TEST REPORT

Test Report No. : UL-RPT-RP10060149JD04A V2.0

Manufacturer	:	Panasonic Mobile Communications Development of Europe Ltd
Model No.	:	Softbank S41CS1
FCC ID	:	UCE214060A
Technology	:	PCS1900
Test Standard(s)	:	FCC Part 24

1. This test report shall not be reproduced in full or partial, without the written approval of UL VS LTD.
2. The results in this report apply only to the sample(s) tested.
3. The sample tested is in compliance with the above standard(s).
4. The test results in this report are traceable to the national or international standards.
5. Version 2.0 supersedes all previous versions.

Date of Issue: 10 December 2013

Checked by:

Sarah Williams
WiSE Engineer

Issued by :

pp
John Newell
Group Quality Manager, WiSE
Basingstoke,
UL VS LTD

0644

This laboratory is accredited by UKAS. The tests reported herein have been performed in accordance with its' terms of accreditation.

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1. Customer Information

Company Name:	Panasonic Mobile Communications Development of Europe Ltd
Address:	Panasonic House Willoughby Road Bracknell Berkshire RG12 8FP United Kingdom

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR24
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 24 Subpart E (Personal Communication Services)
Site Registration:	209735
Location of Testing:	UL VS LTD, Unit 3 Horizon, Wade Road, Kingsland Business Park, Basingstoke, Hampshire, RG24 8AH, United Kingdom
Test Dates:	15 November 2013 to 26 November 2013

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
Part 24.232(c)	Transmitter Output Power (EIRP)	
Part 2.1055/24.235	Transmitter Frequency Stability (Temperature and Voltage Variation)	
Part 2.1049	Transmitter Occupied Bandwidth	
Part 2.1053/24.238	Transmitter Out of Band Radiated Emissions	
Part 2.1053/24.238	Transmitter Band Edge Radiated Emissions	
Key to Results = Complied = Did not comply		

2.3. Methods and Procedures

Reference:	ANSI/TIA-603-C-2004
Title:	Land Mobile Communications Equipment, Measurements and performance Standards
Reference:	ANSI C63.4 (2009)
Title:	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
Reference:	FCC KDB 971168 D01 v02r01, 7 June 2013
Title:	Measurement Guidance for Certification of Licensed Digital Transmitters

2.4. Deviations from the Test Specification

For the measurements contained within this test report, there were no deviations from, additions to, or exclusions from the test specification identified above.

3. Equipment Under Test (EUT)

3.1. Identification of Equipment Under Test (EUT)

Brand Name:	Softbank
Model Name or Number:	S41CS1
IMEI:	004401221308196 *(Radiated sample)*
Serial Number:	C11
Hardware Version Number:	Rev E
Software Version Number:	ACPU: B-S41CS1-13.01.001.srec CCPU: S41CS1_Cv52030205_foma11.srec
FCC ID:	UCE214060A

Brand Name:	Softbank
Model Name or Number:	S41CS1
IMEI:	004401221308105 *(Conducted sample #1)*
Serial Number:	C13
Hardware Version Number:	Rev E
Software Version Number:	ACPU: B-S41CS1-13.01.001.srec CCPU: S41CS1_Cv52030205_foma11.srec
FCC ID:	UCE214060A

Brand Name:	Softbank
Model Name or Number:	S41CS1
IMEI:	004401221308055 *(Conducted sample #2)*
Serial Number:	C4
Hardware Version Number:	Rev E
Software Version Number:	ACPU: B-S41CS1-13.01.001.srec CCPU: S41CS1_Cv52030205_foma11.srec
FCC ID:	UCE214060A

Brand Name:	Softbank
Description:	AC Charger
Model Name or Number:	ZTDAA1

Brand Name:	Softbank
Description:	USB Data cable
Model Name or Number:	ZTFE01

Identification of Equipment Under Test (EUT) (Cont)

Brand Name:	Softbank
Description:	Personal Hands-Free
Model Name or Number:	ZTBBA1 and ZTCAA1

3.2. Description of EUT

The equipment under test was a Dual Mode GSM/UMTS Mobile Phone with *Bluetooth*.

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Type of Radio Device:	Transceiver		
Mode:	GSM/GPRS		
Modulation Type:	GMSK		
Channel Spacing:	200 kHz		
Power Supply Requirement(s):	Nominal	3.7 V	
	Minimum	3.4 V	
	Maximum	4.2 V	
Technology Tested:	PCS1900		
Maximum Output Power (EIRP):	GSM	30.8 dBm	
	GPRS	30.8 dBm	
Transmit Frequency Range:	1850 to 1910 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	512	1850.2
	Middle	660	1879.8
	Top	810	1909.8

3.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

Brand Name:	Generic
Description:	2 GB Micro SD Card
Model Name or Number:	Not marked or stated

Brand Name:	Not marked or stated
Description:	Dummy Battery
Model Name or Number:	Not marked or stated

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

The EUT was tested in the following operating mode(s):

- Constantly transmitting at full power on bottom, middle and top channels as required.
- Occupied bandwidth, EIRP and band edge tests were performed with the EUT in GSM single timeslot circuit switched and GPRS Multislot Class 10 with the unit transmitting on one timeslot in the uplink. The EUT output power was initially checked when transmitting at maximum power on one, two, three and four timeslots. The highest power was observed when transmitting on one timeslot.
- Transmitter radiated spurious emissions were checked in all modes during pre-scans. Circuit switched voice was found to be the worst case and all final measurements were performed with the EUT in this mode.

4.2. Configuration and Peripherals

The EUT was tested in the following configuration(s):

- Connected to a GSM/GPRS/EGPRS system simulator, operating in transceiver mode.
- Transmitter radiated spurious emissions tests were performed with the AC charger connected to the EUT as this was found to be the worst case during pre-scans. All the supplied accessories were individually connected and measurements made during the pre-scans to determine the worst case combination. The micro SD card was fitted during all tests.
- The dummy battery was fitted for all conducted measurements.
- The conducted sample with IMEI 004401221308105 was used for frequency stability (temperature) measurements, occupied bandwidth and conducted power measurements.
- The conducted sample with IMEI 004401221308055 was used for frequency stability (voltage) measurements.
- The radiated sample with IMEI 004401221308196 was used for all radiated measurements.

5. Measurements, Examinations and Derived Results

5.1. General Comments

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to *Section 6. Measurement Uncertainty* for details.

In accordance with UKAS requirements all the measurement equipment is on a calibration schedule. All equipment was within the calibration period on the date of testing.

5.2. Test Results

5.2.1. Transmitter Output Power (EIRP)

Test Summary:

Test Engineer:	David Doyle	**Test Date:**	15 November 2013
Test Sample IMEI:	004401221308105		

FCC Reference:	Part 24.232(c)
Test Method Used:	As detailed in KBD 971168 D01 Section 5.1.1

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	33

Note(s):

1. The signal analyser was connected to the RF port on the EUT using suitable attenuation and RF cable. An RF level offset was entered on the signal analyser to compensate for the loss of the attenuator and RF cable.
2. The customer stated a maximum antenna gain of 2.5 dBi.
3. The antenna gain was added to the conducted output power to obtain the EIRP.

Transmitter Output Power (EIRP) (continued)

Results: GSM Circuit Switched

Channel	Frequency (MHz)	Conducted Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	1850.2	27.7	2.5	30.2	33.0	2.8	Complied
Middle	1879.8	28.3	2.5	30.8	33.0	2.2	Complied
Top	1909.8	27.6	2.5	30.1	33.0	2.9	Complied

Results: GPRS

Channel	Frequency (MHz)	Conducted Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	1850.2	27.7	2.5	30.2	33.0	2.8	Complied
Middle	1879.8	28.3	2.5	30.8	33.0	2.2	Complied
Top	1909.8	27.6	2.5	30.1	33.0	2.9	Complied

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1658	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	24 May 2014	12
A1096	Directional Coupler	Midisco	MDC6223 W20	None stated	Calibrated before use	-
M1242	Signal Analyzer	Rohde & Schwarz	FSEM30	845986/022	19 Dec 2013	12
M1269	Multimeter	Fluke	179	90250210	12 Aug 2014	12
S0558	DC Power Supply	TTI	EL 303R	395825	Calibrated before use	-

5.2.2. Transmitter Frequency Stability (Temperature Variation)

Test Summary:

Test Engineer:	David Doyle	**Test Date:**	20 November 2013
Test Sample IMEI:	004401221308105		

FCC Reference:	Parts 2.1055 & 24.235
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.2 referencing FCC CFR Part 2.1055

Environmental Conditions:

Ambient Temperature (°C):	24
Ambient Relative Humidity (%):	30

Note(s):

1. A dummy battery was placed on the EUT and the dummy battery cables connected to a bench power supply.
2. Frequency error was measured using a calibrated Rohde & Schwarz CMU 200 Universal Radio Communications Tester in accordance with current Rohde & Schwarz application notes. The EUT was connected by suitable RF cables to the CMU 200. A bidirectional communications link was established between the EUT and CMU 200. The frequency meter value was recorded.
3. Temperature was monitored throughout the test with a calibrated digital thermometer.

Transmitter Frequency Stability (Temperature Variation) (continued)

Results: Bottom Channel (1850.2 MHz)

Temperature (°C)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
-10	15	1850.199985	1850.0	0.199985	Complied
0	17	1850.200017	1850.0	0.200017	Complied
10	15	1850.200015	1850.0	0.200015	Complied
20	14	1850.200014	1850.0	0.200014	Complied
30	27	1850.199973	1850.0	0.199973	Complied
40	16	1850.199984	1850.0	0.199984	Complied
50	12	1850.199988	1850.0	0.199988	Complied
55	21	1850.200021	1850.0	0.200021	Complied

Results: Top Channel (1909.8 MHz)

Temperature (°C)	Frequency Error (Hz)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Margin (MHz)	Result
-10	25	1909.799975	1910.0	0.200025	Complied
0	12	1909.800012	1910.0	0.199988	Complied
10	11	1909.799989	1910.0	0.200011	Complied
20	10	1909.800010	1910.0	0.199990	Complied
30	24	1909.799976	1910.0	0.200024	Complied
40	24	1909.799976	1910.0	0.200024	Complied
50	12	1909.799988	1910.0	0.200012	Complied
55	14	1909.800014	1910.0	0.199986	Complied

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1658	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	24 May 2014	12
E0513	Environmental Chamber	TAS	LT600	23900506	Calibrated before use	-
M1229	Multimeter	Fluke	179	87640015	26 Jun 2014	12
M1643	Thermometer	Fluke	52II	18890119	19 Mar 2014	12
M1662	Radio Comms Tester	Rohde & Schwarz	CMU 200	109374	21 May 2014	12
S0523	Dual DC Power Supply Unit	TTi	PL320	224235	Calibrated before use	-

5.2.3. Transmitter Frequency Stability (Voltage Variation)

Test Summary:

Test Engineer:	David Doyle	**Test Date:**	20 November 2013
Test Sample IMEI:	004401221308055		

FCC Reference:	Parts 2.1055 & 24.235
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.2 referencing FCC CFR Part 2.1055

Environmental Conditions:

Temperature (°C):	20
Relative Humidity (%):	30

Note(s):

1. A dummy battery was placed on the EUT and the dummy battery cables connected to a bench power supply.
2. Frequency error was measured using a calibrated Rohde & Schwarz CMU 200 Universal Radio Communications Tester in accordance with current Rohde & Schwarz application notes. The EUT was connected by suitable RF cables to the CMU 200. A bidirectional communications link was established between the EUT and CMU 200. The frequency meter value was recorded.
3. Voltage was monitored throughout the test with a calibrated digital voltmeter.

Results: Bottom Channel (1850.2 MHz)

Supply Voltage (V)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
3.4	19	1850.199981	1850.0	0.199981	Complied
4.2	14	1850.200014	1850.0	0.200014	Complied

Results: Top Channel (1909.8 MHz)

Supply Voltage (V)	Frequency Error (Hz)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Margin (MHz)	Result
3.4	14	1909.800014	1910.0	0.199986	Complied
4.2	18	1909.800018	1910.0	0.199982	Complied

Transmitter Frequency Stability (Voltage Variation) (continued)

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1658	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	24 May 2014	12
E0513	Environmental Chamber	TAS	LT600	23900506	Calibrated before use	-
M1229	Multimeter	Fluke	179	87640015	26 Jun 2014	12
M1643	Thermometer	Fluke	52II	18890119	19 Mar 2014	12
M1662	Radio Comms Tester	Rohde & Schwarz	CMU 200	109374	21 May 2014	12
S0523	Dual DC Power Supply Unit	TTi	PL320	224235	Calibrated before use	-

5.2.4. Transmitter Occupied Bandwidth

Test Summary:

Test Engineer:	David Doyle	**Test Date:**	15 November 2013
Test Sample IMEI:	004401221308105		

FCC Reference:	Part 2.1049
Test Method Used:	As detailed in KBD 971168 D01 Section 4.2

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	33

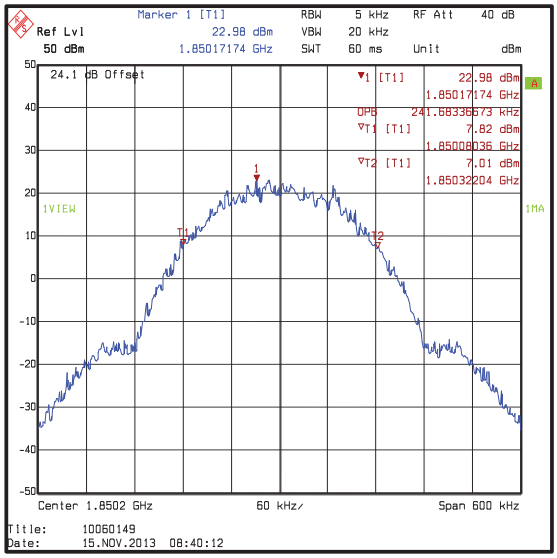
Note(s):

1. The signal analyser was connected to the RF port on the EUT using suitable attenuation and RF cable.

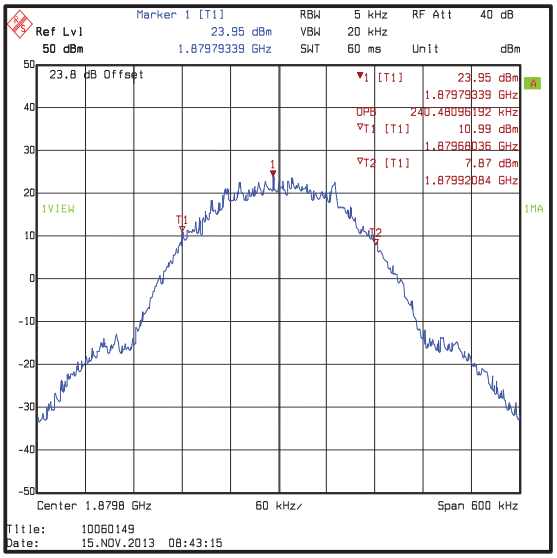
Transmitter Occupied Bandwidth (continued)

Results: GSM Circuit Switched

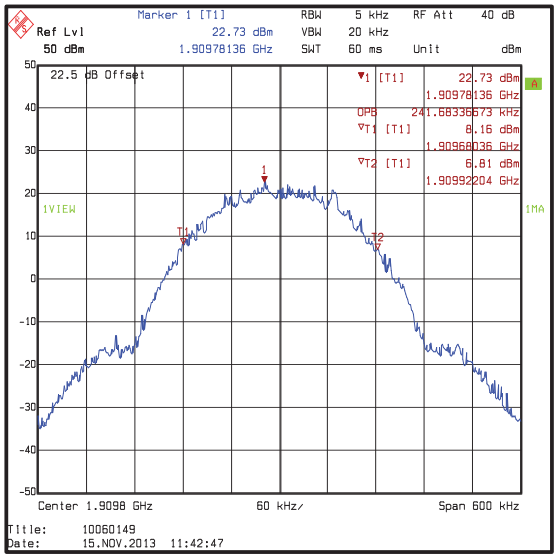
Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Bottom	1850.2	241.683
Middle	1879.8	240.481
Top	1909.8	241.683



Bottom Channel



Middle Channel

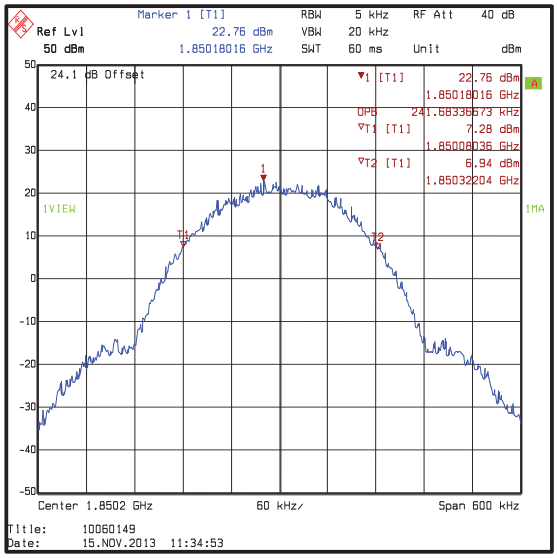


Top Channel

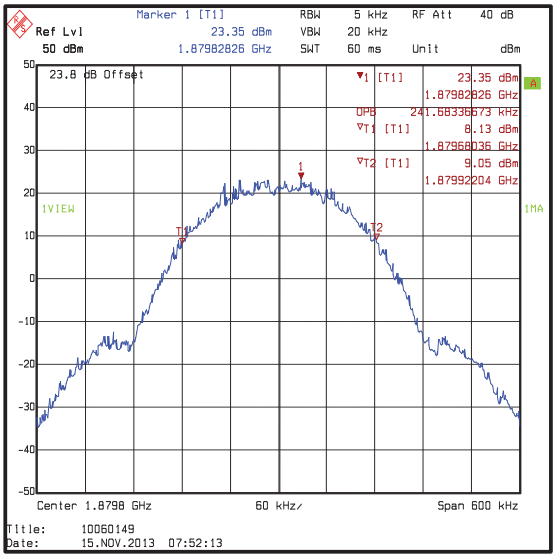
Transmitter Occupied Bandwidth (continued)

Results: GPRS

Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
Bottom	1850.2	241.683
Middle	1879.8	241.683
Top	1909.8	239.279



Bottom Channel



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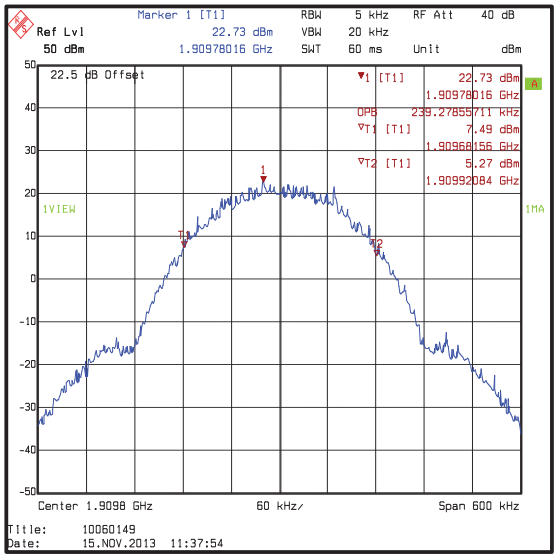


Top Channel

Transmitter Occupied Bandwidth (continued)

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1658	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	24 May 2014	12
A1096	Directional Coupler	Midisco	MDC6223 W20	None stated	Calibrated before use	-
M1242	Signal Analyzer	Rohde & Schwarz	FSEM30	845986/022	19 Dec 2013	12
M1269	Multimeter	Fluke	179	90250210	12 Aug 2014	12
S0558	DC Power Supply	TTI	EL 303R	395825	Calibrated before use	-

5.2.5. Transmitter Out of Band Radiated Emissions

Test Summary:

Test Engineer:	David Doyle	**Test Dates:**	18 November 2013 & 26 November 2013
Test Sample IMEI:	004401221308196		

FCC Reference:	Parts 2.1053 & 24.238
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Parts 2.1053 and 24.238
Frequency Range:	30 MHz to 20 GHz
Configuration:	GSM Circuit Switched

Environmental Conditions:

Temperature (°C):	21 to 23
Relative Humidity (%):	40 to 42

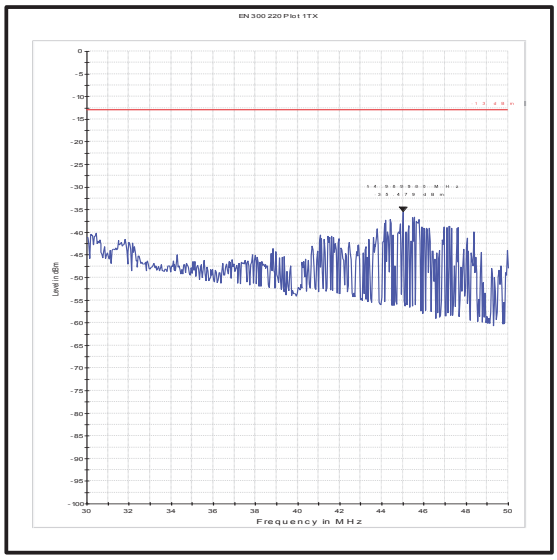
Note(s):

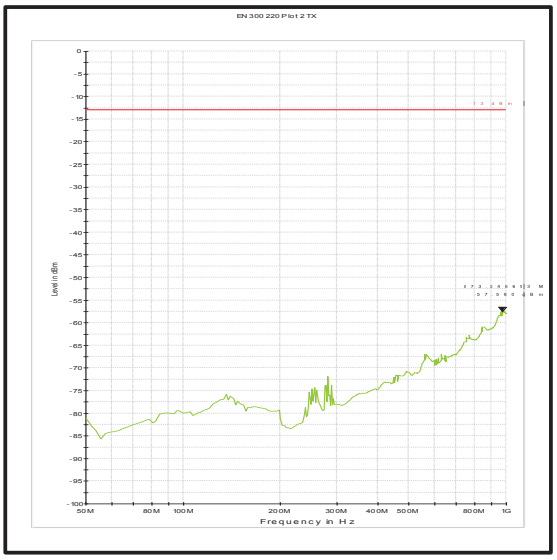
1. All emissions shown on the pre-scan plots were investigated and found to be ambient, or >20 dB below the applicable limit or below the measurement system noise floor. Therefore the highest peak noise floor reading of the measuring receiver was recorded in the table below.
2. The uplink traffic channel is shown on the 1 GHz to 3 GHz plot.
3. Measurements below 1 GHz were performed in a semi-anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.
4. Pre-scans above 1 GHz were performed in a fully anechoic chamber (Asset Number K0002) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

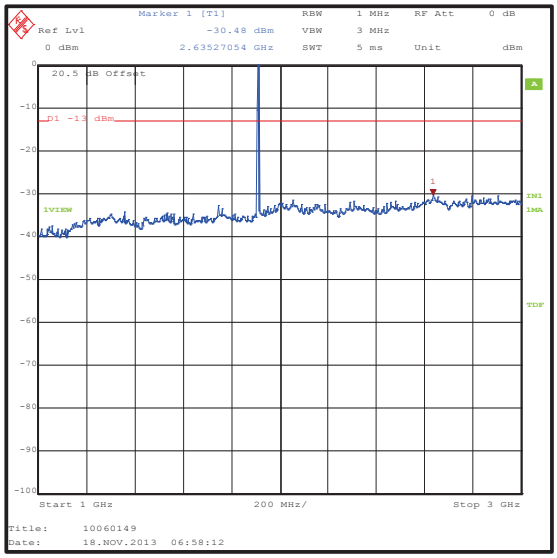
Results:

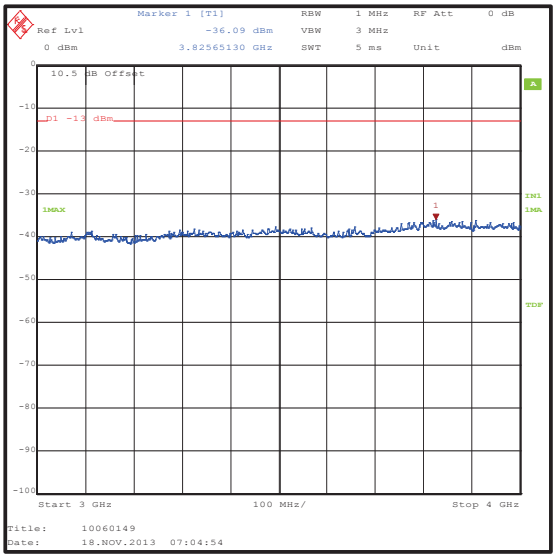
Frequency (MHz)	Peak Level (dBm)	Limit (dBm)	Margin (dB)	Result
2635.271	-30.5	-13.0	17.5	Complied

Transmitter Out of Band Radiated Emissions (continued)

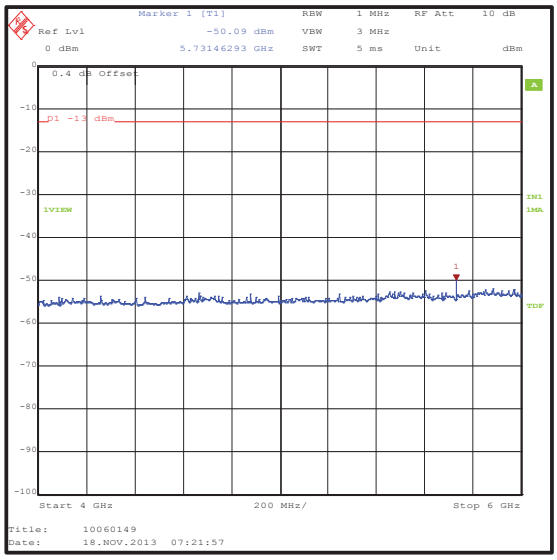


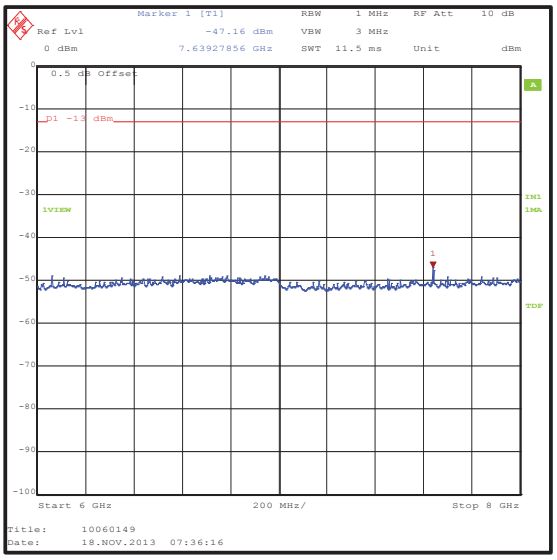


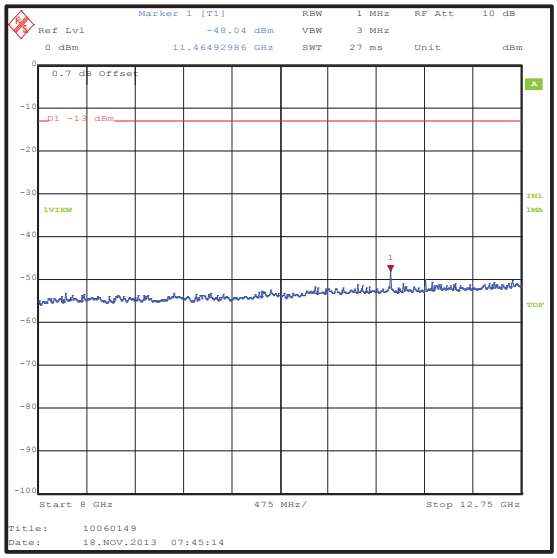


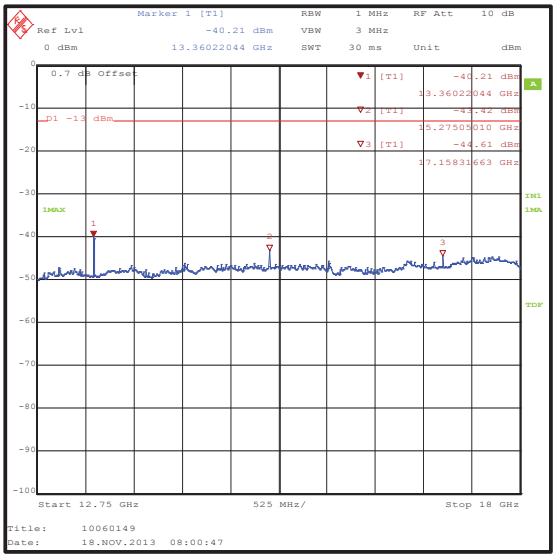


Transmitter Out of Band Radiated Emissions (continued)

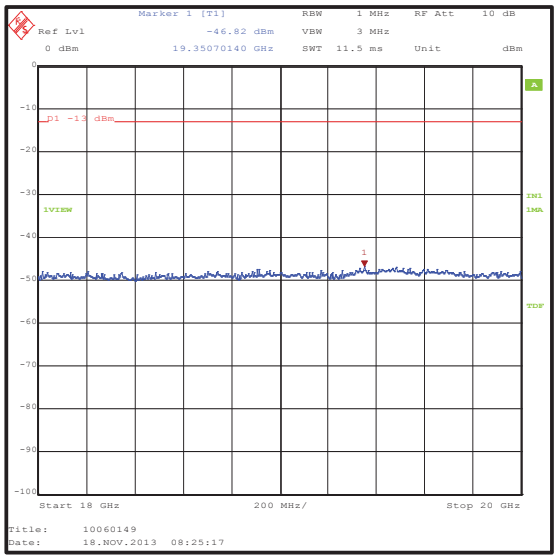








Transmitter Out of Band Radiated Emissions (continued)



Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1622	Thermohygrometer	JM Handelspunkt	30.5015.06	None stated	24 May 2014	12
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	26 Nov 2014	12
G0543	Amplifier	Sonoma	310N	230801	15 Feb 2014	3
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	07 Feb 2014	12
A1834	Attenuator	Hewlett Packard	8491B	10444	15 Nov 2014	12
A490	Antenna	Chase	CBL6111A	1590	09 Apr 2014	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	31 Jan 2014	12
M1656	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	24 May 2014	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	01 Oct 2014	12
A1534	Pre-Amplifier	Hewlett Packard	8449B	3008A00405	31 Jan 2014	12
A1396	Attenuator	Huber & Suhner	6810.17.B	757987	10 May 2014	12
A1393	Attenuator	Huber & Suhner	6820.17.B	757456	10 May 2014	12
A1975	High Pass Filter	AtlanTecRF	AFH-03000	090424010	19 Apr 2014	12
A2130	High Pass Filter	AtlanTecRF	AFH-08000	80rJFBD06	26 Apr 2014	12
A1818	Antenna	EMCO	3115	00075692	31 Jan 2014	12
A253	Antenna	Flann	12240-20	128	31 Jan 2014	12
A254	Antenna	Flann	14240-20	139	31 Jan 2014	12
A255	Antenna	Flann	16240-20	519	31 Jan 2014	12
A256	Antenna	Flann	18240-20	400	31 Jan 2014	12
A436	Antenna	Flann	20240-20	330	31 Jan 2014	12

5.2.6. Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineer:	David Doyle	**Test Date:**	18 November 2013
Test Sample IMEI:	004401221308196		

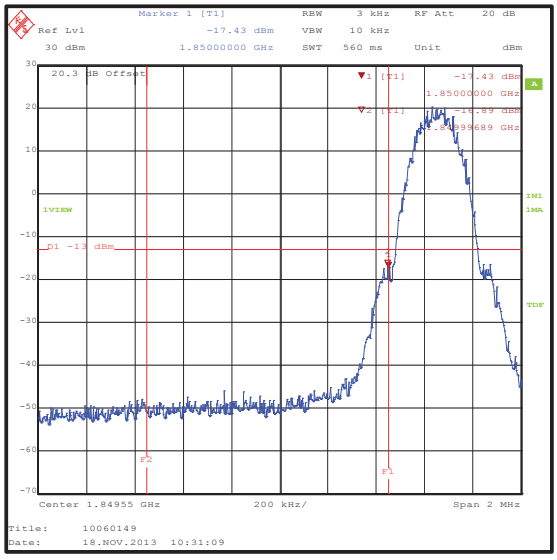
FCC Reference:	Parts 2.1053 & 24.238
Test Method Used:	As detailed in ANSI TIA-603-C-2004 Section 2.2.12 referencing FCC CFR Parts 2.1053 and 24.238

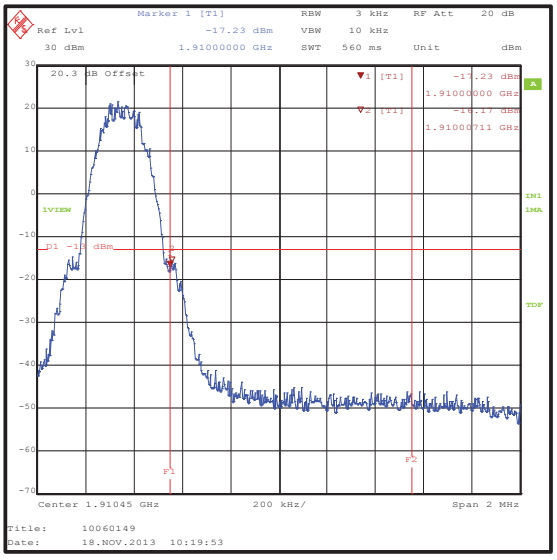
Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	40

Results: GSM Circuit Switched

Frequency (MHz)	Peak Level (dBm)	Limit (dBm)	Margin (dB)	Result
1849.997	-16.9	-13.0	3.9	Complied
1850	-17.4	-13.0	4.4	Complied
1910	-17.2	-13.0	4.2	Complied
1910.007	-16.2	-13.0	3.2	Complied

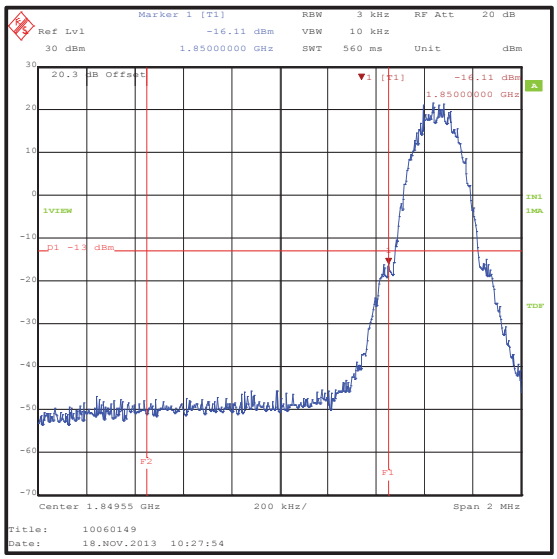


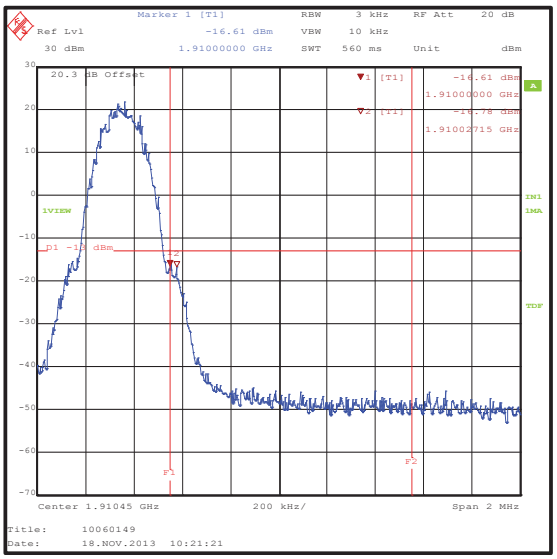


Transmitter Band Edge Radiated Emissions (continued)

Results: GPRS

Frequency (MHz)	Peak Level (dBm)	Limit (dBm)	Margin (dB)	Result
1850	-16.1	-13.0	3.1	Complied
1910	-16.6	-13.0	3.6	Complied





Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	31 Jan 2014	12
M1656	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	24 May 2014	12
M1124	Test Receiver	Rohde & Schwarz	ESIB 26	100046K	01 Oct 2014	12
A1534	Pre-Amplifier	Hewlett Packard	8449B	3008A00405	31 Jan 2014	12
A1393	Attenuator	Huber & Suhner	6820.17.B	757456	10 May 2014	12
A1818	Antenna	EMCO	3115	00075692	31 Jan 2014	12

6. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
Conducted Output Power	1850 to 1910 MHz	95%	±1.13 dB
Frequency Stability	1850 to 1910 MHz	95%	±0.92 ppm
Occupied Bandwidth	1850 to 1910 MHz	95%	±3.92 %
Radiated Spurious Emissions	30 MHz to 1 GHz	95%	±5.65 dB
Radiated Spurious Emissions	1 GHz to 20 GHz	95%	±2.94 dB

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty the published guidance of the appropriate accreditation body is followed.

7. Report Revision History

Version Number	Revision Details		
	Page No(s)	Clause	Details
1.0	-	-	Initial Version
2.0	-	-	Update to serial numbers in section 3.1