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TEST REPORT

Report Reference No. ..... :	**TRE1603019102** R/C….:14043
Applicant's name ..... :	**Vonino Electronics Limited**
Address..... :	Miramar Tower 10F - no1010, 132 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong
Manufacturer..... :	Vonino Electronics Limited
Address..... :	Miramar Tower 10F - no1010, 132 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong
Test item description ..... :	**XAVY L8 / Epic M8**
Trade Mark ..... :	vonino
Model/Type reference..... :	T8S
Listed Model(s) ..... :	-
Standard ..... :	**ETSI EN 301 908-1 V6.2.1: 2013-04** **ETSI EN 301 908-2 V6.2.1: 2013-10**
Date of receipt of test sample…….. :	Mar 29, 2016
Date of testing…… :	Mar 30, 2016- Apr 20, 2016
Date of issue……... :	Apr 20, 2016
**Result..... ……..: **	**Pass**

Compiled by (position+printed name+signature)..:	File administrators Shayne Zhu	Shayne Zhu
Supervised by (position+printed name+signature)..:	Project Engineer Lion Cai	Lion Cai
Approved by (position+printed name+signature)..:	RF Manager Hans Hu	Hans Hu

Testing Laboratory Name ..... :	**Shenzhen Huatongwei International Inspection Co., Ltd**
Address..... :	1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. TEST STANDARDS AND TEST DESCRIPTION

1.1. Test Standards

The tests were performed according to following standards:

ETSI EN 301 908-1 V6.2.1(2013-04) –IMT cellular networks; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive; Part 1: Introduction and common requirements
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)
ETSI TS 134 121-1 V10.4.0 (2012-10)–Universal Mobile Telecommunications System (UMTS); User Equipment (UE) conformance specification; Radio transmission and reception (FDD); Part 1: Conformance specification
3GPP TS 34.121-1 version 10.6.0 Release 10- Universal Mobile Telecommunications System (UMTS); User Equipment (UE) conformance specification; Radio transmission and reception (FDD)

1.2. Test Description

Test item	Standards requirement	Result
Radiated emissions (UE)	EN 301 908-1 Section 4.2.2	Pass
Control and monitoring functions (UE)	EN 301 908-1 Section 4.2.4	Pass
Transmitter Maximum Output Power	EN 301 908-2 Section 4.2.2	Pass
Transmitter Spectrum emission mask	EN 301 908-2 Section 4.2.3	Pass
Transmitter Spurious Emissions	EN 301 908-2 Section 4.2.4	Pass
Transmitter Minimum Output Power	EN 301 908-2 Section 4.2.5	Pass
Receiver Adjacent Channel Selectivity	EN 301 908-2 Section 4.2.6	Pass
Receiver Blocking Characteristics	EN 301 908-2 Section 4.2.7	Pass
Recevier Spurious Response	EN 301 908-2 Section 4.2.8	Pass
Recevier Intermodulation Characteristics	EN 301 908-2 Section 4.2.9	Pass
Receiver Spurious Emissions	EN 301 908-2 Section 4.2.10	Pass
Out-of-synchronisation handling of output power	EN 301 908-2 Section 4.2.11	Pass
Transmitter Adjacent Channel Leakage Power Ratio	EN 301 908-2 Section 4.2.12	Pass

Remark: The measurement uncertainty is not included in the test result.

2. SUMMARY

2.1. Client Information

Applicant:	Vonino Electronics Limited
Address:	Miramar Tower 10F - no1010, 132 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong
Manufacturer:	Vonino Electronics Limited
Address:	Miramar Tower 10F - no1010, 132 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong

2.2. Product Description

Name of EUT	XAVY L8 / Epic M8
Trade Mark:	vonino
Model No.:	T8S
Listed Model(s):	-
Power supply:	DC 3.7V From internal battery
Adapter information:	Model:FJ-SW728L0502000UE Input:AC 100-240V,50/60Hz 0.4A Max Output: 5Vd.c., 2000mA
WCDMA	
Operation Band:	FDD Band I and FDD Band VIII
Power Class:	Power Class 3
Operation Frequency Range:	**Transmit:** FDD Band I: 1922.4MHz~1977.6MHz FDD Band VIII：882.4 MHz~912.6 MHz **Receive:** FDD Band I: 2112.4MHz~2167.6MHz FDD Band VIII：927.4MHz~957.6 MHz
Modilation Type:	QPSK
WCDMA Release Version:	R7
HSDPA Release Version:	Release 8
HSUPA Release Version:	Release 6
Hardware version:	V1.1
Software version:	vonino_v1.1.2
Antenna type:	Internal Antenna
Antenna gain:	FDD Band I: 1.5dBi FDD Band VIII:1.5dBi

Operation Frequency List:

FDD Band I		FDD Band VIII	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
9612	**1922.4**	**2712**	**882.4**
9613	1922.6	2713	882.6
⋮	⋮	⋮	⋮
9749	1949.8	2787	897.4
9750	**1950.0**	**2788**	**897.6**
9751	1950.2	2789	897.8
⋮	⋮	⋮	⋮
9887	1977.4	2862	912.4
9888	**1977.6**	**2863**	**912.6**

2.3. EUT operation mode

The EUT has been tested under typical operating condition. The Applicant provides software to control the EUT for staying in continous transmitting and receiving mode for testing. All the tests are performed at each SIM card mode, the datum recorded is the worst case for all the mode at SIM1 Card mode.

2.4. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

● - supplied by the manufacturer

○ - supplied by the lab

○	Power Cable	Length (m) :	/
		Shield :	/
		Detachable :	/
○	Multimeter	Manufacturer :	/
		Model No. :	/

2.5. Modifications

No modifications were implemented to meet testing criteria.

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Laboratory:Shenzhen Huatongwei International Inspection Co., Ltd.
Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China
Phone: 86-755-26748019 Fax: 86-755-26748089

3.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L1225
Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories, Date of Registration: February 28, 2015. Valid time is until February 27, 2018.

A2LA-Lab Cert. No. 3902.01
Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. Valid time is until December 31, 2016.

FCC-Registration No.: 317478
Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 317478, Renewal date Jul. 18, 2014, valid time is until Jul. 18, 2017.

IC-Registration No.: 5377A&5377B
The 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377A on Dec. 31, 2013, valid time is until Dec. 31, 2016.
Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377B on Dec.03, 2014, valid time is until Dec.03, 2017.

ACA
Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

VCCI
The 3m Semi-anechoic chamber (12.2m×7.95m×6.7m) of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2484. Date of Registration: Dec. 20, 2012. Valid time is until Dec. 29, 2015.
Radiated disturbance above 1GHz measurement of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-292. Date of Registration: Dec. 24, 2013. Valid time is until Dec. 23, 2016.
Main Ports Conducted Interference Measurement of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: C-2726. Date of Registration: Dec. 20, 2012. Valid time is until Dec. 19, 2015.
Telecommunication Ports Conducted Interference Measurement of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: T-1837. Date of Registration: May 07, 2013. Valid time is until May 06, 2016.

DNV
Shenzhen Huatongwei International Inspection Co., Ltd. has been found to comply with the requirements of DNV towards subcontractor of EMC and safety testing services in conjunction with the EMC and Low voltage Directives and in the voluntary field. The acceptance is based on a formal quality Audit and follow-ups according to relevant parts of ISO/IEC Guide 17025 (2005), in accordance with the requirements of the DNV Laboratory Quality Manual towards subcontractors. Valid time is until Aug. 24, 2016.

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature	Normal Temperature/Tnor:	25°C
	High Temperature/Thigh:	55°C
	Low Temperature/Tlow:	-10°C
Voltage	Normal Voltage	DC 3.70V
	High Voltage	DC 4.25V
	Low Voltage	DC 3.50V
Other	lative Humidity	55 %
	Air Pressure	989 hPa

3.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics;Part 1" and TR-100028-02 "Electromagnetic compatibilityand Radio spectrum Matters (ERM);Uncertainties in the measurementof mobile radio equipment characteristics;Part 2 " and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Frequency error	25 Hz	(1)
Frequency range	25 Hz	(1)
Transmitter power conducted	0.57 dB	(1)
Transmitter power Radiated	2.20 dB	(1)
Adjacent and alternate channel power Conducted	1.20 dB	(1)
Conducted spurious emission	1.60 dB	(1)
Radiated spurious emission	2.20 dB	(1)
Intermodulation attenuation	1.00 dB	(1)
Maximum useable receiver sensitivity	2.80 dB	(1)
Co-channel rejection	2.80 dB	(1)
Adjacent channel selectivity	2.80 dB	(1)
Spurious response rejection	2.80 dB	(1)
Intermodulation response rejection	2.80 dB	(1)
Blocking or desensitization	2.80 dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

3.5. Equipments Used during the Test

TS 8980-PRE						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1	WIDEB.RADIO COMM.TESRER	R&S	CMW500	1201.0002K50	2015/11/3	2016/11/2
2	AVG Power Sensor	R&S	NRP-Z31	1169.2400.02	2015/11/3	2016/11/2
3	VECTOR SIGNAL GENNERATOR	R&S	SMW200A	1412.0000K02	2015/11/3	2016/11/2
4	SIGNAL& SPECTRUM ANALYZER	R&S	FSW26	1312.8000K26	2015/11/3	2016/11/2
5	WIDEBAND FILTER UNIT	R&S	TS-TUFI1	1521.0000.03	2015/11/3	2016/11/2
6	SIGNA SWITCHING AND CONDITIONING UNIT	R&S	SSCU-PRE1	1518.0026.12	2015/11/3	2016/11/2
			SSCU-UPG4	1518.0732.02		
7	POWER SUPPLY	R&S	NGMO1	1504.8420.03	2015/11/3	2016/11/2
5	Climate Chamber	ESPEC	EL-10KA	05107008	2015/11/3	2016/11/2

Radiated Emission/ Radiated power						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1	Ultra-Broadband Antenna	SCHWARZBECK	VULB9163	546	11/8/2014	11/7/2017
2	Double-Ridged-Waveguide Horn Antenna	SCHWARZBECK	9120D	1011	11/8/2014	11/7/2017
3	Spectrum Analyzer	R&S	FSP40	100597	11/3/2015	11/2/2016
4	Pre-amplifer	SCHWARZBECK	BBV 9743	9743-0022	11/3/2015	11/2/2016
5	Broadband Preamplifer	SCHWARZBECK	BBV 9718	9718-248	11/3/2015	11/2/2016
6	Turntable	Maturo Germany	TT2.0-1T	\	N/A	N/A
7	Antenna Mast	Maturo Germany	CAM-4.0-P-12	\	N/A	N/A
8	Test Software	R&S	ES-K1	/	N/A	N/A
9	WIDEB.RADIO COMM.TESRER	R&S	CMW500	1201.0002K50	2015/11/3	2016/11/2

The Calibration Interval was one year.

4. TEST CONDITIONS AND RESULTS

Test Item	Test Requirement ESTI **EN301908-1**		Test Conditions	Verdict		Note:
				WCDMA FDD I	WCDMA FDD VIII	
Radiated emissions (UE)	Section 4.2.2		NT/NV	Pass	Pass	Reference to the section 4.2.1
Control and monitoring functions (UE)	Section 4.2.4		NT/NV	Pass	Pass	
Test Item	Test Requirement ESTI **EN301908-2**	Test Method ETSI TS134121-1	Test Conditions	Verdict	Verdict	Note:
Transmitter Maximum Output Power	Section 4.2.2	Clause 5.2	NT/NV LT/LV LT/HV HT/LV HT/HV	Pass Pass Pass Pass Pass	Pass Pass Pass Pass Pass	Reference to the section 4.1.1 section 4.1.2 section 4.1.3 section 4.1.4
Transmitter Spectrum emission mask	Section 4.2.3	Clause 5.9	NT/NV	Pass	Pass	
Transmitter Spurious Emissions	Section 4.2.4	Clause 5.11	NT/NV	Pass	Pass	
Transmitter Minimum Output Power	Section 4.2.5	Clause 5.4.3	NT/NV LT/LV LT/HV HT/LV HT/HV	Pass Pass Pass Pass Pass	Pass Pass Pass Pass Pass	
Receiver Adjacent Channel Selectivity	Section 4.2.6	Clause 6.4	NT/NV	Pass	Pass	
Receiver Blocking Characteristics	Section 4.2.7	Clause 6.5	NT/NV	Pass	Pass	
Recevier Spurious Response	Section 4.2.8	Clause 6.6	NT/NV	Pass	Pass	
Recevier Intermodulation Characteristics	Section 4.2.9	Clause 6.7	NT/NV	Pass	Pass	
Receiver Spurious Emissions	Section 4.2.10	Clause 5.11	NT/NV	Pass	Pass	
Out-of-synchronisation handling of output power	Section 4.2.11	Clause 5.4.4	NT/NV	Pass	Pass	
Transmitter Adjacent Channel Leakage Power Ratio	Section 4.2.12	Clause 5.10	NT/NV LT/LV LT/HV HT/LV HT/HV	Pass Pass Pass Pass Pass	Pass Pass Pass Pass Pass	

4.1. ETSI EN301908-2 Requirement

4.1.1. Transmitter Maximum Output Power

LIMIT

ETSI EN 301 908-2 Sub-clause 4.2.2.1

Operating Band	Power Class 3	
	Power (dBm)	Tol (dB)
Band I	+24	+1.7/-3.7
Band VIII	+24	+1.7/-3.7

TEST PROCEDURE

ETSI EN 301 908-2 Sub-clause 5.3.1.1.2

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 RESULTS

FDD Band I						
Test environment		Output Power (dBm)			Limit (dBm)	Result
Temperature(℃)	Voltage (V)	CH9613	CH9750	CH9887		
25	3.70	22.36	22.47	22.58	20.30~25.70	Pass
-10	4.25	22.00	22.63	22.42		
	3.50	22.71	22.22	23.03		
55	4.25	22.68	22.74	22.44		
	3.50	22.76	22.84	23.10		
FDD Band VIII						
Test environment		Output Power (dBm)			Limit (dBm)	Result
Temperature(℃)	Voltage (V)	CH2713	CH2788	CH2862		
25	3.70	21.69	21.98	21.79	20.30~25.70	Pass
-10	4.25	21.29	22.11	21.88		
	3.50	22.06	22.10	21.52		
55	4.25	22.00	21.58	22.10		
	3.50	21.81	22.15	22.14		

4.1.2. Maximum Output Power with HS-DPCCH (Release 5 only)

LIMIT

ETSI EN 301 908-2 (V.5.4.1) Sub-clause 4.2.3.2

The maximum output power with HS-DPCCH and its tolerance are defined according to the Power Class of the UE.

The maximum output power with HS-DPCCH is a measure of the maximum power the UE can transmit when HS-DPCCH is fully or partially transmitted during a DPCCH timeslot. The measurement period shall be at least one timeslot.

The maximum output power with HS-DPCCH, derived in step 4), shall not exceed the range prescribed by the maximum output power and tolerance in table 5.2A.2. The maximum output power where HS-DPCCH is not transmitted shall not exceed the range prescribed in table 5.2.2. The UL reference measurement channel for TX test will be set as defined in C.10.1 with the power ratio between HS-DPCH, DPCCH and DPDCH being set to the values defined in table C.10.1.4.

Table 5.2A.2: Maximum Output Powers with HS-DPCCH for test

Ratio of β_c to β_d for all values of β_{hs}	Power Class 3		Power Class 4	
	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)
$1/15 \leqslant \beta_c/\beta_d \leqslant 12/15$	+24	+1.7/-3.7	+21	+2.7/-2.7
$13/15 \leqslant \beta_c/\beta_d \leqslant 15/8$	+23	+2.7/-3.7	+20	+3.7/-2.7
$15/7 \leqslant \beta_c/\beta_d \leqslant 15/0$	+22	+3.7/-3.7	+19	+4.7/-2.7
NOTE: For the purpose of the test Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs}= 30/15 *β_c.				

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

TEST PROCEDURE

1. Send TRANSPORT CHANNEL RECONFIGURATION message to set the beta values according to table C.10.1.4 and the DPCH frame offset according the HS-DPCCH slot offset required for measurements.
2. Set and send continuously Up power control commands to the UE.
3. Start transmitting HSDPA Data.
4. Measure the mean power of the UE. The mean power shall be averaged over at least one timeslot.
5. Repeat the measurement for the different combinations of beta values as given in table C.10.1.4.

Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of TS 34.108 [3], except the TRANSPORT CHANNEL RECONFIGURATION message which is defined in Annex I.

TEST RESULTS

FDD Band I							
Channel	Test environment		βc/βd	Meas (dBm)	Limit (dBm)		Result
	Temperature (℃)	Voltage (V)			High	Low	
9613	25	3.70	2/15	22.15	25.70	20.30	Pass
			12/15	22.43	25.70	20.30	
			15/8	22.25	25.70	19.30	
			15/4	22.08	25.70	18.30	
	-10	4.25	2/15	22.58	25.70	20.30	Pass
			12/15	22.58	25.70	20.30	
			15/8	22.33	25.70	19.30	
			15/4	22.55	25.70	18.30	
		3.50	2/15	22.06	25.70	20.30	Pass
			12/15	22.42	25.70	20.30	
			15/8	21.88	25.70	19.30	
			15/4	22.08	25.70	18.30	
	+55	4.25	2/15	22.37	25.70	20.30	Pass
			12/15	22.43	25.70	20.30	
			15/8	22.71	25.70	19.30	
			15/4	22.19	25.70	18.30	
		3.50	2/15	22.74	25.70	20.30	Pass
			12/15	22.18	25.70	20.30	
			15/8	22.70	25.70	19.30	
			15/4	21.74	25.70	18.30	
9750	25	3.70	2/15	22.12	25.70	20.30	Pass
			12/15	22.35	25.70	20.30	
			15/8	22.46	25.70	19.30	
			15/4	22.52	25.70	18.30	
	-10	4.25	2/15	22.34	25.70	20.30	Pass
			12/15	22.19	25.70	20.30	
			15/8	22.51	25.70	19.30	
			15/4	22.30	25.70	18.30	
		3.50	2/15	21.96	25.70	20.30	Pass
			12/15	22.15	25.70	20.30	
			15/8	22.08	25.70	19.30	
			15/4	22.67	25.70	18.30	
	+55	4.25	2/15	21.80	25.70	20.30	Pass
			12/15	21.99	25.70	20.30	
			15/8	22.33	25.70	19.30	
			15/4	22.69	25.70	18.30	
		3.50	2/15	21.72	25.70	20.30	Pass
			12/15	21.88	25.70	20.30	
			15/8	22.51	25.70	19.30	
			15/4	22.86	25.70	18.30	

9887	25	3.70	2/15	22.08	25.70	20.30	Pass
			12/15	22.15	25.70	20.30	
			15/8	22.43	25.70	19.30	
			15/4	22.32	25.70	18.30	
	-10	4.25	2/15	22.03	25.70	20.30	Pass
			12/15	21.72	25.70	20.30	
			15/8	22.59	25.70	19.30	
			15/4	22.16	25.70	18.30	
		3.50	2/15	21.88	25.70	20.30	Pass
			12/15	21.97	25.70	20.30	
			15/8	22.57	25.70	19.30	
			15/4	22.34	25.70	18.30	
	+55	4.25	2/15	21.80	25.70	20.30	Pass
			12/15	21.91	25.70	20.30	
			15/8	22.70	25.70	19.30	
			15/4	22.28	25.70	18.30	
		3.50	2/15	21.74	25.70	20.30	Pass
			12/15	22.00	25.70	20.30	
			15/8	22.61	25.70	19.30	
			15/4	22.35	25.70	18.30	

FDD Band VIII							
Channel	Test environment		βc/βd	Meas (dBm)	Limit (dBm)		Result
	Temperature (℃)	Voltage (V)			High	Low	
2713	25	3.70	2/15	21.94	25.70	20.30	Pass
			12/15	21.89	25.70	20.30	
			15/8	21.96	25.70	19.30	
			15/4	21.75	25.70	18.30	
	-10	4.25	2/15	22.03	25.70	20.30	Pass
			12/15	21.86	25.70	20.30	
			15/8	21.94	25.70	19.30	
			15/4	21.85	25.70	18.30	
		3.50	2/15	22.07	25.70	20.30	Pass
			12/15	21.82	25.70	20.30	
			15/8	21.40	25.70	19.30	
			15/4	21.75	25.70	18.30	
	+55	4.35	2/15	22.11	25.70	20.30	Pass
			12/15	21.79	25.70	20.30	
			15/8	21.30	25.70	19.30	
			15/4	21.83	25.70	18.30	
		3.50	2/15	22.16	25.70	20.30	Pass
			12/15	21.74	25.70	20.30	
			15/8	21.75	25.70	19.30	
			15/4	21.76	25.70	18.30	
2788	25	3.70	2/15	22.08	25.70	20.30	Pass
			12/15	21.97	25.70	20.30	
			15/8	21.47	25.70	19.30	
			15/4	21.85	25.70	18.30	
	-10	4.25	2/15	22.03	25.70	20.30	Pass
			12/15	22.00	25.70	20.30	
			15/8	21.46	25.70	19.30	
			15/4	21.90	25.70	18.30	
		3.50	2/15	22.11	25.70	20.30	Pass
			12/15	21.99	25.70	20.30	
			15/8	21.02	25.70	19.30	
			15/4	21.98	25.70	18.30	
	+55	4.25	2/15	22.08	25.70	20.30	Pass
			12/15	22.03	25.70	20.30	
			15/8	20.97	25.70	19.30	
			15/4	21.98	25.70	18.30	
		3.50	2/15	22.10	25.70	20.30	Pass
			12/15	22.00	25.70	20.30	
			15/8	20.93	25.70	19.30	
			15/4	22.02	25.70	18.30	

2862	25	3.70	2/15	21.89	25.70	20.30	Pass
			12/15	21.76	25.70	20.30	
			15/8	21.47	25.70	19.30	
			15/4	21.95	25.70	18.30	
	-10	4.25	2/15	21.88	25.70	20.30	Pass
			12/15	23.20	25.70	20.30	
			15/8	21.39	25.70	19.30	
			15/4	21.98	25.70	18.30	
		3.50	2/15	21.91	25.70	20.30	Pass
			12/15	23.14	25.70	20.30	
			15/8	21.38	25.70	19.30	
			15/4	22.02	25.70	18.30	
	+55	4.25	2/15	21.90	25.70	20.30	Pass
			12/15	23.15	25.70	20.30	
			15/8	21.35	25.70	19.30	
			15/4	22.05	25.70	18.30	
		3.50	2/15	21.91	25.70	20.30	Pass
			12/15	23.13	25.70	20.30	
			15/8	21.33	25.70	19.30	
			15/4	22.07	25.70	18.30	

4.1.3. Maximum Output Power with HS-DPCCH (Release 6 and later)

LIMIT

ETSI EN 301 908-2 (V.5.4.1) Sub-clause 4.2.6.2

The maximum output power with HS-DPCCH and its tolerance are defined according to the UE Maximum Power Reduction (MPR) for the nominal maximum output power.

The maximum output power with HS-DPCCH is a measure of the maximum power the UE can transmit when HS-DPCCH is fully or partially transmitted during a DPCCH timeslot. The measurement period shall be at least one timeslot.

The requirements and this test apply for Release 6 and later releases to all types of UTRA for the FDD UE that support HSDPA without E-DCH.

The maximum output power with HS-DPCCH, derived in step 4), shall not exceed the range prescribed by the maximum output power and tolerance in table 5.2AA.2 or 5.2AA.3 depending on tested band. The maximum output power where HS-DPCCH is not transmitted shall not exceed the range prescribed in table 5.2.2.

The UL reference measurement channel for TX test will be set as defined in C.10.1 with the power ratio between HS-DPCH, DPCCH and DPDCH being set to the values defined in table C.10.1.4.

Table 5.2AA.2: Maximum Output Powers with HS-DPCCH for test

Sub-test in table C.10.1.4	Power Class 3		Power Class 4	
	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)
1	+24	+1.7/-3.7	+21	+2.7/-2.7
2	+24	+1.7/-3.7	+21	+2.7/-2.7
3	+23.5	+2.2/-3.7	+20.5	+3.2/-2.7
4	+23.5	+2.2/-3.7	+20.5	+3.2/-2.7

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

TEST PROCEDURE

1. Send TRANSPORT CHANNEL RECONFIGURATION message to set the beta values according to table C.10.1.4 and the DPCH frame offset according the HS-DPCCH slot offset required for measurements.
2. Set and send continuously Up power control commands to the UE.
3. Start transmitting HSDPA Data.
4. Measure the mean power of the UE. The mean power shall be averaged over at least one timeslot..
5. Repeat the measurement for the different combinations of beta values as given in table C.10.1.4.
6. Calculate the ratio of the power between the values measured in step 4 and step 5.

Specific Message Contents

All messages indicated above shall use the same content as described in the default message content in clause 9 of TS 34.108 [3], except the TRANSPORT CHANNEL RECONFIGURATION message which is defined in Annex I.

TEST RESULTS

FDD Band I							
Channel	Test environment		βc/βd	Measurement (dBm)	Limit		Result
	Temperature (℃)	Voltage (V)			Low	High	
9613	25	3.70	2/15	22.08	20.30	25.70	Pass
			12/15	22.45			
			15/8	22.32	19.80		
			15/4	22.05			
	-10	4.25	2/15	22.42	20.30		
			12/15	22.27			
			15/8	22.61	19.80		
			15/4	21.90			
		3.50	2/15	22.01	20.30		
			12/15	22.10			
			15/8	22.03	19.80		
			15/4	21.39			
	+55	4.25	2/15	22.39	20.30		
			12/15	21.95			
			15/8	22.16	19.80		
			15/4	21.27			
		3.50	2/15	22.24	20.30		
			12/15	22.03			
			15/8	21.68	19.80		
			15/4	21.65			
9750	25	3.70	2/15	22.36	20.30	25.70	Pass
			12/15	22.43			
			15/8	22.25	19.80		
			15/4	22.37			
	-10	4.25	2/15	22.58	20.30		
			12/15	22.31			
			15/8	22.52	19.80		
			15/4	22.29			
		3.50	2/15	22.46	20.30		
			12/15	22.23			
			15/8	22.40	19.80		
			15/4	21.91			
	+55	4.25	2/15	22.05	20.30		
			12/15	22.10			
			15/8	22.52	19.80		
			15/4	22.32			
		3.50	2/15	21.93	20.30		
			12/15	22.39			
			15/8	22.43	19.80		
			15/4	22.52			

9887	25	3.70	2/15	22.85	20.30	25.70	Pass
			12/15	21.94			
			15/8	21.79	19.80		
			15/4	22.32			
	-10	4.25	2/15	23.41	20.30		
			12/15	21.60			
			15/8	22.10	19.80		
			15/4	22.07			
		3.50	2/15	23.33	20.30		
			12/15	21.58			
			15/8	22.25	19.80		
			15/4	21.99			
	+55	4.25	2/15	23.19	20.30		
			12/15	21.40			
			15/8	22.45	19.80		
			15/4	22.35			
		3.50	2/15	22.72	20.30		
			12/15	21.87			
			15/8	22.47	19.80		
			15/4	22.53			

FDD Band VIII							
Channel	Test environment		βc/βd	Measurement (dBm)	Limit		Result
	Temperature (℃)	Voltage (V)			Low	High	
2713	25	3.70	2/15	21.92	20.30	25.70	Pass
			12/15	21.78			
			15/8	21.96	19.80		
			15/4	22.06			
	-10	4.25	2/15	22.48	20.30		
			12/15	21.44			
			15/8	22.27	19.80		
			15/4	21.81			
		3.50	2/15	22.40	20.30		
			12/15	21.75			
			15/8	21.99	19.80		
			15/4	21.73			
	+55	4.25	2/15	22.26	20.30		
			12/15	21.57			
			15/8	22.19	19.80		
			15/4	22.09			
		3.50	2/15	21.79	20.30		
			12/15	21.61			
			15/8	22.21	19.80		
			15/4	22.27			
2788	25	3.70	2/15	21.69	20.30	25.70	Pass
			12/15	22.04			
			15/8	21.98	19.80		
			15/4	21.76			
	-10	4.25	2/15	22.14	20.30		
			12/15	21.62			
			15/8	22.63	19.80		
			15/4	21.54			
		3.50	2/15	22.07	20.30		
			12/15	22.07			
			15/8	21.74	19.80		
			15/4	21.61			
	+55	4.25	2/15	22.11	20.30		
			12/15	21.75			
			15/8	22.11	19.80		
			15/4	21.76			
		3.50	2/15	21.77	20.30		
			12/15	21.51			
			15/8	22.02	19.80		
			15/4	21.91			

2862	25	3.70	2/15	21.52	20.30	25.70	Pass
			12/15	21.85			
			15/8	21.49	19.80		
			15/4	21.97			
	-10	4.25	2/15	21.76	20.30		
			12/15	21.39			
			15/8	22.12	19.80		
			15/4	21.76			
		3.50	2/15	21.80	20.30		
			12/15	21.42			
			15/8	22.06	19.80		
			15/4	21.76			
	+55	4.25	2/15	21.69	20.30		
			12/15	21.22			
			15/8	22.36	19.80		
			15/4	22.02			
		3.50	2/15	21.33	20.30		
			12/15	21.76			
			15/8	22.27	19.80		
			15/4	22.09			

4.1.4. Maximum Output Power with HS-DPCCH and E-DCH

LIMIT

ETSI EN 301 908-2 (V.5.4.1) Sub-clause 4.2.7.2

The maximum output power with HS-DPCCH and E-DCH and its tolerance are defined according to the UE Maximum Power Reduction (MPR) for the nominal maximum output power.

The maximum output power with HS-DPCCH and E-DCH is a measure of the maximum power the UE can transmit when HS-DPCCH and E-DCH is fully or partially transmitted during a DPCCH timeslot. The measurement period shall be at least one timeslot.

The requirements and this test apply for Release 6 and later releases to all types of UTRA for the FDD UE that support HSDPA and E-DCH.

he maximum output power with HS-DPCCH and E-DCH, derived in step 9), shall not exceed the range prescribed by the maximum output power and tolerance in table 5.2B.5 or 5.2B.6 depending on tested band. Note:

The UL reference measurement channel for TX test will be set as defined in C.11.1 with the power ratio between HS-DPCH, DPCCH, DPDCH, E-DPCCH and E-DPDCH being set to the values defined in table C.11.1.3.

Table 5.2B.5: Maximum Output Powers with HS-DPCCH and E-DCH for test

Sub-test in table C.11.1.3	Power Class 3		Power Class 4	
	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)
1	+24	+1.7/-6.7	+21	+2.7/-5.7
2	+22	+3.7/-5.2	+19	+4.7/-4.2
3	+23	+2.7/-5.2	+20	+3.7/-4.2
4	+22	+3.7/-5.2	+19	+4.7/-4.2
5	+24	+1.7/-3.7	+21	+2.7/-2.7

NOTE 1: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

NOTE 2: The test procedure for sub-test 1 to 4 will result in a power slightly below the maximum, and therefore the lower limits in Table 5.2B.5 are made lower by 1.5 dB.

NOTE 3: The test procedure allows UE to decrease its maximum transmit power for E-TFC selection in sub-test 1, and therefore the lower limits of sub-test 1 in Table 5.2B.5 are made lower by 1.5 dB.

NOTE 4: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

TEST PROCEDURE

Procedure for sub-test 1 to 4

1. Set the Absolute Grant according to Table C.11.1.3.
2. The SS starts transmitting HSDPA and the UE loops the received data back on E-DCH.
3. Set the UE power to be at least 7.5dB lower than the maximum output power. Wait 150 ms.
4. Send power control bits to give one TPC_cmd = +1 command to the UE.
5. The SS checks the received E-TFCI for 150 ms. If UE does not send any decreased E-TFCI (DTX on E-DPDCH is also considered decreased E-TFCI) within the 150ms then go back to step 4 otherwise proceed to step 6.
6. Send power control bits to give one TPC_cmd = -1 command to the UE and wait 150ms.
7. The SS checks the received E-TFCI for 150 ms. If UE sends any decreased E-TFCI (DTX on E-DPDCH is also considered decreased E-TFCI) within the 150ms, then send new power control bits to give another TPC_cmd = -1 command to the UE and wait 150ms.
8. Confirm that the E-TFCI transmitted by the UE is equal to the target E-TFCI in Table C.11.1.3. If the E-TFCI transmitted by the UE is not equal to the target E-TFCI, then fail the UE.
9. Measure the mean power of the UE. The mean power shall be averaged over at least one timeslot.
10. Repeat the measurement for the different combinations of beta values for sub-test 1 to 4 as given in table C.11.1.3.

Procedure for sub-test 5

1. Set the Absolute Grant according to sub-test 5 in Table C.11.1.3.
2. The SS starts transmitting HSDPA and the UE loops the received data back on E-DCH.
3. Set the UE power to be at least 7.5dB lower than the maximum output power. Wait 150ms.
4. Set and send continuously Up power control commands to the UE. Wait 150ms.
5. Measure the mean power of the UE. The mean power shall be averaged over at least one timeslot.

TEST RESULTS

FDD Band I							
Channel	Test environment		β c/ β d	Meas (dBm)	Limit (dBm)		Result
	Temperature (℃)	Voltage (V)			High	Low	
9613	25	3.70	11/15	22.25	25.70	17.30	Pass
			6/15	21.99	25.70	16.80	
			15/9	22.04	25.70	17.80	
			2/15	22.35	25.70	16.80	
			15/15	22.47	25.70	17.30	
	-10	4.25	11/15	22.63	25.70	17.30	Pass
			6/15	21.72	25.70	16.80	
			15/9	21.92	25.70	17.80	
			2/15	22.59	25.70	16.80	
			15/15	22.38	25.70	17.30	
		3.50	11/15	22.25	25.70	17.30	Pass
			6/15	21.80	25.70	16.80	
			15/9	22.05	25.70	17.80	
			2/15	22.26	25.70	16.80	
			15/15	22.30	25.70	17.30	
	+55	4.25	11/15	22.63	25.70	17.30	Pass
			6/15	21.44	25.70	16.80	
			15/9	21.93	25.70	17.80	
			2/15	22.42	25.70	16.80	
			15/15	22.17	25.70	17.30	
		3.50	11/15	22.25	25.70	17.30	Pass
			6/15	21.57	25.70	16.80	
			15/9	22.37	25.70	17.80	
			2/15	21.79	25.70	16.80	
			15/15	22.04	25.70	17.30	
9750	25	3.70	11/15	22.47	25.70	17.30	Pass
			6/15	22.36	25.70	16.80	
			15/9	22.46	25.70	17.80	
			2/15	22.38	25.70	16.80	
			15/15	22.17	25.70	17.30	
	-10	4.25	11/15	22.47	25.70	17.30	Pass
			6/15	22.36	25.70	16.80	
			15/9	22.46	25.70	17.80	
			2/15	22.17	25.70	16.80	
			15/15	22.17	25.70	17.30	
		3.50	11/15	22.47	25.70	17.30	Pass
			6/15	22.69	25.70	16.80	
			15/9	22.65	25.70	17.80	
			2/15	22.03	25.70	16.80	
			15/15	22.06	25.70	17.30	

	+55	4.25	11/15	22.62	25.70	17.30	Pass
			6/15	22.58	25.70	16.80	
			15/9	22.51	25.70	17.80	
			2/15	22.21	25.70	16.80	
			15/15	21.96	25.70	17.30	
		3.50	11/15	22.47	25.70	17.30	Pass
			6/15	23.03	25.70	16.80	
			15/9	22.97	25.70	17.80	
			2/15	21.96	25.70	16.80	
			15/15	21.84	25.70	17.30	
9887	25	3.70	11/15	22.36	25.70	17.30	Pass
			6/15	22.15	25.70	16.80	
			15/9	22.07	25.70	17.80	
			2/15	22.43	25.70	16.80	
			15/15	22.31	25.70	17.30	
	-10	4.25	11/15	22.63	25.70	17.30	Pass
			6/15	22.06	25.70	16.80	
			15/9	21.77	25.70	17.80	
			2/15	22.61	25.70	16.80	
			15/15	22.04	25.70	17.30	
		3.50	11/15	22.36	25.70	17.30	Pass
			6/15	22.56	25.70	16.80	
			15/9	21.91	25.70	17.80	
			2/15	21.68	25.70	16.80	
			15/15	21.95	25.70	17.30	
	+55	4.25	11/15	22.67	25.70	17.30	Pass
			6/15	22.44	25.70	16.80	
			15/9	21.55	25.70	17.80	
			2/15	22.31	25.70	16.80	
			15/15	21.83	25.70	17.30	
		3.50	11/15	22.36	25.70	17.30	Pass
			6/15	22.57	25.70	16.80	
			15/9	21.68	25.70	17.80	
			2/15	21.70	25.70	16.80	
			15/15	21.46	25.70	17.30	

FDD Band VIII							
Channel	Test environment		βc/βd	Meas (dBm)	Limit (dBm)		Result
	Temperature (℃)	Voltage (V)			High	Low	
2713	25	3.70	11/15	22.08	25.70	17.30	Pass
			6/15	21.94	25.70	16.80	
			15/9	21.85	25.70	17.80	
			2/15	22.04	25.70	16.80	
			15/15	21.79	25.70	17.30	
	-10	4.25	11/15	22.20	25.70	17.30	Pass
			6/15	21.89	25.70	16.80	
			15/9	21.79	25.70	17.80	
			2/15	21.85	25.70	16.80	
			15/15	21.74	25.70	17.30	
		3.50	11/15	22.08	25.70	17.30	Pass
			6/15	22.33	25.70	16.80	
			15/9	22.17	25.70	17.80	
			2/15	21.37	25.70	16.80	
			15/15	21.36	25.70	17.30	
	+55	4.25	11/15	22.45	25.70	17.30	Pass
			6/15	21.94	25.70	16.80	
			15/9	22.05	25.70	17.80	
			2/15	21.48	25.70	16.80	
			15/15	21.24	25.70	17.30	
		3.50	11/15	22.08	25.70	17.30	Pass
			6/15	22.10	25.70	16.80	
			15/9	22.28	25.70	17.80	
			2/15	21.10	25.70	16.80	
			15/15	21.12	25.70	17.30	
2788	25	3.70	11/15	21.86	25.70	17.30	Pass
			6/15	21.74	25.70	16.80	
			15/9	21.96	25.70	17.80	
			2/15	22.01	25.70	16.80	
			15/15	22.16	25.70	17.30	
	-10	4.25	11/15	21.99	25.70	17.30	Pass
			6/15	21.58	25.70	16.80	
			15/9	21.57	25.70	17.80	
			2/15	22.55	25.70	16.80	
			15/15	21.69	25.70	17.30	
		3.50	11/15	21.86	25.70	17.30	Pass
			6/15	21.69	25.70	16.80	
			15/9	21.87	25.70	17.80	
			2/15	21.57	25.70	16.80	
			15/15	21.55	25.70	17.30	

	+55	4.25	11/15	22.16	25.70	17.30	Pass
			6/15	21.54	25.70	16.80	
			15/9	21.57	25.70	17.80	
			2/15	21.85	25.70	16.80	
			15/15	21.26	25.70	17.30	
		3.50	11/15	21.86	25.70	17.30	Pass
			6/15	21.62	25.70	16.80	
			15/9	21.68	25.70	17.80	
			2/15	21.21	25.70	16.80	
			15/15	21.13	25.70	17.30	
2862	25	3.70	11/15	21.52	25.70	17.30	Pass
			6/15	21.69	25.70	16.80	
			15/9	21.76	25.70	17.80	
			2/15	21.85	25.70	16.80	
			15/15	21.96	25.70	17.30	
	-10	4.25	11/15	21.65	25.70	17.30	Pass
			6/15	21.57	25.70	16.80	
			15/9	21.38	25.70	17.80	
			2/15	22.34	25.70	16.80	
			15/15	21.60	25.70	17.30	
		3.50	11/15	21.52	25.70	17.30	Pass
			6/15	21.69	25.70	16.80	
			15/9	21.68	25.70	17.80	
			2/15	21.43	25.70	16.80	
			15/15	21.46	25.70	17.30	
	+55	4.25	11/15	21.81	25.70	17.30	Pass
			6/15	21.51	25.70	16.80	
			15/9	21.63	25.70	17.80	
			2/15	21.51	25.70	16.80	
			15/15	21.34	25.70	17.30	
		3.50	11/15	21.52	25.70	17.30	Pass
			6/15	21.55	25.70	16.80	
			15/9	21.79	25.70	17.80	
			2/15	21.22	25.70	16.80	
			15/15	21.18	25.70	17.30	

4.2. ETSI EN301908-1 Requirement

4.2.1. Radiated emissions (UE)

LIMIT

ETSI EN 301 908-1 Sub-clause 4.2.2.2

This test assesses the ability of radio communications equipment and ancillary equipment to limit unwanted emissions from the enclosure port.

This test is applicable to radio communications equipment and ancillary equipment.

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

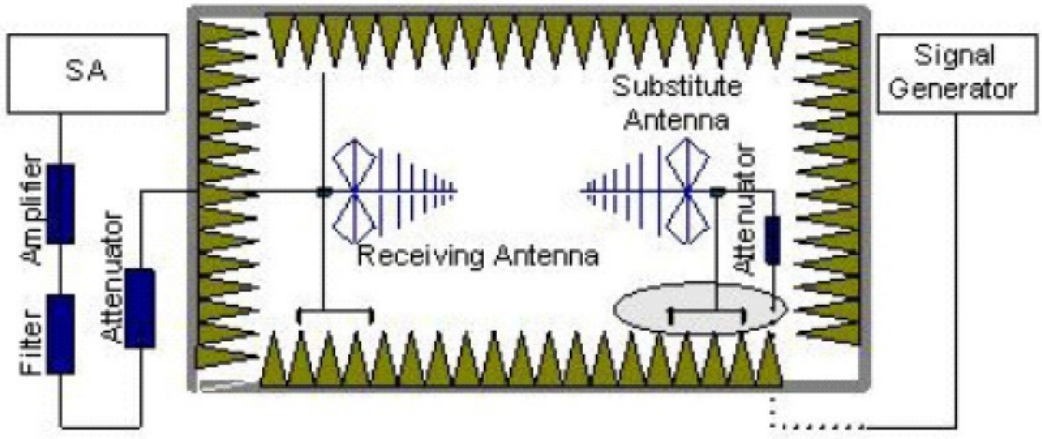
The frequency boundary and reference bandwidths for the detailed transitions of the limits between the requirements for out-of-band emissions and spurious emissions are based on ITU-R Recommendations SM.329-10 [3] and SM.1539-1 [4].

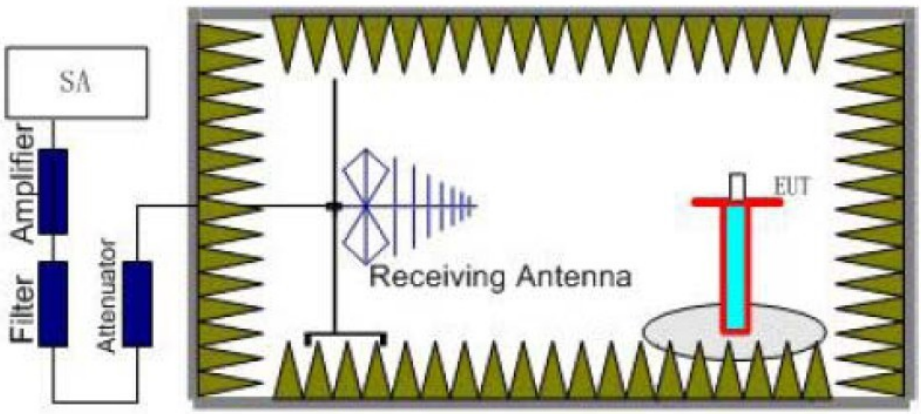
The requirements shown in table 4.2.2.2-1 are only applicable for frequencies in the spurious domain.

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
f_c – 2.5 × 5 MHz < f < f_c + 2.5 × 5 MHz		Not defined	UTRA FDD, UTRA TDD, 3,84 Mcps option, cdma2000, spreading rate 3
f_c – 2.5 × BWChannel MHz < f < f_c + 2.5 × BWChannel MHz		Not defined	E-UTRA FDD, E-UTRA TDD, Mobile WiMAX, UMB
f_c – 2.5 × 10 MHz < f < f_{c1} + 2.5 × 10 MHz		Not defined	UTRA TDD, 7,68 Mcps option
f_c - 4 MHz < f < f_c + 4 MHz		Not defined	UTRA TDD, 1,28 Mcps option cdma2000, spreading rate 1
f_c - 500 kHz < f < f_c + 500 kHz		Not defined	UWC 136, 200 kHz option
f_c - 250 kHz < f < f_c + 250 kHz		Not defined	UWC 136, 30 kHz option
NOTE: fc is the UE transmit centre frequency.			

TEST CONFIGURATION





TEST PROCEDURE

Please refer to ETSI EN 300 328 Sub-clause 5.7.2.2

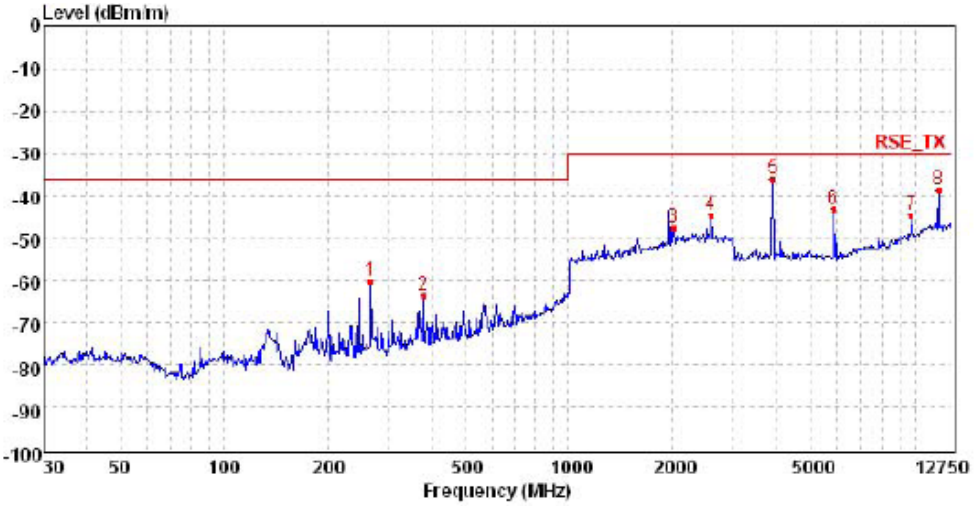
Step 1:
The measurement is carried out in the fully anechoic chamber. EUT was placed on a 1.50 meter high non-conductive table at a 3 meter test distance from the test receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT. The height of receiving antenna is 1.50 m and varies in certain range to find the maximum power value. Connect the EUT to the BTS simulator via the air interface. The measurement is carried out using a spectrum analyzer or receiver. Then the antenna height and turn table rotation is adjusted till the maximum power value is founded on spectrum analyzer or receiver. A filter is necessary in the band near to the carrier frequency. A filter is needed to avoid the distortion of the testing equipment in the band above the carrier frequency.
Step 2:
A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
Calculation procedure:
The data of cable loss, antenna gain and air loss has been calibrated in full testing frequency range before the testing.
The power of the Radiated Spurious Emissions is calculated by adding the cable loss, antenna gain and air loss. The basic equation with a sample calculation is as followed:
$P=P_R+L_C+L_A-G$
Where
P: Power of the Radiated Spurious Emissions (dBm)
P_R: reading of the receiver (dBm)
L_C: Cable Lose and power amilifer gain and filter cable loss (dB)
L_A: Air loss (dB)
G: Antenna Gain (dBi)
Assumed the reading of the receiver is -60dBm. A cable lose of 10dB, an air lose of 30dB and an antenna gain of 11dBi are added.
$P=P_R+L_C+L_A-G=-60+10+30-11=-31dBm$

TEST RESULTS

This test was carried out in all the test modes, here only the worst test result was shown.

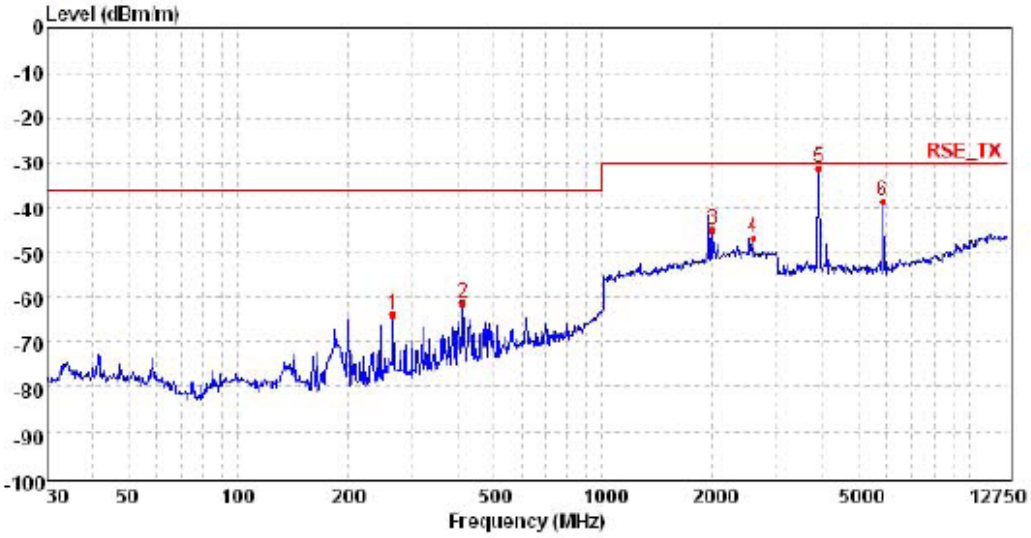
The EUT has met the requirements of 3GPP2 C.S0011-A's requirement.

WCDMA Band I			
Test mode:	Traffic Mode	Polarity:	Horizontal



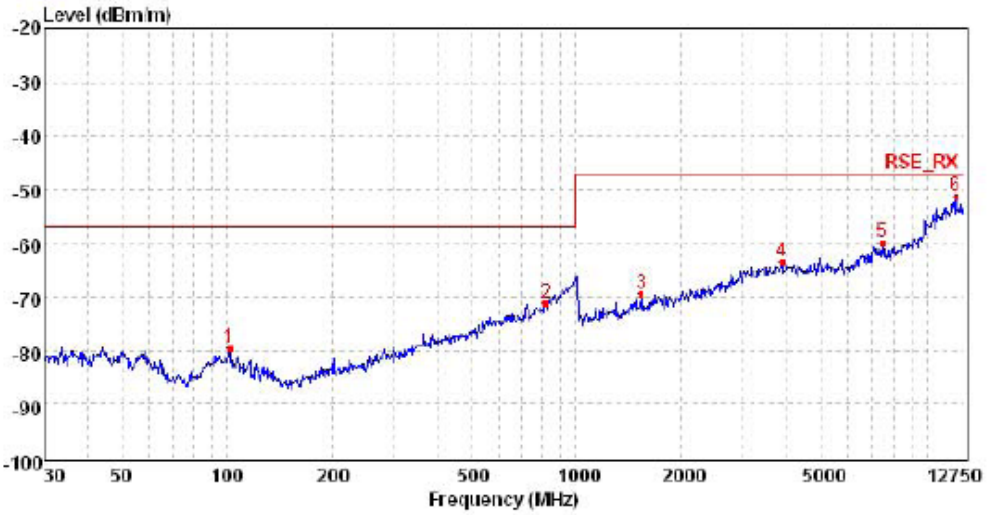
Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	266.39	-58.67	25.42	1.80	28.84	-60.29	-36.00	-24.29	Peak
2	378.65	-64.75	27.89	2.19	28.88	-63.55	-36.00	-27.55	Peak
3	2006.76	-66.09	41.09	5.57	28.01	-47.44	-30.00	-17.44	Peak
4	2580.81	-66.56	42.53	6.67	27.21	-44.57	-30.00	-14.57	Peak
5	3898.81	-51.37	44.50	8.65	37.99	-36.21	-30.00	-6.21	Peak
6	5843.28	-61.59	46.58	9.72	38.01	-43.30	-30.00	-13.30	Peak
7	9749.67	-69.06	50.18	12.23	38.09	-44.74	-30.00	-14.74	Peak
8	11704.41	-66.61	52.12	13.58	37.77	-38.68	-30.00	-8.68	Peak

Test mode:	Traffic Mode	Polarity:	Vertical



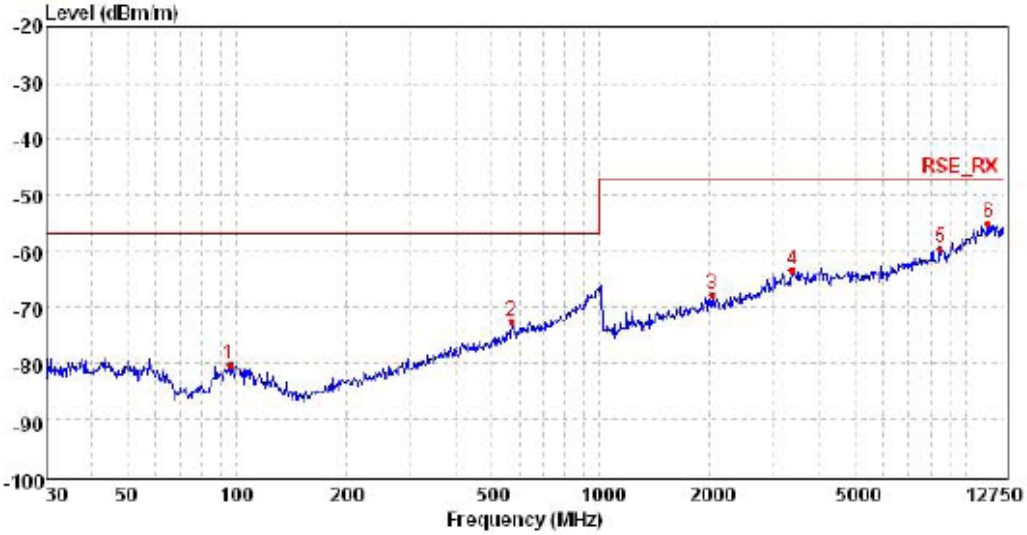
Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	266.39	-62.26	25.42	1.80	28.84	-63.88	-36.00	-27.88	Peak
2	414.90	-63.38	28.48	2.29	28.90	-61.51	-36.00	-25.51	Peak
3	1993.57	-63.60	41.05	5.57	28.03	-45.01	-30.00	-15.01	Peak
4	2577.97	-68.68	42.53	6.67	27.21	-46.69	-30.00	-16.69	Peak
5	3898.81	-46.29	44.50	8.65	37.99	-31.13	-30.00	-1.13	Peak
6	5851.76	-57.10	46.58	9.72	38.01	-38.81	-30.00	-8.81	Peak

Test mode:	Idle Mode	Polarity:	Horizontal



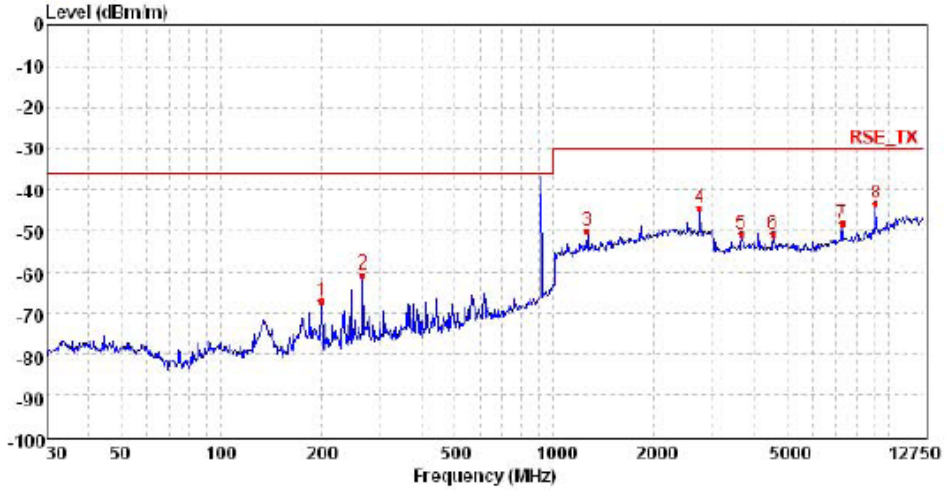
Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	102.00	-77.79	25.84	1.00	28.47	-79.42	-57.00	-22.42	Peak
2	817.88	-79.58	33.61	3.37	28.50	-71.10	-57.00	-14.10	Peak
3	1537.56	-77.83	40.13	5.27	36.87	-69.30	-47.00	-22.30	Peak
4	3883.62	-78.69	44.50	8.65	37.99	-63.53	-47.00	-16.53	Peak
5	7432.62	-81.20	48.66	10.94	38.15	-59.75	-47.00	-12.75	Peak
6	12086.33	-79.60	52.14	13.76	37.65	-51.35	-47.00	-4.35	Peak

Test mode:	Idle Mode	Polarity:	Vertical



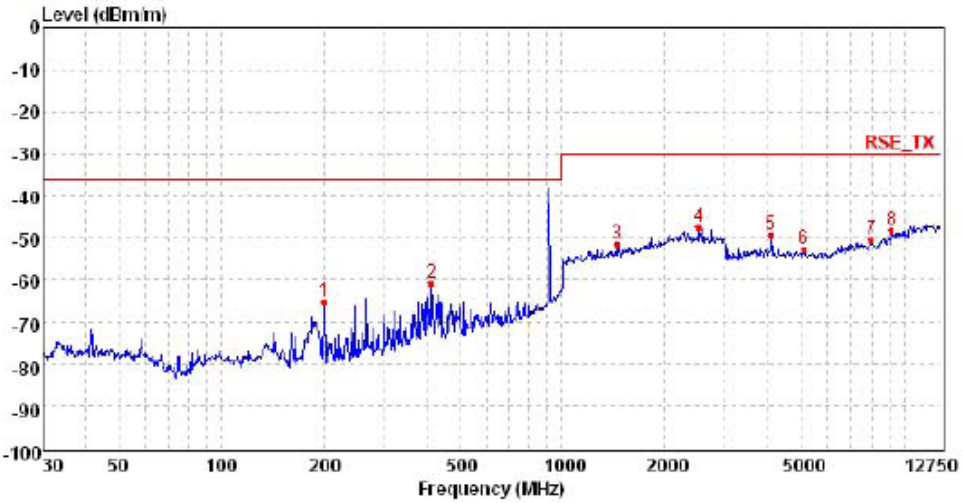
Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	96.08	-78.60	25.61	0.97	28.46	-80.48	-57.00	-23.48	Peak
2	571.37	-77.78	31.17	2.78	28.81	-72.64	-57.00	-15.64	Peak
3	2024.07	-77.82	41.13	6.20	37.27	-67.76	-47.00	-20.76	Peak
4	3376.24	-77.62	43.67	8.66	37.99	-63.28	-47.00	-16.28	Peak
5	8484.55	-82.03	49.36	11.25	38.10	-59.52	-47.00	-12.52	Peak
6	11486.41	-82.68	52.12	13.48	37.88	-54.96	-47.00	-7.96	Peak

WCDMA Band VIII			
Test mode:	Traffic Mode	Polarity:	Horizontal



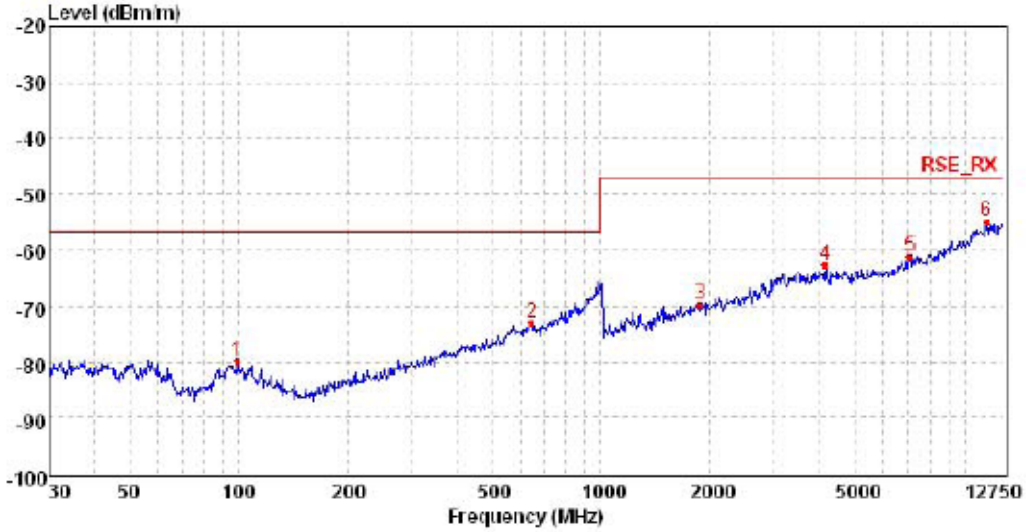
Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	200.36	-63.15	23.60	1.52	28.80	-66.83	-36.00	-30.83	Peak
2	266.39	-59.07	25.42	1.80	28.84	-60.69	-36.00	-24.69	Peak
3	1259.49	-65.57	39.32	4.27	28.22	-50.20	-30.00	-20.20	Peak
4	2735.54	-67.55	42.83	7.01	27.02	-44.73	-30.00	-14.73	Peak
5	3641.91	-65.69	44.04	8.74	37.99	-50.90	-30.00	-20.90	Peak
6	4559.89	-67.30	45.68	9.02	38.38	-50.98	-30.00	-20.98	Peak
7	7294.95	-69.77	48.55	10.88	38.12	-48.46	-30.00	-18.46	Peak
8	9133.71	-66.99	49.74	11.76	37.98	-43.47	-30.00	-13.47	Peak

Test mode:	Traffic Mode	Polarity:	Vertical



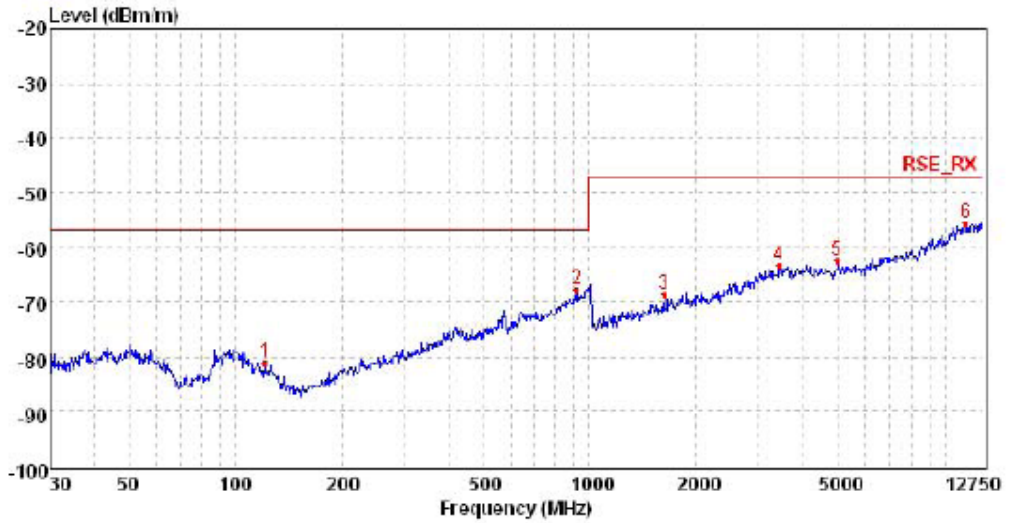
Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	200.36	-61.83	23.60	1.52	28.80	-65.51	-36.00	-29.51	Peak
2	414.90	-62.83	28.48	2.29	28.90	-60.96	-36.00	-24.96	Peak
3	1452.85	-68.15	39.90	4.64	28.16	-51.77	-30.00	-21.77	Peak
4	2519.18	-69.37	42.40	6.54	27.29	-47.72	-30.00	-17.72	Peak
5	4095.87	-65.06	44.87	8.68	38.06	-49.57	-30.00	-19.57	Peak
6	5098.61	-70.33	46.61	9.40	38.57	-52.89	-30.00	-22.89	Peak
7	7969.71	-72.52	49.02	11.23	38.25	-50.52	-30.00	-20.52	Peak
8	9133.71	-71.85	49.74	11.76	37.98	-48.33	-30.00	-18.33	Peak

Test mode:	Idle Mode	Polarity:	Horizontal



Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	99.17	-78.23	25.92	0.98	28.46	-79.79	-57.00	-22.79	Peak
2	643.93	-79.10	31.63	2.99	28.70	-72.98	-57.00	-15.98	Peak
3	1875.26	-79.23	40.82	5.93	37.16	-69.64	-47.00	-22.64	Peak
4	4170.53	-78.50	45.02	8.74	38.11	-62.85	-47.00	-15.85	Peak
5	7099.75	-82.38	48.40	10.81	38.08	-61.25	-47.00	-14.25	Peak
6	11457.21	-82.92	52.11	13.48	37.89	-55.22	-47.00	-8.22	Peak

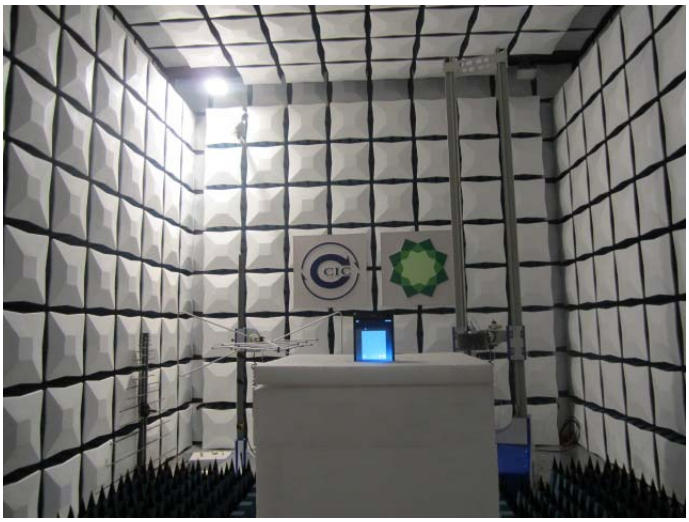
Test mode:	Idle Mode	Polarity:	Vertical



Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	121.60	-77.24	23.77	1.14	28.56	-80.89	-57.00	-23.89	Peak
2	918.52	-78.99	35.89	3.63	28.40	-67.87	-57.00	-10.87	Peak
3	1626.12	-77.62	40.34	5.45	36.95	-68.78	-47.00	-21.78	Peak
4	3428.21	-77.99	43.71	8.72	37.99	-63.55	-47.00	-16.55	Peak
5	5009.43	-79.87	46.61	9.35	38.65	-62.56	-47.00	-15.56	Peak
6	11370.05	-83.30	52.11	13.42	37.95	-55.72	-47.00	-8.72	Peak

Note: The radiated spurious are performed the each test mode(WCDMA,HSDPA,HSUPA), the datum recorded is the worst case for all the mode at WCDMA mode.

5. Test Setup Photos of the EUT



6. External and Internal Photos of the EUT

Reference to the test report No.: TRE1603019101

----------End of Report----------