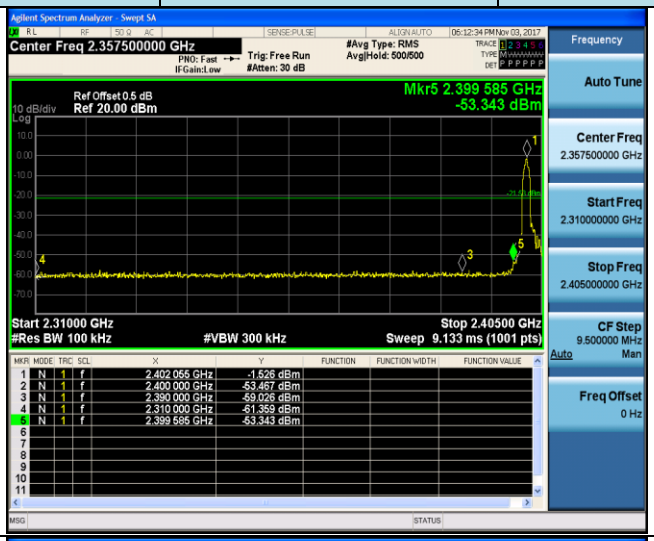
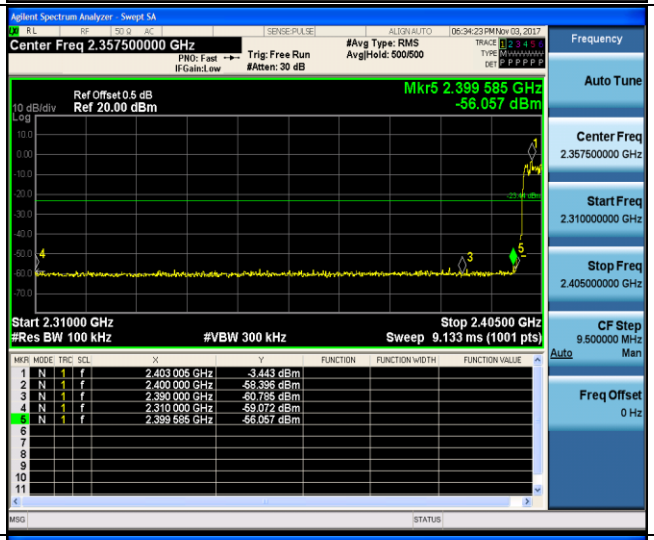
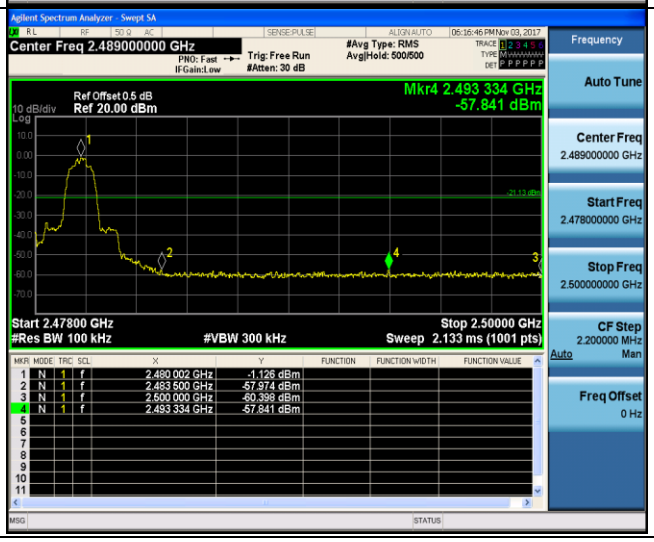
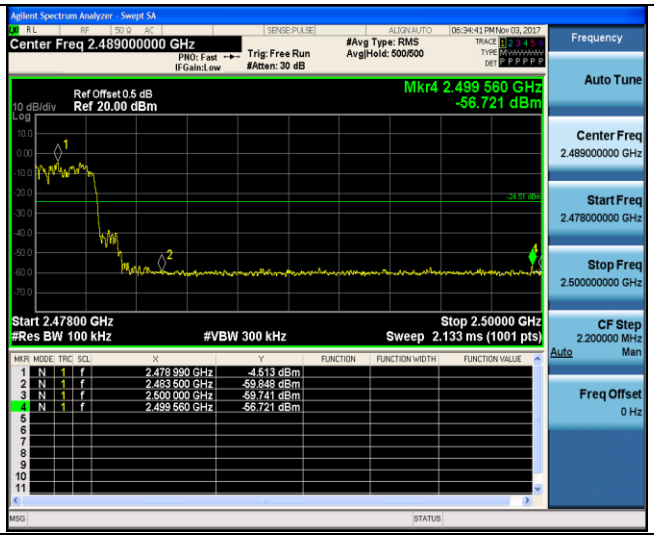
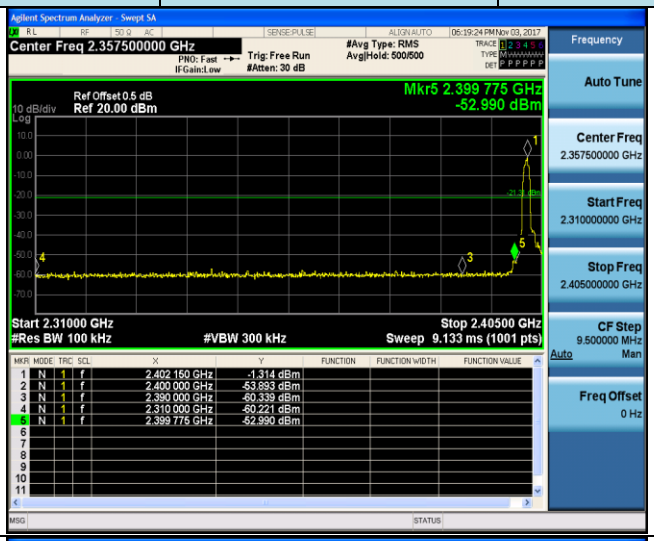
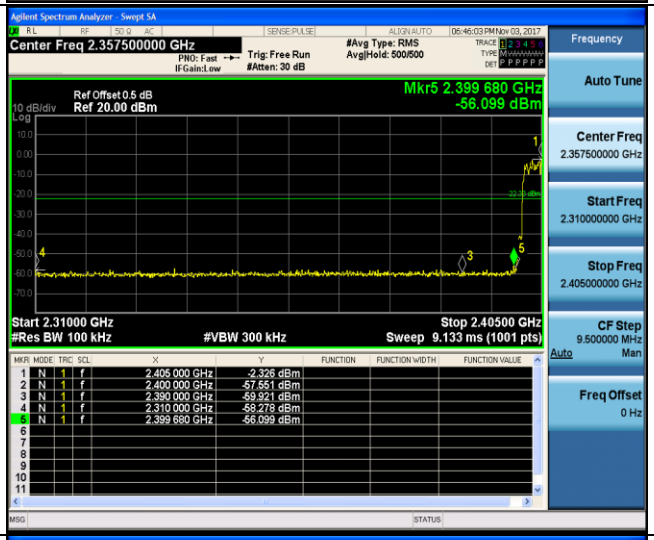
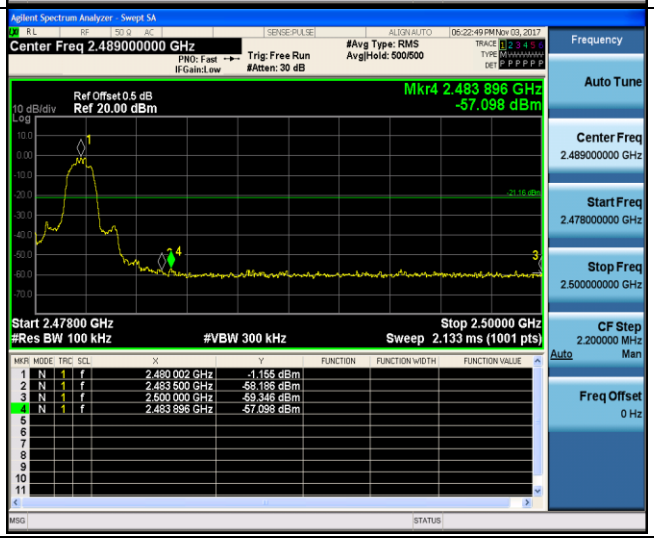
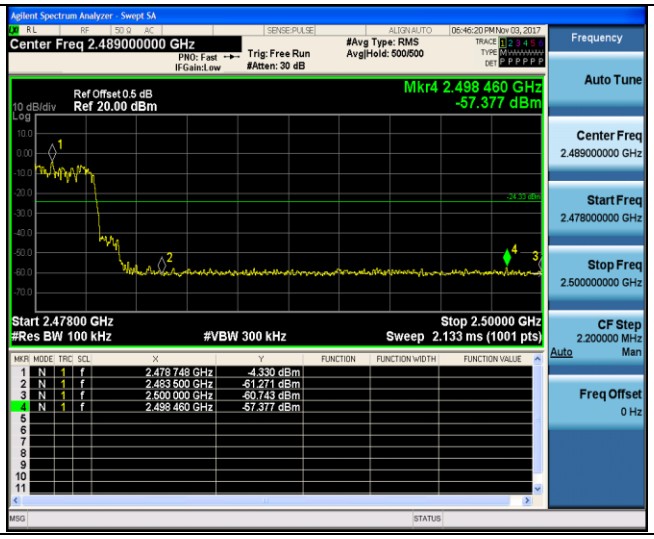
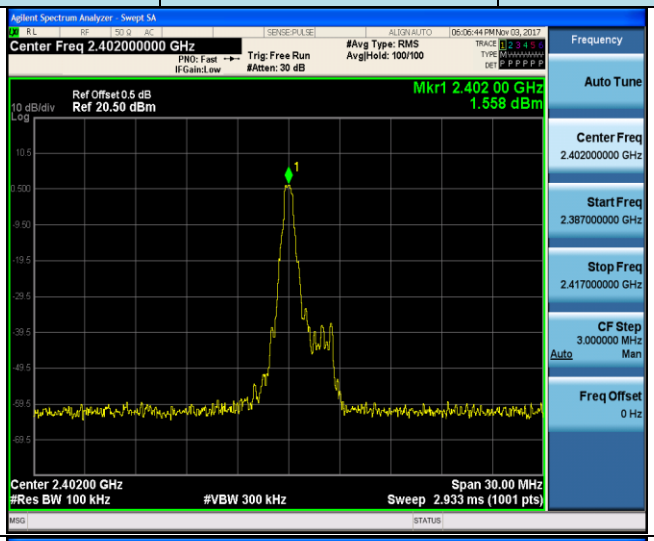
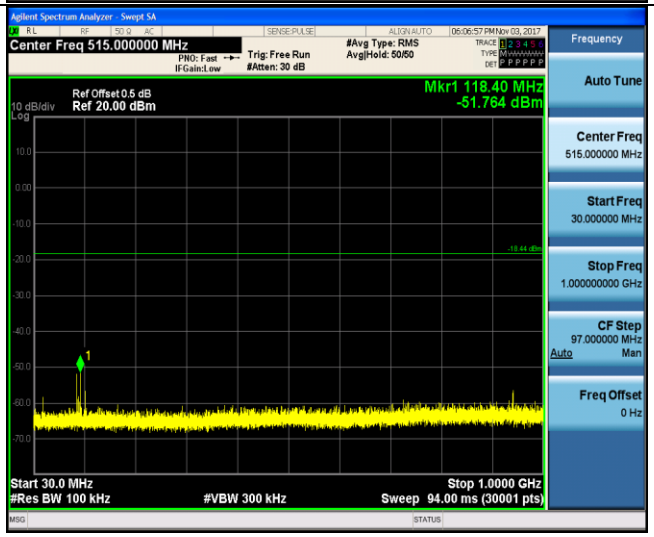
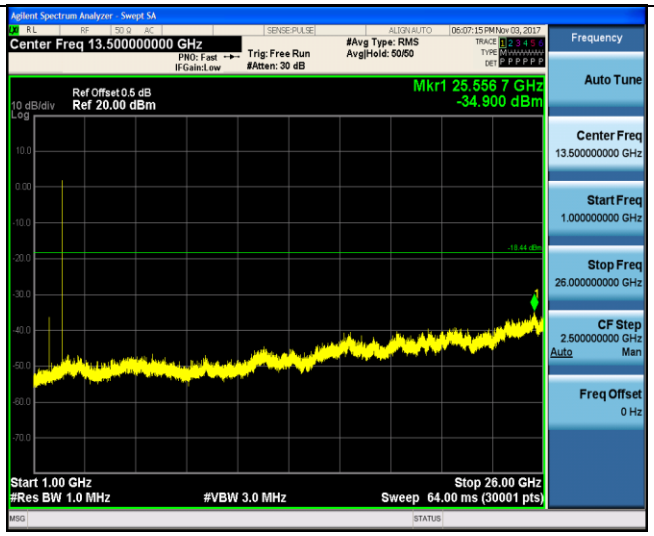
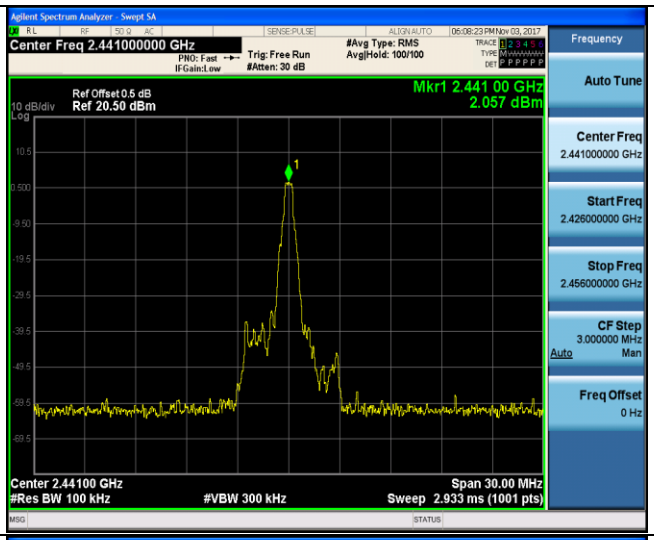
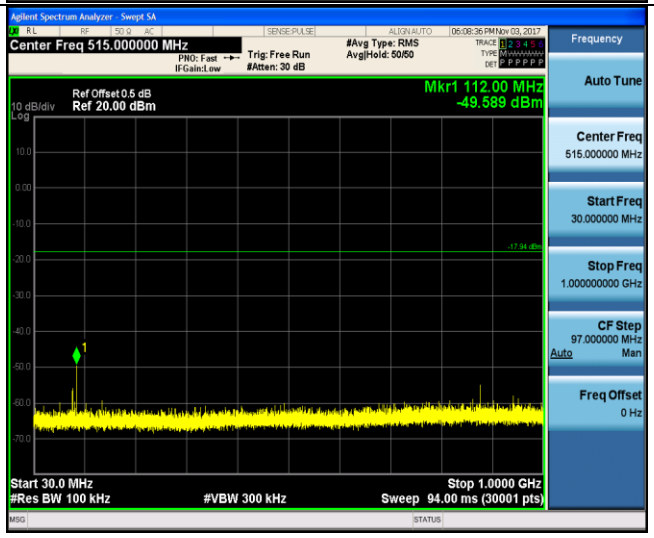
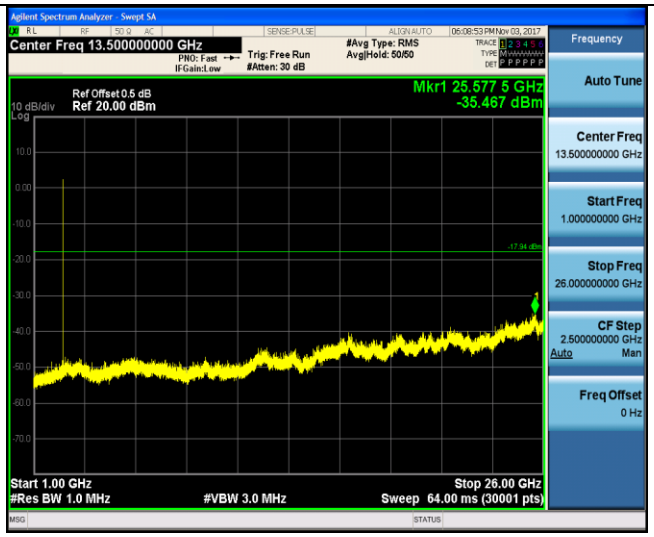
Test Item:	Band edge	Modulation type:	π/4DQPSK
CH00 No hopping mode	
CH00 Hopping mode	
CH78 No hopping mode	

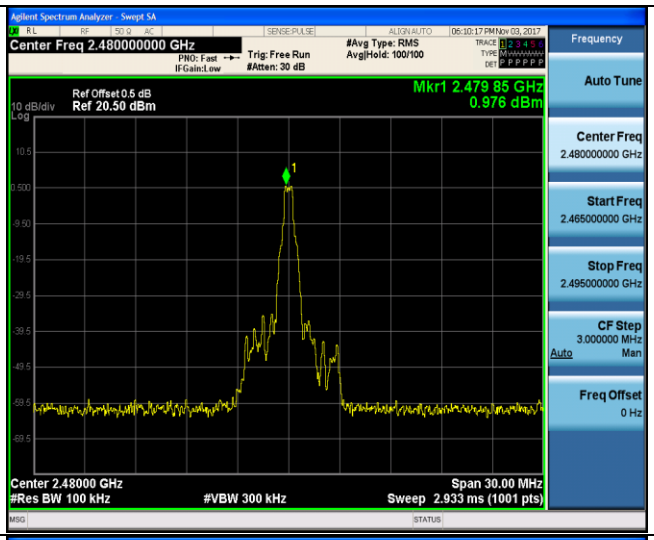
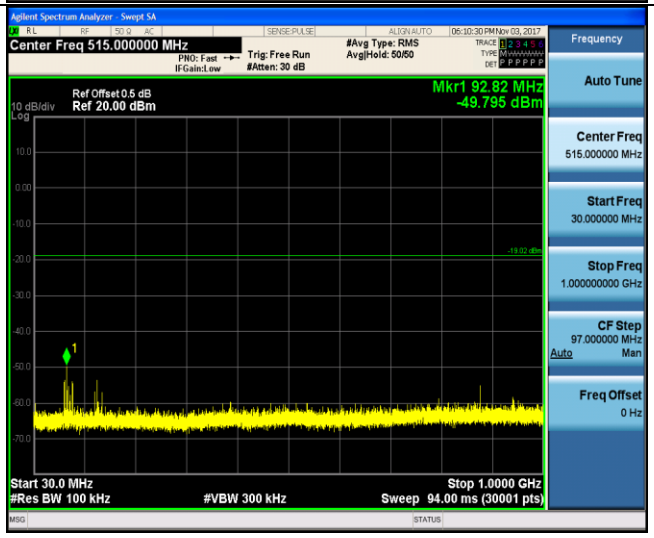
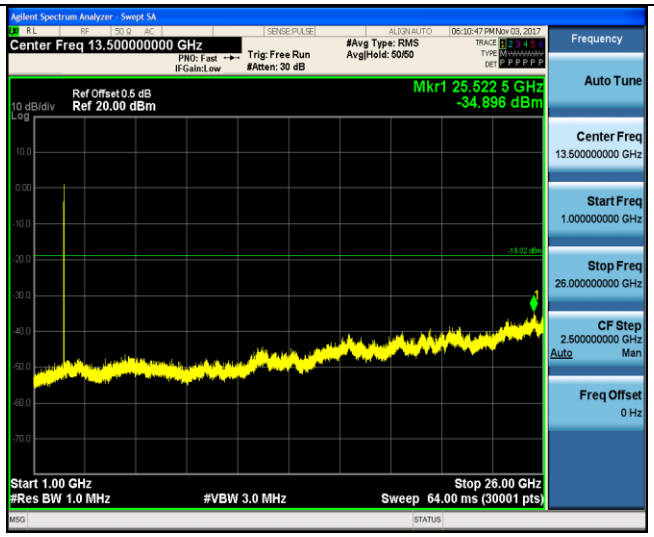
CH78 Hopping mode		

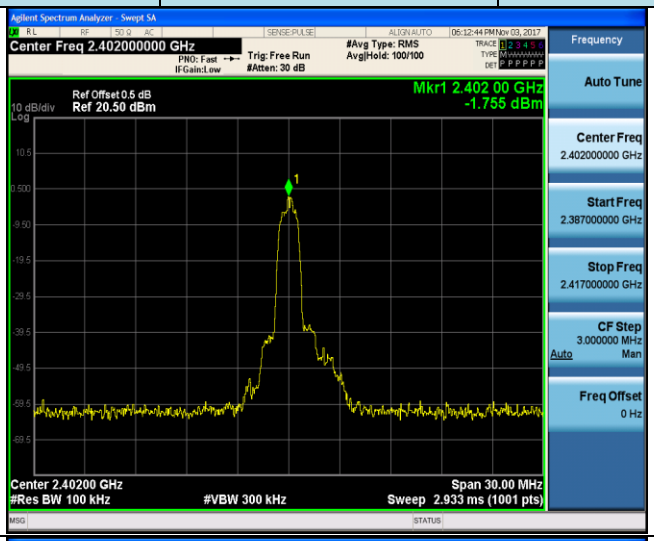
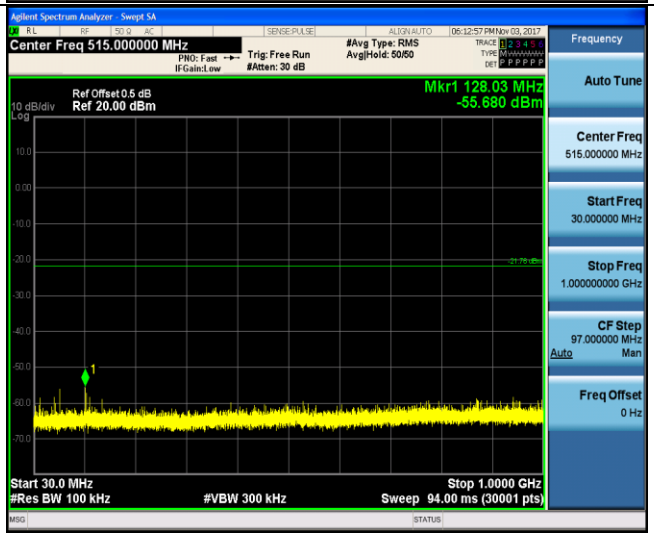
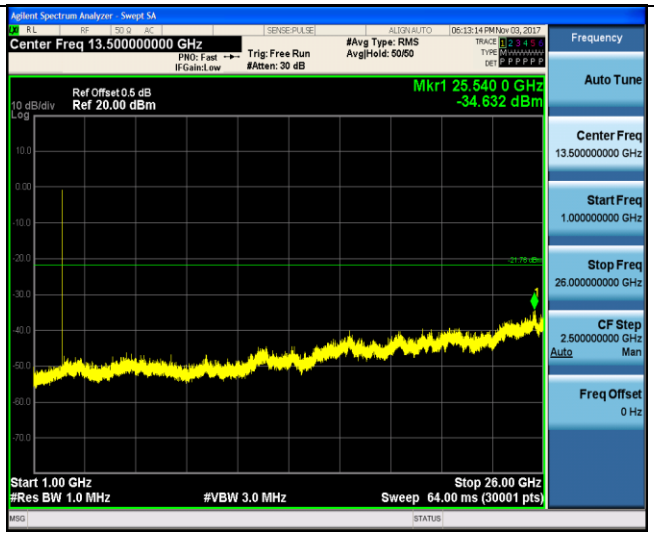
Test Item:	Band edge	Modulation type:	8DPSK
CH00 No hopping mode	
CH00 Hopping mode	
CH78 No hopping mode	

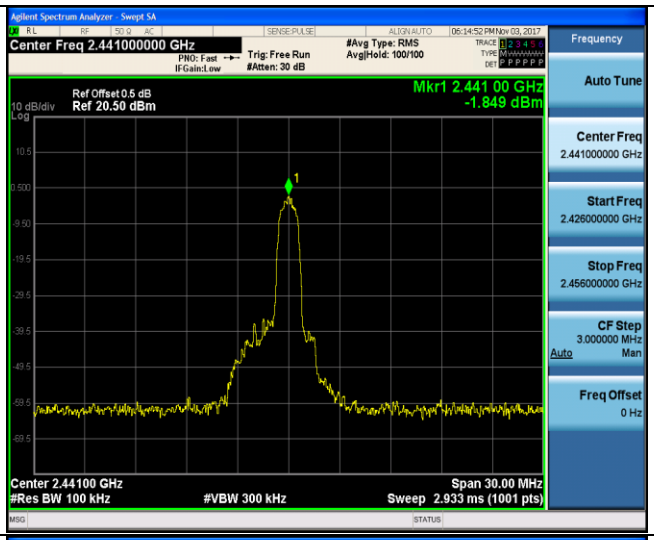
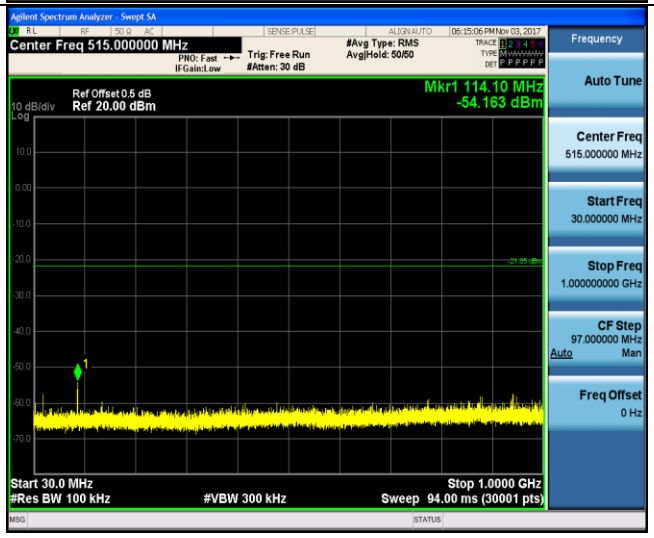
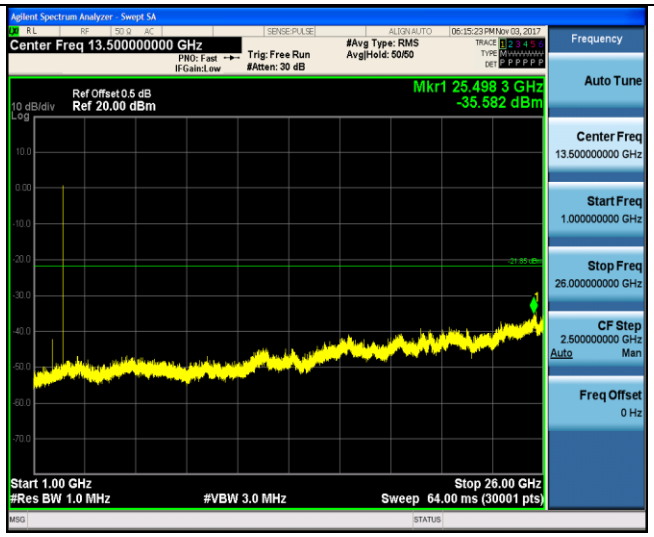
CH78 Hoppig mode		

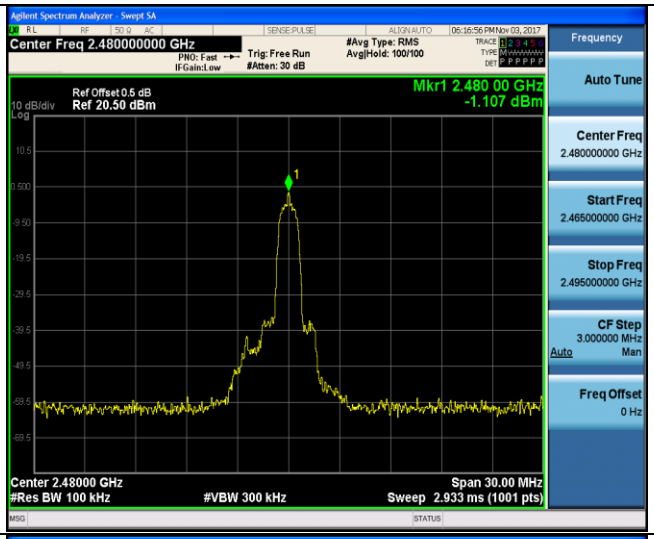
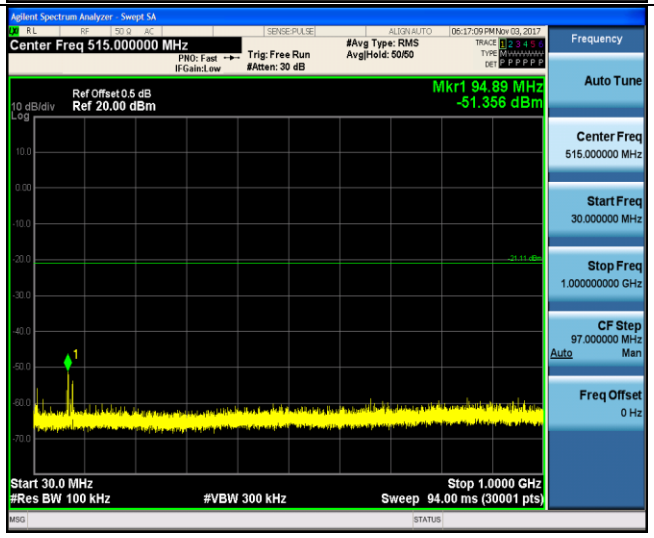
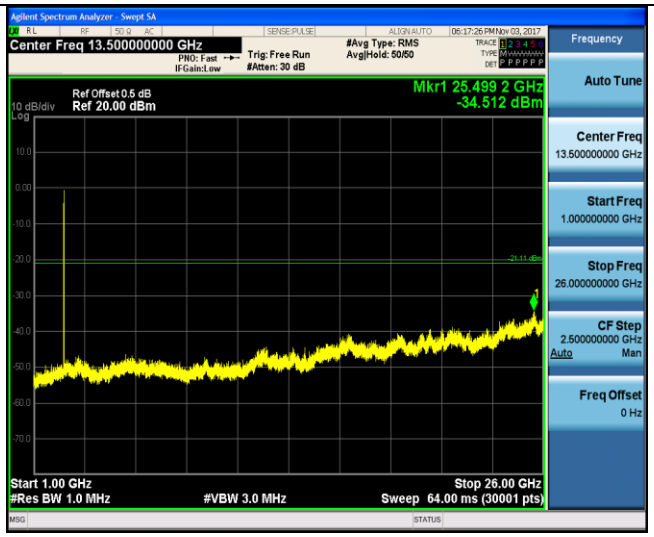
Test Item:	SE	Modulation type:	GFSK
reference level CH00			
CH00			
			

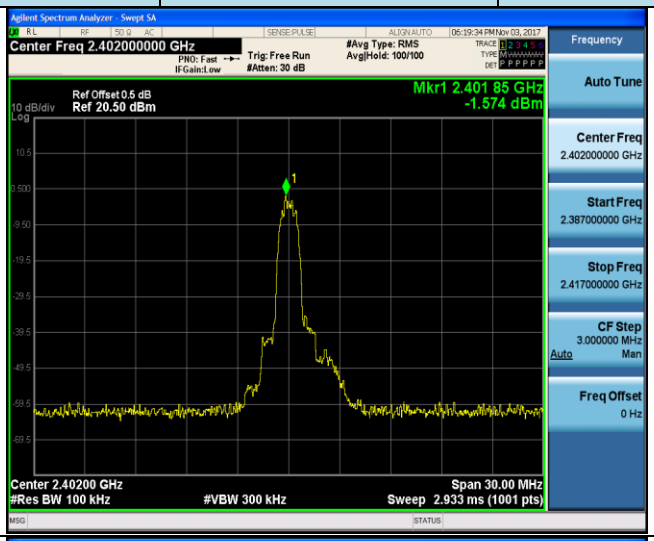
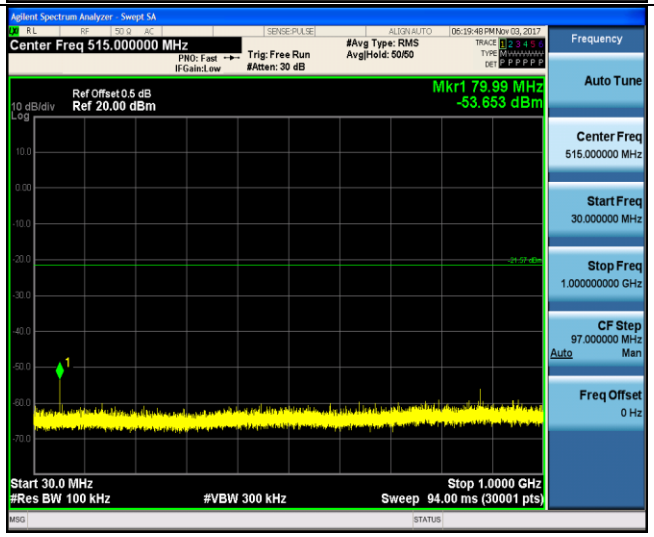
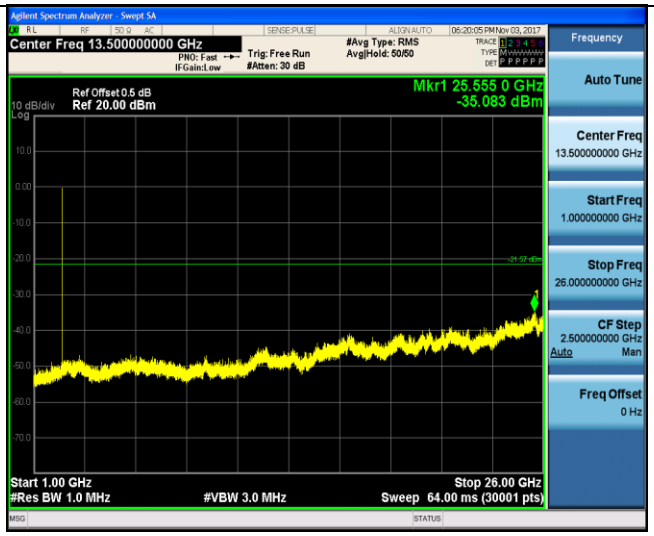
reference level CH39		
CH39		
		

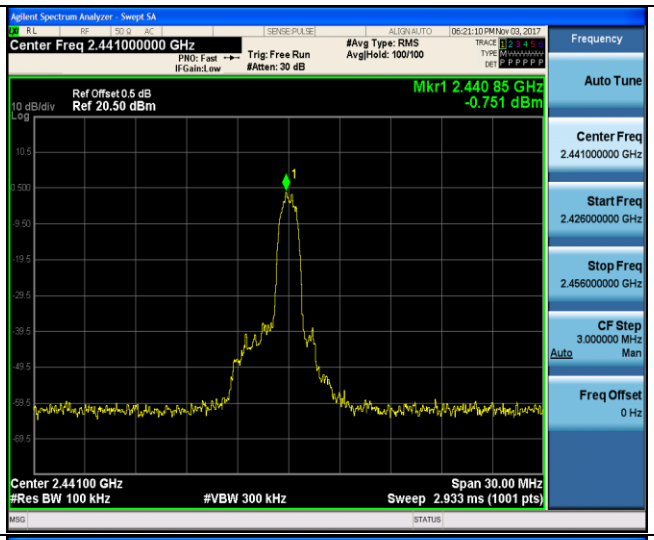
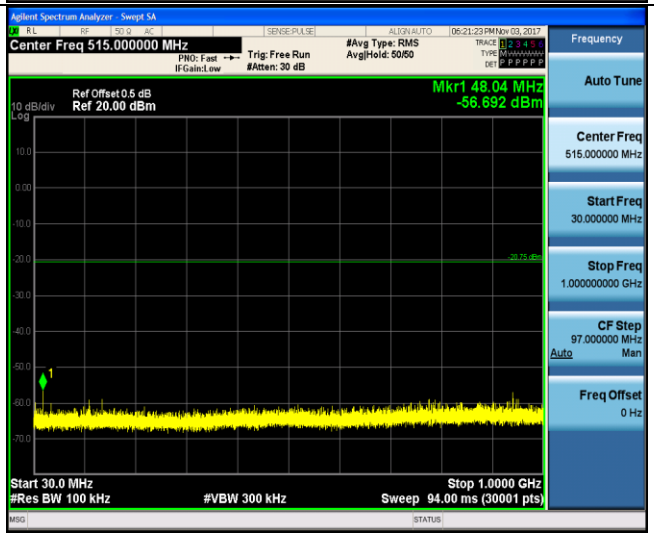
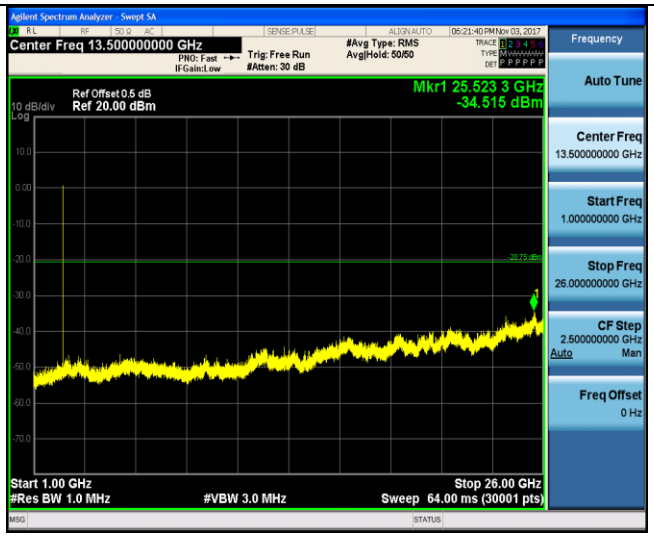
reference level CH78		
CH78		
		

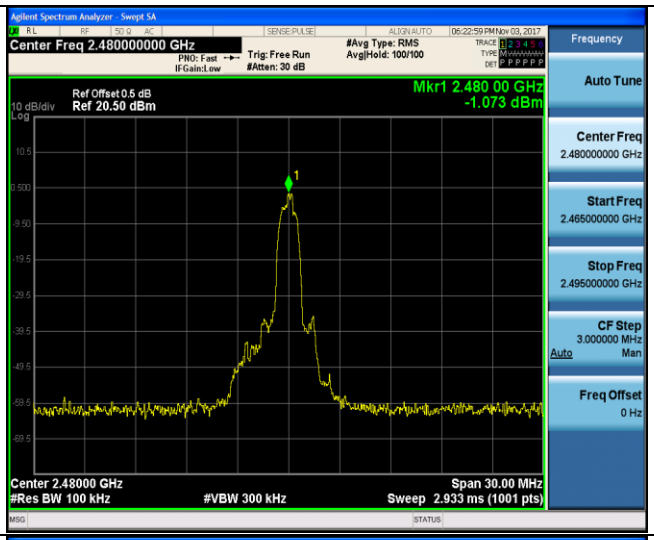
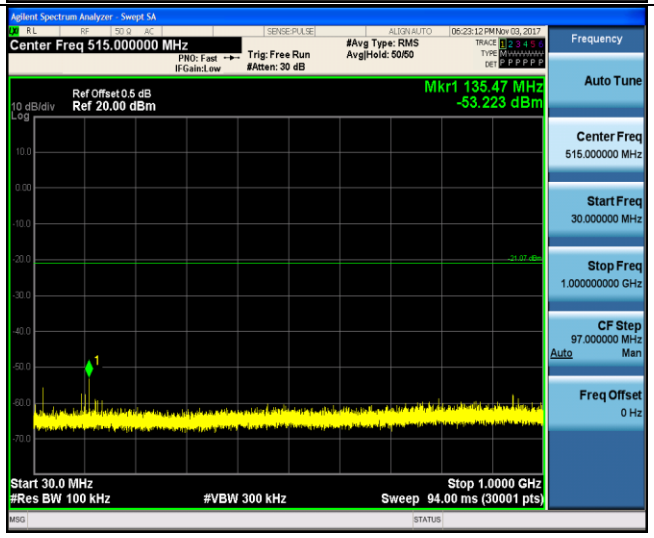
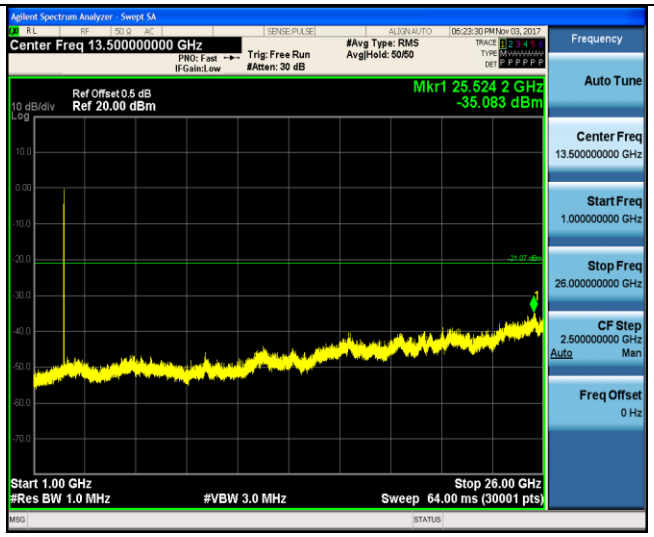
Test Item:	SE	Modulation type:	π/4DQPSK
reference level CH00			
CH00			
			

reference level CH39		
CH39		
		

reference level CH78		
CH78		
		

Test Item:	SE	Modulation type:	8DPSK
reference level CH00			
CH00			
			

reference level CH39		
CH39		
		

reference level CH78		
CH78		
		

5.11. Spurious Emissions (radiated)

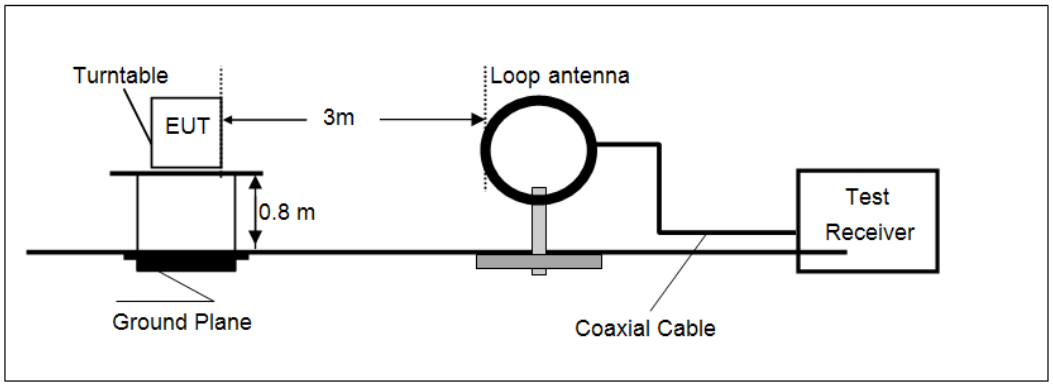
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209

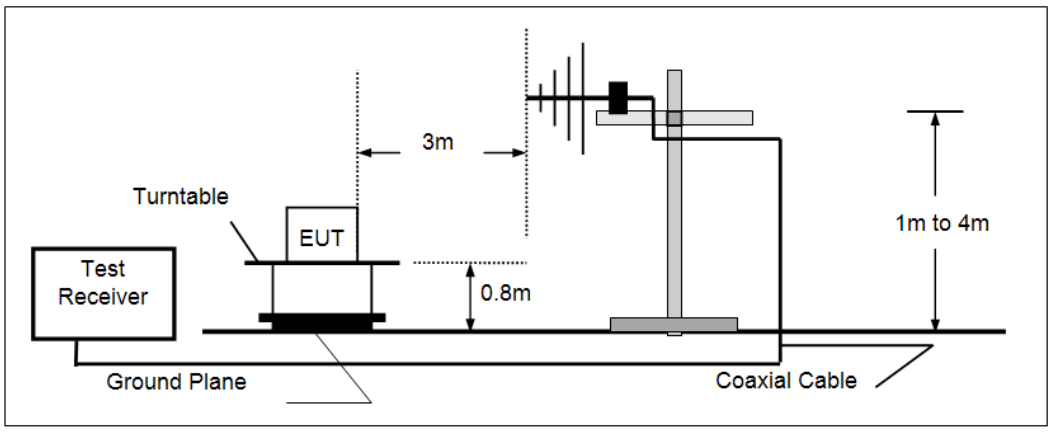
Frequency	Limit (dBuV/m @3m)	Value
30 MHz ~ 88 MHz	40.00	Quasi-peak
88 MHz ~ 216 MHz	43.50	Quasi-peak
216 MHz ~ 960 MHz	46.00	Quasi-peak
960 MHz ~ 1 GHz	54.00	Quasi-peak
Above 1 GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

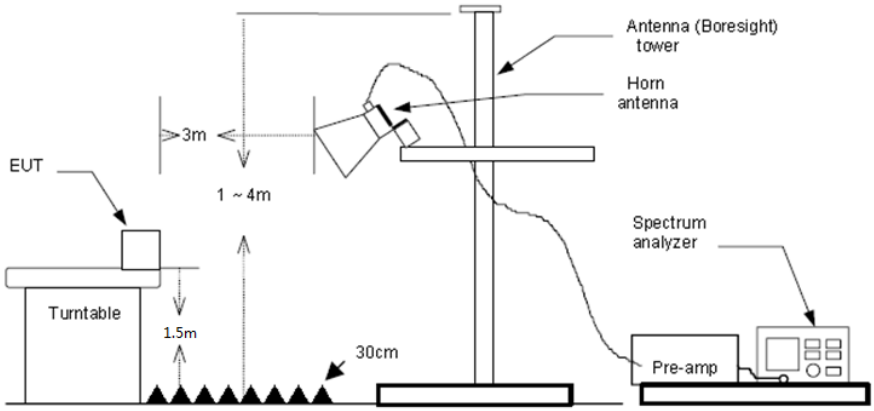
- Below 30 MHz



- 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 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 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 detectoris 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:

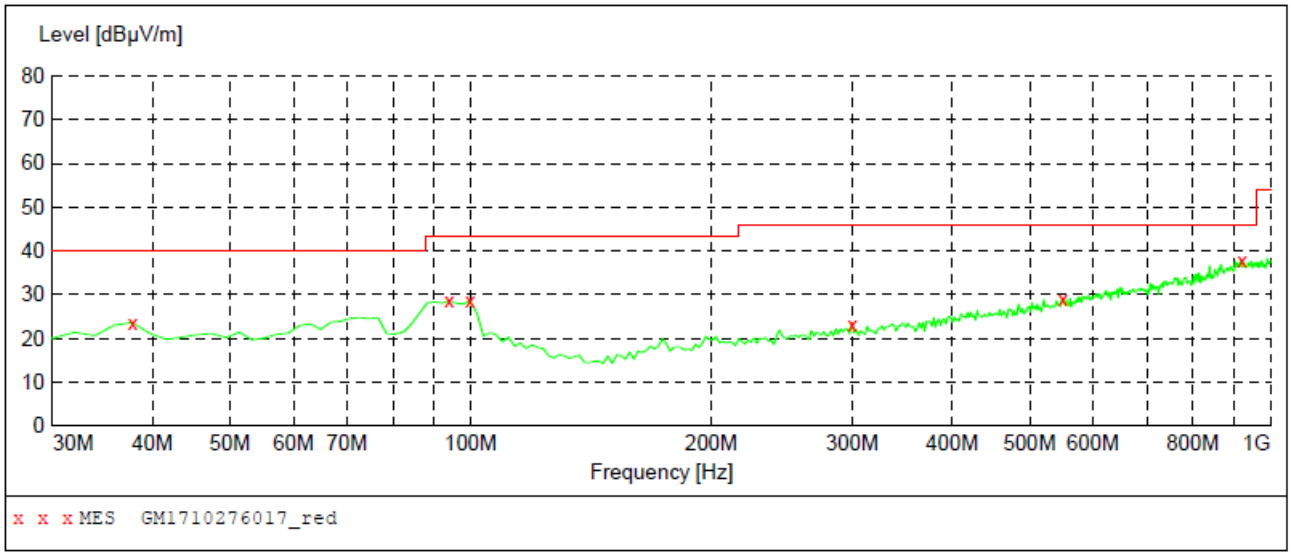
1) Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2) The emission levels of other frequencies are very lower than the limit and not show in test report.
3) Below 1 GHz,Have pre-scan all modulation mode, found the GFSK modulation High channel which it was worst case, 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.

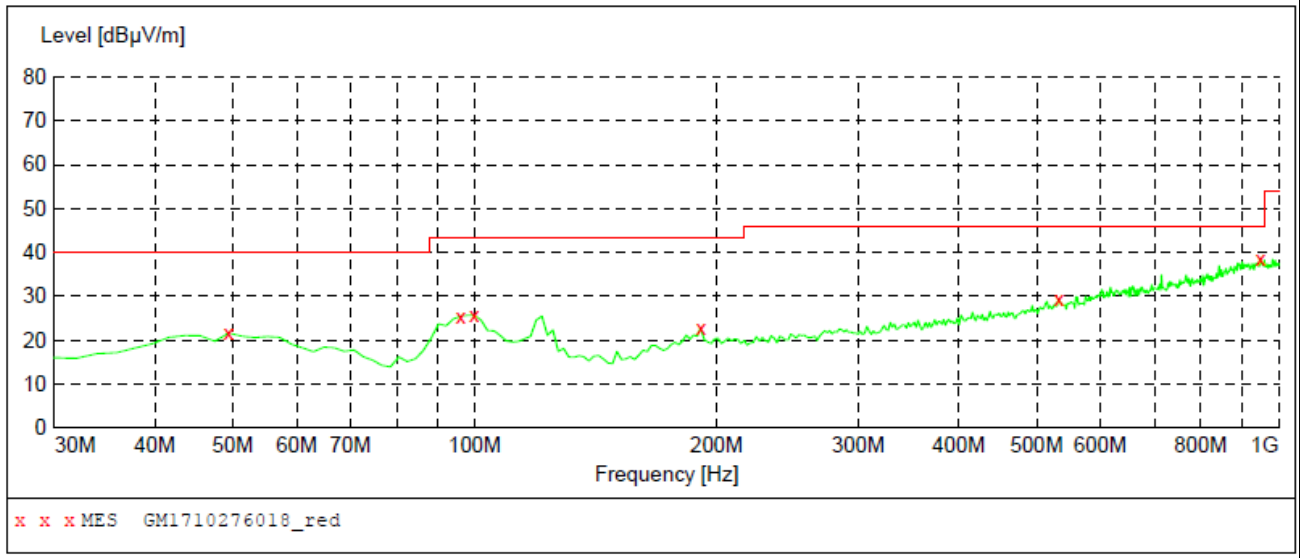
➢ **30 MHz ~ 1 GHz**

Polarization:	Vertical



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
37.760000	23.60	-10.8	40.0	16.4	QP	100.0	63.00	VERTICAL
94.020000	28.60	-11.7	43.5	14.9	QP	100.0	86.00	VERTICAL
99.840000	28.70	-10.6	43.5	14.8	QP	100.0	73.00	VERTICAL
299.660000	23.30	-7.3	46.0	22.7	QP	100.0	45.00	VERTICAL
549.920000	29.20	-0.8	46.0	16.8	QP	100.0	234.00	VERTICAL
920.460000	37.80	7.0	46.0	8.2	QP	100.0	63.00	VERTICAL

Polarization:	Horizontal



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
49.400000	21.60	-8.7	40.0	18.4	QP	300.0	229.00	HORIZONTAL
95.960000	25.40	-11.2	43.5	18.1	QP	300.0	174.00	HORIZONTAL
99.840000	25.70	-10.6	43.5	17.8	QP	300.0	189.00	HORIZONTAL
191.020000	22.70	-10.9	43.5	20.8	QP	100.0	217.00	HORIZONTAL
532.460000	29.40	-1.1	46.0	16.6	QP	100.0	91.00	HORIZONTAL
949.560000	38.50	7.2	46.0	7.5	QP	300.0	29.00	HORIZONTAL

➢ **1 GHz ~ 25 GHz**

CH00									
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	Test value
2086.86	40.61	26.65	6.34	37.32	36.28	74.00	-37.72	Vertical	Peak
3625.67	35.57	29.30	8.30	38.26	34.91	74.00	-39.09	Vertical	Peak
4809.50	30.87	31.58	9.55	36.93	35.07	54.00	-18.93	Vertical	Average
4809.50	50.07	31.58	9.55	36.93	54.27	74.00	-19.73	Vertical	Peak
8002.06	32.78	37.10	12.30	34.53	47.65	74.00	-26.35	Vertical	Peak
1948.25	51.34	25.79	6.19	37.26	46.06	74.00	-27.94	Horizontal	Peak
3266.35	36.74	28.40	7.80	38.32	34.62	74.00	-39.38	Horizontal	Peak
4809.50	30.75	31.58	9.55	36.93	34.95	54.00	-19.05	Horizontal	Average
4809.50	50.86	31.58	9.55	36.93	55.06	74.00	-18.94	Horizontal	Peak
7338.62	32.82	36.30	12.01	34.90	46.23	74.00	-27.77	Horizontal	Peak
7338.62	21.41	36.30	12.01	34.90	34.82	54.00	-19.18	Horizontal	Average

CH39									
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	Test value
1948.25	43.39	25.79	6.19	37.26	38.11	74.00	-35.89	Vertical	Peak
3570.71	34.87	29.21	8.22	38.31	33.99	74.00	-40.01	Vertical	Peak
4883.52	40.39	31.43	9.59	36.73	44.68	54.00	-9.32	Vertical	Average
4883.52	57.44	31.43	9.59	36.73	61.73	74.00	-12.27	Vertical	Peak
7319.96	49.88	36.30	11.99	34.92	63.25	74.00	-10.75	Vertical	Peak
7319.97	26.78	36.30	11.99	34.92	40.15	54.00	-13.85	Vertical	Average
1724.17	43.57	25.25	5.81	36.98	37.65	74.00	-36.35	Horizontal	Peak
3283.02	40.89	28.30	7.82	38.35	38.66	74.00	-35.34	Horizontal	Peak
4883.52	41.98	31.43	9.59	36.73	46.27	54.00	-7.73	Horizontal	Average
4883.52	62.06	31.43	9.59	36.73	66.35	74.00	-7.65	Horizontal	Peak
7319.96	49.86	36.30	11.99	34.92	63.23	74.00	-10.77	Horizontal	Peak
7319.97	26.37	36.30	11.99	34.92	39.74	54.00	-14.26	Horizontal	Average

CH78									
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	Test value
1198.10	50.79	26.29	4.66	36.57	45.17	74.00	-28.83	Vertical	Peak
1715.41	50.81	25.23	5.80	36.96	44.88	74.00	-29.12	Vertical	Peak
4958.68	39.37	31.46	9.64	36.52	43.95	54.00	-10.05	Vertical	Average
4958.68	54.38	31.46	9.64	36.52	58.96	74.00	-15.04	Vertical	Peak
7451.57	25.15	36.20	12.24	34.86	38.73	54.00	-15.27	Vertical	Average
7451.57	43.10	36.20	12.24	34.86	56.68	74.00	-17.32	Vertical	Peak
1715.41	51.82	25.23	5.80	36.96	45.89	74.00	-28.11	Horizontal	Peak
3291.39	41.92	28.25	7.83	38.36	39.64	74.00	-34.36	Horizontal	Peak
4958.68	45.47	31.46	9.64	36.52	50.05	54.00	-3.95	Horizontal	Average
4958.68	67.08	31.46	9.64	36.52	71.66	74.00	-2.34	Horizontal	Peak
7451.57	28.77	36.20	12.24	34.86	42.35	54.00	-11.65	Horizontal	Average
7451.57	57.34	36.20	12.24	34.86	70.92	74.00	-3.08	Horizontal	Peak

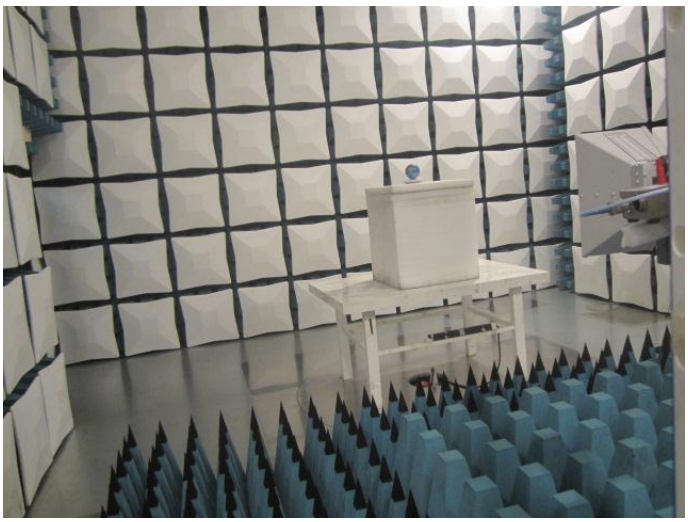
Remark:

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(test frequency band is 1GHz to 25GHz) are very lower than the limit and not show in test report.

6. TEST SETUP PHOTOS

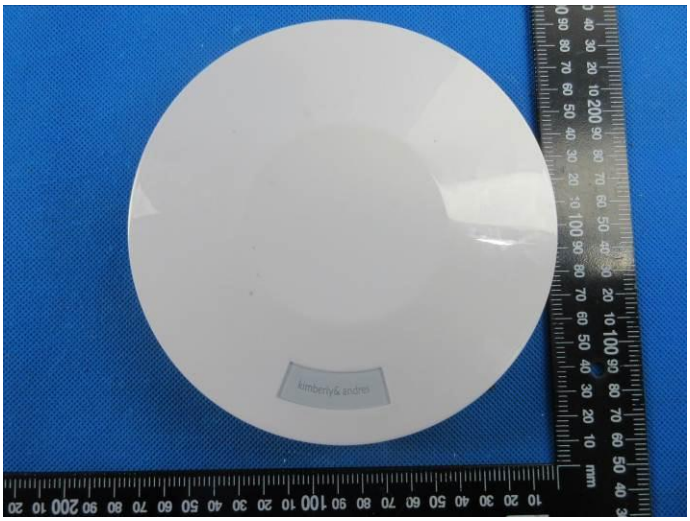
Conducted Emissions (AC Mains)

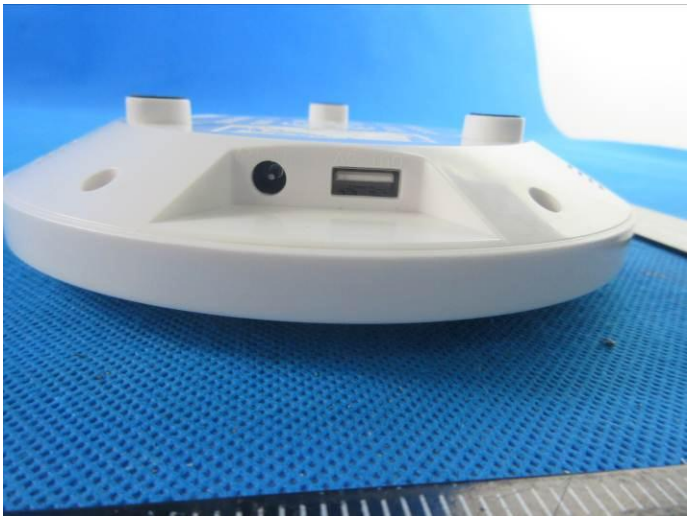
Radiated Emissions

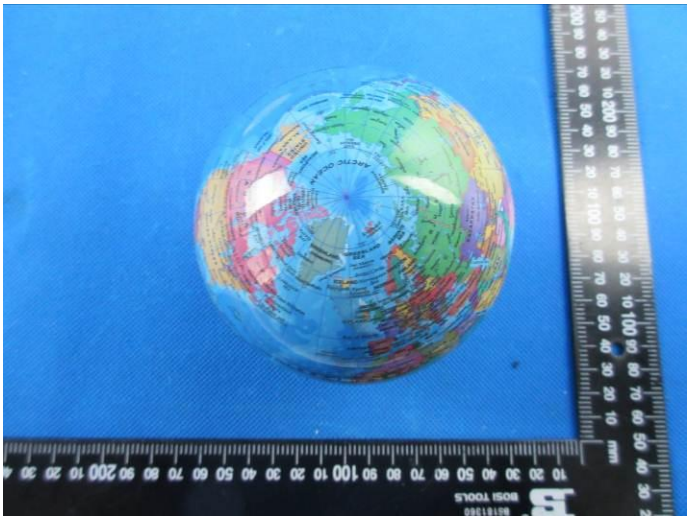


7. EXTERANAL AND INTERNAL PHOTOS

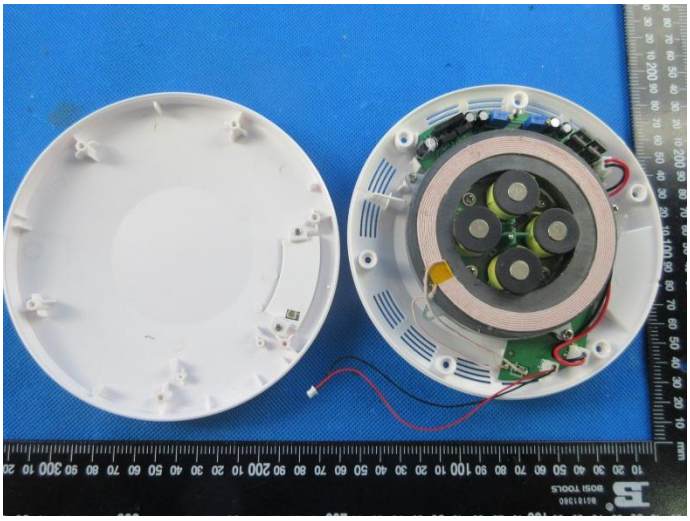
EXTERANAL PHOTOS

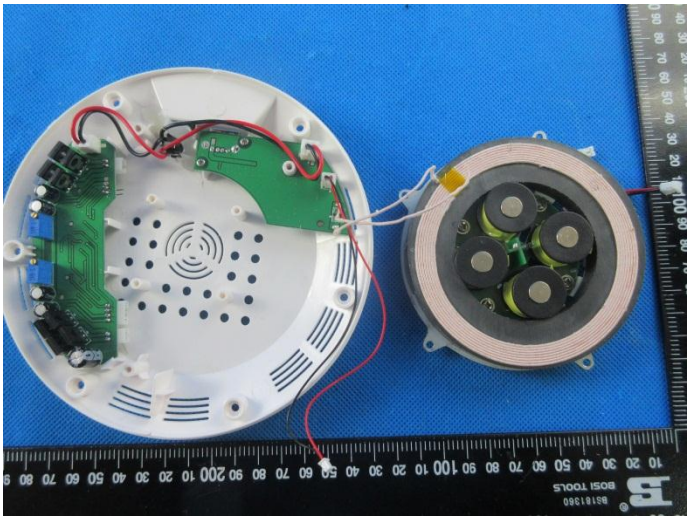


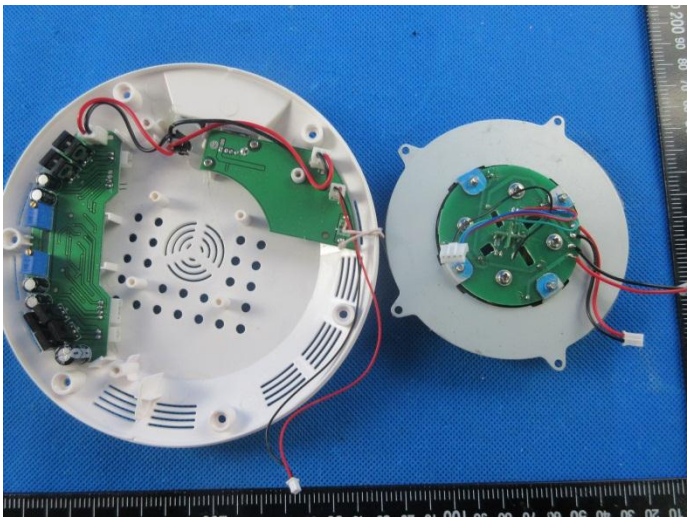


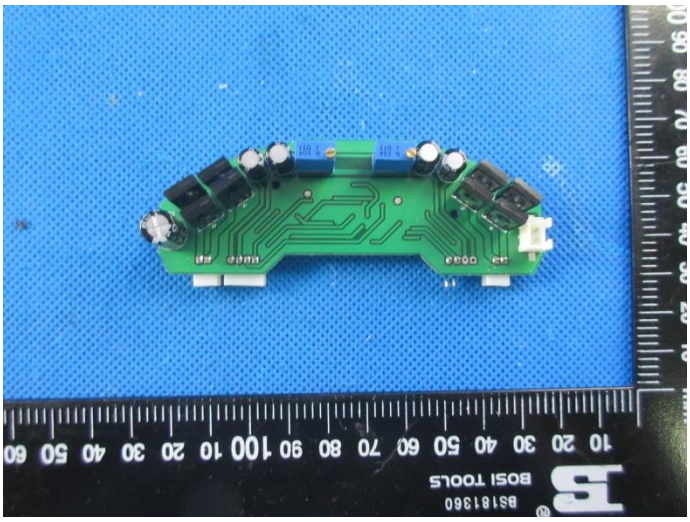


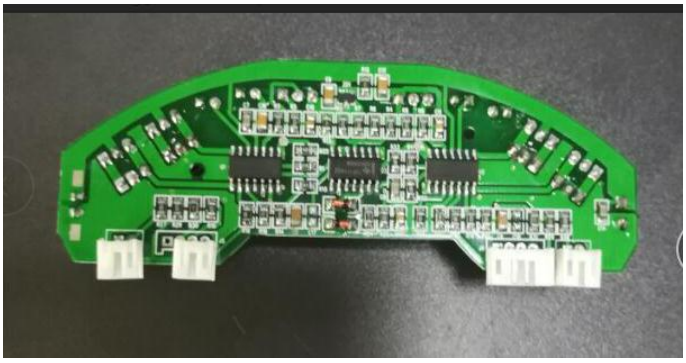
INTERNAL PHOTOS

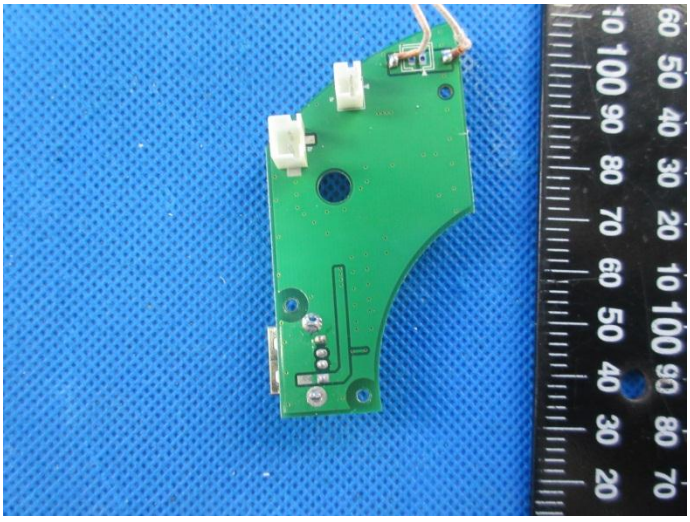


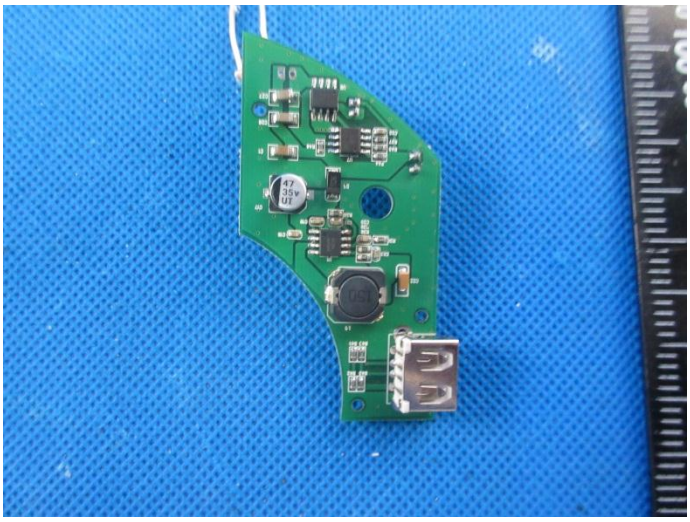


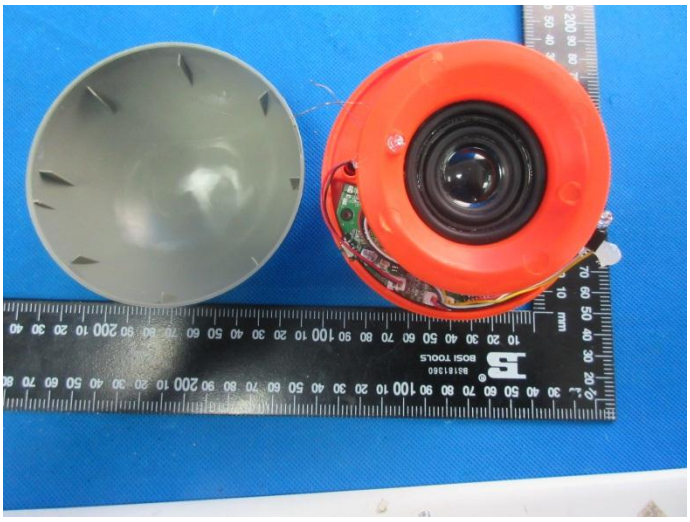


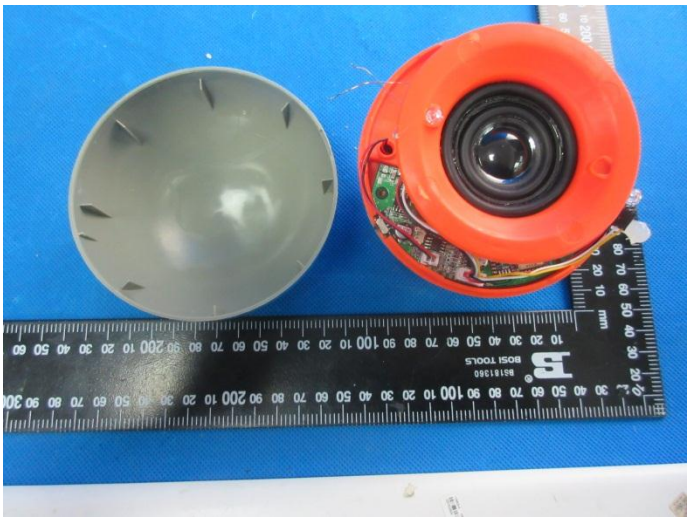

BOSI TOOLS

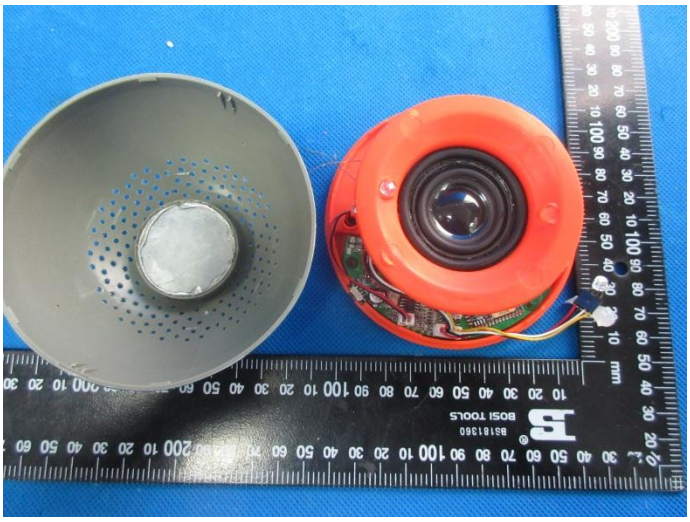


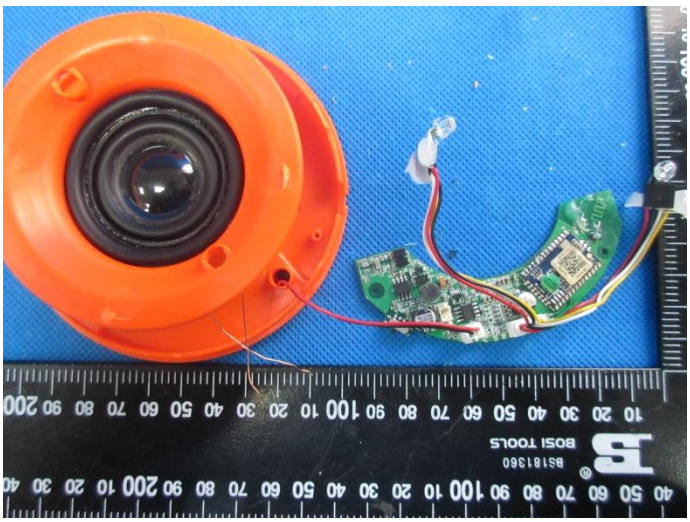


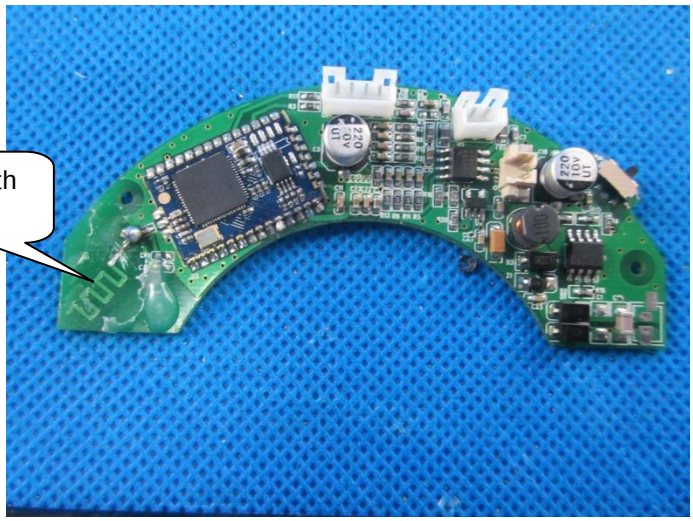


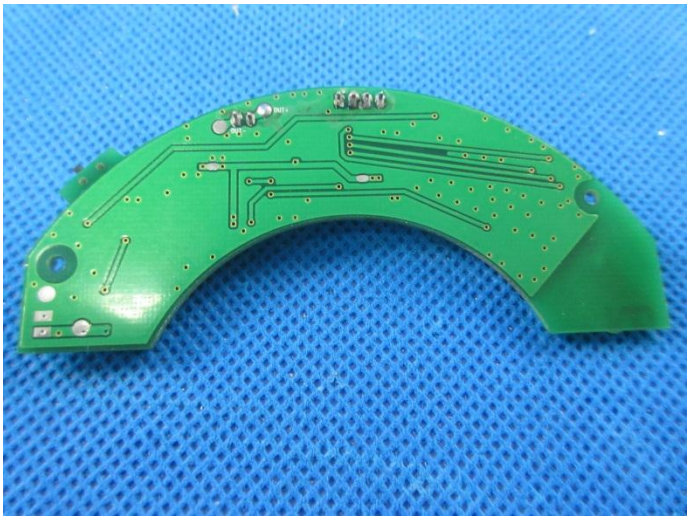












.....End of Report.....