FCC Part 15B Compliance Test Report

Test Report no.:	FCC15B_RM-1077_14	**Date of Report:**	28-Jan-2015
Number of pages:	15	**Customer's Contact person:**	Juha Paukku
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 403 Visiokatu 4 FIN-33720 TAMPERE, FINLAND Tel. +358 (0) 7180 46800 Fax. +358 (0) 7180 46880
FCC listing no.: **IC recognition no.:**	94436 661AK-1		
Tested devices/ accessories:	**Phone RM-1077 / Battery BV-T5C / AC charger AC-20E / Headset WH-108 / Laptop Asus T100TA-DK024H / Charger AC-50E / Data cable CA-190DC**		
FCC ID:	PYARM-1077	**IC:**	-
Supplement reports:	-		
Testing has been carried out in accordance with:	**CFR 47, FCC rules Part 15 Subpart B, ANSI C63.4 (2003), CISPR 22 and IC standards, RSS-GEN (Issue 4, November 2014), RSS-132 (Issue 3, January 2013), RSS-133 (Issue 6, 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:	Jari Jantunen cn=Jari Jantunen, o, ou, email=jari.a.jantunen@microsoft.com, c=FI 2015.01.28 16:04:14 +02'00'		

Jari Jantunen, System Manager, EMC

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1. Summary for FCC Part 15B Compliance Test Report

Date of receipt	03-Dec-2014
Testing completed	31-Dec-2014
The customer's contact person	Juha Paukku
Test Plan referred to	T:\Projects\RM-1077\TestPlan\RS_testplan_RM-1077.xlsm
Notes	-
Document name	T:\Projects\RM-1077\EMC\FCC15B_RM-1077_14.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-1077	004402740216126	1520	-	02149.00000.14441.39000	43243
Battery	BV-T5C	-	LG HW3.0	-	-	43244
AC charger	AC-20E	4090494156670711801; 0675628	-	-	-	43229
Headset	WH-108	4235VFA	-	-	-	43230
Laptop	Asus T100TA-DK024H	E6NOBCO54692236	-	-	-	43219
Charger	AC-50E	4090492023260400093	-	-	-	42768
Data cable	CA-190CD	-	-	-	-	42770
Data Cable	CA-190CD	-	-	-	-	43038

1.2. Summary of Test Results

GSM 850:

Section in CFR 47	Section in RSS-GEN	Name of the test	Result
15.107, a	7.2.4	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	7.2.4	AC powerline conducted emissions	PASSED
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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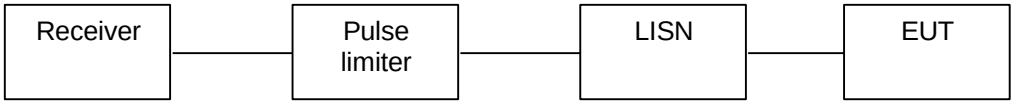
2. AC powerline conducted emissions
(FCC §15.107, a, RSS-GEN, section 7.2.4)

EUT with DUT number	RM-1077, DUT 43243
Accessories with DUT numbers	BV-T5C, DUT 43244 ; WH-108, DUT 43230 ; CA-190CD, DUT 42770 ; Asus T100TA-DK024H, DUT 43219 ; AC-50E, DUT 42768 ; CA-190CD, DUT 43038
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	Continuous data transfer was active between the phone and the computer during the test
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 50 / 100.7
Date of measurements	31-Dec-2014
Measured by	Jari Jantunen

2.1. Test Setup



2.2. Test method and limit

The measurement is made according to ANSI C63.4-2003 as follows:
The EUT is placed on a wooden table 80 cm above the reference ground plane.

The EUT is connected via LISN to a test power supply.

The measurement results are obtained as described below:

$U\ [dB\mu V] = U_{RX} + A_{TOT}$

Where U_{RX} is receiver reading and A_{TOT} is total correction factor including cable and pulse limiter attenuations.

CISPR 22 Class B limits

Frequency range [MHz]	Quasi peak limit [dBµV]	Average limit [dBµV]
0.15 - 0.5	66 - 56	56 - 46
0.5 - 5	56	46
5 - 30	60	50

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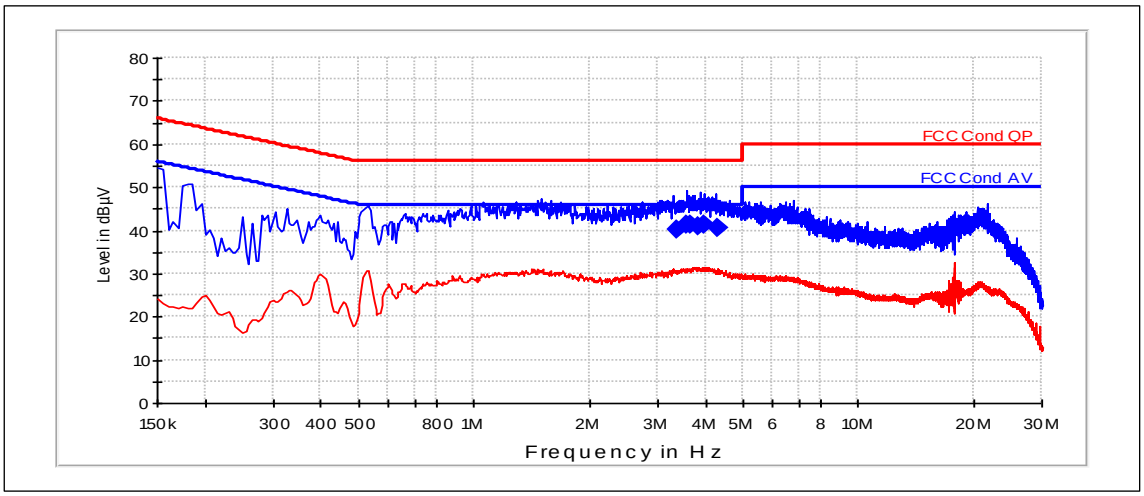
2.3. GSM 1900 Test results

Channel 661 / 1880.0 MHz



QuasiPeak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
3.375	40.35	L1	PASSED
3.59	41.16	L1	PASSED
3.655	41.34	L1	PASSED
3.815	40.92	L1	PASSED
3.95	41.21	L1	PASSED
4.31	40.49	L1	PASSED

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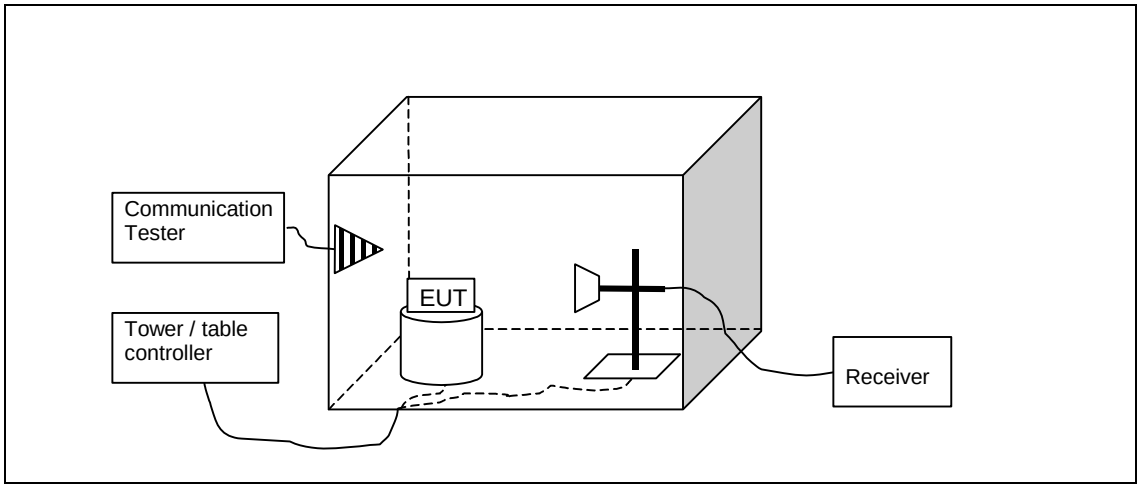
3. Radiated emissions
(FCC 15.109, a, RSS-132 6.1, RSS-133 6.1)

EUT with DUT number	RM-1077, DUT 43243
Accessories with DUT numbers	BV-T5C, DUT 43244 ; AC-20E, DUT 43229 ; WH-108, DUT 43230
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 40 / 99.6
Date of measurements	16-Dec-2014
Measured by	Timo Raiskio

3.1.1 Test setup



3.2. Test method and limit

The measurement is made according to ANSI C63.4-2003as 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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3.3. GSM 850 + FM radio test results

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
3477.6	37.45	74.559	45.25	-7.8	74	36.55	PASSED
6954.9	47.02	224.388	47.62	-0.6	74	26.98	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
3477.6	24.56	16.904	32.36	-7.8	54	29.44	PASSED
6954.9	34.07	50.524	34.67	-0.6	54	19.93	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
33.317	23.96	15.776	52.16	-28.2	40	16.04	PASSED
39.048	26.37	20.821	56.97	-30.6	40	13.63	PASSED
42.856	20.11	10.127	52.51	-32.4	40	19.89	PASSED
48.076	21.07	11.311	56.17	-35.1	40	18.93	PASSED
78.938	22.4	13.183	60.5	-38.1	40	17.6	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
7821.742	46.53	212.08	43.63	2.9	74	27.47	PASSED
7832.664	46.13	202.535	43.23	2.9	74	27.87	PASSED
7845.788	45.78	194.536	42.88	2.9	74	28.22	PASSED
7859.816	45.86	196.336	42.86	3	74	28.14	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
7821.742	32.92	44.259	30.02	2.9	54	21.08	PASSED
7832.664	32.93	44.31	30.03	2.9	54	21.07	PASSED
7845.788	32.99	44.617	30.09	2.9	54	21.01	PASSED
7859.816	33.07	45.03	30.07	3	54	20.93	PASSED

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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
3573.6	37.7	76.736	45.7	-8	74	36.3	PASSED
7151	44.13	160.879	43.63	0.5	74	29.87	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
3573.6	24.5	16.788	32.5	-8	54	29.5	PASSED
7151	31.44	37.325	30.94	0.5	54	22.56	PASSED

3.4. GSM 1900 + GPS receiver test results

RX mode, channel 512 / 1930.2 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
3858.9	39.11	90.261	46.31	-7.2	74	34.89	PASSED
7720.4	44.98	177.419	42.58	2.4	74	29.02	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
3858.9	25.01	17.803	32.21	-7.2	54	28.99	PASSED
7720.4	32.37	41.543	29.97	2.4	54	21.63	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_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
33.437	24.29	16.387	52.59	-28.3	40	15.71	PASSED
39.038	25.62	19.099	56.22	-30.6	40	14.38	PASSED
44.419	23.12	14.322	56.22	-33.1	40	16.88	PASSED
46.275	13.12	4.529	47.22	-34.1	40	26.88	PASSED
74.489	18.05	7.989	56.95	-38.9	40	21.95	PASSED
76.202	17.12	7.178	55.72	-38.6	40	22.88	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
1960.019	50.34	328.852	64.34	-14	70	19.66	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
1960.019	47.86	247.172	61.86	-14	50	2.14	PASSED

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RX mode, channel 661 / 1960.0 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
7824.751	46.12	202.302	43.22	2.9	74	27.88	PASSED
7839.075	46.13	202.535	43.23	2.9	74	27.87	PASSED
7850.702	46.14	202.768	43.14	3	74	27.86	PASSED
7864.93	46.26	205.589	43.16	3.1	74	27.74	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
7824.751	32.92	44.259	30.02	2.9	54	21.08	PASSED
7839.075	33.01	44.72	30.11	2.9	54	20.99	PASSED
7850.702	33.1	45.186	30.1	3	54	20.9	PASSED
7864.93	33.16	45.499	30.06	3.1	54	20.84	PASSED

RX mode, channel 810 / 1989.8 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
3978.2	38	79.433	44.6	-6.6	74	36	PASSED
7959.4	46.18	203.704	42.98	3.2	74	27.82	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
3978.2	25.35	18.514	31.95	-6.6	54	28.65	PASSED
7959.4	33.33	46.398	30.13	3.2	54	20.67	PASSED

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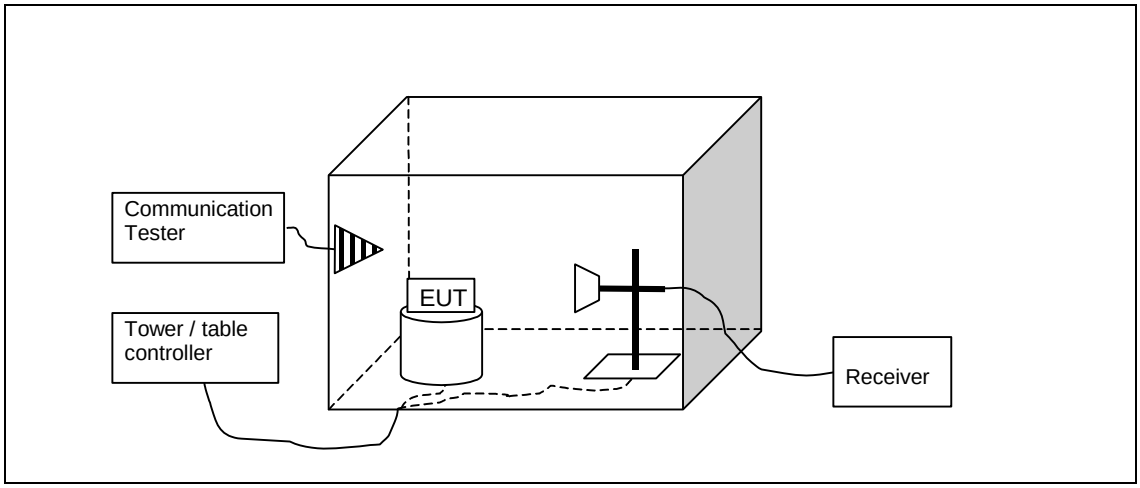
4. Radiated emissions
(FCC 15.109, a, RSS-132 6.1, RSS-133 6.1)

EUT with DUT number	RM-1077, DUT 43243
Accessories with DUT numbers	BV-T5C, DUT 43244 ; WH-108, DUT 43230 ; CA-190CD, DUT 42770 ; Asus T100TA-DK024H, DUT 43219 ; AC-50E, DUT 42768 ; CA-190CD, DUT 43038
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	Continuous data transfer was active between the phone and the computer during the test
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 40 / 99.6
Date of measurements	16-Dec-2014
Measured by	Timo Raiskio

4.1. Test setup



4.2. Test method and limit

The measurement is made according to ANSI C63.4-2003as 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

4.3. GSM 1900 + Computer peripherals test results

RX mode, channel 512 / 1930.2 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
3860.4	37.47	74.731	44.67	-7.2	74	36.53	PASSED
7718.8	45.24	182.81	42.84	2.4	74	28.76	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
3860.4	25.02	17.824	32.22	-7.2	54	28.98	PASSED
7718.8	32.2	40.738	29.8	2.4	54	21.8	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_{RX} [dBµV]	A_{TOT} [dB]	Limit [dBµV/m]	Margin	Results
30	23.74	15.382	50.54	-26.8	40	16.26	PASSED
195.53	8.94	2.799	47.04	-38.1	40	31.06	PASSED
209.615	24.3	16.406	61.6	-37.3	40	15.7	PASSED
210.04	10.71	3.432	48.01	-37.3	40	29.29	PASSED
212.228	16.41	6.615	53.61	-37.2	40	23.59	PASSED
223.84	8.99	2.815	45.39	-36.4	40	31.01	PASSED
224.927	36.79	69.103	73.09	-36.3	40	3.21	PASSED
237.94	15.76	6.138	51.66	-35.9	47	31.24	PASSED
480	13.27	4.608	42.47	-29.2	47	33.73	PASSED
718.97	23.72	15.346	48.72	-25	47	23.28	PASSED

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RX mode, channel 661 / 1960.0 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
7820.642	46.53	212.08	43.63	2.9	74	27.47	PASSED
7828.358	46.13	202.535	43.23	2.9	74	27.87	PASSED
7836.371	45.78	194.536	42.88	2.9	74	28.22	PASSED
7850.097	45.78	194.536	42.78	3	74	28.22	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
7820.642	32.86	43.954	29.96	2.9	54	21.14	PASSED
7828.358	32.86	43.954	29.96	2.9	54	21.14	PASSED
7836.371	32.96	44.463	30.06	2.9	54	21.04	PASSED
7850.097	33.07	45.03	30.07	3	54	20.93	PASSED

RX mode, channel 810 / 1989.8 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
3978.1	38.42	83.368	45.02	-6.6	74	35.58	PASSED
7958.5	46.3	206.538	43.1	3.2	74	27.7	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
3978.1	25.36	18.535	31.96	-6.6	54	28.64	PASSED
7958.5	33.28	46.132	30.08	3.2	54	20.72	PASSED

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5. Test Equipment

5.1. 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
TM37773	Communication Tester	CMU200	R&S	22/24/27, 15B
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 display unit	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

5.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
-	Antenna	BBHA 9120 D	Schwarzbeck	22/24/27, 15C
TM37678	Communication Tester	CMU200	R&S	22/24/27, 15B
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
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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