



TEST REPORT

Reference No. : WTX23X05117108W002
Manufacturer : Xontel Technology Company
Address : Kuwait City Aladel Tower,F21 QIBLA
Product Name : WIFI Phone
Model No. : XT-16W
Standards : ETSI EN 301 908-1 V15.2.1 (2023-01)
ETSI EN 301 908-2 V13.1.1 (2020-06)
Date of Receipt sample : 2023-05-30
Date of Test : 2023-05-30 to 2023-07-04
Date of Issue : 2023-07-05
Test Report Form No. : WTX_ESI EN 301 908_1_2019W
Test Result : Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

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Report version

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Rev.00	2023-07-05	Original
/	/	/

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	WIFI Phone
Trade Name:	Xontel
Model No.:	XT-16W
Adding Model(s):	/
Rated Voltage:	DC3.7V
Battery Capacity:	2000mAh
Adapter Model:	CT-083 Input:AC110-240 50/60Hz 0.2A Output:DC5V1.0A
Software Version:	/
Hardware Version:	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
3G	
Support Networks:	WCDMA, HSDPA, HSUPA
Support Bands:	WCDMA Band 1, WCDMA Band 8
Frequency Range:	WCDMA Band 1: Tx: 1920-1980MHz, Rx: 2110-2170MHz WCDMA Band 8: Tx: 880-915MHz, Rx: 925-960MHz
RF Output Power:	WCDMA Band 1: 23.56dBm, WCDMA Band 8: 23.27dBm
Modulation Type:	BPSK, QPSK, 16QAM
Antenna Type:	Integral Antenna
Antenna Gain:	WCDMA Band 1: 1.17dBi, WCDMA Band 8: 0.48dBi
<i>Note: The Antenna Gain is provided by the customer and can affect the validity of results.</i>	



1.2 Test Standards

The tests were performed according to following standards:

ETSI EN 301 908-1 V15.2.1 (2023-01): IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 1: Introduction and common requirements; Release 15

ETSI EN 301 908-2 V13.1.1 (2020-06): IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 2: CDMA Direct Spread (UTRA FDD) User Equipment (UE).

ETSI TS 134 121-1 V14.2.0 (2017-08): 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 14.2.0 Release 14).

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product which maybe results in lowering the emission/immunity should be checked to ensure that compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ETSI EN 301 908-1, ETSI EN 301 908-2

The equipment under test (EUT) was configured to measure its highest possible emission level. For more detail refer to the Operating Instructions.

1.4 Test Facility

Address of the test laboratory

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) 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. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.



1.5 EUT Setup and Test Mode

The EUT has been tested under typical operating condition. The Applicant provide software to control the EUT for staying in continuous transmitting and receiving mode for testing.

Test Mode List		
Test Mode	Description	Remark
TM1	UMTS FDD Band I	Transmitting/ Receiving/Idle
TM2	UMTS FDD Band VIII	Transmitting/ Receiving/Idle
Note: The Test EUT support two SIM card(SIM1,SIM2),so all the tests are performed at each SIM card (SIM1,SIM2) mode, the datum recorded is the worst case for all the mode at SIM1 Card mode.		

Test Conditions					
	NTNV	LTLV	LTHV	HTHV	HTLV
Temperature (°C)	25	-10	-10	40	40
Voltage (V)	3.7	3.5	4.2	4.2	3.5
Temperature:		25 °C			
Relative Humidity:		45 %.			
ATM Pressure:		1019 mbar			

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Accessories Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/



1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Uncertainty	Notes
Conducted RF Output Power	±0.6dB	(1)
Transmitter spectrum emission mask	±1.5dB	(1)
Conducted Transmitter spurious emissions	±1.0dB	(1)
Transmitter minimum output power	±1.0dB	(1)
Receiver adjacent channel selectivity	±0.5dB	(1)
Receiver blocking characteristics	±1.7dB	(1)
Receiver spurious response	±1.7dB	(1)
Receiver intermodulation characteristics	±1.3dB	(1)
Conducted Receiver spurious emissions	±1.0dB	(1)
Transmitter adjacent channel power leakage ratio	±0.8dB	(1)
Receiver Reference Sensitivity level	±1.0dB	(1)
Radiated Spurious Emissions	30-200MHz ±4.52dB	(1)
	0.2-1GHz ±5.56dB	(1)
	1-6GHz ±3.84dB	(1)
	6-18GHz ±3.92dB	(1)

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



1.7 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
MXG Vector Signal Generator	Agilent	N5182A	MY47420108	2023-02-25	2024-02-24
DC Power Supply	Agilent	E3634A	MY40009294	2023-02-25	2024-02-24
EXG Analog Signal Generator	KEYSIGHT	N5173B	MY61252892	2023-02-25	2024-02-24
Spectrum Analyzer	Rohde&Schwarz	FSV40-N	101559	2023-02-25	2024-02-24
Band Reject Filter Group	Tonscend	JS0806-F	23A806F0658	2023-02-25	2024-02-24
Universal Radio Communication Tester	Rohde & Schwarz	CMW500	148650	2023-02-25	2024-02-24
<input type="checkbox"/> Chamber A: Below 1GHz					
Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2023-02-25	2024-02-24
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2023-02-25	2024-02-24
Amplifier	HP	8447F	2805A03475	2023-02-25	2024-02-24
Loop Antenna	Schwarzbeck	FMZB 1516	9773	2021-03-20	2024-03-19
Trilog Broadband Antenna	Schwarzbeck	VULB9163	9163-333	2023-03-20	2026-03-19
<input type="checkbox"/> Chamber A: Above 1GHz					
Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2023-02-25	2024-02-24
Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2023-02-25	2024-02-24
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2023-02-25	2024-02-24
Amplifier	C&D	PAP-1G18	14918	2023-02-25	2024-02-24
Horn Antenna	ETS	3117	00086197	2021-03-19	2024-03-18
DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2021-03-19	2024-03-18
Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2023-02-25	2024-02-24
<input type="checkbox"/> Chamber B: Below 1GHz					
Trilog Broadband Antenna	Schwarzbeck	VULB9163(B)	9163-635	2021-04-09	2024-04-08
Amplifier	Agilent	8447D	2944A10179	2023-02-25	2024-02-24
EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2023-02-25	2024-02-24
<input checked="" type="checkbox"/> Chamber C: Below 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2023-02-25	2024-02-24
Trilog Broadband Antenna	Schwarzbeck	VULB 9168	1194	2021-05-28	2024-05-27
Amplifier	HP	8447F	2944A03869	2023-02-25	2024-02-24
<input checked="" type="checkbox"/> Chamber C: Above 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2023-02-25	2024-02-24



Horn Antenna	POAM	RTF-11A	LP228060221	2023-03-10	2026-03-09
Amplifier	Tonscend	TAP01018050	AP22E806235	2023-02-25	2024-02-24

Software List			
Description	Manufacturer	Model	Version
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1

*Remark: indicates software version used in the compliance certification testing.

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2. SUMMARY OF TEST RESULTS

Test Item	Test Requirement ESTI EN301 908-1		Test Conditions	Verdict
Radiated emissions (UE)	Section 4.2.2		NT/NV	Pass
Control and monitoring functions (UE)	Section 4.2.4		NT/NV	Pass
Test Item	Test Requirement ESTI EN301 908-2	Test Method ETSI TS134 121-1	Test Conditions	Verdict
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
Transmitter Spectrum emission mask	Section 4.2.3	Clause 5.9	NT/NV	Pass
Transmitter Spurious Emissions	Section 4.2.4	Clause 5.11	NT/NV	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
Receiver Adjacent Channel Selectivity	Section 4.2.6	Clause 6.4	NT/NV	Pass
Receiver Blocking Characteristics	Section 4.2.7	Clause 6.5	NT/NV	Pass
Recevier Spurious Response	Section 4.2.8	Clause 6.6	NT/NV	Pass
Recevier Intermodulation Characteristics	Section 4.2.9	Clause 6.7	NT/NV	Pass
Receiver Spurious Emissions	Section 4.2.10	Clause 5.11	NT/NV	Pass
Out-of-synchronisation handling of output power	Section 4.2.11	Clause 5.4.4	NT/NV	Pass
Transmitter Adjacent Channel Leakage Power	Section 4.2.12	Clause 5.10	NT/NV LT/LV	Pass Pass



Ratio				LT/HV HT/LV HT/HV	Pass Pass Pass
Receiver Reference Sensitivity level	Section 4.2.13	Clause 6.2		NT/NV LT/LV LT/HV HT/LV HT/HV	Pass Pass Pass Pass Pass
Receiver Total Radiated Sensitivity (TRS)	Section 4.2.14			NT/NV	N/A
Total Radiated Power (TRP)	Section 4.2.15			NT/NV	N/A

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3. Essential radio test suites

3.1 Transmitter maximum output power

Clause 5.2 of TS 134 121-1 applies.

RESULT: Pass

3.1.1 Definition and applicability

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 $(1 + \alpha)$ times the chip rate of the radio access mode. The period of measurement shall be at least one timeslot.

3.1.2 Conformance requirements

Test environment: normal, TL/VL,TL/VH,TH/VL,TH/VH (see section 1.6).

The frequencies to be tested are low range, mid range and high range as defined in TS 134 108 [3]:

- 1) Connect the SS to the UE antenna connector.
- 2) A call is set up according to the Generic call setup procedure.
- 3) Enter the UE into loopback test mode and start the loopback test.

NOTE: When reference is made to test set up, call set up and loopback test mode, guidance on the applicability of

these can be found in TS 134 121-1 [2], TS 134 108 [3] and TS 134 109 [4] respectively.

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	Tol	Power	Tol	Power	Tol
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



3.1.3 Set up for testing

- 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 $(1 + \alpha)$ times the chip rate of the radio access mode. The mean power shall be averaged over at least one timeslot.

3.1.4 Test result

Test result transmitter maximum output power.

WCDMA Band 1

Test conditions		Maximum output power in dBm		
		Maximum output power RMC (Power Class 3: 24dBm)		
Temperature(°C)	Voltage (V)	Channel 9613	Channel 9750	Channel 9887
NT	NV	23.33	23.41	23.56
LT	LV	23.24	23.36	23.51
	HV	23.29	23.38	23.53
HT	LV	23.30	23.40	23.50
	HV	23.27	23.37	23.49
Max. permitted error		+1.7/-3.7dB		

Test conditions		Maximum output power in dBm		
		Maximum output power HSDPA (Power Class 3: 24dBm)		
Temperature(°C)	Voltage (V)	Channel 9613	Channel 9750	Channel 9887
NT	NV	22.42	22.98	22.59
LT	LV	22.39	22.93	22.57
	HV	22.36	22.92	22.51
HT	LV	22.37	22.94	22.56
	HV	22.40	22.90	22.53
Max. permitted error		+1.7/-3.7dB		

Test conditions		Maximum output power in dBm		
		Maximum output power HSUPA (Power Class 3: 24dBm)		
Temperature(°C)	Voltage (V)	Channel 9613	Channel 9750	Channel 9887
NT	NV	22.38	22.96	22.54
LT	LV	22.31	22.93	22.51
	HV	22.34	22.91	22.49
HT	LV	22.33	22.94	22.52
	HV	22.35	22.90	22.53
Max. permitted error		+1.7/-3.7dB		



WCDMA Band 8

Test conditions		Maximum output power in dBm		
		Maximum output power RMC (Power Class 3: 24dBm)		
Temperature(°C)	Voltage (V)	Channel 2713	Channel 2788	Channel 2862
NT	NV	23.27	23.21	23.11
	LV	23.19	23.16	23.06
LT	HV	23.20	23.19	23.08
	LV	23.22	23.20	23.07
HT	HV	23.21	23.17	23.05
	Max. permitted error		+1.7/-3.7dB	

Test conditions		Maximum output power in dBm		
		Maximum output power HSDPA (Power Class 3: 24dBm)		
Temperature(°C)	Voltage (V)	Channel 2713	Channel 2788	Channel 2862
NT	NV	21.83	22.68	22.46
	LV	21.80	22.63	22.43
LT	HV	21.76	22.60	22.41
	LV	21.79	22.59	22.45
HT	HV	21.81	22.61	22.42
Max. permitted error		+1.7/-3.7dB		

Test conditions		Maximum output power in dBm		
		Maximum output power HSUPA (Power Class 3: 24dBm)		
Temperature(°C)	Voltage (V)	Channel 2713	Channel 2788	Channel 2862
NT	NV	21.67	22.65	22.38
	LV	21.62	22.60	22.32
LT	HV	21.60	22.64	22.34
	LV	21.65	22.61	22.31
HT	HV	21.63	22.62	22.30
Max. permitted error		+1.7/-3.7dB		



3.2 Transmitter spectrum emission mask

Clause 5.9 of TS 134 121-1 applies.

RESULT: Pass

3.2.1 Definition and applicability

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.

3.2.2 Conformance requirements

Test environment: normal (see section 1.6).

The frequencies to be tested are low range, mid range and high range as defined in TS 134 108 [3]:

- 1) Connect the SS to the UE antenna connector.
- 2) A call is set up according to the Generic call setup procedure.
- 3) Enter the UE into loopback test mode and start the loopback test.

NOTE: When reference is made to test set up, call set up and loopback test mode, guidance on the applicability of

these can be found in TS 134 121-1 [2], TS 134 108 [3] and TS 134 109 [4] respectively.

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 β_c , β_d , β_{hs} , β_{ec} and β_{ed} defined in TS 125 214 [8].

**Table 4.2.3.1.2-1: 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.

3.2.3 Set up for testing

- 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.

3.2.4 Test result



WCDMA Band 1

Transmitter spectrum emission mask – Max. emission value (dBc) in the measure frequency band			
Measure range	Low channel	Mid. Channel	High Channel
2.5MHz to 3.5MHz	Pass	Pass	Pass
3.5MHz to 7.5MHz	Pass	Pass	Pass
7.5MHz to 8.5MHz	Pass	Pass	Pass
8.5MHz to 12.5MHz	Pass	Pass	Pass

WCDMA Band 8

Transmitter spectrum emission mask – Max. emission value (dBc) in the measure frequency band			
Measure range	Low channel	Mid. Channel	High Channel
2.5MHz to 3.5MHz	Pass	Pass	Pass
3.5MHz to 7.5MHz	Pass	Pass	Pass
7.5MHz to 8.5MHz	Pass	Pass	Pass
8.5MHz to 12.5MHz	Pass	Pass	Pass



Please refer to the test plots as below:

Type:	WCDMA Band 1
Low Channel	<p>WCDMA FDD Band 1 Spectrum</p> <p>dB Max Level: Auto Low noise Freq Offset: + 0.000 kHz Chan./Freq: 9613 / 1922.6 MHz</p> <p>+0 --- / Off 0 --- / Off 0 --- / Off Current</p> <p>-10 -20 -30 -40 -50 -60 -70 -80 -90</p> <p>-12.000 -8.500 -7.500 -4.000 -2.515 0 2.515 4.000 7.500 8.500 12.000</p> <p>-5.3 -6.6 -15.5 -15.6 Margin of Current dB -12.6 -14.1 -5.5 -5.5</p> <p>Current Average Max./Min. Ref. Power 23.1 dBm 23.0 dBm 23.1 dBm 10 Statistic Count</p> <p>UE Power 23.32 dBm Out of Tolerance 0.00 %</p> <p>ACLR Filter ACLR FFT/OBW Emission Mask</p>
Middle Channel	<p>WCDMA FDD Band 1 Spectrum</p> <p>dB Max Level: Auto Low noise Freq Offset: + 0.000 kHz Chan./Freq: 9750 / 1950.0 MHz</p> <p>+0 --- / Off 0 --- / Off 0 --- / Off Current</p> <p>-10 -20 -30 -40 -50 -60 -70 -80 -90</p> <p>-12.000 -8.500 -7.500 -4.000 -2.515 0 2.515 4.000 7.500 8.500 12.000</p> <p>-5.6 -6.4 -13.6 -13.0 Margin of Current dB -14.6 -14.7 -5.1 -5.1</p> <p>Current Average Max./Min. Ref. Power 23.1 dBm 23.1 dBm 23.1 dBm 10 Statistic Count</p> <p>UE Power 23.38 dBm Out of Tolerance 0.00 %</p> <p>ACLR Filter ACLR FFT/OBW Emission Mask</p>
High Channel	<p>WCDMA FDD Band 1 Spectrum</p> <p>dB Max Level: Auto Low noise Freq Offset: + 0.000 kHz Chan./Freq: 9687 / 1977.4 MHz</p> <p>+0 --- / Off 0 --- / Off 0 --- / Off Current</p> <p>-10 -20 -30 -40 -50 -60 -70 -80 -90</p> <p>-12.000 -8.500 -7.500 -4.000 -2.515 0 2.515 4.000 7.500 8.500 12.000</p> <p>-5.3 -6.6 -12.1 -11.7 Margin of Current dB -12.9 -13.4 -5.5 -5.5</p> <p>Current Average Max./Min. Ref. Power 23.2 dBm 23.2 dBm 23.2 dBm 10 Statistic Count</p> <p>UE Power 23.45 dBm Out of Tolerance 0.00 %</p> <p>ACLR Filter ACLR FFT/OBW Emission Mask</p>



Type:	WCDMA Band 8																																																																																																																																																						
Low Channel	<p>WCDMA FDD Band VIII Spectrum</p> <p>dB Max Level: Auto Low noise Freq Offset: +0.000 kHz Chan/Freq: 2713 / 882.6 MHz</p> <table border="1"> <tr> <td>+0</td> <td>/ Off</td> <td>-10</td> <td>/ Off</td> <td>-20</td> <td>/ Off</td> <td>-30</td> <td>/ Off</td> <td>-40</td> <td>/ Off</td> <td>-50</td> <td>/ Off</td> <td>-60</td> <td>/ Off</td> <td>-70</td> <td>/ Off</td> <td>-80</td> <td>/ Off</td> <td>-90</td> <td>/ Off</td> </tr> <tr> <td colspan="10">Margin of Current dB</td> <td colspan="10">Current</td> </tr> <tr> <td colspan="10">-17.8 -17.8 -19.9 -17.6 Margin of Current dB</td> <td colspan="10">-17.5 -17.0 -15.8 -15.9</td> </tr> <tr> <td colspan="5">Current</td> <td colspan="5">Average</td> <td colspan="5">Max./Min.</td> <td colspan="5">Statistic Count</td> </tr> <tr> <td colspan="5">Ref. Power 23.0 dBm</td> <td colspan="5">23.0 dBm</td> <td colspan="5">23.0 dBm</td> <td colspan="5">10</td> </tr> <tr> <td colspan="5">UE Power 23.21 dBm</td> <td colspan="5">Out of Tolerance</td> <td colspan="5">0.00 %</td> <td colspan="5"></td> </tr> <tr> <td colspan="10">ACLR Filter</td> <td colspan="10">ACLR FFT/OBW</td> <td colspan="10">Emission Mask</td> </tr> </table>	+0	/ Off	-10	/ Off	-20	/ Off	-30	/ Off	-40	/ Off	-50	/ Off	-60	/ Off	-70	/ Off	-80	/ Off	-90	/ Off	Margin of Current dB										Current										-17.8 -17.8 -19.9 -17.6 Margin of Current dB										-17.5 -17.0 -15.8 -15.9										Current					Average					Max./Min.					Statistic Count					Ref. Power 23.0 dBm					23.0 dBm					23.0 dBm					10					UE Power 23.21 dBm					Out of Tolerance					0.00 %										ACLR Filter										ACLR FFT/OBW										Emission Mask									
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3.3 Transmitter spurious emissions

Clause 5.11 of ETSI TS 134 121-1 applies.

RESULT: Pass

3.3.1 Definition and applicability

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.

3.3.2 Conformance requirements

Test environment: normal condition (see section 1.6).

The frequencies to be tested are low range, mid range and high range as defined in TS 134 108 [3]:

- 1) Connect the SS to the UE antenna connector.
- 2) A call is set up according to the Generic call setup procedure.
- 3) Enter the UE into loopback test mode and start the loopback test.

NOTE: When reference is made to test set up, call set up and loopback test mode, guidance on the applicability of

these can be found in TS 134 121-1 [2], TS 134 108 [3] and TS 134 109 [4] respectively.

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
9kHz ≤ f < 150kHz	1kHz	-36dBm
150kHz ≤ f < 30MHz	10kHz	-36dBm
30MHz ≤ f < 1 000MHz	100kHz	-36dBm
1GHz ≤ f < 12.75GHz	1MHz	-30dBm
12,75 GHz ≤ f < 5 th harmonic of the upper frequency edge of the UL operating band in GHz	1MHz	-30dBm (note)
NOTE: Applies only for Band XXII.		



Table 4.2.4.1.2-2: Additional spurious emissions requirements

Operating	Frequency bandwidth	Measurement	Minimum requirement
I	791MHz ≤ f ≤ 821MHz	3.84MHz	-60dBm
	921MHz ≤ f < 925MHz	100kHz	-60dBm (note 1)
	925MHz ≤ f ≤ 935MHz	100kHz	-67dBm (note 1)
	935MHz < f ≤ 960MHz	100kHz	-79dBm (note 1)
	1805MHz ≤ f ≤ 1880MHz	100kHz	-71dBm (note 1)
	2110MHz ≤ f ≤ 2170MHz	3.84MHz	-60dBm
	2585MHz ≤ f ≤ 2690MHz	3.84MHz	-60dBm
	791MHz ≤ f ≤ 821MHz	3.84MHz	-60dBm
III	921MHz ≤ f < 925MHz	100kHz	-60dBm (note 1)
	925MHz ≤ f ≤ 935MHz	100kHz	-67dBm (note 1)
	935MHz < f ≤ 960MHz	100kHz	-79dBm (note 1)
	1805MHz ≤ f ≤ 1880MHz	3.84MHz	-60dBm
	2110MHz ≤ f ≤ 2170MHz	3.84MHz	-60dBm
	2585MHz ≤ f ≤ 2690MHz	3.84MHz	-60dBm
	921MHz ≤ f < 925MHz	100kHz	-60dBm (note 1)
VII	925MHz ≤ f ≤ 935MHz	100kHz	-67dBm (note 1)
	935MHz < f ≤ 960MHz	100kHz	-79dBm (note 1)
	1805MHz ≤ f ≤ 1880MHz	100kHz	-71dBm (note 1)
	2110MHz ≤ f ≤ 2170MHz	3.84MHz	-60dBm
	2620MHz ≤ f ≤ 2690MHz	3.84MHz	-60dBm
	2590MHz ≤ f ≤ 2620MHz	3.84MHz	-50dBm
	791MHz ≤ f ≤ 821MHz	3.84MHz	-60dBm
VIII	925MHz ≤ f ≤ 935MHz	100kHz	-67dBm (note 1)
	935MHz < f ≤ 960MHz	3.84MHz	-60dBm
	1805MHz < f ≤ 1830MHz	100kHz	-79dBm (note 1)
	1830MHz < f ≤ 1880MHz	3.84MHz	-60dBm
	2110MHz ≤ f ≤ 2170MHz	3.84MHz	-71dBm (notes 1 and 2)
	2585MHz ≤ f ≤ 2640MHz	3.84MHz	-60dBm (note 2)
	2640MHz ≤ f ≤ 2690MHz	3.84MHz	-60dBm
	791MHz ≤ f ≤ 821MHz	3.84MHz	-60dBm
XV	921MHz ≤ f ≤ 925MHz	100kHz	-60dBm (note 1)
	925MHz ≤ f ≤ 935MHz	100kHz	-67dBm (note 1)
	935MHz ≤ f ≤ 960MHz	100kHz	-79dBm (note 1)
	1805MHz ≤ f ≤ 1880MHz	100kHz	-71dBm (note 1)
	791MHz ≤ f ≤ 821MHz	3.84MHz	-60dBm



XVI	2110MHz ≤ f ≤ 2170MHz	3.84MHz	-60dBm
	2585MHz ≤ f ≤ 2620MHz	3.84MHz	-50dBm
	2620MHz ≤ f ≤ 2690MHz	3.84MHz	-60dBm
	791MHz ≤ f ≤ 821MHz	3.84MHz	-60dBm
	921MHz ≤ f ≤ 925MHz	100kHz	-60dBm (note 1)
	925MHz ≤ f ≤ 935MHz	100kHz 3.84MHz	-67dBm (note 1) -60dBm
	935MHz ≤ f ≤ 960MHz	100kHz	-79dBm (note 1)
	1805MHz ≤ f ≤ 1880MHz	100kHz	-71dBm (note 1)
	2110MHz ≤ f ≤ 2170MHz	3.84MHz	-60dBm
	2585MHz ≤ f ≤ 2620MHz	3.84MHz	-50dBm
	2620MHz ≤ f ≤ 2690MHz	3.84MHz	-60dBm

Operating	Frequency bandwidth	Measurement	Minimum requirement
XX	470MHz ≤ f ≤ 790MHz	8MHz	-65dBm (note 3)
	791MHz ≤ f ≤ 821MHz	3.84MHz	-60dBm
	921MHz ≤ f ≤ 925MHz	100kHz	-60dBm (note 1)
	925MHz ≤ f ≤ 935MHz	100kHz 3084MHz	-67dBm (note 1) -60dBm
	935MHz ≤ f ≤ 960MHz	100kHz	-79dBm (note 1)
	1805MHz ≤ f ≤ 1880MHz	100kHz	-71dBm (note 1)
	2110MHz ≤ f ≤ 2170MHz	3.84MHz	-60dBm
	2585MHz ≤ f ≤ 2620MHz	3.84MHz	-50dBm
	2620MHz ≤ f ≤ 2690MHz	3.84MHz	-60dBm
	791MHz ≤ f ≤ 821MHz	3.84MHz	-60dBm
XXII	921MHz ≤ f < 925MHz	100kHz	-60dBm (note 1)
	925MHz ≤ f ≤ 935MHz	100kHz 3.84MHz	-67dBm (note 1) -60dBm
	935MHz < f ≤ 960MHz	100kHz	-79dBm (note 1)
	1805MHz ≤ f ≤ 1880MHz	100kHz	-71dBm (note 1)
	2110MHz ≤ f ≤ 2170MHz	3.84MHz	-60dBm
	2585MHz ≤ f ≤ 2620MHz	3.84MHz	-50dBm
	2620MHz ≤ f ≤ 2690MHz	3.84MHz	-60dBm
	3510MHz ≤ f ≤ 3525MHz	1MHz	-40dBm
	3525MHz ≤ f ≤ 3590MHz	1MHz	-50dBm
	3600MHz ≤ f ≤ 3800MHz	3.84MHz	-50dBm



NOTE 1: The transmitter additional spurious emission 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 transmitter additional spurious emission 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, 3rd and 4th harmonic spurious emissions.

NOTE 3: The conformance shall be assessed using the measurement position placed at the following centre

3.3.3 Set up for testing

- 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.

3.3.4 Test result

For WCDMA Band 1:

Measurement frequency range	Max. spurious emission frequency (MHz)	Measured value dBm	Limit dBm	Result
Low Channel 9613				
9k~150kHz	0.066	-69.09	-36	Pass
150kHz~30MHz	6.92	-43.64	-36	Pass
30MHz~791MHz	236.92	-43.64	-36	Pass
791MHz~821MHz	802.31	-82.73	-60	Pass
821MHz~921MHz	862.31	-38.18	-36	Pass
921MHz~925MHz	924.62	-84.55	-60	Pass
925MHz~935MHz	933.85	-86.36	-67	Pass
935MHz~960MHz	950.77	-84.55	-79	Pass
960MHz~1000MHz	978.46	-42.73	-36	Pass
1000MHz~1805MHz	1350.77	-81.82	-30	Pass
1805MHz~1880MHz	1825.38	-81.82	-71	Pass
1880MHz~2110MHz	1890.77	-74.55	-30	Pass
2110MHz~2170MHz	2140.00	-82.73	-60	Pass
2170MHz~2585MHz	2270.00	-70.00	-30	Pass
2585MHz~2690MHz	2647.69	-73.64	-60	Pass
2690MHz~12.75GHz	11318.46	-71.82	-30	Pass
Middle Channel 9750				
9k~150kHz	0.057	-65.45	-36	Pass
150kHz~30MHz	26.92	-43.64	-36	Pass



30MHz~791MHz	203.85	-38.18	-36	Pass
791MHz~821MHz	808.46	-84.55	-60	Pass
821MHz~921MHz	888.46	-43.64	-36	Pass
921MHz~925MHz	924.62	-83.64	-60	Pass
925MHz~935MHz	931.54	-84.55	-67	Pass
935MHz~960MHz	954.62	-86.36	-79	Pass
960MHz~1000MHz	970.77	-38.18	-36	Pass
1000MHz~1805MHz	1231.54	-71.82	-30	Pass
1805MHz~1880MHz	1804.62	-84.55	-71	Pass
1880MHz~2110MHz	1891.54	-80.00	-30	Pass
2110MHz~2170MHz	2113.08	-85.45	-60	Pass
2170MHz~2585MHz	2186.15	-80.00	-30	Pass
2585MHz~2690MHz	2641.54	-70.91	-60	Pass
2690MHz~12.75GHz	10231.54	-76.36	-30	Pass
High Channel 9887				
9k~150kHz	0.021	-65.45	-36	Pass
150kHz~30MHz	27.69	-43.64	-36	Pass
30MHz~791MHz	450.00	-42.73	-36	Pass
791MHz~821MHz	803.08	-83.64	-60	Pass
821MHz~921MHz	849.23	-42.73	-36	Pass
921MHz~925MHz	920.77	-81.82	-60	Pass
925MHz~935MHz	926.92	-85.45	-67	Pass
935MHz~960MHz	936.92	-85.45	-79	Pass
960MHz~1000MHz	992.31	-40.00	-36	Pass
1000MHz~1805MHz	1613.85	-79.09	-30	Pass
1805MHz~1880MHz	1809.23	-86.36	-71	Pass
1880MHz~2110MHz	2031.54	-71.82	-30	Pass
2110MHz~2170MHz	2141.54	-81.82	-60	Pass
2170MHz~2585MHz	2210.00	-74.55	-30	Pass
2585MHz~2690MHz	2639.23	-68.18	-60	Pass
2690MHz~12.75GHz	10466.15	-80.91	-30	Pass



For WCDMA Band 8:

Measurement frequency range	Max. spurious emission frequency (MHz)	Measured value dBm	Limit dBm	Result
Low Channel 2713				
9kHz~150kHz	0.040	-73.64	-36	Pass
150kHz~30MHz	6.15	-41.82	-36	Pass
30MHz~791MHz	308.46	-64.55	-36	Pass
791MHz~821MHz	815.38	-80.91	-60	Pass
821MHz~921MHz	881.54	-40.91	-36	Pass
921MHz~925MHz	921.54	-64.55	-60	Pass
925MHz~935MHz	930.77	-75.45	-67	Pass
935MHz~960MHz	956.15	-86.36	-79	Pass
960MHz~1000MHz	990.77	-43.64	-36	Pass
1000MHz~1805MHz	1091.54	-81.82	-30	Pass
1805MHz~1880MHz	1871.54	-83.64	-71	Pass
1880MHz~2110MHz	1980.00	-71.82	-30	Pass
2110MHz~2170MHz	2110.77	-82.73	-60	Pass
2170MHz~2585MHz	2288.46	-70.91	-30	Pass
2585MHz~2640MHz	2633.08	-79.09	-60	Pass
2640MHz~12.75GHz	4133.08	-77.27	-30	Pass
Middle Channel 2788				
9kHz~150kHz	0.047	-77.27	-36	Pass
150kHz~30MHz	3.08	-42.73	-36	Pass
30MHz~791MHz	769.23	-67.27	-36	Pass
791MHz~821MHz	803.85	-70.00	-60	Pass
821MHz~921MHz	856.15	-42.73	-36	Pass
921MHz~925MHz	922.31	-67.27	-60	Pass
925MHz~935MHz	933.85	-81.82	-67	Pass
935MHz~960MHz	948.46	-82.73	-79	Pass
960MHz~1000MHz	970.00	-42.73	-36	Pass
1000MHz~1805MHz	1016.92	-78.18	-30	Pass
1805MHz~1880MHz	1847.69	-85.45	-71	Pass
1880MHz~2110MHz	1961.54	-81.82	-30	Pass
2110MHz~2170MHz	2140.77	-85.45	-60	Pass
2170MHz~2585MHz	2489.23	-69.09	-30	Pass
2585MHz~2640MHz	2611.54	-72.73	-60	Pass
2640MHz~12.75GHz	7904.62	-79.09	-30	Pass
High Channel 2862				
9kHz~150kHz	0.051	-72.73	-36	Pass
150kHz~30MHz	14.62	-40.00	-36	Pass
30MHz~791MHz	193.08	-64.55	-36	Pass
791MHz~821MHz	817.69	-69.09	-60	Pass



821MHz~921MHz	900.77	-39.09	-36	Pass
921MHz~925MHz	922.31	-70.00	-60	Pass
925MHz~935MHz	926.15	-75.45	-67	Pass
935MHz~960MHz	960.00	-81.82	-79	Pass
960MHz~1000MHz	986.92	-43.64	-36	Pass
1000MHz~1805MHz	1605.38	-71.82	-30	Pass
1805MHz~1880MHz	1867.69	-82.73	-71	Pass
1880MHz~2110MHz	2041.54	-80.00	-30	Pass
2110MHz~2170MHz	2163.85	-86.36	-60	Pass
2170MHz~2585MHz	2173.85	-74.55	-30	Pass
2585MHz~2640MHz	2584.62	-70.91	-60	Pass
2640MHz~12.75GHz	10339.23	-77.27	-30	Pass

WALTEK



3.4 Transmitter minimum output power

Clause 4.2.5 of EN 301 908-2 applies.

RESULT: Pass

3.4.1 Definition and applicability

The minimum controlled output power of the UE is when the power is set to a minimum value. The minimum transmit power is defined as a mean power in one time slot.

3.4.2 Conformance requirements

Test environment: normal, TL/VL, TL/VH, TH/VL, TH/VH (see section 1.6).

The frequencies to be tested are mid range as defined in TS 134 108 [3]:

- 1) Connect the SS to the UE antenna connector.
- 2) A call is set up according to the Generic call setup procedure.
- 3) Enter the UE into loopback test mode and start the loopback test.

NOTE: When reference is made to test set up, call set up and loopback test mode, guidance on the applicability of

these can be found in TS 134 121-1 [2], TS 134 108 [3] and TS 134 109 [4].

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

3.4.3 Set up for testing

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

3.4.4 Test result



Test conditions		Minimum output power in dBm		
		Minimum output power WCDMA Band 1		
Temperature(°C)	Voltage (V)	Channel 9613	Channel 9750	Channel 9887
NT	NV	-54.95	-55.29	-53.90
	LT	-55.19	-56.12	-54.21
HT	HV	-55.21	-56.08	-54.32
	LV	-55.06	-56.17	-54.16
Max. permitted value		-49dBm		

Test conditions		Minimum output power in dBm		
		Minimum output power HSDPA Band 1		
Temperature(°C)	Voltage (V)	Channel 9613	Channel 9750	Channel 9887
NT	NV	-55.14	-54.74	-55.10
	LT	-55.32	-54.82	-55.28
HT	HV	-55.37	-54.92	-55.32
	LV	-55.36	-54.99	-55.30
Max. permitted value		-49dBm		

Test conditions		Minimum output power in dBm		
		Minimum output power HSUPA Band 1		
Temperature(°C)	Voltage (V)	Channel 9613	Channel 9750	Channel 9887
NT	NV	-55.81	-55.43	-55.68
	LT	-55.93	-55.47	-55.72
HT	HV	-55.90	-55.51	-55.81
	LV	-55.87	-55.49	-55.79
Max. permitted value		-49dBm		



Test conditions		Minimum output power in dBm		
		Minimum output power WCDMA Band 8		
Temperature(°C)	Voltage (V)	Channel 2713	Channel 2788	Channel 2862
NT	NV	-55.18	-55.40	-55.50
	LT	-55.23	-55.47	-55.63
HT	HV	-55.27	-55.43	-55.69
	LV	-55.20	-55.48	-55.62
Max. permitted value		-49dBm		

Test conditions		Minimum output power in dBm		
		Minimum output power HSDPA Band 8		
Temperature(°C)	Voltage (V)	Channel 2713	Channel 2788	Channel 2862
NT	NV	-55.65	-55.76	-55.41
	LT	-55.72	-55.83	-55.47
HT	HV	-55.81	-55.85	-55.53
	LV	-55.76	-55.82	-55.51
Max. permitted value		-49dBm		

Test conditions		Minimum output power in dBm		
		Minimum output power HSUPA Band 8		
Temperature(°C)	Voltage (V)	Channel 2713	Channel 2788	Channel 2862
NT	NV	-56.24	-56.29	-56.42
	LT	-56.37	-56.37	-56.57
HT	HV	-56.32	-56.56	-56.53
	LV	-56.30	-56.38	-56.49
Max. permitted value		-49dBm		



3.5 Receiver adjacent channel selectivity

Clause 6.4 of TS 134 121-1 applies.

RESULT: Pass

3.5.1 Definition and applicability

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).

3.5.2 Conformance requirements

Test environment: normal (see section 1.6).

The frequencies to be tested are mid range as defined in TS 134 108 [3]:

- 1) Connect the SS to the UE antenna connector.
- 2) A call is set up according to the Generic call setup procedure, and RF parameters are set up according to table 4.2.6.2-1.
- 3) Enter the UE into loopback test mode and start the loopback test.

NOTE: When reference is made to test set up, call set up and loopback test mode, guidance on the applicability of

these can be found in TS 134 121-1 [2], TS 134 108 [3] and TS 134 109 [4] respectively.

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/3.84MHz	<REFSENS> + 14dB	<REFSENS> + 41dB
Îor	dBm/3.84MHz	<REFÎor> + 14dB	<REFÎor> + 41dB
Ioac mean power (modulated)	dBm	-52	-25
Fuw (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 <REFÎor> as specified in ETSI TS 134 121-1 [1], clause 6.2.

NOTE 2: The Ioac (modulated) signal consists of the common channels and the 16 dedicated data channels as specified in ETSI TS 125 101 [4], clause 7.5.



3.5.3 Set up for testing

- 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.

3.5.4 Test result

WCDMA Band 1

WCDMA Band 1 - Receiver adjacent channel selectivity for Power Class 3				
Case	Fuw (offset)	BER	Limit	Test Result
Case 1	-5MHz	0	0.001	Pass
	+5MHz	0	0.001	Pass
Case 2	-5MHz	0	0.001	Pass
	+5MHz	0	0.001	Pass

WCDMA Band 8

WCDMA Band 8 - Receiver adjacent channel selectivity for Power Class 3				
Case	Fuw (offset)	BER	Limit	Test Result
Case 1	-5MHz	0	0.001	Pass
	+5MHz	0	0.001	Pass
Case 2	-5MHz	0	0.001	Pass
	+5MHz	0	0.001	Pass

The equipment complied with the requirement of this clause.



3.6 Receiver blocking characteristics

Clause 6.5 of TS 134 121-1 applies.

RESULT: Pass

3.6.1 Definition and applicability

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 occurs.

3.6.2 Conformance requirements

Test environment: normal (see section 1.6).

For in-band case, the frequencies to be tested are mid range as defined in TS 134 108 [3]. For out-of-band case,

frequencies to be tested are mid range as defined in TS 134 108 [3].

For narrow band case, frequencies to be tested are mid range as defined in TS 134 108 [3]:

- 1) Connect the SS to the UE antenna connector.
- 2) A call is set up according to the Generic call setup procedure, and RF parameters are set up according to tables 4.2.7.2-1, 4.2.7.2-2 and 4.2.7.2-3.
- 3) Enter the UE into loopback test mode and start the loopback test.

NOTE: When reference is made to test set up, call set up and loopback test mode, guidance on the applicability of

these can be found in TS 134 121-1 [2], TS 134 108 [3] and TS 134 109 [4] respectively.

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/3.84MHz	<REFSENS> + 3 dB			
\hat{I}_{or}	dBm/3.84MHz	<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	2102.4 $\leq f \leq$ 2177.6	2095 $\leq f \leq$ 2185		
F_{uw} (Band III operation)	MHz	1797.4 $\leq f \leq$ 1887.6	1790 $\leq f \leq$ 1895		
F_{uw} (Band VII operation)	MHz	2612.4 $\leq f \leq$ 2697.6	2605 $\leq f \leq$ 2705		
F_{uw} (Band VIII operation)	MHz	917.4 $\leq f \leq$ 967.6	910 $\leq f \leq$ 975		
F_{uw} (Band XX operation)	MHz	783.4 $\leq f \leq$ 8286	776 $\leq f \leq$ 836		
F_{uw} (Band XXII operation)	MHz	3502.4 $\leq f \leq$ 3597.6	3495 $\leq f \leq$ 3605		
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 ETSI TS 134 121-1 [1], clause 6.2.					
NOTE 2: The $I_{blocking}$ (modulated) signal consists of the common channels and the 16 dedicated data channels as specified in ETSI TS 125 101 [4], clause 7.6.					
NOTE 3: The UE transmitted mean power shall be reduced by 0.5dB 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> + 3dB	<REFSENS> + 3 dB
\hat{I}_{or}	dBm/3,84 MHz	<REF \hat{I}_{or} > + 3 dB	<REF \hat{I}_{or} > + 3dB	<REF \hat{I}_{or} > + 3 dB
$I_{blocking}$ (CW)	dBm	-44	-30	-15
F_{uw} (Band I operation)	MHz	2050 < f < 2095 2185 < f < 2230	2025 < f ≤ 2050 2230 ≤ f < 2255	1 < f ≤ 2025 2255 ≤ f < 12750
F_{uw} (Band III operation)	MHz	1745 < f < 1790 1895 < f < 1940	1720 < f ≤ 1745 1940 ≤ f < 1965	1 < f ≤ 1720 1965 ≤ f < 12750
F_{uw} (Band VII operation)	MHz	2570 < f < 2605 2705 < f < 2750	Na 2750 ≤ f < 2775	1 < f ≤ 2570 2775 ≤ f < 12750
F_{uw} (Band VIII operation)	MHz	865 < f < 910 975 < f < 1020	840 < f < 865 1020 ≤ f < 1045	1 < f ≤ 840 1045 ≤ f < 12750
F_{uw} (Band XV operation)	MHz	2570 < f < 2585 2705 < f < 2750	Na 2750 ≤ f < 2775	1 < f ≤ 2570 2775 ≤ f < 12750
F_{uw} (Band XVI operation)	MHz	Na 2705 < f < 2750	2500 < f ≤ 2570 2750 ≤ f < 2775	1 < f ≤ 2500 2775 ≤ f < 12750
F_{uw} (Band XX operation)	MHz	731 < f < 776 836 < f < 881	706 < f ≤ 731 881 ≤ f < 906	1 < f ≤ 706 906 ≤ f < 12750
F_{uw} (Band XXII operation)	MHz	3450 < f < 3495 3605 < f < 3650	3425 < f ≤ 3450 3650 ≤ f < 3675	1 < f ≤ 3 425 3675 ≤ f < 12750
UE transmitted mean power	dBm	20 (for Power class 3) 18 (for Power class 4)		
Band I operation		For 2095MHz ≤ f ≤ 2185MHz, 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 III operation		For 1790MHz ≤ f ≤ 1895MHz, 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 VII operation		For 2605MHz ≤ f ≤ 2705MHz, 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 910MHz ≤ f ≤ 975MHz, 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 2585MHz ≤ f ≤ 2705MHz, 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 2570MHz ≤ f ≤ 2705MHz, 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 776MHz ≤ f ≤ 836MHz, the appropriate in-band blocking or adjacent channel selectivity in clause 4.2.6 and table 4.2.7.2-1 shall be applied.		
BandXXII operation		For 3495 ≤ f ≤ 3605MHz, 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 <REFI_{or}> as specified in ETSI TS 134 121-1 [1], clause 6.2.

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/3.84MHz	<REFSENS> + 10dB
\hat{I}_{or}	dBm/3.84MHz	<REFI _{or} > + 10dB
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 <REFI_{or}> as specified in ETSI TS 134 121-1 [1], clause 6.2.
 NOTE 2: I_{blocking} (GMSK) is an interfering signal as defined in ETSI TS 145 004 [8], clause 2. 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.

3.6.3 Set up for testing

- 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.

3.6.4 Test result

In-band blocking test In-band blocking test

WCDMA Band 1 - Receiver blocking characteristics for Power Class 3			
Parameter	Level		Unit
DPCH_Ec	-110		dBm/3.84MHz
I _{or}	-104.6		dBm/3.84MHz
I _{blocking} mean power (modulated)	-56 (for F _{uw} offse ±10MHz)	-44 (for F _{uw} offse ±15MHz)	MHz
UE transmitted mean power	20		dBm
BER	0	0	%
Limit	0.1	0.1	%
Result	Pass	Pass	

*Out-of-band blocking test*

WCDMA Band 1 – Receiver blocking characteristics for Power Class 3				
Parameter	Frequency range1	Frequency range2	Frequency range3	Unit
DPCH_Ec	-114	-114	-114	dBm/3.84MHz
Ior	-103.7	-103.7	-103.7	dBm/3.84MHz
Iblocking (cw)	-44	-30	-15	dBm
Fuw	2050<f<2095 2185<f<2230	2025<f<2050 2230<f<2255	1<f<2025 2255<f<12750	MHz
Spurious response frequency	No	No	188, 1763, 4088, 6042	MHz
Result	Pass	Pass	Pass	

WCDMA Band 8 - Receiver blocking characteristics for Power Class 3				
Parameter	Level			Unit
DPCH_Ec	-110			dBm/3.84MHz
Ior	-104.6			dBm/3.84MHz
Iblocking mean power (modulated)	-56 (for Fuw offse ±10MHz)	-44 (for Fuw offse ±15MHz)		MHz
UE transmitted mean power	20			dBm
BER	0	0		%
Limit	0.1	0.1		%
Result	Pass	Pass		

Out-of-band blocking test

WCDMA Band 8 – Receiver blocking characteristics for Power Class 3				
Parameter	Frequency range1	Frequency range2	Frequency range3	Unit
DPCH_Ec	-114	-114	-114	dBm/3.84MHz
Ior	-103.7	-103.7	-103.7	dBm/3.84MHz
Iblocking (cw)	-44	-30	-15	dBm
Fuw	2050<f<2095 2185<f<2230	2025<f<2050 2230<f<2255	1<f<2025 2255<f<12750	MHz
Spurious response frequency	No	No	188, 1763, 4088, 6042	MHz
Result	Pass	Pass	Pass	

The equipment complied with the requirement of this clause.



3.7 Receiver spurious response

Clause 6.6 of TS 134 121-1 applies.

RESULT: Pass

3.7.1 Definition and applicability

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.

3.7.2 Conformance requirements

Test environment: normal (see section 1.6).

The frequencies to be tested are mid range as defined in TS 134 108 [3]:

- 1) Connect the SS to the UE antenna connector.
- 2) A call is set up according to the Generic call setup procedure, and RF parameters are set up according to table 4.2.8.2-1.
- 3) Enter the UE into loopback test mode and start the loopback test.

NOTE: When reference is made to test set up, call set up and loopback test mode, guidance on the applicability of

these can be found in TS 134 121-1 [2], TS 134 108 [3] and TS 134 109 [4] respectively.

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> + 3dB	dBm/3.84MHz
\hat{I}_{or}	<REF \hat{I}_{or} > + 3dB	dBm/3.84MHz
Iblocking(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 ETSI TS 134 121-1 [1], clause 6.2.
 NOTE 2: The UE transmitted mean power shall be reduced by 0,5 dB, for a UE operating in band XXII.



3.7.3 Set up for testing

- 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.

3.7.3 Test result

WCDMA Band 1 - Receiver spurious response for power class 3				
Spurious response frequencies (MHz)	BER	Limit	Result	
288	0	0.001	Pass	
1663	0	0.001	Pass	
5288	0	0.001	Pass	
63	0	0.001	Pass	

WCDMA Band 8 - Receiver spurious response for power class 3				
Spurious response frequencies (MHz)	BER	Limit	Result	
288	0	0.001	Pass	
1663	0	0.001	Pass	
5288	0	0.001	Pass	
63	0	0.001	Pass	

The equipment complied with the requirement of this clause.



3.8 Receiver intermodulation characteristics

Clause 6.7 of TS 134 121-1 applies.

RESULT: Pass

3.8.1 Definition and applicability

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 receive 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.

3.8.2 Conformance requirements

Test environment: normal (see section 1.6).

The frequencies to be tested are mid range as defined in TS 134 108 [3]:

- 1) Connect the SS to the UE antenna connector.
- 2) A call is set up according to the Generic call setup procedure as per TS 134 108 [3], and RF parameters are set up according to tables 4.2.9.2-1 and 4.2.9.2-2.
- 3) Enter the UE into loopback test mode and start the loopback test using the procedure defined in TS 134 109 [4].

NOTE: When reference is made to test set up, call set up and loopback test mode, guidance on the applicability of

these can be found in TS 134 121-1 [2], TS 134 108 [3] and TS 134 109 [4].

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> + 3dB		dBm/3.84MHz
\hat{I}_{or}	<REF \hat{I}_{or} > + 3dB		dBm/3.84MHz
I _{ouw1} (CW)	-46		dBm
Iouw2 mean power (modulated)	-46		dBm
Fuw1 (offset)	10	-10	MHz
Fuw2 (offset)	20	-20	MHz
UE transmitted mean power	20 (for Power class 3) 18 (for Power class 4) (note 3)		dBm



- NOTE 1: louw2 (modulated) consists of the common channels table C.7 and the 16 dedicated data channels in table C.6 as specified in ETSI TS 125 101 [4].
- NOTE 2: <REFSENS> and <REFFor> as specified in ETSI TS 134 121-1 [1], clause 6.2.
- NOTE 3: The UE transmitted mean power shall be reduced by 0,5 dB for a UE operating in band XXII.

3.8.3 Set up for testing

- 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.

3.8.4 Test result

WCDMA Band 1 - intermodulation characteristics for Power Class 3			
Channel	Level		Unit
DPCH_Ec		-116	dBm/3.84MHz
\hat{I}_{or}		-103.7	dBm/3.84MHz
louw1 (CW)		-46	dBm
louw2 (Modulated)		-45	dBm/3.84MHz
Fuw1 (offset)	10	-10	MHz
Fuw2 (offset)	20	-20	MHz
UE transmitted mean power	20		dBm
BER	0	0	%
Limit	0.1	0.1	%
Result	Pass	Pass	

WCDMA Band 8 - intermodulation characteristics for Power Class 3			
Channel	Level		Unit
DPCH_Ec		-116	dBm/3.84MHz
\hat{I}_{or}		-103.7	dBm/3.84MHz
louw1 (CW)		-46	dBm
louw2 (Modulated)		-45	dBm/3.84MHz
Fuw1 (offset)	10	-10	MHz
Fuw2 (offset)	20	-20	MHz
UE transmitted mean power	20		dBm
BER	0	0	%
Limit	0.1	0.1	%
Result	Pass	Pass	



The equipment complied with the requirement of this clause

3.9 Receiver spurious emissions

Clause 6.8 of TS 134 121-1 applies.

RESULT: Pass

3.9.1 Definition and applicability

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.

3.9.2 Conformance requirements

Test environment: normal (see section 1.6).

The frequencies to be tested are mid range as defined in TS 134 108 [3]:

- 1) Connect a spectrum analyser (or other suitable test equipment) to the UE antenna connector.
- 2) UE shall be in CELL_FACH state.
- 3) The UE shall be setup such that UE will not transmit during the measurement. (For guidance see TS 134 121-1 [2]).

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
30MHz ≤ f < 1GHz	100kHz	-57dBm
1GHz ≤ f ≤ 12.75GHz	1MHz	-47dBm



Table 4.2.10.2-2: Additional receiver spurious emission requirements

Band	Frequency Range	Measurement	Maximum level
I	1920MHz ≤ f ≤ 1 980MHz	3.84MHz	-60dBm
III	1710MHz ≤ f ≤ 1 785MHz	3.84MHz	-60dBm
VII	2500MHz ≤ f ≤ 2 570MHz	3.84MHz	-60dBm
VIII	880MHz ≤ f ≤ 915MHz	3.84MHz	-60dBm
XV	791MHz ≤ f < 821MHz	3.84MHz	-60dBm
	921MHz ≤ f < 925MHz	100kHz	-60dBm (see note)
	925MHz ≤ f < 935MHz	100kHz 3.84MHz	-67dBm (see note) -60dBm
	935MHz ≤ f < 960MHz	100kHz	-79dBm (see note)
	1805MHz ≤ f ≤ 1880MHz	100kHz	-71dBm (see note)
	1900MHz ≤ f ≤ 1920MHz	3.84MHz	-60dBm
	2110MHz ≤ f ≤ 2170MHz	3.84MHz	-60dBm
XVI	2585MHz ≤ f ≤ 2690MHz	3.84MHz	-60dBm
	791MHz ≤ f < 821MHz	3.84MHz	-60dBm
	921MHz ≤ f < 925MHz	100kHz	-60dBm (see note)
	925MHz ≤ f < 935MHz	100kHz	-67dBm (see note)
	935MHz ≤ f ≤ 960MHz	100kHz	-79dBm (see note)
	1805MHz ≤ f ≤ 1880MHz	100kHz	-71dBm (see note)
	2010MHz ≤ f ≤ 2025MHz	3.84MHz	-60dBm
XX	2110MHz ≤ f ≤ 2170MHz	3.84MHz	-60dBm
XXII	2585MHz ≤ f ≤ 2690MHz	3.84MHz	-60dBm
	832MHz ≤ f ≤ 862MHz	3.84MHz	-60dBm
XXII	3410MHz ≤ f ≤ 3490MHz	3.84MHz	-60dBm

Band	Frequency Range	Measurement	Maximum level
XVI	791MHz ≤ f < 821MHz	3.84MHz	-60dBm
	921MHz ≤ f < 925MHz	100kHz	-60dBm (see note)
	925MHz ≤ f < 935MHz	100kHz	-67dBm (see note)
	935MHz ≤ f ≤ 960MHz	100kHz	-79dBm (see note)
	1805MHz ≤ f ≤ 1880MHz	100kHz	-71dBm (see note)
	2010MHz ≤ f ≤ 2025MHz	3.84MHz	-60dBm
	2110MHz ≤ f ≤ 2170MHz	3.84MHz	-60dBm
	2585MHz ≤ f ≤ 2690MHz	3.84MHz	-60dBm
XX	832MHz ≤ f ≤ 862MHz	3.84MHz	-60dBm
XXII	3410MHz ≤ f ≤ 3490MHz	3.84MHz	-60dBm

NOTE: The receiver additional spurious emission 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. This note applies also to receiver additional spurious emission measurements according to table 4.2.12.1.2-1.

3.9.3 Set up for testing

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.



3.9.4 Test result

For WCDMA Band 1

Measurement frequency range	Max. spurious emission frequency (MHz)	Measured value (dBm)	Limit (dBm)	Result
Low Channel 9613				
30MHz~791MHz	266.92	-69.09	-57	Pass
791MHz~821MHz	816.92	-64.55	-60	Pass
821MHz ~921MHz	896.15	-63.64	-57	Pass
921MHz~925MHz	923.85	-64.55	-60	Pass
925MHz~935MHz	926.15	-80.00	-67	Pass
935MHz~960MHz	946.92	-83.64	-79	Pass
960MHz~1000MHz	995.38	-64.55	-57	Pass
1000MHz~1805MHz	1148.46	-70.00	-47	Pass
1805MHz~1880MHz	1810.00	-73.64	-60	Pass
1880MHz~1920MHz	1912.31	-69.09	-47	Pass
1920MHz~1980MHz	1976.92	-74.55	-60	Pass
1980MHz~2110MHz	2100.77	-65.45	-47	Pass
2110MHz~2170MHz	2140.00	-66.36	-60	Pass
2170MHz~2585MHz	2500.77	-68.18	-47	Pass
2585MHz~2690MHz	2621.54	-64.55	-60	Pass
2690MHz ~12.75GHz	3037.69	-70.00	-47	Pass
Middle Channel 9750				
30MHz~791MHz	234.62	-64.55	-57	Pass
791MHz~821MHz	815.38	-68.18	-60	Pass
821MHz ~921MHz	917.69	-64.55	-57	Pass
921MHz~925MHz	924.62	-70.00	-60	Pass
925MHz~935MHz	934.62	-71.82	-67	Pass
935MHz~960MHz	948.46	-83.64	-79	Pass
960MHz~1000MHz	981.54	-67.27	-57	Pass
1000MHz~1805MHz	1705.38	-67.27	-47	Pass
1805MHz~1880MHz	1858.46	-72.73	-60	Pass
1880MHz~1920MHz	1900.77	-68.18	-47	Pass
1920MHz~1980MHz	1938.46	-74.55	-60	Pass
1980MHz~2110MHz	2022.31	-68.18	-47	Pass
2110MHz~2170MHz	2135.38	-63.64	-60	Pass
2170MHz~2585MHz	2212.31	-65.45	-47	Pass
2585MHz~2690MHz	2623.85	-66.36	-60	Pass
2690MHz ~12.75GHz	9313.85	-63.64	-47	Pass
High Channel 9887				
30MHz~791MHz	678.46	-68.18	-57	Pass
791MHz~821MHz	816.15	-67.27	-60	Pass
821MHz ~921MHz	846.15	-66.36	-57	Pass

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921MHz~925MHz	923.08	-69.09	-60	Pass
925MHz~935MHz	933.08	-73.64	-67	Pass
935MHz~960MHz	944.62	-81.82	-79	Pass
960MHz~1000MHz	997.69	-70.00	-57	Pass
1000MHz~1805MHz	1233.85	-65.45	-47	Pass
1805MHz~1880MHz	1874.62	-80.91	-60	Pass
1880MHz~1920MHz	1910.77	-68.18	-47	Pass
1920MHz~1980MHz	1944.62	-80.00	-60	Pass
1980MHz~2110MHz	2029.23	-70.00	-47	Pass
2110MHz~2170MHz	2123.85	-69.09	-60	Pass
2170MHz~2585MHz	2584.62	-70.00	-47	Pass
2585MHz~2690MHz	2621.54	-64.55	-60	Pass
2690MHz ~12.75GHz	6620.00	-68.18	-47	Pass

For WCDMA Band 8

Measurement frequency range	Max. spurious emission frequency (MHz)	Measured value (dBm)	Limit (dBm)	Result
Low Channel 2713				
30MHz~791MHz	128.46	-68.18	-57	Pass
791MHz~821MHz	790.77	-69.09	-60	Pass
821MHz ~921MHz	897.69	-65.45	-57	Pass
921MHz~925MHz	924.62	-68.18	-60	Pass
925MHz~935MHz	926.92	-70.91	-67	Pass
935MHz~960MHz	935.38	-81.82	-79	Pass
960MHz~1000MHz	966.92	-65.45	-57	Pass
1000MHz~1805MHz	1340.00	-65.45	-47	Pass
1805MHz~1880MHz	1840.77	-74.55	-60	Pass
1880MHz~1920MHz	1889.23	-69.09	-47	Pass
1920MHz~1980MHz	1956.15	-76.36	-60	Pass
1980MHz~2110MHz	2018.46	-70.00	-47	Pass
2110MHz~2170MHz	2119.23	-63.64	-60	Pass
2170MHz~2585MHz	2376.92	-64.55	-47	Pass
2585MHz~2690MHz	2604.62	-64.55	-60	Pass
2690MHz ~12.75GHz	9535.38	-66.36	-47	Pass
Middle Channel 2788				
30MHz~791MHz	353.08	-63.64	-57	Pass
791MHz~821MHz	790.77	-68.18	-60	Pass
821MHz ~921MHz	908.46	-68.18	-57	Pass
921MHz~925MHz	924.62	-69.09	-60	Pass
925MHz~935MHz	926.92	-80.00	-67	Pass
935MHz~960MHz	949.23	-84.55	-79	Pass
960MHz~1000MHz	967.69	-69.09	-57	Pass



1000MHz~1805MHz	1011.54	-67.27	-47	Pass
1805MHz~1880MHz	1878.46	-72.73	-60	Pass
1880MHz~1920MHz	1896.15	-70.00	-47	Pass
1920MHz~1980MHz	1941.54	-80.00	-60	Pass
1980MHz~2110MHz	2103.08	-66.36	-47	Pass
2110MHz~2170MHz	2121.54	-63.64	-60	Pass
2170MHz~2585MHz	2355.38	-67.27	-47	Pass
2585MHz~2690MHz	2632.31	-64.55	-60	Pass
2690MHz ~12.75GHz	10205.38	-69.09	-47	Pass
High Channel 2862				
30MHz~791MHz	611.54	-63.64	-57	Pass
791MHz~821MHz	812.31	-63.64	-60	Pass
821MHz ~921MHz	862.31	-64.55	-57	Pass
921MHz~925MHz	920.77	-69.09	-60	Pass
925MHz~935MHz	924.62	-76.36	-67	Pass
935MHz~960MHz	958.46	-84.55	-79	Pass
960MHz~1000MHz	973.08	-69.09	-57	Pass
1000MHz~1805MHz	1804.62	-70.00	-47	Pass
1805MHz~1880MHz	1833.08	-79.09	-60	Pass
1880MHz~1920MHz	1881.54	-68.18	-47	Pass
1920MHz~1980MHz	1952.31	-80.00	-60	Pass
1980MHz~2110MHz	2050.77	-67.27	-47	Pass
2110MHz~2170MHz	2163.85	-66.36	-60	Pass
2170MHz~2585MHz	2509.23	-66.36	-47	Pass
2585MHz~2690MHz	2683.08	-67.27	-60	Pass
2690MHz ~12.75GHz	10722.31	-63.64	-47	Pass



3.10 Out-of-synchronization handling of output power

Clause 4.2.11 of EN 301 908 applies.

RESULT: Pass

3.10.1 Definition and applicability

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 %.

3.10.2 Conformance requirements

Test environment: normal (see section 1.6).

The frequencies to be tested are mid range as defined in TS 134 108 [3]:

- 1) Connect the SS to the UE antenna connector.
 - 2) A call is set up according to the Generic call setup procedure, with the following exception according to table 5.3.10.1.1-1 for information elements in System Information Block type 1 found in TS 134 108 [3].
- UE Timers and constants in connected mode

Table 5.3.10.1.1-1: System Information Block type 1 message

Information Element	Value
UE Timers and constants in connected mode	
- T313	15 s
- N313	200

3) RF parameters are set up according to table 4.2.11.2-1 with DPCCH_Ec/Ior ratio level at -16,6 dB.

4) Enter the UE into loopback test mode and start the loopback test.

NOTE: When reference is made to test set up, call set up and loopback test mode, guidance on the applicability of

these can be found in TS 134 121-1 [2], TS 134 108 [3] and TS 134 109 [4] respectively.

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 correspond 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
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: <ul style="list-style-type: none">• -16,6 for UEs not supporting enhanced receiver performance type 1 for DCH• -19,6 for UEs supporting enhanced receiver 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

3.10.3 Set up for testing

- 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 to -21.6 dB.
- 3) The SS controls the DPCCH_Ec/Ior ratio level to -28.4 dB. 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.

3.10.4 Test result

WCDMA Band 1 – Out-of-synchronization handling of output power			
Test Item	Test data	Limit	Result
Switch off power	-64.87	-55dBm	Pass

WCDMA Band 8 - Out-of-synchronization handling of output power			
Test Item	Test data	Limit	Result
Switch off power	-68.62	-55dBm	Pass

The equipment complied with the requirement of this clause.



3.11 Transmitter adjacent channel power leakage ratio

Clause 5.10 of ETSI TS 134 121-1 applies.

RESULT: Pass

3.11.1 Definition and applicability

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.

3.11.2 Conformance requirements

Test environment: normal, TL/VL, TL/VH, TH/VL, TH/VH (see section 1.6).

The frequencies to be tested are mid range as defined in TS 134 108 [3]:

- 1) Connect the SS to the UE antenna connector.
- 2) A call is set up according to the Generic call setup procedure.
- 3) Enter the UE into loopback test mode and start the loopback test.

NOTE: When reference is made to test set up, call set up and loopback test mode, guidance on the applicability of
these can be found in TS 134 121-1 [2], TS 134 108 [3] and TS 134 109 [4] respectively.

If the adjacent channel power is greater than -50dBm 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 β_c , β_d , β_{hs} , β_{ec} and β_{ed} defined in TS 125 214 [8].

Table 4.2.12.1.2-1: UE ACLR

Power Class	Adjacent channel frequency relative to	ACLR limit
3	+5MHz or -5MHz	32.2dB
3	+10MHz or -10MHz	42.2dB
4	+5MHz or -5MHz	32.2dB
4	+10MHz or -10MHz	42.2dB

NOTE: The requirement shall still be met in the presence of switching transients.

3.11.3 Set up for testing

- 1) The SS sends continuously Up power control commands to the UE until the UE transmitter power reach 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 2) and 3) above.



3.11.4 Test result

WCDMA Band 1

Test conditions		Transmitter adjacent channel power leadkage ratio for Power Class 3					
Temperature(°C)	Voltage (V)	ACF MHz	Low Channel dBc	Middle Channel dBc	High Channel dBc	Limit dBc	Result
NV	NT	+5	42.73	36.36	35.45	32.2	Pass
		-5	40.91	36.36	35.45	32.2	Pass
		+10	49.09	45.45	46.36	42.2	Pass
		-10	47.27	45.45	48.18	42.2	Pass
LT	LV	+5	35.45	42.73	38.18	32.2	Pass
		-5	42.73	40.91	36.36	32.2	Pass
		+10	47.27	43.64	50.00	42.2	Pass
		-10	50.91	44.55	51.82	42.2	Pass
	HV	+5	41.82	36.36	42.73	32.2	Pass
		-5	40.91	42.73	39.09	32.2	Pass
		+10	50.91	46.36	50.91	42.2	Pass
		-10	50.00	48.18	51.82	42.2	Pass
HT	LV	+5	39.09	37.27	39.09	32.2	Pass
		-5	40.91	42.73	38.18	32.2	Pass
		+10	45.45	50.00	46.36	42.2	Pass
		-10	46.36	50.91	46.36	42.2	Pass
	HV	+5	40.00	39.09	42.73	32.2	Pass
		-5	36.36	39.09	42.73	32.2	Pass
		+10	50.91	51.82	48.18	42.2	Pass
		-10	50.91	47.27	46.36	42.2	Pass



WCDMA Band 8

Test conditions		Transmitter adjacent channel power leadkage ratio for Power Class 3					
Temperature(°C)	Voltage (V)	ACF MHz	Low Channel dBc	Middle Channel dBc	High Channel dBc	Limit dBc	Result
NV	NT	+5MHz	35.45	40.91	37.27	32.2	Pass
		-5MHz	37.27	39.09	35.45	32.2	Pass
		+10MHz	46.36	45.45	51.82	42.2	Pass
		-10MHz	44.55	51.82	49.09	42.2	Pass
LT	LV	+5MHz	39.09	36.36	38.18	32.2	Pass
		-5MHz	40.91	37.27	39.09	32.2	Pass
		+10MHz	45.45	50.00	50.00	42.2	Pass
		-10MHz	43.64	43.64	43.64	42.2	Pass
	HV	+5MHz	41.82	40.00	40.91	32.2	Pass
		-5MHz	38.18	40.91	38.18	32.2	Pass
		+10MHz	48.18	50.00	50.91	42.2	Pass
		-10MHz	44.55	50.00	46.36	42.2	Pass
HT	LV	+5MHz	37.27	41.82	38.18	32.2	Pass
		-5MHz	37.27	36.36	40.00	32.2	Pass
		+10MHz	44.55	46.36	44.55	42.2	Pass
		-10MHz	51.82	44.55	44.55	42.2	Pass
	HV	+5MHz	40.91	40.00	37.27	32.2	Pass
		-5MHz	40.91	38.18	39.09	32.2	Pass
		+10MHz	44.55	46.36	49.09	42.2	Pass
		-10MHz	45.45	43.64	47.27	42.2	Pass

The equipment complied with the requirement of this clause.



3.12 Receiver Reference Sensitivity level

Clause 6.2 of ETSI TS 134 121-1 applies.

RESULT: Pass

3.12.1 Definition and applicability

The reference sensitivity level <REFSENS> is the minimum mean power received at the UE antenna port at which the Bit Error Ratio (BER) shall not exceed a specific value.

3.12.2 Conformance requirements

Test environment: normal, TL/VL, TL/VH, TH/VL, TH/VH (see section 1.6).

The frequencies to be tested are mid range as defined in TS 134 108 [3]:

- 1) Connect the SS to the UE antenna connector.
- 2) A call is set up according to the Generic call setup procedure as per ETSI TS 134 108 [2], and RF parameters are set up according to table 4.2.13.2-1.
- 3) Enter the UE into loopback test mode and start the loopback test using the procedure defined in ETSI TS 134 109 [3].

NOTE: When reference is made to test set up, call set up and loopback test mode, guidance on the applicability of

these can be found in ETSI TS 134 121-1 [1], ETSI TS 134 108 [2] and ETSI TS 134 109 [3].

The measured BER shall not exceed ,001 for the parameters specified in table 6.2.1.



Table 6.2.1: Test parameters for Reference Sensitivity Level

Operating Band	Unit	DPCH_Ec<REFSENS>	<REFI _{or} >
I	dBm/3.84MHz	-117	-106.7
II	dBm/3.84MHz	-115	-104.7
III	dBm/3.84MHz	-114	-103.7
IV	dBm/3.84MHz	-117	-106.7
V	dBm/3.84MHz	-115	-104.7
VI	dBm/3.84MHz	-117	-106.7
VII	dBm/3.84MHz	-115	-104.7
VIII	dBm/3.84MHz	-114	-103.7
IX	dBm/3.84MHz	-116	-105.7
X	dBm/3.84MHz	-117	-106.7
XI	dBm/3.84MHz	-117	-106.7
XII	dBm/3.84MHz	-114	-103.7
XIII	dBm/3.84MHz	-114	-103.7
XIV	dBm/3.84MHz	-114	-103.7
XIX	dBm/3.84MHz	-117	-106.7
XX	dBm/3.84MHz	-114	-103.7
XXI	dBm/3.84MHz	-117	-106.7
XXII	dBm/3.84MHz	-114	-103.7
XXV	dBm/3.84MHz	-113.5	-103.2
XXVI	dBm/3.84MHz	-113.5	-103.2

NOTE 1: For Power class 3 and 3bis this shall be at the maximum output power.

NOTE 2: For Power class 4 this shall be at the maximum output power.

NOTE 3: For the UE which supports both Band III and Band IX operating frequencies, the reference sensitivity level of -114.5dBm DPCH_Ec <REFSENS> shall apply for Band IX. The corresponding <REFI_{or}> is -104.2dBm.

NOTE 4: For the UE which supports both Band XI and Band XXI operating frequencies, the reference sensitivity level is FFS.

3.12.3 Set up for testing

- 1) Connect the SS to the UE antenna connector as shown in figure A.1.
- 2) Channel conditions are initially set up with received CPICH_RSCP >-85 dBm. The relative power level of downlink physical channels to I_{or} are set up according to clause E.2.1. The parameter settings of the cell are set up according to TS 34.108 [3], clause 6.1.5 for "Default settings for a serving cell in a single cell environment".
- 3) Switch on the phone.
- 4) A call is set up according to the Generic call setup procedure in TS34.108 [3] sub clause 7.3.2.
- 5) The RF parameters are set up according to table 6.2.2.
- 6) Enter the UE into loopback test mode and start the loopback test.



3.12.4 Test result

WCDMA Band 1					
Temperature(°C)	Voltage (V)	Unit	DPCH_Ec<REFSENS>	<REFI _{or} >	Result
NT	NV	dBm/3.84MHz	-117	-106.7	Pass
LT	LV	dBm/3.84MHz	-117	-106.7	Pass
	HV	dBm/3.84MHz	-117	-106.7	Pass
HT	LV	dBm/3.84MHz	-117	-106.7	Pass
	HV	dBm/3.84MHz	-117	-106.7	Pass

WCDMA Band 8					
Temperature(°C)	Voltage (V)	Unit	DPCH_Ec<REFSENS>	<REFI _{or} >	Result
NT	NV	dBm/3.84MHz	-114	-103.7	Pass
LT	LV	dBm/3.84MHz	-114	-103.7	Pass
	HV	dBm/3.84MHz	-114	-103.7	Pass
HT	LV	dBm/3.84MHz	-114	-103.7	Pass
	HV	dBm/3.84MHz	-114	-103.7	Pass



3.13 Radiated emissions

Clause 4.2.2.1 of ETSI EN 301 908-1 applies.

RESULT: Pass

3.13.1 Definition and applicability

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.

3.13.2 Conformance requirements

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 the following table 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
12,75 GHz ≤ f < 5 th harmonic of the upper frequency edge of the Uplink operating band in GHz	-47 dBm/1 MHz	-30 dBm/1 MHz	All (note 3)
12,75 GHz ≤ f < 26 GHz	-47 dBm/1 MHz	-30 dBm/1 MHz	All (note 4)
fc - 2,5 × 5 MHz < f < fc + 2,5 × 5 MHz (note 1 and note 2)	Not defined	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 (note 1 and note 2)	Not defined	Not defined	E-UTRA FDD, E-UTRA TDD, Mobile WiMAX™
fc - (1,5 × BW _{channel} + 5) MHz < f < fc + (1,5 × BW _{channel} + 5) MHz (note 1)	Not defined	Not defined	NR operating in FR1
fc - 2,5 × 10 MHz < f < fc + 2,5 × 10 MHz (note 1 and note 2)	Not defined	Not defined	UTRA TDD, 7,68 Mcps option
fc - 4 MHz < f < fc + 4 MHz (note 1 and note 2)	Not defined	Not defined	UTRA TDD, 1,28 Mcps option cdma2000, spreading rate 1

NOTE 1: fc is the UE transmit centre frequency.
 NOTE 2: This frequency range is not in the spurious domain, no requirement is then defined for this frequency range.
 NOTE 3: Applies for Band that the upper frequency edge of the Uplink Band more than 2,69 GHz.
 NOTE 4: Applies for Band that the upper frequency edge of the Uplink Band more than 5,2 GHz.



3.13.3 Set up for testing

Whenever possible the test site should be a fully anechoic chamber simulating the free-space conditions. EUT shall be placed on a non-conducting support. Mean power of any spurious components shall be detected by the test antenna and measuring receiver (e.g. a spectrum analyser).

At each frequency at which a component is detected, the EUT shall be rotated to obtain maximum response, and the effective radiated power (e.r.p.) of that component determined by a substitution measurement, which shall be the reference method. The measurement shall be repeated with the test antenna in the orthogonal polarization plane.

NOTE: Effective radiated power (e.r.p.) refers to the radiation of a half wave tuned dipole instead of an isotropic

antenna. There is a constant difference of 2,15 dB between e.i.r.p. and e.r.p.

e.r.p. (dBm) = e.i.r.p. (dBm) - 2,15 (ITU-R Recommendation SM.329-10 [3], annex 1).

Measurements are made with a tuned dipole antenna or a reference antenna with a known gain referenced to an isotropic antenna. Unless otherwise stated, all measurements are done as mean power (RMS).

If a different test site or method is used, this shall be stated in the test report. The results shall be converted to the reference method values and the validity of the conversion shall be demonstrated.

3.13.4 Test result

Traffic Mode

Frequency range	Max. measure value (dBm)	Test result
30MHz to 1GHz	<-36	Pass
1GHz to 12.75GHz	<-30	Pass
12.75GHz to 5 th	<-30	Pass

Idle Mode

Frequency range	Max. measure value (dBm)	Test result
30MHz to 1GHz	<-57	Pass
1GHz to 12.75GHz	<-47	Pass
12.75GHz to 5 th	<-47	Pass

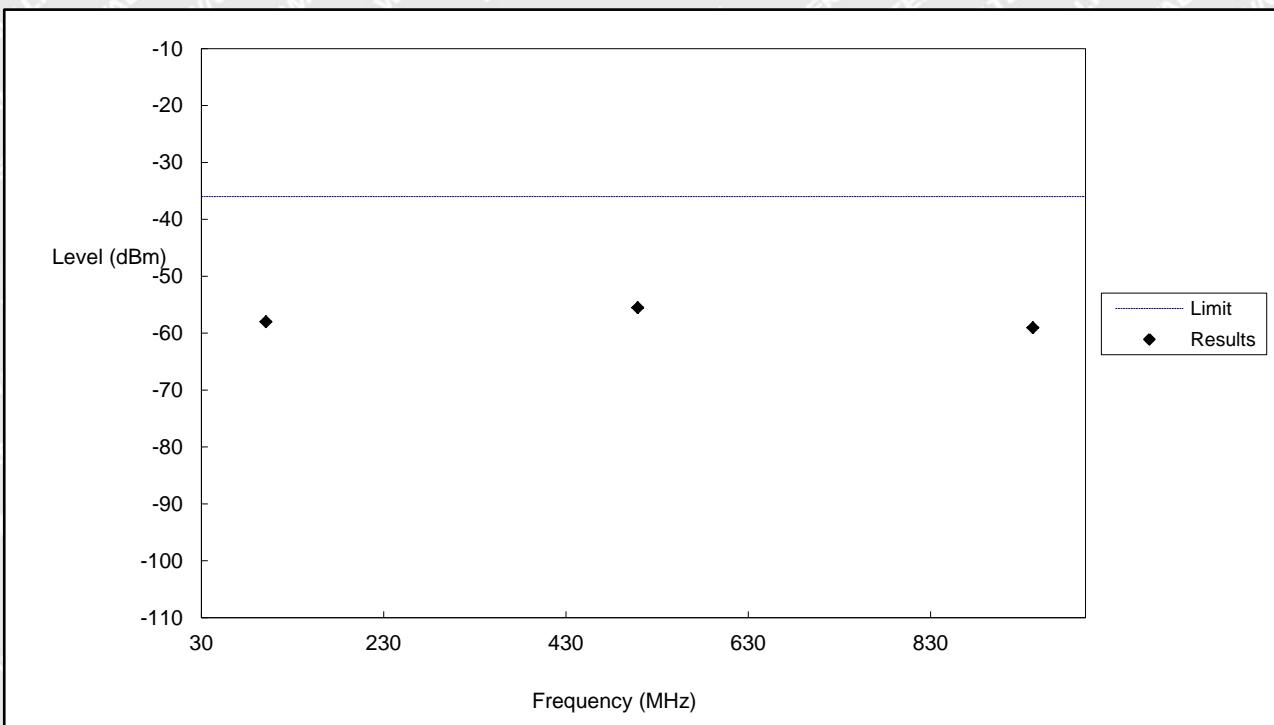
Please refer to the following test plots and data



➤ Radiated Spurious Emissions(30MHz-1GHz)

WCDMA Band 1

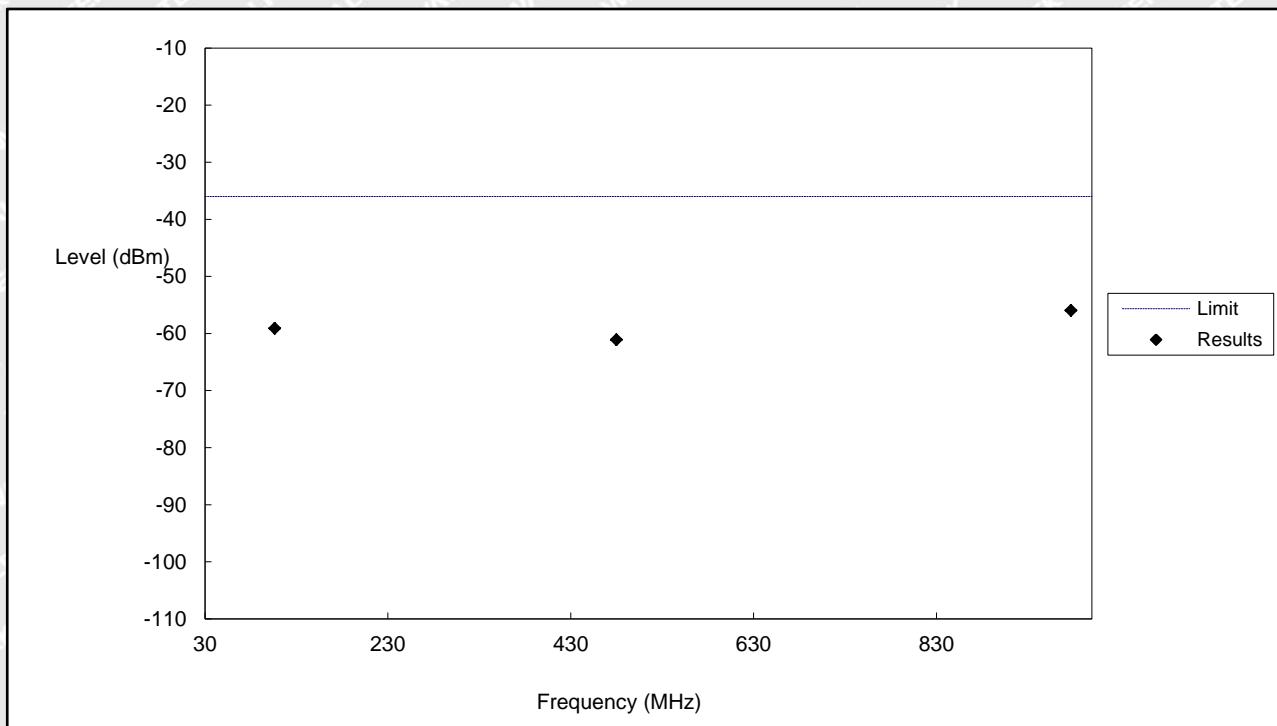
Test mode:	Traffic Mode	Polarity:	Horizontal
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No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	100.83	-58.01	-36.00	-22.01	RMS
2	508.80	-55.53	-36.00	-19.53	RMS
3	942.31	-59.05	-36.00	-23.05	RMS



Test mode:	Traffic Mode	Polarity:	Vertical
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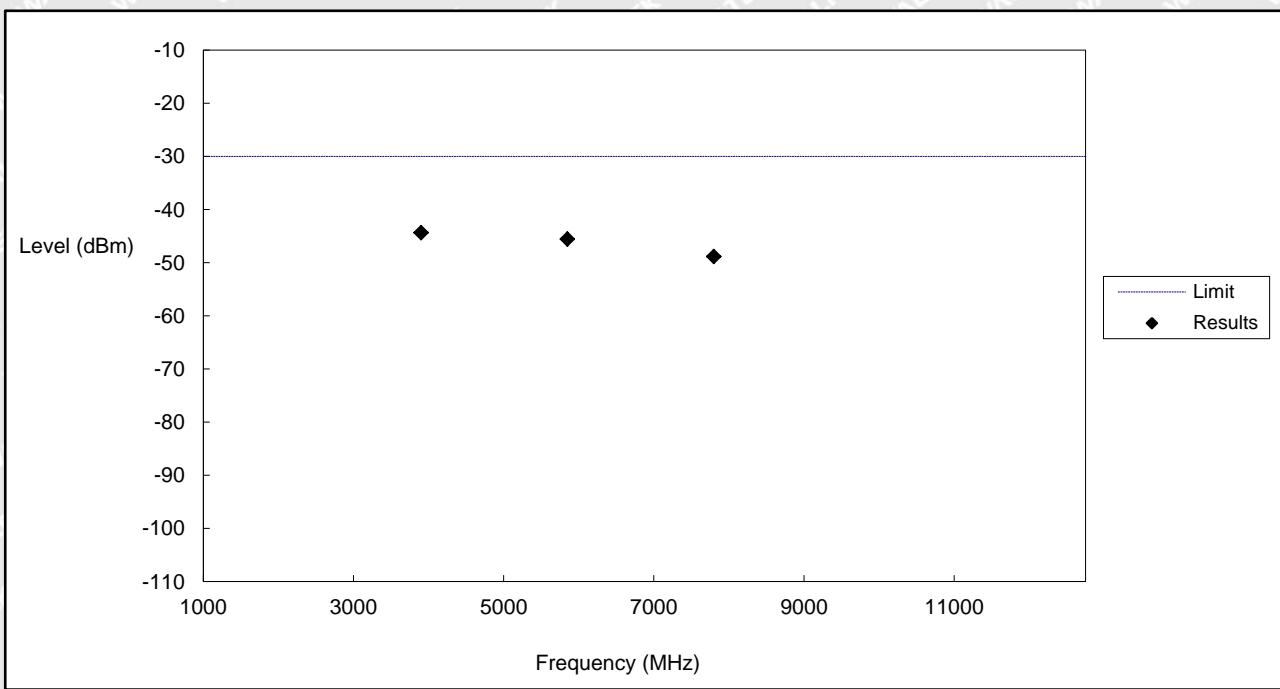


No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	106.36	-59.10	-36.00	-23.10	RMS
2	480.00	-61.08	-36.00	-25.08	RMS
3	977.14	-55.96	-36.00	-19.96	RMS



➤ Radiated Spurious Emissions(Above 1GHz)

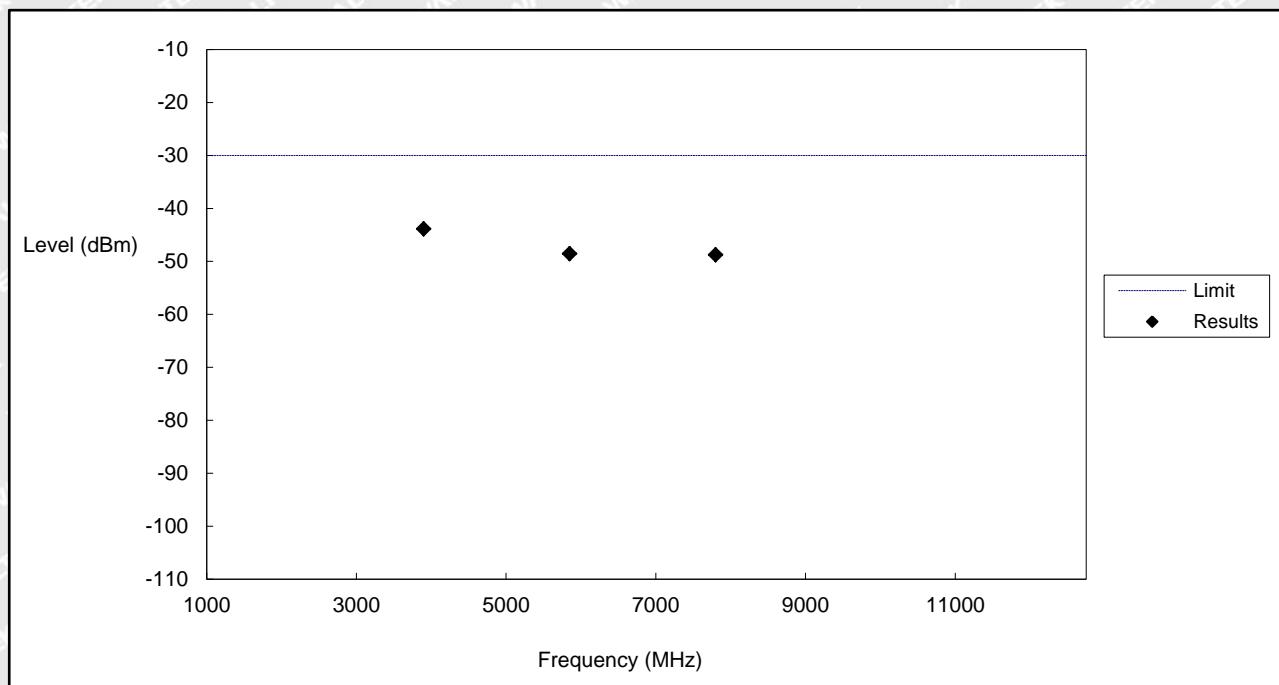
Test mode:	Traffic Mode	Polarity:	Horizontal
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No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3900.00	-44.35	-30.00	-14.35	RMS
2	5850.00	-45.53	-30.00	-15.53	RMS
3	7800.00	-48.82	-30.00	-18.82	RMS



Test mode:	Traffic Mode	Polarity:	Vertical
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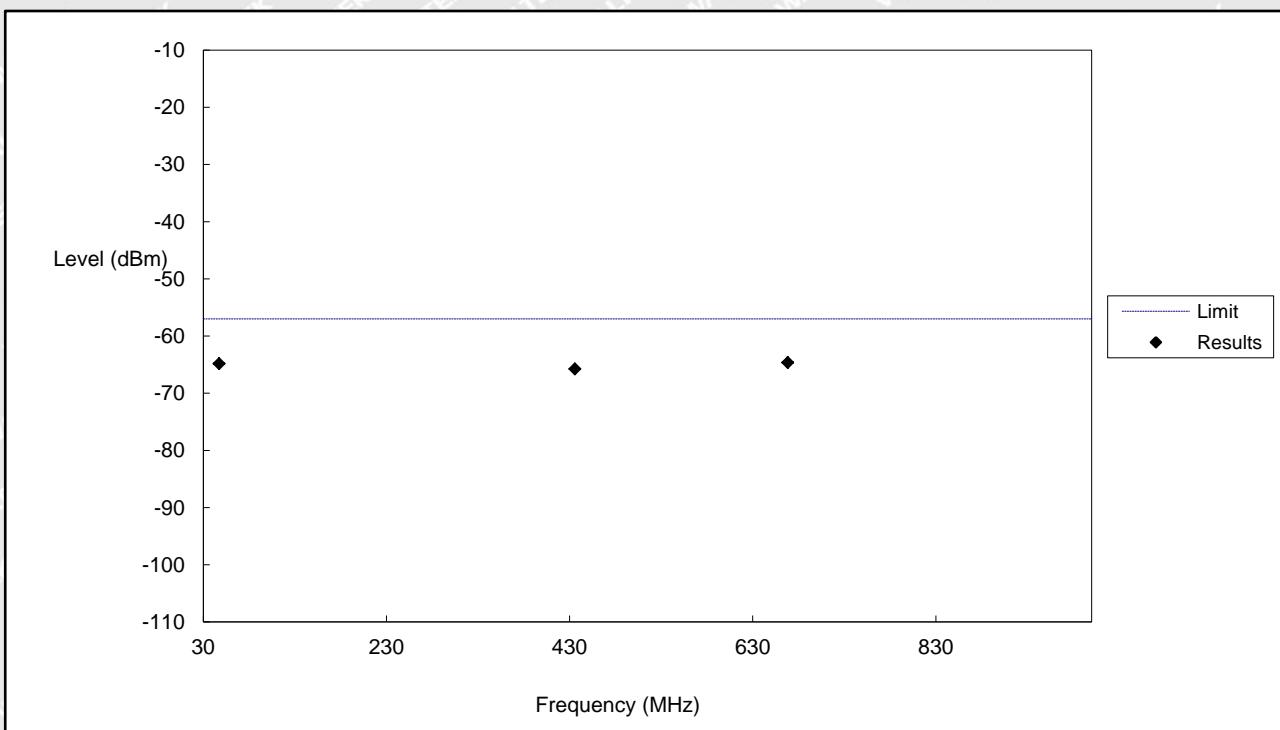
No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3900.00	-43.88	-30.00	-13.88	RMS
2	5850.00	-48.56	-30.00	-18.56	RMS
3	7800.00	-48.76	-30.00	-18.76	RMS



➤ Radiated Spurious Emissions(30MHz-1GHz)

WCDMA Band 1

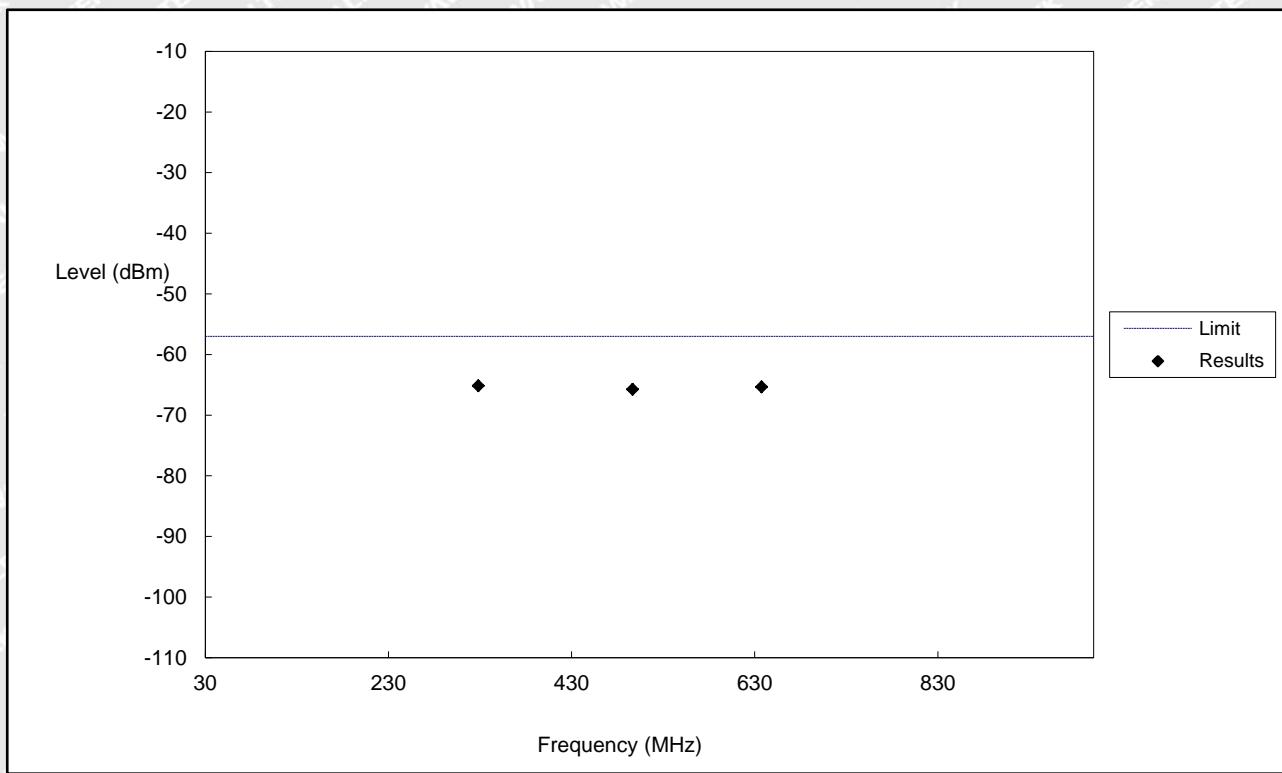
Test mode:	Idle Mode	Polarity:	Horizontal
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No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	47.27	-64.82	-57.00	-7.82	RMS
2	435.83	-65.74	-57.00	-8.74	RMS
3	668.33	-64.64	-57.00	-7.64	RMS



Test mode:	Idle Mode	Polarity:	Vertical
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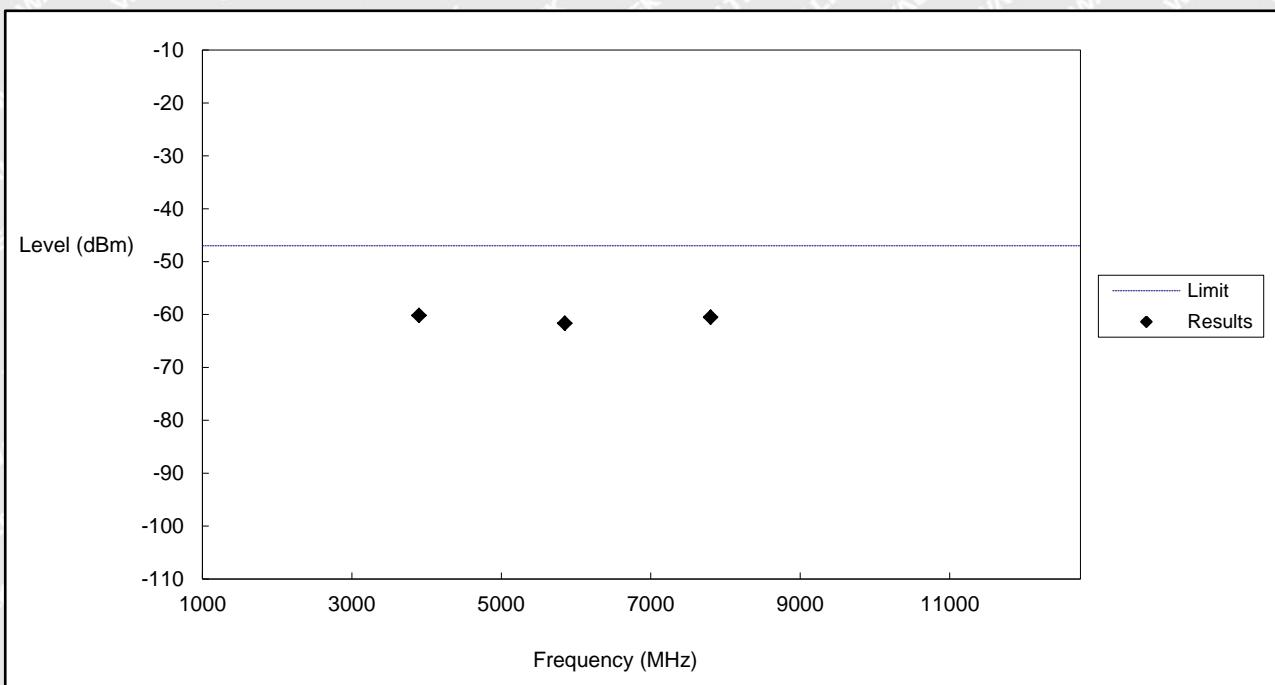


No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	328.18	-65.17	-57.00	-8.17	RMS
2	496.67	-65.75	-57.00	-8.75	RMS
3	637.50	-65.36	-57.00	-8.36	RMS



➤ Radiated Spurious Emissions(Above 1GHz)

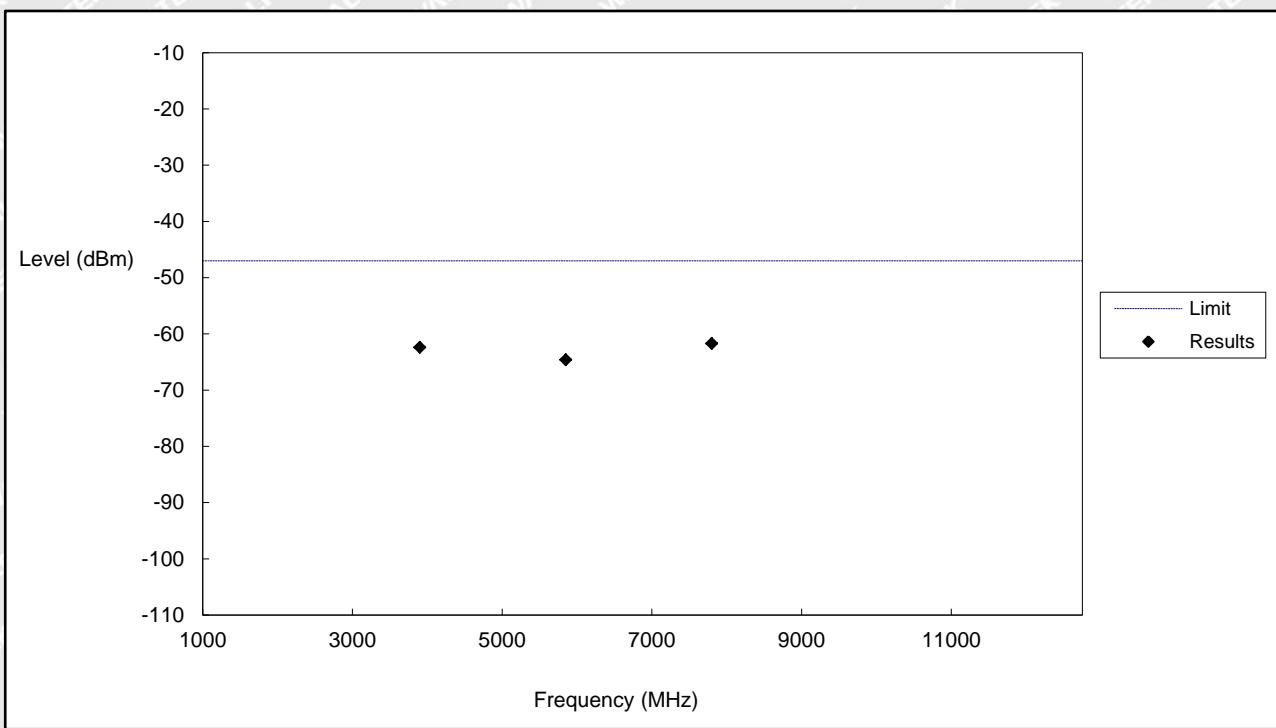
Test mode:	Idle Mode	Polarity:	Horizontal
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No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3900.00	-60.17	-47.00	-13.17	RMS
2	5850.00	-61.66	-47.00	-14.66	RMS
3	7800.00	-60.53	-47.00	-13.53	RMS



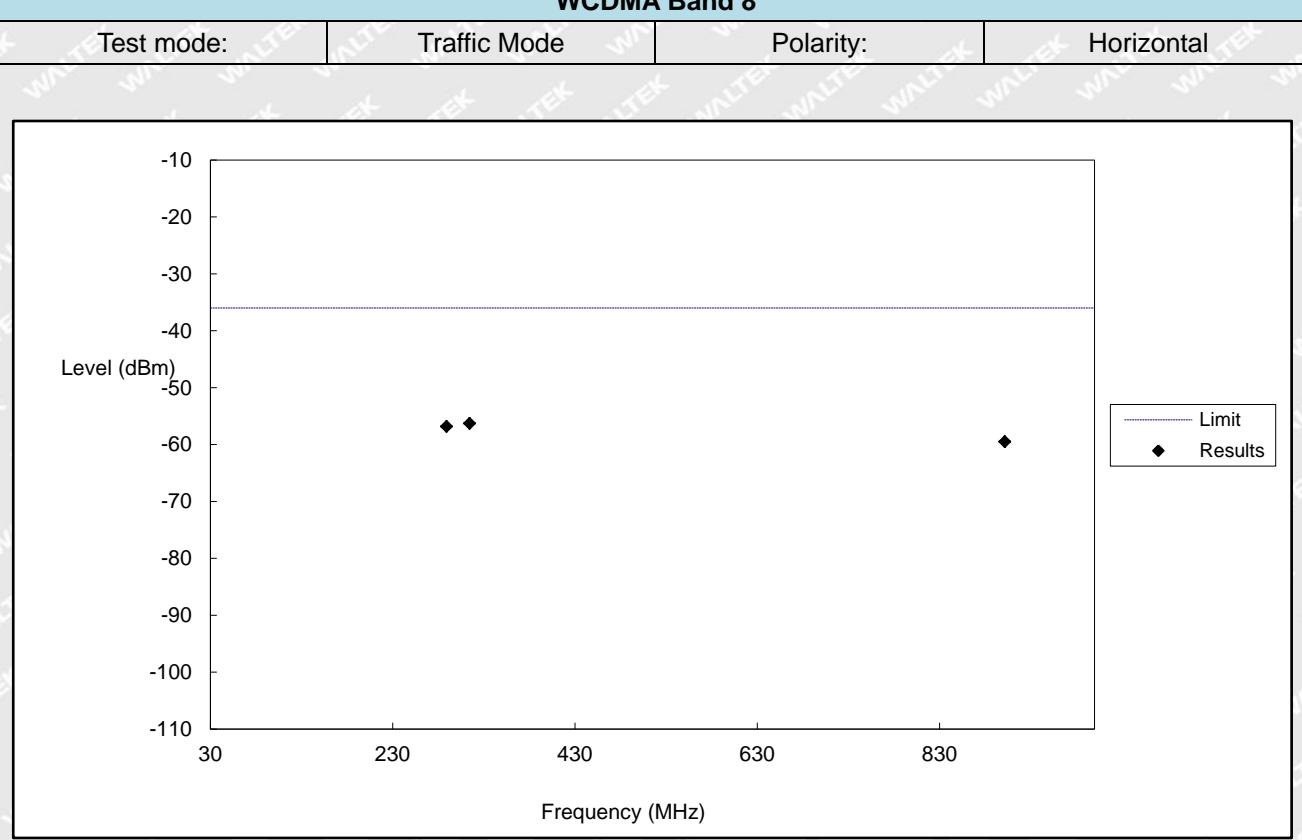
Test mode:	Idle Mode	Polarity:	Vertical
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No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3900.00	-62.41	-47.00	-15.41	RMS
2	5850.00	-64.61	-47.00	-17.61	RMS
3	7800.00	-61.71	-47.00	-14.71	RMS



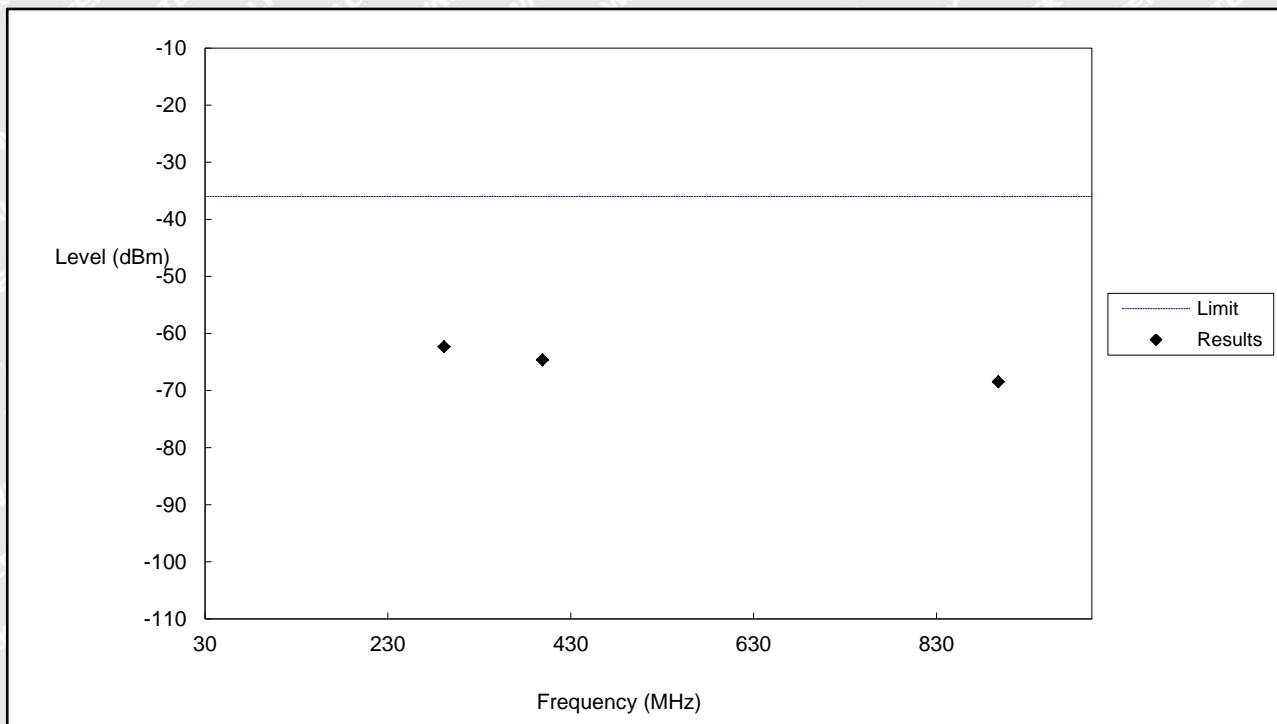
➤ Radiated Spurious Emissions(30MHz-1GHz)

WCDMA Band 8

No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	289.17	-56.83	-36.00	-20.83	RMS
2	314.40	-56.30	-36.00	-20.30	RMS
3	901.54	-59.49	-36.00	-23.49	RMS



Test mode:	Traffic Mode	Polarity:	Vertical
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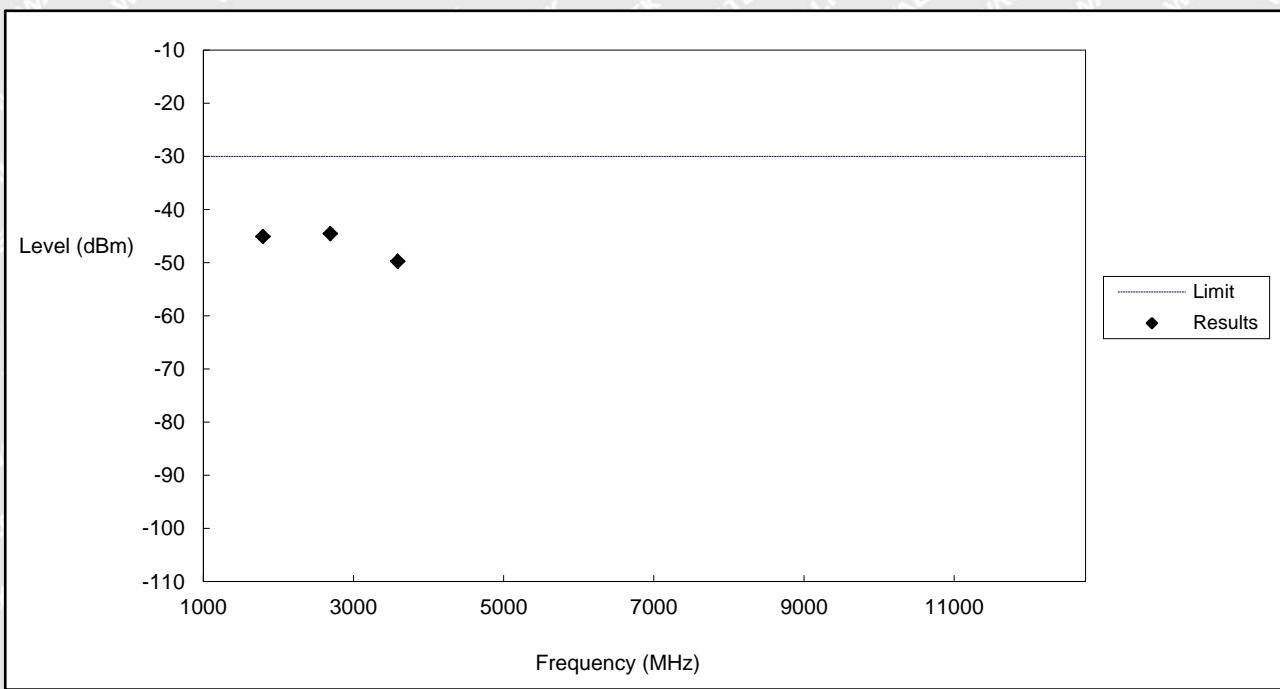


No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	140.00	-59.00	-36.00	-23.00	RMS
2	384.17	-61.65	-36.00	-25.65	RMS
3	947.14	-56.84	-36.00	-20.84	RMS



➤ Radiated Spurious Emissions(Above 1GHz)

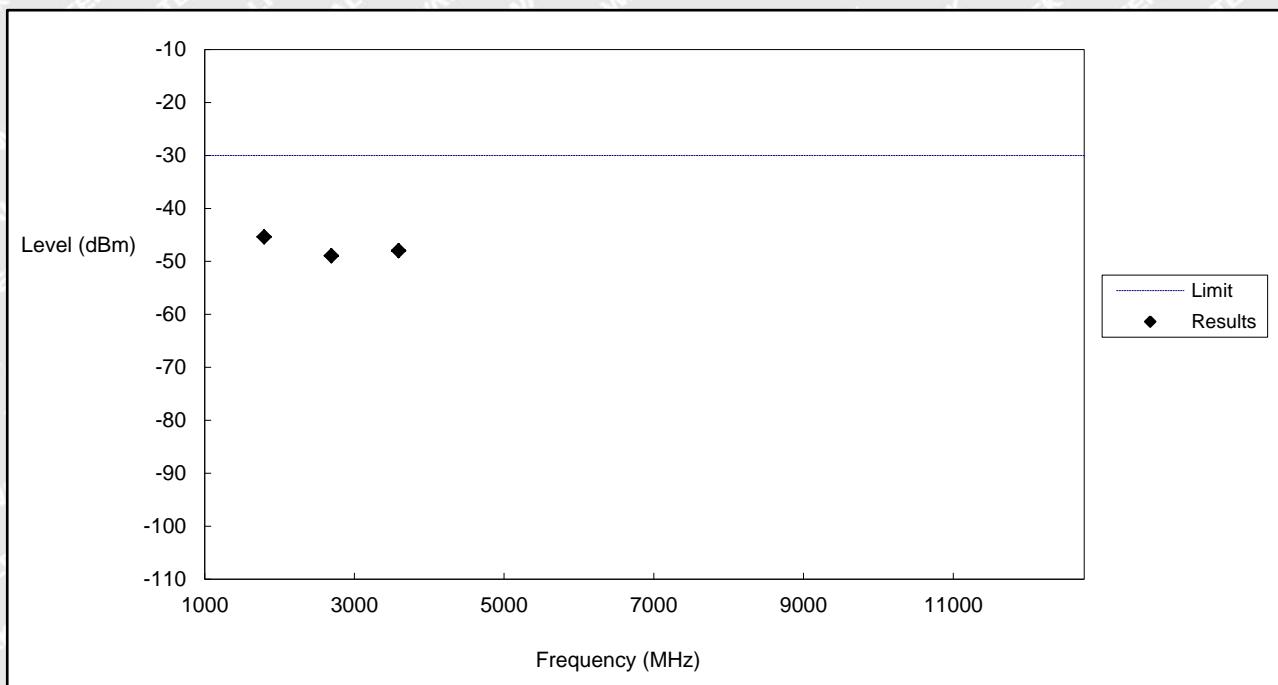
Test mode:	Traffic Mode	Polarity:	Horizontal
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No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1795.2	-45.07	-30.00	-15.07	RMS
2	2692.8	-44.53	-30.00	-14.53	RMS
3	3590.4	-49.72	-30.00	-19.72	RMS



Test mode:	Traffic Mode	Polarity:	Vertical
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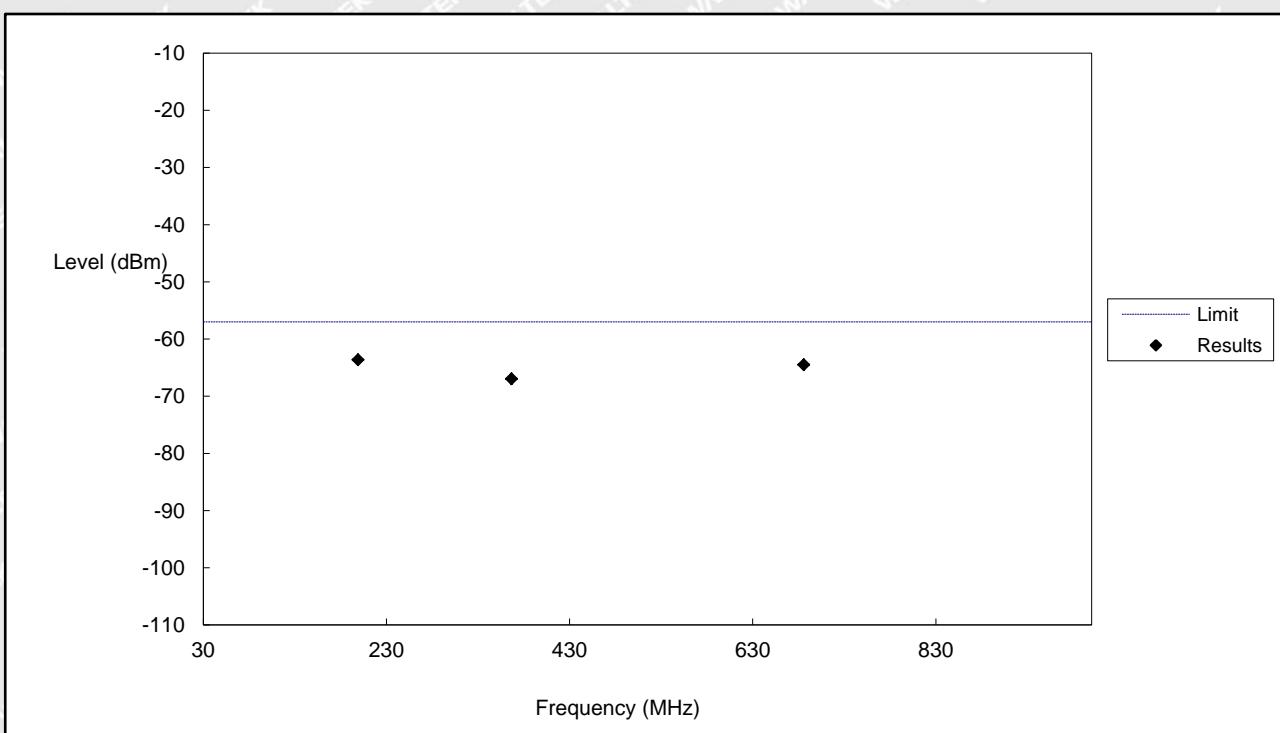
No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1795.2	-45.38	-30.00	-15.38	RMS
2	2692.8	-48.93	-30.00	-18.93	RMS
3	3590.4	-47.97	-30.00	-17.97	RMS



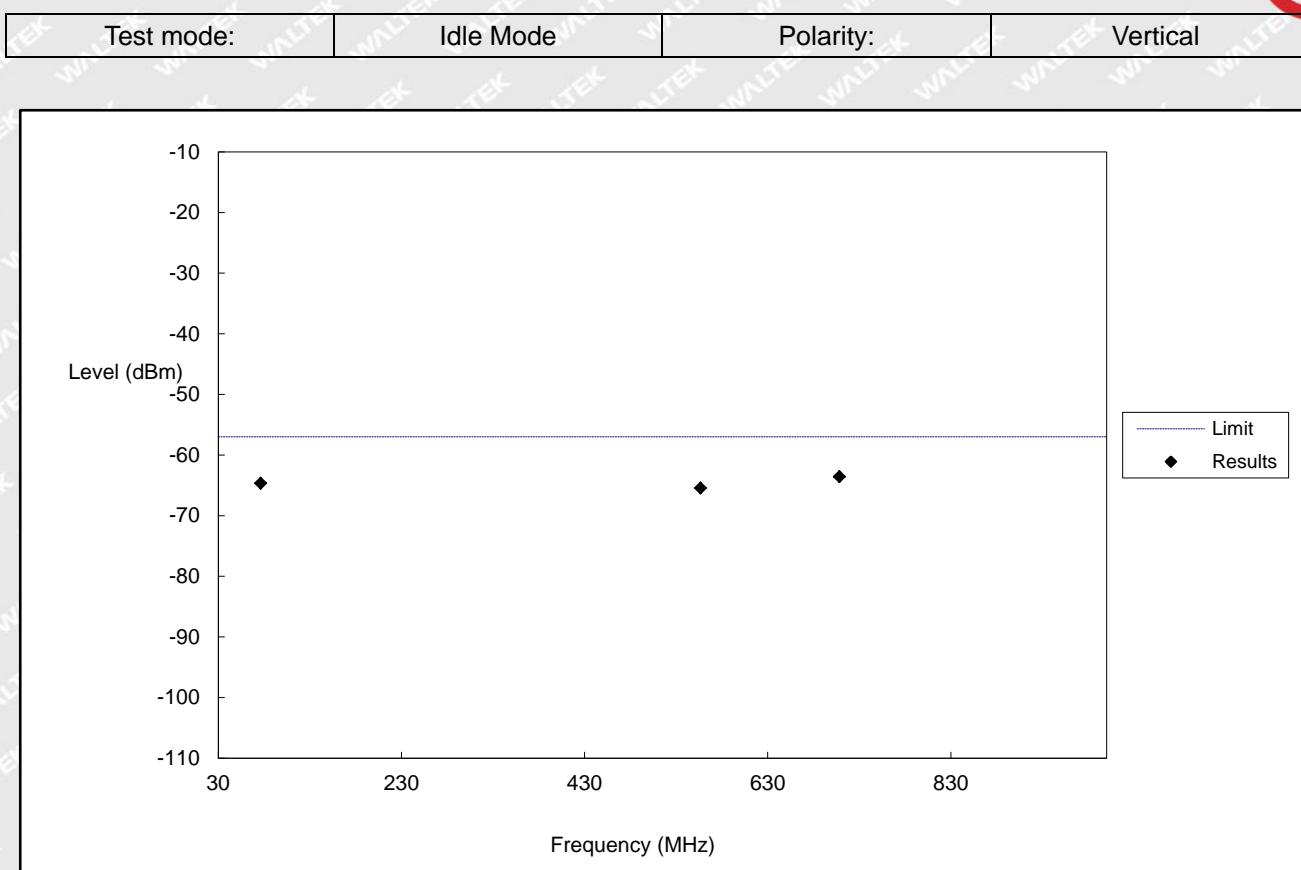
➤ Radiated Spurious Emissions(30MHz-1GHz)

WCDMA Band 8

Test mode:	Idle Mode	Polarity:	Horizontal
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No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	199.09	-63.61	-57.00	-6.61	RMS
2	366.67	-66.94	-57.00	-9.94	RMS
3	685.83	-64.49	-57.00	-7.49	RMS

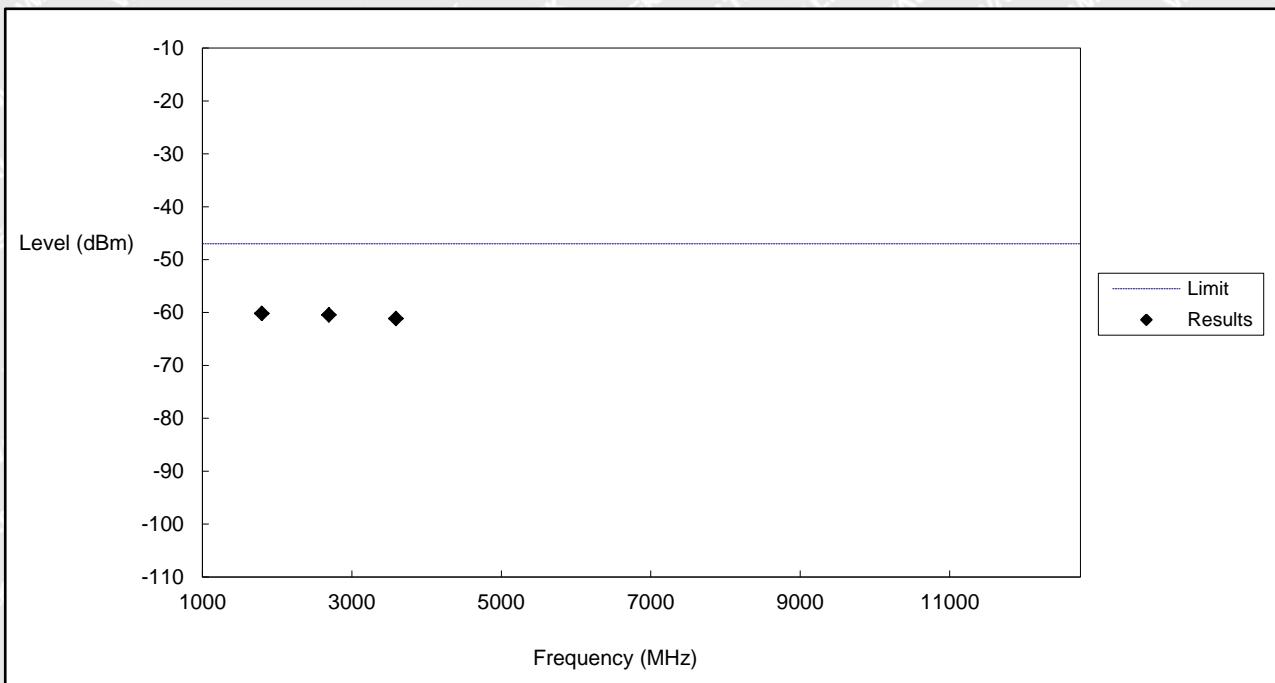


No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	76.36	-64.67	-57.00	-7.67	RMS
2	556.67	-65.45	-57.00	-8.45	RMS
3	708.33	-63.57	-57.00	-6.57	RMS



➤ Radiated Spurious Emissions(Above 1GHz)

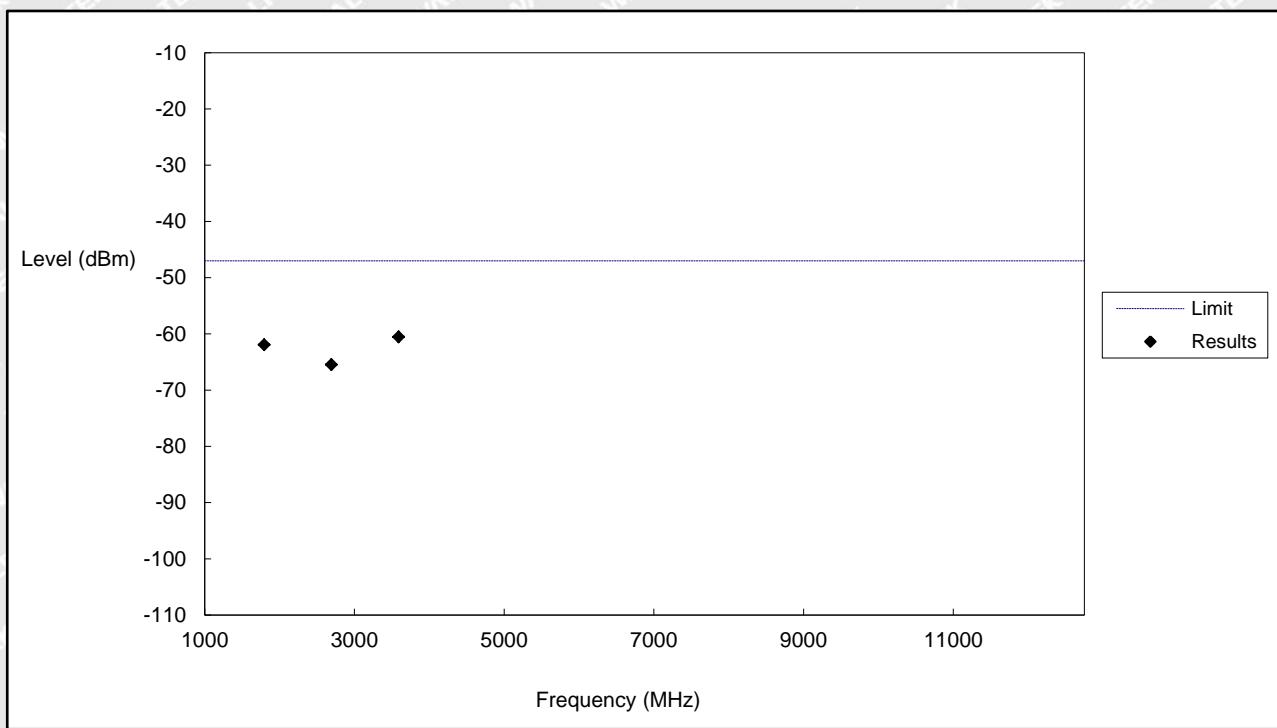
Test mode:	Idle Mode	Polarity:	Horizontal
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No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1795.2	-60.19	-47.00	-13.19	RMS
2	2692.8	-60.45	-47.00	-13.45	RMS
3	3590.4	-61.16	-47.00	-14.16	RMS



Test mode:	Idle Mode	Polarity:	Vertical
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No.	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1795.2	-61.94	-47.00	-14.94	RMS
2	2692.8	-65.48	-47.00	-18.48	RMS
3	3590.4	-60.54	-47.00	-13.54	RMS

Note: Emissions attenuated more than 20 dB below the permissible value are not reported. There is only the base noise in frequency above 12.75GHz.



3.14 Control and monitoring functions

Clause 4.2.4 of ETSI EN 301 908-1 applies.

RESULT: Pass

3.14.1 Definition and applicability

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.

3.14.2 Conformance requirements

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

3.14.3 Set up for testing

a) 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 3.13.2 in order to prove compliance.



3.14.4 Test result

WCDMA Band 1 – Control and monitoring functions						
Measured range	Test data (dBm)				Limit (dBm)	Result
	1st	2nd	3rd	4th		
WCDMA Band 1 1920MHz to 1980MHz	-43.74	-43.32	-45.26	-41.98	-30	Pass

WCDMA Band 8 – Control and monitoring functions						
Measured range	Test data (dBm)				Limit (dBm)	Result
	1st	2nd	3rd	4th		
WCDMA Band 8 880MHz to 915MHz	-43.36	-42.47	-42.96	-41.56	-30	Pass

The equipment complied with the requirement of this clause.

WALTEK



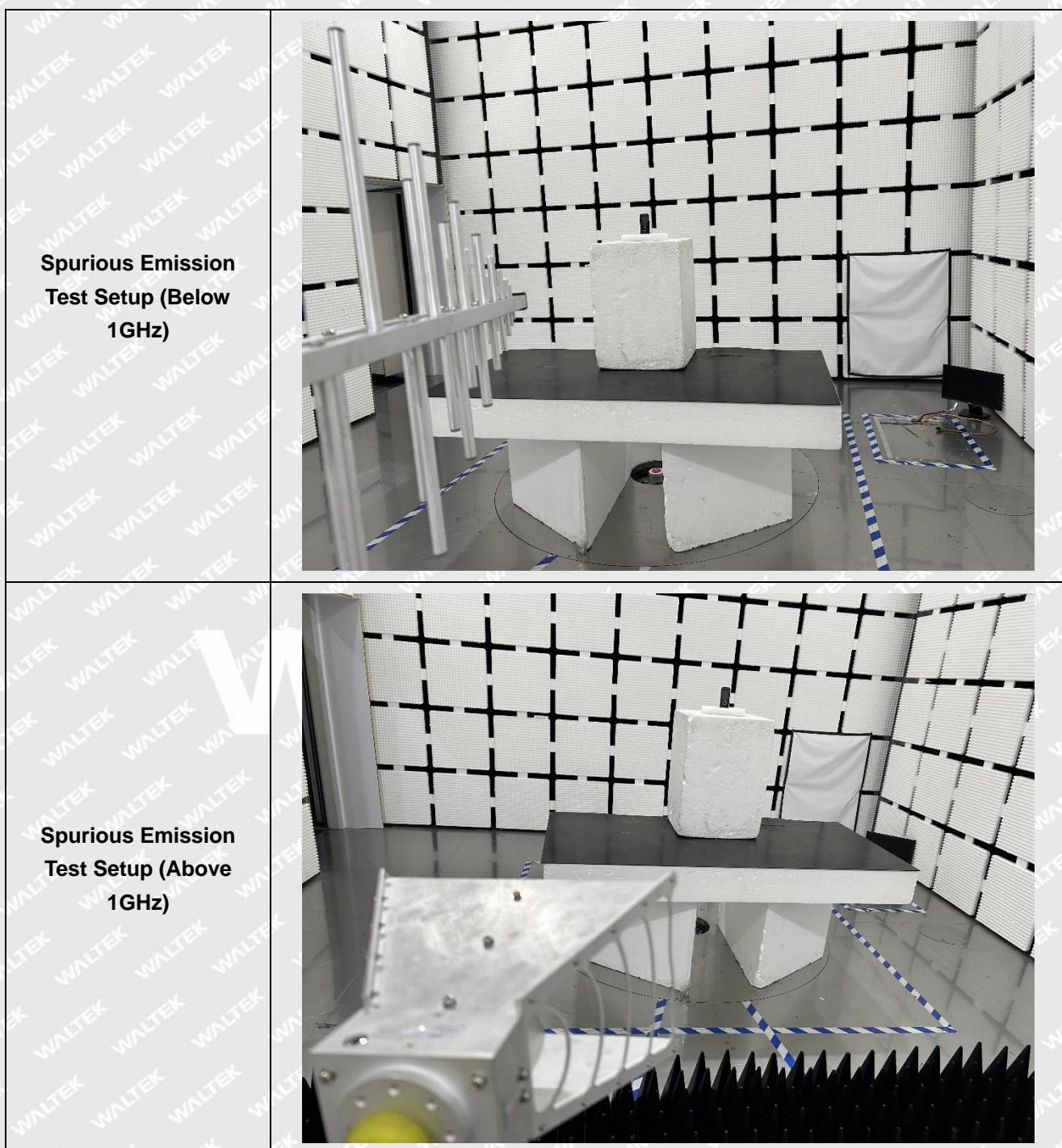
EXHIBIT 1 - EUT PHOTOGRAPHS

Please refer to "ANNEX".

WALTEK



EXHIBIT 2 - Test setup photo



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