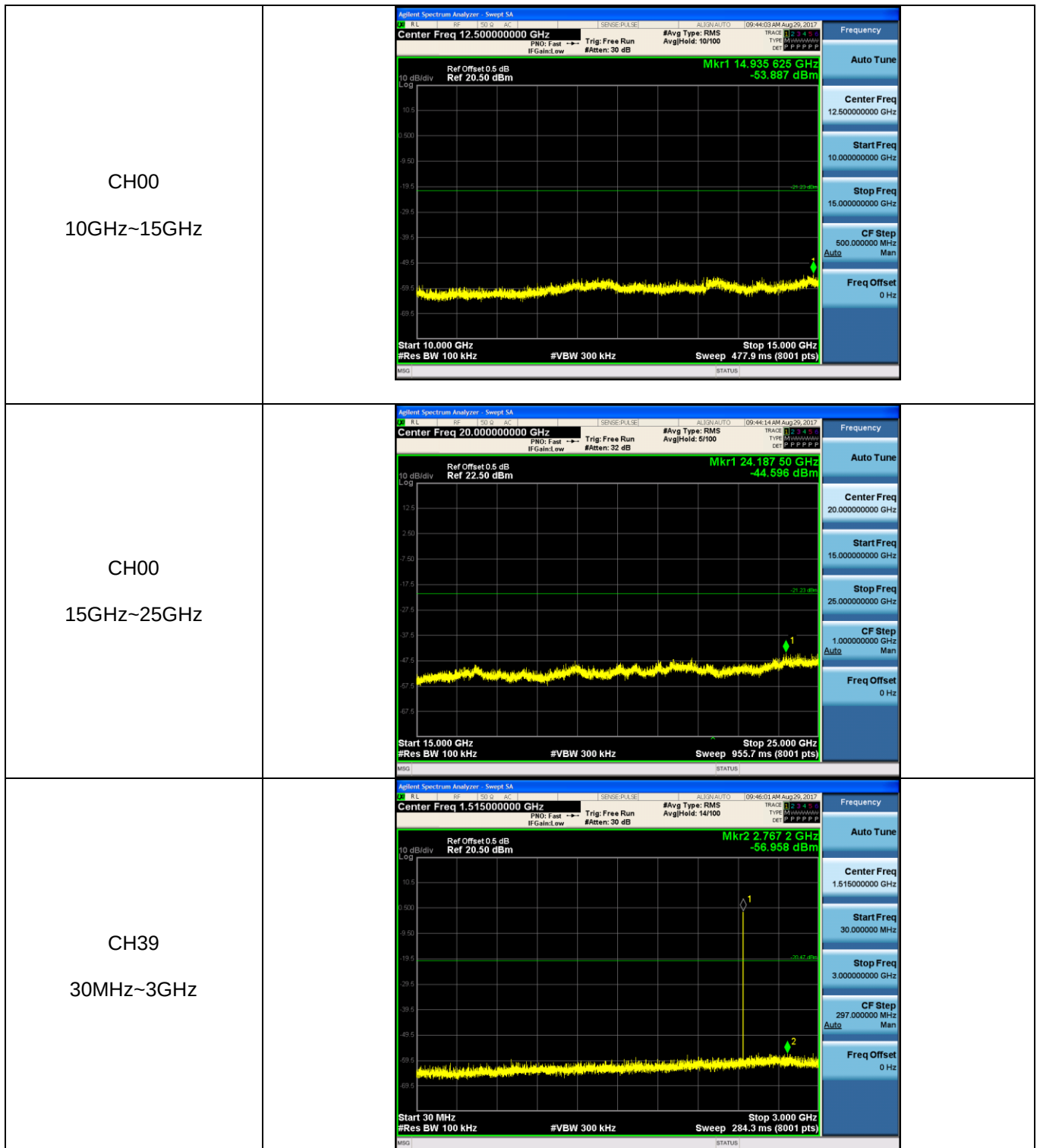
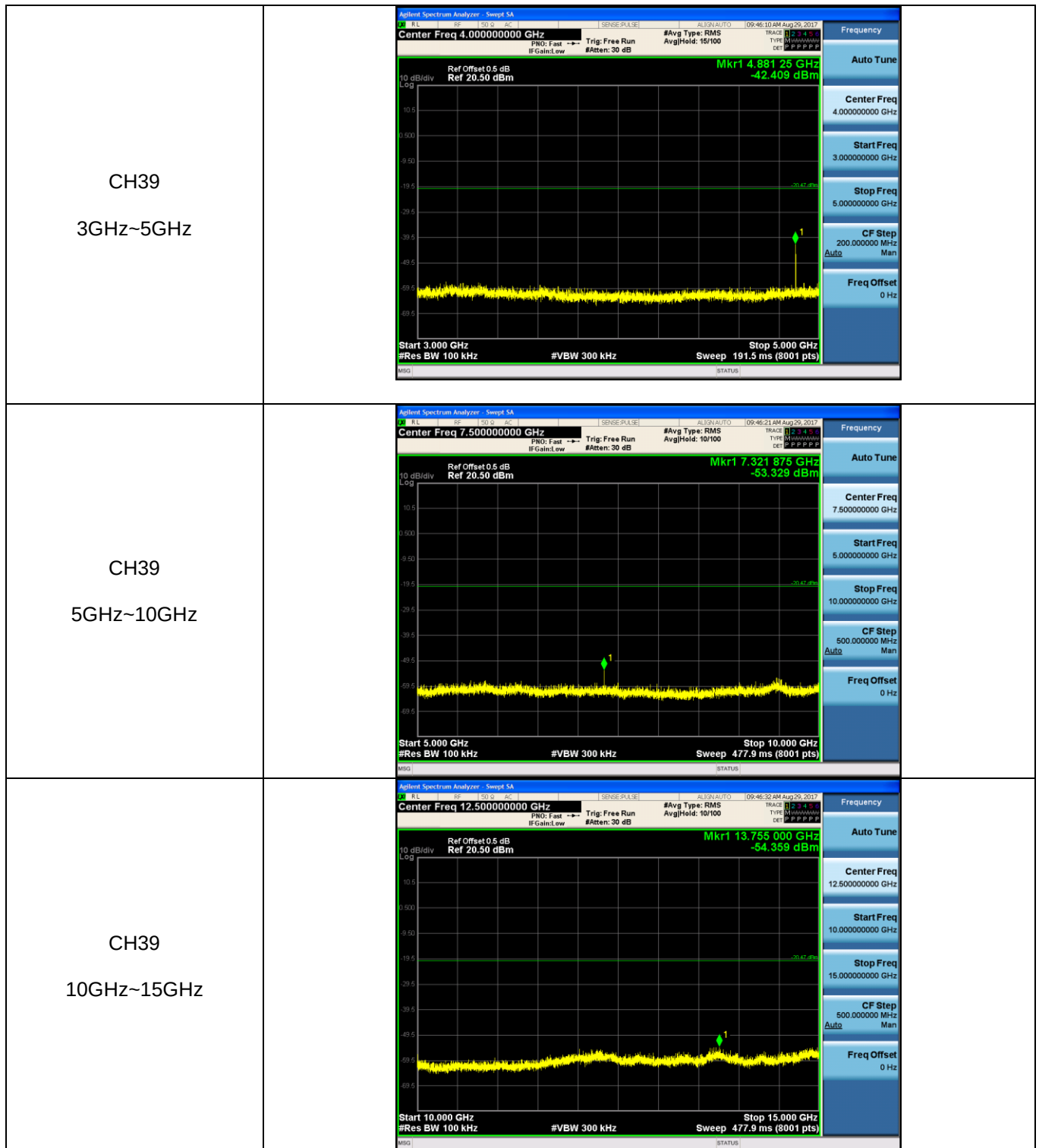
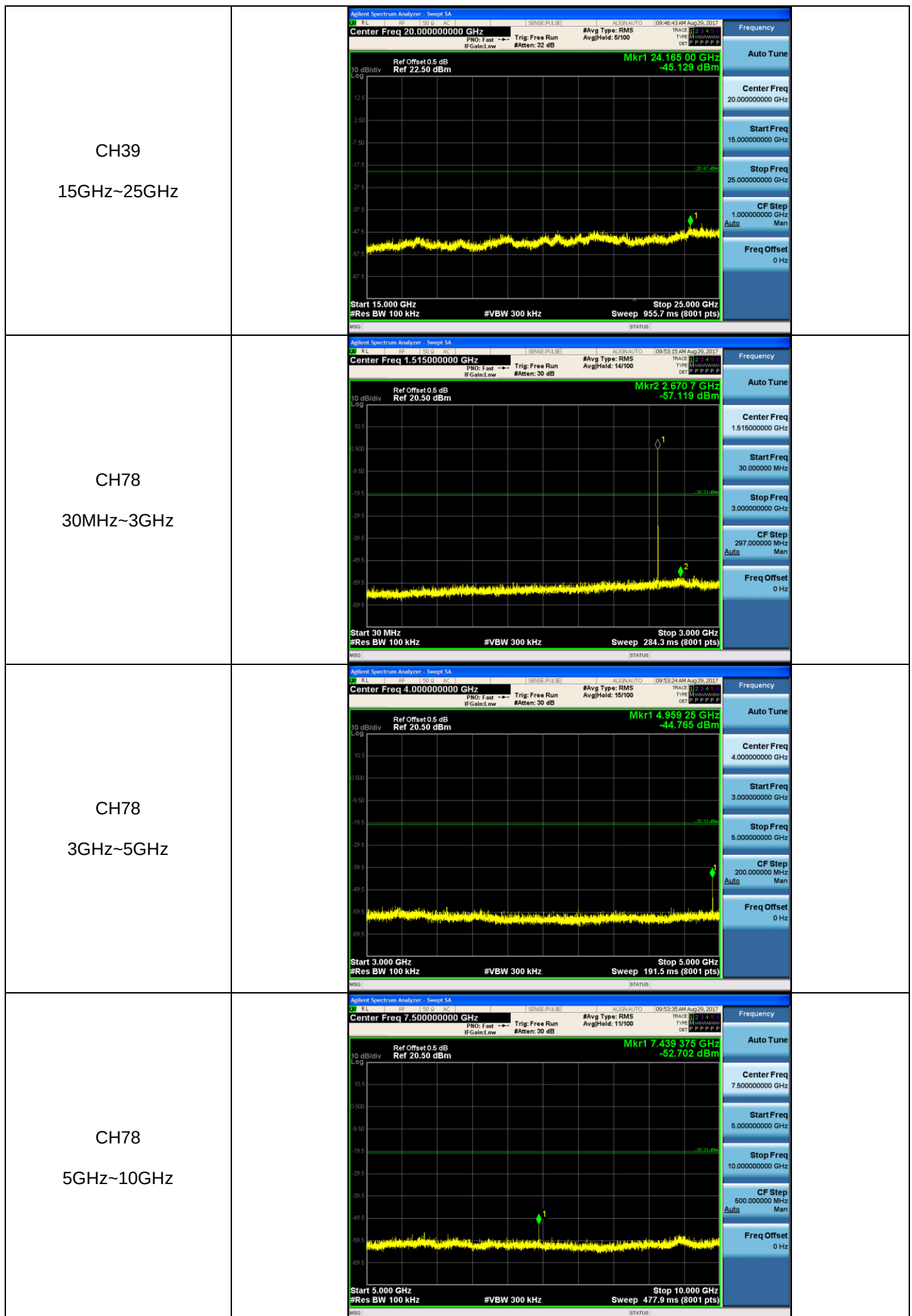
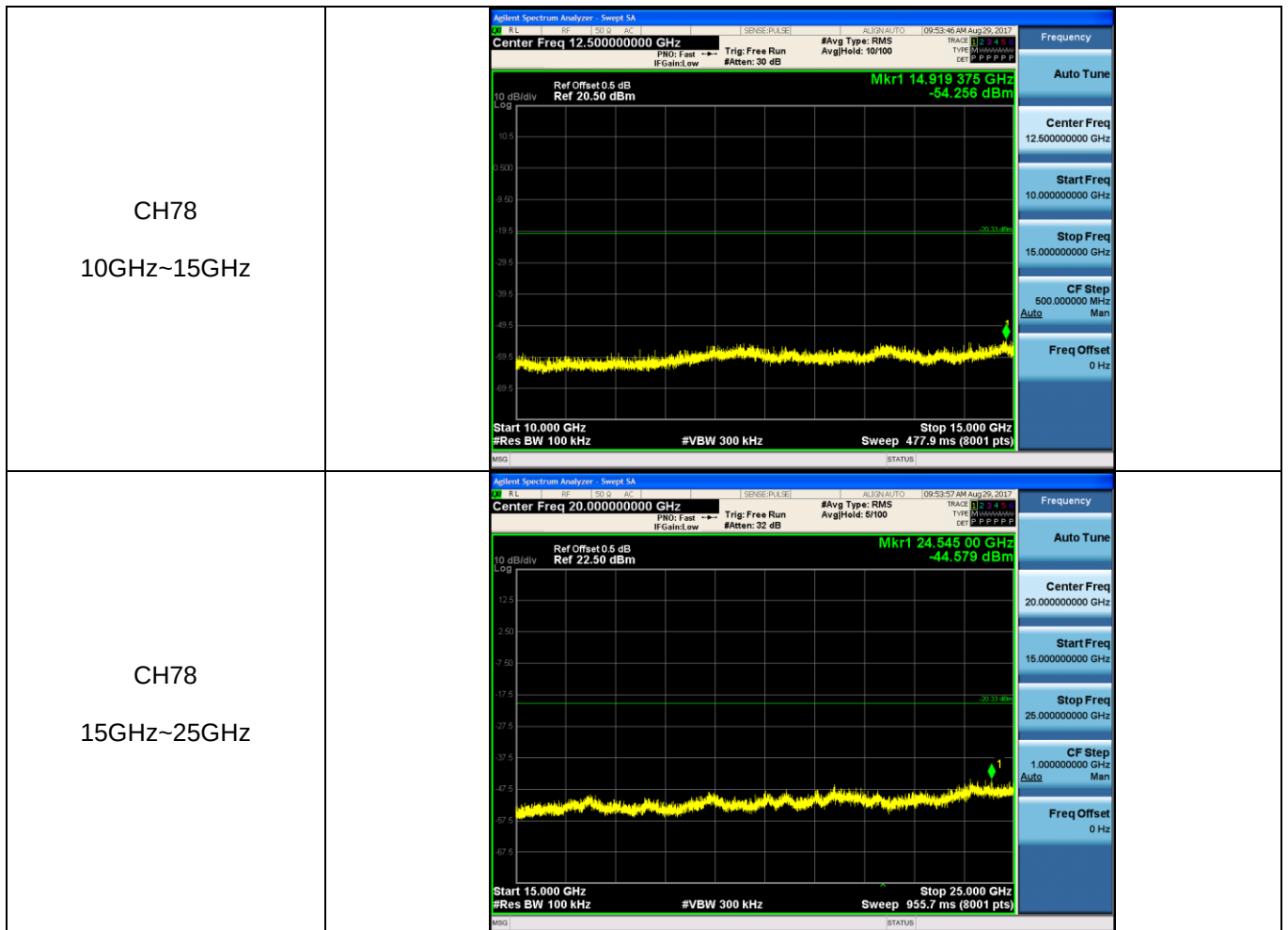
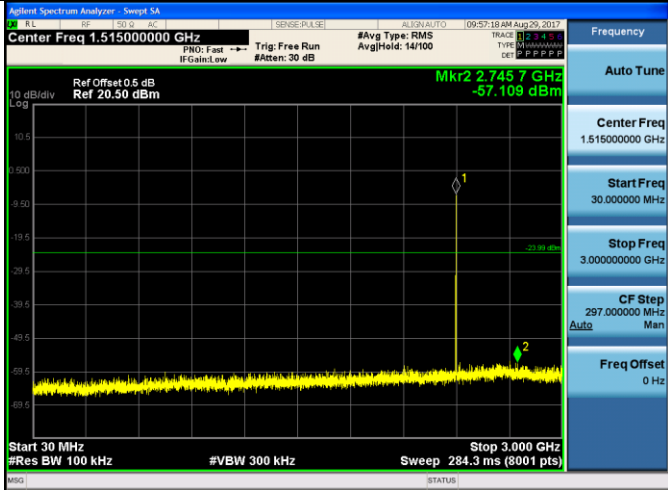
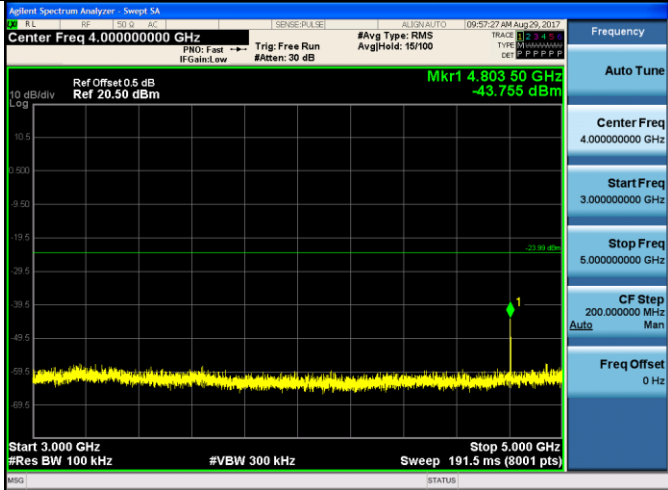
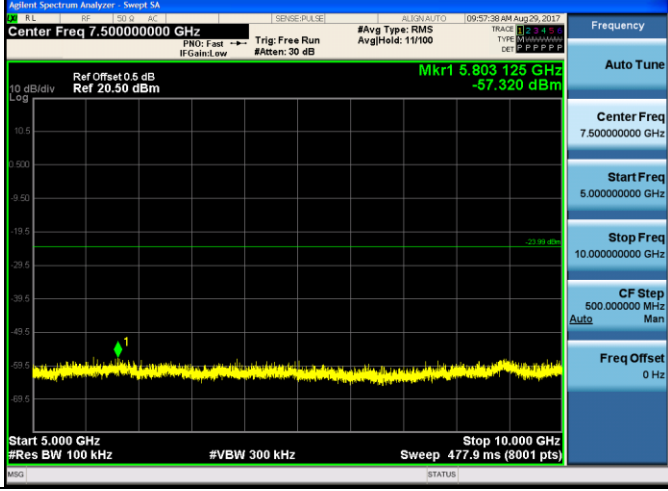


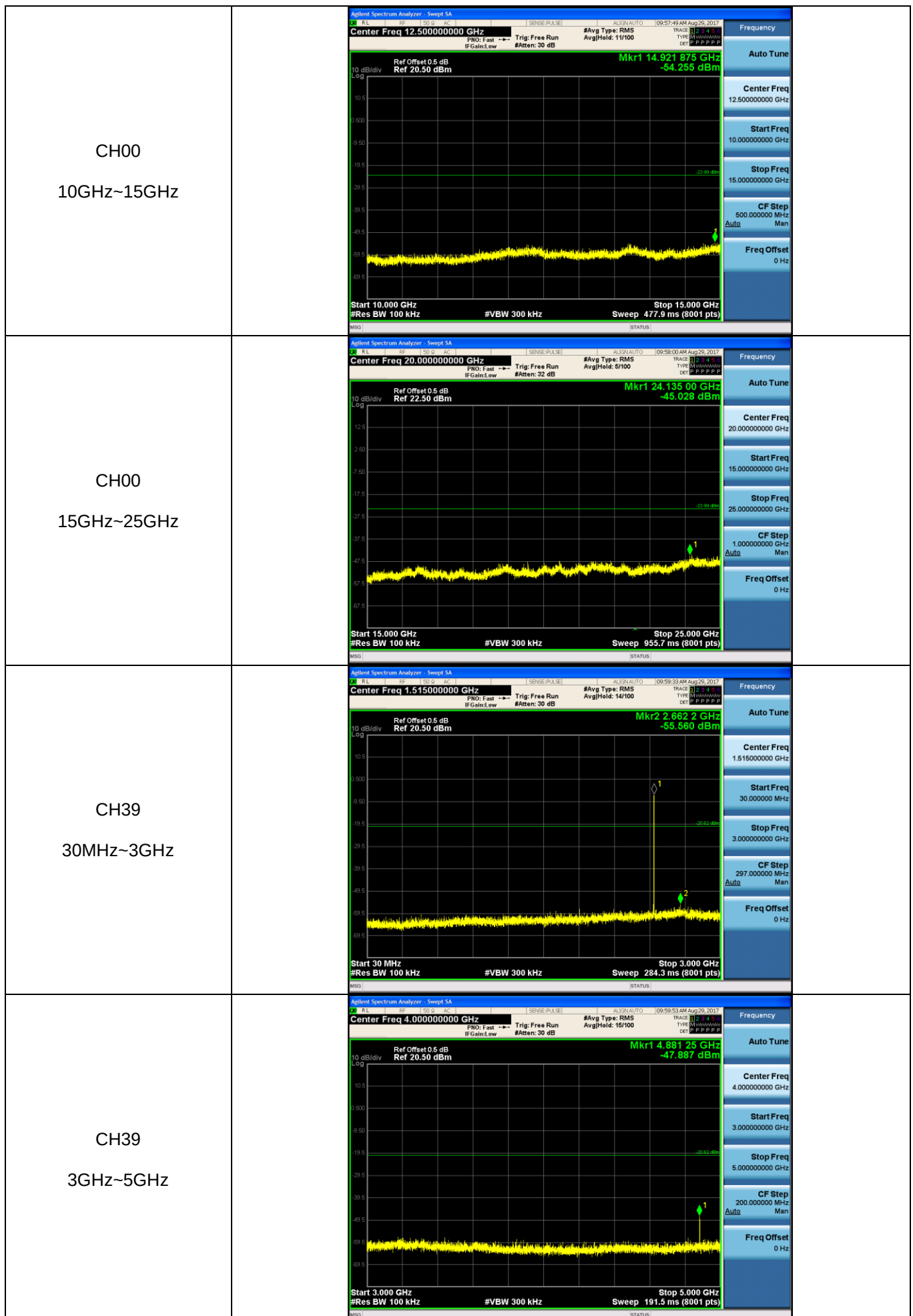


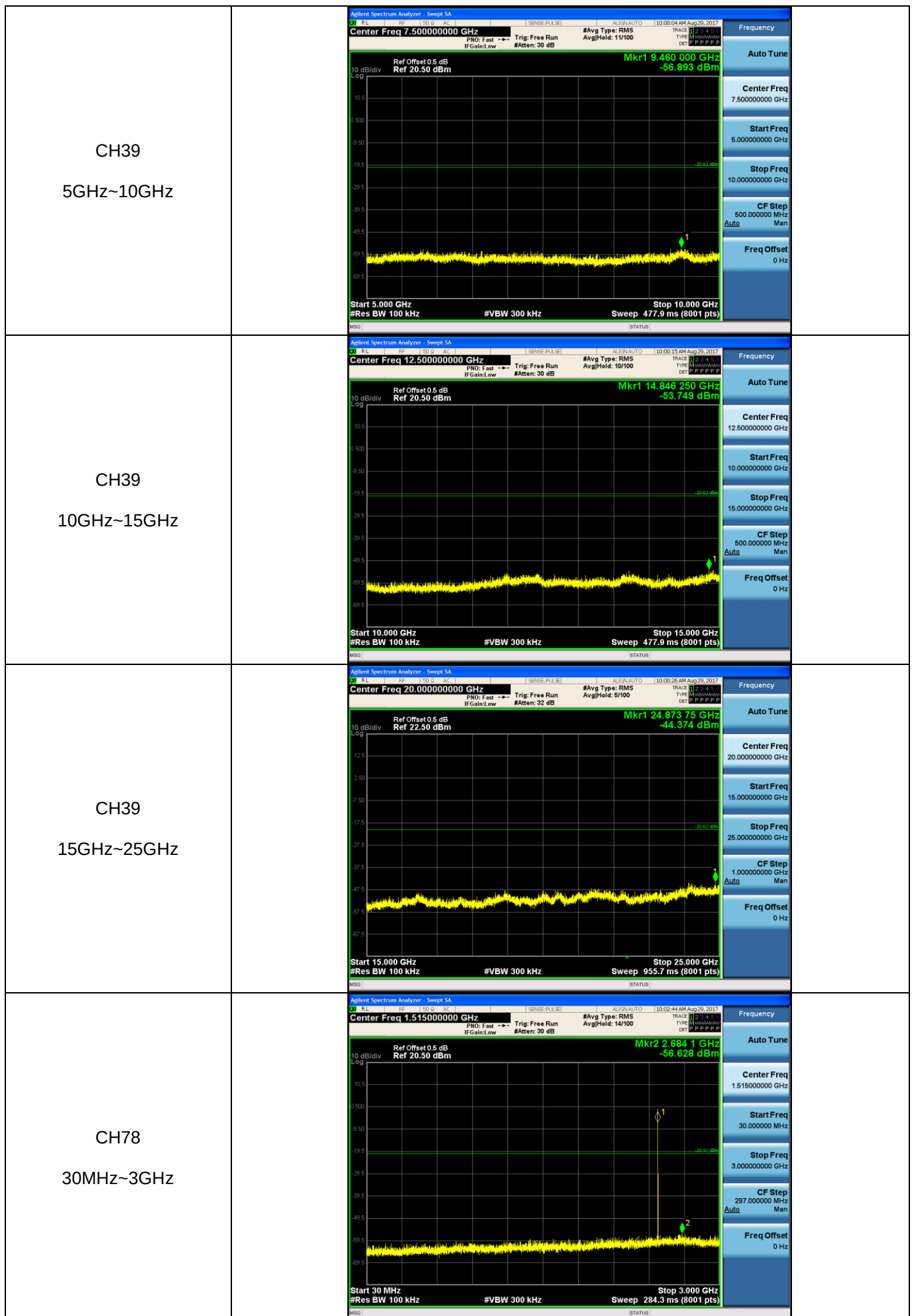


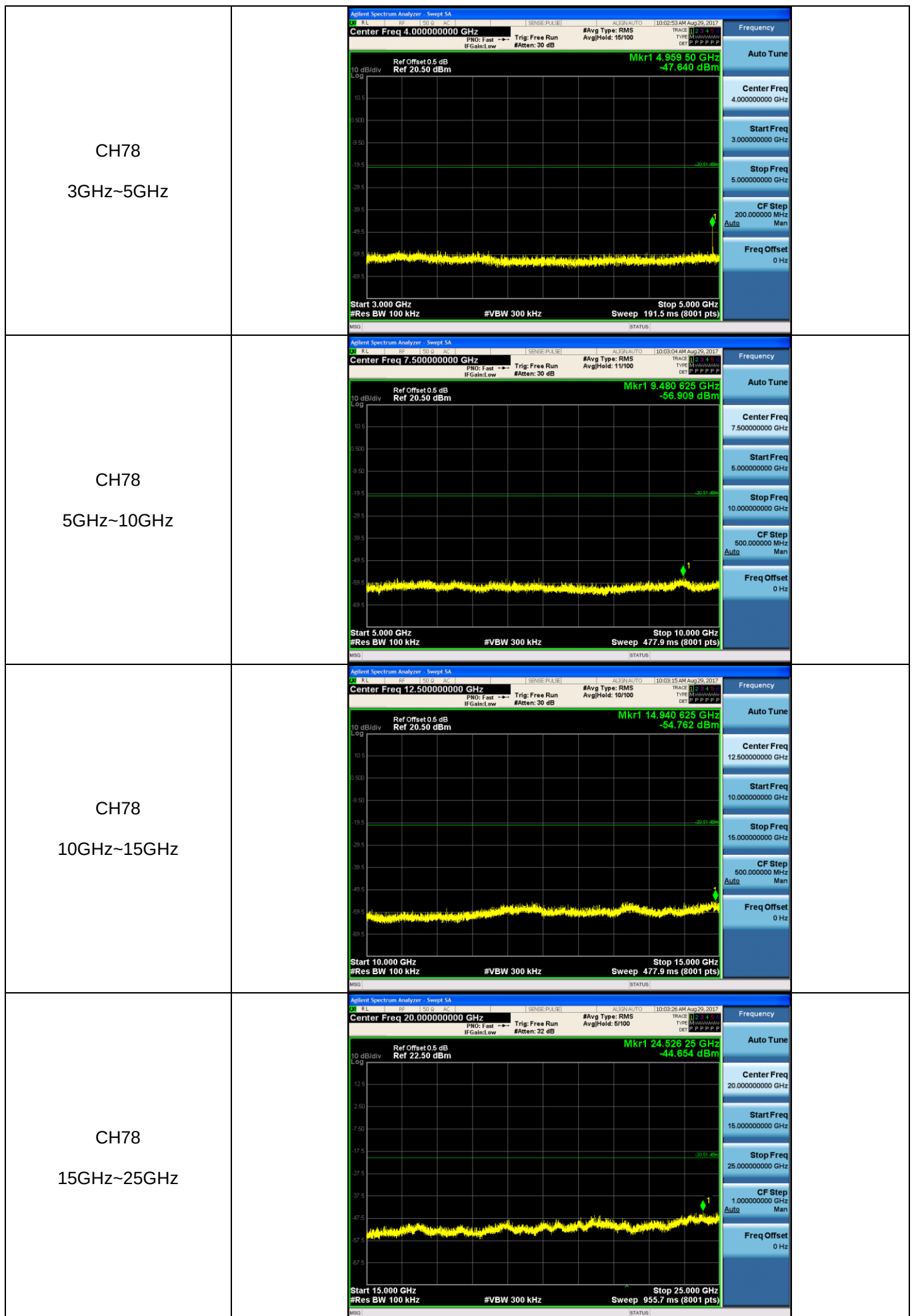


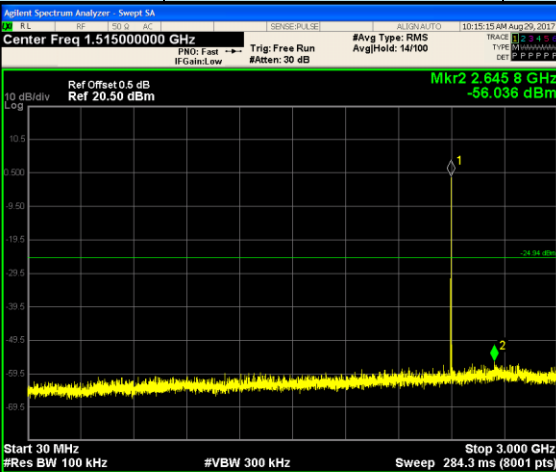
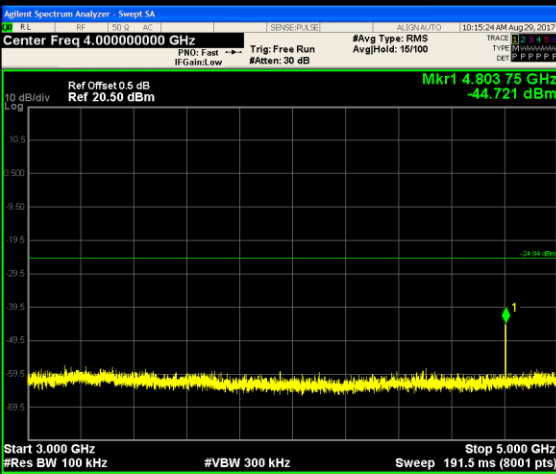
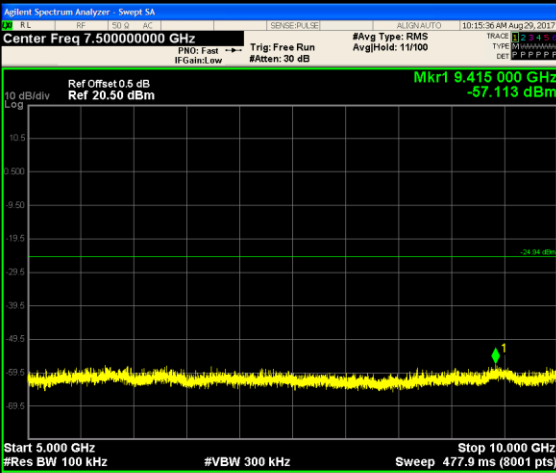


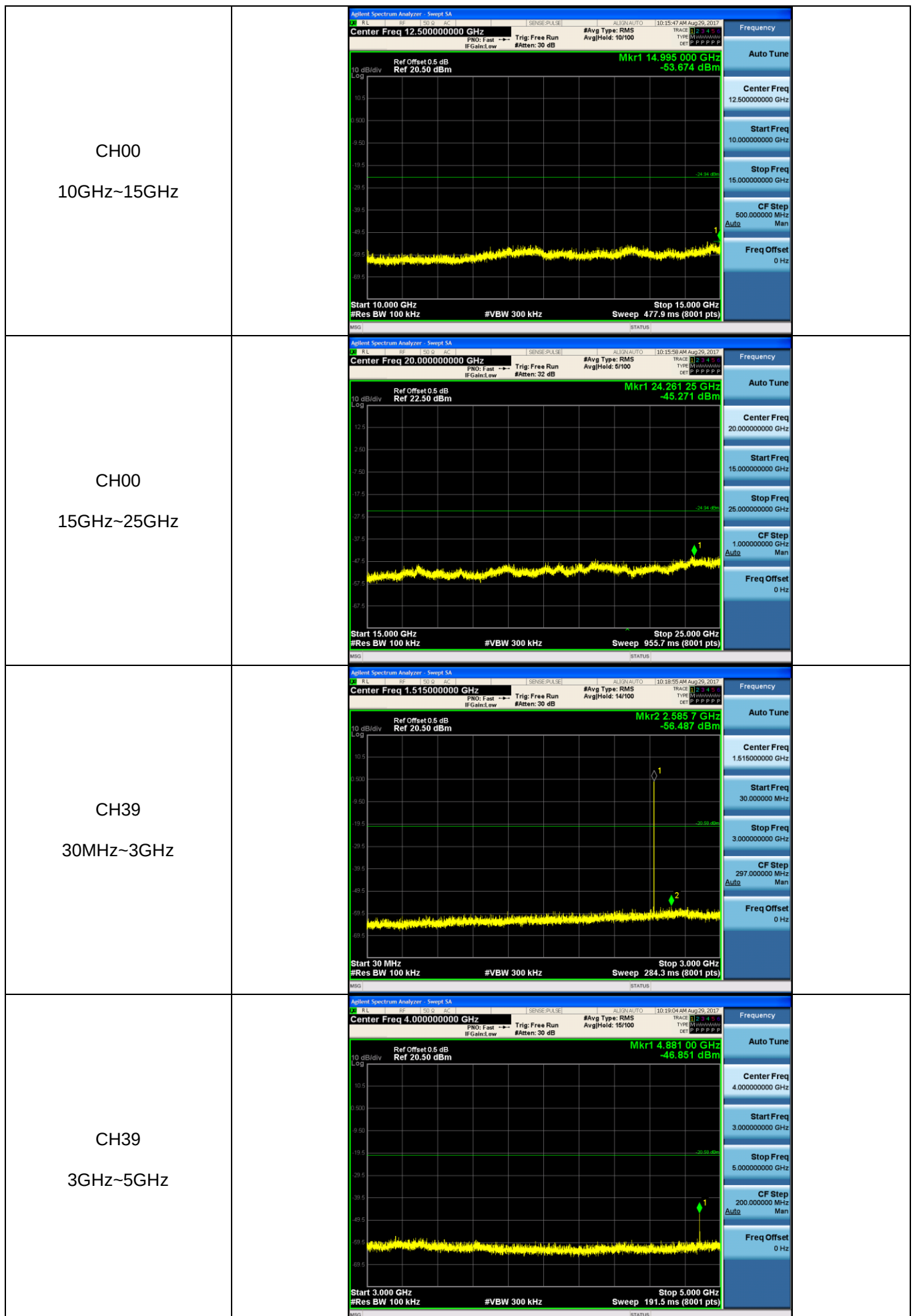
Test Item:	SE	Modulation type:	$\pi/4$ DQPSK
CH00 30MHz~3GHz			
CH00 3GHz~5GHz			
CH00 5GHz~10GHz			

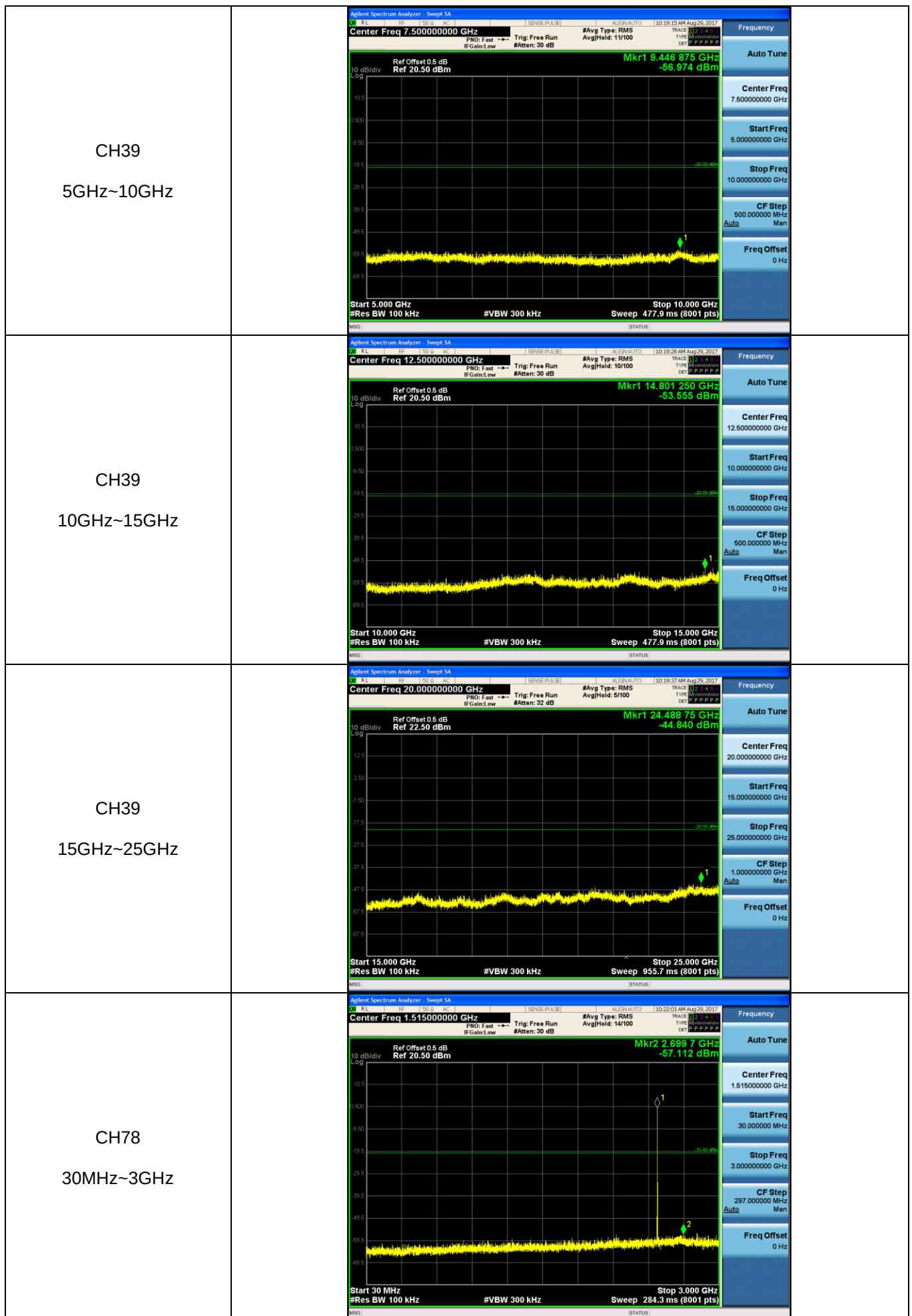


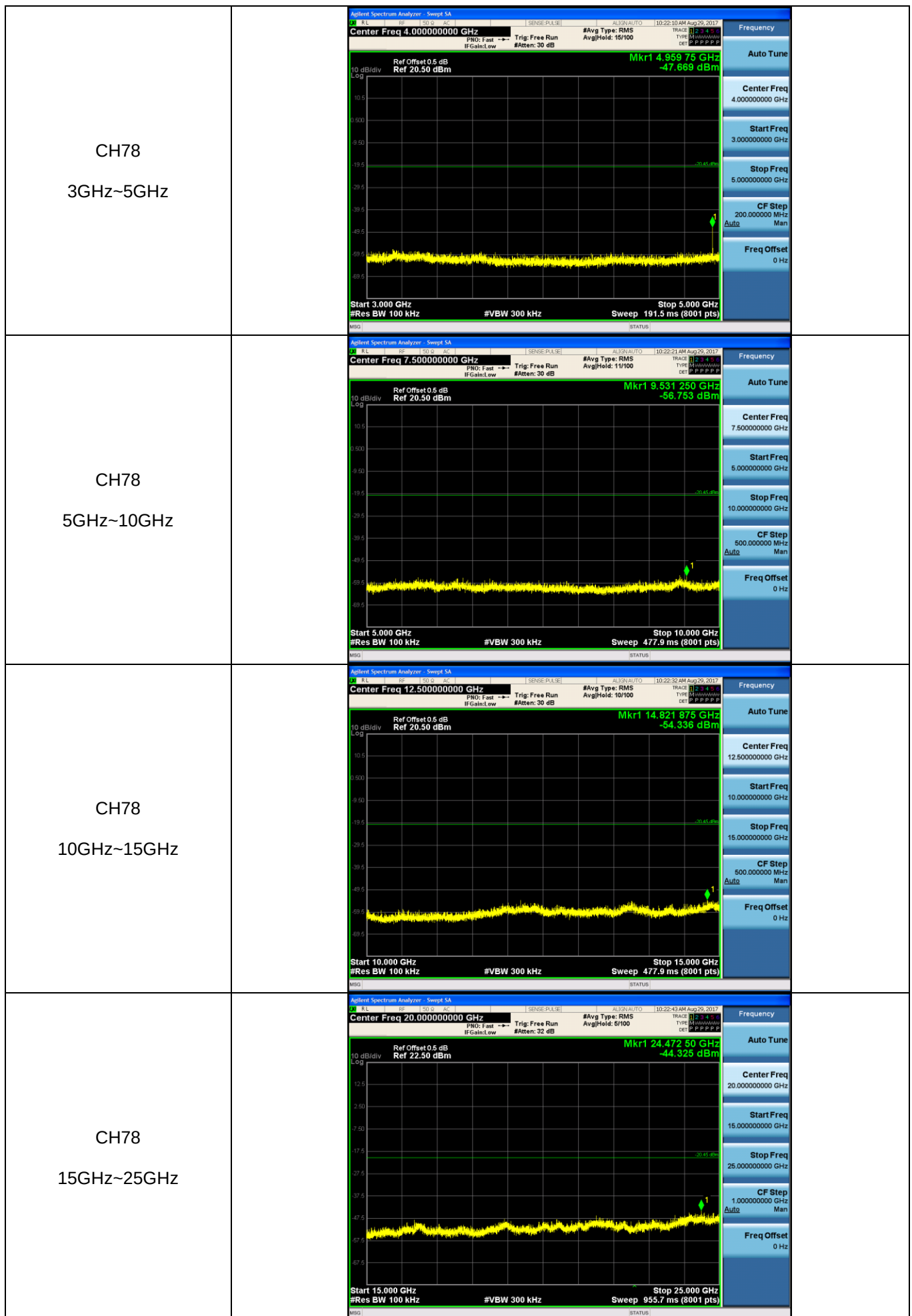




Test Item:	SE	Modulation type:	8DPSK
CH00 30MHz~3GHz			
CH00 3GHz~5GHz			
CH00 5GHz~10GHz			







5.11. Spurious Emissions (radiated)

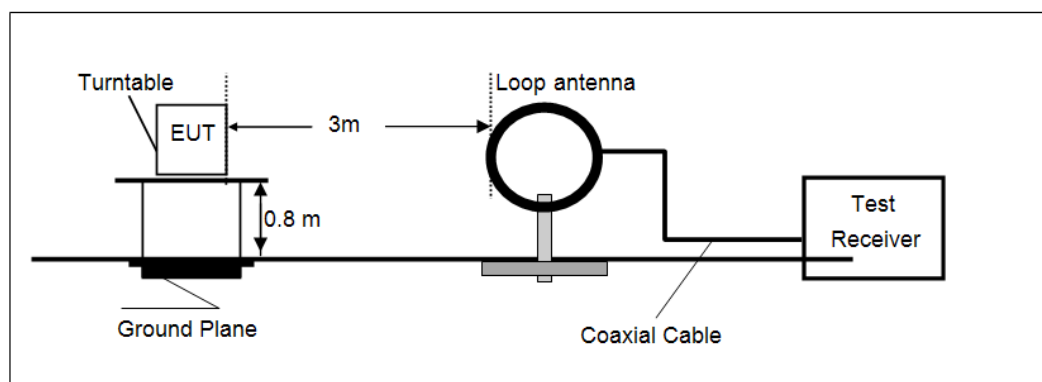
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209

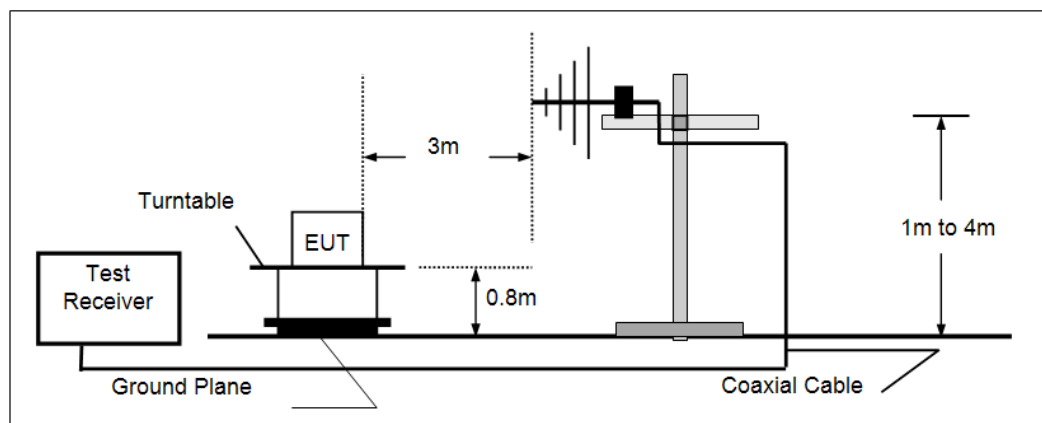
Frequency	Limit (dBuV/m @3m)	Value
30 MHz ~ 88 MHz	40.00	Quasi-peak
88 MHz ~ 216 MHz	43.50	Quasi-peak
216 MHz ~ 960 MHz	46.00	Quasi-peak
960 MHz ~ 1 GHz	54.00	Quasi-peak
Above 1 GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

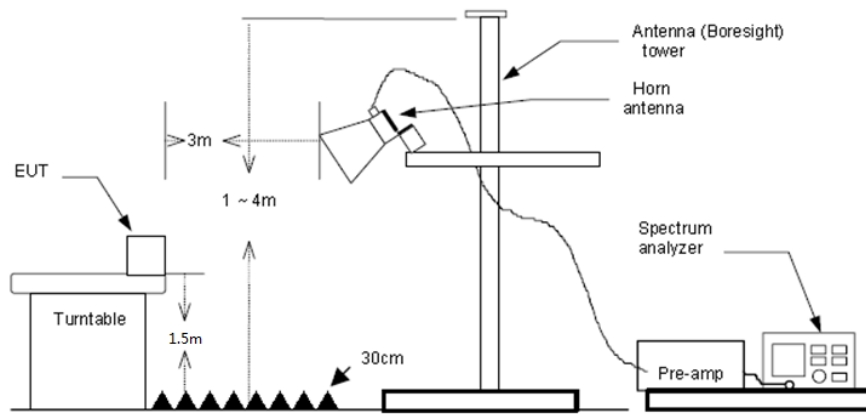
➤ Below 30 MHz



➤ 30 MHz ~1000 MHz



➤ Above 1 GHz



TEST PROCEDURE

1. The EUT was tested according to ANSI C63.10:2013.
2. The EUT is placed on a turntable 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 1 GHz, RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, 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 1 GHz, RBW=1 MHz, VBW=3 MHz Peak detector for Peak value
RBW=1 MHz, VBW=10 Hz Peak detector for Average value.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☒ Passed ☐ Not Applicable

Note:

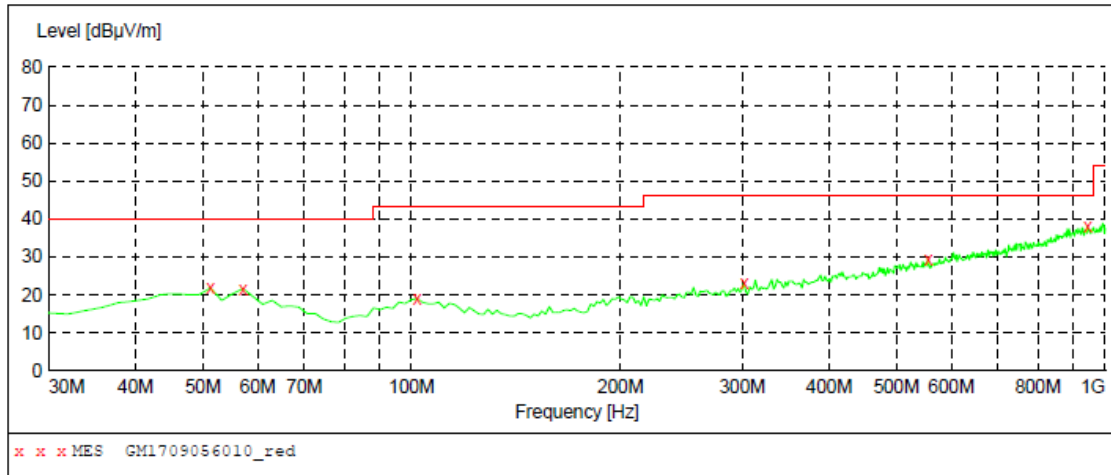
- 1) Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2) The emission levels of other frequencies are very lower than the limit and not show in test report.
- 3) Below 1 GHz, Have pre-scan all modulation mode, found the GFSK modulation High channel which it was worst case, so only the worst case's data on the test report.
- 4) Above 1 GHz, Have pre-scan all modulation mode, found the GFSK modulation which it was worst case, so only the worst case's data on the test report
- 5) The peak level is lower than average limit (54 dBuV/m), this data is the too weak instrument of signal is unable to test.

➤ 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.

➤ 30 MHz ~ 1 GHz

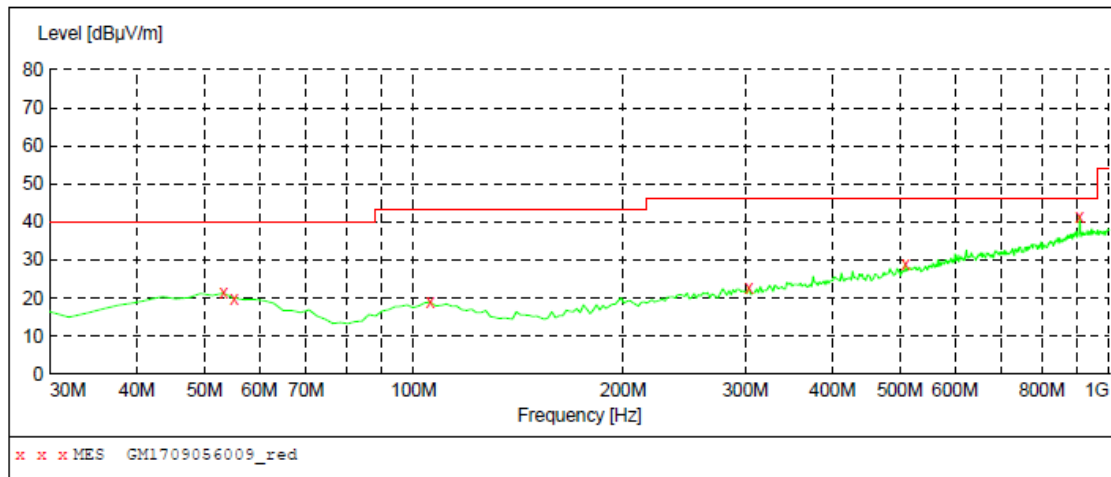
Polarization: Vertical

**MEASUREMENT RESULT: "GM1709056010_red"**

9/5/2017 10:00AM

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
51.340000	21.90	-8.8	40.0	18.1	QP	100.0	119.00	VERTICAL
57.160000	21.70	-9.4	40.0	18.3	QP	100.0	345.00	VERTICAL
101.780000	19.10	-10.5	43.5	24.4	QP	100.0	305.00	VERTICAL
301.600000	23.10	-7.2	46.0	22.9	QP	100.0	52.00	VERTICAL
555.740000	29.40	-0.6	46.0	16.6	QP	100.0	333.00	VERTICAL
943.740000	38.10	7.2	46.0	7.9	QP	100.0	137.00	VERTICAL

Polarization: Horizontal

**MEASUREMENT RESULT: "GM1709056009_red"**

9/5/2017 9:56AM

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
53.280000	21.30	-9.0	40.0	18.7	QP	300.0	155.00	HORIZONTAL
55.220000	20.00	-9.2	40.0	20.0	QP	300.0	155.00	HORIZONTAL
105.660000	19.00	-10.5	43.5	24.5	QP	100.0	0.00	HORIZONTAL
303.540000	22.70	-7.2	46.0	23.3	QP	300.0	360.00	HORIZONTAL
509.180000	28.80	-1.5	46.0	17.2	QP	300.0	155.00	HORIZONTAL
906.880000	41.40	6.8	46.0	4.6	QP	300.0	235.00	HORIZONTAL

➤ Above 1 GHz

CH00									
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
1724.17	45.74	25.25	5.81	36.98	39.82	74.00	-34.18	Vertical	Peak
3003.17	42.02	28.61	7.48	38.23	39.88	74.00	-34.12	Vertical	Peak
4809.50	45.78	31.58	9.55	36.93	49.98	74.00	-24.02	Vertical	Peak
7209.02	33.55	36.21	11.87	35.07	46.56	74.00	-27.44	Vertical	Peak
2097.51	42.28	26.69	6.35	37.32	38.00	74.00	-36.00	Horizontal	Peak
3579.82	37.51	29.24	8.24	38.30	36.69	74.00	-37.31	Horizontal	Peak
4809.50	44.20	31.58	9.55	36.93	48.40	74.00	-25.60	Horizontal	Peak
7209.02	35.61	36.21	11.87	35.07	48.62	74.00	-25.38	Horizontal	Peak

CH39									
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
2097.51	46.62	26.69	6.35	37.32	42.34	74.00	-31.66	Vertical	Peak
3200.50	39.63	28.80	7.72	38.20	37.95	74.00	-36.05	Vertical	Peak
4883.52	47.05	31.43	9.59	36.73	51.34	74.00	-22.66	Vertical	Peak
7319.96	34.76	36.30	11.99	34.92	48.13	74.00	-25.87	Vertical	Peak
4883.52	34.95	31.43	9.59	36.73	39.24	54.00	-14.76	Vertical	Average
3003.17	38.95	28.61	7.48	38.23	36.81	74.00	-37.19	Horizontal	Peak
3299.78	45.17	28.20	7.84	38.37	42.84	74.00	-31.16	Horizontal	Peak
4883.52	44.52	31.43	9.59	36.73	48.81	74.00	-25.19	Horizontal	Peak
7319.96	33.66	36.30	11.99	34.92	47.03	74.00	-26.97	Horizontal	Peak
4883.52	28.45	31.43	9.59	36.73	32.74	54.00	-21.26	Horizontal	Average

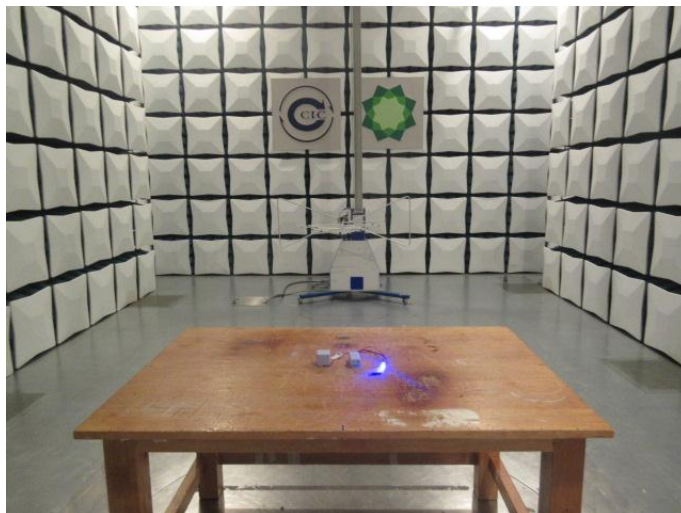
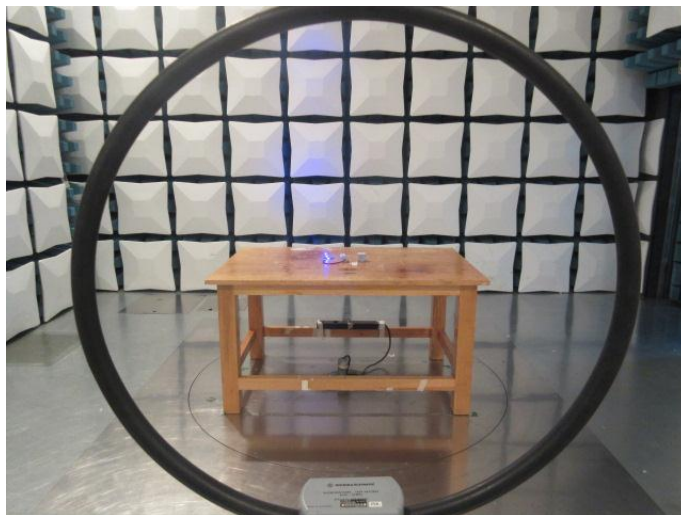
CH78									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1498.91	45.27	25.80	5.28	36.59	39.76	74.00	-34.24	Vertical	Peak
3192.37	39.38	28.80	7.71	38.20	37.69	74.00	-36.31	Vertical	Peak
4958.68	48.85	31.46	9.64	36.52	53.43	74.00	-20.57	Vertical	Peak
7451.57	35.64	36.20	12.24	34.86	49.22	74.00	-24.78	Vertical	Peak
4958.68	34.10	31.46	9.64	36.52	38.68	54.00	-15.32	Vertical	Average
1498.91	41.64	25.80	5.28	36.59	36.13	74.00	-37.87	Horizontal	Peak
3299.78	39.26	28.20	7.84	38.37	36.93	74.00	-37.07	Horizontal	Peak
4958.68	52.85	31.46	9.64	36.52	57.43	74.00	-16.57	Horizontal	Peak
7451.57	33.16	36.20	12.24	34.86	46.74	74.00	-27.26	Horizontal	Peak
4958.68	30.31	31.46	9.64	36.52	34.89	54.00	-19.11	Horizontal	Average

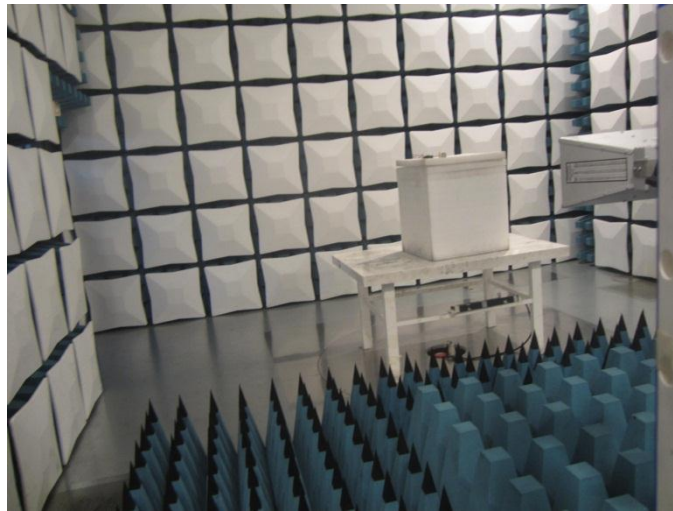
6. TEST SETUP PHOTOS

Conducted Emissions (AC Mains)



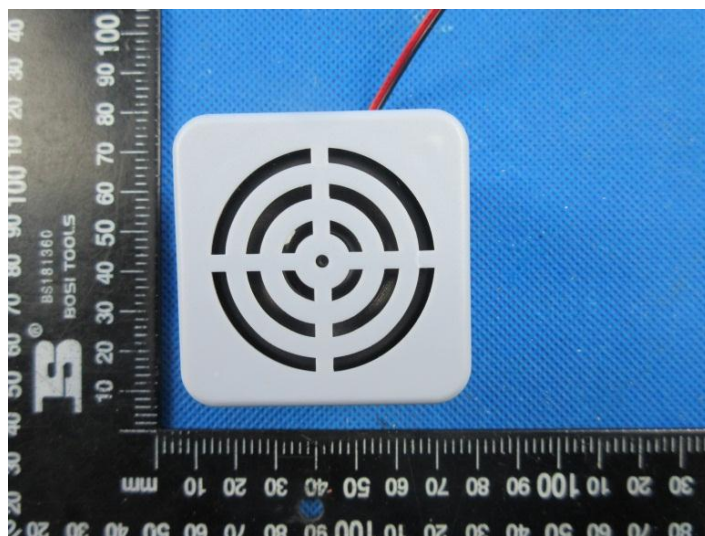
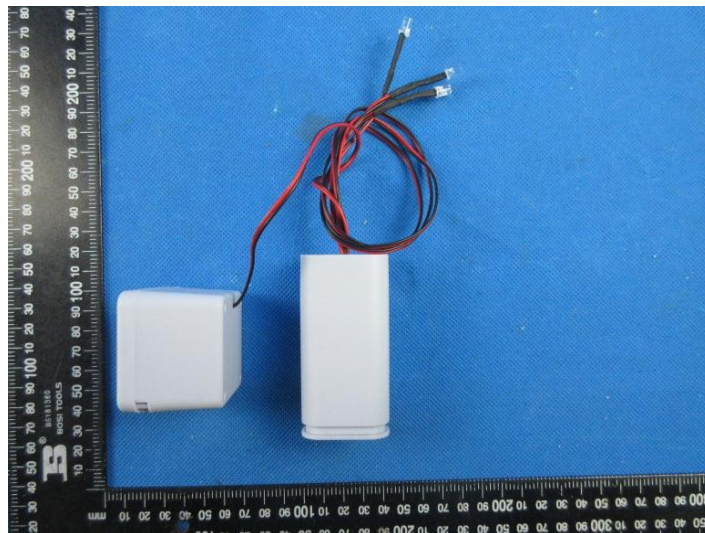
Radiated Emissions

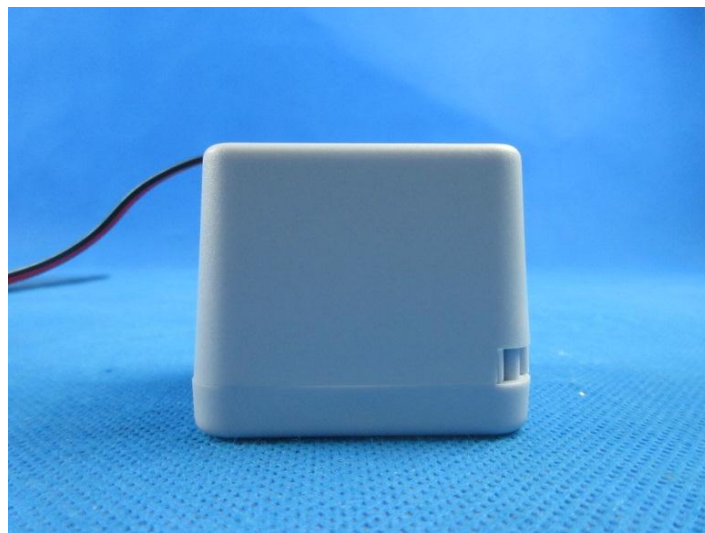
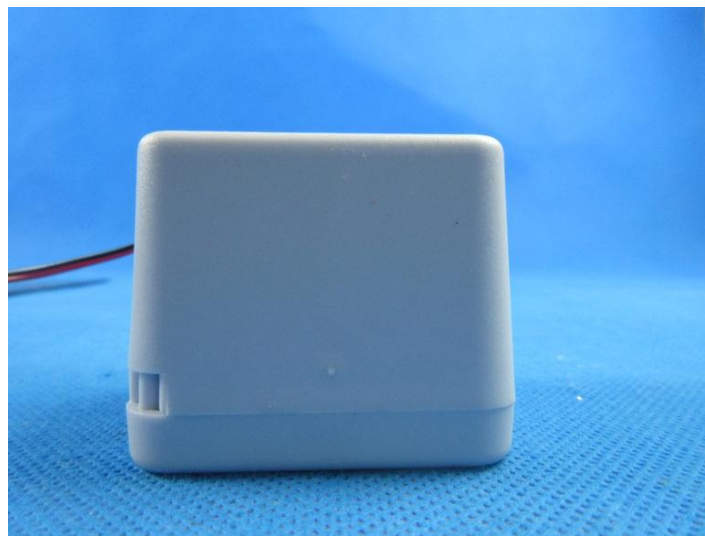
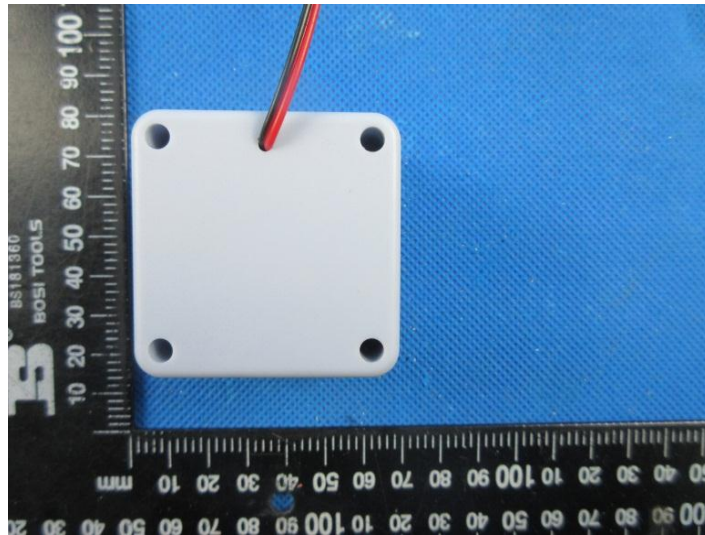


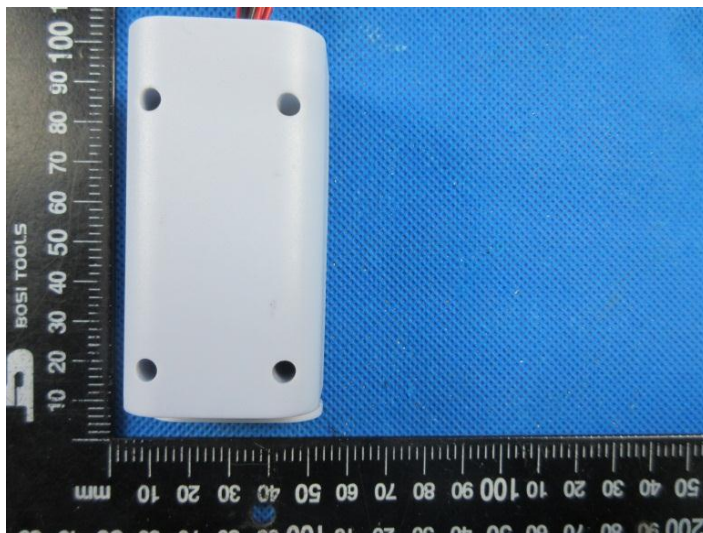
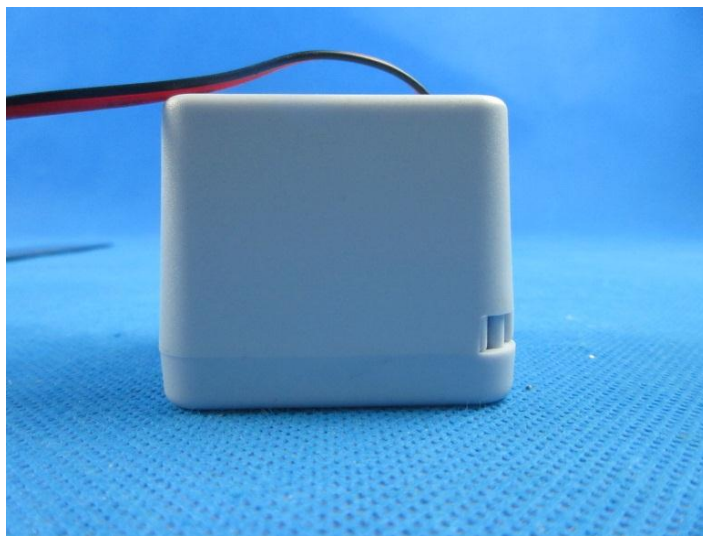
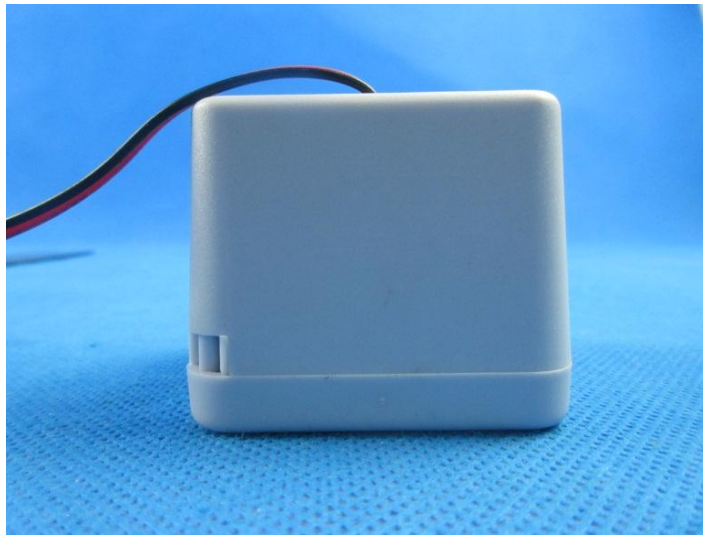


7. EXTERNAL AND INTERNAL PHOTOS

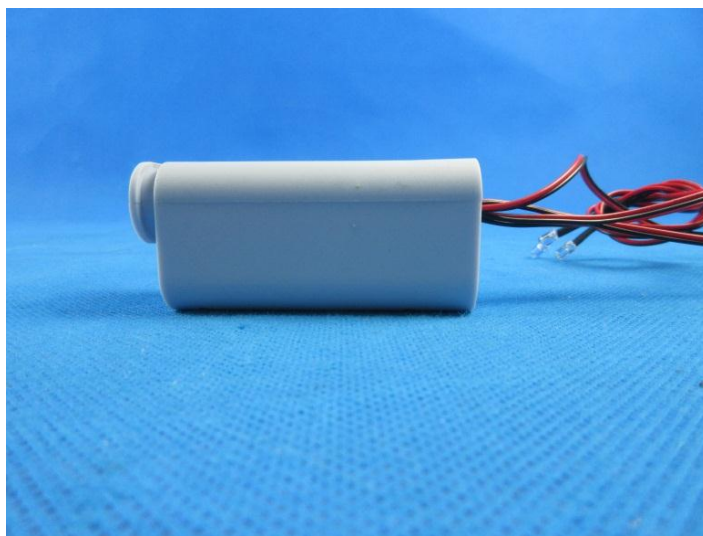
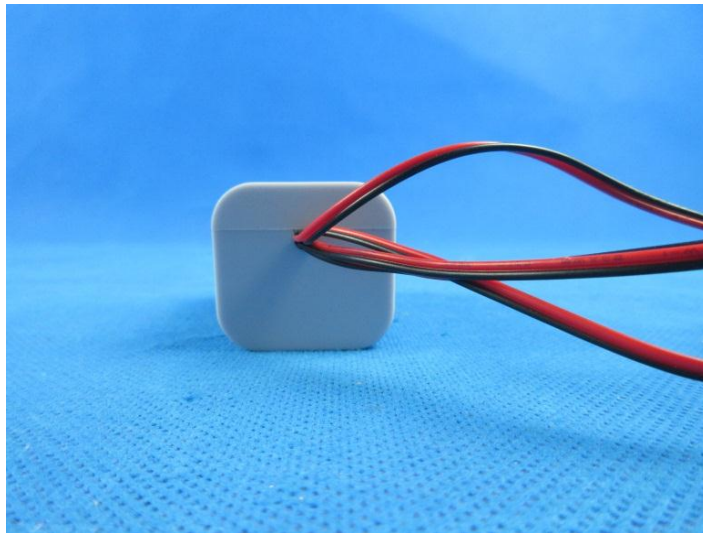
External photos of the EUT

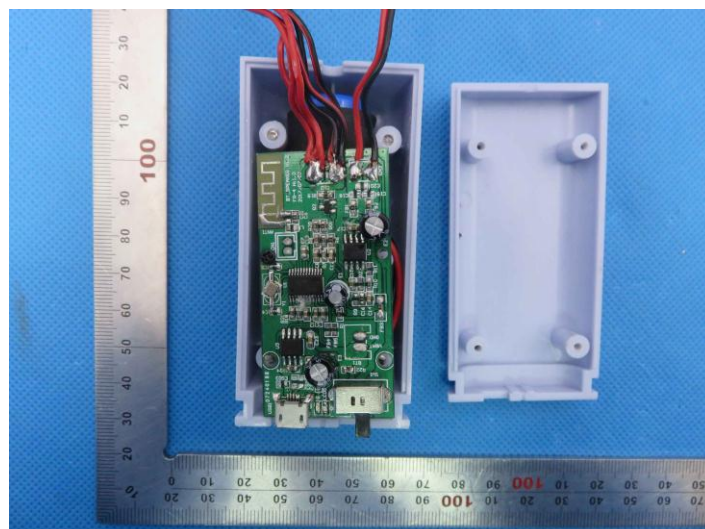
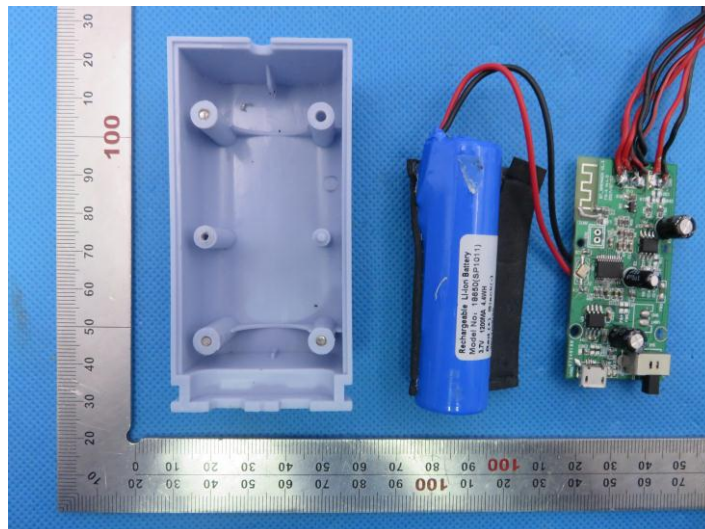
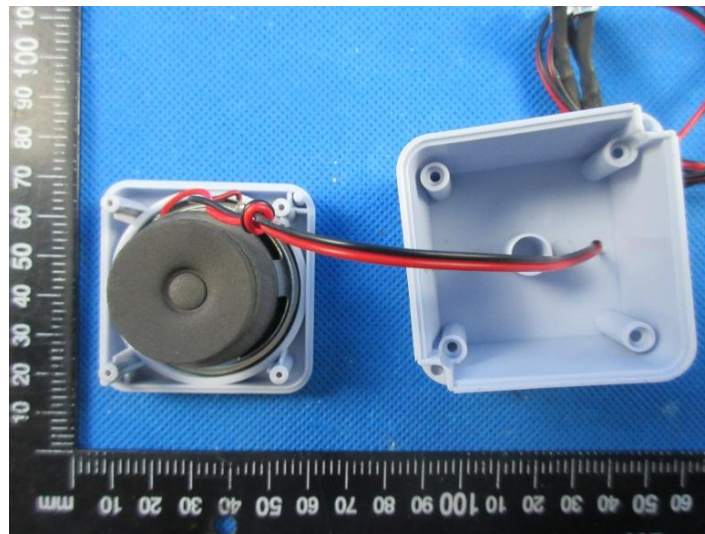


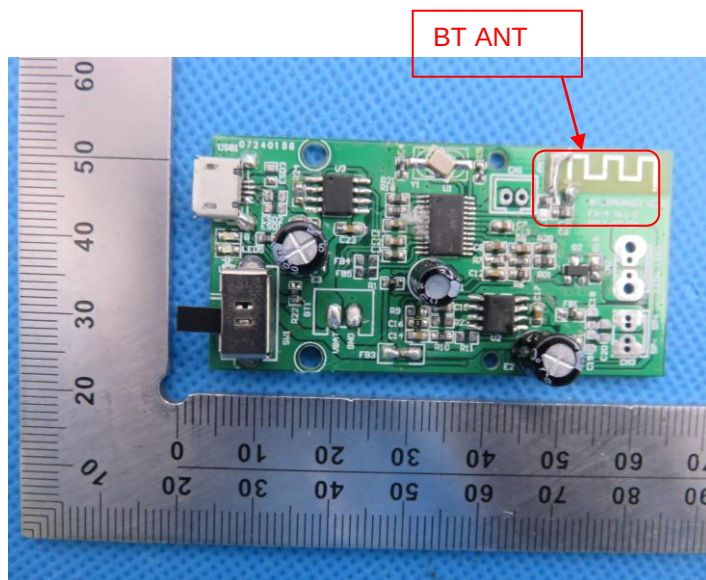
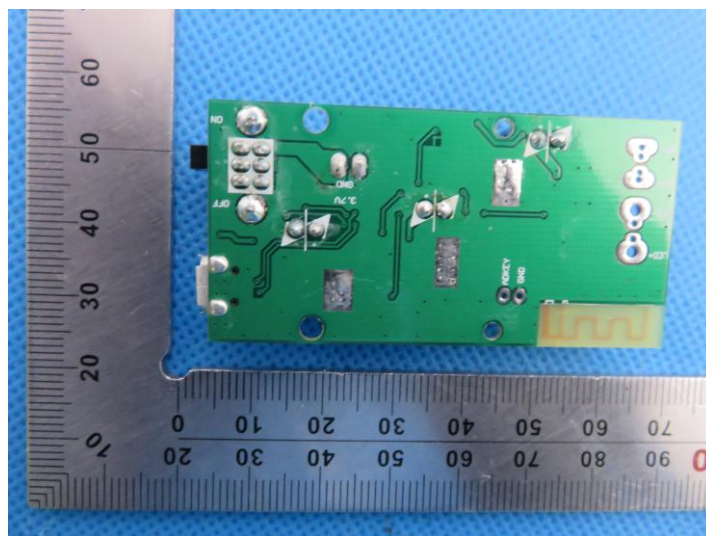
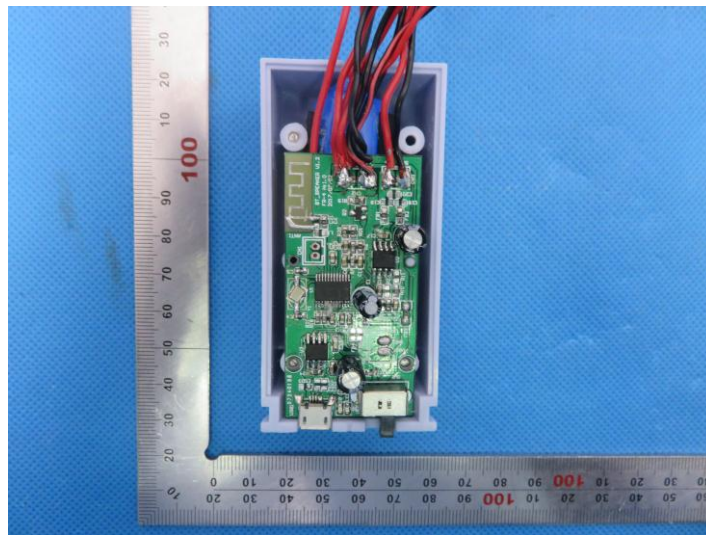


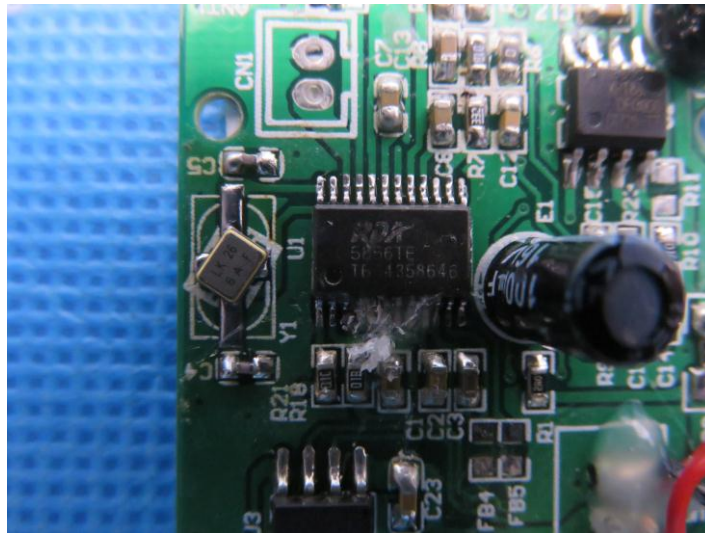






Internal photos of the EUT





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