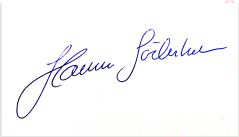
FCC Part 15B Compliance Test Report

Test Report no.:	FCC15B_RM-1105_03.docx	**Date of Report:**	05-Oct-2015
Number of pages:	15	**Customer's Contact person:**	Jari Rontu
Testing laboratory:	TCC Microsoft Tampere Laboratory P.O.Box 403 Visiokatu 3 FIN-33101 TAMPERE, FINLAND Tel. +358 71 800 8000 Fax. +358 71 804 6880	**Customer:**	Microsoft P.O.Box(86) Joensuunkatu 7E FIN-24101 SALO, FINLAND Tel. +358 (0) 7180 08000 Fax. +358 71 80 44122
FCC listing no.: **IC recognition no.:**	94436 661AK-1		
Tested devices/ accessories:	**Phone RM-1105 / Battery BV-T5E / Headset WH-308 / Laptop Asus T100TA-DK024H / Charger AC-60E / USB Cable CA-190CD / USB Cable CA-232CD**		
FCC ID:	PYARM-1105	**IC:**	661X-RM1105
Supplement reports:	-		
Testing has been carried out in accordance with:	**CFR 47, FCC rules Part 15 Subpart B, ANSI C63.4 (2014), CISPR 22 and IC standards, RSS-GEN (Issue 4, November 2014), RSS-130 (Issue 1, October 2013), RSS-132 (Issue 3, January 2013). Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".**		
Documentation:	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.		
Test Results:	**The EUT complies with the requirements in respect of all parameters subject to the test.** The test results relate only to devices specified in this document		
Date and signature for the contents:	 Hannu Söderholm 2015.10.05 13:28:46 +03'00'		

Hannu Söderholm, Engineer, EMC

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1. Summary for FCC Part 15B Compliance Test Report

Date of receipt	17-Aug-2015
Testing completed	25-Sep-2015
The customer's contact person	Jari Rontu
Test Plan referred to	T:\Projects\RM-1105\TestPlan\RS_testplan_RM-1105.xlsm
Notes	-
Document name	T:\Projects\RM-1105\EMC\FCC15B_RM-1105_03.docx

1.1. EUT and Accessory Information

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

Devices under tests

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-1105	004402741813103	2030	-	01066.00001.15274.18000	400039
Battery	BV-T5E	49554052110104005830670775	LG v4.0	-	-	400027
Headset	WH-308	-	-	-	-	400014
Laptop	Asus T100TA-DK024H	E6NOBCO54692236	FCC DoC	-	-	43219
Charger	AC-60E	4090493116580300870;0675677	-	-	-	400002
USB Cable	CA-190CD	-	-	-	-	42720
USB Cable	CA-232CD	-	-	-	-	400033

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	-
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	-
15.109, a	6.1	Radiated emissions	PASSED

LTE13:

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

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EUT Above RX Test Results:

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

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

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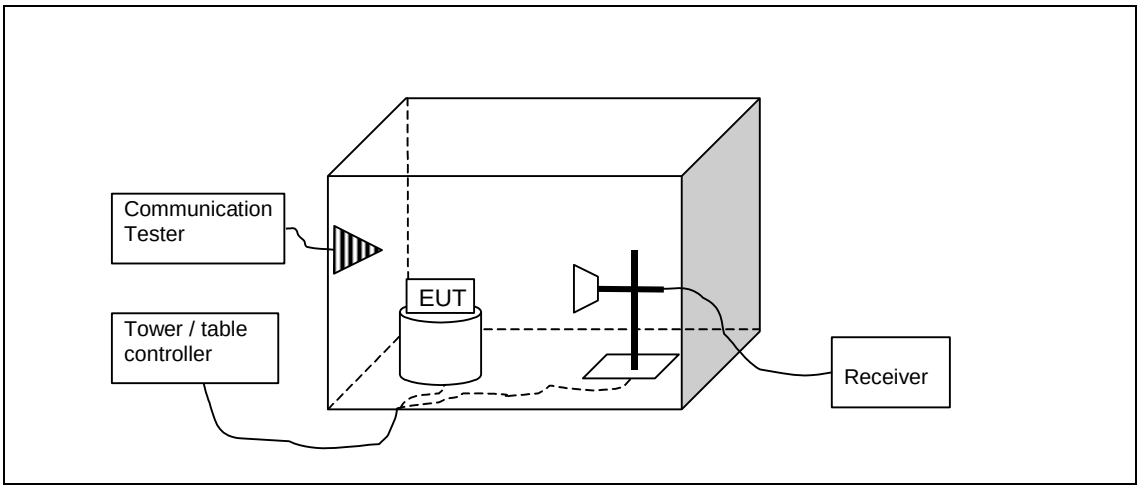
2. Radiated emissions
(FCC 15.109, a, RSS-130 6.1, RSS-132 6.1)

EUT with DUT number	RM-1105, DUT 400039
Accessories with DUT numbers	BV-T5E, DUT 400027 ; WH-308, DUT 400014 ; Asus T100TA-DK024H, DUT 43219 ; AC-60E, DUT 400002 ; CA-190CD, DUT 42720 ; CA-232CD, DUT 400033
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	FM-Radio and *Continuous data transfer was active between the phone and the computer during the test. USB I/O cable used to connect the EUT to the host PC is shielded. Measurement frequency used in measurement is 30 MHz – 8.5GHz.
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 48 / 101.4
Date of measurements	25-Sep-2015
Measured by	Timo Raiskio

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.

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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 [dBµV/m]	Average limit [dBµV/m]	Peak limit [dBµV/m]
30 - 230	40	-	-
230 – 1000	47	-	-
1000 - 3000	-	50	70
Above 3000	-	54	74

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2.3. GSM 850 test results, 30 MHz – 8 GHz

RX mode, channel 128 / 869.2 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
3475.9	37.44	74.473	45.24	-7.8	74	36.56	PASSED
6954.5	47.63	240.713	48.23	-0.6	74	26.37	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
3475.9	24.71	17.199	32.51	-7.8	54	29.29	PASSED
6954.5	34.23	51.464	34.83	-0.6	54	19.77	PASSED

RX mode, channel 190 / 881.6 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
38.367	35.76	61.376	66.06	-30.3	40	4.24	PASSED
42.282	30.03	31.732	62.13	-32.1	40	9.97	PASSED
44.863	13.1	4.519	46.4	-33.3	40	26.9	PASSED
45.064	11.5	3.758	44.9	-33.4	40	28.5	PASSED
50.772	10.09	3.195	46.69	-36.6	40	29.91	PASSED
50.829	10.56	3.373	47.16	-36.6	40	29.44	PASSED
159.492	11.05	3.569	47.35	-36.3	40	28.95	PASSED
192.984	6.98	2.234	44.88	-37.9	40	33.02	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
2418.235	40.96	111.686	50.86	-9.9	70	29.04	PASSED
2434.266	40.57	106.782	50.47	-9.9	70	29.43	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
2418.235	28.13	25.498	38.03	-9.9	50	21.87	PASSED
2434.266	28.05	25.264	37.95	-9.9	50	21.95	PASSED

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RX mode, channel 190 / 881.6 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
7821.141	45.97	198.838	43.07	2.9	74	28.03	PASSED
7824.548	46.28	206.063	43.38	2.9	74	27.72	PASSED
7836.577	46.29	206.3	43.39	2.9	74	27.71	PASSED
7849.195	46.69	216.023	43.79	2.9	74	27.31	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
7821.141	33.17	45.551	30.27	2.9	54	20.83	PASSED
7824.548	33.24	45.92	30.34	2.9	54	20.76	PASSED
7836.577	33.25	45.973	30.35	2.9	54	20.75	PASSED
7849.195	33.32	46.345	30.42	2.9	54	20.68	PASSED

RX mode, channel 190 / 881.6 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
3527.3	37.98	79.25	45.68	-7.7	74	36.02	PASSED
7053.4	44.38	165.577	44.18	0.2	74	29.62	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
3527.3	24.76	17.298	32.46	-7.7	54	29.24	PASSED
7053.4	31.48	37.497	31.28	0.2	54	22.52	PASSED

RX mode, channel 251 / 893.8 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
3576.1	37.71	76.825	45.71	-8	74	36.29	PASSED
7149.5	45.33	184.714	44.83	0.5	74	28.67	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
3576.1	24.71	17.199	32.71	-8	54	29.29	PASSED
7149.5	31.58	37.931	31.08	0.5	54	22.42	PASSED

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2.4. GSM 850 test results, 3 GHz – 12 GHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
7817.234	46.13	202.535	43.23	2.9	74	27.87	PASSED
7818.639	46.42	209.411	43.52	2.9	74	27.58	PASSED
7850.7	46.21	204.409	43.21	3	74	27.79	PASSED
7855.011	46.08	201.372	43.08	3	74	27.92	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
7817.234	33.15	45.446	30.25	2.9	54	20.85	PASSED
7818.639	33.2	45.709	30.3	2.9	54	20.8	PASSED
7850.7	33.46	47.098	30.46	3	54	20.54	PASSED
7855.011	33.36	46.559	30.36	3	54	20.64	PASSED

2.5. LTE12 test results, 30 MHz – 8 GHz

RX mode, channel 5035 / 731.5 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1461.9	36.22	64.714	54.22	-18	70	33.78	PASSED
2192.5	39.77	97.387	51.57	-11.8	70	30.23	PASSED
3001.4	38.81	87.197	46.61	-7.8	74	35.19	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1461.9	23.43	14.842	41.43	-18	50	26.57	PASSED
2192.5	27.18	22.856	38.98	-11.8	50	22.82	PASSED
3001.4	25.18	18.155	32.98	-7.8	54	28.82	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_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
31.927	18.65	8.561	46.25	-27.6	40	21.35	PASSED
31.946	22.51	13.351	50.11	-27.6	40	17.49	PASSED
225.268	33.33	46.398	69.63	-36.3	40	6.67	PASSED
226.489	34.26	51.642	70.46	-36.2	40	5.74	PASSED
227.697	32.6	42.658	68.7	-36.1	40	7.4	PASSED
227.722	35.04	56.494	71.14	-36.1	40	4.96	PASSED
228.925	35.7	60.954	71.8	-36.1	40	4.3	PASSED
230.099	33.95	49.831	69.95	-36	47	13.05	PASSED
230.128	35.99	63.023	71.99	-36	47	11.01	PASSED

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RX mode, channel 5095 / 737.5 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
7821.941	45.75	193.865	42.85	2.9	74	28.25	PASSED
7822.746	47.24	230.144	44.34	2.9	74	26.76	PASSED
7832.463	46.29	206.3	43.39	2.9	74	27.71	PASSED
7856.513	46.35	207.73	43.35	3	74	27.65	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
7821.941	33.17	45.551	30.27	2.9	54	20.83	PASSED
7822.746	33.22	45.814	30.32	2.9	54	20.78	PASSED
7832.463	33.2	45.709	30.3	2.9	54	20.8	PASSED
7856.513	33.29	46.185	30.29	3	54	20.71	PASSED

RX mode, channel 5095 / 737.5 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1474.9	35.68	60.814	53.78	-18.1	70	34.32	PASSED
2211	41.41	117.625	53.01	-11.6	70	28.59	PASSED
3001.4	38.68	85.901	46.48	-7.8	74	35.32	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1474.9	22.73	13.693	40.83	-18.1	50	27.27	PASSED
2211	27.36	23.335	38.96	-11.6	50	22.64	PASSED
3001.4	25.2	18.197	33	-7.8	54	28.8	PASSED

RX mode, channel 5155 / 743.5 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1486.5	35.05	56.559	53.25	-18.2	70	34.95	PASSED
2232.2	40.28	103.276	51.58	-11.3	70	29.72	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1486.5	22.42	13.213	40.62	-18.2	50	27.58	PASSED
2232.2	27.69	24.238	38.99	-11.3	50	22.31	PASSED

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2.6. LTE13 test results, 30 MHz – 8 GHz

RX mode, channel 5205 / 748.5 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1497.5	37.37	73.875	55.47	-18.1	70	32.63	PASSED
2243.7	41.11	113.632	52.11	-11	70	28.89	PASSED
3001.4	38.19	81.19	45.99	-7.8	74	35.81	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1497.5	22.91	13.98	41.01	-18.1	50	27.09	PASSED
2243.7	27.8	24.547	38.8	-11	50	22.2	PASSED
3001.4	25.26	18.323	33.06	-7.8	54	28.74	PASSED

RX mode, channel 5230 / 751.0 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
2409.615	41.61	120.365	51.51	-9.9	70	28.39	PASSED
2414.53	41.17	114.419	50.97	-9.8	70	28.83	PASSED
2419.637	41.06	112.98	50.96	-9.9	70	28.94	PASSED
2422.042	41.08	113.24	50.98	-9.9	70	28.92	PASSED
2423.75	41.48	118.577	51.38	-9.9	70	28.52	PASSED
2429.555	41.07	113.11	50.97	-9.9	70	28.93	PASSED
2433.162	42.3	130.317	52.2	-9.9	70	27.7	PASSED
2433.47	41.22	115.08	51.12	-9.9	70	28.78	PASSED
2437.877	41.11	113.632	51.01	-9.9	70	28.89	PASSED
2443.889	42.44	132.434	52.44	-10	70	27.56	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
2409.615	28.33	26.092	38.23	-9.9	50	21.67	PASSED
2414.53	28.28	25.942	38.08	-9.8	50	21.72	PASSED
2419.637	28.13	25.498	38.03	-9.9	50	21.87	PASSED
2422.042	28.18	25.645	38.08	-9.9	50	21.82	PASSED
2423.75	28.3	26.002	38.2	-9.9	50	21.7	PASSED
2429.555	28.07	25.322	37.97	-9.9	50	21.93	PASSED
2433.162	28.05	25.264	37.95	-9.9	50	21.95	PASSED
2433.47	28.06	25.293	37.96	-9.9	50	21.94	PASSED
2437.877	28.27	25.912	38.17	-9.9	50	21.73	PASSED
2443.889	29.82	30.974	39.82	-10	50	20.18	PASSED

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RX mode, channel 5230 / 751.0 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
7823.547	45.99	199.297	43.09	2.9	74	28.01	PASSED
7839.879	45.78	194.536	42.88	2.9	74	28.22	PASSED
7851.403	46.58	213.304	43.58	3	74	27.42	PASSED
7855.511	46.46	210.378	43.46	3	74	27.54	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
7823.547	33.21	45.761	30.31	2.9	54	20.79	PASSED
7839.879	33.23	45.867	30.33	2.9	54	20.77	PASSED
7851.403	33.35	46.505	30.35	3	54	20.65	PASSED
7855.511	33.29	46.185	30.29	3	54	20.71	PASSED

RX mode, channel 5230 / 751.0 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1504	35.89	62.302	53.89	-18	70	34.11	PASSED
2251.9	40.98	111.944	51.88	-10.9	70	29.02	PASSED
3000.5	38.94	88.512	46.74	-7.8	74	35.06	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1504	22.87	13.916	40.87	-18	50	27.13	PASSED
2251.9	28.08	25.351	38.98	-10.9	50	21.92	PASSED
3000.5	25.25	18.302	33.05	-7.8	54	28.75	PASSED

RX mode, channel 5255 / 753.5 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1506.9	36.42	66.222	54.42	-18	70	33.58	PASSED
2258.5	41.43	117.896	52.23	-10.8	70	28.57	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1506.9	22.82	13.836	40.82	-18	50	27.18	PASSED
2258.5	28.76	27.416	39.56	-10.8	50	21.24	PASSED

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2.7. LTE17 test results, 30 MHz – 8 GHz

RX mode, channel 5755 / 736.5 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1473.5	35.81	61.731	53.91	-18.1	70	34.19	PASSED
2210.1	40.87	110.535	52.47	-11.6	70	29.13	PASSED
3001.9	37.93	78.795	45.73	-7.8	74	36.07	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1473.5	22.84	13.868	40.94	-18.1	50	27.16	PASSED
2210.1	27.33	23.254	38.93	-11.6	50	22.67	PASSED
3001.9	25.17	18.134	32.97	-7.8	54	28.83	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_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
38.176	33.57	47.698	63.77	-30.2	40	6.43	PASSED
50.731	15.3	5.821	51.9	-36.6	40	24.7	PASSED
81.199	10.07	3.188	47.77	-37.7	40	29.93	PASSED
666.653	31.66	38.282	57.86	-26.2	47	15.34	PASSED
750	32.41	41.735	57.21	-24.8	47	14.59	PASSED
774.99	29.76	30.761	54.36	-24.6	47	17.24	PASSED
800.01	31.51	37.627	55.81	-24.3	47	15.49	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
2464.131	41.32	116.413	51.12	-9.8	70	28.68	PASSED
2470.738	41.18	114.551	50.88	-9.7	70	28.82	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
2464.131	28.38	26.242	38.18	-9.8	50	21.62	PASSED
2470.738	28.37	26.212	38.07	-9.7	50	21.63	PASSED

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RX mode, channel 5790 / 740.0 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
7840.68	46.13	202.535	43.23	2.9	74	27.87	PASSED
7846.797	46.57	213.059	43.67	2.9	74	27.43	PASSED
7858.717	46.64	214.783	43.64	3	74	27.36	PASSED
7860.724	46.51	211.592	43.51	3	74	27.49	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
7840.68	33.23	45.867	30.33	2.9	54	20.77	PASSED
7846.797	33.26	46.026	30.36	2.9	54	20.74	PASSED
7858.717	33.33	46.398	30.33	3	54	20.67	PASSED
7860.724	33.42	46.881	30.42	3	54	20.58	PASSED

RX mode, channel 5790 / 740.0 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1479	35.55	59.91	53.65	-18.1	70	34.45	PASSED
2218.8	40.2	102.329	51.7	-11.5	70	29.8	PASSED
3000	45.05	178.855	51.25	-6.2	74	28.95	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1479	22.82	13.836	40.92	-18.1	50	27.18	PASSED
2218.8	27.47	23.632	38.97	-11.5	50	22.53	PASSED
3000	31.69	38.415	37.89	-6.2	54	22.31	PASSED

RX mode, channel 5825 / 743.5 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1485.6	35.28	58.076	53.48	-18.2	70	34.72	PASSED
2231.1	40.14	101.625	51.44	-11.3	70	29.86	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
1485.6	22.69	13.63	40.89	-18.2	50	27.31	PASSED
2231.1	27.66	24.155	38.96	-11.3	50	22.34	PASSED

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3. Test Equipment

3.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM38112	Power supply	6632A	Agilent	22/24/27, 15C, 15E
TM38114	Power supply	6632A	Agilent	22/24/27, 15C, 15E
TM210233	Communication Tester	CMU200	R&S	22/24/27
TM30600	Impulse limiter	ESH3-Z2	R&S	15C, 15B
TM26490	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
TM26491	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
TM37610	Spectrum Analyzer	FSU26	R&S	22/24/27, 15C, 15E
TM23007	Oscilloscope	TDS684B	Tektronix	15E
TM22806	Battery	BAT 20/E	Fiskars	15C, 15B
TM22805	UPS	PS 20/1.2	Fiskars	15C, 15B
-	Temperature and humidity logger	175-H2	Testo	15C, 15B
-	Temperature and humidity logger	175-H2	Testo	22/24/27, 15C
-	Air pressure and temperature logger	635-2	Testo	22/24/27, 15C, 15B
-	Air pressure sensor	0638-1835	Testo	22/24/27, 15C, 15B
-	Temperature test chamber	VT 4002	Vötsch	22/24/27
2001	Bluetooth tester	CBT	R&S	15C, 15B
2009	LISN 50 µH	ENV216	R&S	15C, 15B
2010	LISN 50 µH	ENV216	R&S	15C, 15B
2012	Power splitter	11667B	Agilent	22/24/27, 15C
2013	Attenuator	8493C	Agilent	22/24/27, 15C
2014	Attenuator	8493C	Agilent	22/24/27, 15C
2019	Power splitter	ZN2PD-9G-S+	Mini-Circuits	15E
2020	Power splitter	ZN2PD-9G-S+	Mini-Circuits	15E
2021	Communication Tester	CMW500	R&S	22/24/27
2022	Communication Tester	CMU200	R&S	22/24/27
2023	Spectrum Analyzer	ESMI-RF	R&S	15B/15C
2024	Analyzer displayunit	ESAI-D	R&S	15B/15C
2026	Signal Generator	SMF 100A	R&S	22/24/27, 15C, 15E, 15B
-	Bluetooth tester	CBT	R&S	15C, 15B
-	Communication Tester	CMU200	R&S	22/24/27, 15B

3.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
-	Antenna	BBHA 9120 D	Schwarzbeck	22/24/27, 15C
TM38845	Receiver	ESIB 26	R&S	22/24/27, 15C, 15E, 15B
-	Antenna	HL562	R&S	22/24/27, 15C, 15E, 15B
-	Turntable	2188	EMCO	22/24/27, 15C, 15E, 15B
-	Turntable controller	2090	EMCO	22/24/27, 15C, 15E, 15B
-	RF system panel	OSP130	R&S	22/24/27, 15C, 15E, 15B
-	Mini mast	2075-2	ETS Lindgren	22/24/27, 15C, 15B
TM38843	Mini mast	2075	Emco	22/24/27, 15C, 15B
TM38842	Antenna mast controller	2090	Emco	22/24/27, 15C, 15B
TM30643	LISN 50 µH	LISN-5-20-2	FCC	22/24/27, 15C, 15B
TM30644	LISN 50 µH	LISN-5-20-2	FCC	22/24/27, 15C, 15B

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Eq. No	Equipment	Type	Manufacturer	Used in
-	Temperature and humidity logger	175-H2	Testo	22/24/27, 15C, 15B
-	Air pressure and temperature logger	635-2	Testo	22/24/27, 15C, 15B
-	Air pressure sensor	0638-1835	Testo	22/24/27, 15C, 15B
TM37523	Preamplifier	AMF-4D-10M-3G-25-20P	Miteq	22/24/27, 15C, 15B
TM37498	Preamplifier	AMF-5D-020180-26-10P	Miteq	22/24/27, 15C, 15B
TM30599	Semi anechoic chamber	UNKNOWN	TDK	22/24/27, 15C, 15B
TM22638	Power supply	OL63743-901	-	22/24/27, 15C, 15E, 15B
TM38066	High pass filter	WHKX3.0/18G-12SS	Wainwright	22/24/27, 15C, 15E, 15B
2028	High pass filter	WHKX 1.0/15G-12SS	Wainwright	22/24/27, 15C,15E, 15B
TM37545	Tunable notch filter	800.0/960.0-0.2/40-8SSK	Wainwright	22
TM26512	Tunable notch filter	WRCD1850/1910-0.2/40-10SSK	Wainwright	24
-	Band reject filter	WRCG1877/1883-1870/1890-40/6EE	Wainwright	24
-	Band reject filter	WRCG1729.4/1735.4-1722.4/1742.4-40/6SS	Wainwright	27
TM23892	Controller	G-1000SDX	Yaesu	22/24/27, 15C, 15E
2001	Bluetooth tester	CBT	R&S	15C, 15B
2002	Communication Tester	CMU200	R&S	22/24/27, 15B
6023	Antenna	VUBA 9117	Schwarzbeck	22/24/27
2021	Communication Tester	CMW500	R&S	22/24/27
2025	Antenna	HFH2-Z2	R&S	15C
2026	Signal Generator	SMF 100A	R&S	22/24/27, 15C, 15E, 15B
2052	Antenna	BBHA 9120 D	Schwarzbeck	22/24/27, 15C, 15B, 15E
-	Antenna	QSH18S20	Q-Par	22/24/27, 15C, 15B, 15E
-	Antenna	QSH20S20	Q-Par	22/24/27, 15C, 15B, 15E
-	Antenna	QSH20S20	Q-Par	22/24/27, 15C, 15B, 15E
-	Bluetooth tester	CBT	R&S	15C, 15B

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