

FCC Part 22/24/27/90 Compliance Test Report

Test Report no.:	FCC22&24&27&90 RM-1078_08	Date of Report:	19-Sep-2014
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FCC listing no.:	975940		
IC recognition no.:	661AH-1		
Tested devices/ accessories:	Phone RM-1078 / Battery BL-5H		
FCC ID:	QTLRM-1078	IC:	
Supplement reports:	-		
Testing has been carried out in accordance with:	CFR 47, FCC rules Parts 22/24/27/90, TIA-603-C-2004 and IC standards, RSS-GEN (Issue 3, December 2010), RSS-132 (Issue 2, September 2005), RSS-133 (Issue 5, 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 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:	 Digitally signed by Fu Roger DN: cn=Fu Roger, o=Microsoft, ou=TCC RCL, email=Roger.fu@microsoft.com, c=CN Date: 2014.09.19 16:52:31 +08'00'		

Fu Roger, Engineer, EMC

1. Summary for FCC Part 22/24/27/90 Compliance Test Report

Date of receipt	31-Jul-2014
Testing completed	02-Sep-2014
The customer's contact person	Hu Dongji
Test Plan referred to	T:\Projects\RM-1078\TestPlan\RS_Testplan_RM-1078.xlsm
Notes	-
Document name	FCC22&24&27&90 RM-1078_08.docx

1.1. EUT and Accessory Information

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

Devices under tests

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-1078	355129060007158	0201	-	02035.00000.14295.07001	54578
Battery	BL-5H	4175354275C20304014;0670699	-	-	-	54577

1.2. Summary of Test Results

GSM 1900:

Section in CFR 47	Section in RSS-GEN or RSS-133	Name of the test	Result
§2.1046(a)	6.4	Conducted RF output power	NP
§24.232(b)	6.4	Radiated RF output power	PASSED
§2.1049(h)	4.6.1	99 % occupied bandwidth	NP
§24.238(a)	6.5	Band edge compliance	NP
§24.238(a), §2.1051	6.5	Spurious emissions at antenna terminals	NP
§24.238(a), §2.1053	6.5	Spurious radiated emissions	NP
§2.1055(a)	6.3	Frequency stability, temperature variation	NP
§2.1055(d)	6.3	Frequency stability, voltage variation	NP

GSM 850:

Section in CFR 47	Section in RSS-GEN or RSS-132	Name of the test	Result
§2.1046(a), 22.913(a)	4.4	Conducted RF output power	NP
§22.913(a)	4.4	Radiated RF output power	PASSED
§2.1049(h)	4.6.1	99 % occupied bandwidth	NP
§22.917(a)	4.5	Band edge compliance	NP
§22.917(a), §2.1051	4.5	Spurious emissions at antenna terminals	NP
§22.917(a), §2.1053	4.5	Spurious radiated emissions	NP
§2.1055(a)	4.3	Frequency stability, temperature variation	NP
§2.1055(d)	4.3	Frequency stability, voltage variation	NP

CDMA 800:

Section in CFR 47	Section in RSS-GEN or RSS-132	Name of the test	Result
§2.1046(a), 22.913(a)	4.4	Conducted RF output power	NP
§22.913(a)	4.4	Radiated RF output power	PASSED
§2.1049(h)	4.6.1	99 % occupied bandwidth	NP
§22.917(a)	4.5	Band edge compliance	NP
§22.917(a), §2.1051	4.5	Spurious emissions at antenna terminals	NP

§22.917(a), §2.1053	4.5	Spurious radiated emissions	NP
§2.1055(a)	4.3	Frequency stability, temperature variation	NP
§2.1055(d)	4.3	Frequency stability, voltage variation	NP

CDMA BC10, subclass 2/3:

Section in CFR 47	Not allowed in Canada	Name of the test	Result
§90.635(b)		Conducted RF output power	NP
§90.635(b)		Radiated RF output power	PASSED
§2.1049(h)		99 % occupied bandwidth	NP
§90.691(a)(2)		Band edge compliance	NP
§90.691(a)(2)		Spurious emissions at antenna terminals	NP
§90.691(a)(2)		Spurious radiated emissions	NP
§90.213(a)		Frequency stability, temperature variation	NP
§90.213(a)		Frequency stability, voltage variation	NP

CDMA 1900:

Section in CFR 47	Section in RSS-GEN or RSS-133	Name of the test	Result
§2.1046(a)	6.4	Conducted RF output power	NP
§24.232(b)	6.4	Radiated RF output power	PASSED
§2.1049(h)	4.6.1	99 % occupied bandwidth	NP
§24.238(a)	6.5	Band edge compliance	NP
§24.238(a), §2.1051	6.5	Spurious emissions at antenna terminals	NP
§24.238(a), §2.1053	6.5	Spurious radiated emissions	NP
§2.1055(a)	6.3	Frequency stability, temperature variation	NP
§2.1055(d)	6.3	Frequency stability, voltage variation	NP

WCDMA 1900:

Section in CFR 47	Section in RSS-GEN or RSS-133	Name of the test	Result
§2.1046(a)	6.4	Conducted RF output power	NP
§24.232(b)	6.4	Radiated RF output power	PASSED
§2.1049(h)	4.6.1	99 % occupied bandwidth	NP
§24.238(a)	6.5	Band edge compliance	NP
§24.238(a), §2.1051	6.5	Spurious emissions at antenna terminals	NP
§24.238(a), §2.1053	6.5	Spurious radiated emissions	NP
§2.1055(a)	6.3	Frequency stability, temperature variation	NP
§2.1055(d)	6.3	Frequency stability, voltage variation	NP

WCDMA 850:

Section in CFR 47	Section in RSS-GEN or RSS-132	Name of the test	Result
§2.1046(a), 22.913(a)	4.4	Conducted RF output power	NP
§22.913(a)	4.4	Radiated RF output power	PASSED
§2.1049(h)	4.6.1	99 % occupied bandwidth	NP
§22.917(a)	4.5	Band edge compliance	NP
§22.917(a), §2.1051	4.5	Spurious emissions at antenna terminals	NP
§22.917(a), §2.1053	4.5	Spurious radiated emissions	NP
§2.1055(a)	4.3	Frequency stability, temperature variation	NP
§2.1055(d)	4.3	Frequency stability, voltage variation	NP

LTE25:

Section in CFR 47	Section in RSS-GEN or RSS-133	Name of the test	Result
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§2.1046(a)	6.4	Conducted RF output power	NP
§24.232(c)	6.4	Radiated RF output power	PASSED
§2.1049(h)	4.6.1	99 % occupied bandwidth	NP
§24.238(a)	6.5	Band edge compliance	NP
§24.238(a)	6.5	Spurious emissions at antenna terminals	NP
§24.238(a)	6.5	Spurious radiated emissions	NP
§24.235	6.3	Frequency stability, temperature variation	NP
§24.235	6.3	Frequency stability, voltage variation	NP

LTE26 lower:

Section in CFR 47	Not allowed in Canada	Name of the test	Result
§90.635(b)		Conducted RF output power	NP
§90.635(b)		Radiated RF output power	PASSED
§2.1049(h)		99 % occupied bandwidth	NP
§90.691(a)(2)		Band edge compliance	NP
§90.691(a)(2)		Spurious emissions at antenna terminals	NP
§90.691(a)(2)		Spurious radiated emissions	NP
§90.213(a)		Frequency stability, temperature variation	NP
§90.213(a)		Frequency stability, voltage variation	NP

LTE26 upper:

Section in CFR 47	Section in RSS-GEN or RSS-132	Name of the test	Result
§2.1046(a), 22.913(a)	4.4	Conducted RF output power	NP
§22.913(a)	4.4	Radiated RF output power	PASSED
§2.1049(h)	4.6.1	99 % occupied bandwidth	NP
§22.917(a)	4.5	Band edge compliance	NP
§22.917(a), §2.1051	4.5	Spurious emissions at antenna terminals	NP
§22.917(a), §2.1053	4.5	Spurious radiated emissions	NP
§2.1055(a)	4.3	Frequency stability, temperature variation	NP
§2.1055(d)	4.3	Frequency stability, voltage variation	NP

LTE41:

Section in CFR 47	Not allowed in Canada	Name of the test	Result
§2.1046(a)		Conducted RF output power	NP
§27.50(h)(2)		Radiated RF output power	PASSED
§2.1049(h)		99 % occupied bandwidth	NP
§27.53(l)		Band edge compliance	NP
§27.53(h), §2.1051		Spurious emissions at antenna terminals	NP
§27.53(l), §2.1053		Spurious radiated emissions	NP
§27.54		Frequency stability, temperature variation	NP
§27.54		Frequency stability, voltage variation	NP

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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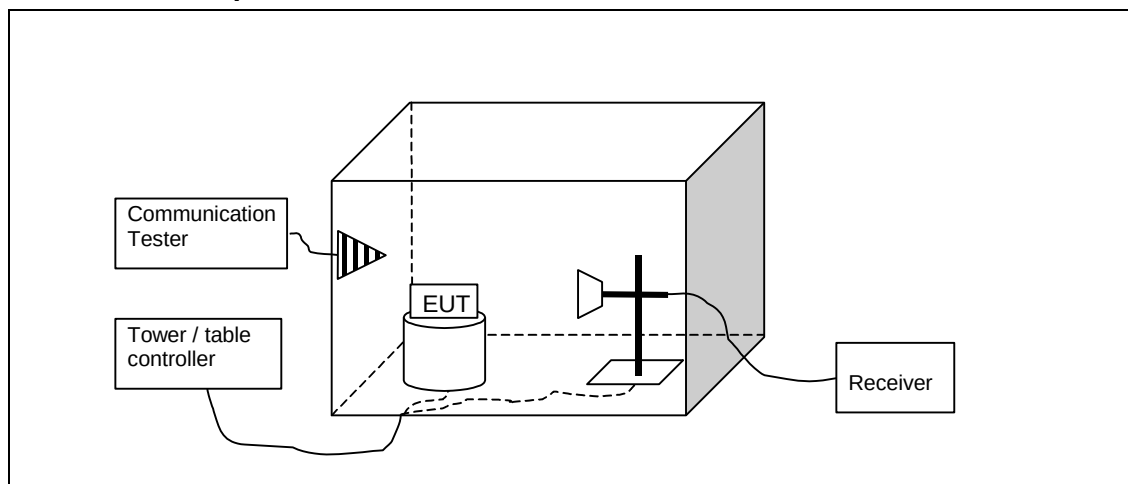
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2. Radiated RF output power

§22.913(a), §90.635(b), §24.232(c), §24.232(b), RSS-132 4.4, RSS-133 6.4)

EUT with DUT number	RM-1078, DUT 54578
Accessories with DUT numbers	BL-5H, DUT 54577
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	24/58/100.5 to 24/56/100.8
Date of measurements	20-Aug-2014 to 1-Sep-2014
Measured by	Fu Roger

2.1.1 Test setup



2.2. Test method and limit

The measurement is made according to TIA-603-C-2004 as follows:

The measurement is performed in the Anechoic Chamber with absorbers on the floor and measuring antenna at fixed height using 2-axis EUT position system. The turntable is rotated 360 degrees and this is repeated for both horizontal and vertical receive antenna polarizations.

The EUT is placed on a nonconductive plate at 170 cm height.

The substitution method is used. The measurement results are obtained as described below:

$$P[\text{dBm}] = P_{\text{SUBST TX}} + P_{\text{MEAS}} - P_{\text{SUBST RX}} - L_{\text{SUBST CABLES}} + G_{\text{SUBST TX ANT}}$$

Where $P_{\text{SUBST TX}}$ is signal generator level. P_{MEAS} is measured power level from the EUT. $P_{\text{SUBST RX}}$ is measured power level in substitute measurement. $L_{\text{SUBST CABLE}}$ is the loss of the cable between the signal generator and the substitution antenna and $G_{\text{SUBST TX ANT}}$ is substitution antenna gain.

Limits for radiated RF output power measurements

Frequency range [MHz]	Limit [W]	Limit [dBm]
806 - 901	100 ERP	50
824 - 849	7 ERP	38.5
1850 - 1910	2 EIRP	33
814 - 824	100 ERP	50
2496 - 2690	2 EIRP	33

2.3. GSM 850 test results

RMS detector

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
128 / 824.2	29.5	0.891	-5.32	+10	-31.26	-3.2	3.24	HORIZONTAL	PASSED
190 / 836.6	29.57	0.906	-4.91	+10	-30.85	-3.1	3.27	HORIZONTAL	PASSED
251 / 848.8	28.98	0.791	-4.84	+10	-30.59	-3.4	3.37	HORIZONTAL	PASSED

2.4. GSM 850 E-GPRS (MSC9) test results

RMS detector

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
128 / 824.2	23.46	0.222	-8.64	+10	-31.26	-3.2	3.24	VERTICAL	PASSED
190 / 836.6	23.8	0.240	-10.68	+10	-30.85	-3.1	3.27	HORIZONTAL	PASSED
251 / 848.8	23.25	0.211	-10.57	+10	-30.59	-3.4	3.37	HORIZONTAL	PASSED

2.5. GSM 1900 test results

RMS detector

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
512 / 1850.2	32.55	1.799	-12.7	+10	-29.8	10.26	4.81	VERTICAL	PASSED
661 / 1880	31.78	1.507	-13.14	+10	-29.9	10.22	5.2	VERTICAL	PASSED
810 / 1909.8	32.52	1.786	-12.96	+10	-30.4	10.2	5.12	VERTICAL	PASSED

2.6. GSM 1900 E-GPRS (MSC9) test results

RMS detector

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
512 / 1850.2	28.93	0.782	-16.32	+10	-29.8	10.26	4.81	VERTICAL	PASSED
661 / 1880	27.86	0.611	-17.06	+10	-29.9	10.22	5.2	VERTICAL	PASSED
810 / 1909.8	28.38	0.689	-17.1	+10	-30.4	10.2	5.12	VERTICAL	PASSED

2.7. CDMA 800 test results

RMS detector

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
1013 / 824.7	21.51	0.142	-13.13	+10	-31.27	-3.2	3.43	HORIZONTAL	PASSED
384 / 836.52	19.59	0.091	-14.86	+10	-31.01	-3.1	3.46	HORIZONTAL	PASSED
777 / 848.31	20.7	0.117	-12.81	+10	-30.36	-3.4	3.45	HORIZONTAL	PASSED

2.8. CDMA BC10, subclass 2/3 test results

RMS detector

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
476 / 817.9	19.97	0.099	-12.51	+10	-28.92	-3	3.44	VERTICAL	PASSED
580 / 820.5	19.87	0.097	-12.44	+10	-28.72	-3	3.41	VERTICAL	PASSED
684 / 823.1	19.68	0.093	-12.43	+10	-28.72	-3.2	3.41	VERTICAL	PASSED

RFconducted [dBm] = ERP [dBm] - Gain [dBi] + 2.15 dB

Channel / f _c [MHz]	RF conducted [dBm]	RF conducted [W]	ERP [dBm]	Gain [dBi]
476 / 817.9	22.57	0.181	19.97	-0.45
580 / 820.5	22.35	0.172	19.87	-0.33
684 / 823.1	21.61	0.145	19.68	0.22

2.9. CDMA 1900 test results

RMS detector

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
25 / 1851.25	25.45	0.351	-19.61	+10	-29.96	10.26	5.16	VERTICAL	PASSED
600 / 1880	25.07	0.321	-19.85	+10	-29.9	10.22	5.2	VERTICAL	PASSED
1175 / 1908.75	25.92	0.391	-19.32	+10	-30.28	10.2	5.24	VERTICAL	PASSED

2.10. WCDMA 1900 test results

RMS detector ;Antenna 1

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
9262 / 1852.4	22.73	0.187	-22.31	+10	-29.68	10.25	4.89	VERTICAL	PASSED
9400 / 1880	23.22	0.210	-21.7	+10	-29.9	10.22	5.2	VERTICAL	PASSED
9538 / 1907.6	23.75	0.237	-21.66	+10	-30.31	10.2	5.1	VERTICAL	PASSED

RMS detector; Antenna 2

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
9262 / 1852.4	20.65	0.116	-24.39	+10	-29.68	10.25	4.89	VERTICAL	PASSED
9400 / 1880	22.02	0.159	-22.9	+10	-29.9	10.22	5.2	VERTICAL	PASSED
9538 / 1907.6	22.34	0.171	-23.07	+10	-30.31	10.2	5.1	VERTICAL	PASSED

2.11. WCDMA 850 test results

RMS detector; Antenna 1

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
4132 / 826.4	18.6	0.072	-14.01	+10	-28.35	-3.2	3.23	VERTICAL	PASSED
4175 / 835	18.33	0.068	-13.65	+10	-28.24	-3.1	3.27	VERTICAL	PASSED
4233 / 846.6	18.18	0.066	-14.83	+10	-29.65	-3.3	3.42	VERTICAL	PASSED

RMS detector ; Antenna 2

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
4132 / 826.4	19.01	0.080	-13.6	+10	-28.35	-3.2	3.23	VERTICAL	PASSED
4175 / 835	18.51	0.071	-13.47	+10	-28.24	-3.1	3.27	VERTICAL	PASSED
4233 / 846.6	17.21	0.053	-15.8	+10	-29.65	-3.3	3.42	VERTICAL	PASSED

2.12. LTE25 test results

FDD, CBW 5MHz, QPSK, 1RB mid, RMS detector; Antenna1

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBi]	L _{SUBST CABLE} [dB]	Polarisation	Result
26065 / 1852.5	25.96	0.394	-19.08	+10	-29.94	10.25	5.15	VERTICAL	PASSED
26365 / 1882.5	26.07	0.405	-18.81	+10	-29.84	10.21	5.17	VERTICAL	PASSED
26665 / 1912.5	26.29	0.426	-18.85	+10	-30.19	10.2	5.25	VERTICAL	PASSED

FDD, CBW 5MHz, 16QAM, 1RB mid, RMS detector; Antenna 1

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBi]	L _{SUBST CABLE} [dB]	Polarisation	Result
26065 / 1852.5	26.02	0.400	-19.02	+10	-29.94	10.25	5.15	VERTICAL	PASSED
26365 / 1882.5	25.85	0.385	-19.03	+10	-29.84	10.21	5.17	VERTICAL	PASSED
26665 / 1912.5	26.36	0.433	-18.78	+10	-30.19	10.2	5.25	VERTICAL	PASSED

FDD, CBW 5MHz, QPSK, 1RB mid, RMS detector; Antenna 2

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBi]	L _{SUBST CABLE} [dB]	Polarisation	Result
26065 / 1852.5	24.25	0.266	-20.66	+10	-29.81	10.25	5.15	HORIZONTAL	PASSED
26365 / 1882.5	24.58	0.287	-20.72	+10	-30.26	10.21	5.17	HORIZONTAL	PASSED
26665 / 1912.5	26.4	0.437	-19.12	+10	-30.57	10.2	5.25	HORIZONTAL	PASSED

FDD, CBW 5MHz, 16QAM, 1RB mid, RMS detector; Antenna 2

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBi]	L _{SUBST CABLE} [dB]	Polarisation	Result
26065 / 1852.5	24.12	0.258	-20.79	+10	-29.81	10.25	5.15	HORIZONTAL	PASSED
26365 / 1882.5	25.02	0.318	-20.28	+10	-30.26	10.21	5.17	HORIZONTAL	PASSED
26665 / 1912.5	26.51	0.448	-19.01	+10	-30.57	10.2	5.25	HORIZONTAL	PASSED

2.13. LTE26 lower test results

FDD, CBW 5MHz, QPSK, 1RB mid, RMS detector; Antenna 1

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
26715 / 816.5	19.52	0.090	-13.37	+10	-29.25	-2.9	3.46	VERTICAL	PASSED
26740 / 819	19.39	0.087	-13.24	+10	-29.04	-3	3.41	VERTICAL	PASSED
26765 / 821.5	19.22	0.084	-12.97	+10	-28.6	-3	3.41	VERTICAL	PASSED

RFconducted [dBm] = ERP [dBm] - Gain [dBi] + 2.15 dB

Channel / f _c [MHz]	RF conducted [dBm]	RF conducted [W]	ERP [dBm]	Gain [dBi]
26715 / 816.5	22.12	0.163	19.52	-0.45
26740 / 819	21.89	0.155	19.39	-0.35
26765 / 821.5	21.25	0.133	19.22	0.12

FDD, CBW 5MHz, 16QAM, 1RB mid, RMS detector; Antenna 1

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
26715 / 816.5	19.55	0.090	-13.34	+10	-29.25	-2.9	3.46	VERTICAL	PASSED
26740 / 819	19.54	0.090	-13.09	+10	-29.04	-3	3.41	VERTICAL	PASSED
26765 / 821.5	19.46	0.088	-15.04	+10	-28.6	-3	3.41	HORIZONTAL	PASSED

RFconducted [dBm] = ERP [dBm] - Gain [dBi] + 2.15 dB

Channel / f _c [MHz]	RF conducted [dBm]	RF conducted [W]	ERP [dBm]	Gain [dBi]
26715 / 816.5	22.15	0.164	19.55	-0.45
26740 / 819	22.04	0.160	19.54	-0.35
26765 / 821.5	21.49	0.141	19.46	0.12

FDD, CBW 5MHz, QPSK, 1RB mid, RMS detector; Antenna 2

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
26715 / 816.5	19.96	0.099	-12.93	+10	-29.25	-2.9	3.46	VERTICAL	PASSED
26740 / 819	19.74	0.094	-12.89	+10	-29.04	-3	3.41	VERTICAL	PASSED
26765 / 821.5	19.42	0.087	-12.77	+10	-28.6	-3	3.41	VERTICAL	PASSED

RFconducted [dBm] = ERP [dBm] - Gain [dBi] + 2.15 dB

Channel / f _c [MHz]	RF conducted [dBm]	RF conducted [W]	ERP [dBm]	Gain [dBi]
26715 / 816.5	22.56	0.180	19.96	-0.45
26740 / 819	22.24	0.167	19.74	-0.35
26765 / 821.5	21.45	0.140	19.42	0.12

FDD, CBW 5MHz, 16QAM, 1RB mid, RMS detector; Antenna 2

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
26715 / 816.5	20.72	0.118	-12.17	+10	-29.25	-2.9	3.46	VERTICAL	PASSED
26740 / 819	20.93	0.124	-13.67	+10	-31.01	-3	3.41	HORIZONTAL	PASSED
26765 / 821.5	20.59	0.115	-13.91	+10	-30.91	-3	3.41	HORIZONTAL	PASSED

RFconducted [dBm] = ERP [dBm] - Gain [dBi] + 2.15 dB

Channel / f _c [MHz]	RF conducted [dBm]	RF conducted [W]	ERP [dBm]	Gain [dBi]
26715 / 816.5	23.32	0.215	20.72	-0.45
26740 / 819	23.43	0.220	20.93	-0.35
26765 / 821.5	22.62	0.183	20.59	0.12

2.14. LTE26 upper test results

FDD, CBW 5MHz, QPSK, 1RB mid, RMS detector ; Antenna 1

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
26815 / 826.5	19.83	0.096	-14.81	+10	-31.25	-3.2	3.41	HORIZONTAL	PASSED
26915 / 836.5	20.37	0.109	-14.1	+10	-31	-3.1	3.43	HORIZONTAL	PASSED
27015 / 846.5	20.29	0.107	-13.89	+10	-30.89	-3.3	3.41	HORIZONTAL	PASSED

FDD, CBW 5MHz, 16QAM, 1RB mid, RMS detector ; Antenna 1

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
26815 / 826.5	20.38	0.109	-14.26	+10	-31.25	-3.2	3.41	HORIZONTAL	PASSED
26915 / 836.5	20.3	0.107	-14.17	+10	-31	-3.1	3.43	HORIZONTAL	PASSED
27015 / 846.5	20.26	0.106	-13.92	+10	-30.89	-3.3	3.41	HORIZONTAL	PASSED

FDD, CBW 5MHz, QPSK, 1RB mid, RMS detector; Antenna 2

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX ANT} [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
26815 / 826.5	20.2	0.105	-14.44	+10	-31.25	-3.2	3.41	HORIZONTAL	PASSED
26915 / 836.5	19.82	0.096	-14.65	+10	-31	-3.1	3.43	HORIZONTAL	PASSED
27015 / 846.5	18.78	0.076	-15.4	+10	-30.89	-3.3	3.41	HORIZONTAL	PASSED

FDD, CBW 5MHz, 16QAM, 1RB mid, RMS detector; Antenna 2

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
26815 / 826.5	20.49	0.112	-14.15	+10	-31.25	-3.2	3.41	HORIZONTAL	PASSED
26915 / 836.5	20.21	0.105	-14.26	+10	-31	-3.1	3.43	HORIZONTAL	PASSED
27015 / 846.5	19.72	0.094	-14.46	+10	-30.89	-3.3	3.41	HORIZONTAL	PASSED

2.15. LTE41 test results

FDD, CBW 5MHz, QPSK, 1RB mid, RMS detector

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBi]	L _{SUBST CABLE} [dB]	Polarisation	Result
39675 / 2498.5	23.1	0.204	-27.12	+10	-35.47	10.78	6.03	VERTICAL	PASSED
40620 / 2593	23.43	0.220	-26.69	+10	-35.2	11.06	6.14	VERTICAL	PASSED
41565 / 2687.5	25.7	0.372	-24.74	+10	-35.68	11.05	6.29	VERTICAL	PASSED

FDD, CBW 5MHz, 16QAM, 1RB mid, RMS detector

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBi]	L _{SUBST CABLE} [dB]	Polarisation	Result
39675 / 2498.5	23.66	0.232	-26.56	+10	-35.47	10.78	6.03	VERTICAL	PASSED
40620 / 2593	24.22	0.264	-25.9	+10	-35.2	11.06	6.14	VERTICAL	PASSED
41565 / 2687.5	26.17	0.414	-24.27	+10	-35.68	11.05	6.29	VERTICAL	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 μ H	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	Temperature Test chamber	VT4002	Votsch industrietechnik	22/24/27, 15C
BJPCTC0090	FSP spectrum analyzer	FSP30	R&S	22/24/27, 15C
BJPCTC0094	GPIO-RS232 convertor	GPIO-RS232	NI	22/24/27, 15C
BJPCTC0112	Power Splitter	11667B	Agilent	22/24/27, 15C
BJPCTC0115	Communication Tester	CMU200	R&S	22/24/27, 15B, 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	GPIO converter	GPIO-RS232	NI	22/24/27, 15C
BJPCTC0304	Spectrum Analyser	FSV30	R&S	22/24/27, 15C
BJPCTC0309	GPIO-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	Temperature 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

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	ESI B26	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	Blma 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
BJPCTC0113	Receiver	ESI B26	R&S	22/24/27, 15B, 15C
BJPCTC0115	Communication Tester	CMU200	R&S	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	JXTXLB-10180	A-INFOMW	22/24/27 15B 15C
BJPCTC0129	Communication antenna	JXTXLB-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	JXTXLB-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

Eq. No	Equipment	Type	Manufacturer	Used in
BJPCTC0349	Preamplifier	AMF-4D-01000800-30-79P	Miteg	22/24/27, 15C, 15B
BJPCTC0350	Preamplifier	AMF-4D-01000800-30-29P	Miteg	22/24/27, 15C, 15B
BJPCTC0351	Preamplifier	AFS4-00101800	-	22/24/27, 15C, 15B