

FCC Part 15B Compliance Test Report

Test Report no.:	FCC15B_RM-808_10.docx	Date of Report:	28-Dec-2011
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FCC listing no.:	533467		
IC recognition no.:	661V-1		
Tested devices/ accessories:	Phone RM-808 / AC-Charger AC-16U / USB-Cable CA190CD / Headset WH-902		
FCC ID:	QMNRM-808	IC:	661X-RM808
Supplement reports:	-		
Testing has been carried out in accordance with:	CFR 47, FCC rules Part 15 Subpart B, ANSI C63.4 (2003), ICES-003, CISPR 22, RSS-132 (Issue 2, September 2005), RSS-133 (Issue 5, February 2009), RSS-139 (Issue 2, February 2009). 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 Nokia.		
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:			

Sami Lehtonen, System Specialist, EMC

1. Summary for FCC Part 15B Compliance Test Report

Date of receipt	17-Oct-2011
Testing completed	24-Oct-2011
The customer's contact person	Sonja Länkinen
Test Plan referred to	T:\Projects\RM-808\TestPlan\RS_testplan_RM-808.xls
Notes	-
Document name	T:\Projects\RM-808\EMC\FCC15B_RM-808_10.docx

1.1. EUT and Accessory Information

The EUT is a 12-band mobile phone:

GSM850/900/1800/1900/GPRS/EGPRS/Monopole without GND reflector (GSM/WCDMA)

WCDMA I/II(1900)/IV(1700)/V(850)/HSDPA/HSUPA/Monopole without GND reflector (GSM/WCDMA)

LTE 1700/700 Lower

WLAN/Bluetooth

The EUT is tested with maximum rated TX power, modulated with pseudo random bit sequence (PRBS9).

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-808	004402136830878	0150	-	2130.0000.8 070.11390	16008
AC-Charger	AC-16U	4090491272240501957;0675492	-	-	-	16010
USB-Cable	CA190CD	07304561373H2F	-	-	-	16011
Headset	WH-902	1245B2R	-	-	-	16012

1.2. Summary of Test Results

GSM850:

Section in CFR 47	Section in ICES-003 (RSS-132)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (4.6)	Radiated emissions	PASSED

WCDMA 850 (Band V):

Section in CFR 47	Section in ICES-003 (RSS-132)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (4.6)	Radiated emissions	PASSED

GSM1900:

Section in CFR 47	Section in ICES-003 (RSS-133)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (6.6)	Radiated emissions	PASSED

WCDMA 1900 (Band II):

Section in CFR 47	Section in ICES-003 (RSS-133)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (6.6)	Radiated emissions	PASSED

WCDMA 1700 (Band IV):

Section in CFR 47	Section in ICES-003 (RSS-139)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (6.6)	Radiated emissions	PASSED

LTE1700 (Band IV):

Section in CFR 47	Section in ICES-003 (RSS-139)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (6.6)	Radiated emissions	PASSED

LTE700 (Band XVII):

Section in CFR 47	Section in ICES-003 (RSS-139)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (6.6)	Radiated emissions	PASSED

WLAN:

Section in CFR 47	Section in ICES-003	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5	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 Nokia Laboratory.

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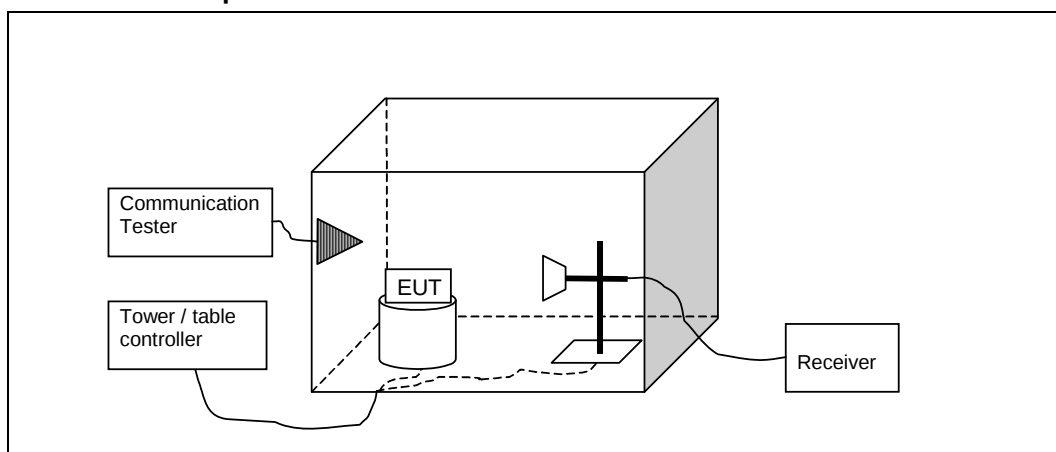
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2. Radiated emissions

(FCC §15.109, ICES-003 section 5.5, RSS-132 4.6, RSS-133 6.6, RSS-139 6.6)

EUT with DUT number	RM-808, DUT 16008
Accessories with DUT numbers	AC-16U, DUT 16010 ; CA190CD, DUT 16011 ; WH-902, DUT 16012
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	19 / 40 / 101.6
Date of measurements	19-Oct-2011
Measured by	Sami Lehtonen / Kalle Hannila

2.1.1 Test Setup



2.2. 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.

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

Frequency range [MHz]	Quasi peak limit [dB μ V/m]	Average limit [dB μ V/m]	Peak limit [dB μ V/m]
30 - 230	40	-	-
230 – 1000	47	-	-
Above 1000	-	54	74

2.3. WCDMA 1700 (Band IV) Test results, GPS active

RX mode, channel 1537 / 2112.4 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4225.2	38.1	80.39	44.33	-6.23	VERTICAL	PASSED
6337	42.41	131.902	45.78	-3.37	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4225.2	24.74	17.256	30.97	-6.23	VERTICAL	PASSED
6337	29.73	30.641	33.1	-3.37	HORIZONTAL	PASSED

RX mode, channel 1637 / 2132.4 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
40.362	21.62	12.045	43.84	-22.22	VERTICAL	PASSED
40.41	22.31	13.05	44.55	-22.24	VERTICAL	PASSED
50.281	5.21	1.821	31.82	-26.61	HORIZONTAL	PASSED
66.593	18.63	8.539	49.81	-31.18	VERTICAL	PASSED
130.241	22.49	13.314	50.43	-27.94	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2133.467	53.54	475.116	59.12	-5.58	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2133.467	38.37	82.842	43.95	-5.58	VERTICAL	PASSED

RX mode, channel 1637 / 2132.4 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7058.916	45.23	182.621	45.38	-0.15	HORIZONTAL	PASSED
7821.144	45.59	190.283	44.08	1.51	HORIZONTAL	PASSED
7832.268	45.38	185.759	43.81	1.57	VERTICAL	PASSED
7858.315	45.41	186.402	43.81	1.6	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7058.916	31.77	38.77	31.92	-0.15	HORIZONTAL	PASSED
7821.144	32.55	42.398	31.04	1.51	HORIZONTAL	PASSED
7832.268	32.69	43.107	31.12	1.57	VERTICAL	PASSED
7858.315	32.48	42.078	30.88	1.6	HORIZONTAL	PASSED

RX mode, channel 1637 / 2132.4 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
33.012	27.14	22.74	39.23	-12.09	VERTICAL	PASSED
33.036	27.2	22.914	39.3	-12.1	VERTICAL	PASSED
33.256	27.2	22.906	39.41	-12.21	VERTICAL	PASSED
33.347	27.21	22.946	39.47	-12.26	VERTICAL	PASSED
33.356	27.19	22.893	39.46	-12.27	VERTICAL	PASSED
33.417	27.27	23.094	39.57	-12.3	VERTICAL	PASSED
88.863	13.07	4.505	34.4	-21.33	VERTICAL	PASSED
161.251	19.11	9.022	43.04	-23.93	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2138.3	44.24	162.93	48.06	-3.82	HORIZONTAL	PASSED
4281.3	37.89	78.406	44.08	-6.19	VERTICAL	PASSED
6420.5	42.71	136.553	45.65	-2.94	HORIZONTAL	PASSED
7037.076	44.55	168.927	44.98	-0.43	VERTICAL	PASSED
7059.717	44.7	171.692	44.86	-0.16	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2138.3	30.93	35.209	34.75	-3.82	HORIZONTAL	PASSED
4281.3	24.95	17.673	31.14	-6.19	VERTICAL	PASSED
6420.5	29.98	31.565	32.92	-2.94	HORIZONTAL	PASSED
7037.076	31.96	39.614	32.39	-0.43	VERTICAL	PASSED
7059.717	31.92	39.464	32.08	-0.16	VERTICAL	PASSED

RX mode, channel 1738 / 2152.6 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4306.9	38.07	80.057	44.08	-6.01	VERTICAL	PASSED
6456.1	42.96	140.67	45.77	-2.81	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4306.9	24.97	17.724	30.98	-6.01	VERTICAL	PASSED
6456.1	29.99	31.568	32.8	-2.81	VERTICAL	PASSED

2.4. GSM850 Test results, FM receiver active

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]	Polarisation	Result
3477.1	36	63.088	44.73	-8.73	HORIZONTAL	PASSED
6951.6	44.56	169.102	45.64	-1.08	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3477.1	23.25	14.543	31.98	-8.73	HORIZONTAL	PASSED
6951.6	31.53	37.692	32.61	-1.08	HORIZONTAL	PASSED

RX mode, channel 190 / 881.6 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
30.66	22.03	12.633	38.92	-16.89	VERTICAL	PASSED
41.532	8.9	2.787	31.78	-22.88	VERTICAL	PASSED
44.611	16.91	7.008	41.53	-24.62	VERTICAL	PASSED
66.593	19.68	9.634	50.86	-31.18	VERTICAL	PASSED
84.238	4.85	1.747	32.7	-27.85	HORIZONTAL	PASSED
97.986	32.39	41.649	59.19	-26.8	VERTICAL	PASSED
398.416	11.06	3.572	35.46	-24.4	HORIZONTAL	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]	Polarisation	Result
7825.651	45.92	197.583	44.34	1.58	VERTICAL	PASSED
7838.477	45.89	196.925	44.34	1.55	VERTICAL	PASSED
7845.79	46	199.503	44.46	1.54	HORIZONTAL	PASSED
7856.913	45.27	183.379	43.69	1.58	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7825.651	32.61	42.727	31.03	1.58	VERTICAL	PASSED
7838.477	32.56	42.462	31.01	1.55	VERTICAL	PASSED
7845.79	32.52	42.243	30.98	1.54	HORIZONTAL	PASSED
7856.913	32.54	42.355	30.96	1.58	VERTICAL	PASSED

RX mode, channel 190 / 881.6 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
39.852	27	22.374	42.93	-15.93	VERTICAL	PASSED
39.854	26.96	22.292	42.89	-15.93	VERTICAL	PASSED
40.315	26.3	20.644	42.49	-16.19	VERTICAL	PASSED
62.521	12.7	4.317	38.63	-25.93	VERTICAL	PASSED
66.62	20.88	11.066	46.05	-25.17	VERTICAL	PASSED
98.026	54.24	514.932	75.03	-20.79	VERTICAL	*PASSED
98.046	50.51	335.467	71.3	-20.79	VERTICAL	*PASSED
185.234	10.37	3.3	34.88	-24.51	VERTICAL	PASSED

*98.0 MHz frequency is FM-Radio signal and thus ignored."

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3525.9	36.3	65.298	44.6	-8.3	VERTICAL	PASSED
7054.2	44.67	171.199	44.86	-0.19	VERTICAL	PASSED
7820.14	45.7	192.752	44.2	1.5	HORIZONTAL	PASSED
7822.648	45.88	196.675	44.34	1.54	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3525.9	23.56	15.061	31.86	-8.3	VERTICAL	PASSED
7054.2	32	39.788	32.19	-0.19	VERTICAL	PASSED
7820.14	32.58	42.535	31.08	1.5	HORIZONTAL	PASSED
7822.648	32.57	42.521	31.03	1.54	VERTICAL	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]	Polarisation	Result
3576.8	36.66	68.038	44.73	-8.07	VERTICAL	PASSED
7151	44.81	173.94	44.99	-0.18	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3576.8	23.69	15.284	31.76	-8.07	VERTICAL	PASSED
7151	31.81	38.945	31.99	-0.18	VERTICAL	PASSED

2.5. GSM1900 Test results, FM receiver active

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]	Polarisation	Result
3861.3	37.13	71.846	44.34	-7.21	HORIZONTAL	PASSED
7718.6	45.69	192.42	44.73	0.96	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3861.3	24.24	16.291	31.45	-7.21	HORIZONTAL	PASSED
7718.6	32.18	40.64	31.22	0.96	VERTICAL	PASSED

RX mode, channel 661 / 1960.0 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
40.52	23.03	14.171	45.34	-22.31	VERTICAL	PASSED
45.43	18.2	8.132	43.31	-25.11	VERTICAL	PASSED
49.162	10.74	3.442	38.19	-27.45	VERTICAL	PASSED
62.15	7.68	2.422	39.66	-31.98	VERTICAL	PASSED
73.232	8.47	2.65	37.7	-29.23	VERTICAL	PASSED
74.413	10.46	3.333	39.34	-28.88	VERTICAL	PASSED
90.875	7.99	2.509	35.18	-27.19	VERTICAL	PASSED
97.956	54.67	541.066	81.47	-26.8	VERTICAL	*PASSED
103.971	9.57	3.008	35.66	-26.09	VERTICAL	PASSED
120.022	9.83	3.1	36.21	-26.38	VERTICAL	PASSED

*98.0 MHz frequency is FM-Radio signal and thus ignored."

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]	Polarisation	Result
7063.123	44.75	172.743	44.99	-0.24	VERTICAL	PASSED
7819.442	45.43	186.767	43.95	1.48	VERTICAL	PASSED
7825.349	45.4	186.102	43.82	1.58	VERTICAL	PASSED
7863.023	45.84	195.862	44.2	1.64	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7063.123	31.89	39.314	32.13	-0.24	VERTICAL	PASSED
7819.442	32.65	42.919	31.17	1.48	VERTICAL	PASSED
7825.349	32.61	42.717	31.03	1.58	VERTICAL	PASSED
7863.023	32.45	41.903	30.81	1.64	HORIZONTAL	PASSED

RX mode, channel 661 / 1960.0 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
38.122	24.32	16.449	39.24	-14.92	VERTICAL	PASSED
39.756	27.42	23.483	43.29	-15.87	VERTICAL	PASSED
44.112	19.94	9.927	38.28	-18.34	VERTICAL	PASSED
44.355	20.49	10.585	38.97	-18.48	VERTICAL	PASSED
50.637	12.68	4.307	35.11	-22.43	VERTICAL	PASSED
98.016	49.47	297.44	70.26	-20.79	VERTICAL	*PASSED
98.026	57.4	741.566	78.19	-20.79	VERTICAL	*PASSED
239.829	12.7	4.315	34.91	-22.21	HORIZONTAL	PASSED

*98.0 MHz frequency is FM-Radio signal and thus ignored."

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3921.9	37.19	72.335	44.21	-7.02	VERTICAL	PASSED
7065.226	44.44	166.725	44.73	-0.29	HORIZONTAL	PASSED
7837.179	45.5	188.278	43.95	1.55	VERTICAL	PASSED
7838	45.37	185.481	43.82	1.55	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3921.9	24.47	16.736	31.49	-7.02	VERTICAL	PASSED
7065.226	31.76	38.73	32.05	-0.29	HORIZONTAL	PASSED
7837.179	32.5	42.179	30.95	1.55	VERTICAL	PASSED
7838	32.45	41.913	30.9	1.55	VERTICAL	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]	Polarisation	Result
3978.2	37.33	73.519	44.47	-7.14	VERTICAL	PASSED
7959	46.69	215.924	44.21	2.48	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3978.2	24.41	16.607	31.55	-7.14	VERTICAL	PASSED
7959	33.29	46.169	30.81	2.48	HORIZONTAL	PASSED

2.6. LTE1700 (Band 4) Test results, GPS Active

RX mode, channel 2175 / 2132.5 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
39.92	24.71	17.197	46.67	-21.96	VERTICAL	PASSED
44.779	19.61	9.565	44.33	-24.72	VERTICAL	PASSED
66.593	15.97	6.291	47.15	-31.18	VERTICAL	PASSED
177.514	4.61	1.7	34.62	-30.01	HORIZONTAL	PASSED
397.777	25.29	18.387	49.73	-24.44	HORIZONTAL	PASSED
398.56	22.11	12.745	46.51	-24.4	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
1755.111	47.66	241.49	53.69	-6.03	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
1755.111	34.64	53.932	40.67	-6.03	HORIZONTAL	PASSED

RX mode, channel 2175 / 2132.5 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7059.521	44.57	169.219	44.73	-0.16	VERTICAL	PASSED
7824.052	45.77	194.312	44.2	1.57	HORIZONTAL	PASSED
7839.979	44.97	177.276	43.42	1.55	HORIZONTAL	PASSED
7845.995	45.22	182.348	43.69	1.53	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7059.521	31.88	39.242	32.04	-0.16	VERTICAL	PASSED
7824.052	32.5	42.179	30.93	1.57	HORIZONTAL	PASSED
7839.979	32.46	41.995	30.91	1.55	HORIZONTAL	PASSED
7845.995	32.59	42.614	31.06	1.53	VERTICAL	PASSED

RX mode, channel 2175 / 2132.5 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
81.941	13.14	4.537	35.22	-22.08	VERTICAL	PASSED
91.062	12.98	4.456	34.18	-21.2	VERTICAL	PASSED
91.579	13.1	4.519	34.32	-21.22	VERTICAL	PASSED
92.95	13.75	4.869	35.01	-21.26	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4266.4	37.84	77.974	44.08	-6.24	VERTICAL	PASSED
6399.5	44	158.453	46.82	-2.82	VERTICAL	PASSED
7071.043	44.34	164.74	44.73	-0.39	VERTICAL	PASSED
7827.759	45.65	191.646	44.07	1.58	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4266.4	25.22	18.237	31.46	-6.24	VERTICAL	PASSED
6399.5	30.63	34.002	33.45	-2.82	VERTICAL	PASSED
7071.043	31.72	38.548	32.11	-0.39	VERTICAL	PASSED
7827.759	32.57	42.53	30.99	1.58	VERTICAL	PASSED

RX mode, channel 2375 / 2152.5 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4306.3	37.8	77.66	43.81	-6.01	VERTICAL	PASSED
6459.3	42.57	134.4	45.39	-2.82	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4306.3	24.99	17.762	31	-6.01	VERTICAL	PASSED
6459.3	30.07	31.893	32.89	-2.82	HORIZONTAL	PASSED

2.7. WLAN Test results, FM Radio active

2.7.1 WLAN 802.11 RX Mode

RX mode, Channel 11 / 2462 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4962	39.45	93.907	44.2	-4.75	HORIZONTAL	PASSED
7442	45.3	184.162	44.33	0.97	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4962	26.79	21.84	31.54	-4.75	HORIZONTAL	PASSED
7442	32.21	40.804	31.24	0.97	VERTICAL	PASSED

RX mode, Channel 1 / 2412 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4804.7	39.12	90.386	43.81	-4.69	HORIZONTAL	PASSED
7205.1	44.48	167.398	44.47	0.01	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4804.7	26.06	20.091	30.75	-4.69	HORIZONTAL	PASSED
7205.1	31.72	38.561	31.71	0.01	HORIZONTAL	PASSED

RX mode, Channel 7 / 2442 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
62.288	9.91	3.129	34.09	-24.18	HORIZONTAL	PASSED
80.001	17.96	7.908	40.13	-22.17	VERTICAL	PASSED
82.159	17.34	7.364	39.41	-22.07	VERTICAL	PASSED
85.698	12.61	4.273	34.31	-21.7	HORIZONTAL	PASSED
91.81	14.98	5.61	36.46	-21.48	HORIZONTAL	PASSED
97.96	51.47	374.412	72.27	-20.8	VERTICAL	*PASSED
97.966	51.44	373.035	72.24	-20.8	VERTICAL	*PASSED
98.036	50.65	340.683	71.44	-20.79	VERTICAL	*PASSED

*98.0 MHz frequency is FM-Radio signal and thus ignored."

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4880.9	39	89.156	43.68	-4.68	HORIZONTAL	PASSED
7321.3	45.38	185.866	44.98	0.4	VERTICAL	PASSED
7818.344	45.28	183.612	43.82	1.46	VERTICAL	PASSED
7850.397	45.08	179.556	43.55	1.53	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4880.9	26.52	21.181	31.2	-4.68	HORIZONTAL	PASSED
7321.3	32.17	40.584	31.77	0.4	VERTICAL	PASSED
7818.344	32.58	42.579	31.12	1.46	VERTICAL	PASSED
7850.397	32.39	41.62	30.86	1.53	VERTICAL	PASSED

RX mode, Channel 7 / 2442 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7031.363	44.89	175.55	45.52	-0.63	VERTICAL	PASSED
7820.84	45.84	195.952	44.33	1.51	HORIZONTAL	PASSED
7825.246	45.4	186.102	43.82	1.58	VERTICAL	PASSED
7832.066	46.16	203.306	44.59	1.57	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7031.363	31.71	38.49	32.34	-0.63	VERTICAL	PASSED
7820.84	32.57	42.496	31.06	1.51	HORIZONTAL	PASSED
7825.246	32.61	42.712	31.03	1.58	VERTICAL	PASSED
7832.066	32.73	43.296	31.16	1.57	VERTICAL	PASSED

RX mode, Channel 7 / 2442 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
40.37	22.35	13.11	44.3	-21.95	VERTICAL	PASSED
55.99	3.44	1.486	35.26	-31.82	VERTICAL	PASSED
66.632	10.28	3.265	41.56	-31.28	VERTICAL	PASSED
85.343	11.23	3.643	39.1	-27.87	VERTICAL	PASSED
96.576	7.04	2.249	33.71	-26.67	VERTICAL	PASSED
98.022	48.16	255.859	74.49	-26.33	VERTICAL	*PASSED
108.307	8.98	2.813	34.77	-25.79	VERTICAL	PASSED
906.62	17.75	7.717	34.23	-16.48	VERTICAL	PASSED

*98.0 MHz frequency is FM-Radio signal and thus ignored."

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
1708.621	39.09	90.002	47.2	-8.11	VERTICAL	PASSED
1923.027	41.97	125.458	47.32	-5.35	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
1708.621	26.59	21.35	34.7	-8.11	VERTICAL	PASSED
1923.027	29.08	28.454	34.43	-5.35	HORIZONTAL	PASSED

2.8. LTE700 Lower (Band 17) 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 _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
1472.7	40.18	102.129	48.56	-8.38	HORIZONTAL	PASSED
2208.3	44.93	176.299	48.07	-3.14	HORIZONTAL	PASSED
3000.6	36.55	67.236	44.48	-7.93	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
1472.7	26.39	20.859	34.77	-8.38	HORIZONTAL	PASSED
2208.3	31.62	38.115	34.76	-3.14	HORIZONTAL	PASSED
3000.6	24.05	15.933	31.98	-7.93	HORIZONTAL	PASSED

RX mode, channel 5790 / 740.0 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
96.152	8.19	2.567	35.32	-27.13	VERTICAL	PASSED
99.427	10.14	3.214	36.71	-26.57	VERTICAL	PASSED
121.982	6.8	2.187	33.53	-26.73	VERTICAL	PASSED
191.91	5.98	1.99	36.5	-30.52	VERTICAL	PASSED
192.444	8.44	2.643	39	-30.56	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2448.393	44.24	162.986	47.56	-3.32	HORIZONTAL	PASSED
2452.407	44.86	175.025	48.06	-3.2	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2448.393	31.76	38.712	35.08	-3.32	HORIZONTAL	PASSED
2452.407	31.81	38.931	35.01	-3.2	HORIZONTAL	PASSED

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
96.152	8.19	2.567	35.32	-27.13	VERTICAL	PASSED
99.427	10.14	3.214	36.71	-26.57	VERTICAL	PASSED
121.982	6.8	2.187	33.53	-26.73	VERTICAL	PASSED
191.91	5.98	1.99	36.5	-30.52	VERTICAL	PASSED
192.444	8.44	2.643	39	-30.56	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2448.393	44.24	162.986	47.56	-3.32	HORIZONTAL	PASSED
2452.407	44.86	175.025	48.06	-3.2	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2448.393	31.76	38.712	35.08	-3.32	HORIZONTAL	PASSED
2452.407	31.81	38.931	35.01	-3.2	HORIZONTAL	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]	Polarisation	Result
7041.585	45.25	182.915	45.53	-0.28	VERTICAL	PASSED
7825.15	45.28	183.612	43.7	1.58	VERTICAL	PASSED
7841.881	45.9	197.151	44.36	1.54	VERTICAL	PASSED
7847.996	45.62	190.985	44.09	1.53	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7041.585	31.87	39.224	32.15	-0.28	VERTICAL	PASSED
7825.15	32.58	42.535	31	1.58	VERTICAL	PASSED
7841.881	32.52	42.286	30.98	1.54	VERTICAL	PASSED
7847.996	32.55	42.423	31.02	1.53	VERTICAL	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]	Polarisation	Result
1486.8	38.12	80.51	46.68	-8.56	HORIZONTAL	PASSED
2228.8	45.75	193.754	48.56	-2.81	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
1486.8	25.22	18.245	33.78	-8.56	HORIZONTAL	PASSED
2228.8	30.34	32.893	33.15	-2.81	HORIZONTAL	PASSED

3. Test Equipment

3.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
1759	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
1916	Communication Tester	CMTA84	R&S	15B
1992	Signal Generator	83630B	Agilent	15C, 15B
1999	Receiver	ESIB26	R&S	22/24/27, 15C, 15B
2039	Power Supply	PL330QMD	Thurlby	15C, 15B
2060	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
2068	CDN	S1	NMP	15C, 15B
2097	Pulse Limiter	ESH3-Z2	R&S	15C, 15B
2156	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2180	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2206	Signal Generator	SMX	R&S	15C, 15B
2347	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2352	Spectrum Analyzer	FSP-30	R&S	22/24/27, 15C
2359	Temperature Test Chamber	VT4002	Vötsch	22/24/27
2360	Serial Bus Converter	Serial 488A	IO Tech	22/24/27
2362	Power Supply	NGPX 70/5	R&S	22/24/27
2388	Bluetooth Tester	CBT	R&S	15B
2389	Signal Generator	SMJ 100A	R&S	15B
2390	Directional Coupler	DC2600	AR	-
6009	GPS Antenna	SA-700	Chronos	15C
6010	GPS Network amplifier	NLA20FPDC	GPS Networking, Inc	15C
6011	GPS signal Splitter	LDCBS1x4	GPS Networking, Inc	15C
6012	CDN	CDN USB/c	Teseq	-
6015	Receiver	ESI	R&S	22/24, 15C, 15B
-	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	ES-K1 v.1.71	R&S	22/24/27, 15C, 15B
6036	Data Logger	175-H2	Testo	22/24/27, 15C, 15B
6038	Data Logger	Testo 580	Testo	22/24/27, 15C, 15B
6039	USB Interface	5541765	Testo	22/24/27, 15C, 15B
2059	V-network	ESH3-Z6	R&S	-
6044	V-network	ESH3-Z6	R&S	-
6045	Power splitter	11667B	Agilent	22/24/27, 15C
6046	Attenuator 10dB	8493C	Agilent	22/24/27, 15C
6047	Attenuator 20dB	8493C	Agilent	22/24/27, 15C

3.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
1917	Communication Tester	CMTA84	R&S	15B
1988	Antenna	HL562	R&S	22/24/27, 15C, 15B
1989	Relay Switch Unit	TS-RSP	R&S	22/24/27, 15C, 15B
2009	Signal Generator	SMP 22	R&S	22/24/27, 15C, 15B
2027	CDN	M2 (modified) DC1	MEB	22/24/27, 15C, 15B
2028	CDN	M3 (modified) DC2	MEB	22/24/27, 15C, 15B
2029	Power Supply	PL330	Thurlby	22/24/27, 15C
2043	Band Reject Filter	WRCA824/849-0,2-6SS	Wainwright	22
2047	Band Reject Filter	WRCC1800/2000-0.2-10SS	Wainwright	24
2051	High Pass Filter	4HC1700-1-KK	R&S	22
2109	Power Supply	PL330QMD	Thurlby	22/24/27, 15C, 15B
2116	Controller	EMCO 2090	ETS	22/24/27, 15C, 15B
2135	CDN	CDN 801-M3	Lüthi	22/24/27, 15C, 15B
2150	High Pass Filter	F-15041	RLC	22/24/27, 15C
2156	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2176	CDN	CDN 801-M3	Lüthi	22/24/27, 15C, 15B
2180	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2188	Preamplifier	AFS4-00100300-20-23P-6	Miteq	22/24/27, 15C, 15B
2347	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2348	Controller	G-1000DXC	Yaesu	22/24/27, 15C, 15B
2349	Computer Controller	GS-232B	Yaesu	22/24/27, 15C, 15B
2350	Preamplifier	AMF-6D-020180-29-20P	Miteq	22/24/27, 15C, 15B
2353	Receiver	ESIB26	R&S	22/24/27, 15C, 15B
2357	Band Reject Filter	WRCG2400/2483-2390/2493-35/10SS	Wainwright	15C
2361	Anechoic Chamber	3 m Semi / Full Anechoic Chamber	Euroshield	22/24/27, 15C, 15B
2364	Band Reject Filter	WRCG1877/1883 - 1870/1890-40/6SS	Wainwright	24
2366	Relay Switch Unit	TS-RSP	R&S	22/24/27, 15C, 15B
2384	Band Reject Filter	WRCG832/838-825/845-40/5SS	Wainwright	22
2388	Bluetooth Tester	CBT	R&S	15B
2389	Signal Generator	SMJ 100A	R&S	15B
2391	Band Reject Filter	WRCG1729.4/1735.4-1722.4/1742.4-40/6SS	Wainwright	27
6009	GPS Antenna	SA-700	Chronos	15C
6010	GPS Network amplifier	NLA20FPDC	GPS Networking, Inc	15C
6011	GPS signal Splitter	LDCBS1x4	GPS Networking, Inc	15C
6014	Substitute Calibration Cable	Sucoflex 104PB	Suhner	-
-	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	ES-K1 v.1.71	R&S	22/24/27, 15C, 15B
-	RF immunity / Emission Software	EMC32	R&S	22/24/27, 15C, 15B
6037	Data Logger	175-H2	Testo	22/24/27, 15C, 15B
6038	Data Logger	Testo 580	Testo	22/24/27, 15C, 15B
6039	USB Interface	5541765	Testo	22/24/27, 15C, 15B