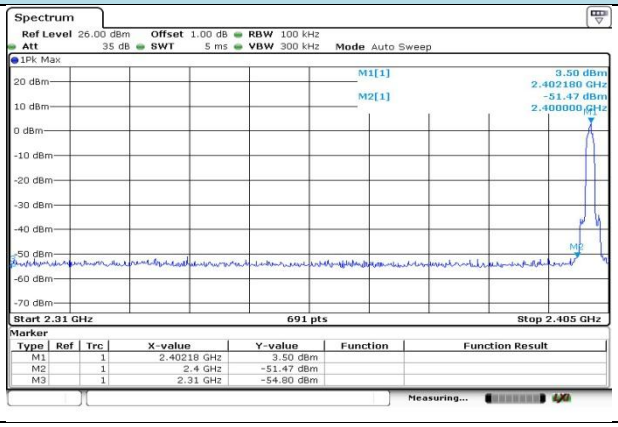
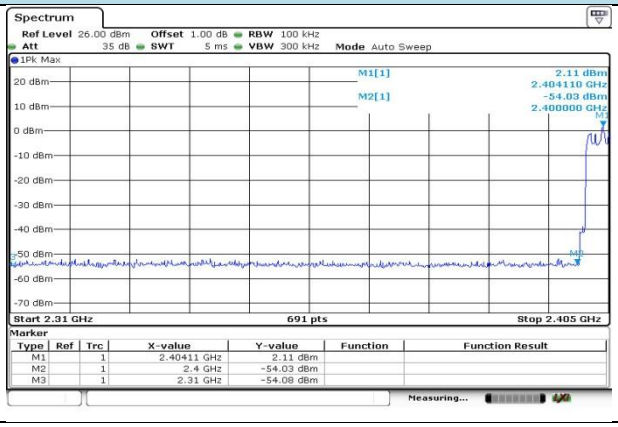
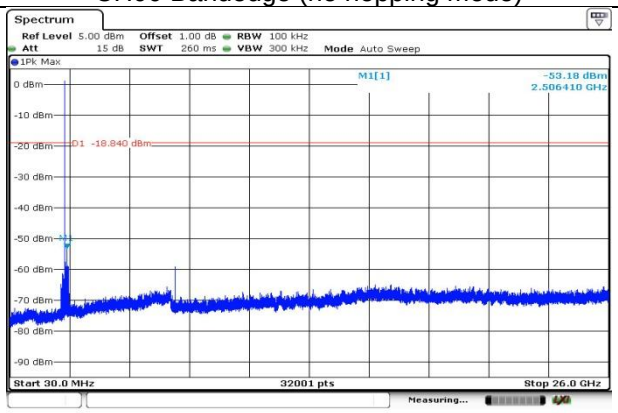
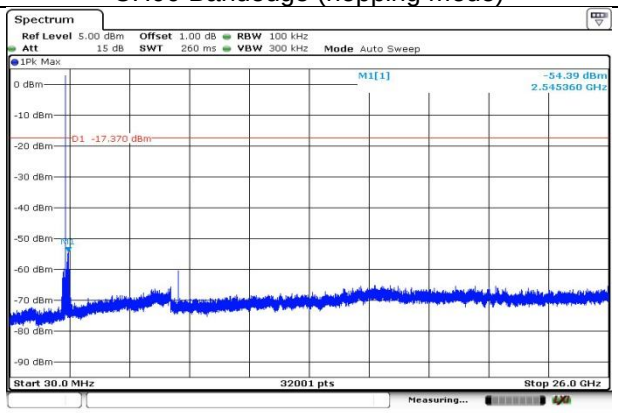
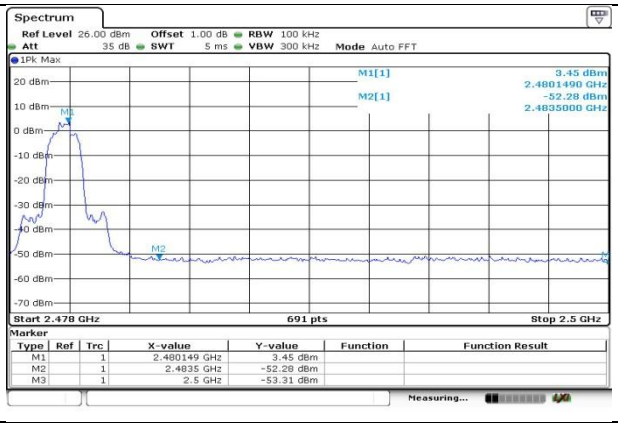
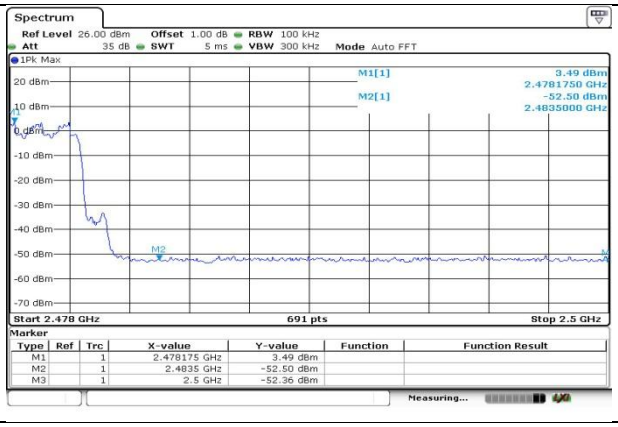
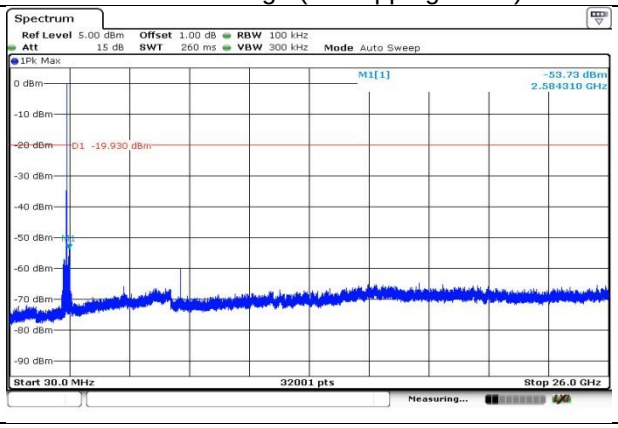
8DPSK	
	
CH00 Bandedge (no hopping mode)	CH00 Bandedge (hopping mode)
	
CH00 SE	CH39 SE
	
CH78 Bandedge (no hopping mode)	CH78 Bandedge (hopping mode)
	No Plot
CH78 SE	-

5.11. Spurious Emission (radiated)

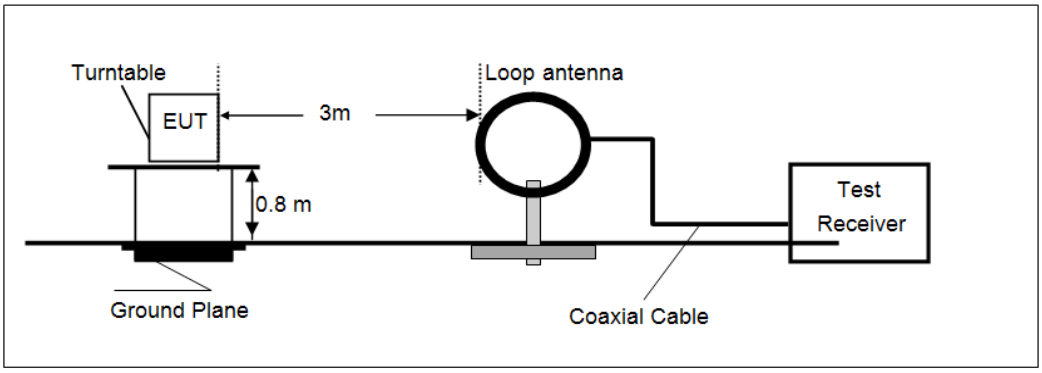
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209

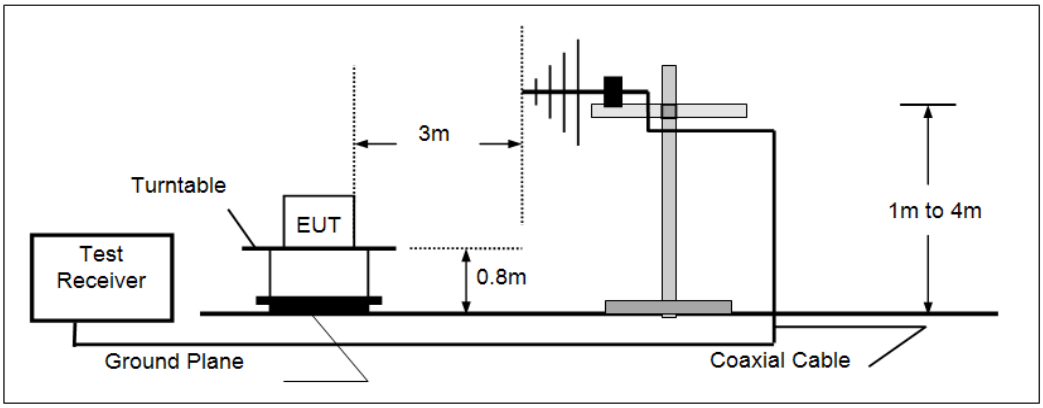
Frequency	Limit (dBuV/m @3m)	Value
0.009 MHz-0.09MHz	88.52-68.52	Average
0.09MHz–0.11MHz	68.52-66.78	Quasi-peak
0.11MHz–0.49 MHz	66.78-53.80	Average
0.49 MHz -1.705 MHz	53.80-42.97	Quasi-peak
1.705 MHz -30 MHz	49.54	Quasi-peak
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

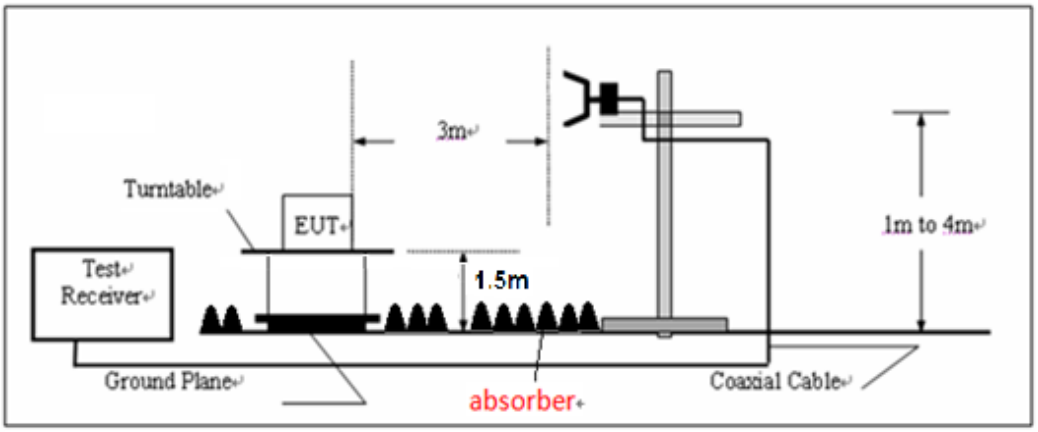
- 9KHz ~30MHz



- 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 rotated360 degrees to determine the position of the maximum emission level.
3. The EUT waspositioned 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. Thisis 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=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, theemission measurement will be repeated using the quasi-peak detector and reported.
   (3) Above 1GHz, RBW=1MHz, VBW=3MHz Peak detetorfor Peak value
   RBW=1MHz, VBW=10Hz Peak detetorfor Average value.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

Note:

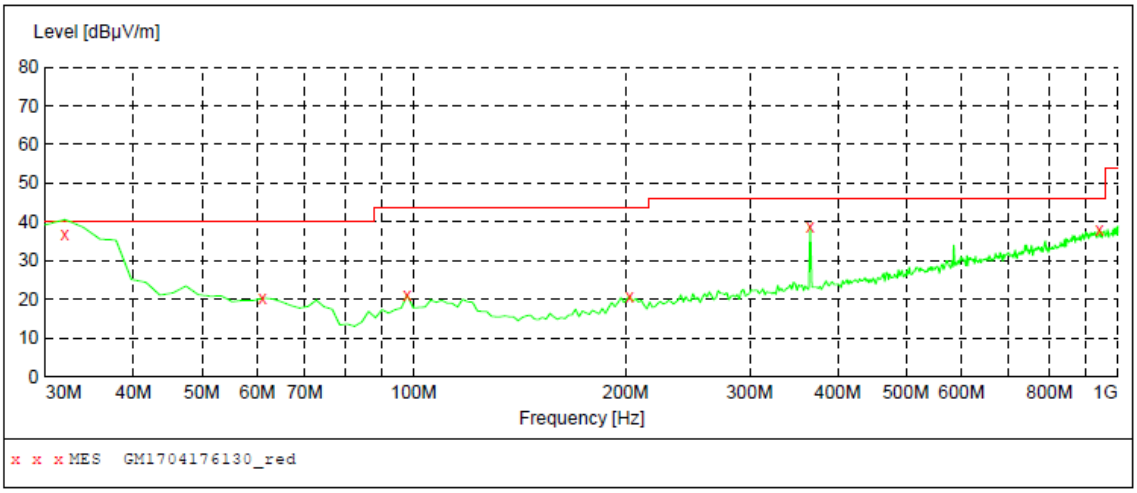
1) Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2) "*", means this data is the too weak instrument of signal is unable to test.
3) The emission levels of other frequencies are very lower than the limit and not show in test report.
4) Have pre-scan all modulation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

➢ **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.

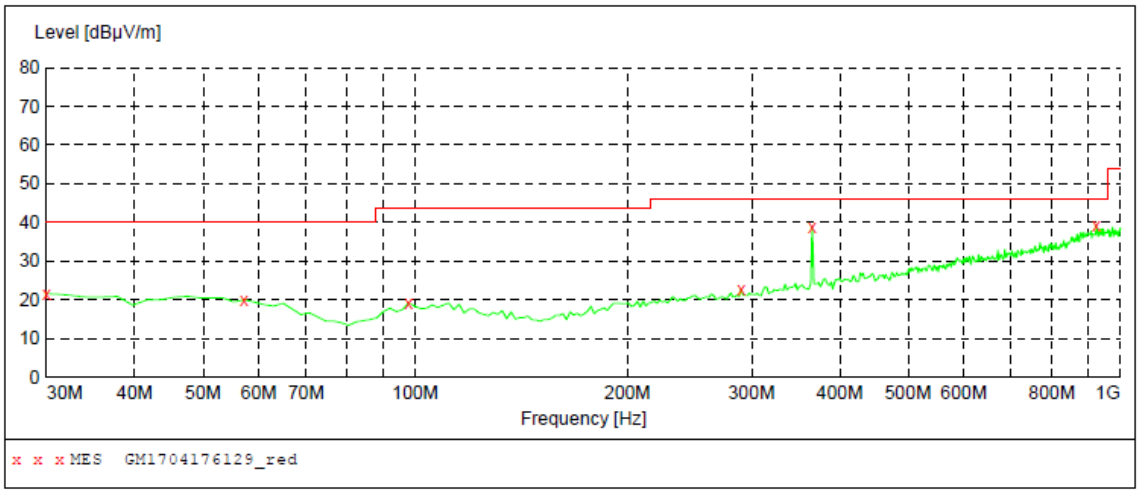
➢ **30MHz ~ 1GHz**

Polarization:	Vertical



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
31.940000	34.40	-13.2	40.0	5.6	QP	100.0	145.00	VERTICAL
61.040000	20.30	-10.3	40.0	19.7	QP	100.0	7.00	VERTICAL
97.900000	21.00	-10.8	43.5	22.5	QP	100.0	77.00	VERTICAL
202.660000	20.70	-10.2	43.5	22.8	QP	100.0	270.00	VERTICAL
365.620000	38.70	-5.5	46.0	7.3	QP	100.0	169.00	VERTICAL
941.800000	37.90	7.2	46.0	8.1	QP	100.0	0.00	VERTICAL

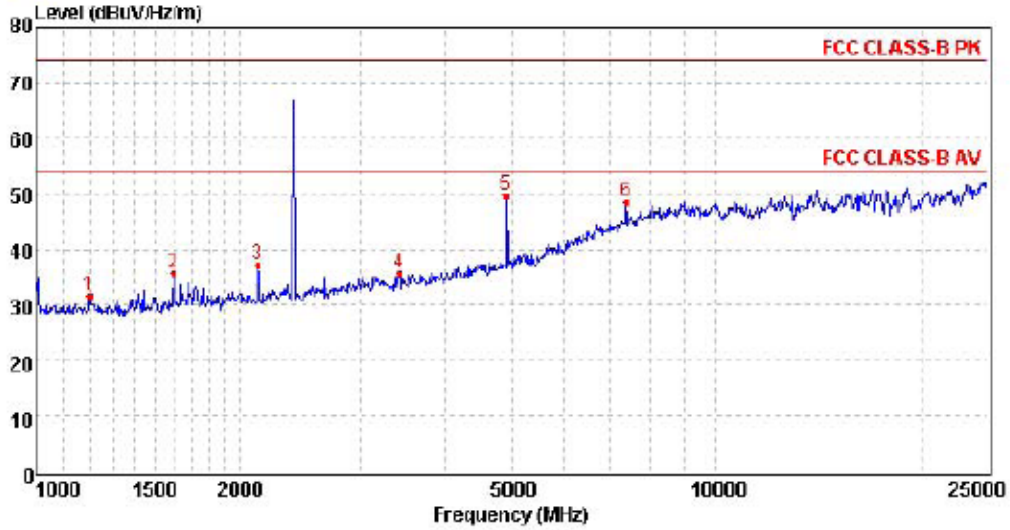
Polarization:	Horizontal



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
30.000000	21.60	-13.3	40.0	18.4	QP	300.0	119.00	HORIZONTAL
57.160000	19.90	-9.4	40.0	20.1	QP	100.0	69.00	HORIZONTAL
97.900000	19.20	-10.8	43.5	24.3	QP	300.0	352.00	HORIZONTAL
289.960000	22.60	-7.4	46.0	23.4	QP	100.0	212.00	HORIZONTAL
365.620000	38.80	-5.5	46.0	7.2	QP	100.0	239.00	HORIZONTAL
924.340000	39.10	7.0	46.0	6.9	QP	100.0	308.00	HORIZONTAL

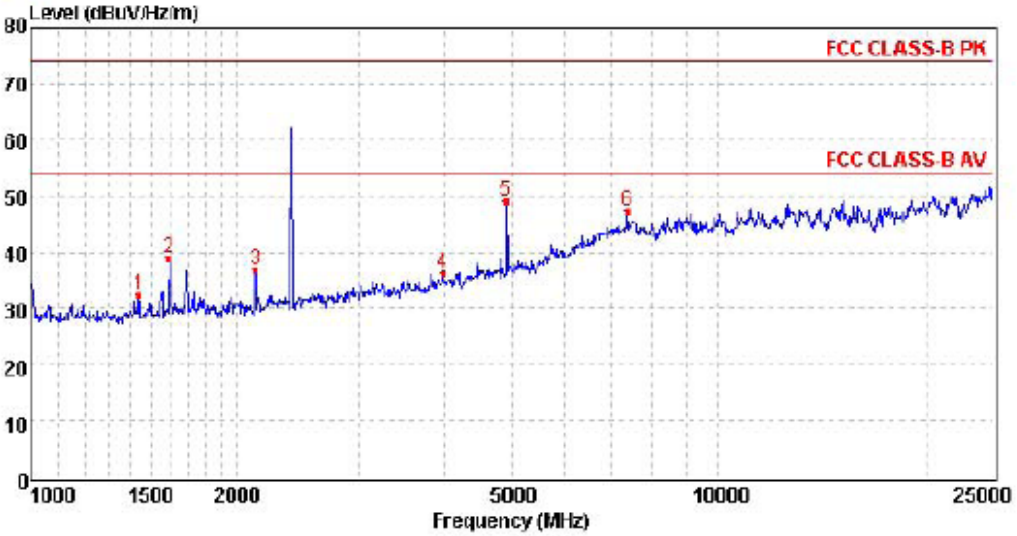
➢ **Above 1GHz**

CH00	Vertical



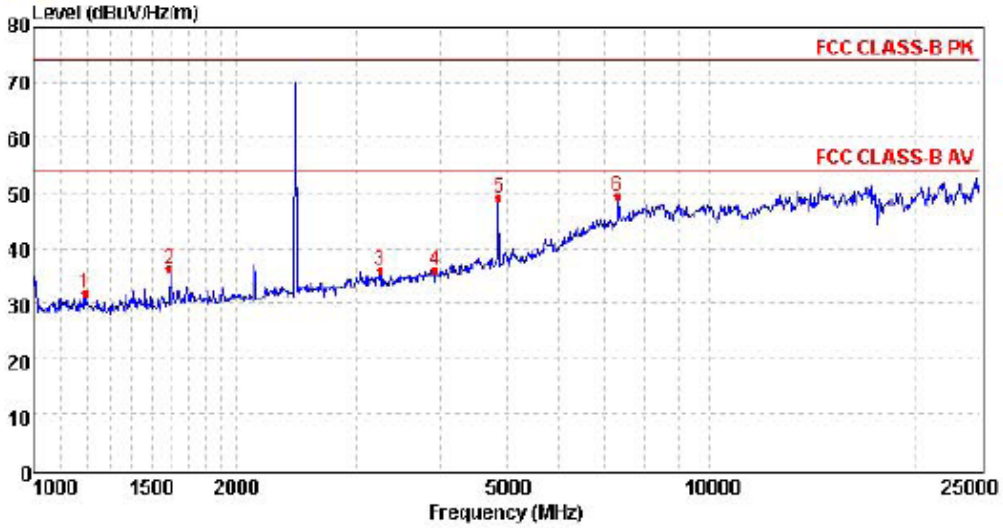
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1199.73	39.10	24.43	4.66	36.57	31.62	74.00	-42.38	Peak
2	1597.18	41.98	25.01	5.56	36.72	35.83	74.00	-38.17	Peak
3	2120.17	41.46	26.57	6.37	37.32	37.08	74.00	-36.92	Peak
4	3425.68	37.56	28.67	8.00	38.51	35.72	74.00	-38.28	Peak
5	4930.72	45.62	31.16	9.62	36.59	49.81	74.00	-24.19	Peak
6	7390.07	35.00	36.12	12.06	34.83	48.35	74.00	-25.65	Peak

CH00	Horizontal



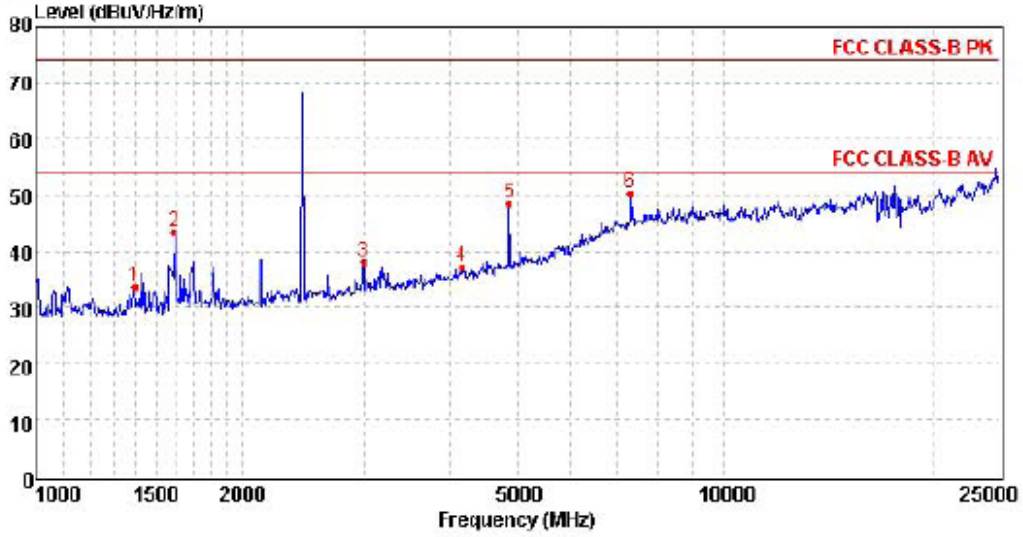
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1439.34	39.14	24.65	5.11	36.51	32.39	74.00	-41.61	Peak
2	1592.57	45.16	24.99	5.55	36.71	38.99	74.00	-35.01	Peak
3	2126.31	41.25	26.59	6.38	37.33	36.89	74.00	-37.11	Peak
4	3981.26	36.17	29.47	8.75	38.12	36.27	74.00	-37.73	Peak
5	4930.72	44.99	31.16	9.62	36.59	49.18	74.00	-24.82	Peak
6	7390.07	33.97	36.12	12.06	34.83	47.32	74.00	-26.68	Peak

CH39	Vertical



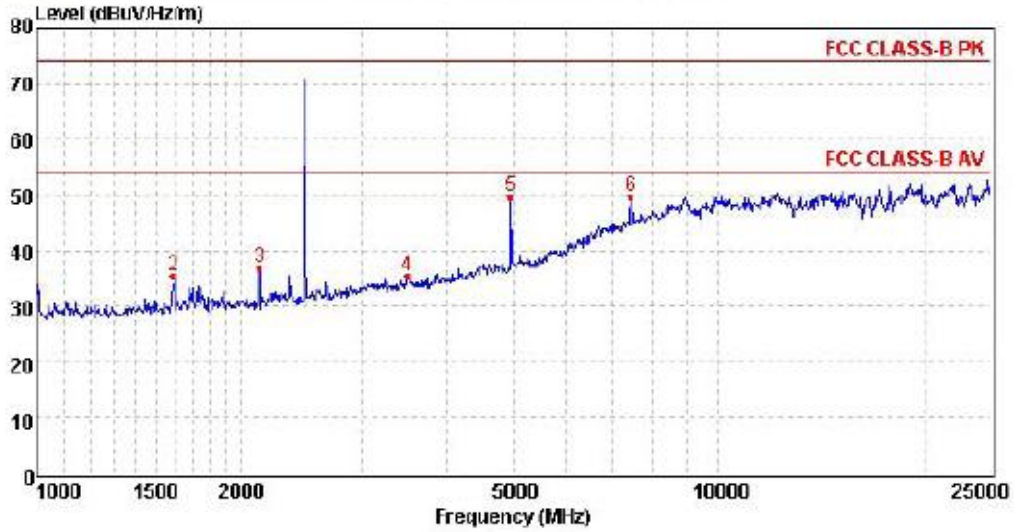
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1192.81	39.40	24.42	4.64	36.57	31.89	74.00	-42.11	Peak
2	1592.57	42.59	24.99	5.55	36.71	36.42	74.00	-37.58	Peak
3	3261.42	37.92	28.61	7.79	38.31	36.01	74.00	-37.99	Peak
4	3924.14	36.20	29.38	8.67	38.16	36.09	74.00	-37.91	Peak
5	4888.15	45.14	31.14	9.60	36.71	49.17	74.00	-24.83	Peak
6	7326.27	36.16	36.07	11.99	34.92	49.30	74.00	-24.70	Peak

CH39	Horizontal



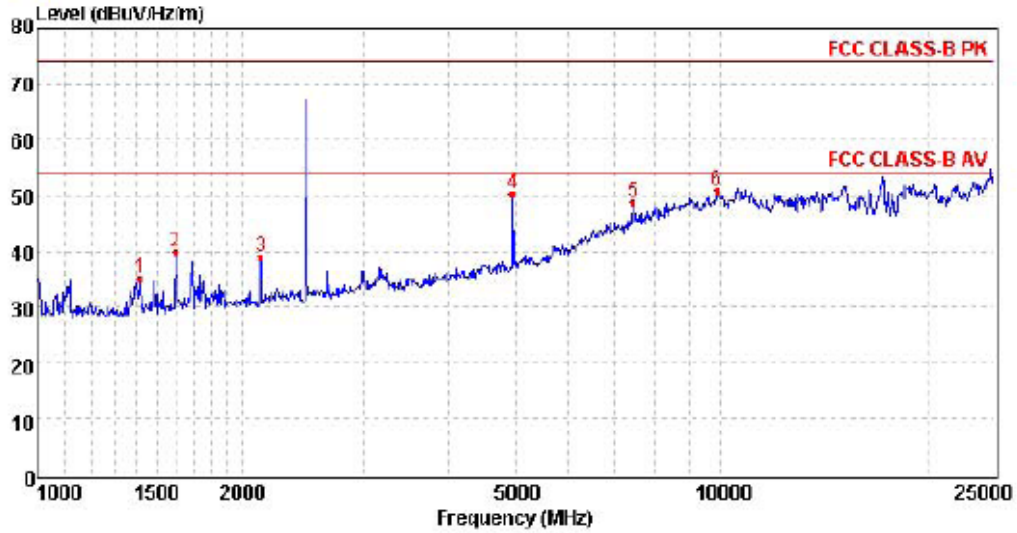
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1394.30	40.58	24.61	4.99	36.46	33.72	74.00	-40.28	Peak
2	1592.57	49.70	24.99	5.55	36.71	43.53	74.00	-30.47	Peak
3	2999.19	40.35	28.50	7.48	38.23	38.10	74.00	-35.90	Peak
4	4169.70	36.03	29.99	8.92	37.72	37.22	74.00	-36.78	Peak
5	4888.15	44.31	31.14	9.60	36.71	48.34	74.00	-25.66	Peak
6	7326.27	37.15	36.07	11.99	34.92	50.29	74.00	-23.71	Peak

CH78	Vertical



Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1000.00	41.82	24.20	4.21	36.67	33.56	74.00	-40.44	Peak
2	1592.57	41.46	24.99	5.55	36.71	35.29	74.00	-38.71	Peak
3	2126.31	41.14	26.59	6.38	37.33	36.78	74.00	-37.22	Peak
4	3505.81	36.98	28.72	8.12	38.40	35.42	74.00	-38.58	Peak
5	4959.31	45.45	31.18	9.64	36.51	49.76	74.00	-24.24	Peak
6	7454.43	36.23	36.17	12.25	34.86	49.79	74.00	-24.21	Peak

CH78	Horizontal



Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1414.60	41.90	24.63	5.04	36.48	35.09	74.00	-38.91	Peak
2	1597.18	46.01	25.01	5.56	36.72	39.86	74.00	-34.14	Peak
3	2126.31	43.44	26.59	6.38	37.33	39.08	74.00	-34.92	Peak
4	4959.31	45.93	31.18	9.64	36.51	50.24	74.00	-23.76	Peak
5	7454.43	35.29	36.17	12.25	34.86	48.85	74.00	-25.15	Peak
6	9895.35	33.40	38.33	13.59	34.48	50.84	74.00	-23.16	Peak

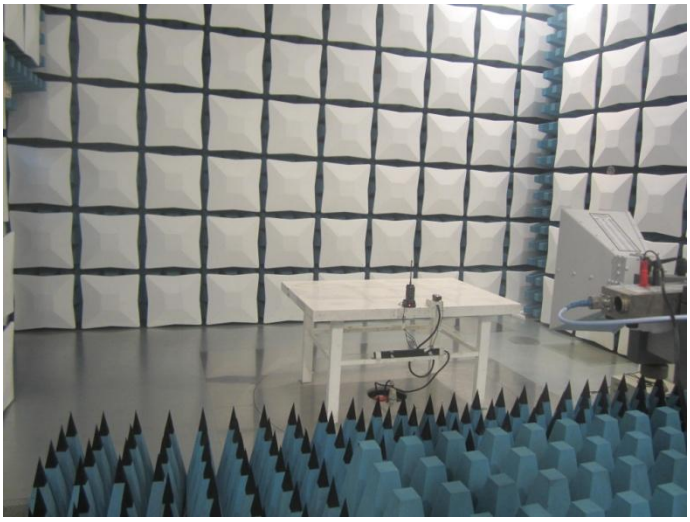
Remark:

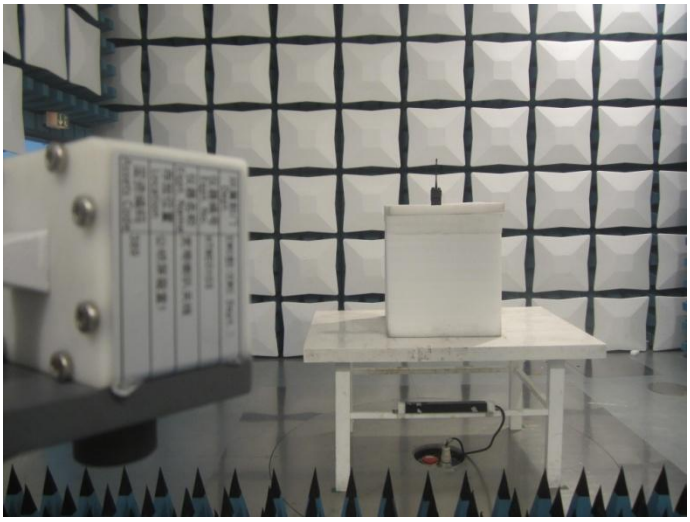
1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The peak level is lower than average limit(54dBuV/m), this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in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

6. Test Setup Photos of the EUT

Conducted Emission (AC Mains):

Radiated Emission:

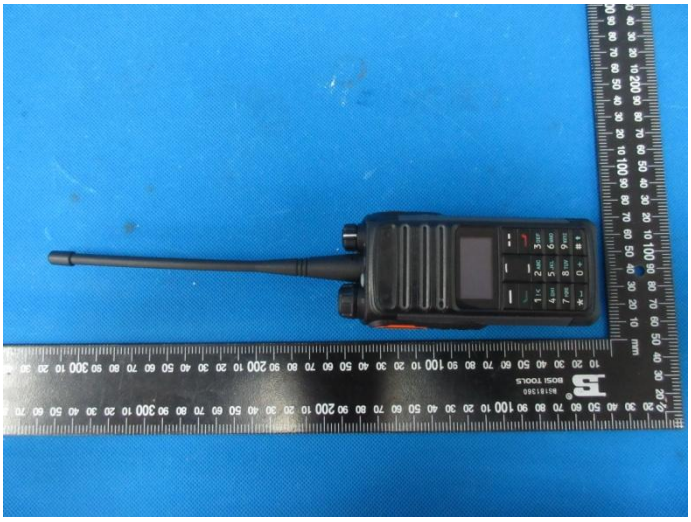


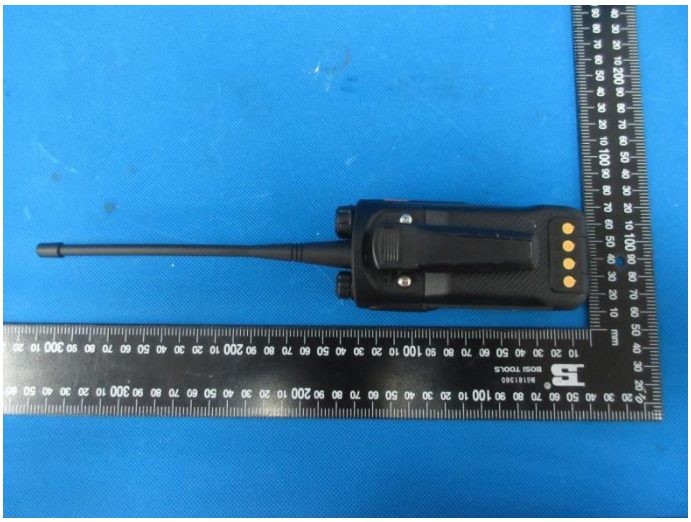


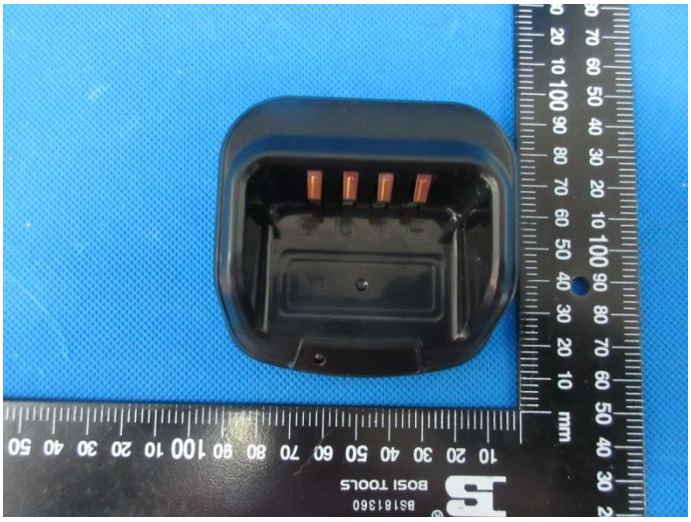
Conducted Emission:

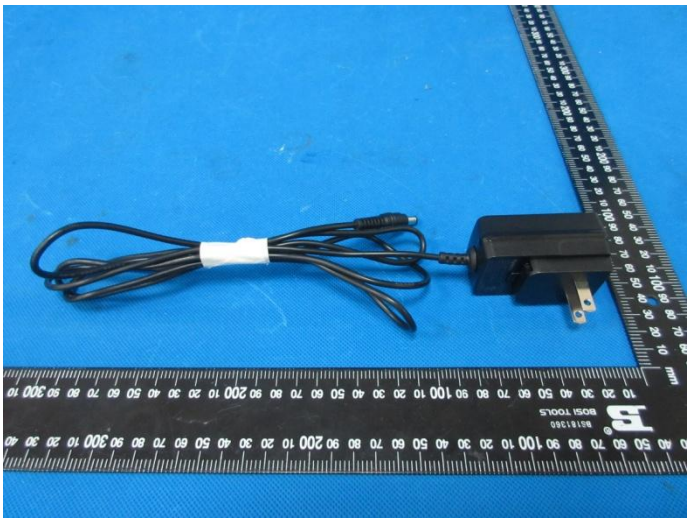
7. External and Internal Photos of the EUT

External photos

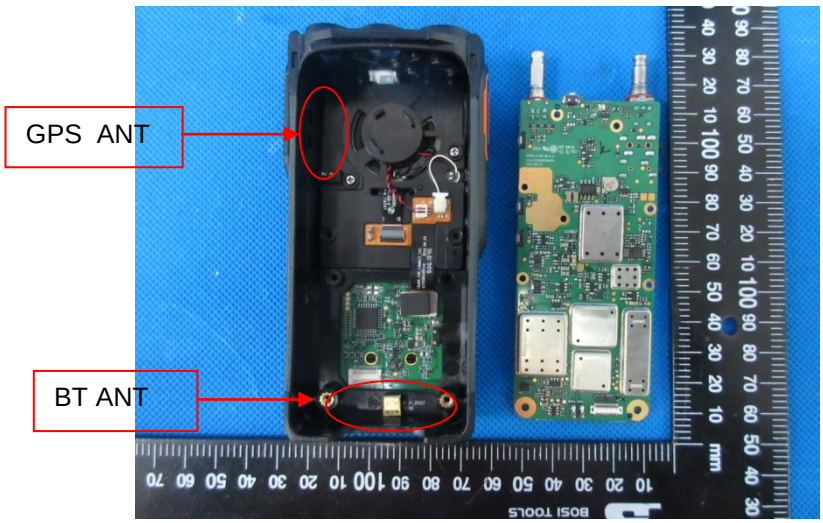


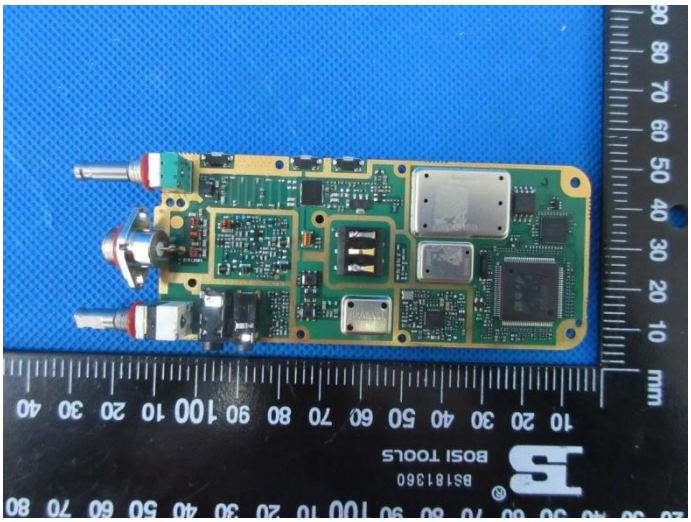


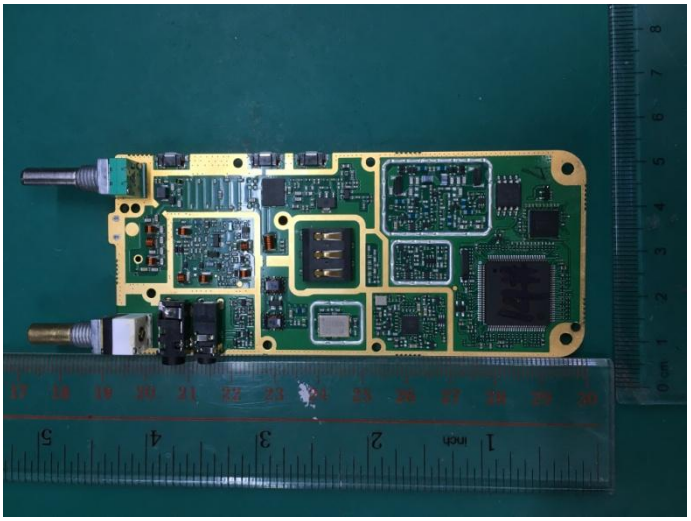

BOSI TOOLS

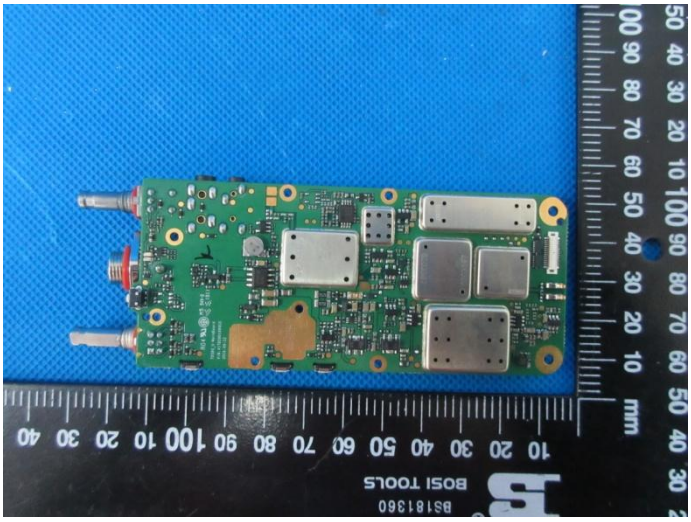

BOSI TOOLS

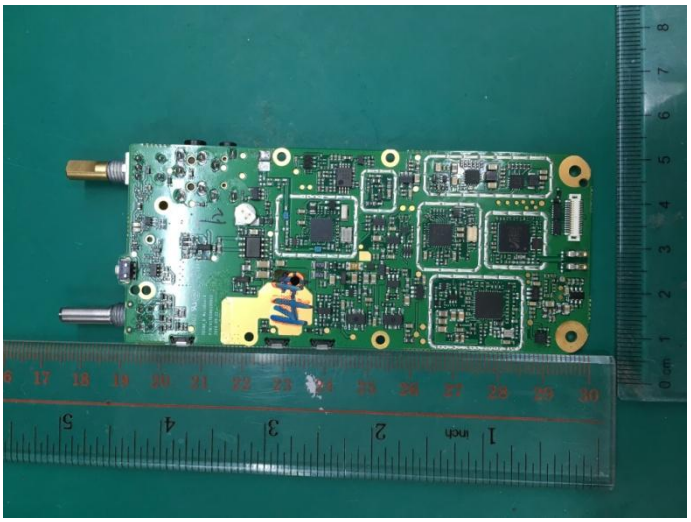
Internal photos

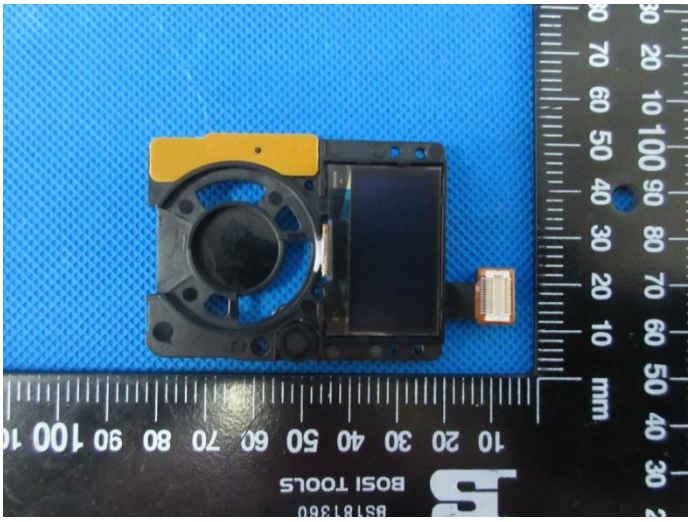

GPS ANT
BT ANT

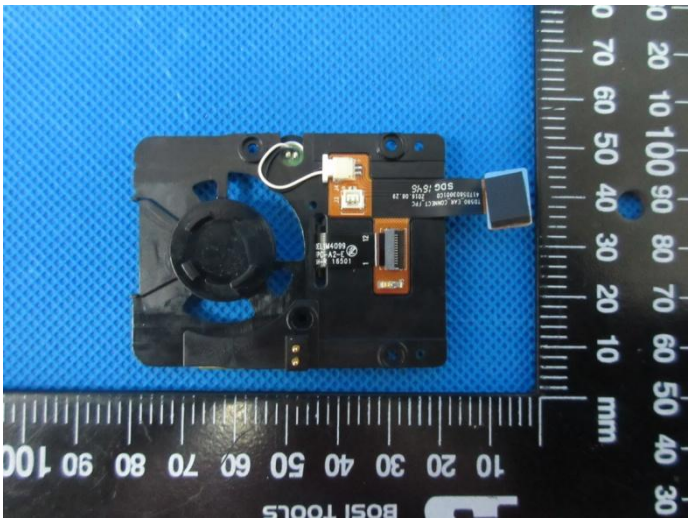

BOSI TOOLS
BS181360

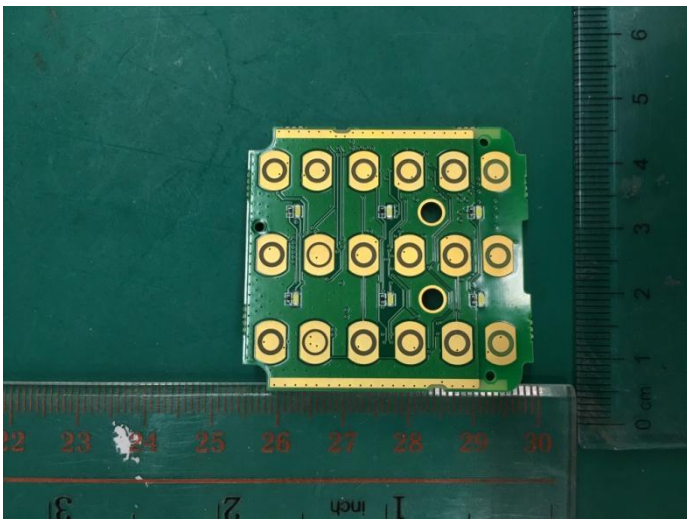


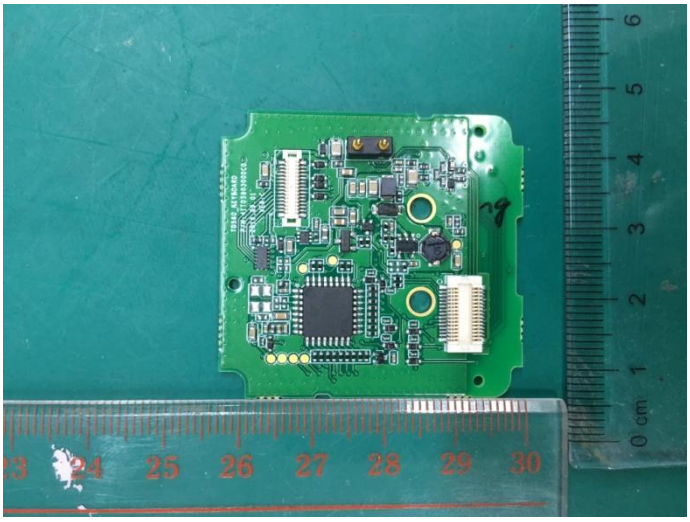





BOSI TOOLS


BOSI TOOLS





--------End of Report---------