

TX3

Test Frequency:	CH _{L3}	Polarity:	Horizontal
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Level (dBm/m)

The graph shows a noisy baseline around -85 dBm. At approximately 440 MHz, there is a sharp peak labeled 1. Between 600-700 MHz, there are two peaks labeled 2 and 3. A very strong peak labeled 4 is at about 1294 MHz. Another peak labeled 5 is at approximately 1827 MHz. A final peak labeled 6 is at about 2332 MHz. The x-axis ranges from 30 to 3000 MHz, and the y-axis ranges from 0 to -100 dBm.

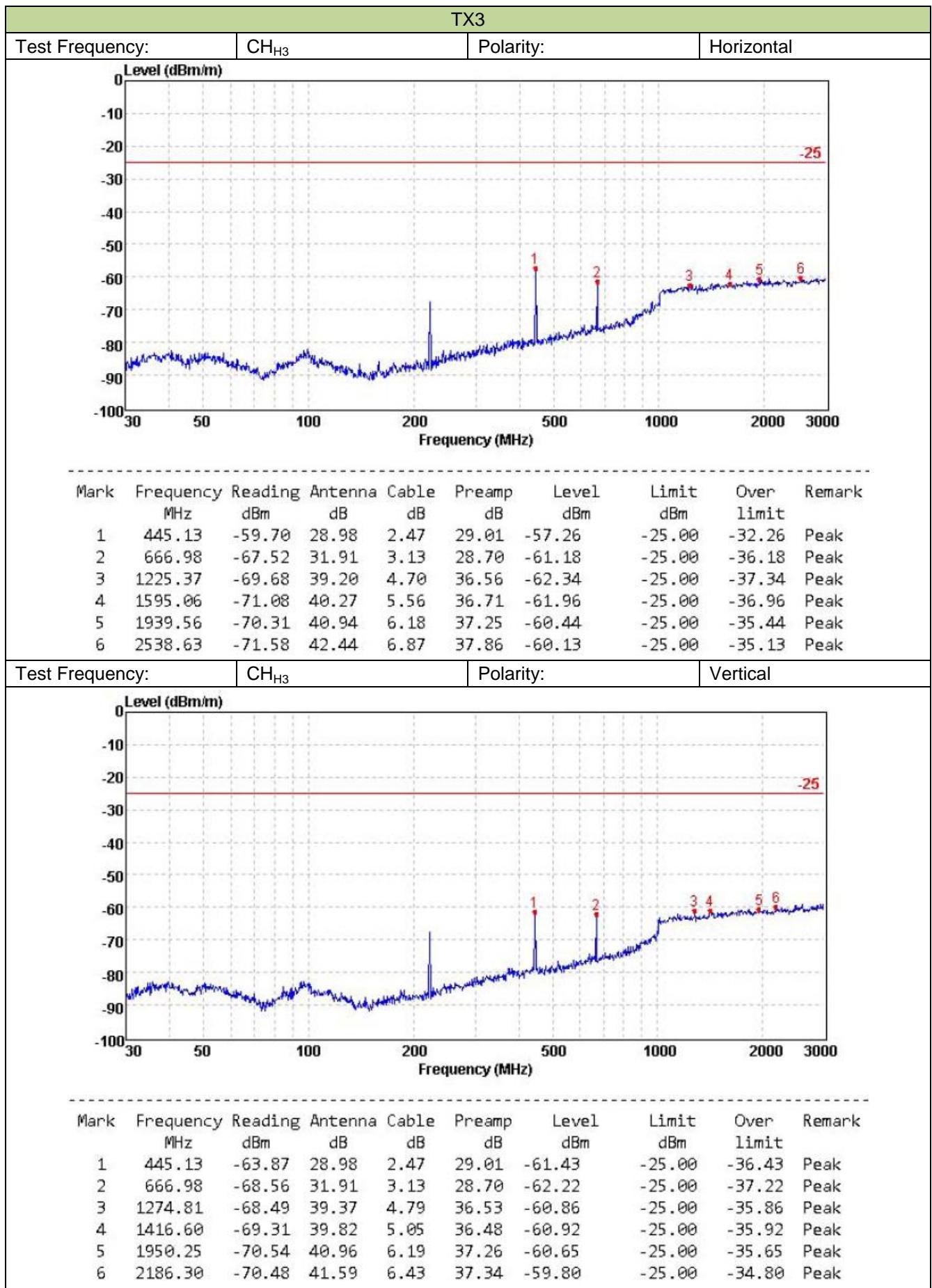
Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	440.46	-65.28	28.89	2.46	29.00	-62.93	-25.00	-37.93	Peak
2	659.98	-75.69	31.89	3.12	28.73	-69.41	-25.00	-44.41	Peak
3	1279.01	-69.32	39.37	4.79	36.53	-61.69	-25.00	-36.69	Peak
4	1628.70	-70.37	40.34	5.63	36.78	-61.18	-25.00	-36.18	Peak
5	1963.15	-71.01	40.98	6.21	37.27	-61.09	-25.00	-36.09	Peak
6	2732.54	-71.96	42.80	7.21	38.18	-60.13	-25.00	-35.13	Peak

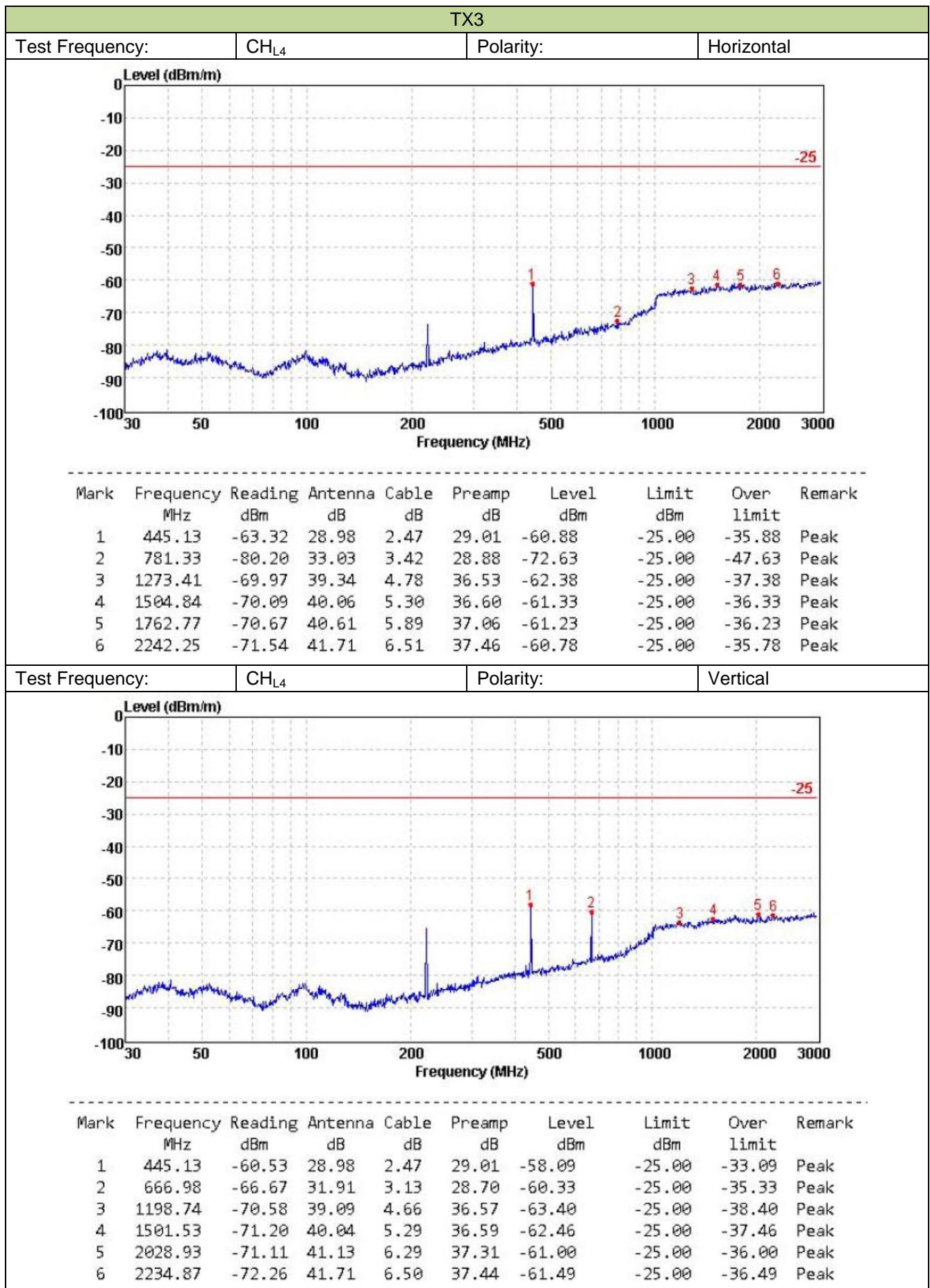
Test Frequency:	CH _{L3}	Polarity:	Vertical
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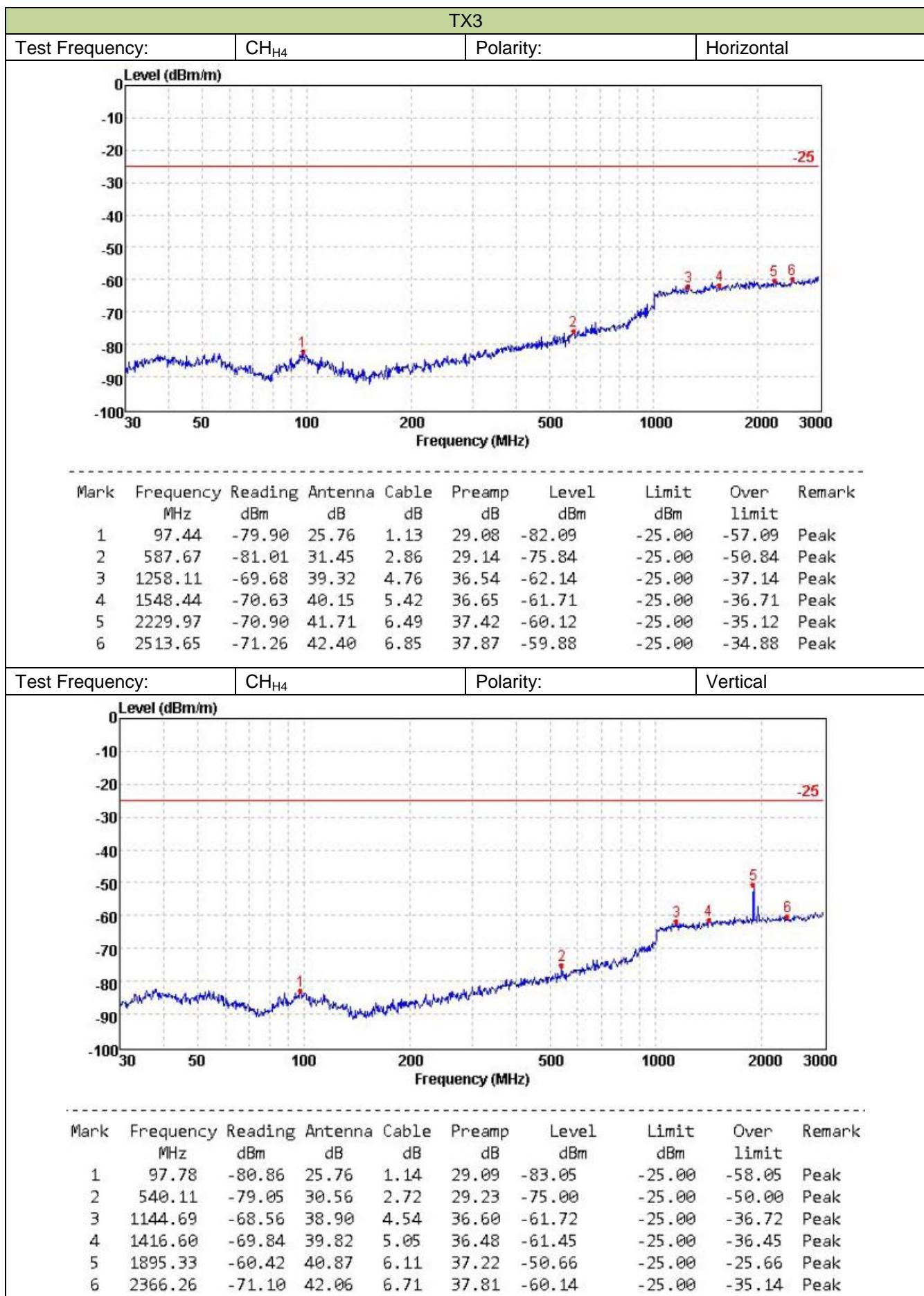
Level (dBm/m)

The graph shows a noisy baseline around -85 dBm. At approximately 440 MHz, there is a sharp peak labeled 1. Between 600-700 MHz, there are two peaks labeled 2 and 3. A very strong peak labeled 4 is at about 1294 MHz. Another peak labeled 5 is at approximately 1827 MHz. A final peak labeled 6 is at about 2332 MHz. The x-axis ranges from 30 to 3000 MHz, and the y-axis ranges from 0 to -100 dBm.

Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	440.46	-61.46	28.89	2.46	29.00	-59.11	-25.00	-34.11	Peak
2	659.98	-65.68	31.89	3.12	28.73	-59.40	-25.00	-34.40	Peak
3	1294.56	-70.60	39.43	4.82	36.52	-62.87	-25.00	-37.87	Peak
4	1473.75	-69.89	39.98	5.21	36.56	-61.26	-25.00	-36.26	Peak
5	1827.85	-70.38	40.73	6.00	37.16	-60.81	-25.00	-35.81	Peak
6	2332.71	-71.32	41.94	6.66	37.71	-60.43	-25.00	-35.43	Peak







5.10. Conducted Emissions

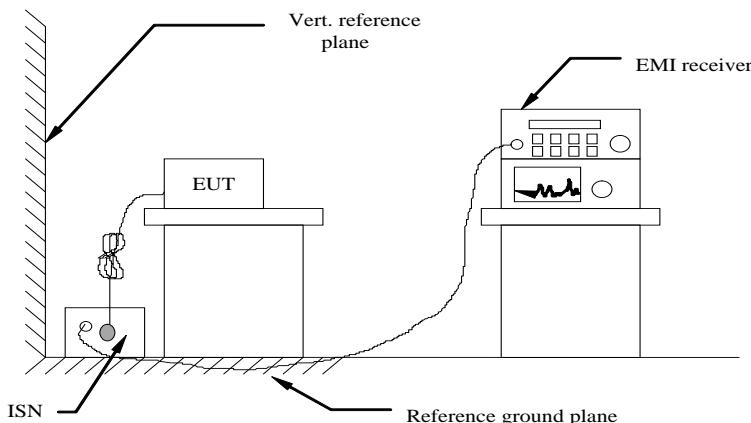
The frequency spectrum from 0.15 MHz to 30 MHz was investigated. The LISN used was 50 ohm / 50 u Henry as specified by section 5.1 of ANSI C63.4-2014. Cables and peripherals were moved to find the maximum emission levels for each frequency.

Limit

FCC part 15.107(a)

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
	66 to 56 *	56 to 46 *
0.15-0.5	56	46
0.5-5	60	50
5-30		

TEST CONFIGURATION



TEST PROCEDURE

- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4-2014.
- 2 Support equipment, if needed, was placed as per ANSI C63.4-2014.
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4-2014.
- 4 If a EUT received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5 All support equipments received AC power from a second LISN, if any
- 6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7 Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8 During the above scans, the emissions were maximized by cable manipulation.

TEST MODE:

Please reference to the section 3.4

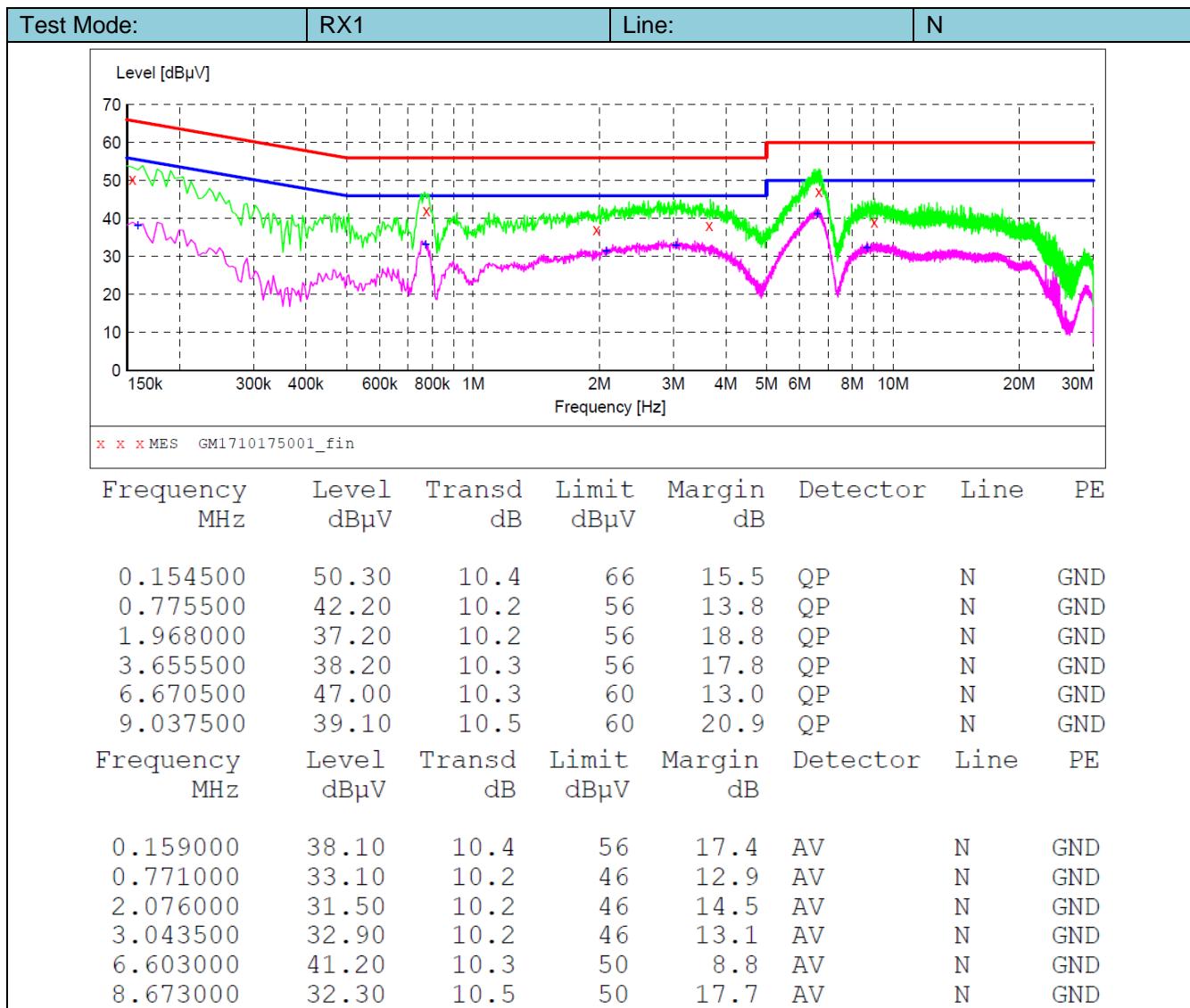
TEST RESULTS

Have pre-tested RX1 to RX3 mode, record the worst case mode RX1 on the report.

Passed

Not Applicable

Test Mode:	RX1	Line:	L																																																								
<code>x x x MES GM1710175002_fin</code>																																																											
<table> <thead> <tr> <th>Frequency MHz</th><th>Level dBμV</th><th>Transd dB</th><th>Limit dBμV</th><th>Margin dB</th><th>Detector</th><th>Line</th><th>PE</th></tr> </thead> <tbody> <tr><td>0.159000</td><td>49.50</td><td>10.4</td><td>66</td><td>16.0</td><td>QP</td><td>L1</td><td>GND</td></tr> <tr><td>0.748500</td><td>46.10</td><td>10.2</td><td>56</td><td>9.9</td><td>QP</td><td>L1</td><td>GND</td></tr> <tr><td>1.995000</td><td>40.40</td><td>10.2</td><td>56</td><td>15.6</td><td>QP</td><td>L1</td><td>GND</td></tr> <tr><td>2.557500</td><td>41.90</td><td>10.2</td><td>56</td><td>14.1</td><td>QP</td><td>L1</td><td>GND</td></tr> <tr><td>6.490500</td><td>49.70</td><td>10.3</td><td>60</td><td>10.3</td><td>QP</td><td>L1</td><td>GND</td></tr> <tr><td>9.064500</td><td>40.20</td><td>10.5</td><td>60</td><td>19.8</td><td>QP</td><td>L1</td><td>GND</td></tr> </tbody> </table>				Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE	0.159000	49.50	10.4	66	16.0	QP	L1	GND	0.748500	46.10	10.2	56	9.9	QP	L1	GND	1.995000	40.40	10.2	56	15.6	QP	L1	GND	2.557500	41.90	10.2	56	14.1	QP	L1	GND	6.490500	49.70	10.3	60	10.3	QP	L1	GND	9.064500	40.20	10.5	60	19.8	QP	L1	GND
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5.11. Radiated Emission

LIMIT

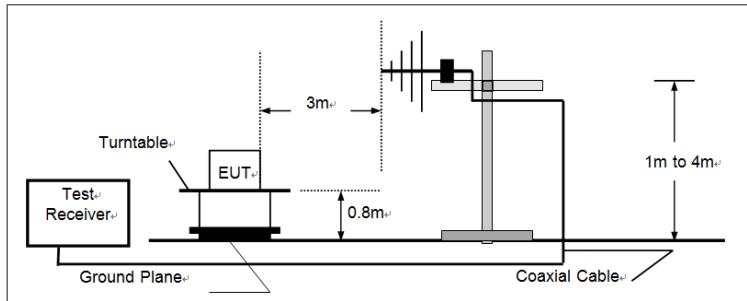
For unintentional device, according to § 15.109(a) except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dB μ V/m)	Radiated (μ V/m)
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

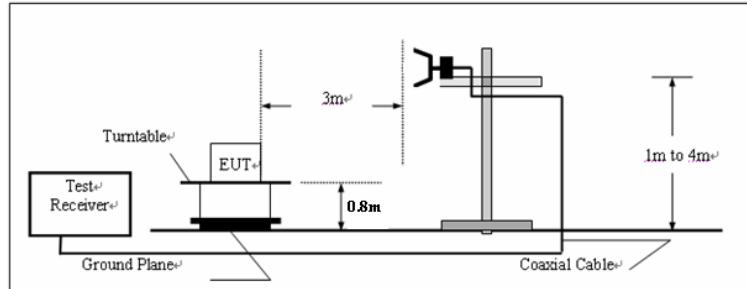
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

TEST CONFIGURATION

(A) Radiated Emission Test Set-Up, Frequency below 1000MHz



(B) Radiated Emission Test Set-Up, Frequency above 1000MHz



TEST PROCEDURE

- 1 The EUT was placed on a turn table which is 0.8m above ground plane.
- 2 Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0°C to 360°C to acquire the highest emissions from EUT
- 3 And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 4 Repeat above procedures until all frequency measurements have been completed.

TEST MODE:

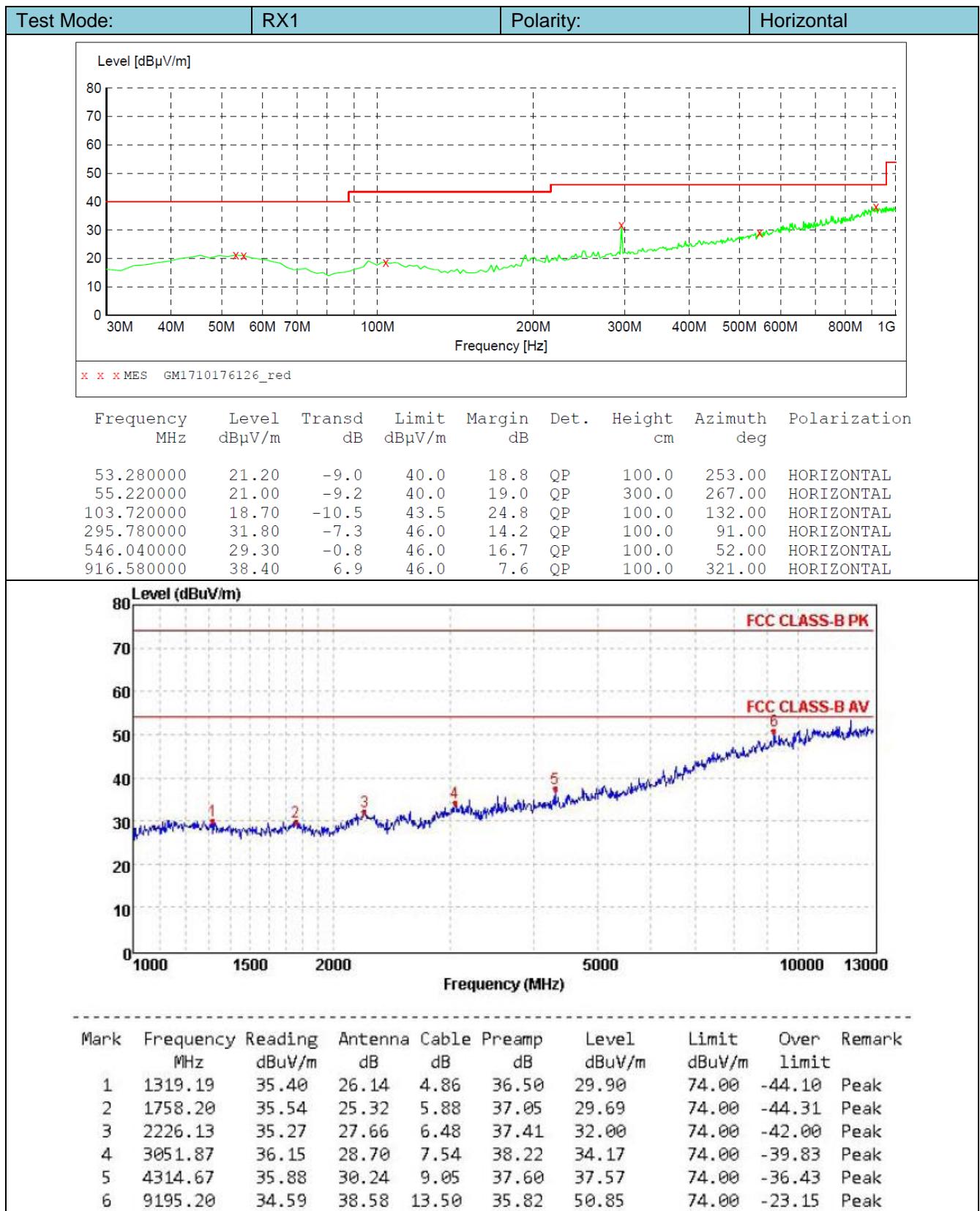
Please reference to the section 3.4

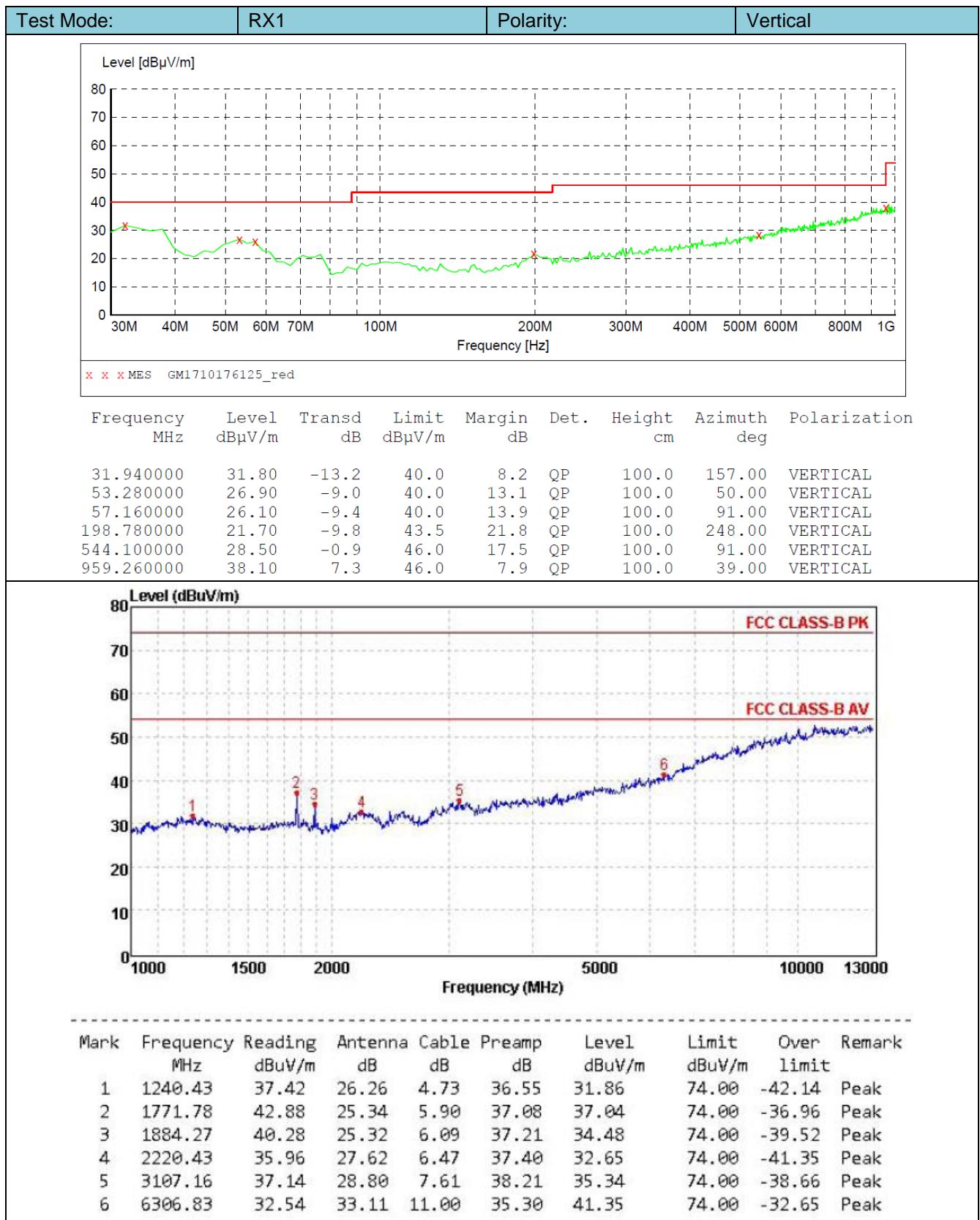
TEST RESULTS

Passed Not Applicable

Note:

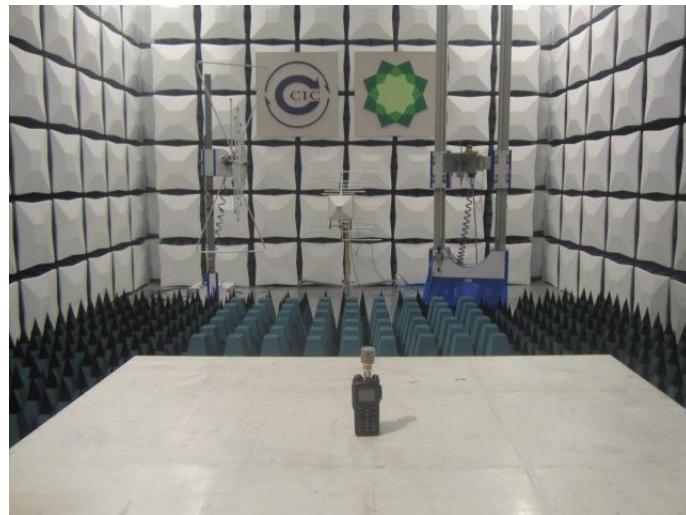
1. The EUT shall be scanned from 30 MHz to the 5th harmonic of the highest oscillator frequency in the digital devices or 1 GHz whichever is higher.
2. Have pre-tested RX1 to RX3 mode, record the worst case mode RX1 on the report.



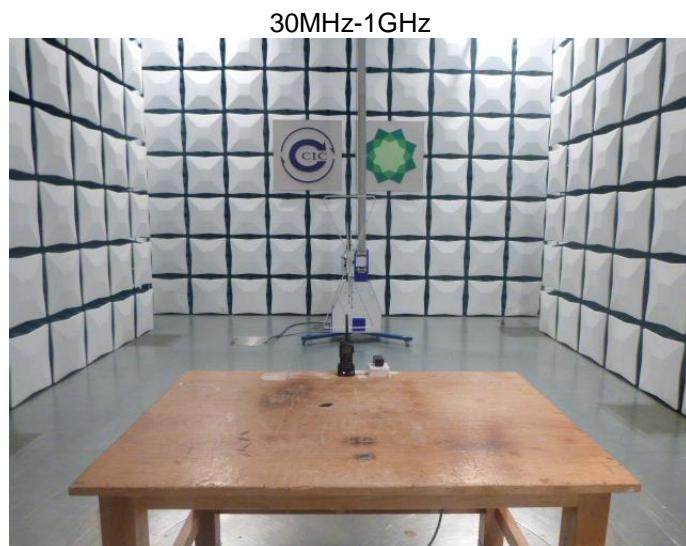


6. Test Setup Photos of the EUT

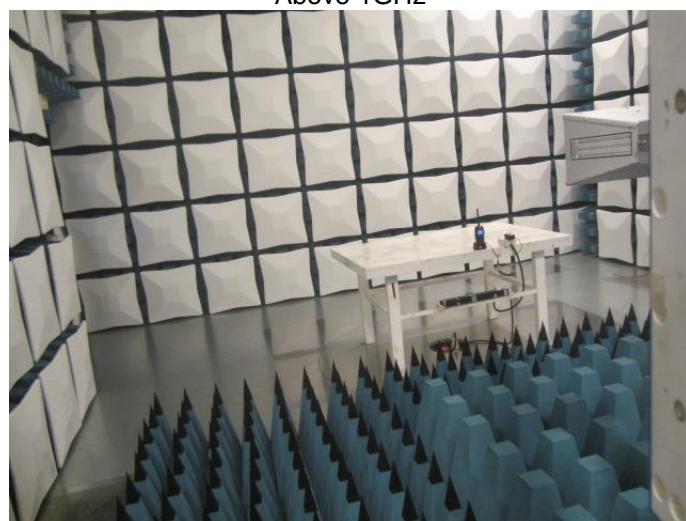
Transmitter Radiated Spurious Emission:



Radiated Emission:



Above 1GHz



Frequency stability:



7. External and Internal Photos of the EUT

External Photos of the EUT

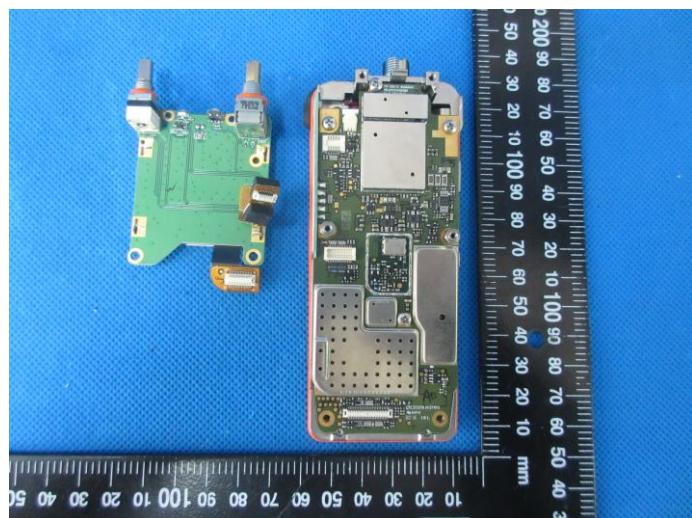


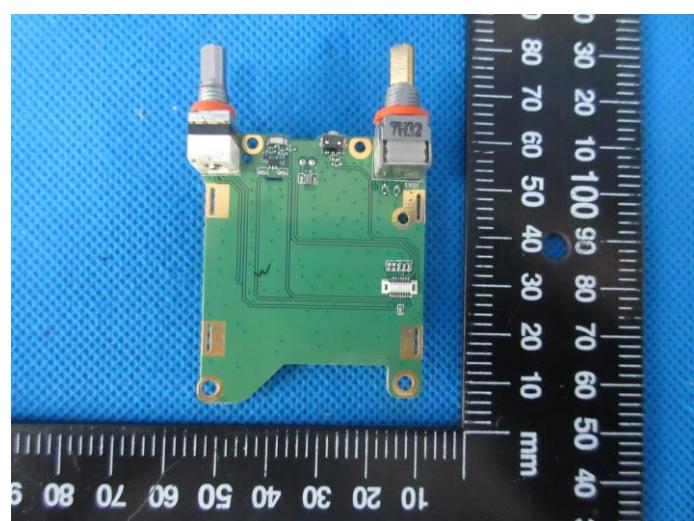
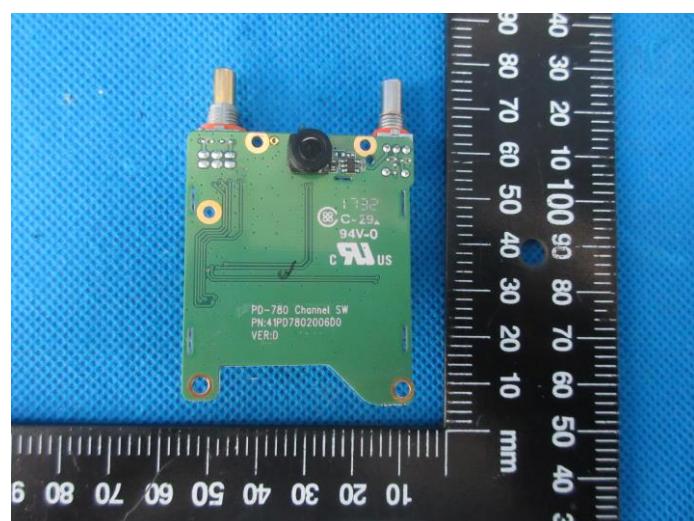
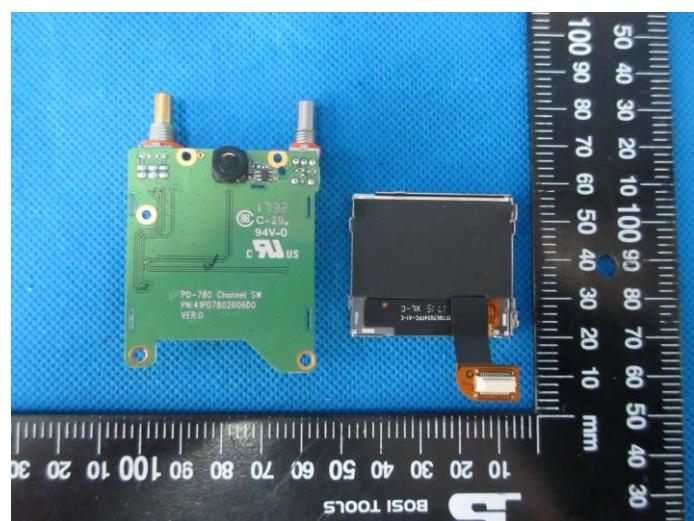


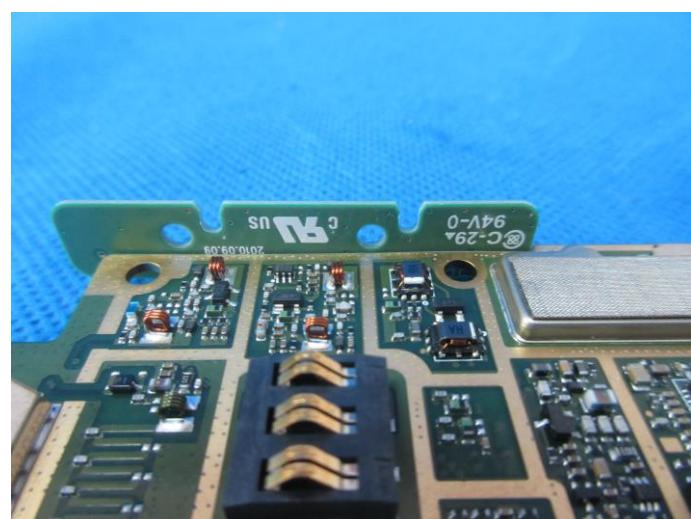
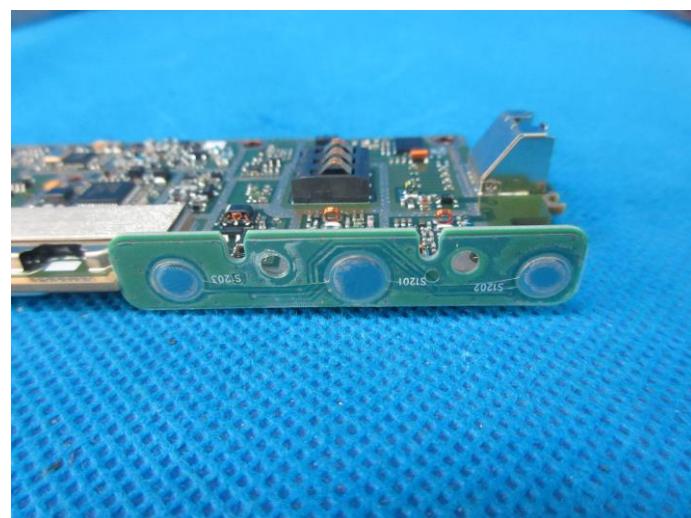
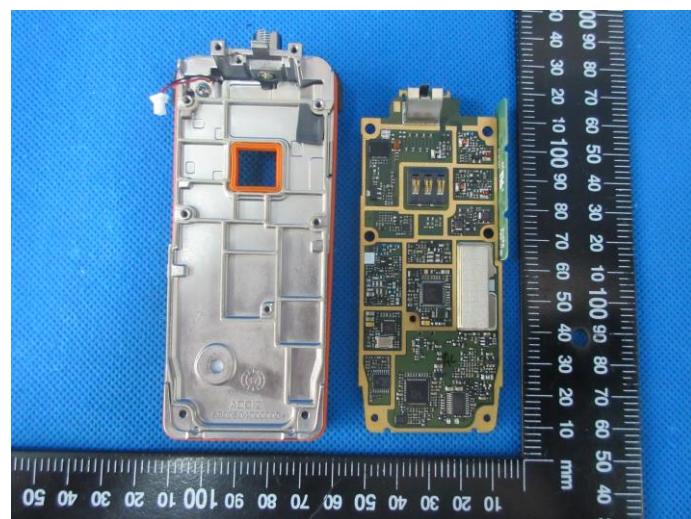


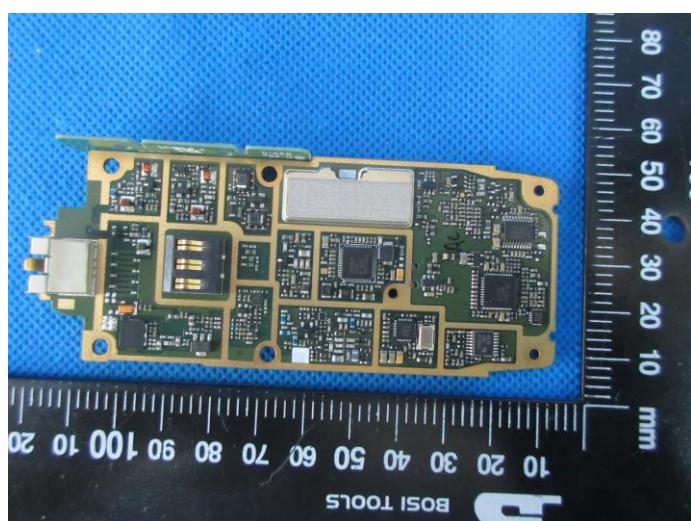
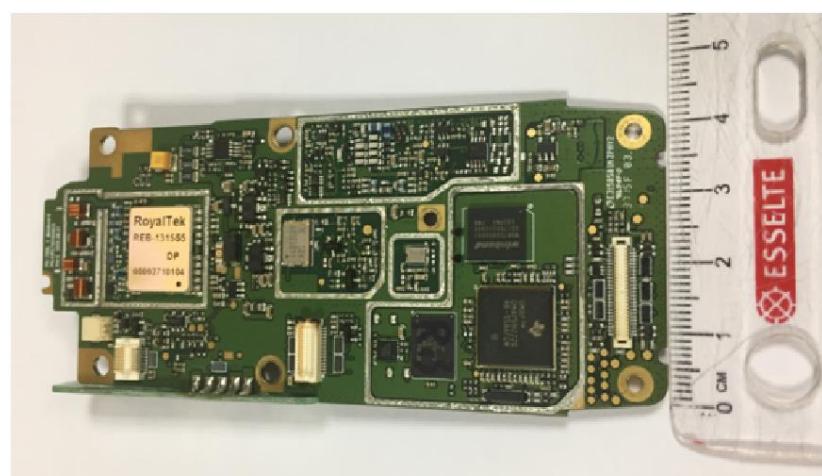
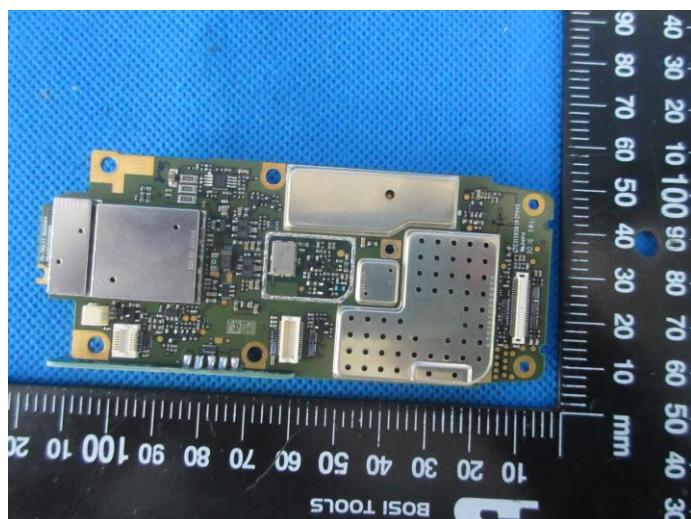
Internal Photos of the EUT

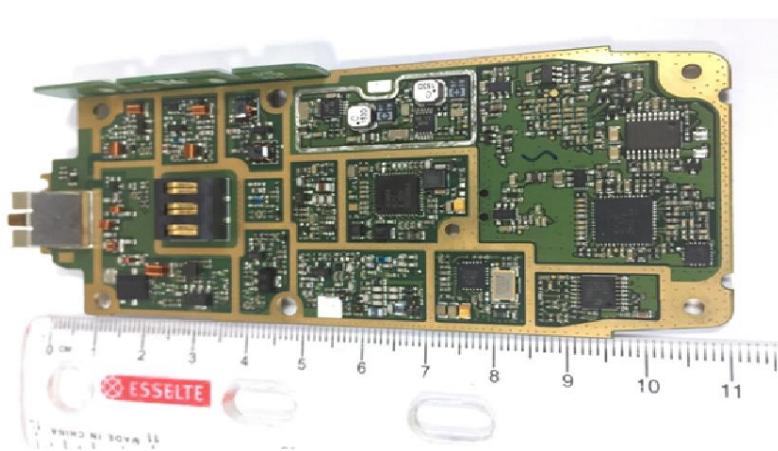












-----End of Report-----