

## FCC Part 22/24 Compliance Test Report

<b>Test Report no.:</b>	FCC_Cellular_RM-1092_01.docx		<b>Date of Report:</b>	23-Oct-2014		
<b>Number of pages:</b>	29		<b>Customer's Contact person:</b>	Li Craig		
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<b>FCC listing no.:</b>	975940		<b>IC recognition no.:</b>	661AH-1		
<b>Tested devices/ accessories:</b>	<b>Phone RM-1092 / Battery BL-L4A / AC-Charger AC-18E / Headset WH-108 /Dummy Battery</b>					
<b>FCC ID:</b>	PYARM-1092	<b>IC:</b>				
<b>Supplement reports:</b>	-					
<b>Testing has been carried out in accordance with:</b>	CFR 47, FCC rules Parts 22/24, TIA-603-C-2004 and IC standards, RSS-GEN (Issue 3, December 2010), RSS-133 (Issue 5, February 2009), RSS-132 (Issue 2, September 2005). Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".					
<b>Documentation:</b>	The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 15 years at TCC Microsoft.					
<b>Test Results:</b>	<b>The EUT complies with the requirements in respect of all parameters subject to the test.</b> The test results relate only to devices specified in this document					
<b>Date and signature for the contents:</b>						

Gao Sherina, Engineer, EMC

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

<b>Date of receipt</b>	25-Sep-2014
<b>Testing completed</b>	10-Oct-2014
<b>The customer's contact person</b>	Li Craig
<b>Test Plan referred to</b>	T:\Projects\RM-1091\TestPlan\RS_testplan_RM-1091.xlsx
<b>Notes</b>	-
<b>Document name</b>	FCC_Cellular_RM-1092_01.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-1091	004402740006923	2000a	-	02041.00000.14354.38000	54614
Battery	BL-L4A	4175354312P10200559;0670762	-	-	-	54593
AC-Charger	AC-18E	4868673455310302287;0675695	-	-	-	54218
Headset	WH-108	3022D71	-	-	-	54458
Dummy Battery	-	-	-	-	-	54611
Phone	RM-1091	004402740004282	2000a	-	02041.00000.14354.38000	54612
Battery	BL-L4A	4181574341S10300002;0670762	-	-	-	54595
AC Charger	AC-18E	4868674226410700997;0675695	-	-	-	54598
Headset	WH-108	3323471	-	-	-	54603

### 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	NP
§2.1049(h)	4.6.1	99 % occupied bandwidth	PASSED
§24.238(a)	6.5	Band edge compliance	PASSED
§24.238(a), §2.1051	6.5	Spurious emissions at antenna terminals	NP
§24.238(a), §2.1053	6.5	Spurious radiated emissions	PASSED
§2.1055(a)	6.3	Frequency stability, temperature variation	PASSED
§2.1055(d)	6.3	Frequency stability, voltage variation	PASSED

#### 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	NP
§2.1049(h)	4.6.1	99 % occupied bandwidth	PASSED
§22.917(a)	4.5	Band edge compliance	PASSED
§22.917(a), §2.1051	4.5	Spurious emissions at antenna terminals	NP
§22.917(a), §2.1053	4.5	Spurious radiated emissions	PASSED
§2.1055(a)	4.3	Frequency stability, temperature variation	PASSED
§2.1055(d)	4.3	Frequency stability, voltage variation	PASSED

#### WCDMA2:

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	NP
§2.1049(h)	4.6.1	99 % occupied bandwidth	PASSED
§24.238(a)	6.5	Band edge compliance	PASSED
§24.238(a), §2.1051	6.5	Spurious emissions at antenna terminals	NP
§24.238(a), §2.1053	6.5	Spurious radiated emissions	PASSED
§2.1055(a)	6.3	Frequency stability, temperature variation	NP
§2.1055(d)	6.3	Frequency stability, voltage variation	NP

**WCDMA5:**

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	NP
§2.1049(h)	4.6.1	99 % occupied bandwidth	PASSED
§22.917(a)	4.5	Band edge compliance	PASSED
§22.917(a), §2.1051	4.5	Spurious emissions at antenna terminals	NP
§22.917(a), §2.1053	4.5	Spurious radiated emissions	PASSED
§2.1055(a)	4.3	Frequency stability, temperature variation	NP
§2.1055(d)	4.3	Frequency stability, voltage variation	NP

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.

*The test results of PYARM-1091 are re-used for certification of the PYARM-1092. The table above indicates the results, which will be re-used.*

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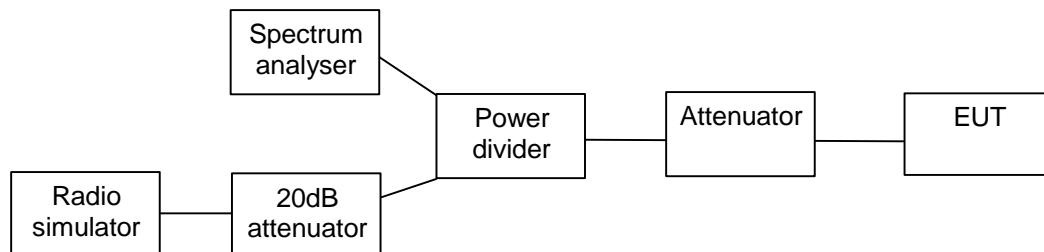
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## 2. 99 % occupied bandwidth

(FCC §2.1049(h), RSS-133 4.6.1, RSS-132 4.6.1)

<b>EUT with DUT number</b>	RM-1091, DUT 54614
<b>Accessories with DUT numbers</b>	BL-L4A, DUT 54593 ; AC-18E, DUT 54218 ; WH-108, DUT 54458
<b>Operation Voltage [V] / [Hz]</b>	Nominal
<b>Results</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	22/50/101.4
<b>Date of measurements</b>	08-Oct-2014
<b>Measured by</b>	Dou Rubo

### 2.1. Test Setup



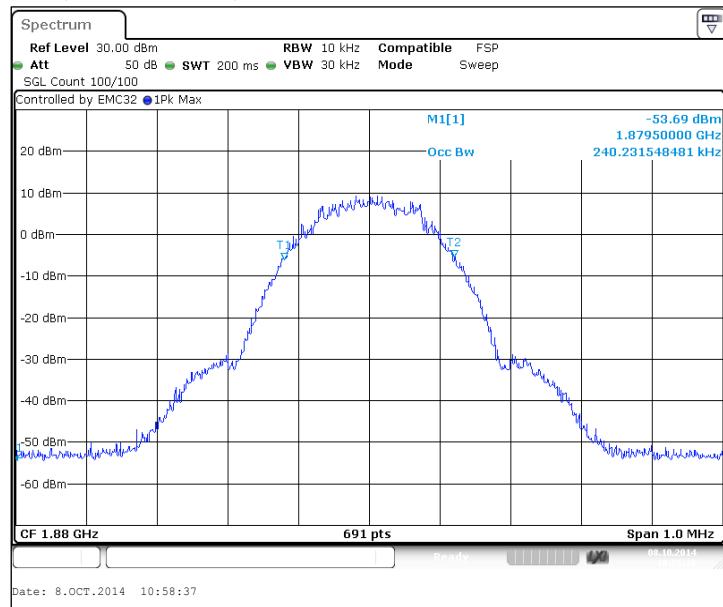
### 2.2. Test method and limit

The measurement is made according to applicable FCC rule parts and IC standards.

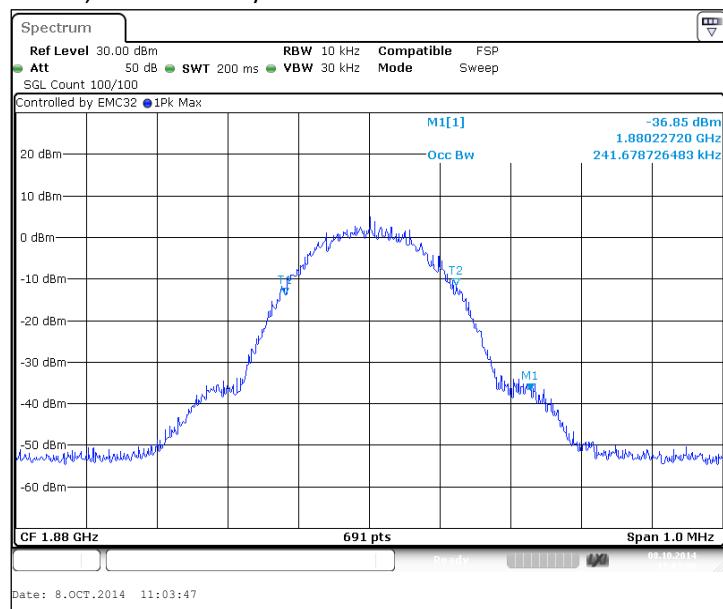
### 2.3. GSM 1900 Test results

Operation mode (TX on)	99% Occupied bandwidth [kHz]
GSM	240.2
EGPRS	241.7

GSM, Channel 661 / 1880.0 MHz



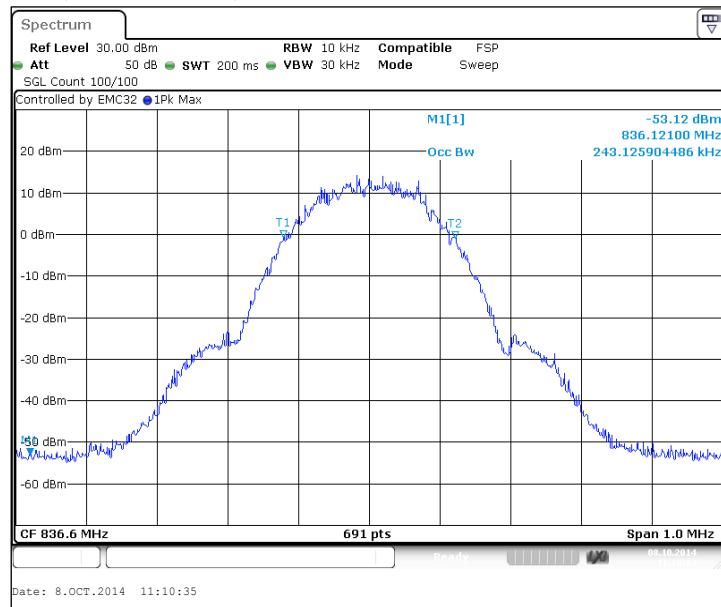
EGPRS, Channel 661 / 1880.0 MHz



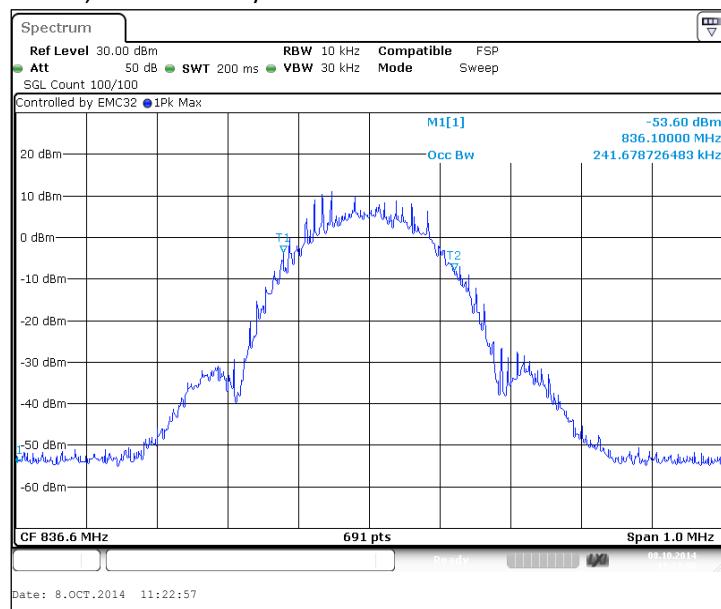
## 2.4. GSM 850 Test results

Operation mode (TX on)	99% Occupied bandwidth [kHz]
GSM	243.1
EGPRS	241.7

GSM, Channel 190 / 836.6 MHz



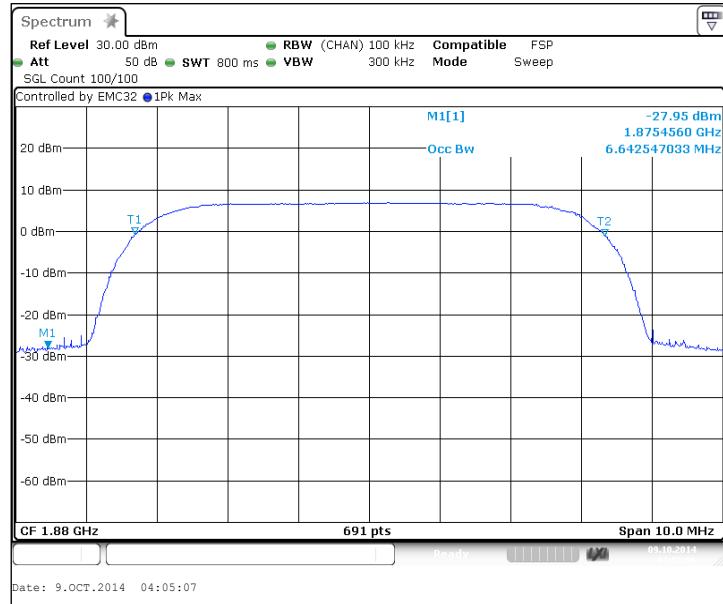
EGPRS, Channel 190 / 836.6 MHz



## 2.5. WCDMA2 Test results

Operation mode (TX on)	99% Occupied bandwidth [kHz]
FDD	6642.5

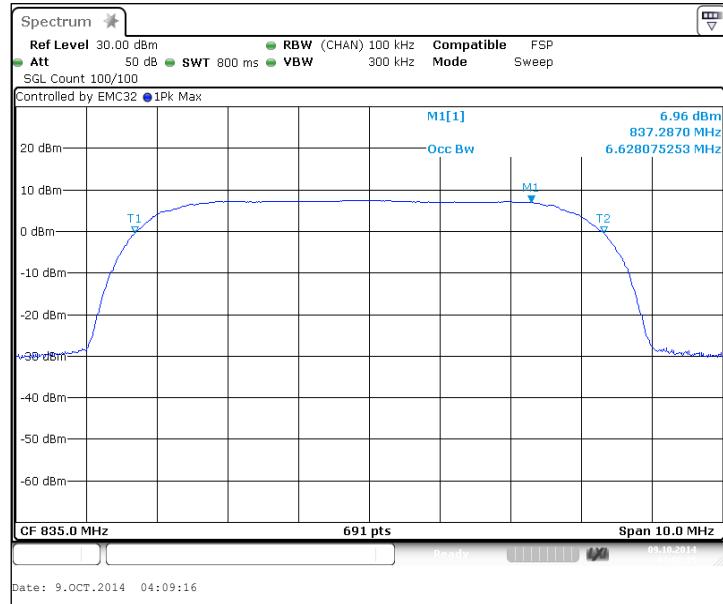
FDD, Channel 9400 / 1880.0 MHz



## 2.6. WCDMA5 Test results

Operation mode (TX on)	99% Occupied bandwidth [kHz]
FDD	6628.1

FDD, Channel 4175 / 835.0 MHz

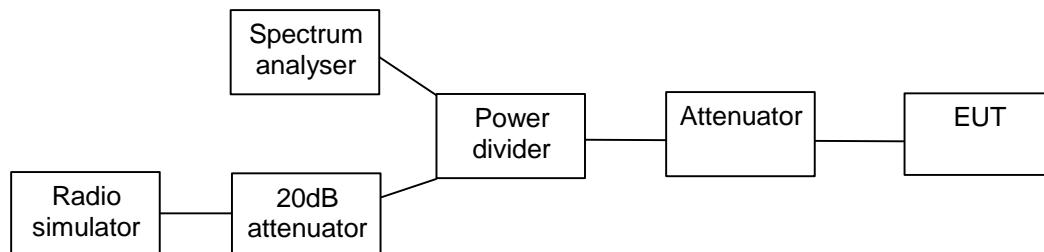


### 3. Band edge compliance

(FCC §24.238(a), §22.917(a), RSS-133 6.5, RSS-132 4.5)

<b>EUT with DUT number</b>	RM-1091, DUT 54614
<b>Accessories with DUT numbers</b>	BL-L4A, DUT 54593 ; AC-18E, DUT 54218 ; WH-108, DUT 54458
<b>Operation Voltage [V] / [Hz]</b>	Nominal
<b>Results</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	22/50/101.4
<b>Date of measurements</b>	08-Oct-2014
<b>Measured by</b>	Dou Rubo

#### 3.1. Test Setup



#### 3.2. Test method and limit

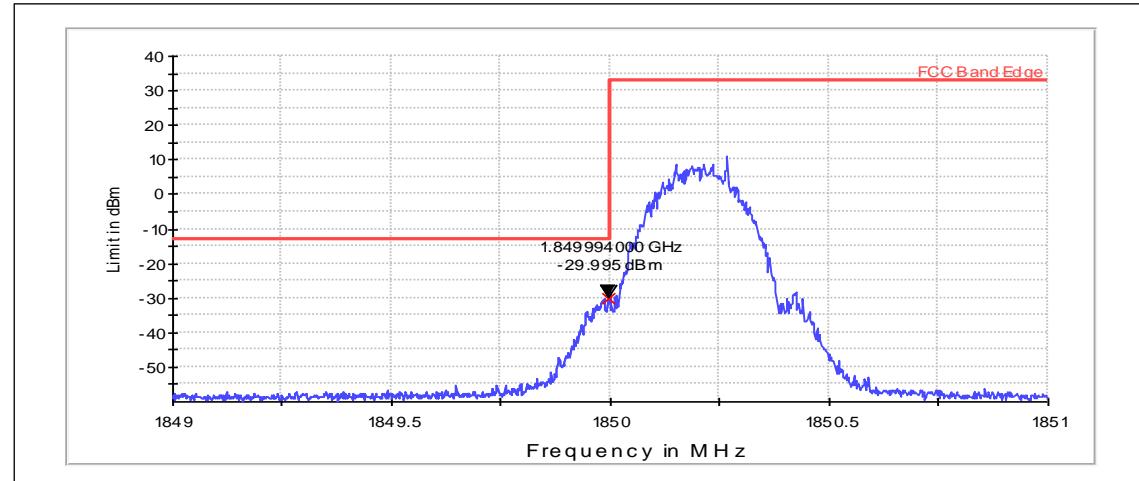
The measurement is made according to applicable FCC rule parts and IC standards.

Limits for band edge compliance measurements

Operation band	Frequency range [MHz]	Limit [dBm]
GSM 1900	Below 1850 and above 1910	-13
GSM 850	Below 824 and above 849	-13
WCDMA2	Below 1850 and above 1910	-13
WCDMA5	Below 824 and above 849	-13

### 3.3. GSM 1900 Test results

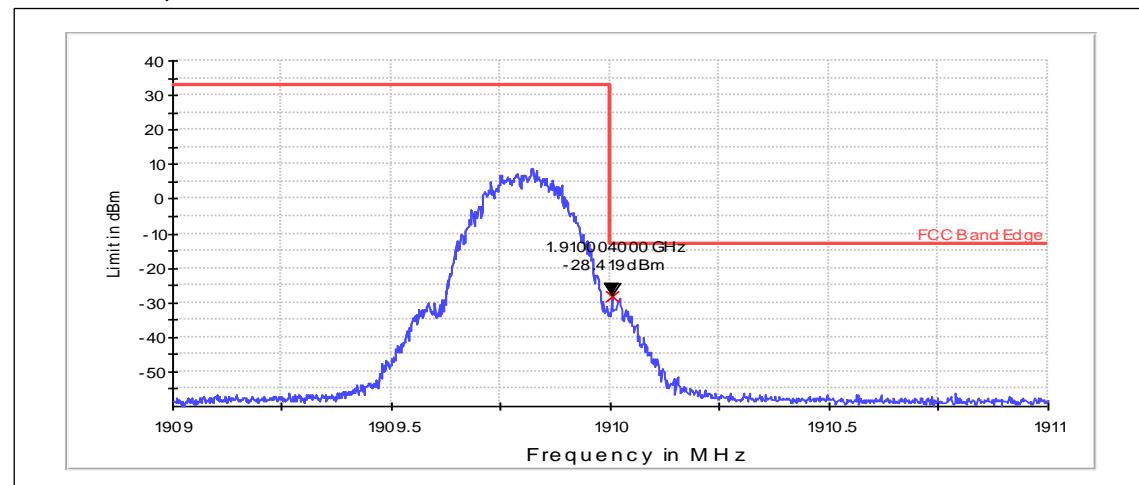
Channel 512 / 1850.2 MHz



RMS (RBW: 3 kHz, VBW: 3 kHz, Max hold)

Operation mode (TX on)	Frequency [MHz]	Level [dBm]	Result
GSM	1849.994	-29.99	PASSED

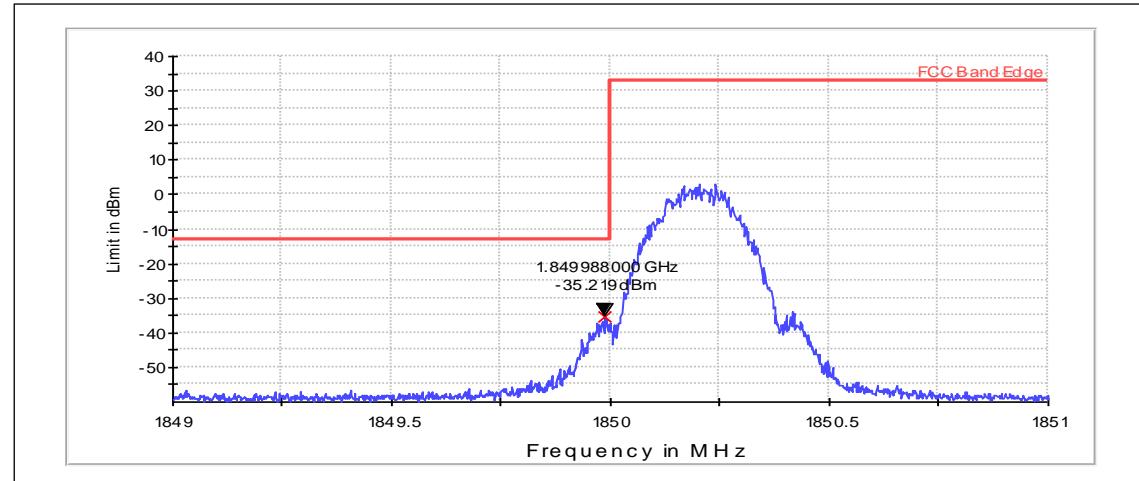
Channel 810 / 1909.8 MHz



RMS (RBW: 3 kHz, VBW: 3 kHz, Max hold)

Operation mode (TX on)	Frequency [MHz]	Level [dBm]	Result
GSM	1910.004	-28.42	PASSED

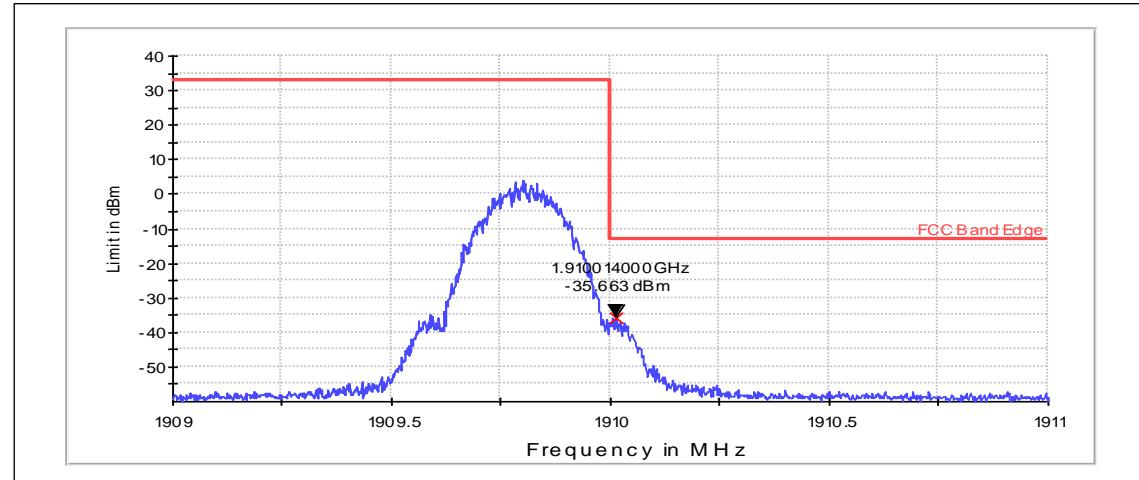
## Channel 512 / 1850.2 MHz



RMS (RBW: 3 kHz, VBW: 3 kHz, Max hold)

Operation mode (TX on)	Frequency [MHz]	Level [dBm]	Result
EGPRS	1849.988	-35.22	PASSED

## Channel 810 / 1909.8 MHz

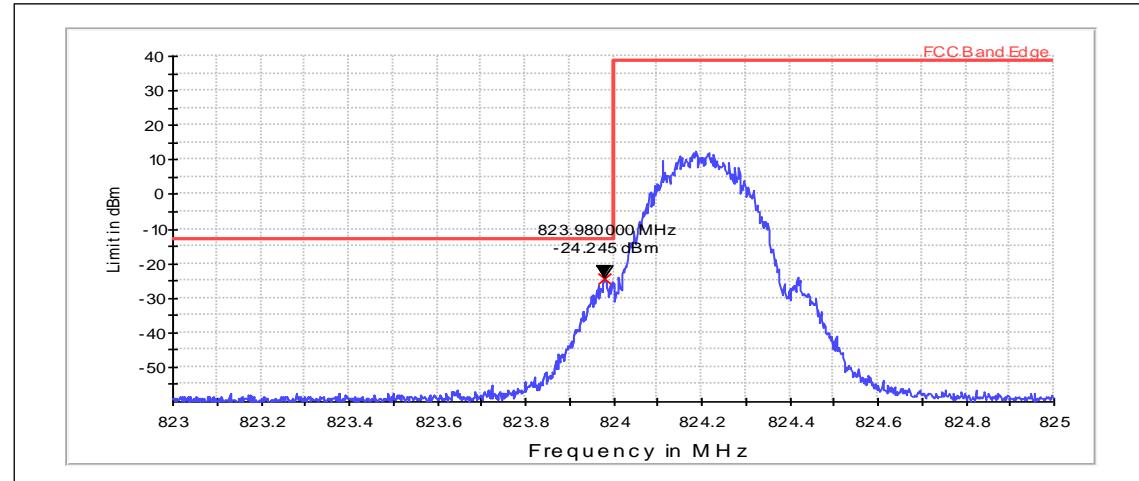


RMS (RBW: 3 kHz, VBW: 3 kHz, Max hold)

Operation mode (TX on)	Frequency [MHz]	Level [dBm]	Result
EGPRS	1910.014	-35.66	PASSED

### 3.4. GSM 850 Test results

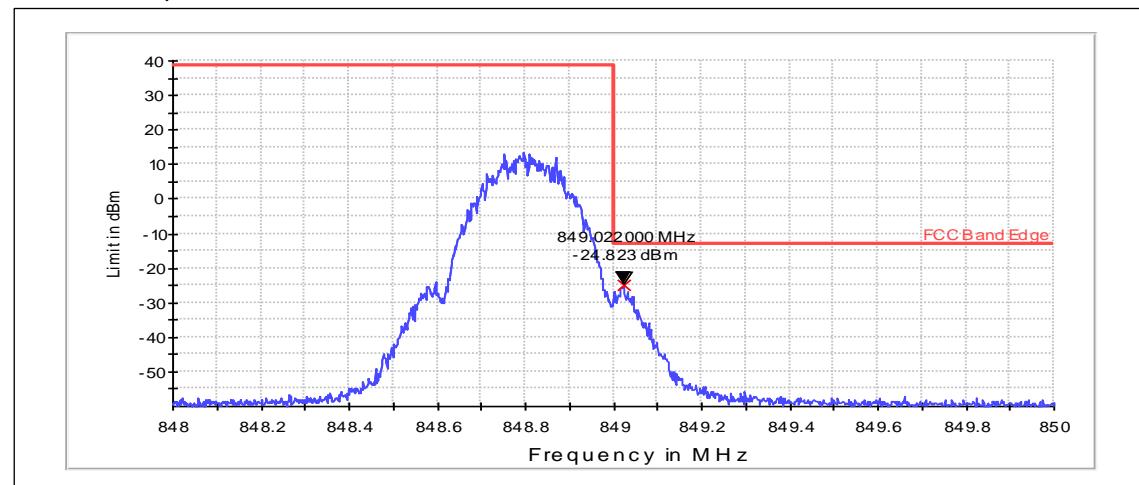
Channel 128 / 824.2 MHz



RMS (RBW: 3 kHz, VBW: 3 kHz, Max hold)

Operation mode (TX on)	Frequency [MHz]	Level [dBm]	Result
GSM	823.980	-24.24	PASSED

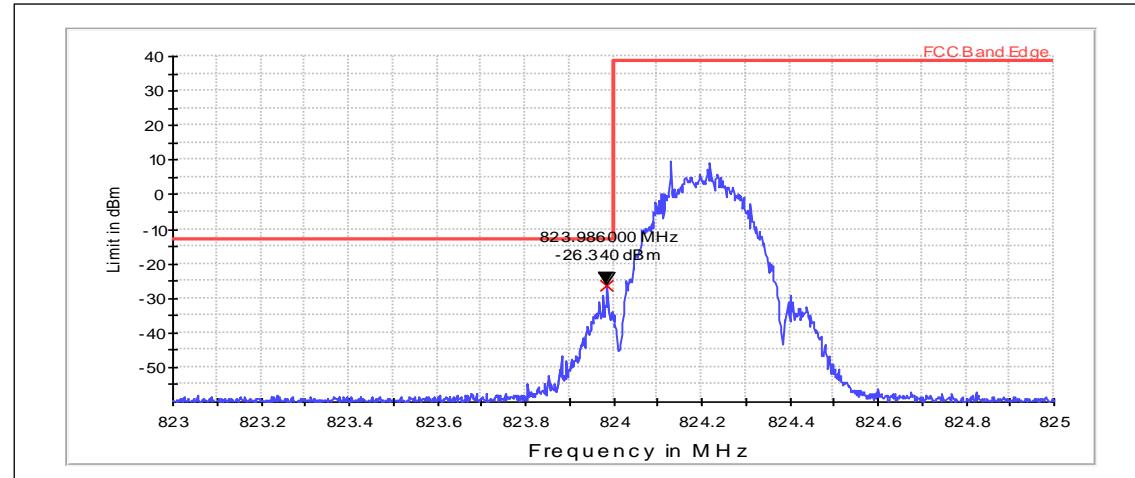
Channel 251 / 848.8 MHz



RMS (RBW: 3 kHz, VBW: 3 kHz, Max hold)

Operation mode (TX on)	Frequency [MHz]	Level [dBm]	Result
GSM	849.022	-24.82	PASSED

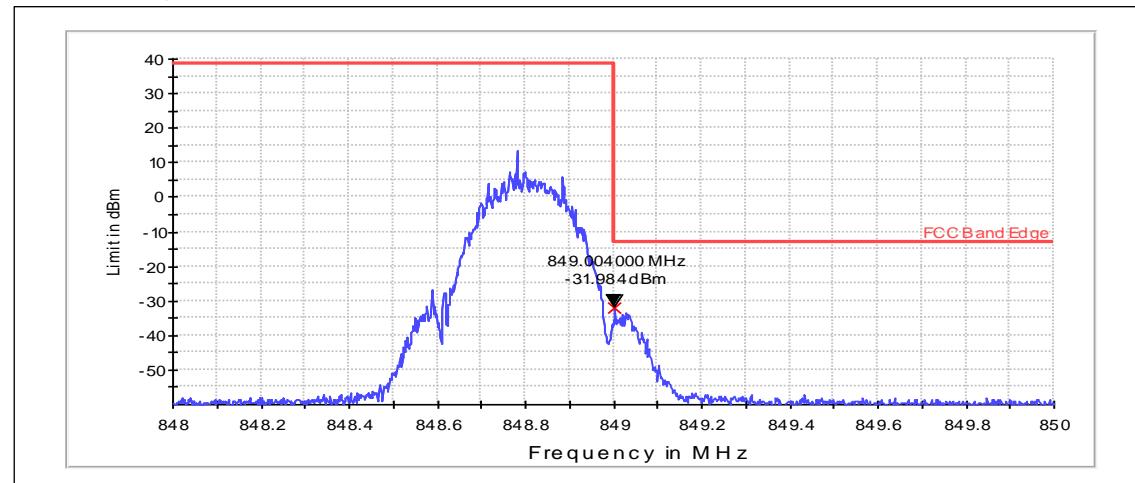
## Channel 128 / 824.2 MHz



RMS (RBW: 3 kHz, VBW: 3 kHz, Max hold)

Operation mode (TX on)	Frequency [MHz]	Level [dBm]	Result
EGPRS	823.986	-26.34	PASSED

## Channel 251 / 848.8 MHz

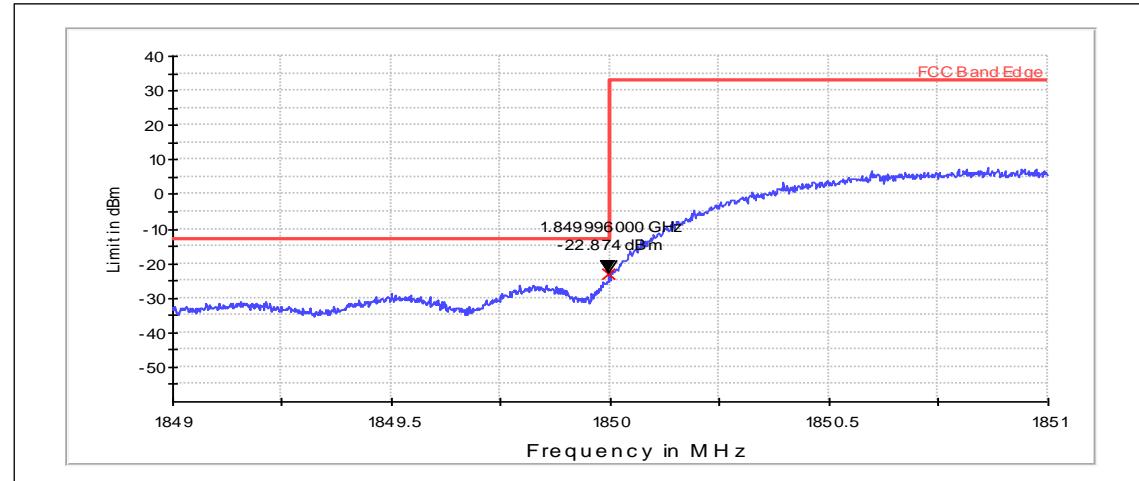


RMS (RBW: 3 kHz, VBW: 3 kHz, Max hold)

Operation mode (TX on)	Frequency [MHz]	Level [dBm]	Result
EGPRS	849.004	-31.98	PASSED

### 3.5. WCDMA2 Test results

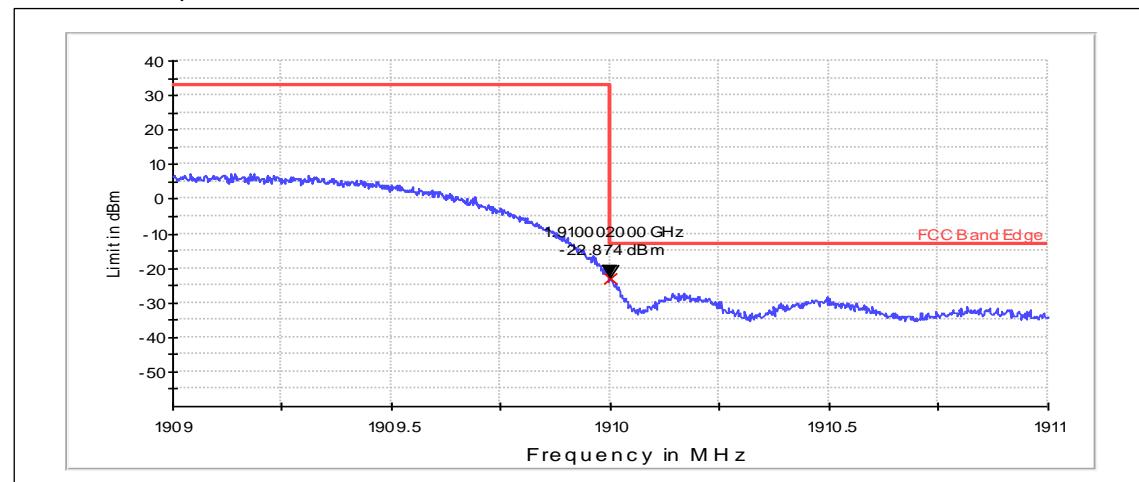
Channel 9262 / 1852.4 MHz



RMS (RBW: 50 kHz, VBW: 50 kHz, Max hold)

Operation mode (TX on)	Frequency [MHz]	Level [dBm]	Result
FDD	1849.996	-22.87	PASSED

Channel 9538 / 1907.6 MHz

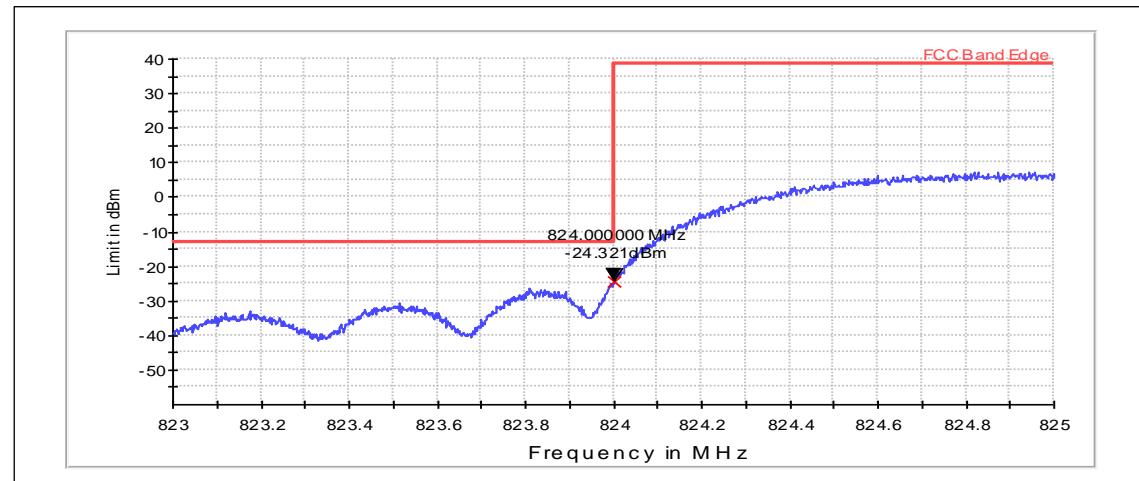


RMS (RBW: 50 kHz, VBW: 50 kHz, Max hold)

Operation mode (TX on)	Frequency [MHz]	Level [dBm]	Result
FDD	1910.002	-22.87	PASSED

### 3.6. WCDMA5 Test results

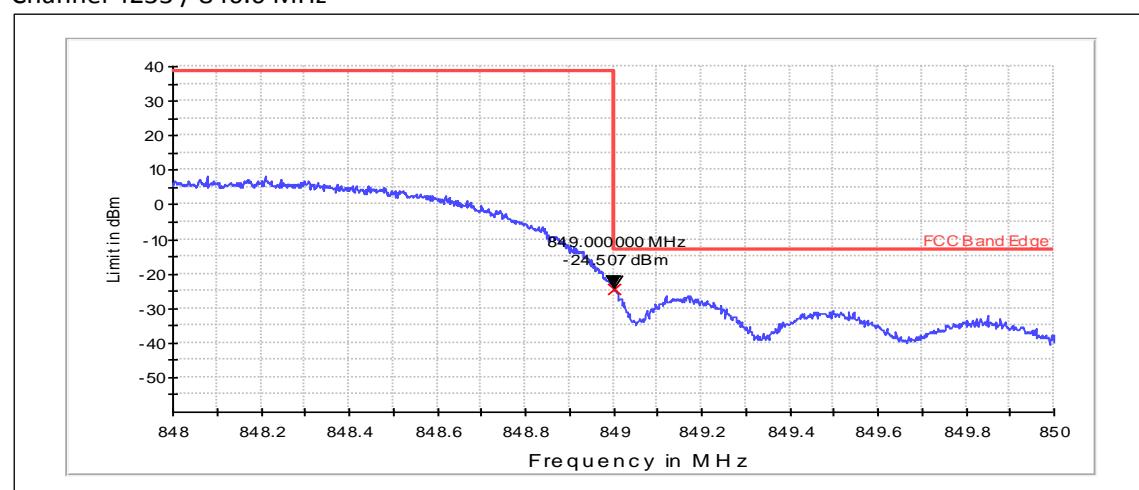
Channel 4132 / 826.4 MHz



RMS (RBW: 50 kHz, VBW: 50 kHz, Max hold)

Operation mode (TX on)	Frequency [MHz]	Level [dBm]	Result
FDD	824.000	-24.32	PASSED

Channel 4233 / 846.6 MHz



RMS (RBW: 50 kHz, VBW: 50 kHz, Max hold)

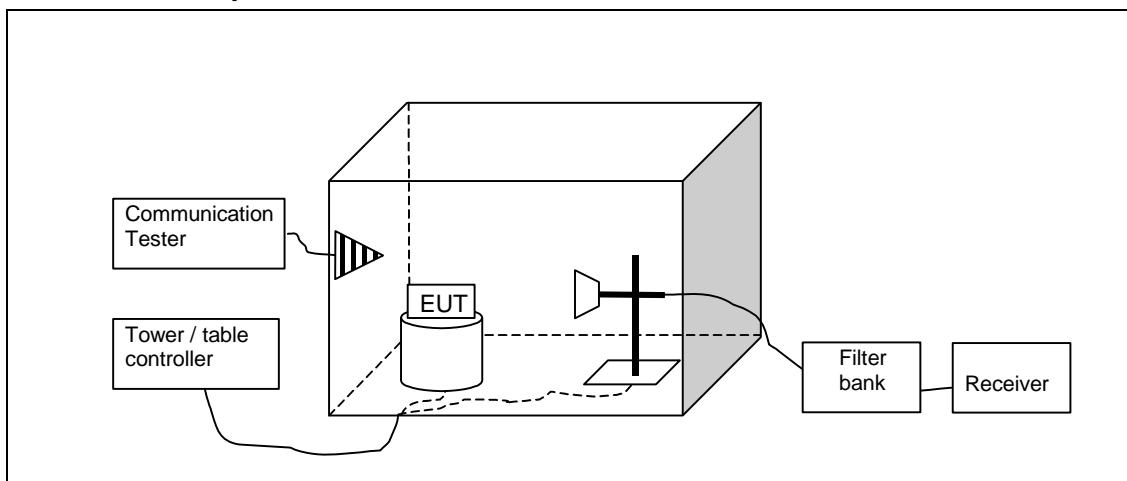
Operation mode (TX on)	Frequency [MHz]	Level [dBm]	Result
FDD	849.000	-24.51	PASSED

## 4. Spurious radiated emissions

(FCC §22.917(a), §22.917(a), §2.1053, §24.238(a), §2.1053, §2.1053, RSS-132 4.5, RSS-133 6.5)

<b>EUT with DUT number</b>	RM-1091, DUT 54612
<b>Accessories with DUT numbers</b>	BL-L4A, DUT 54595 ; AC-18E, DUT 54598 ; WH-108, DUT 54603
<b>Operation Voltage [V] / [Hz]</b>	Nominal
<b>Results</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	23/54/101.8
<b>Date of measurements</b>	09-Oct-2014
<b>Measured by</b>	Dou Rubo

### 4.1.1 Test setup



### 4.2. Test method and limit

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

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with absorbers on floor and measuring antenna at fixed height using 2-axis EUT position system.

The Final Measurement is performed in the Semi-Anechoic Chamber with conducting metal floor, if the Preliminary Measurement results are closer than 20 dB to the permissible value.

The EUT is placed at nonconductive plate at the turntable center.

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

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

The substitution method is used. Substitution values at each frequencies are measured beforehand and saved to the test software. The substitution corrections are obtained as described below:

ASUBST = PSUBST TX - PSUBST RX - LSUBST CABLES + GSUBST TX ANT

Where ASUBST is the final substitution correction including receive antenna gain. PSUBST TX is

signal generator level, PSUBST RX is receiver level, LSUBST CABLES is cable losses including both TX and RX cables and GSUBST TX ANT is substitution antenna gain.

The measurement results are obtained as described below:

$$P[\text{dBm}] = \text{PMEAS} + \text{ATOT}$$

Where PMEAS is receiver reading in dBm and ATOT is total correction factor including cable loss and substitution correction (ATOT = LCABLES - GPREAMP + ASUBST).

Limits for spurious radiated emissions measurements

Operation band	Frequency range [MHz]	Limit [dBm]
GSM 850	30 - 8500	-13
GSM 1900	30 - 19100	-13
WCDMA2	30 - 19100	-13
WCDMA5	30 - 8500	-13

### 4.3. GSM 1900 E-GPRS (MSC9) test results

Channel 661 / 1880.0 MHz

Peak detector

Frequency [MHz]	P [dBm]	P [ $\mu$ W]	P <sub>MEAS</sub> [dBm]	A <sub>TOT</sub> [dB]	Polarisation	Results
3760.14	-48.69	0.01352	-59.39	10.7	HORIZONTAL	PASSED
5640.1	-44.76	0.03342	-59.16	14.4	HORIZONTAL	PASSED

\*Substitution method could not be utilized as no emissions above noise floor were found during measurements.

### 4.4. GSM 850 E-GPRS (MSC9) test results

Channel 190 / 836.6 MHz

Peak detector

Frequency [MHz]	P [dBm]	P [ $\mu$ W]	P <sub>MEAS</sub> [dBm]	A <sub>TOT</sub> [dB]	Polarisation	Results
1673.34	-56.93	0.00203	-61.13	4.2	HORIZONTAL	PASSED
2501.203	-52.7	0.00537	-63.3	10.6	VERTICAL	PASSED

\*Substitution method could not be utilized as no emissions above noise floor were found during measurements.

## 4.5. GSM 850 test results

Channel 190 / 836.6 MHz

Peak detector

Frequency [MHz]	P [dBm]	P [ $\mu$ W]	P <sub>MEAS</sub> [dBm]	A <sub>TOT</sub> [dB]	Polarisation	Results
854.119	-69.57	0.00011	-66.27	-3.3	HORIZONTAL	PASSED
1673.186	-40.49	0.08933	-44.69	4.2	HORIZONTAL	PASSED
1673.387	-40.36	0.09204	-44.56	4.2	HORIZONTAL	PASSED
2525.01	-52.11	0.00615	-63.21	11.1	HORIZONTAL	PASSED
2531.944	-52.31	0.00587	-63.31	11	HORIZONTAL	PASSED
3379.84	-56.63	0.00217	-64.43	7.8	VERTICAL	PASSED

\*Substitution method could not be utilized as no emissions above noise floor were found during measurements.

## 4.6. GSM 1900 test results

Channel 661 / 1880.0 MHz

Peak detector

Frequency [MHz]	P [dBm]	P [ $\mu$ W]	P <sub>MEAS</sub> [dBm]	A <sub>TOT</sub> [dB]	Polarisation	Results
9218.236	-41.89	0.06471	-66.39	24.5	VERTICAL	PASSED
9257.996	-42.28	0.05916	-66.98	24.7	VERTICAL	PASSED
9793.707	-40.75	0.08414	-66.45	25.7	VERTICAL	PASSED
9805.772	-41.64	0.06855	-67.04	25.4	HORIZONTAL	PASSED
9950.621	-40.45	0.09016	-66.45	26	VERTICAL	PASSED
10601.082	-37.6	0.17378	-65.3	27.7	VERTICAL	PASSED

\*Substitution method could not be utilized as no emissions above noise floor were found during measurements.

## 4.7. WCDMA2 test results

Channel 9400 / 1880.0 MHz

FDD mode, Peak detector

Frequency [MHz]	P [dBm]	P [ $\mu$ W]	$P_{MEAS}$ [dBm]	$A_{TOT}$ [dB]	Polarisation	Results
3757.615	-37.06	0.19679	-47.76	10.7	VERTICAL	PASSED
3758.617	-37.62	0.17298	-48.42	10.8	VERTICAL	PASSED
5636.653	-45.12	0.03076	-59.62	14.5	VERTICAL	PASSED
7519.82	-40.98	0.0798	-63.38	22.4	HORIZONTAL	PASSED
8912.044	-42.27	0.05929	-66.17	23.9	VERTICAL	PASSED
9401.663	-39.82	0.10423	-64.32	24.5	HORIZONTAL	PASSED
9631.202	-41.22	0.07551	-66.72	25.5	VERTICAL	PASSED
9881.022	-41.02	0.07907	-66.82	25.8	HORIZONTAL	PASSED
9950.281	-40.22	0.09506	-66.22	26	VERTICAL	PASSED
11288.236	-38.58	0.13868	-66.88	28.3	VERTICAL	PASSED
13155.411	-49.72	0.01067	-71.42	21.7	VERTICAL	PASSED
15043.988	-48.77	0.01327	-72.77	24	VERTICAL	PASSED
16913.527	-49.7	0.01072	-72.6	22.9	VERTICAL	PASSED

\*Substitution method could not be utilized as no emissions above noise floor were found during measurements.

## 4.8. WCDMA5 test results

Channel 4175 / 835.0 MHz

FDD mode, Peak detector

Frequency [MHz]	P [dBm]	P [ $\mu$ W]	$P_{MEAS}$ [dBm]	$A_{TOT}$ [dB]	Polarisation	Results
853.021	-46.19	0.02404	-80.09	33.9	HORIZONTAL	PASSED
857.159	-46.84	0.0207	-80.54	33.7	HORIZONTAL	PASSED
948.126	-43.25	0.04732	-80.65	37.4	HORIZONTAL	PASSED
995.862	-40.48	0.08954	-77.98	37.5	HORIZONTAL	PASSED
995.993	-41.1	0.07762	-78.6	37.5	HORIZONTAL	PASSED
998.613	-41.67	0.06808	-79.07	37.4	HORIZONTAL	PASSED
1671.142	-56.92	0.00203	-61.12	4.2	HORIZONTAL	PASSED
2511.393	-51.94	0.0064	-62.64	10.7	VERTICAL	PASSED
3340.621	-55.29	0.00296	-62.89	7.6	HORIZONTAL	PASSED
4181.072	-54.73	0.00337	-64.53	9.8	HORIZONTAL	PASSED
5011.263	-50.91	0.00811	-62.21	11.3	VERTICAL	PASSED
5847.545	-49.13	0.01222	-61.83	12.7	HORIZONTAL	PASSED
6680.1	-41.8	0.06607	-58.9	17.1	VERTICAL	PASSED
7511.253	-45.18	0.03034	-65.28	20.1	VERTICAL	PASSED
8343.888	-46.02	0.025	-66.12	20.1	VERTICAL	PASSED

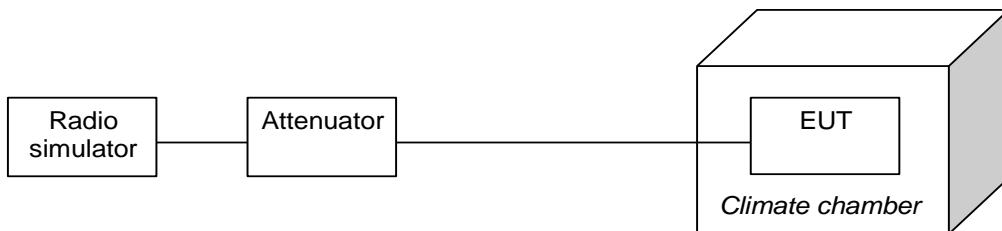
\*Substitution method could not be utilized as no emissions above noise floor were found during measurements.

## 5. Frequency stability, temperature variation

(FCC §2.1055(a), RSS-133 6.3, RSS-132 4.3)

<b>EUT with DUT number</b>	RM-1091, DUT 54614
<b>Accessories with DUT numbers</b>	BL-L4A, DUT 54593 ; AC-18E, DUT 54218 ; WH-108, DUT 54458
<b>Operation Voltage [V] / [Hz]</b>	Nominal
<b>Results</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	22/50/101.4 to 22/54/101.8
<b>Date of measurements</b>	08-Oct-2014 to 09-Oct-2014
<b>Measured by</b>	Dou Rubo

### 5.1. Test Setup



### 5.2. Test method and limit

The measurement is made according to applicable FCC rule parts and IC standards as follows:

The climate chamber temperature is set to the maximum value and the temperature is allowed to stabilize.  
 The EUT is placed in the chamber.

The EUT is set in idle mode for 15 minutes.

The EUT is set to transmit.

The transmit frequency error was measured immediately.

The steps c - e were repeated for each temperature.Limits for frequency stability, temperature variation measurements

Frequency deviation [ppm]
+/- 2.5

### 5.3. GSM 1900 Test results

GSM, Channel 661 / 1880.0 MHz

Temperature [°C]	Frequency [MHz]	Deviation [Hz]	Deviation [ppm]	Result
50	1880.00	-1.81000	-0.001	PASSED
40	1880.00	-13.62000	-0.0072	PASSED
30	1880.00	-21.05000	-0.0112	PASSED
20	1880.00	-25.44000	-0.0135	PASSED
10	1880.00	-19.89000	-0.0106	PASSED
0	1880.00	-11.88000	-0.0063	PASSED
-10	1880.00	-8.85000	-0.0047	PASSED
-20	1880.00	0.26000	0.0001	PASSED
-30	1880.00	7.49000	0.004	PASSED

### 5.4. GSM 850 Test results

GSM, Channel 190 / 836.6 MHz

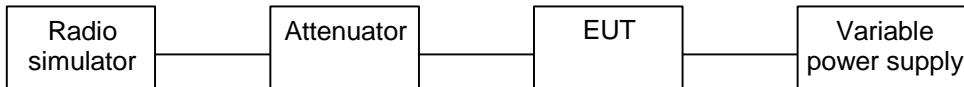
Temperature [°C]	Frequency [MHz]	Deviation [Hz]	Deviation [ppm]	Result
50	836.60	-7.36000	-0.0088	PASSED
40	836.60	-11.04000	-0.0132	PASSED
30	836.60	-11.88000	-0.0142	PASSED
20	836.60	-13.43000	-0.0161	PASSED
10	836.60	-12.07000	-0.0144	PASSED
0	836.60	-8.07000	-0.0096	PASSED
-10	836.60	-7.94000	-0.0095	PASSED
-20	836.60	-1.49000	-0.0018	PASSED
-22	836.60	-4.65000	-0.0056	PASSED
-24	836.60	-6.20000	-0.0074	PASSED
-26	836.60	-4.52000	-0.0054	PASSED
-28	836.60	-1.10000	-0.0013	PASSED
-30	836.60	-1.55000	-0.0019	PASSED

## 6. Frequency stability, voltage variation

(FCC §2.1055(d), RSS-133 6.3, RSS-132 4.3)

<b>EUT with DUT number</b>	RM-1091, DUT 54614
<b>Accessories with DUT numbers</b>	Dummy Battery, DUT 54611
<b>Operation Voltage [V] / [Hz]</b>	Nominal
<b>Results</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	22/50/101.4
<b>Date of measurements</b>	08-Oct-2014
<b>Measured by</b>	Dou Rubo

### 6.1. Test Setup



### 6.2. Test method and limit

The measurement is made according to applicable FCC rule parts and IC standards as follows:

The EUT battery was replaced with an adjustable power supply. The frequency stability was measured at nominal voltage and at the battery cut-off point.

Limits for frequency stability, voltage variation measurements

Frequency deviation [ppm]
+/- 2.5

### 6.3. GSM 1900 Test results

GSM,

Voltage level [V]	Frequency [MHz]	Deviation [Hz]	Deviation [ppm]	Result
Max / 4.2	1880.00	-14.33000	-0.0076	PASSED
Battery cut-off point / 3.4	1880.00	-11.17000	-0.0059	PASSED
Nominal / 4.2	1880.00	-20.53000	-0.0109	PASSED

### 6.4. GSM 850 Test results

GSM,

Voltage level [V]	Frequency [MHz]	Deviation [Hz]	Deviation [ppm]	Result
Max / 4.2	836.60	-9.43000	-0.0113	PASSED
Battery cut-off point / 3.4	836.60	-9.10000	-0.0109	PASSED
Nominal / 4.2	836.60	-10.53000	-0.0126	PASSED

## 7. Test Equipment

### 7.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	15C, 15B
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	15C, 15B
-	RF Emission Software	EMC32 Test Software	R&S	22/24/27, 15C, 15B
BJPCHW0020	DC Power supply	Hp6632B	HP	22/24/27, 15C
BJPCPT0040	Receiver	ESCS30	R&S	15C,15B
BJPCPT0069	LISN 50 µH	ESH3-Z5	R&S	15C,15B
BJPCTC0323	Signal Generator	SMR 27	R&S	22/24/27, 15C, 15B
BJPCTC0073	Signal Generator	SMR 20	R&S	22/24/27, 15C, 15B
BJPCTC0191	Pulse Limiter	ESH3-Z2	R&S	15C,15B
BJPCTC0208	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	Temperture Test chamber	VT4002	Votsch industrieteknik	22/24/27, 15C
BJPCTC0090	FSP spectrum analyzer	FSP30	R&S	22/24/27, 15C
BJPCTC0094	GPIB-RS232 convertor	GPIB-RS232	NI	22/24/27, 15C
BJPCTC0112	Power Splitter	11667B	Agilent	22/24/27, 15C
BJPCTC0115	Communication Tester	CMU200	R&S	22/24/27, 15B, 15C
BJPCTC0127	AC Power source	SOYI-500VA	SOYI	15B 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
BJPCTC0136	Communication antenna	JXTXLB-880-NF	A-INFOMW	15B 15C
BJPCTC0306	Power Splitter	11667B	Agilent	22/24/27, 15C
BJPCTC0305	GPIB converter	GPIB-RS232	NI	22/24/27, 15C
BJPCTC0304	Spectrum Analyser	FSV30	R&S	22/24/27, 15C
BJPCTC0309	GPIB-RS232 convertor	RS232	NI	22/24/27, 15C
BJPCTC0307	Dual channel battery/charger simulator	2306	KEITHLEY	22/24/27, 15C
BJPCTC0308	Dual channel battery/charger simulator	2306	KEITHLEY	22/24/27, 15C
BJPCTC0352	Signal Generator 20GHz	MG3692B	Anritsu	22/24/27, 15C
BJBDATC0169	Temperture 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 Spliter	1167A	Agilent	EN300328
BJPCTC0344	Power Spliter	1167A	Agilent	EN300328
BJPCTC0345	Power Spliter	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

### 7.2. 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
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
BJPCTC0349	Preamplifier	AMF-4D-01000800-30-79P	Miteq	22/24/27, 15C, 15B

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