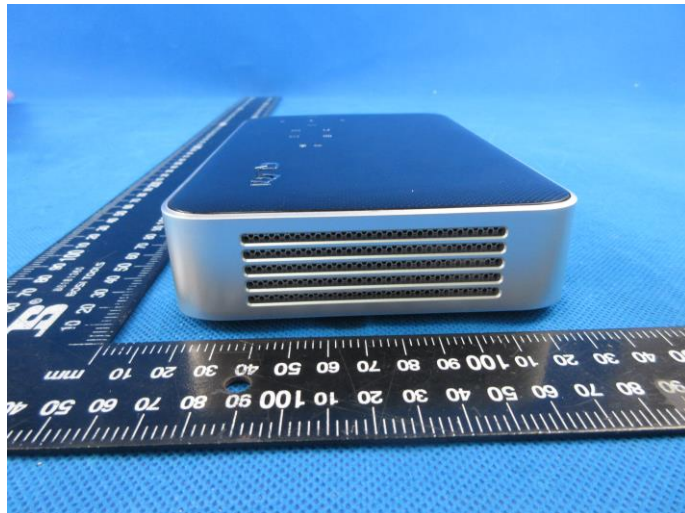




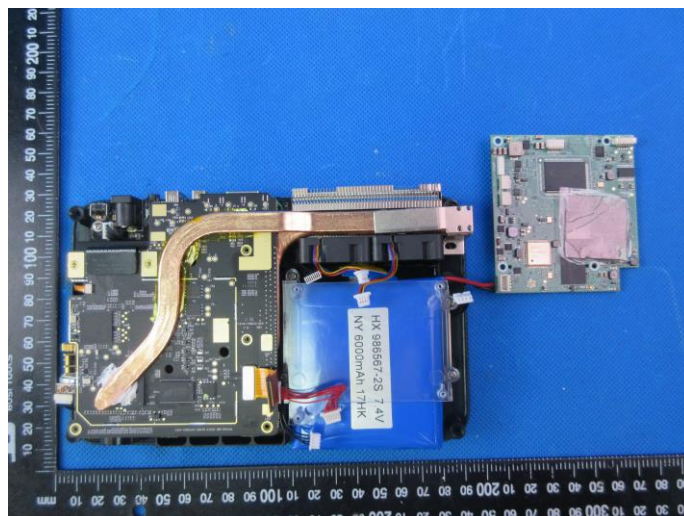
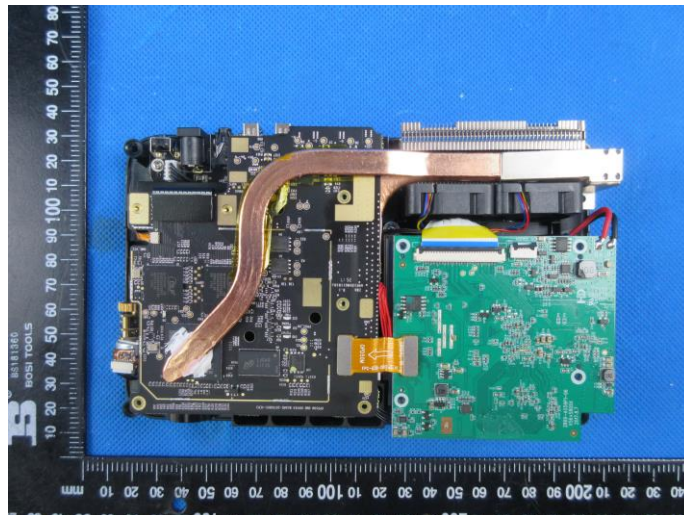
7. EXTERNAL AND INTERNAL PHOTOS

External Photos of the EUT

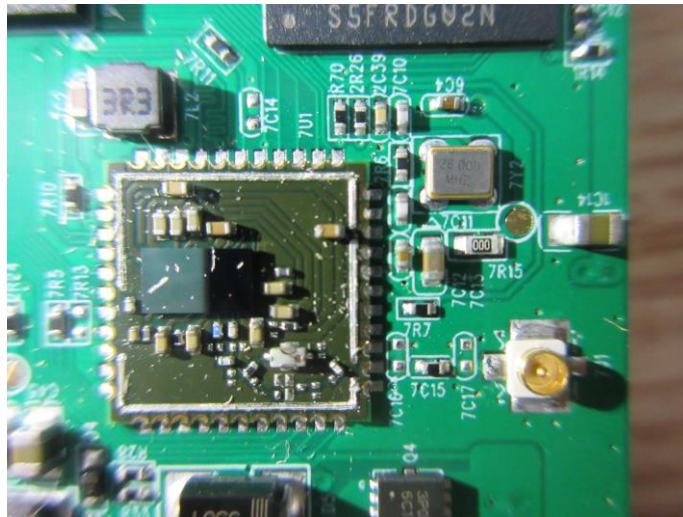


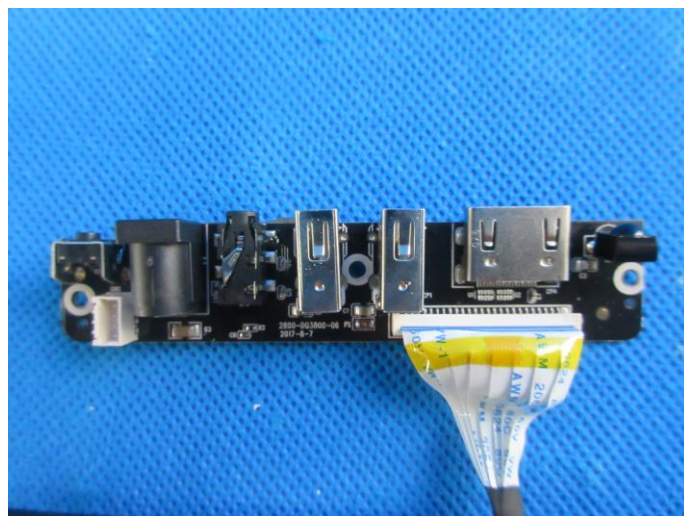
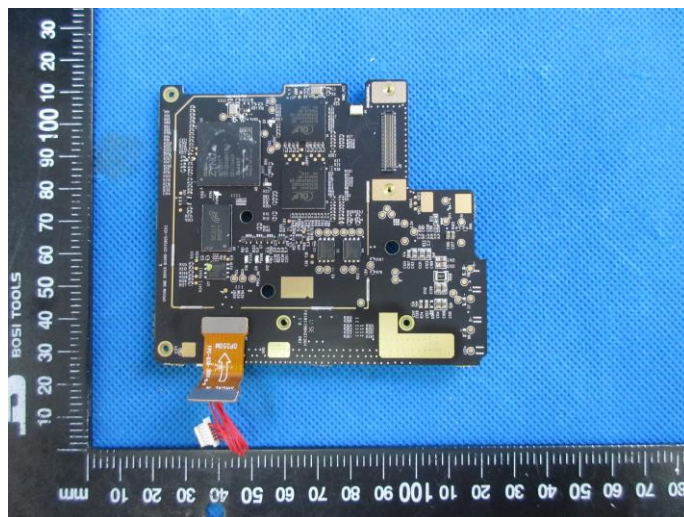
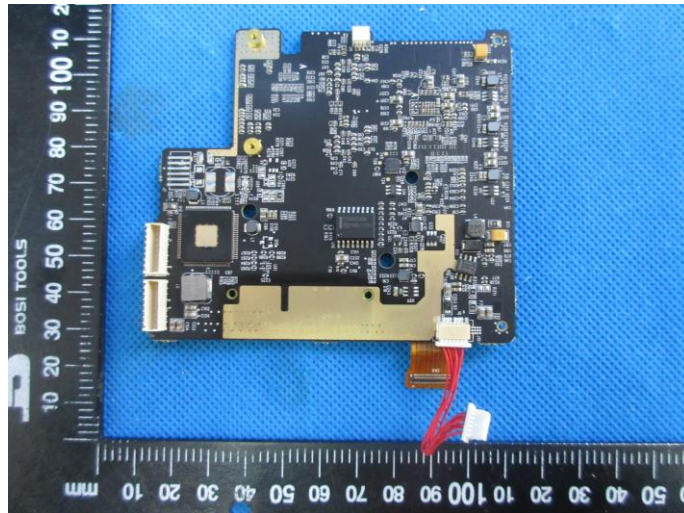


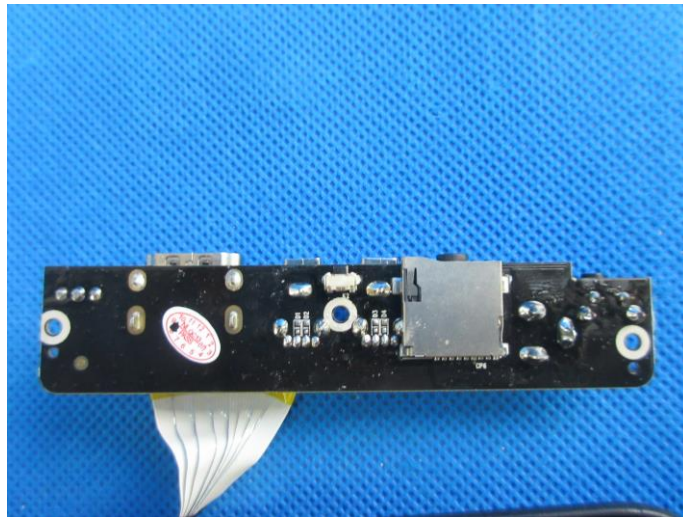
Internal Photos of the EUT











.....End of Report.....