ETSI EN 301 908-1 V7.1.1 (2015-03)
ETSI EN 301 908-2 V6.2.1 (2013-10)

TEST REPORT

For

Advanced Technologies SRL

Ion Heliade Radulescu nr 26, Bucharest 021255, ROMANIA

Tested Model: Xylo Q
Multiple Model: Xylo X

Report Type:	**Product Type:**
Original Report	Smartphone Xylo

Test Engineer:	Sonia Zhou
Report Number:	RSZ160309002-22E
Report Date:	2016-03-30
Reviewed By:	Rocky Kang RF Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Advanced Technologies SRL*'s product, model number: *Xylo Q* or the "EUT" in this report was a *Smartphone Xylo*, which was measured approximately: 126.9 mm (L) × 64.1 mm (W)× 10.35 mm (H), rated with input voltage: DC 3.7V rechargeable Li-ion battery.

Note: The series product, model Xylo X and Xylo Q. Model Xylo Q was selected for fully testing, which was explained detailedly in the attached product similarity declaration letter.

**All measurement and test data in this report was gathered from production sample serial number: 1601567 (Assigned by BACL, Shenzhen).The EUT supplied by the applicant was received on 2016-03-09.*

Objective

This report is prepared on behalf of *Advanced Technologies SRL* accordance with ETSI EN 301 908-1 V7.1.1 (2015-03), IMT cellular networks, Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive, Part 1: Introduction and common requirements; and ETSI EN 301 908-2 V6.2.1 (2013-10) , IMT cellular networks, Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive, Part 2: CDMA Direct Spread (UTRA FDD) User Equipment (UE)

The objective is to determine compliance with ETSI EN 301 908-1 V7.1.1 (2015-03) and ETSI EN 301 908-2 V6.2.1 (2013-10).

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with ETSI EN 301 908-1 V7.1.1 (2015-03) and ETSI EN 301 908-2 V6.2.1 (2013-10).

Measurement uncertainty with radiated emission is 5.81 dB for 30MHz-1GHz and 4.88 dB for above 1GHz, 1.95dB for conducted measurement.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on October 31, 2013. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing according to ETSI EN 301 908-1 V7.1.1 (2015-03), ETSI EN 301 908-2 V6.2.1 (2013-10).

EUT Exercise Software

No exercise software.

Special Accessories

No special accessory.

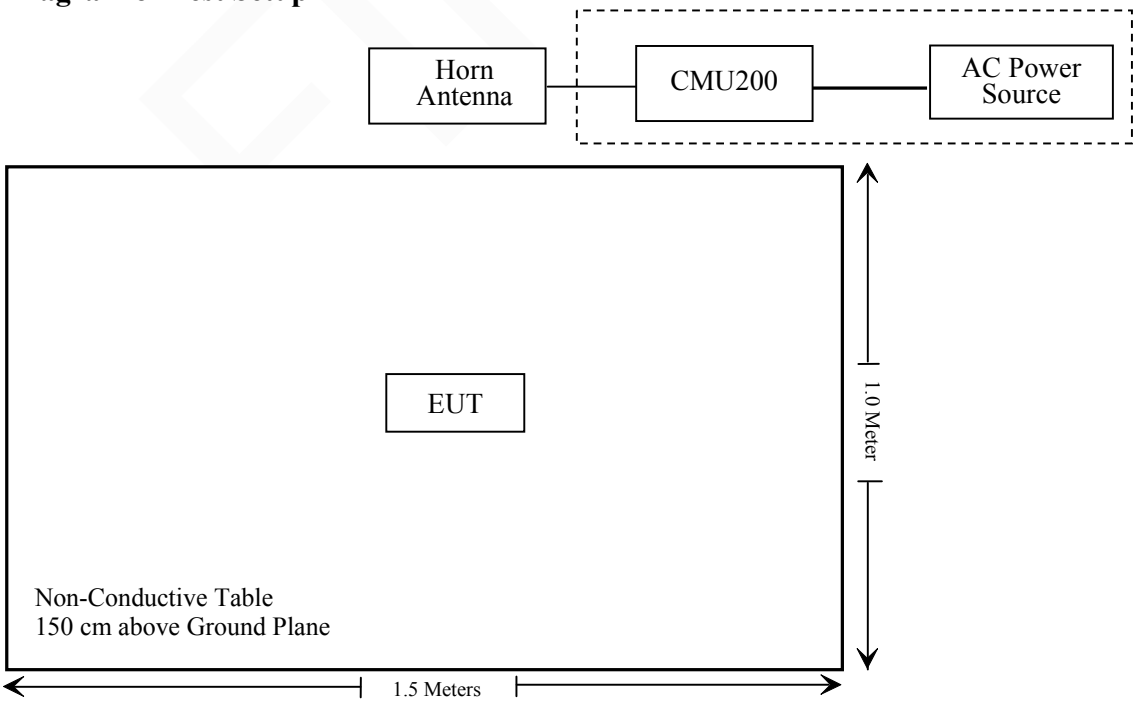
Equipment Modifications

No modifications were made to the EUT.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

ETSI EN 301 908-1 V7.1.1	Description of Test	Test Result
§4.2.2	Radiated emissions (UE)	Compliance
§4.2.3	Radiated emissions (BS and repeater)	Not Applicable
§4.2.4	Control and monitoring functions (UE)	Compliance

ETSI EN 301 908-2 V6.2.1	Description of Test	Test Result
§4.2.2	Transmitter maximum output power	Compliance
§4.2.3	Transmitter spectrum emission mask	Compliance
§4.2.4	Transmitter spurious emissions	Compliance
§4.2.5	Transmitter minimum output power	Compliance
§4.2.6	Receiver Adjacent Channel Selectivity (ACS)	Compliance
§4.2.7	Receiver blocking characteristics	Compliance
§4.2.8	Receiver spurious response	Compliance
§4.2.9	Receiver intermodulation characteristics	Compliance
§4.2.10	Receiver spurious emissions	Compliance
§4.2.11	Out-of-synchronization handling of output power	Compliance
§4.2.12	Transmitter Adjacent Channel Leakage power Ratio (ACLR)	Compliance

ETSI EN 301 908-1 V7.1.1 (2015-03) §4.2.2 – RADIATED EMISSIONS (UE)

Applicable Standard

Limits

The frequency boundary and reference bandwidths for the detailed transitions of the limits between the requirements for out-of-band emissions and spurious emissions are based on ITU-R Recommendations SM.329-12 [3] andSM.1539-1 [4].

The requirements shown in table 4.2.2.2-1 are only applicable for frequencies in the spurious domain.

Table 4.2.2.2-1: Radiated spurious emissions requirements (UE)

Frequency	Minimum requirement (e.r.p.)/ reference bandwidth idle mode	Minimum requirement (e.r.p.)/ reference bandwidth traffic mode	Applicability
30 MHz ≤ f < 1 000 MHz	-57 dBm/100 kHz	-36 dBm/100 kHz	All
1 GHz ≤ f < 12,75 GHz	-47 dBm/1 MHz	-30 dBm/1 MHz	All
fc - 2,5 × 5 MHz < f < fc + 2,5 × 5 MHz		Not defined	UTRA FDD, UTRA TDD, 3,84 Mcps option, cdma2000, spreading rate 3
fc - 2,5 × $BW_{Channel}$ MHz < f < fc + 2,5 × $BW_{Channel}$ MHz		Not defined	E-UTRA FDD, E-UTRA TDD, Mobile WiMAX, UMB
fc - 2,5 × 10 MHz < f < fc1 + 2,5 × 10 MHz		Not defined	UTRA TDD, 7,68 Mcps option
fc - 4 MHz < f < fc + 4 MHz		Not defined	UTRA TDD, 1,28 Mcps option cdma2000, spreading rate 1
fc - 500 kHz < f < fc + 500 kHz		Not defined	UWC 136, 200 kHz option
fc - 250 kHz < f < fc + 250 kHz		Not defined	UWC 136, 30 kHz option
NOTE: fc is the UE transmit centre frequency.			

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Horn Antenna	DRH-118	A052304	2014-12-29	2017-12-28
Sunol Sciences	Bi-log Antenna	JB1	A040904-2	2014-12-07	2017-12-06
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2015-12-11	2016-12-11
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2015-04-23	2016-04-23
HP	Amplifier	HP8447E	1937A01046	2015-05-06	2016-05-06
HP	Signal Generator	HP 8341B	2624A00116	2015-07-02	2016-07-01
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2015-12-15	2016-12-14
COM POWER	Dipole Antenna	AD-100	041000	2015-08-18	2016-08-18
A.H. System	Horn Antenna	SAS-200/571	135	2015-08-18	2018-08-17
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891	2015-11-23	2016-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Results Summary

According to the recorded data in following table, the EUT complied with the ETSI EN 301 908-1 V7.1.1 (2015-03), the worst margin reading as below:

0.10 dB at **3900.00 MHz** in the **Vertical** polarization for **Traffic Mode**

Test Data

Environmental Conditions

Temperature:	26 ℃
Relative Humidity:	49 %
ATM Pressure:	101.0 kPa

The testing was performed by Sonia Zhou on 2016-03-11.

Test Mode: Transmitting

Test Result: Compliant.

Please refer to following data table.

WCDMA2100 (Pre-test with low, middle, high channel, the worst case as below)

Idle Mode

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	EN 301 908-1	
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		Limit (dBm)	Margin (dB)
189.60	30.60	68	1.7	H	-66.4	0.29	0	-66.69	-57	9.69
189.60	32.28	54	1.4	V	-64.7	0.29	0	-64.99	-57	7.99
1434.90	41.76	136	1.8	H	-67.9	1.23	6.40	-62.73	-47	15.73
1434.90	42.32	325	1.9	V	-67.4	1.23	6.40	-62.23	-47	15.23

Traffic Mode

Frequency (MHz)	Receiver Reading (dBµV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	EN 301 908-1	
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		Limit (dBm)	Margin (dB)
189.60	31.38	319	2.4	H	-65.6	0.29	0	-65.89	-36	29.89
189.60	30.54	80	1.1	V	-66.5	0.29	0	-66.79	-36	30.79
3900.00	60.18	329	1.8	H	-38.8	2.20	9.90	-31.10	-30	1.10
3900.00	60.72	265	1.5	V	-37.8	2.20	9.90	-30.10	-30	**0.10**
5850.00	47.67	152	1.7	H	-46.5	2.40	10.40	-38.50	-30	8.50
5850.00	48.38	178	2.5	V	-45.0	2.40	10.40	-37.00	-30	7.00

WCDMA900 (Pre-test with low, middle, high channel, the worst case as below)

Idle Mode

Frequency (MHz)	Receiver Reading (dBµV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	EN 301 908-1	
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		Limit (dBm)	Margin (dB)
189.60	31.07	133	2.0	H	-65.9	0.29	0	-66.19	-57	9.19
189.60	31.78	182	1.0	V	-65.2	0.29	0	-65.49	-57	8.49
1240.86	42.52	109	1.1	H	-67.4	1.50	6.20	-62.70	-47	15.70
1240.86	42.50	136	1.5	V	-68.7	1.50	6.20	-64.00	-47	17.00

Traffic Mode

Frequency (MHz)	Receiver Reading (dBµV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	EN 301 908-1	
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		Limit (dBm)	Margin (dB)
189.60	31.18	122	1.4	H	-65.8	0.29	0	-66.09	-36	30.09
189.60	32.31	271	2.3	V	-64.7	0.29	0	-64.99	-36	28.99
1795.20	51.91	248	1.4	H	-55.9	1.40	7.10	-50.20	-30	20.20
1795.20	53.48	118	2.5	V	-54.3	1.40	7.10	-48.60	-30	18.60
2692.80	52.18	185	2.2	H	-53.4	1.10	9.30	-45.20	-30	15.20
2692.80	52.33	265	1.8	V	-54.0	1.10	9.30	-45.80	-30	15.80

Note: 1) Absolute Level = SG Level - Cable Loss + Antenna Gain
2) Margin = Limit - Absolute Level

ETSI EN 301 908-1 V7.1.1 (2015-03) §4.2.4 – CONTROL AND MONITORING FUNCTIONS (UE)

Applicable Standard

This requirement, together with other control and monitoring technical requirements identified in the table of cross references in the applicable part, verifies that the control and monitoring functions of the UE prevent it from transmitting in the absence of a valid network.

This test is applicable to radio communications equipment and ancillary equipment in the operating band defined in the applicable part of this multipart harmonized standard.

This test shall be performed on the radio communications equipment and/or a representative configuration of the ancillary equipment.

Limits

The maximum measured power during the duration of the test shall not exceed-30 dBm.

Test Procedure

At the start of the test, the UE shall be switched off. The UE antenna connector shall be connected to a power measuring equipment, with the following characteristics:

The RF bandwidth shall exceed the total operating transmit frequency range of the UE for operation with an applicable part;

The response time of the power measuring equipment shall be such that the measured power has reached within 1 dB of its steady state value within 100 µs of a CW signal being applied;

It shall record the maximum power measured.

NOTE: The equipment may include a video low pass filter to minimize its response to transients or Gaussian noise peaks.

b) The UE shall be switched on for a period of approximately fifteen minutes, and then switched off.

c) The EUT shall remain switched off for a period of at least thirty seconds, and shall then be switched on for a period of approximately one minute.

d) The maximum power emitted from the UE throughout the duration of the test shall be recorded. The results obtained shall be compared to the limits in clause 4.2.4.2 in order to prove compliance.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2015-12-11	2016-12-11

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

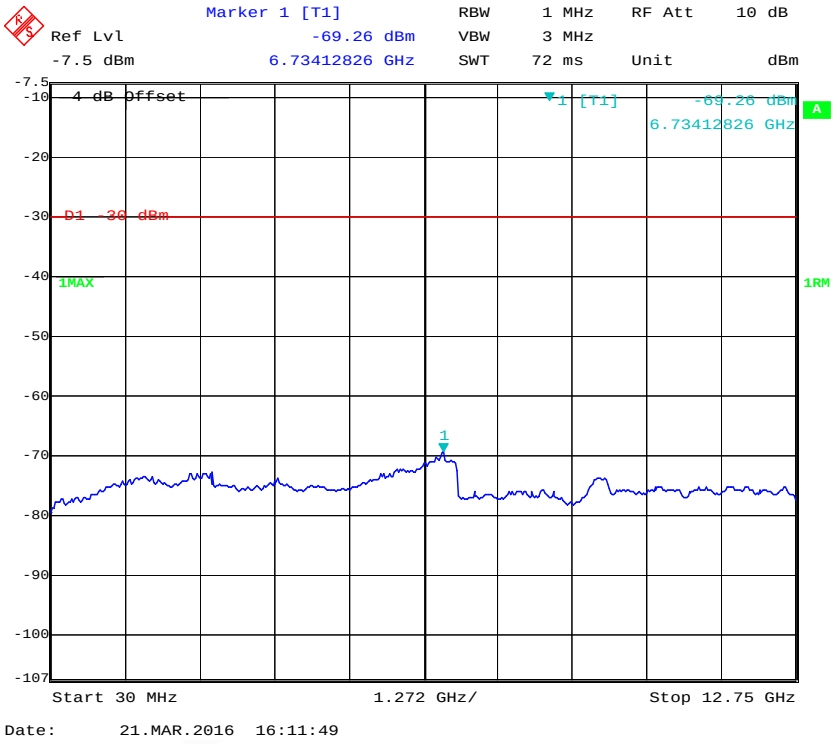
Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	49 %
ATM Pressure:	101.0 kPa

The testing was performed by Sonia Zhou on 2016-03-21.

Test Mode: Transmitting

Test Result: *Compliant.*



ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.2 – TRANSMITTER MAXIMUM OUTPUT POWER

Applicable Standard

According to ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.2, the nominal maximum output power and its tolerance are defined according to the power class of the UE. The nominal power defined is the broadband transmit power of the UE, i.e. the power in a bandwidth of at least (1 + α) times the chip rate of the radio access mode. The period of measurement shall be at least one timeslot.

Limits

The UE maximum output power shall be within the shown value in table 4.2.2.2-1 even for the multi-code DPDCH transmission mode.

Table 4.2.2.1.2-1: UE power classes

Operating Band	Power Class 3		Power Class 3bis		Power Class 4	
	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)
Band I	+24	+1,7/-3,7			+21	+2,7/-2,7
Band III	+24	+1,7/-3,7			+21	+2,7/-2,7
Band VII	+24	+1,7/-3,7	+23	+2,7/-2,7	+21	+2,7/-2,7
Band VIII	+24	+1,7/-3,7	+23	+2,7/-2,7	+21	+2,7/-2,7
Band XV	+24	+1,7/-3,7	+23	+2,7/-2,7	+21	+2,7/-1,7
Band XVI	+24	+1,7/-3,7	+23	+2,7/-2,7	+21	+2,7/-1,7
Band XX	+24	+1,7/-3,7	+23	+2,7/-2,7	+21	+2,7/-2,7
Band XXII	+24	+1,7/-5.2	+23	+2,7/-4.2	+21	+2.7/-4.2

NOTE 1: These requirements do not take into account the maximum power reduction allowed to the UE in the presence of HS-DPCCH and E-DCH specified in TS 125 101 [5].

NOTE 2: The range of UE maximum output power for the various power classes are specified in TS 125 101 [5], clause 6.2.1. The values in table 4.2.2.2-1 correspond to the measurement limits taking into account the measurement uncertainty of measurement equipment (see clause 5.2).

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891	2015-11-23	2016-11-23
ESPEC	Temperature & Humidity Chamber	EL-10KA	09107726	2015-11-01	2016-10-31
Long Wei	DC Power Supply	TPR-6420D	398363	NCR	NCR

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

1) Set and send continuously up power control commands to the UE.
2) Measure the mean power of the UE in a bandwidth of at least (1 + α) times the chip rate of the radio access mode. The mean power shall be averaged over at least one timeslot.

Test Data

Environmental Conditions

Temperature:	24 ℃
Relative Humidity:	49 %
ATM Pressure:	101.0 kPa

The testing was performed by Sonia Zhou on 2016-03-10.

Test Mode: Transmitting

Test Result: Compliant, please refer to following data tables and plots.

WCDMA2100:

Rel 99:

Test Conditions		Transmitter maximum output power (dBm)			
Temperature	**Voltage (V_{DC})**	**Low Channel**	**Middle Channel**	**High Channel**	**Result**
Normal	Normal	21.86	22.07	22.00	Compliant
Low	Low	21.73	22.02	21.92	Compliant
Low	High	21.95	22.20	22.11	Compliant
High	Low	21.81	21.95	21.94	Compliant
High	High	21.95	22.13	22.06	Compliant

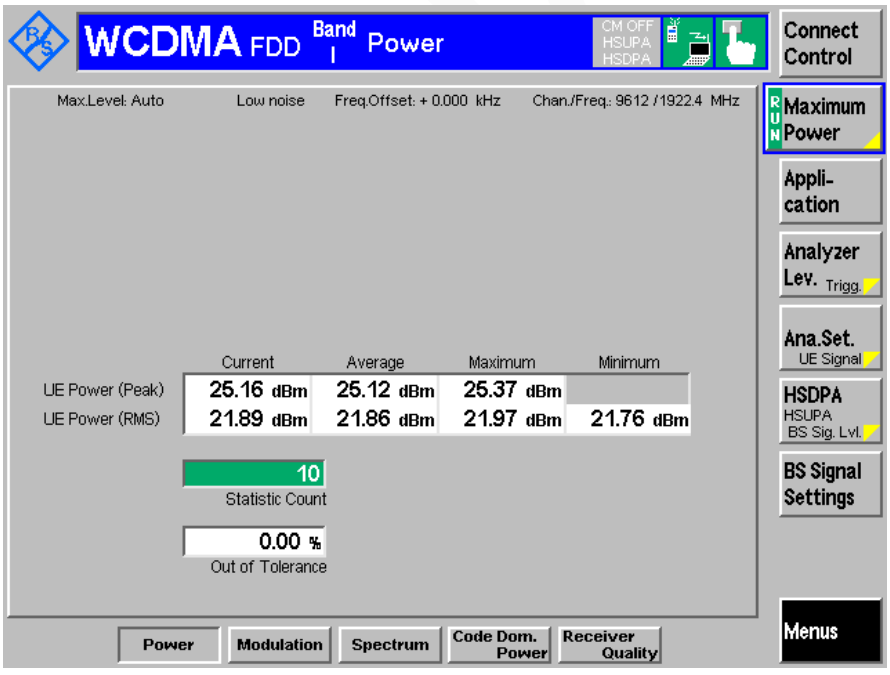
Note:

L.V.: Low Voltage 3.5V_{DC}
L.T.: Low Temperature –10℃
N.V.: Normal Voltage 4.07V_{DC}
N.T.: Normal Temperature +25℃
H.V.: High Voltage 4.07V_{DC}
H.T.: High Temperature +55℃
Nominal Voltage: 3.7V_{DC}

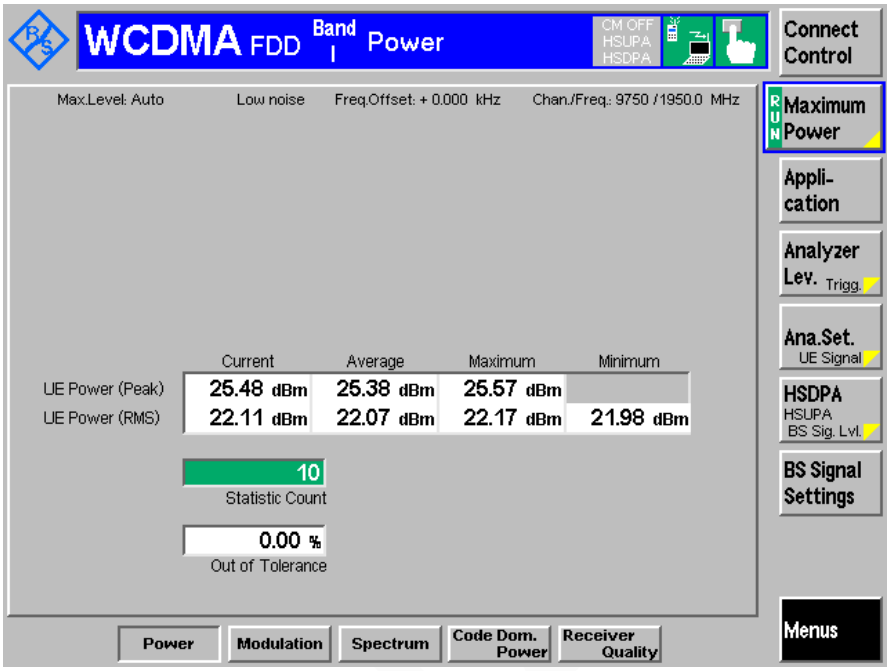
HSPA Mode:

Test Condition	Test Mode	3GPP Sub Test	Averaged Mean Power (dBm)		
			Low Frequency	Mid Frequency	High Frequency
Normal	Rel 6 HSDPA	1	20.59	20.89	21.11
		2	20.41	20.86	21.09
		3	20.12	20.71	20.90
		4	20.14	20.79	21.01
	Rel 6 HSUPA	1	20.51	20.83	21.08
		2	20.43	20.71	21.06
		3	20.16	20.62	20.99
		4	20.49	20.81	21.04
		5	20.44	20.74	21.03

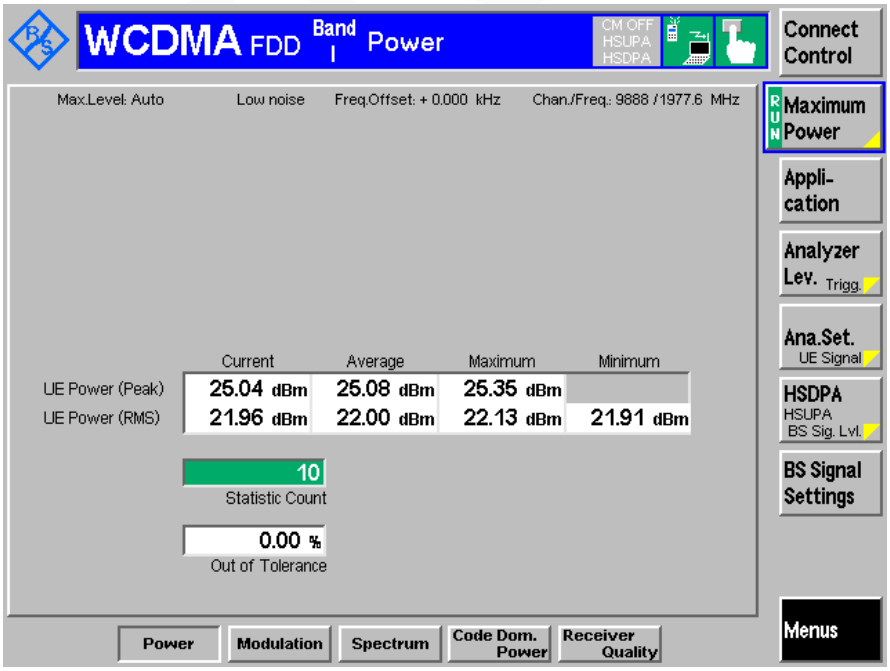
Normal Conditions, Low Channel



Normal Conditions, Middle Channel



Normal Conditions, High Channel



WCDMA 900:

Rel 99:

Test Conditions		Transmitter maximum output power (dBm)			
Temperature	**Voltage (V_{DC})**	**Low Channel**	**Middle Channel**	**High Channel**	**Result**
Normal	Normal	22.40	22.44	22.51	Compliant
Low	Low	22.44	22.36	22.38	Compliant
Low	High	22.47	22.50	22.57	Compliant
High	Low	22.39	22.40	22.35	Compliant
High	High	22.52	22.47	22.51	Compliant

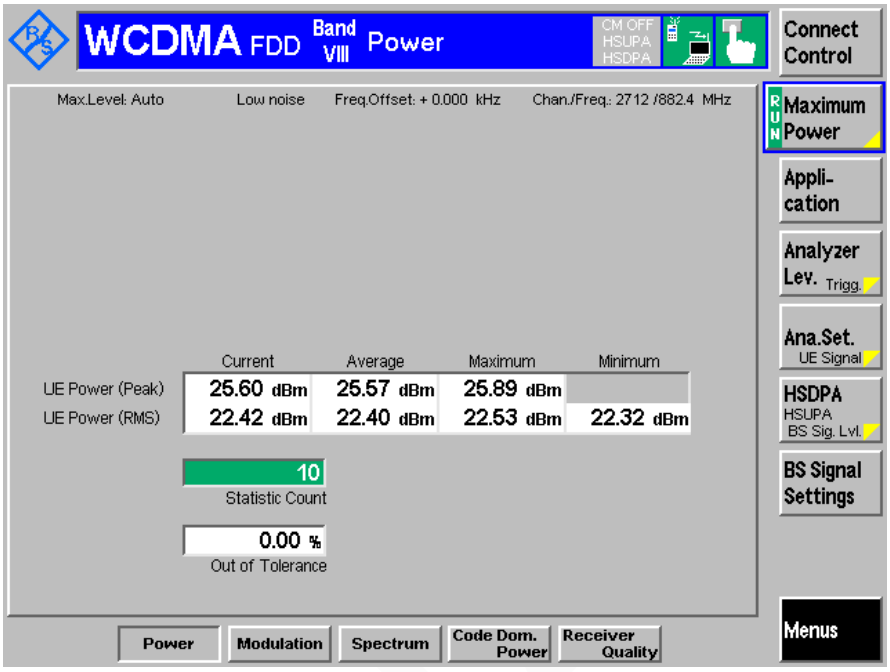
Note:

L.V.: Low Voltage 3.5V_{DC}
L.T.: Low Temperature –10℃
N.V.: Normal Voltage 4.07V_{DC}
N.T.: Normal Temperature +25℃
H.V.: High Voltage 4.07V_{DC}
H.T.: High Temperature +55℃
Nominal Voltage: 3.7V_{DC}

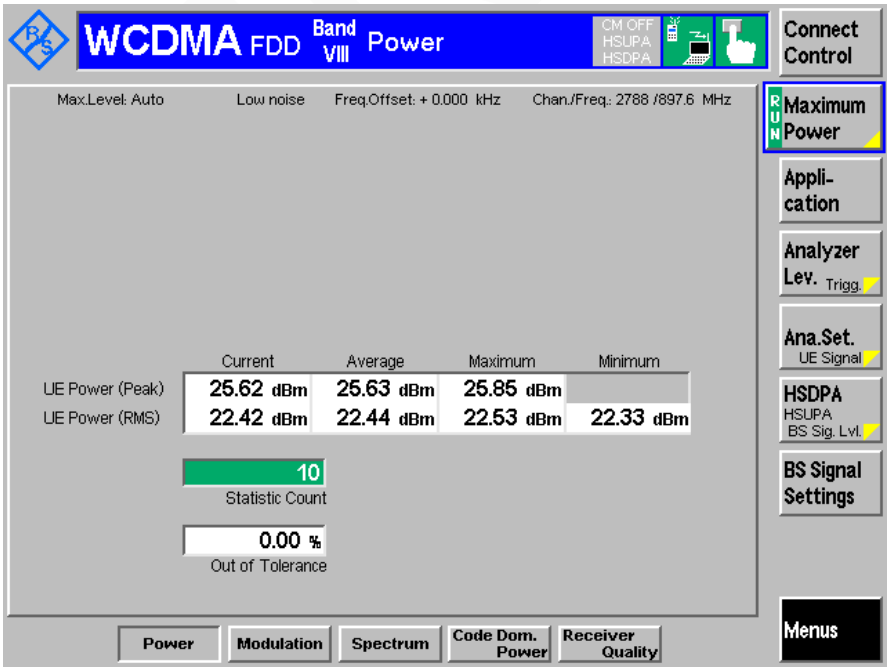
HSPA Mode:

Test Condition	Test Mode	3GPP Sub Test	Averaged Mean Power (dBm)		
			Low Frequency	**Mid Frequency**	**High Frequency**
Normal	Rel 6 HSDPA	1	21.43	21.38	21.43
		2	21.41	21.37	21.36
		3	21.30	21.20	21.18
		4	21.22	21.19	21.19
	Rel 6 HSUPA	1	21.44	21.47	21.41
		2	21.37	21.44	21.35
		3	21.30	21.28	21.18
		4	21.38	21.45	21.39
		5	21.36	21.33	21.29

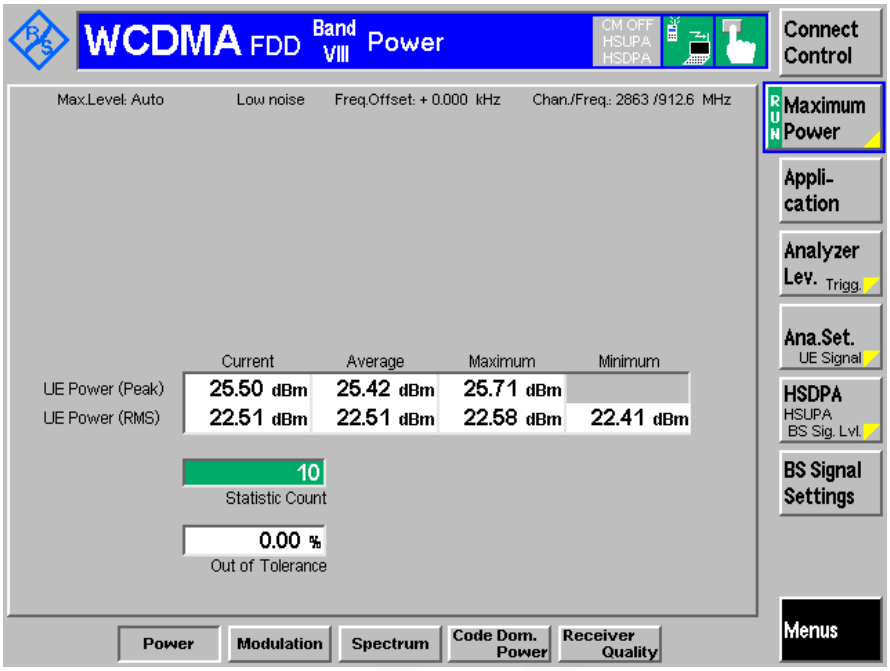
Normal Conditions, Low Channel



Normal Conditions, Middle Channel



Normal Conditions, High Channel



ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.3 – TRANSMITTER SPECTRUM EMISSION MASK

Applicable Standard

According to ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.3, The spectrum emission mask of the UE applies to frequencies, which are between 2,5 MHz and 12,5 MHz away from the UE centre carrier frequency. The out of channel emission is specified relative to the RRC filtered mean power of the UE carrier.

Limits

The power of any UE emission shall not exceed the levels specified in table 4.2.3.2-1. The requirements are applicable for all for the values of βc, βd, βhs, βec and βed defined in TS 125 214 [8].

Table 4.2.3.2-1: Spectrum emission mask requirement

Δf in MHz (note 1)	Minimum requirement (note 2)		Measurement bandwidth (note 5)
	Relative requirement	Absolute requirement (in measurement bandwidth)	
2,5 MHz to 3,5 MHz	$\left\{-33{,}5-15\cdot\left(\frac{\Delta f}{MHz}-2{,}5\right)\right\}dBc$	-69,6 dBm	30 kHz (see note 3)
3,5 MHz to 7,5 MHz	$\left\{-33{,}5-1\cdot\left(\frac{\Delta f}{MHz}-3{,}5\right)\right\}dBc$	-54,3 dBm	1 MHz (see note 4)
7,5 MHz to 8,5 MHz	$\left\{-37{,}5-10\cdot\left(\frac{\Delta f}{MHz}-7{,}5\right)\right\}dBc$	-54,3 dBm	1 MHz (see note 4)
8,5 MHz to 12,5 MHz	-47,5 dBc	-54,3 dBm	1 MHz (see note 4)

NOTE 1: Δf is the separation between the carrier frequency and the centre of the measurement bandwidth.
NOTE 2: The minimum requirement is calculated from the relative requirement or the absolute requirement, whichever is the higher power.
NOTE 3: The first and last measurement position with a 30 kHz filter is at Δf equals to 2,515 MHz and 3,485 MHz.
NOTE 4: The first and last measurement position with a 1 MHz filter is at Δf equals to 4 MHz and 12 MHz.
NOTE 5: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891	2015-11-23	2016-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

1) Set and send continuously up power control commands to the UE until the UE output power shall be at the maximum level.

2) Measure the power of the transmitted signal with a measurement filter of bandwidths according to table 4.2.3.2-1. Measurements with an offset from the carrier centre frequency between 2,515 MHz and 3,485 MHz shall use a 30 kHz measurement filter. Measurements with an offset from the carrier centre frequency between 4 MHz and 12 MHz shall use 1 MHz measurement bandwidth and the result may be calculated by integrating multiple 50 kHz or narrower filter measurements. The characteristic of the filter shall be approximately Gaussian (typical spectrum analyzer filter). The centre frequency of the filter shall be stepped in contiguous steps according to table 4.2.3.2-1. The measured power shall be recorded for each step.

3) Measure the RRC filtered mean power centred on the assigned channel frequency.

4) Calculate the ratio of the power 2) with respect to 3) in dBc.

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	49 %
ATM Pressure:	101.0 kPa

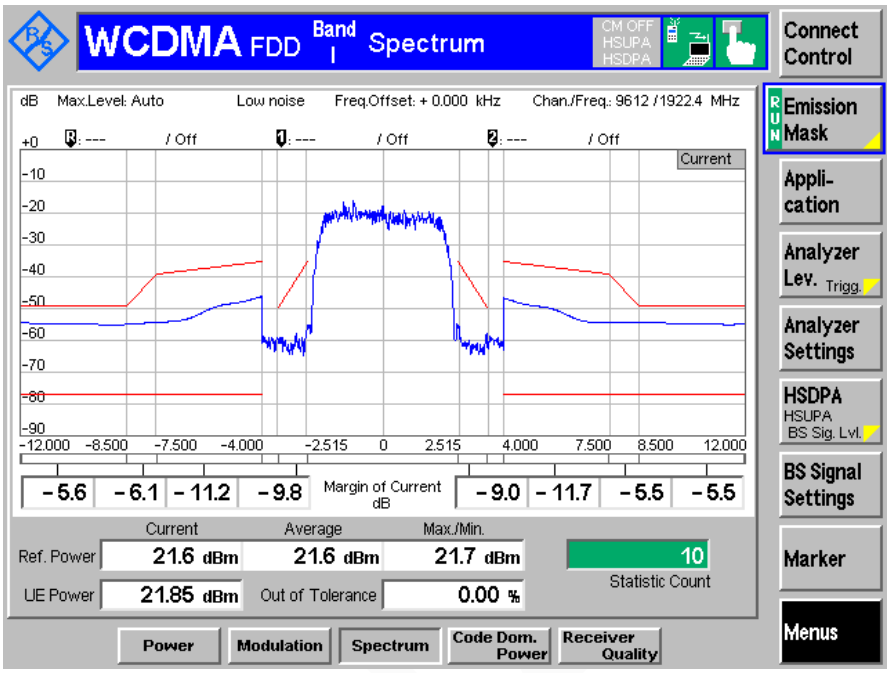
The testing was performed by Sonia Zhou on 2016-03-10.

Test Mode: Transmitting

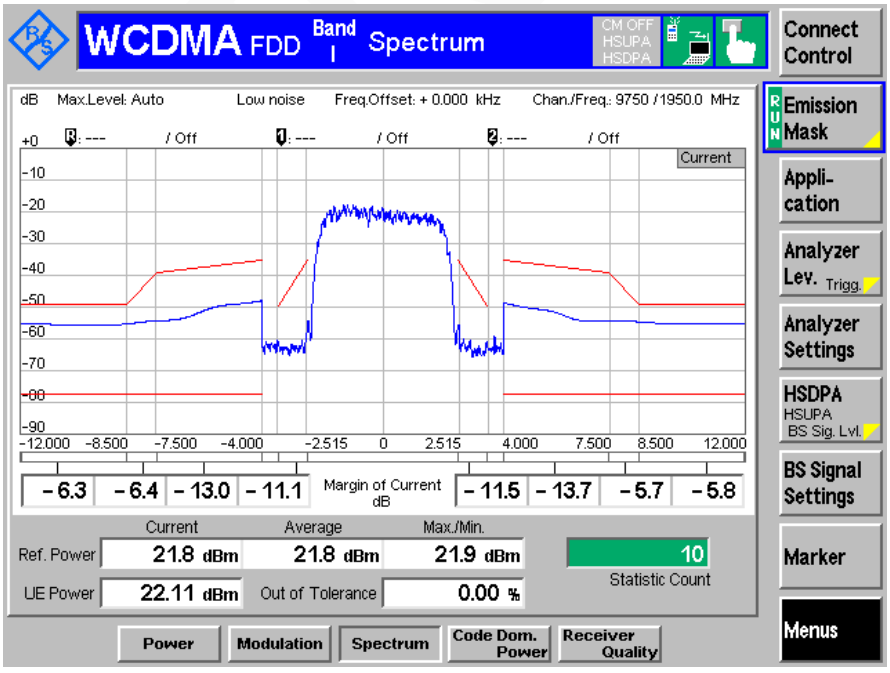
Test Result: Compliant.

Please refer to following data plots.

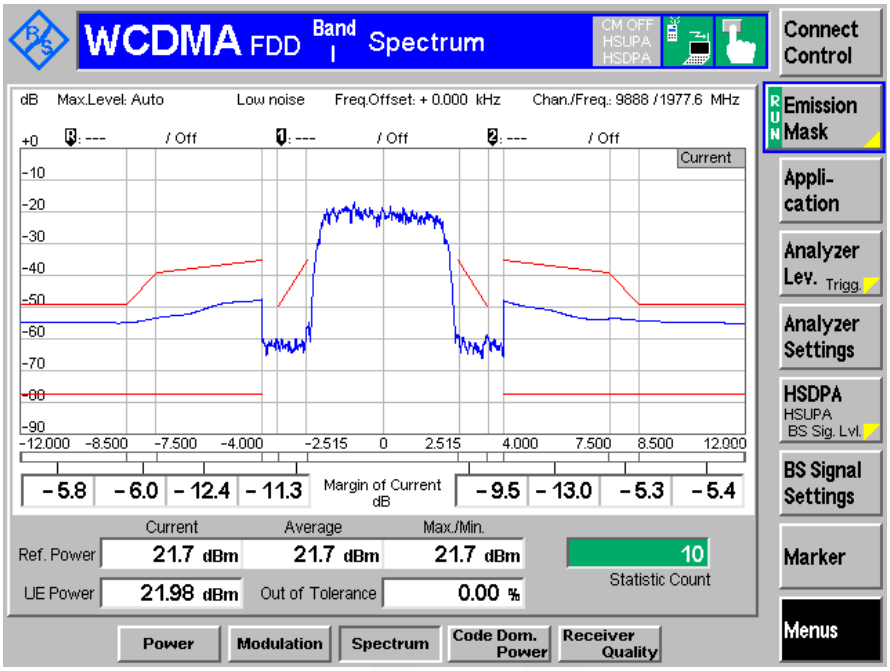
WCDMA 2100: Low channel



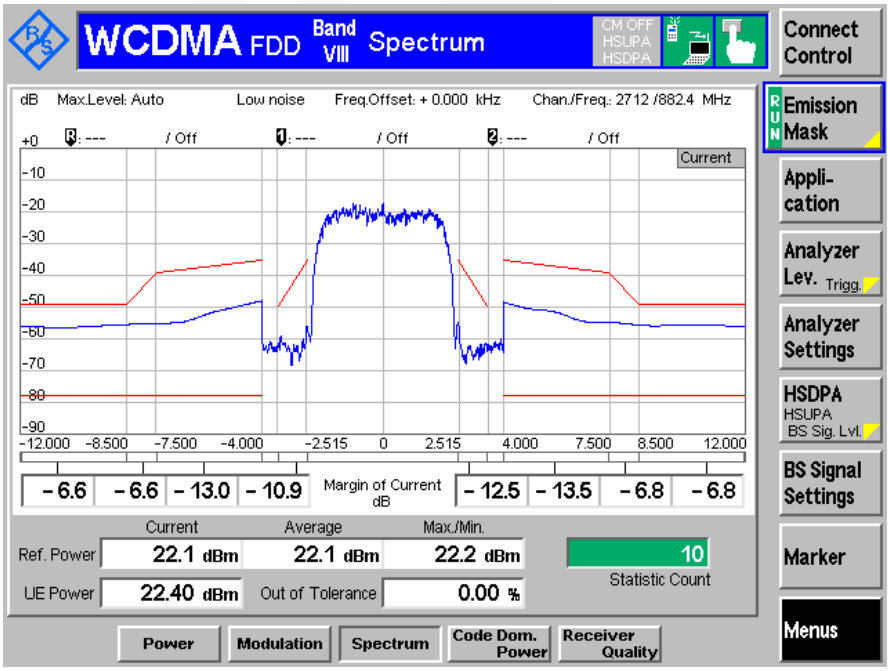
WCDMA 2100: Middle channel



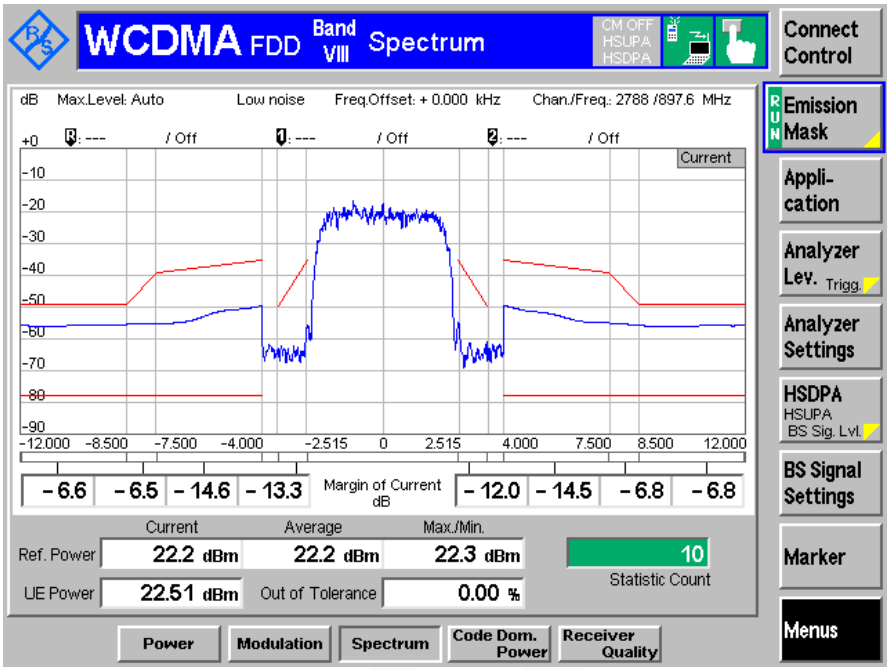
WCDMA 2100: High channel



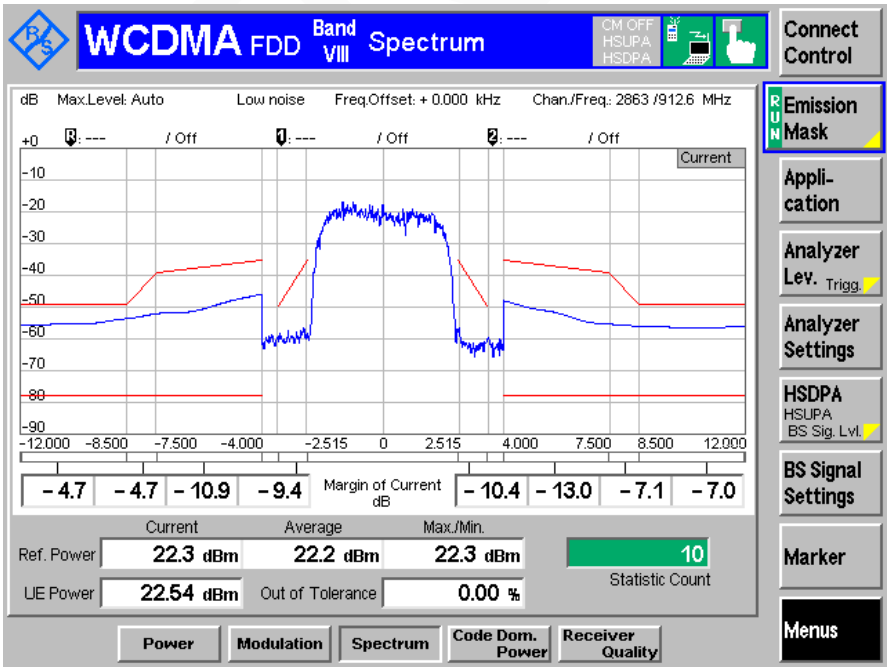
WCDMA 900: Low channel



WCDMA 900: Middle channel



WCDMA 900: High channel



ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.4 – TRANSMITTER SPURIOUS EMISSIONS

Applicable Standard

According to ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.4, Spurious emissions are emissions, which are caused by unwanted transmitter effects such as harmonics emission, parasitic emission, intermodulation products and frequency conversion products, but exclude out-of-band emissions.

Limits

The power of spurious emissions shall not exceed the limits defined in tables 4.2.4.2-1 and 4.2.4.2-2. The limits shown in tables 4.2.4.2-1 and 4.2.4.2-2 are only applicable for frequencies, which are greater than 12,5 MHz away from the UE centre carrier frequency.

Table 4.2.4.1.2-1: General spurious emissions requirements

Frequency bandwidth	Measurement bandwidth	Minimum requirement
9 kHz ≤ f < 150 kHz	1 kHz	-36 dBm
150 kHz ≤ f < 30 MHz	10 kHz	-36 dBm
30 MHz ≤ f < 1 000 MHz	100 kHz	-36 dBm
1 GHz ≤ f < 12,75 GHz	1 MHz	-30 dBm
12,75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz	1 MHz	–30 dBm (note)
NOTE: Applies only for Band XXII.		

Table 4.2.4.1.2-2: Additional spurious emissions requirements

Operating band	Frequency bandwidth	Measurement bandwidth	Minimum requirement
I	791 MHz ≤ f ≤ 821 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm (note 1)
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm (note 1)
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (note 1)
	1 805 MHz ≤ f ≤ 1 880 MHz	100 kHz	-71 dBm (note 1)
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
III	791 MHz ≤ f ≤ 821 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm (note 1)
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm (note 1)
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (note 1)
	1 805 MHz ≤ f ≤ 1 880 MHz	3,84 MHz	-60 dBm
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
VII	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm (note 1)
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm (note 1)
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (note 1)
	1 805 MHz ≤ f ≤ 1 880 MHz	100 kHz	-71 dBm (note 1)
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 620 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
	2 590 MHz ≤ f ≤ 2 620 MHz	3,84 MHz	-50 dBm
VIII	791 MHz ≤ f ≤ 821 MHz	3,84 MHz	-60 dBm
	925 MHz ≤ f ≤ 935 MHz	100 kHz 3,84 MHz	-67 dBm (note 1) -60 dBm
	935 MHz < f ≤ 960 MHz	100 kHz 3,84 MHz	-79 dBm (note 1) -60 dBm
	1 805 MHz < f ≤ 1 830 MHz	100 kHz 3,84 MHz	-71 dBm (notes 1 and 2) -60 dBm (note 2)
	1 830 MHz < f ≤ 1 880 MHz	100 kHz 3,84 MHz	-71 dBm (note 1) -60 dBm
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 640 MHz	3,84 MHz	-60 dBm
	2 640 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm (note 2)
XV	791 MHz ≤ f ≤ 821 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f ≤ 925 MHz	100 kHz	-60 dBm (note 1)
	925 MHz ≤ f ≤ 935 MHz	100 kHz 3,84 MHz	-67 dBm (note 1) -60 dBm
	935 MHz ≤ f ≤ 960 MHz	100 kHz	-79 dBm (note 1)
	1 805 MHz ≤ f ≤ 1 880 MHz	100 kHz	-71 dBm (note 1)
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 620 MHz	3,84 MHz	-50 dBm
	2 620 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
XVI	791 MHz ≤ f ≤ 821 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f ≤ 925 MHz	100 kHz	-60 dBm (note 1)
	925 MHz ≤ f ≤ 935 MHz	100 kHz 3,84 MHz	-67 dBm (note 1) -60 dBm
	935 MHz ≤ f ≤ 960 MHz	100 kHz	-79 dBm (note 1)
	1 805 MHz ≤ f ≤ 1 880 MHz	100 kHz	-71 dBm (note 1)
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 620 MHz	3,84 MHz	-50 dBm
	2 620 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm

Operating band	Frequency bandwidth	Measurement bandwidth	Minimum requirement
XX	470 MHz ≤ f ≤ 790 MHz	8 MHz	-65 dBm (note 3)
	791 MHz ≤ f ≤ 821 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f ≤ 925 MHz	100 kHz	-60 dBm (note 1)
	925 MHz ≤ f ≤ 935 MHz	100 kHz 3,84 MHz	-67 dBm (note 1) -60 dBm
	935 MHz ≤ f ≤ 960 MHz	100 kHz	-79 dBm (note 1)
	1 805 MHz ≤ f ≤ 1 880 MHz	100 kHz	-71 dBm (note 1)
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 620 MHz	3,84 MHz	-50 dBm
	2 620 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
XXII	791 MHz ≤ f ≤ 821 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm (note 1)
	925 MHz ≤ f ≤ 935 MHz	100 kHz 3,84 MHz	-67 dBm (note 1) -60 dBm
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (note 1)
	1 805 MHz ≤ f ≤ 1 880 MHz	100 kHz	-71 dBm (note 1)
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 620 MHz	3,84 MHz	-50 dBm
	2 620 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
	3 510 MHz ≤ f ≤ 3 525 MHz	1 MHz	-40 dBm
	3 525 MHz ≤ f ≤ 3 590 MHz	1 MHz	-50 dBm
	3 600 MHz ≤ f ≤ 3 800 MHz	3,84 MHz	-50 dBm

NOTE 1: The measurements are made on frequencies which are integer multiples of 200 kHz. As exceptions, up to five measurements with a level up to the applicable requirements defined in table 4.2.4.1.2-1 are permitted for each UARFCN used in the measurement.

NOTE 2: The measurements are made on frequencies which are integer multiples of 200 kHz. As exceptions, measurements with a level up to the applicable requirements defined in table 4.2.4.1.2-1 are permitted for each UARFCN used in the measurement due to 2nd or 3rd harmonic spurious emissions.

NOTE 3: The conformance shall be assessed using the measurement position placed at the following centre frequencies: 474 MHz, 586 MHz, 690 MHz, 754 MHz, 770 MHz and 786 MHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2015-12-11	2016-12-11
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891	2015-11-23	2016-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

1) Set and send continuously up power control commands to the UE until the UE output power shall be maximum level.

2) Sweep the spectrum analyser (or equivalent equipment) over a frequency range and measure the average power of spurious emission.

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	49 %
ATM Pressure:	101.0 kPa

The testing was performed by Sonia Zhou on 2016-03-18.

Test Mode: Transmitting

Test Result: Compliant, please refer to following tables.

WCDMA 2100(pre-test with Low/Middle/High channel and worst case is Middle channel):

Mode	Frequency Range(MHz)	Detector (Peak or Average)	RBW/VBW Setting (kHz)	Result Level (dBm)	Limit (dBm)	Margin (dB)	Result
WCDMA 2100	0.009-0.15	Average	1/3	-73.10	-36	37.10	Pass
	0.15-30	Average	10/30	-67.50	-36	31.50	Pass
	30-791	Average	100/300	-81.86	-36	45.86	Pass
	791-821	Average	3840	-69.44	-60	9.44	Pass
	821-921	Average	100/300	-81.82	-36	45.82	Pass
	921-925	Average	100/300	-74.94	-60	14.94	Pass
	925-935	Average	100/300	-73.52	-67	6.52	Pass
	935-960	Average	100/300	-82.40	-79	3.40	Pass
	960-1000	Average	100/300	-80.46	-36	44.46	Pass
	1000-1805	Average	1000/3000	-70.09	-30	40.09	Pass
	1805-1880	Average	100/300	-75.20	-71	4.20	Pass
	Middle channel						
	1880-1937.5	Average	1000/3000	-52.31	-30	22.31	Pass
	1962.5-2110	Average	1000/3000	-57.25	-30	27.25	Pass
	2110-2170	Average	3840	-63.20	-60	3.20	Pass
	2170-2585	Average	1000/3000	-73.10	-30	43.10	Pass
	2585-2690	Average	3840	-65.83	-60	5.83	Pass
	2690-12750	Average	1000/3000	-39.21	-30	9.21	Pass

WCDMA 900 (pretest with High, middle, high channel, the worst case is High channel):

Mode	Frequency Range(MHz)	Detector (Peak or Average)	RBW/VBW Setting (kHz)	Result Level (dBm)	Limit (dBm)	Margin (dB)	Result
WCDMA 900	0.009-0.15	Average	1/3	-75.20	-36	39.20	Pass
	0.15-30	Average	10/30	-73.97	-36	37.97	Pass
	30-791	Average	100/300	-83.06	-36	47.06	Pass
	791-821	Average	3840	-70.30	-60	10.30	Pass
	High channel						
	821-900.1	Average	100/300	-80.46	-30	50.46	Pass
	925-935	Average	100/300	-74.94	-67	7.94	Pass
		Average	3840	-69.31	-60	9.31	Pass
	935-960	Average	100/300	-84.40	-79	5.40	Pass
		Average	3840	-64.50	-60	4.50	Pass
	960-1000	Average	100/300	-73.54	-36	37.54	Pass
	1000-1805	Average	1000/3000	-74.26	-30	44.26	Pass
	1805-1830	Average	100/300	-73.26	-71	2.26	Pass
		Average	3840	-60.96	-60	0.96	Pass
	1830-1880	Average	100/300	-74.44	-71	3.44	Pass
		Average	3840	-66.10	-60	6.10	Pass
	1880-2110	Average	1000/3000	-71.12	-30	41.12	Pass
	2110-2170	Average	3840	-68.06	-60	8.06	Pass
	2170-2585	Average	1000/3000	-72.35	-30	42.35	Pass
	2585-2640	Average	3840	-67.18	-60	7.18	Pass
	2640-2690	Average	3840	-66.48	-60	6.48	Pass
	2690-12750	Average	1000/3000	-69.44	-30	39.44	Pass

ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.5 – TRANSMITTER MINIMUM OUTPUT POWER

Applicable Standard

The minimum controlled output power of the UE is when the power is set to a minimum value. This is when both the inner loop and open loop power control indicate a minimum transmit output power is required.

The minimum transmit power is defined as a mean power in one time slot.

Limits

The minimum output power shall be less than -49 dBm.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891	2015-11-23	2016-11-23
ESPEC	Temperature & Humidity Chamber	EL-10KA	09107726	2015-11-01	2016-10-31
Long Wei	DC Power Supply	TPR-6420D	398363	NCR	NCR

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

1) Set and send continuously down power control commands to the UE.
2) Measure the mean power of the UE.

Test Data

Environmental Conditions

Temperature:	26 ℃
Relative Humidity:	49 %
ATM Pressure:	101.0 kPa

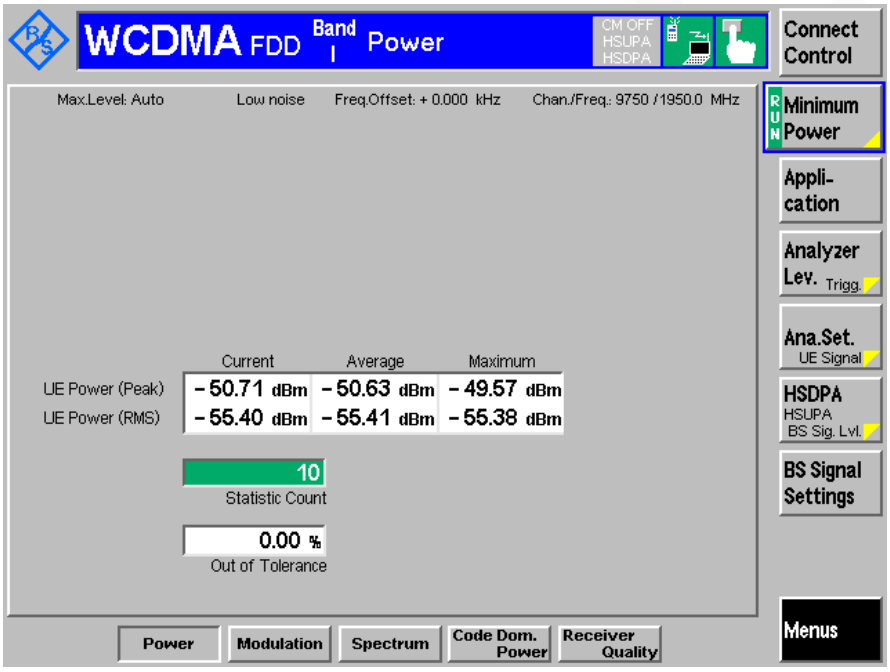
The testing was performed by Sonia Zhou on 2016-03-10.

Test Mode: Transmitting

WCDMA 2100:

Test Conditions		Transmitter minimum output power (dBm) Limit: -49dBm	
Temperature	**Voltage (V)**	**Middle Channel**	**Result**
Normal	Normal	-55.41	Compliant
Low	Low	-55.44	Compliant
Low	High	-55.33	Compliant
High	Low	-55.32	Compliant
High	High	-55.37	Compliant

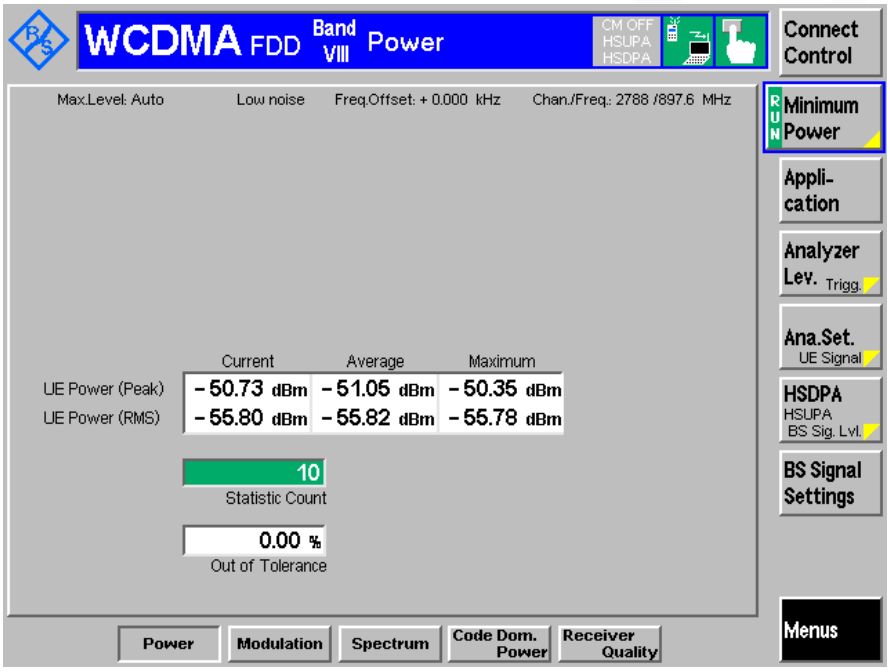
Normal Condition



WCDMA 900:

Test Conditions		Transmitter minimum output power (dBm) Limit: -49dBm	
Temperature	**Voltage (V)**	**Middle Channel**	**Result**
Normal	Normal	-55.82	Compliant
Low	Low	-55.77	Compliant
Low	High	-55.80	Compliant
High	Low	-55.81	Compliant
High	High	-55.88	Compliant

Normal Condition



ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.6 – RECEIVER ADJACENT CHANNEL SELECTIVITY (ACS)

Applicable Standard

According to ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.6, Adjacent Channel Selectivity (ACS) is a measure of a receiver's ability to receive a WCDMA signal at its assigned channel frequency in the presence of an adjacent channel signal at a given frequency offset from the centre frequency of the assigned channel. ACS is the ratio of the receive filter attenuation on the assigned channel frequency to the receive filter attenuation on the adjacent channel(s).

Limits

For the UE of power class 3 and 4, the BER shall not exceed 0,001 for the parameters specified in table 4.2.6.2-1. This test condition is equivalent to the ACS value 33 dB.

Table 4.2.6.2-1: Test parameters for adjacent channel selectivity

Parameter	Unit	Case 1	Case 2
DPCH_Ec	dBm/3,84 MHz	<REFSENS> + 14 dB	<REFSENS> + 41 dB
$\hat{I}_{or}$	dBm/3,84 MHz	<REF$\hat{I}_{or}$> + 14 dB	<REF$\hat{I}_{or}$> + 41 dB
I_{oac} mean power (modulated)	dBm	-52	-25
F_{uw} (offset)	MHz	+5 or -5	+5 or -5
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4)	20 (for Power class 3) 18 (for Power class 4)
NOTE 1: <REFSENS> and <REF$\hat{I}_{or}$> as specified in TS 134 121-1 [2]. NOTE 2: The I_{oac} (modulated) signal consists of the common channels and the 16 dedicated data channels as specified in TS 125 101 [5].			

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891	2015-11-23	2016-11-23
ESPEC	Temperature & Humidity Chamber	EL-10KA	09107726	2015-11-01	2016-10-31

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

1) Set the parameters of the interference signal generator as shown in table 4.2.6.2-1 case 1.
2) Set the power level of UE according to the table 4.2.6.2-1 case 1 with ±1 dB tolerance.
3) Measure the BER of DCH received from the UE at the SS.
4) Set the parameters of the interference signal generator as shown in table 4.2.6.2-1 case 2.
5) Set the power level of UE according to the table 4.2.6.2-1 case 2 with ±1 dB tolerance.
6) Measure the BER of DCH received from the UE at the SS.

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	49 %
ATM Pressure:	101.0 kPa

The testing was performed by Sonia Zhou on 2016-03-10.

Test Mode: *Loopback*

Test channel: Middle channel

Test condition: Normal

Test Result: Compliant.

WCDMA 2100:

The BER are 0.000%, in the case 1 interfering signal and case 2 interfering signal conditions. No errors were detected

WCDMA 900:

The BER are 0.000%, in the case 1 interfering signal and case 2 interfering signal conditions. No errors were detected

ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.7 – RECEIVER BLOCKING CHARACTERISTICS

Applicable Standard

According to ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.7, The blocking characteristic is a measure of the receiver's ability to receive a wanted signal at its assigned channel frequency in the presence of an unwanted interferer on frequencies other than those of the spurious response or the adjacent channels, without this unwanted input signal causing a degradation of the performance of the receiver beyond a specified limit. The blocking performance shall apply at all frequencies except those at which a spurious response occur.

Limits:

The BER shall not exceed 0,001 for the parameters specified in tables 4.2.7.2-1 and 4.2.7.2-2. For table 4.2.7.2-2 up to 24 exceptions are allowed for spurious response frequencies in each assigned frequency channel when measured using a 1 MHz step size.

Table 4.2.7.2-1: Test parameters for in-band blocking characteristics

Parameter	Unit	Level	
DPCH_Ec	dBm/3,84 MHz	<REFSENS> + 3 dB	
$\hat{I}_{or}$	dBm/3,84 MHz	<REF$\hat{I}_{or}$> + 3 dB	
$I_{blocking}$ mean power (modulated)	dBm	-56 (for F_{uw} offset ±10 MHz)	-44 (for F_{uw} offset ±15 MHz)
F_{uw} (Band I operation)	MHz	2 102,4 ≤ f ≤ 2 177,6	2 095 ≤ f ≤ 2 185
F_{uw} (Band III operation)	MHz	1 797,4 ≤ f ≤ 1 887,6	1 790 ≤ f ≤ 1 895
F_{uw} (Band VII operation)	MHz	2 612,4 ≤ f ≤ 2 697,6	2 605 ≤ f ≤ 2 705
F_{uw} (Band VIII operation)	MHz	917,4 ≤ f ≤ 967,6	910 ≤ f ≤ 975

Parameter	Unit	Level	
F_{uw} (Band XX operation)	MHz	783,4 ≤ f ≤ 828,6	776 ≤ f ≤ 836
F_{uw} (Band XXII operation)	MHz	3 502,4 ≤ f ≤ 3 597,6	3 495 ≤ f ≤ 3 605
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4) (note 3)	
NOTE 1: <REFSENS> and <REF$\hat{I}_{or}$> as specified in TS 134 121-1 [2].			
NOTE 2: The $I_{blocking}$ (modulated) signal consists of the common channels and the 16 dedicated data channels as specified in TS 125 101 [5].			
NOTE 3: The UE transmitted mean power shall be reduced by 0,5 dB for a UE operating in band XXII.			

Table 4.2.7.2-2: Test parameters for out-of-band blocking characteristics

Parameter	Unit	Frequency range 1	Frequency range 2	Frequency range 3
DPCH_Ec	dBm/3,84 MHz	<REFSENS> + 3 dB	<REFSENS> + 3 dB	<REFSENS> + 3 dB
$\hat{I}_{or}$	dBm/3,84 MHz	<REF$\hat{I}_{or}$> + 3 dB	<REF$\hat{I}_{or}$> + 3 dB	<REF$\hat{I}_{or}$> + 3 dB
$I_{blocking}$ (CW)	dBm	-44	-30	-15
F_{uw} (Band I operation)	MHz	2 050 < f < 2 095 2 185 < f < 2 230	2 025 < f ≤ 2 050 2 230 ≤ f < 2 255	1 < f ≤ 2 025 2 255 ≤ f < 12 750
F_{uw} (Band III operation)	MHz	1 745 < f < 1 790 1 895 < f < 1 940	1 720 < f ≤ 1 745 1 940 ≤ f < 1 965	1 < f ≤ 1 720 1 965 ≤ f < 12 750
F_{uw} (Band VII operation)	MHz	2 570 < f < 2 605 2 705 < f < 2 750	Na 2 750 ≤ f < 2 775	1 < f ≤ 2 570 2 775 ≤ f < 12 750
F_{uw} (Band VIII operation)	MHz	865 < f < 910 975 < f < 1 020	840 < f < 865 1 020 ≤ f < 1 045	1 < f ≤ 840 1 045 ≤ f < 12 750
Fuw (Band XV operation)	MHz	2 570 < f < 2 585 2 705 < f < 2 750	Na 2 750 ≤ f < 2 775	1 < f ≤ 2 570 2 775 ≤ f < 12 750
Fuw (Band XVI operation)	MHz	Na 2 705 < f < 2 750	2 500 < f ≤ 2 570 2 750 ≤ f < 2 775	1 < f ≤ 2 500 2 775 ≤ f < 12 750
F_{uw} (Band XX operation)	MHz	731 < f < 776 836 < f < 881	706 < f ≤ 731 881 ≤ f < 906	1 < f ≤ 706 906 ≤ f < 12 750
Fuw (Band XXII operation)	MHz	3 450 < f < 3 495 3 605 < f < 3 650	3 425 < f ≤ 3 450 3 650 ≤ f < 3 675	1 < f ≤ 3 425 3 675 ≤ f < 12 750
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4)		
Band I operation	For 2 095 MHz ≤ f ≤ 2 185 MHz, the appropriate in-band blocking or adjacent channel selectivity in clause 4.2.6 and table 4.2.7.2-1 shall be applied.			
Band III operation	For 1 790 MHz ≤ f ≤ 1 895 MHz, the appropriate in-band blocking or adjacent channel selectivity in clause 4.2.6 and table 4.2.7.2-1 shall be applied.			

Parameter	Unit	Frequency range 1	Frequency range 2	Frequency range 3
Band VII operation	For 2 605 MHz ≤ f ≤ 2 705 MHz, the appropriate in-band blocking or adjacent channel selectivity in clause 4.2.6 and table 4.2.7.2-1 shall be applied.			
Band VIII operation	For 910 MHz ≤ f ≤ 975 MHz, the appropriate in-band blocking or adjacent channel selectivity in clause 4.2.6 and table 4.2.7.2-1 shall be applied.			
Band XV operation	For 2 585 MHz ≤ f ≤ 2 705 MHz, the appropriate in-band blocking or adjacent channel selectivity in clause 4.2.6 and table 4.2.7.2-1 shall be applied.			
Band XVI operation	For 2 570 MHz ≤ f ≤ 2 705 MHz, the appropriate in-band blocking or adjacent channel selectivity in clause 4.2.6 and table 4.2.7.2-1 shall be applied.			
Band XX operation	For 776 MHz ≤ f ≤ 836 MHz, the appropriate in-band blocking or adjacent channel selectivity in clauses 4.2.6 and table 4.2.7.2-1 shall be applied.			
Band XXII operation	For 3 495 ≤ f ≤ 3 605 MHz, the appropriate in-band blocking or adjacent channel selectivity in clause 4.2.6 and clause 4.2.7.2-1 shall be applied. (note 2)			
NOTE 1: <REFSENS> and <REF$\hat{I}_{or}$> as specified in TS 134 121-1 [2].				
NOTE 2: The UE transmitted mean power shall be reduced by 0,5 dB for a UE operating in band XXII.				

Table 4.2.7.2-3: Test parameters for narrow band blocking

Parameter	Unit	Band III, VIII
DPCH_Ec	dBm/3,84 MHz	<REFSENS> + 10 dB
$\hat{I}_{or}$	dBm/3,84 MHz	<REF$\hat{I}_{or}$> + 10 dB
$I_{blocking}$ (GMSK)	dBm	-56
F_{uw} (offset)	MHz	2,8
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4)
NOTE 1: <REFSENS> and <REF$\hat{I}_{or}$> as specified in TS 134 121-1 [2].		
NOTE 2: $I_{blocking}$ (GMSK) is an interfering signal as defined in TS 145 004 [9]. It is a continuous GMSK modulated carrier following the structure of the GSM signals, but with all modulating bits (including the midamble period) derived directly from a random or any pseudo random data stream.		

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891	2015-11-23	2016-11-23
ESPEC	Temperature & Humidity Chamber	EL-10KA	09107726	2015-11-01	2016-10-31
Long Wei	DC Power Supply	TPR-6420D	398363	NCR	NCR

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

1) Set the parameters of the CW generator or the interference signal generator as shown in tables 4.2.7.2-1, 4.2.7.2-2 and 4.2.7.2-3. For table 4.2.7.2-2 the frequency step size is 1 MHz.
2) Set the power level of the UE according to tables 4.2.7.2-1, 4.2.7.2-2 and 4.2.7.2-3 with a ±1 dB tolerance.
3) Measure the BER of DCH received from the UE at the SS.
4) For table 4.2.7.2-2, record the frequencies for which the BER exceeds the test requirements.

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	49 %
ATM Pressure:	101.0 kPa

The testing was performed by Sonia Zhou on 2016-03-10.

Test Mode: *Loopback*

Test channel: Middle channel

Test condition: Normal

Test Result: Compliance.

Please refer to following data Plot and comments.

WCDMA 2100:

Frequency Range	Interfering Frequency (MHz)	Interfering Level (dBm)	BER
Frequency Range 1	2050	-44	0.0000
	2070	-44	0.0001
	2095	-44	0.0000
	2185	-44	0.0001
	2210	-44	0.0001
	2230	-44	0.0000
Frequency Range 2	2025	-30	0.0000
	2030	-30	0.0001
	2050	-30	0.0000
	2230	-30	0.0001
	2240	-30	0.0000
	2255	-30	0.0000
Frequency Range 3	2255	-15	0.0001
	2620	-15	0.0000
	2650	-15	0.0000
	2690	-15	0.0001
	12750	-15	0.0001

WCDMA 900:

Frequency Range	Interfering Frequency (MHz)	Interfering Level (dBm)	BER
Frequency Range 1	890	-44	0.0000
	990	-44	0.0000
Frequency Range 2	850	-30	0.0001
	1030	-30	0.0001
Frequency Range 3	820	-15	0.0000
	1045	-15	0.0001
	12745	-15	0.0001

ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.8 – RECEIVER SPURIOUS RESPONSE

Applicable Standard

According to ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.8, Spurious response is a measure of the receiver's ability to receive a wanted signal on its assigned channel frequency without exceeding a given degradation due to the presence of an unwanted CW interfering signal at any other frequency at which a response is obtained i.e. for which the out-of-band blocking limit as specified in table 4.2.7.2-2 is not met.

Limits

The BER shall not exceed 0,001 for the parameters specified in table 4.2.8.2-1.

Table 4.2.8.2-1: Test parameters for spurious response

Parameter	Level	Unit
DPCH_Ec	<REFSENS> + 3 dB	dBm/3,84 MHz
$\hat{I}_{or}$	<REF$\hat{I}_{or}$> + 3 dB	dBm/3,84 MHz
$I_{blocking}$(CW)	-44	dBm
F_{uw}	Spurious response frequencies	MHz
UE transmitted mean power	20 (for Power class 3) 18 (for Power class 4) (note 2)	dBm
NOTE 1: <REFSENS> and <REF$\hat{I}_{or}$> as specified in TS 134 121-1 [2].		
NOTE 2: The UE transmitted mean power shall be reduced by 0,5 dB, for a UE operating in band XXII.		

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891	2015-11-23	2016-11-23
ESPEC	Temperature & Humidity Chamber	EL-10KA	09107726	2015-11-01	2016-10-31
Long Wei	DC Power Supply	TPR-6420D	398363	NCR	NCR

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

1) Set the parameter of the CW generator as shown in table 4.2.8.2-1. The spurious response frequencies are determined in step 4 of clause 5.3.6.1.2.
2) Set the power level of the UE according to table 4.2.8.2-1 with a ±1 dB tolerance.
3) Measure the BER of DCH received from the UE at the SS.

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	49 %
ATM Pressure:	101.0 kPa

The testing was performed by Sonia Zhou on 2016-03-10.

Test Mode: *Loopback*

Test channel: Middle channel

Test condition: Normal

Test Result: Compliant.

WCDMA 2100:

The BER are 0.000%, for the parameters specified in table 4.2.8.2-1. No errors were detected in the presence.

WCDMA 900:

The BER are 0.000%, for the parameters specified in table 4.2.8.2-1. No errors were detected in the presenc

ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.9 – RECEIVER INTERMODULATION CHARACTERISTICS

Applicable Standard

According to ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.9, Third and higher order mixing of the two interfering RF signals can produce an interfering signal in the band of the desired channel. Intermodulation response rejection is a measure of the capability of the receiver to receiver a wanted signal on its assigned channel frequency in the presence of two or more interfering signals which have a specific frequency relationship to the wanted signal.

Limits

The BER shall not exceed 0,001 for the parameters specified in table 4.2.9.2-1.

Table 4.2.9.2-1: Receive intermodulation characteristics

Parameter	Level		Unit
DPCH_Ec	<REFSENS> + 3 dB		dBm/3,84 MHz
$\hat{I}_{or}$	<REF$\hat{I}_{or}$> + 3 dB		dBm/3,84 MHz
I_{ouw1} (CW)	-46		dBm
I_{ouw2} mean power (modulated)	-46		dBm
F_{uw1} (offset)	10	-10	MHz
F_{uw2} (offset)	20	-20	MHz
UE transmitted mean power	20 (for Power class 3) 18 (for Power class 4) (note 3)		dBm
NOTE 1: I_{ouw2} (modulated) consists of the common channels and the 16 dedicated data channels as specified in TS 125 101 [5]. NOTE 2: <REFSENS> and <REF$\hat{I}_{or}$> as specified in TS 134 121-1 [2]. NOTE 3: The UE transmitted mean power shall be reduced by 0,5 dB for a UE operating in band XXII.			

Table 4.2.9.2-2: Test parameters for narrow band intermodulation characteristics

Parameter	Unit	Band III, VIII	
DPCH_Ec	dBm/3,84 MHz	<REFSENS> + 10 dB	
$\hat{I}_{or}$	dBm/3,84 MHz	<REF$\hat{I}_{or}$> + 10 dB	
I_{ouw1} (CW)	dBm	-43	
I_{ouw2} (GMSK)	dBm	-43	
F_{uw1} (offset)	MHz	3,6	-3,6
F_{uw2} (offset)	MHz	6,0	-6,0
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4)	
NOTE 1: <REFSENS> and <REF$\hat{I}_{or}$> as specified in TS 134 121-1 [2]. NOTE 2: I_{ouw2} (GMSK) is an interfering signal as defined in TS 145 004 [9]. It is a continuous GMSK modulated carrier following the structure of the GSM signals, but with all modulating bits (including the midamble period) derived directly from a random or any pseudo random data stream.			

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891	2015-11-23	2016-11-23
Aglient	ESG Vector Signal Generator	E4438C	MY42080875	2015-05-09	2016-05-09

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

1) Set the parameters of the CW generator and interference generator as shown in tables 4.2.9.2-1 and 4.2.9.2-2.
2) Set the power level of the UE according to tables 4.2.9.2-1 and 4.2.9.2-2 with a ±1 dB tolerance.
3) Measure the BER of DCH received from the UE at the SS.

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	49 %
ATM Pressure:	101.0 kPa

The testing was performed by Sonia Zhou on 2016-03-10.

Test Mode: *Loopback*

Test channel: Middle channel

Test condition: Normal

Test Result: Compliant.

WCDMA2100:

The BER are 0.000%, No errors were detected in the presence.

WCDMA900:

The BER are 0.000%, No errors were detected in the presence.

ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.10 – RECEIVER SPURIOUS EMISSIONS

Applicable Standard

According to ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.10, the spurious emissions power is the power of emissions, generated or amplified in a receiver, which appear at the UE antenna connector. The requirements in UE transmit bands are valid in URA PCH, Cell_PCH and idle state.

Limits

The power of any narrow band CW spurious emission shall not exceed the maximum level specified in tables 4.2.10.2-1 and 4.2.10.2-2.

Table 4.2.10.2-1: General receiver spurious emission requirements

Frequency band	Measurement bandwidth	Maximum level
30 MHz ≤ f < 1 GHz	100 kHz	-57 dBm
1 GHz ≤ f ≤ 12,75 GHz	1 MHz	-47 dBm

Table 4.2.10.2-2: Additional receiver spurious emission requirements

Band	Frequency Range	Measurement Bandwidth	Maximum level
I	791 MHz ≤ f ≤ 821 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm (see note)
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm (see note)
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (see note)
	1 805 MHz ≤ f ≤ 1 880 MHz	100 kHz	-71 dBm (see note)
	1 920 MHz ≤ f ≤ 1 980 MHz	3,84 MHz	-60 dBm
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
III	791 MHz ≤ f ≤ 821 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm (see note)
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm (see note)
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (see note)
	1 710 MHz ≤ f ≤ 1 785 MHz	3,84 MHz	-60 dBm
	1 805 MHz ≤ f ≤ 1 880 MHz	3,84 MHz	-60 dBm
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm

Band	Frequency Range	Measurement Bandwidth	Maximum level
	2 585 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
VII	791 MHz ≤ f ≤ 821 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm (see note)
	925 MHz ≤ f ≤ 935 MHz	100 kHz	-67 dBm (see note)
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (see note)
	1 805 MHz ≤ f ≤ 1 880 MHz	100 kHz	-71 dBm (see note)
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 500 MHz ≤ f ≤ 2 570 MHz	3,84 MHz	-60 dBm
	2 620 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
VIII	791 MHz ≤ f < 821 MHz	3,84 MHz	-60 dBm
	880 MHz ≤ f ≤ 915 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm (see note)
	925 MHz ≤ f ≤ 935 MHz	100 kHz 3,84 MHz	-67 dBm (see note) -60 dBm
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (see note)
	1 805 MHz < f ≤ 1 880 MHz	3,84 MHz	-60 dBm
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
XV	791 MHz ≤ f < 821 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm (see note)
	925 MHz ≤ f < 935 MHz	100 kHz 3,84 MHz	-67 dBm (see note) -60 dBm
	935 MHz ≤ f ≤ 960 MHz	100 kHz	-79 dBm (see note)
	1 805 MHz ≤ f ≤ 1 880 MHz	100 kHz	-71 dBm (see note)
	1 900 MHz ≤ f ≤ 1 920 MHz	3,84 MHz	-60 dBm
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm

XVI	791 MHz ≤ f < 821 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm (see note)
	925 MHz ≤ f < 935 MHz	100 kHz 3,84 MHz	-67 dBm (see note) -60 dBm
	935 MHz ≤ f ≤ 960 MHz	100 kHz	-79 dBm (see note)
	1 805 MHz ≤ f ≤ 1 880 MHz	100 kHz	-71 dBm (see note)
	2 010 MHz ≤ f ≤ 2 025 MHz	3,84 MHz	-60 dBm
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
XX	791 MHz ≤ f < 821 MHz	3,84 MHz	-60 dBm
	832 MHz ≤ f ≤ 862 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm (see note)
	925 MHz ≤ f ≤ 935 MHz	100 kHz 3,84 MHz	-67 dBm (see note) -60 dBm
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (see note)
	1 805 MHz ≤ f ≤ 1 880 MHz	3,84 MHz	-60 dBm
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
XXII	791 MHz ≤ f < 821 MHz	3,84 MHz	-60 dBm
	921 MHz ≤ f < 925 MHz	100 kHz	-60 dBm (see note)
	925 MHz ≤ f ≤ 935 MHz	100 kHz 3,84 MHz	-67 dBm (see note 1) -60 dBm
	935 MHz < f ≤ 960 MHz	100 kHz	-79 dBm (see note)
	1 805 MHz ≤ f ≤ 1 880 MHz	3,84 MHz	-60 dBm
	2 110 MHz ≤ f ≤ 2 170 MHz	3,84 MHz	-60 dBm
	2 585 MHz ≤ f ≤ 2 690 MHz	3,84 MHz	-60 dBm
	3 410 MHz ≤ f ≤ 3 490 MHz	3,84 MHz	-60 dBm
	3 510 MHz ≤ f ≤ 3 590 MHz	3,84 MHz	-60 dBm
	3 600 MHz ≤ f ≤ 3 800 MHz	3,84 MHz	-50 dBm
NOTE:	The measurements are made on frequencies which are integer multiples of 200 kHz. As exceptions, up to five measurements with a level up to the applicable requirements defined in table 4.2.10.2-1 are permitted for each UARFCN used in the measurement.		

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2015-12-11	2016-12-11

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

Sweep the spectrum analyser (or other suitable test equipment) over a frequency range from 30 MHz to 12,75 GHz and measure the average power of the spurious emissions.

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	49 %
ATM Pressure:	101.0 kPa

The testing was performed by Sonia Zhou on 2016-03-04.

Test Mode: Receiving

Test Result: Compliant.

Please refer to following tables.

WCDMA 2100:

Band	Frequency Range (MHz)	Detector (Peak or Average)	RBW/VBW Setting (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Results
1	30-791	Average	100/300	-70.30	-57	13.30	Pass
2	791-821	Average	3840	-80.96	-60	20.96	Pass
3	821-921	Average	100/300	-72.24	-57	15.24	Pass
4	921-925	Average	100/300	-84.74	-60	24.74	Pass
5	925-935	Average	100/300	-85.57	-67	18.57	Pass
6	935-960	Average	100/300	-86.48	-79	7.48	Pass
7	960-1000	Average	100/300	-93.16	-57	36.16	Pass
8	1000-1805	Average	1000/3000	-85.63	-47	38.63	Pass
9	1805-1880	Average	100/300	-87.50	-71	16.50	Pass
10	1880-1920	Average	1000/3000	-85.69	-47	38.69	Pass
11	1920-1980	Average	3840	-79.54	-60	19.54	Pass
12	1980-2110	Average	1000/3000	-86.57	-47	39.57	Pass
13	2110-2170	Average	3840	-73.74	-60	13.74	Pass
14	2170-2585	Average	1000/3000	-66.68	-47	19.68	Pass
15	2585-2690	Average	3840	-77.96	-60	17.96	Pass
16	2690-12.75	Average	1000/3000	-79.92	-47	32.92	Pass

WCDMA 900:

Band	Frequency Range (MHz)	Detector (Peak or Average)	RBW/VBW Setting (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Results
1	30-791	Average	100/300	-74.12	-57	17.12	Pass
2	791-821	Average	3840	-81.48	-60	21.48	Pass
3	821-880	Average	100/300	-74.12	-57	17.12	Pass
4	880-915	Average	3840	-71.41	-60	11.41	Pass
5	915-921	Average	100/300	-74.12	-57	17.12	Pass
6	921-925	Average	100/300	-71.25	-60	11.25	Pass
7	925-935	Average	100/300	-85.57	-67	18.57	Pass
8		Average	3840	-75.20	-60	15.20	Pass
9	935-960	Average	100/300	-82.64	-79	3.64	Pass
10	960-1000	Average	100/300	-91.59	-57	34.59	Pass
11	1000-1805	Average	1000/3000	-85.19	-47	38.19	Pass
12	1805-1880	Average	3840	-69.12	-60	9.12	Pass
13	1880-2110	Average	1000/3000	-86.24	-47	39.24	Pass
14	2110-2170	Average	3840	-79.54	-60	19.54	Pass
15	2170-2585	Average	1000/3000	-79.12	-47	32.12	Pass
16	2585-2690	Average	3840	-78.33	-60	18.33	Pass
17	2690-12750	Average	1000/3000	-80.02	-47	33.02	Pass

ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.11 – OUT-OF-SYNCHRONIZATION HANDLING OF OUTPUT POWER

Applicable Standard

According to ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.11, The UE shall monitor the DPCCH quality in order to detect a loss of the signal on Layer 1. The threshold Qout specifies at what DPCCH quality levels the UE shall shut its power off. The threshold is not defined explicitly, but is defined by the conditions under which the UE shall shut its transmitter off, as stated in this clause.
The DPCCH quality shall be monitored in the UE and compared to the threshold Qout for the purpose of monitoring synchronization. The threshold Qout should correspond to a level of DPCCH quality where no reliable detection of the
TPC commands transmitted on the downlink DPCCH can be made. This can be at a TPC command error ratio level of e.g. 20 %.

Limits

When the UE estimates the DPCCH quality over the last 160 ms period to be worse than a threshold Qout, the UE shall shut its transmitter off within 40 ms.

The quality level at the thresholds Qout corresponds to different signal levels depending on the downlink conditions DCH parameters. For the conditions in table 4.2.11.2-1, a signal with the quality at the level Qout can be generated by a DPCCH_Ec/Ior ratio of -25 dB. The DL reference measurement channel 12,2 kbit/s is specified in TS 134 121-1 [2] and with static propagation conditions. The downlink physical channels, other than those specified in table 4.2.11.2-1, are as specified in TS 134 121-1 [2].

Table 4.2.11.2-1: DCH parameters for test of out-of-synchronization handling

Parameter	Value	Unit
$\hat{I}_{or}/I_{oc}$	-1	dB
I_{oc}	-60	dBm/3,84 MHz
$\frac{DPDCH\_E_c}{I_{or}}$	See figure 4.2.11.2-1: Before point A: -16,6 for UEs not supporting enhanced performance type 1 for DCH -19,6 for UEs supporting enhanced performance type 1 for DCH After point A not defined	dB
$\frac{DPCCH\_E_c}{I_{or}}$	See figure 4.2.11.2-1	dB
Information Data Rate	12,2	kbit/s

Figure 4.2.11.2-1 and table 4.2.11.2-2 show an example scenario where the DPCCH_Ec/Ior ratio varies from a level where the DPCH is demodulated under normal conditions, down to a level below Qout where the UE shall shut its power off.

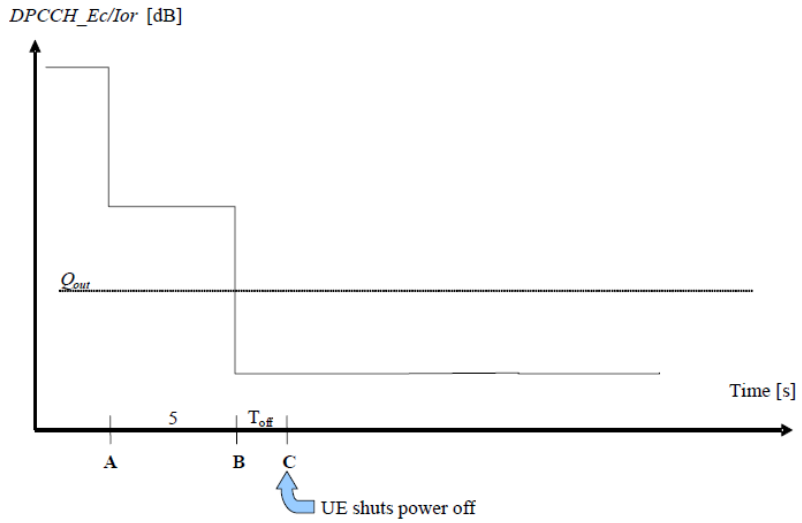


Figure 4.2.11.2-1: Conditions for out-of-synchronization handling in the UE

Table 4.2.11.2-2: Conditions for out-of-synchronization handling in the UE

Clause from figure 4.2.11.2-1	DPCCH_Ec/Ior (UE, not supporting enhanced performance requirements type 1 for DCH)	DPCCH_Ec/Ior (UE, supporting enhanced performance requirements type 1 for DCH)	Unit
Before A	-16,6	-19,6	dB
A to B	-21,6	-24,6	dB
After B	-28,4	-31,4	dB

The requirements for the UE are that it shall shut its transmitter off before point C.
The UE transmitter is considered to be OFF if the measured RRC filtered mean power is less than -55 dBm.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891	2015-11-23	2016-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

1) The SS sends continuously up power control commands to the UE until the UE transmitter power reach maximum level.
2) The SS controls the DPCCH_Ec/Ior ratio level according to table 4.2.11.2-2, 'A to B'.
3) The SS controls the DPCCH_Ec/Ior ratio level according to table 4.2.11.2-2, 'after B'. The SS waits 200 ms and then verifies that the UE transmitter has been switched off.
4) The SS monitors the UE transmitted power for 5 s and verifies that the UE transmitter is not switched on during this time.

Test Result: Compliance.

ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.12 – TRANSMITTER ADJACENT CHANNEL LEAKAGE POWER RATIO (ACLR)

Applicable Standard

According to ETSI EN 301 908-2 V6.2.1 (2013-10) §4.2.12, Adjacent Channel Leakage power Ratio (ACLR) is the ratio of the RRC filtered mean power centred on the assigned channel frequency to the RRC filtered mean power centred on an adjacent channel frequency.

Limits

If the adjacent channel power is greater than -50 dBm then the ACLR shall be higher than the value specified in table 4.2.12.2-1.The requirements are applicable for all for the values of βc, βd, βhs, βec and βed defined in TS 125 214 [8].

Table 4.2.12.2-1: UE ACLR

Power Class	Adjacent channel frequency relative to assigned channel frequency	ACLR limit
3	+5 MHz or -5 MHz	32,2 dB
3	+10 MHz or -10 MHz	42,2 dB
4	+5 MHz or -5 MHz	32,2 dB
4	+10 MHz or -10 MHz	42,2 dB
NOTE 1: The requirement shall still be met in the presence of switching transients. NOTE 2: The ACLR requirements reflect what can be achieved with present state of the art technology. NOTE 3: Requirement on the UE shall be reconsidered when the state of the art technology progresses.		

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891	2015-11-23	2016-11-23
ESPEC	Temperature & Humidity Chamber	EL-10KA	09107726	2015-11-01	2016-10-31
Long Wei	DC Power Supply	TPR-6420D	398363	NCR	NCR

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

1) The SS sends continuously up power control commands to the UE until the UE transmitter power reaches maximum level.
2) Measure the RRC filtered mean power.
3) Measure the RRC filtered mean power of the first adjacent channels and the second adjacent channels.
4) Calculate the ratio of the power between the values measured in steps 2 and 3 above.

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	49 %
ATM Pressure:	101.0 kPa

The testing was performed by Sonia Zhou on 2016-03-10.

Test Mode: Loopback

Test Result: Compliance.

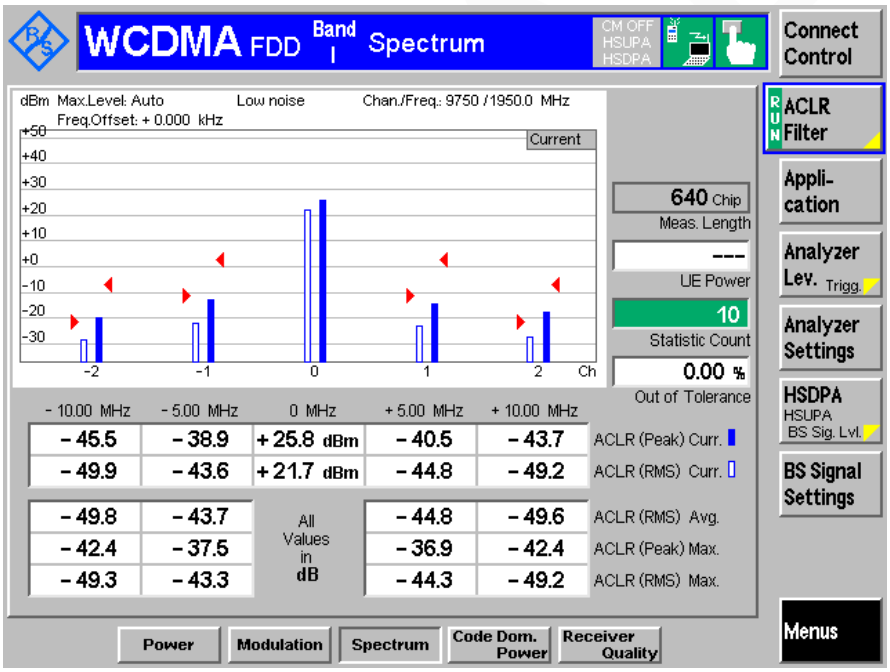
Please refer to following data table and plots.

WCDMA 2100:

Test Channel: Middle

Condition	Transmitter Adjacent Channel Leakage Power Ratio (dB)			
	ACLR (-10 MHz)	ACLR (-5 MHz)	ACLR (+5 MHz)	ACLR (+10 MHz)
Normal	-49.8	-43.7	-44.8	-49.6
LTLV	-50.0	-43.7	-44.6	-49.3
LTHV	-49.7	-43.4	-45.0	-49.2
HTLV	-49.9	-43.3	-44.7	-49.1
HTHV	-50.0	-43.4	-44.8	-49.2

Normal condition



WCDMA 900:

Test Channel: Middle

Condition	Transmitter Adjacent Channel Leakage Power Ratio (dB)			
	ACLR (-10 MHz)	ACLR (-5 MHz)	ACLR (+5 MHz)	ACLR (+10 MHz)
Normal	-50.2	-45.0	-45.2	-50.3
TL/VL	-49.8	-44.9	-45.4	-50.7
TL/VH	-49.9	-44.6	-45.0	-50.4
TH/VL	-50.0	-44.9	-45.3	-50.6
TH/VH	-49.8	-44.7	-45.1	-50.4

Normal Condition

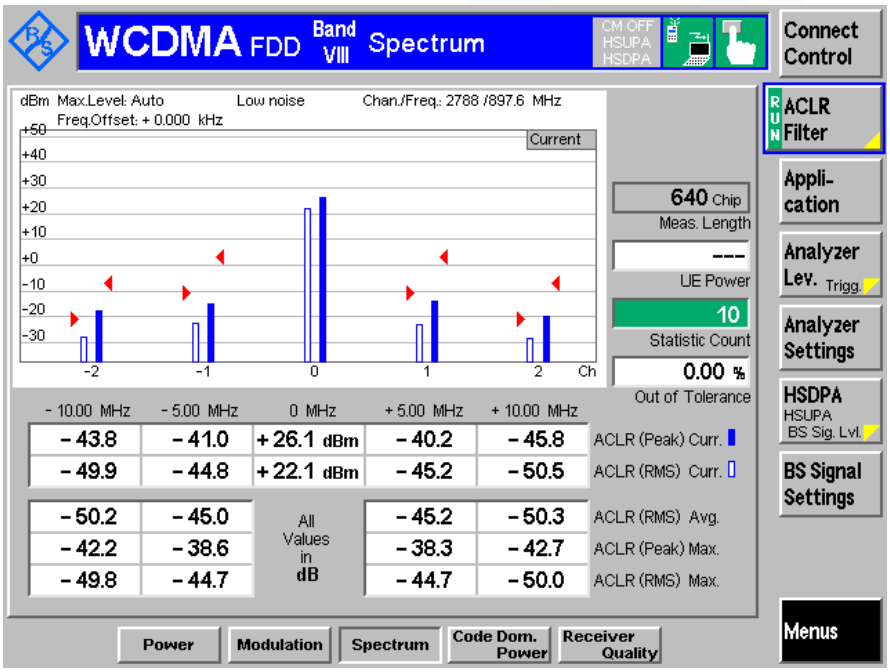


EXHIBIT A - CE PRODUCT LABELING

CE Label Format

CE1313

Specifications: The marking set out above must be affixed to the apparatus or to its data plate and have a minimum height of 5 mm. The elements should be easily readable and indelible. They may be placed anywhere on the apparatus case or in its battery compartment. No tool should be needed to view the marking. 1313: 4 digit notified body number

Note: The label should contain the below content

① The name of the manufacturer or the person responsible for placing the apparatus on the market
② Type
③ Batch and/or serial numbers

Proposed Label Location on EUT

Model: Xylo Q

Model: Xylo X

EXHIBIT B - EUT PHOTOGRAPHS

Model: Xylo Q

EUT – Front View

EUT – Rear View

EUT – Top View

EUT – Bottom View

EUT –Left Side View

EUT – Right Side View

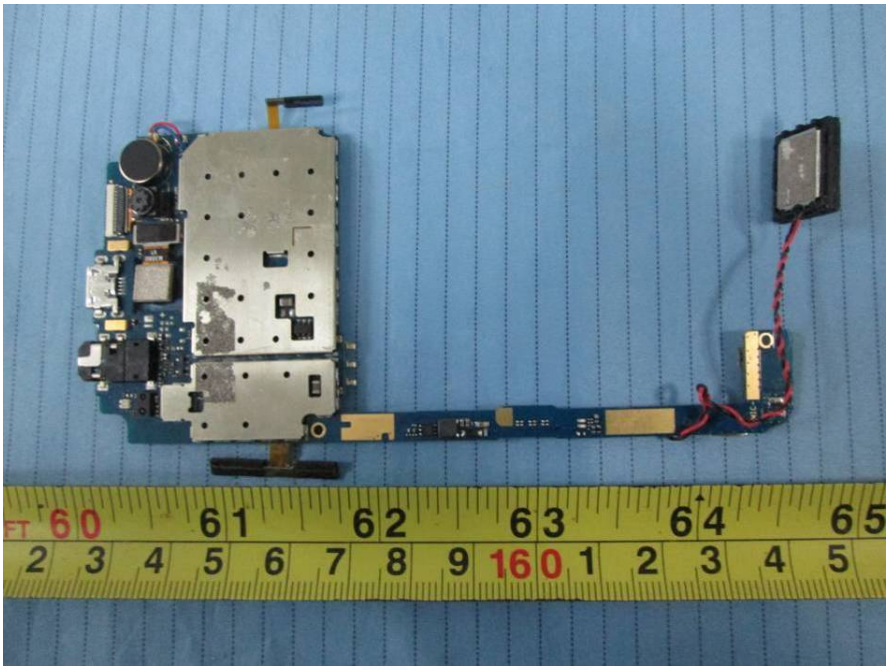
EUT –Cover off View 1

EUT –Cover off View 2

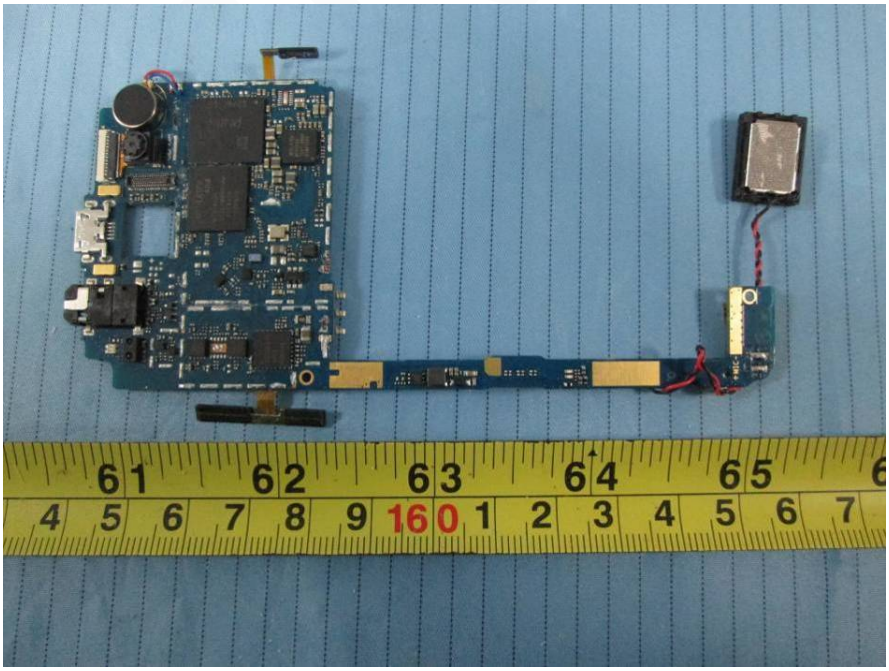
EUT –Cover off View 3

EUT –Cover off View 4

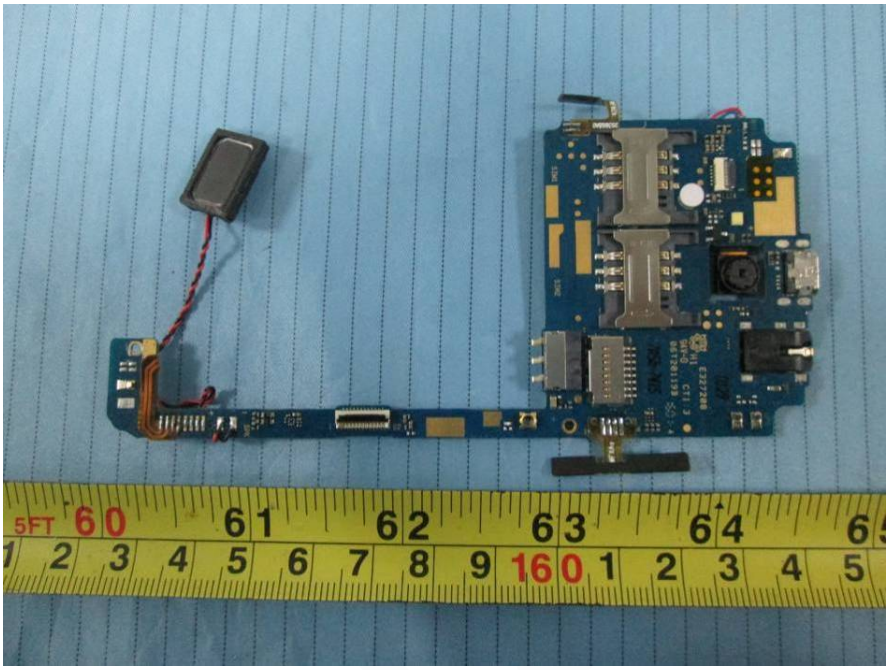
EUT – Main Board Top View



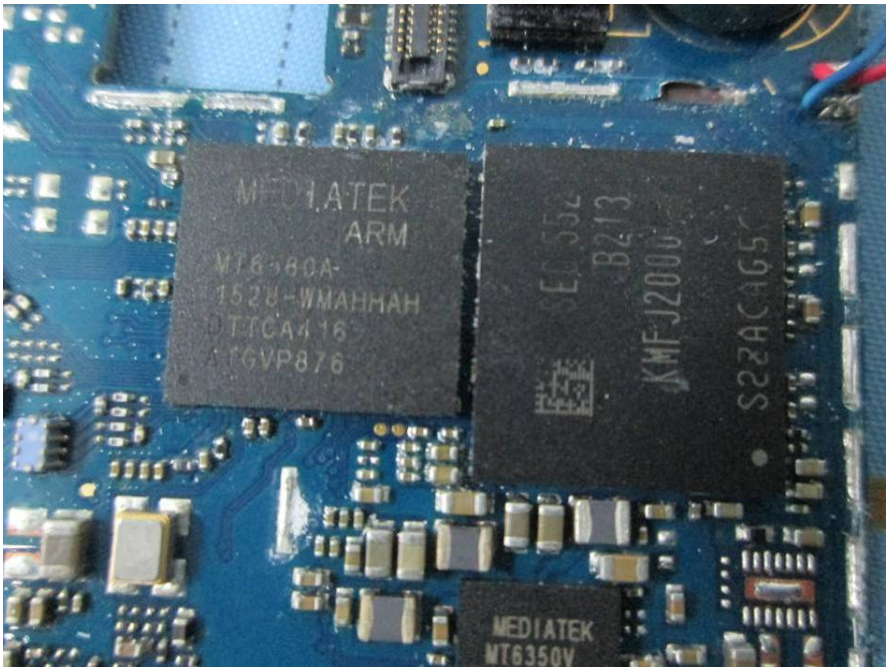
EUT – Main Board Top Shielding off View



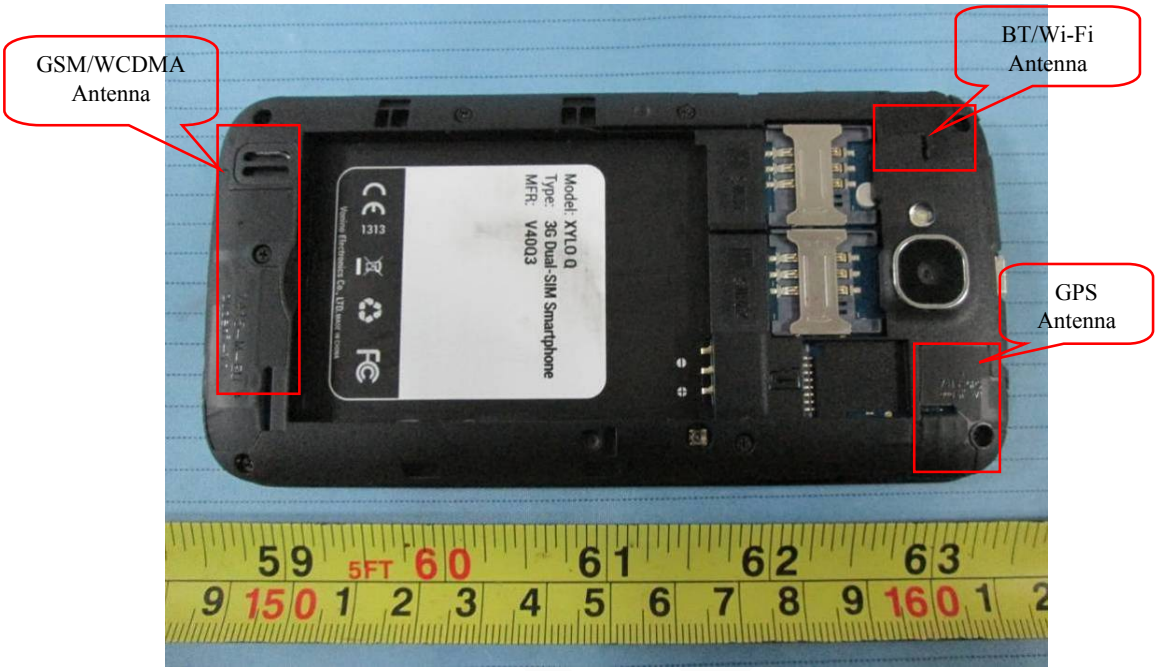
EUT – Main Board Bottom View



EUT – IC Chip View

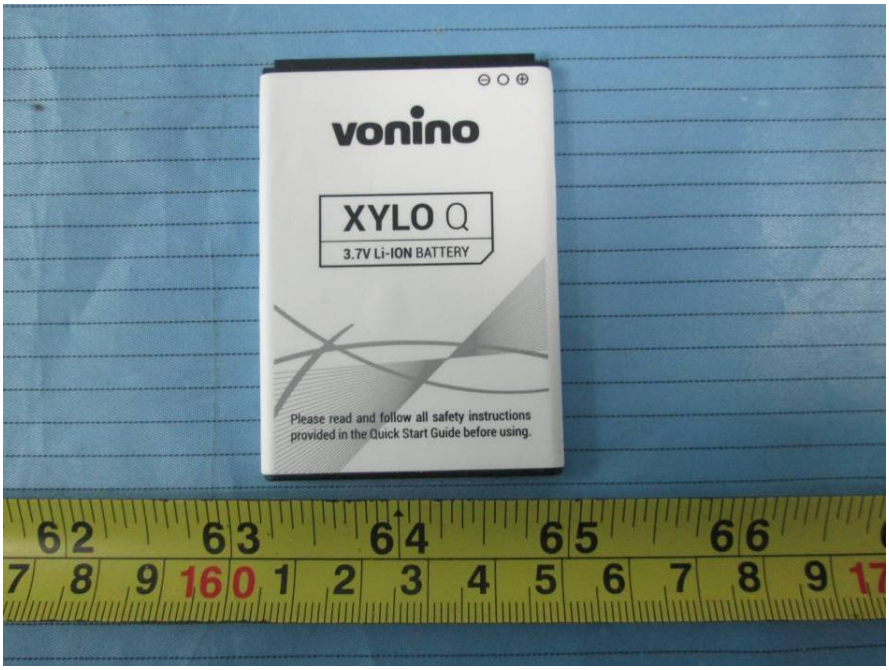


EUT – Antenna View



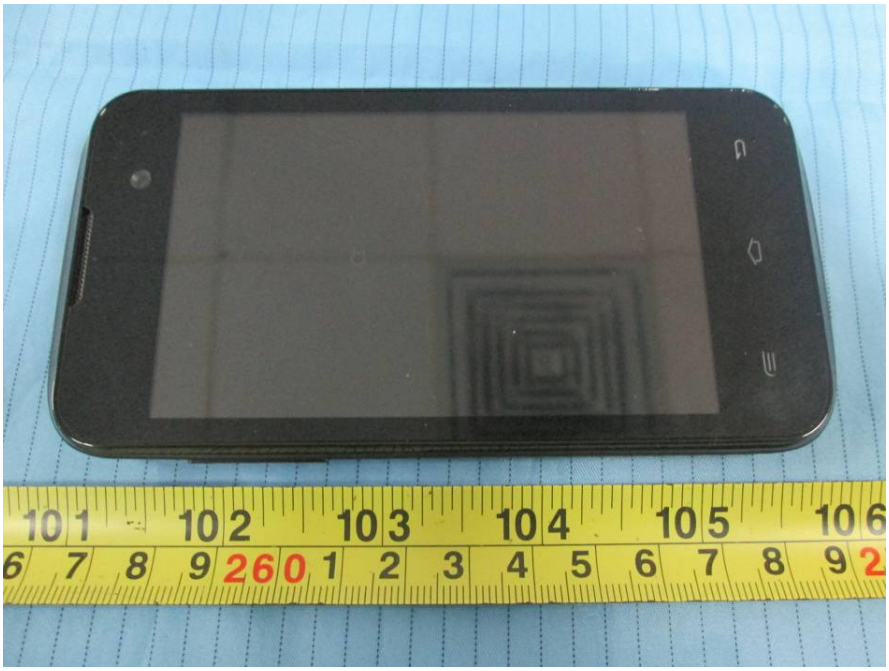
EUT – Battery Top View

EUT – Battery Bottom View



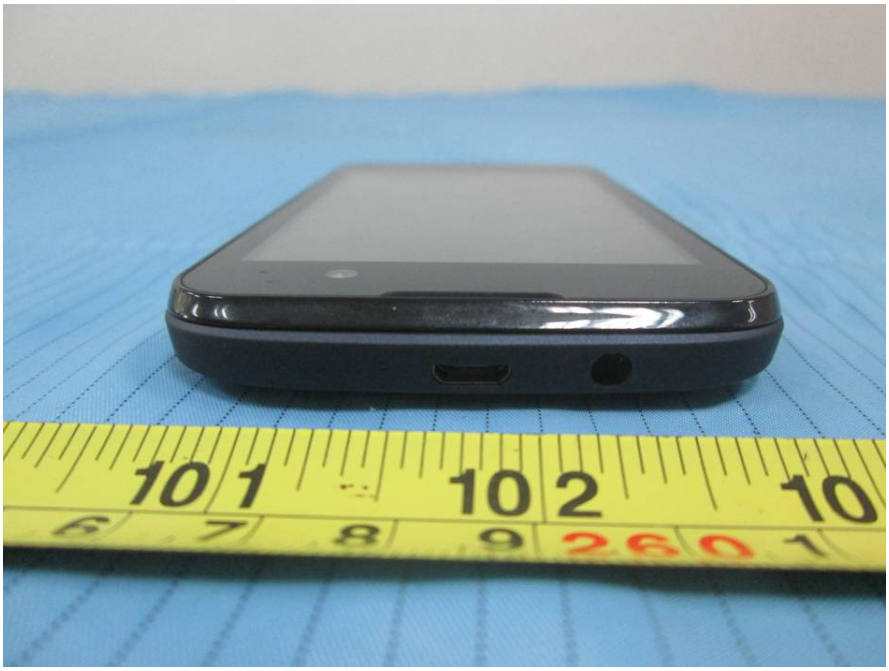
Model: Xylo X

EUT – Front View

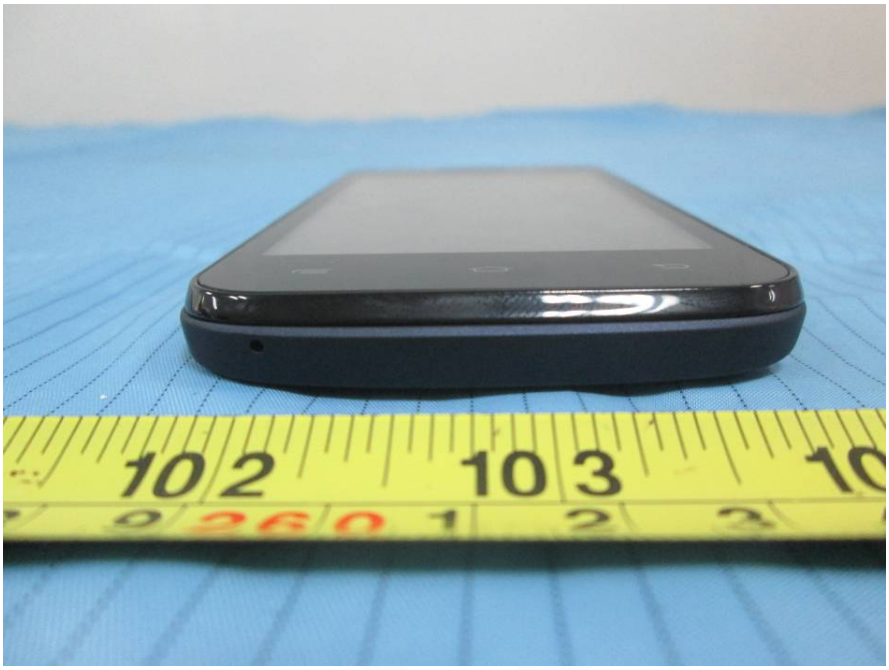


EUT – Rear View

EUT – Top View



EUT – Bottom View



EUT –Left Side View

EUT – Right Side View

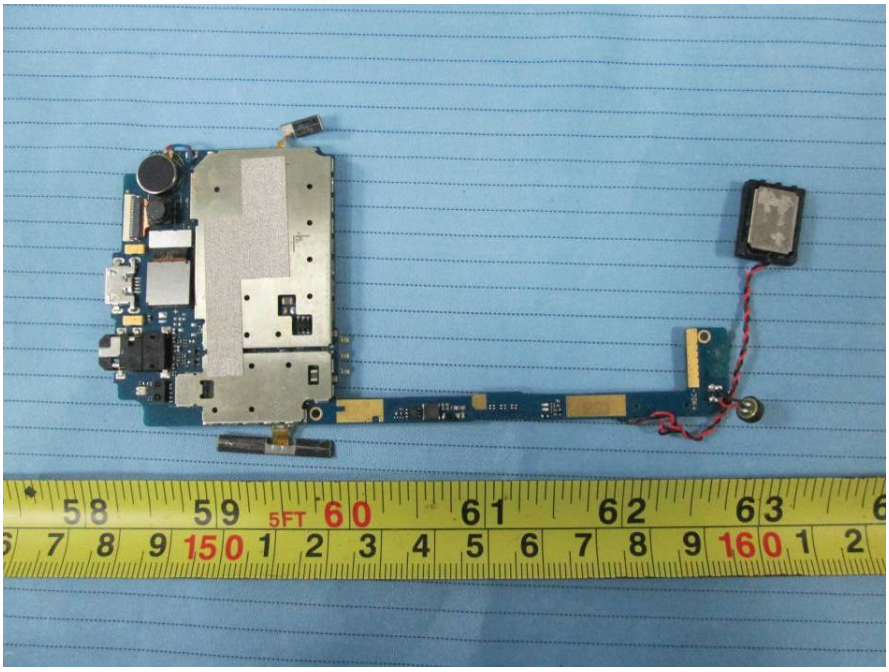
EUT –Cover off View 1

EUT –Cover off View 2

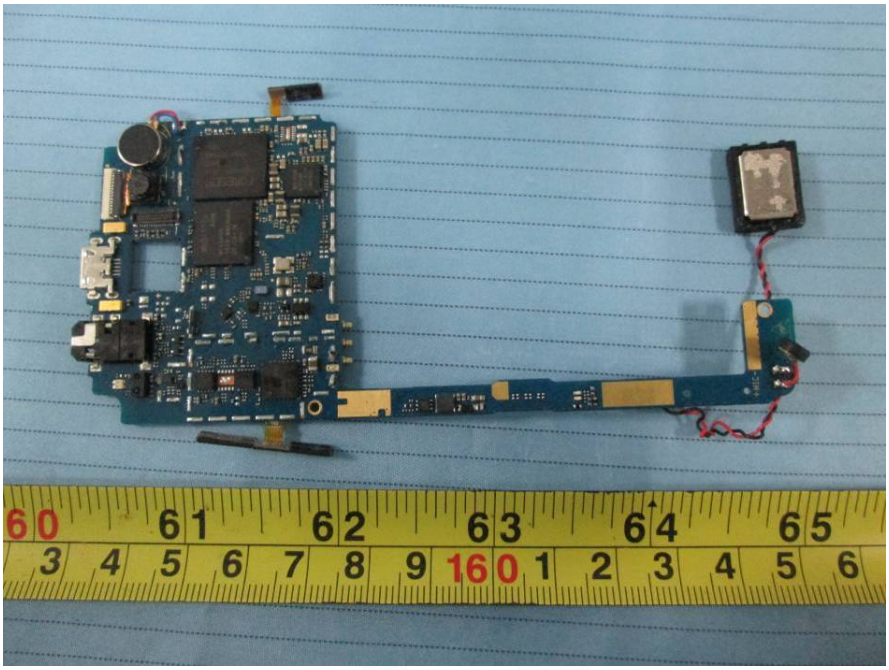
EUT –Cover off View 3

EUT –Cover off View 4

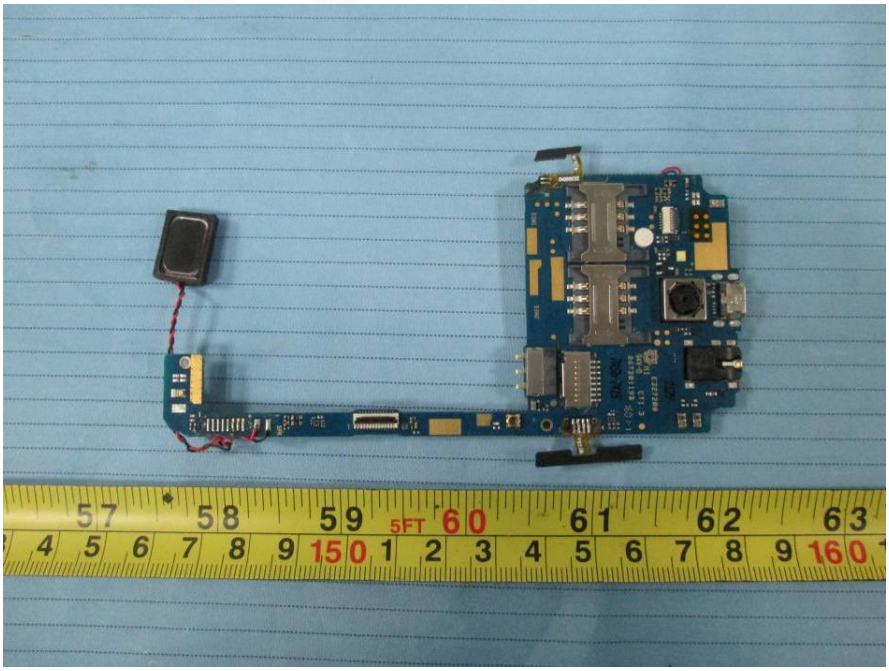
EUT – Main Board Top View



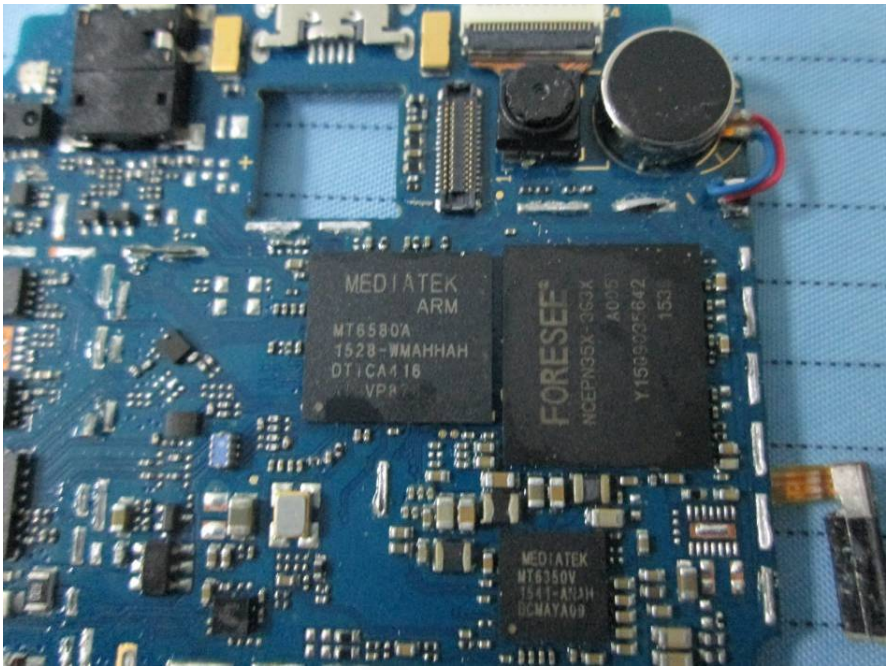
EUT – Main Board Top Shielding off View



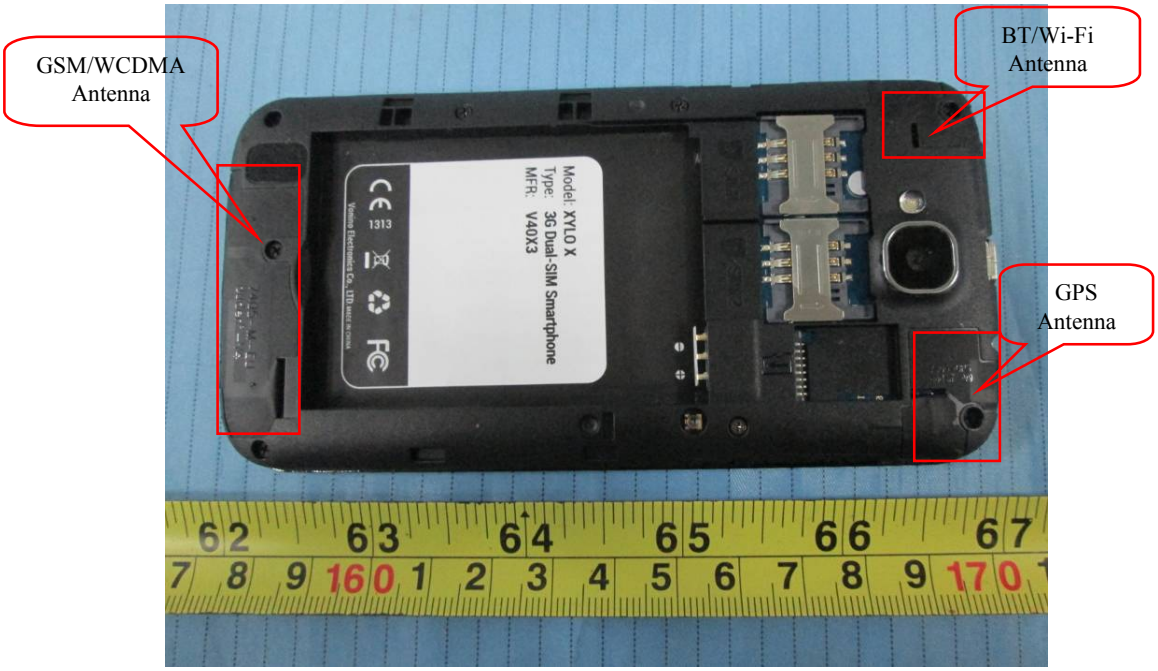
EUT – Main Board Bottom View



EUT – IC Chip View



EUT – Antenna View



EUT – Battery Top View

EUT – Battery Bottom View

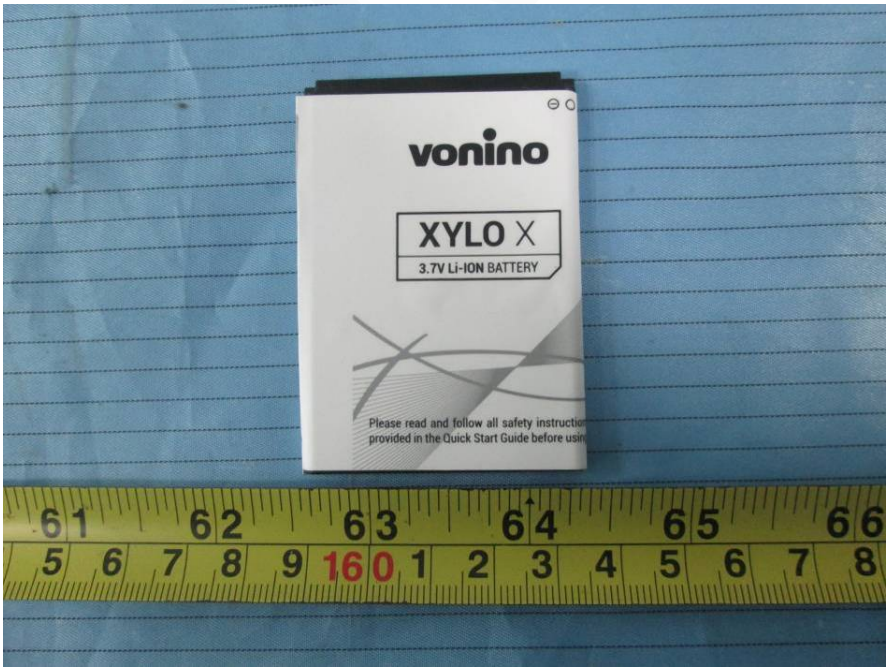


EXHIBIT C - TEST SETUP PHOTOGRAPHS

Radiated Spurious Emissions Test View (Below 1 GHz)

Radiated Spurious Emissions Test View (Above 1 GHz)

PRODUCT SIMILARITY DECLARATION LETTER

Advanced Technologies SRL
Address: Ion Heliade Radulescu nr 26, Bucharest 021255, ROMANIA
Tel: +40 (21) 569 85 33/34 Fax: +40 (31) 814 61 12
E-mail: marius.chirca@advanced.ro

2016-3-30

Product Similarity Declaration

To Whom It May Concern,

We, Advanced Technologies SRL, hereby declare that we have a product named as Smartphone Xylo (Model number: Xylo Q) was tested by BACL, meanwhile, for our marketing purpose, we would like to list a series models (Xylo X) on reports and certificate. the difference of these models is the memory of flash, since the model Xylo Q is 512M and Xylo X is 1G. The pixels of camera are different since Xylo Q is equipped with 200W and Xylo X is equipped with 500W. No other changes are made to them.
We confirm that all information above is true, and we'll be responsible for all the consequences. Please contact me if you have any question.

Signature:

Marius

Purchasing Manager

******* END OF REPORT *******