

## FCC Part 15B Compliance Test Report

<b>Test Report no.:</b>	FCC15B_RM-1128_16.docx	<b>Date of Report:</b>	09-Sep-2015
<b>Number of pages:</b>	18	<b>Customer's Contact person:</b>	Tero Huhtala
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<b>FCC listing no.:</b>	975940		
<b>IC recognition no.:</b>	661AH-1		
<b>Tested devices/ accessories:</b>	<b>Phone RM-1128 / Cover CC-3097 / Battery Samsung BL-T5A / AC Charger AC-18U / Headset WH-108 /</b>		
<b>FCC ID:</b>	PYARM-1128	<b>IC:</b>	661X-RM1128
<b>Supplement reports:</b>	-		
<b>Testing has been carried out in accordance with:</b>	CFR 47, FCC rules Part 15 Subpart B, ANSI C63.4 (2014), CISPR 22 and IC standards, RSS-GEN (Issue 4, November 2014), RSS-132 (Issue 3, January 2013), RSS-133 (Issue 6, January 2013), RSS-199 (Issue 2, October 2014), RSS-139 (Issue 2, February 2009), RSS-130 (Issue 1, October 2013). Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".		
<b>Documentation:</b>	The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 15 years at TCC Microsoft.		
<b>Test Results:</b>	<b>The EUT complies with the requirements in respect of all parameters subject to the test.</b> The test results relate only to devices specified in this document		
<b>Date and signature for the contents:</b>			

Gao Sherina, System Manager, EMC

## 1. Summary for FCC Part 15B Compliance Test Report

Date of receipt	15-Jul-2015
Testing completed	06-Aug-2015
The customer's contact person	Tero Huhtala
Test Plan referred to	T:\Projects\RM-1128\TestPlan\RS_TestPlan_RM-1128_EMCC_FCC.xlsm
Notes	-
Document name	FCC15B_RM-1128_16.docx

### 1.1. EUT and Accessory Information

The EUT is a mobile phone with following features:  
GSM/WCDMA/WLAN/Bluetooth  
The EUT is tested with maximum rated TX power.

Devices under tests

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-1128	004402742351970	1510	-	01065.00000.15265.37000	500100
Cover	CC-3097	-	-	-	-	500127
Battery	Samsung BL-T5A	5241525213V10200063;0670778	PWB Ver.1.1	-	-	500101
AC-Charger	AC-18U	4818715115100100661;0675735	-	-	-	500124
Headset	WH-108	-	-	-	-	500121

### 1.2. Summary of Test Results

#### GSM 850:

Section in CFR 47	Section in RSS-GEN	Name of the test	Result
15.107, a	8.8	AC powerline conducted emissions	NP
15.109, a	6.1	Radiated emissions	PASSED

#### GSM 1900:

Section in CFR 47	Section in RSS-GEN	Name of the test	Result
15.107, a	8.8	AC powerline conducted emissions	NP
15.109, a	6.1	Radiated emissions	PASSED

#### WCDMA4:

Section in CFR 47	Section in RSS-GEN	Name of the test	Result
15.107, a	8.8	AC powerline conducted emissions	NP
15.109, a	6.1	Radiated emissions	PASSED

#### LTE7:

Section in CFR 47	Section in RSS-GEN	Name of the test	Result
15.107, a	8.8	AC powerline conducted emissions	NP
15.109, a	6.1	Radiated emissions	PASSED

#### LTE12:

Section in CFR 47	Section in RSS-GEN	Name of the test	Result
15.107, a	8.8	AC powerline conducted emissions	NP
15.109, a	6.1	Radiated emissions	PASSED

**LTE17:**

Section in CFR 47	Section in RSS-GEN	Name of the test	Result
15.107, a	8.8	AC powerline conducted emissions	NP
15.109, a	6.1	Radiated emissions	PASSED

PASSED  
FAILED  
NP

The EUT complies with the essential requirements in the standard.  
The EUT does not comply with the essential requirements in the standard.  
The test was not performed by the TCC Microsoft Laboratory.

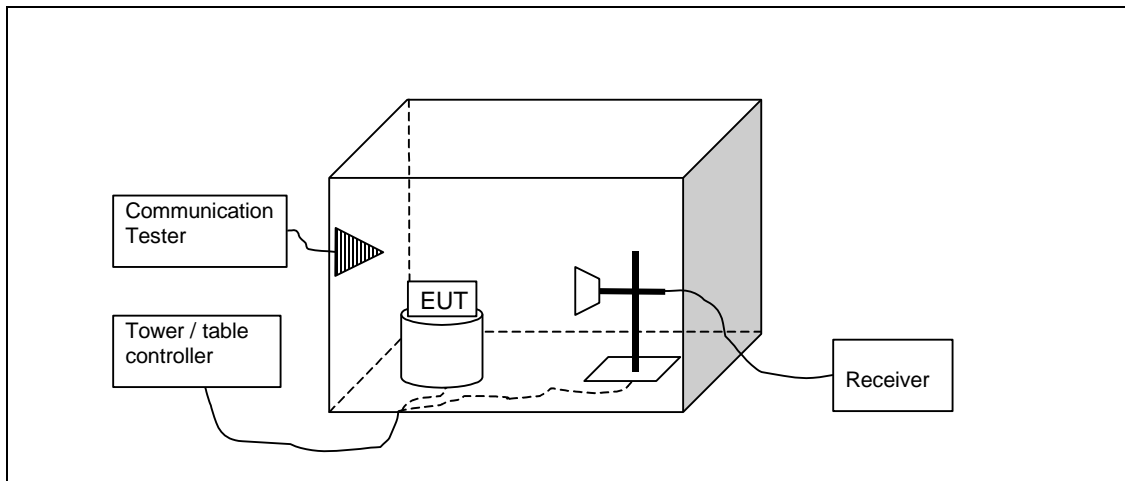
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**2. Radiated emissions**  
(FCC 15.109, a, RSS-132 6.1, RSS-133 6.1, RSS-199 6.1, RSS-139 6.1, RSS-130 6.1)

<b>EUT with DUT number</b>	RM-1128, DUT 500100
<b>Accessories with DUT numbers</b>	CC-3097, DUT 500127 ; Samsung BL-T5A, DUT 500101; AC-18U, DUT 500124; WH-108, DUT 500121
<b>Operation Voltage [V] / [Hz]</b>	115 / 60
<b>Results</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	20/63/100.1 to 22/65/100.5
<b>Date of measurements</b>	02-Aug-2015 to 06-Aug-2015
<b>Measured by</b>	Gao Sherina

**2.1.1 Test setup**



**2.2. Test method and limit**

The measurement is made according to ANSI C63.4-2014as follows:

The measurement is performed in the Semi-Anechoic Chamber with conducting metal floor.

The measurement distance is 3 m.

The EUT is placed on a nonconductive plate at 80 cm height.

For each suspected frequency, the turntable is rotated 360 degrees and antenna is scanned from 1 to 4 m. This is repeated for both horizontal and vertical receive antenna polarizations.

The emissions less than 20 dB below the permissible value are reported.

The measurement results are obtained as described below:

$$E [dB\mu V/m] = U_{RX} + A_{TOT}$$

Where  $U_{RX}$  is receiver reading and  $A_{TOT}$  is total correction factor including cable loss, antenna factor and preamplifier gain ( $A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$ ).

CISPR 22 and FCC Part 15 Class B limits (3 m measurement distance)

Frequency range [MHz]	Quasi peak limit [dB $\mu$ V/m]	Average limit [dB $\mu$ V/m]	Peak limit [dB $\mu$ V/m]
30 - 230	40	-	-
230 - 1000	47	-	-
1000 - 3000	-	50	70
Above 3000	-	54	74

### 2.3. GSM 850 test results; FM Radio on

RX mode, channel 128 / 869.2 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
3476.6	41.66	121.06	42.66	-1	74	32.34	PASSED
6954.5	55.78	615.177	47.08	8.7	74	18.22	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
3476.6	28.13	25.498	29.13	-1	54	25.87	PASSED
6954.5	43.33	146.724	34.63	8.7	54	10.67	PASSED

RX mode, channel 190 / 881.6 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
30.15	15.55	5.991	26.65	-11.1	40	24.45	PASSED
47.886	12.5	4.217	35.3	-22.8	40	27.5	PASSED
98.046	30.65	34.08	54.55	-23.9	40	9.35	PASSED
228.387	27.48	23.659	50.28	-22.8	40	12.52	PASSED

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
3525.1	41.18	114.551	41.58	-0.4	74	32.82	PASSED
7052.1	50.1	319.89	40.1	10	74	23.9	PASSED
7823.951	50.38	330.37	39.38	11	74	23.62	PASSED
7832.462	50.28	326.588	39.28	11	74	23.72	PASSED
7844.391	50.36	329.61	39.36	11	74	23.64	PASSED
7854.407	50.69	342.373	39.69	11	74	23.31	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
3525.1	28.42	26.363	28.82	-0.4	54	25.58	PASSED
7052.1	35.78	61.518	25.78	10	54	18.22	PASSED
7823.951	36.94	70.307	25.94	11	54	17.06	PASSED
7832.462	37.02	70.958	26.02	11	54	16.98	PASSED
7844.391	37.01	70.876	26.01	11	54	16.99	PASSED
7854.407	37.13	71.862	26.13	11	54	16.87	PASSED

RX mode, channel 251 / 893.8 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
3575.5	41.64	120.781	42.44	-0.8	74	32.36	PASSED
7149.9	49.19	288.071	38.79	10.4	74	24.81	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
3575.5	28.07	25.322	28.87	-0.8	54	25.93	PASSED
7149.9	36.02	63.241	25.62	10.4	54	17.98	PASSED

## 2.4. GSM 1900 test results; GPS active

RX mode, channel 512 / 1930.2 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
3860.8	40.76	109.144	41.06	-0.3	74	33.24	PASSED
7720.4	49.76	307.61	39.16	10.6	74	24.24	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
3860.8	28.09	25.38	28.39	-0.3	54	25.91	PASSED
7720.4	36.43	66.298	25.83	10.6	54	17.57	PASSED



RX mode, channel 661 / 1960.0 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
34.539	18.59	8.502	32.69	-14.1	40	21.41	PASSED
42.175	20.18	10.209	39.28	-19.1	40	19.82	PASSED
47.916	16.86	6.966	39.66	-22.8	40	23.14	PASSED
88.024	19.02	8.933	43.52	-24.5	40	20.98	PASSED
228.767	27.68	24.21	50.48	-22.8	40	12.32	PASSED

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
3918.7	40.63	107.523	40.93	-0.3	74	33.37	PASSED
7824.048	49.93	313.69	38.93	11	74	24.07	PASSED
7838.28	50.27	326.212	39.27	11	74	23.73	PASSED
7839	50.27	326.212	39.27	11	74	23.73	PASSED
7857.211	50.34	328.852	39.34	11	74	23.66	PASSED
7859.522	50.37	329.989	39.27	11.1	74	23.63	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
3918.7	27.8	24.547	28.1	-0.3	54	26.2	PASSED
7824.048	36.97	70.55	25.97	11	54	17.03	PASSED
7838.28	37.07	71.367	26.07	11	54	16.93	PASSED
7839	37.04	71.121	26.04	11	54	16.96	PASSED
7857.211	37.18	72.277	26.18	11	54	16.82	PASSED
7859.522	37.19	72.36	26.09	11.1	54	16.81	PASSED

RX mode, channel 810 / 1989.8 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
3981.8	41.23	115.213	41.33	-0.1	74	32.77	PASSED
7959.7	50.46	333.426	38.96	11.5	74	23.54	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
3981.8	27.59	23.961	27.69	-0.1	54	26.41	PASSED
7959.7	37.37	73.875	25.87	11.5	54	16.63	PASSED

## 2.5. WCDMA4 test results; GPS active

RX mode, channel 1537 / 2112.4 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
4223.4	41.32	116.413	40.92	0.4	74	32.68	PASSED
6335.3	50.67	341.586	45.27	5.4	74	23.33	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
4223.4	27.96	25.003	27.56	0.4	54	26.04	PASSED
6335.3	37.76	77.268	32.36	5.4	54	16.24	PASSED

RX mode, channel 1637 / 2132.4 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
30.24	14.56	5.346	25.76	-11.2	40	25.44	PASSED
41.905	20.91	11.105	39.81	-18.9	40	19.09	PASSED
47.905	14.4	5.248	37.2	-22.8	40	25.6	PASSED
228.457	27.35	23.308	50.15	-22.8	40	12.65	PASSED

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
2133.565	54.14	509.331	54.94	-0.8	70	15.86	PASSED
4281.5	40.3	103.514	39.9	0.4	74	33.7	PASSED
6420.6	50.55	336.899	44.75	5.8	74	23.45	PASSED
7834.97	49.55	300.262	38.55	11	74	24.45	PASSED
7842.487	49.91	312.968	38.91	11	74	24.09	PASSED
7845.094	50.26	325.837	39.26	11	74	23.74	PASSED
7855.515	50.07	318.787	39.07	11	74	23.93	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
2133.565	39.36	92.897	40.16	-0.8	50	10.64	PASSED
4281.5	27.64	24.099	27.24	0.4	54	26.36	PASSED
6420.6	37.66	76.384	31.86	5.8	54	16.34	PASSED
7834.97	37.05	71.203	26.05	11	54	16.95	PASSED
7842.487	37.04	71.121	26.04	11	54	16.96	PASSED
7845.094	37.02	70.958	26.02	11	54	16.98	PASSED
7855.515	37.15	72.028	26.15	11	54	16.85	PASSED

RX mode, channel 1738 / 2152.6 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
4303.5	41.47	118.44	41.07	0.4	74	32.53	PASSED
6458.4	51.51	376.27	44.91	6.6	74	22.49	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
4303.5	27.7	24.266	27.3	0.4	54	26.3	PASSED
6458.4	38.35	82.699	31.75	6.6	54	15.65	PASSED

## 2.6. LTE7 test results; GPS active

RX mode, channel 2775 / 2622.5 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
5243.5	47.15	227.772	45.65	1.5	74	26.85	PASSED
7866.8	50.85	348.739	39.65	11.2	74	23.15	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
5243.5	32.89	44.106	31.39	1.5	54	21.11	PASSED
7866.8	37.3	73.282	26.1	11.2	54	16.7	PASSED

RX mode, channel 3100 / 2655 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
30.12	15.5	5.957	26.6	-11.1	40	24.5	PASSED
41.866	18.8	8.71	37.7	-18.9	40	21.2	PASSED
49.791	1.76	1.225	25.76	-24	40	38.24	PASSED
52.812	3.8	1.549	29.7	-25.9	40	36.2	PASSED
52.974	3.46	1.489	29.46	-26	40	36.54	PASSED
228.508	27.31	23.201	50.11	-22.8	40	12.69	PASSED

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
2656.111	64.14	1610.646	61.04	3.1	70	5.86	PASSED
5311.9	46.74	217.27	45.34	1.4	74	27.26	PASSED
7826.253	49.78	308.319	38.78	11	74	24.22	PASSED
7839.78	51.25	365.174	40.25	11	74	22.75	PASSED

7850.899	50.88	349.945	39.88	11	74	23.12	PASSED
7860.723	50.38	330.37	39.28	11.1	74	23.62	PASSED
7965.8	50.3	327.341	38.8	11.5	74	23.7	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
2656.111	49.56	300.608	46.46	3.1	50	0.44	PASSED
5311.9	32.94	44.361	31.54	1.4	54	21.06	PASSED
7826.253	36.97	70.55	25.97	11	54	17.03	PASSED
7839.78	37.04	71.121	26.04	11	54	16.96	PASSED
7850.899	37.06	71.285	26.06	11	54	16.94	PASSED
7860.723	37.18	72.277	26.08	11.1	54	16.82	PASSED
7965.8	37.4	74.131	25.9	11.5	54	16.6	PASSED

RX mode, channel 3425 / 2687.5 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5375.6	45.72	193.197	44.02	1.7	74	28.28	PASSED
8064.5	51.28	366.438	39.58	11.7	74	22.72	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5375.6	32.79	43.601	31.09	1.7	54	21.21	PASSED
8064.5	38.1	80.353	26.4	11.7	54	15.9	PASSED

## 2.7. LTE12 test results; GPS active

RX mode, channel 5035 / 731.5 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
1463.2	37.73	77.002	42.53	-4.8	70	32.27	PASSED
2195.3	43.04	141.906	42.94	0.1	70	26.96	PASSED
3001.9	41.65	120.921	42.85	-1.2	74	32.35	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
1463.2	25.25	18.302	30.05	-4.8	50	24.75	PASSED
2195.3	30.35	32.923	30.25	0.1	50	19.65	PASSED
3001.9	28.08	25.351	29.28	-1.2	54	25.92	PASSED

RX mode, channel 5095 / 737.5 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
30.42	16.2	6.457	27.5	-11.3	40	23.8	PASSED
41.674	22.32	13.062	41.12	-18.8	40	17.68	PASSED
88.136	18.17	8.1	42.67	-24.5	40	21.83	PASSED
228.597	27.24	23.014	50.04	-22.8	40	12.76	PASSED
727.783	19.82	9.795	31.42	-11.6	47	27.18	PASSED
732.261	24.96	17.701	36.46	-11.5	47	22.04	PASSED

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
1473.9	38.3	82.224	43	-4.7	70	31.7	PASSED
2212.7	43.76	154.17	43.36	0.4	70	26.24	PASSED
3001	41.08	113.24	42.28	-1.2	74	32.92	PASSED
7829.962	50.39	330.75	39.39	11	74	23.61	PASSED
7844.189	50.5	334.965	39.5	11	74	23.5	PASSED
7851.603	49.91	312.968	38.91	11	74	24.09	PASSED
7855.413	50.56	337.287	39.56	11	74	23.44	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
1473.9	25.38	18.578	30.08	-4.7	50	24.62	PASSED
2212.7	30.54	33.651	30.14	0.4	50	19.46	PASSED
3001	28.08	25.351	29.28	-1.2	54	25.92	PASSED
7829.962	36.99	70.713	25.99	11	54	17.01	PASSED
7844.189	37.02	70.958	26.02	11	54	16.98	PASSED
7851.603	37.06	71.285	26.06	11	54	16.94	PASSED
7855.413	37.14	71.945	26.14	11	54	16.86	PASSED

RX mode, channel 5155 / 743.5 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
1488.5	37.84	77.983	42.64	-4.8	70	32.16	PASSED
2229.4	44.45	166.917	44.05	0.4	70	25.55	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
1488.5	25.27	18.344	30.07	-4.8	50	24.73	PASSED
2229.4	30.58	33.806	30.18	0.4	50	19.42	PASSED

## 2.8. LTE17 test results; GPS active

RX mode, channel 5755 / 736.5 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
1475	38.58	84.918	43.18	-4.6	70	31.42	PASSED
2210.1	43.36	147.231	42.86	0.5	70	26.64	PASSED
3001.5	40.96	111.686	42.16	-1.2	74	33.04	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
1475	25.43	18.685	30.03	-4.6	50	24.57	PASSED
2210.1	30.59	33.845	30.09	0.5	50	19.41	PASSED
3001.5	28.06	25.293	29.26	-1.2	54	25.94	PASSED

RX mode, channel 5790 / 740.0 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
34.338	18.21	8.138	32.21	-14	40	21.79	PASSED
41.003	21.49	11.871	39.79	-18.3	40	18.51	PASSED
88.886	17.24	7.278	41.64	-24.4	40	22.76	PASSED
228.016	27.18	22.856	50.08	-22.9	40	12.82	PASSED
733.623	23.05	14.207	34.55	-11.5	47	23.95	PASSED
737.401	34.37	52.3	45.77	-11.4	47	12.63	PASSED
746.597	21.18	11.455	32.38	-11.2	47	25.82	PASSED

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
1480.9	39.33	92.576	44.03	-4.7	70	30.67	PASSED
2219.9	43.32	146.555	42.92	0.4	70	26.68	PASSED
3001.2	41.21	114.948	42.41	-1.2	74	32.79	PASSED
7824.246	49.93	313.69	38.93	11	74	24.07	PASSED
7834.468	50.28	326.588	39.28	11	74	23.72	PASSED
7852.201	50.27	326.212	39.27	11	74	23.73	PASSED
7862.627	50.8	346.737	39.7	11.1	74	23.2	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
1480.9	25.4	18.621	30.1	-4.7	50	24.6	PASSED
2219.9	30.5	33.497	30.1	0.4	50	19.5	PASSED
3001.2	28.08	25.351	29.28	-1.2	54	25.92	PASSED
7824.246	36.94	70.307	25.94	11	54	17.06	PASSED
7834.468	37.03	71.04	26.03	11	54	16.97	PASSED
7852.201	37.08	71.45	26.08	11	54	16.92	PASSED
7862.627	37.21	72.527	26.11	11.1	54	16.79	PASSED

RX mode, channel 5825 / 743.5 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
1488.5	38.26	81.846	43.06	-4.8	70	31.74	PASSED
2232	43.82	155.239	43.32	0.5	70	26.18	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
1488.5	25.26	18.323	30.06	-4.8	50	24.74	PASSED
2232	30.65	34.08	30.15	0.5	50	19.35	PASSED

### 3. Test Equipment

#### 3.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	15C, 15B
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	15C, 15B
-	RF Emission Software	EMC32 Test Software	R&S	22/24/27, 15C, 15B
BJPCHW0020	DC Power supply	Hp6632B	HP	22/24/27, 15C
BJPCPT0040	Receiver	ESCS30	R&S	15C,15B
BJPCPT0069	LISN 50 μH	ESH3-Z5	R&S	15C,15B
BJPCTC0323	Signal Generator	SMR 27	R&S	22/24/27, 15C, 15B
BJPCPT0073	Signal Generator	SMR 20	R&S	22/24/27, 15C, 15B
BJPCPT0191	Pulse Limiter	ESH3-Z2	R&S	15C,15B
BJPCPT0208	UPS	PULSAR RX10	Merlin gerin	15C.15B
BJPCTC0001	DIGITAL CAMERA	PC1015	CANON	15C.15R
BJPCTC0017	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
BJPCTC0062	AC Power source	6812B	Hp	15C.15B
BJPCTC0067	Bluetooth Tester	CBT	R&S	22/24/27, 15C
BJPCTC0082	Humidity and Temperature Sensor	175-H2	Testo	15B,15C
BJPCTC0088	Absolut pressure meter	testo 511	Testo	22/24/27, 15B,15C
BJPCTC0089	Tempreture Test chamber	VT4002	Votsch industrietechnik	22/24/27, 15C
BJPCTC0090	FSP spectrum analyzer	FSP30	R&S	22/24/27, 15C
BJPCTC0094	GPIB-RS232 convertor	GPIB-RS232	NI	22/24/27, 15C
BJPCTC0112	Power Splitter	11667B	Agilent	22/24/27, 15C
BJPCTC0127	AC Power source	SOYI-500VA	SOYI	15B 15C
BJPCTC0128	Communication antenna	JTXLB-10180	A-INFOMW	22/24/27 15B 15C
BJPCTC0129	Communication antenna	JTXLB-10180	A-INFOMW	22/24/27 15B 15C
BJPCTC0131	Communication tester	CMW500	R&S	22/24/27 15B 15C
BJPCTC0136	Communication antenna	JTXLB-880-NF	A-INFOMW	15B 15C
BJPCTC0306	Power Splitter	11667B	Agilent	22/24/27, 15C
BJPCTC0305	GPIB converter	GPIB-RS232	NI	22/24/27, 15C
BJPCTC0304	Spectrum Analyser	FSV30	R&S	22/24/27, 15C
BJPCTC0309	GPIB-RS232 convertor	RS232	NI	22/24/27, 15C
BJPCTC0307	Dual channel battery/charger simulator	2306	KEITHLEY	22/24/27, 15C
BJPCTC0308	Dual channel battery/charger simulator	2306	KEITHLEY	22/24/27, 15C
BJPCTC0352	Signal Generator 20GHz	MG3692B	Anritsu	22/24/27, 15C
BJBDATC0169	Tempreture Test chamber	VT4002	Votsch	22/24/27, 15C
BJPCTC0334	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
BJPCTC0342	Communication Tester	CMU200	R&S	15B, 15C
BJPCTC0343	Power Splitter	1167A	Agilent	EN300328
BJPCTC0344	Power Splitter	1167A	Agilent	EN300328
BJPCTC0345	Power Splitter	1167A	Agilent	EN300328
BJPCTC0346	Attenuator	8496A	Agilent	EN300328
BJPCTC0347	Directional Coupler	4226-20	Narda	EN300328
BJPCTC0348	Signal generator	E4438C	Agilent	EN300328
BJPCTC0336	Signal Generator	SMP22	R&S	22/24/27, 15C
BJPCTC0357	Signal Generator	SMB100A	R&S	-

#### 3.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	15C, 15B
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	15C, 15B
-	RF Emission Software	EMC32 Test Software	R&S	22/24/27, 15C, 15B
BJPCPT0072	Receiver	ESIB26	R&S	22/24/27, 15C, 15B



Eq. No	Equipment	Type	Manufacturer	Used in
BJPCPT0150	High Pass Filter	WHKS1200-10SS	Wainwright	22/24/27, 15C, 15B
BJPCPT0151	Band Reject Filter	WRCD1880/2000-0.2/40-5SSK	Wainwright	24, 15B
BJPCPT0154	Band Reject Filter	WRCT2402/2480-2400/2483.5-30-20SS	Wainwright	15C, 15B
BJPCPT0166	Antenna	VUBA 9117	Swarzbeck	22/24/27
BJPCPT0208	UPS	PULSAR RX10	Merlin gerin	15C.15B
BJPCTC0001	DIGITAL CAMERA	PC1015	CANON	15C.15R
BJPCTC0007	Antenna	HL562	R&S	22/24/27, 15C, 15B
BJPCTC0029	Antenna	HF906	R&S	22/24/27, 15C, 15B
BJPCTC0034	Band Reject Filter	WRCT 800/880-0.2/40-5SSK	Wainwright	22, 15B
BJPCTC0049	Preamplifier	Bima 0118-1A-Bt	Bonn	22/24/27, 15C, 15B
BJPCTC0055	Communication Tester	CMU200	R&S	22/24/27,15C,15B
BJPCTC0058	Bluetooth Tester	CBT	R&S	15C, 15B
BJPCTC0062	AC Power source	6812B	Hp	15C.15B
BJPCTC0064	Band Reject Filter	WRCG1877/1883-1870/1890-40/6SS	Wainwright	24, 15B
BJPCTC0071	Multi-Device Controller	2090	EMCO	22/24/27, 15C, 15B
BJPCTC0072	Anechoic Chamber	3 m Semi / Full Anechoic Chamber	ETS	22/24/27, 15C, 15B
BJPCTC0073	MAST	Model-TR/POL	ETS	22/24/27, 15C, 15B
BJPCTC0074	MAST	Model 2070-2	ETS	22/24/27, 15C, 15B
BJPCTC0075	Turntable	Model 2188	ETS-EMCO	22/24/27, 15C, 15B
BJPCTC0081	Humidity and Temperature Sensor	175-H2	Testo	15B, 15C
BJPCTC0088	Absolut pressure meter	testo 511	Testo	22/24/27, 15B,15C
BJPCTC0124	Attenuator	SA18N200W-40	Fairview Microwave	-
BJPCTC0125	Loop Antenna	HFH2-Z2	R&S	15C
BJPCTC0126	Tripod	FHU-Z	R&S	15C
BJPCTC0128	Communication antenna	JTXLB-10180	A-INFOMW	22/24/27 15B 15C
BJPCTC0129	Communication antenna	JTXLB-10180	A-INFOMW	22/24/27 15B 15C
BJPCTC0131	Communication tester	CMW500	R&S	22/24/27 15B 15C
BJPCTC0133	Open Swith and contril unit	OSP 150	R&S	15B,15C
BJPCTC0134	Open Swith and contril unit	OSP 150	R&S	15B,15C
BJPCTC0135	Open Swith and contril unit	OSP 130	R&S	15B,15C
BJPCTC0136	Communication antenna	JTXLB-880-NF	A-INFOMW	15B 15C
BJPCTC0171	Broad-band Horn Antenna	BBHA9120 D	SCHWARZBECK MESS - ELEKTRONIK	22/24/27, 15C, 15B
BJPCTC0310	Horn Antenna	QSH20SMA	Q-par	22/24/27, 15C, 15B
BJPCTC0311	Horn Antenna	QSH18SMA	Q-par	22/24/27, 15C, 15B
BJPCTC0312	Relay Switch Unit	-	-	22/24/27, 15C, 15B
BJPCTC0313	High Pass Filter	WHKX1.0/15G-12SS	Wainwright	22/24/27, 15C, 15B
BJPCTC0314	High Pass Filter	WHKX8.0/18G-88SS	Wainwright	22/24/27, 15C, 15B
BJPCTC0315	High Pass Filter	WHKX3.0/18G-12SS	Wainwright	22/24/27, 15C, 15B
BJPCTC0316	Preamplifier	AMT-5F-18002550-25-108	-	22/24/27, 15C, 15B
BJPCTC0317	Preamplifier	AMF-6D-02001800-29-20P	-	22/24/27, 15C, 15B
BJPCTC0350	Preamplifier	AMF-4D-01000800-30-29P	Miteq	22/24/27, 15C, 15B
BJPCTC0324	Preamplifier	AFS4-00100300-20-23P-6	Miteq	22/24/27, 15C, 15B
BJPCTC0329	Relay Switch Unit	-	-	22/24/27, 15C, 15B
BJPCTC0334	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
BJPCTC0342	Communication Tester	CMU200	R&S	15B, 15C
BJPCTC0349	Preamplifier	AMF-4D-01000800-30-79P	Miteq	22/24/27, 15C, 15B

Eq. No	Equipment	Type	Manufacturer	Used in
BJPCTC0350	Preamplifier	AMF-4D-01000800-30-29P	Miteg	22/24/27, 15C, 15B
BJPCTC0351	Preamplifier	AFS4-00101800	-	22/24/27, 15C, 15B
BJPCTC0113	Receiver	ESI B26	R&S	22/24/27, 15B, 15C