RADIO TEST REPORT

For

Shenzhen KVD Communication Equipment Limited

LTE GSM/WCDMA Smartphone

Test Model: S60 Lite

Prepared for	:	Shenzhen KVD Communication Equipment Limited
Address	:	Lenovo R&D Center 2F-B, South First Road, High-tech Park, Nanshan District, Shenzhen, Guangdong, China
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
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Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com
Date of receipt of test sample	:	Dec 21, 2017
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	Dec 21, 2017~Jan 03, 2018
Date of Report	:	Jan 03, 2018

CE

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RADIO TEST REPORT

ETSI EN 301 908-2 V11.1.1 (2016-07)

IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 2: CDMA Direct Spread (UTRA FDD) User Equipment (UE)

Report Reference No.	:	**LCS171221034AEG**
Date of Issue	:	Jan 03, 2018
Testing Laboratory Name	:	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure	:	Full application of Harmonised standards ■ Partial application of Harmonised standards ☐ Other standard testing method ☐
Applicant's Name	:	**Shenzhen KVD Communication Equipment Limited**
Address	:	Lenovo R&D Center 2F-B, South First Road, High-tech Park, Nanshan District, Shenzhen, Guangdong, China
Test Specification		
Standard	:	ETSI EN 301 908-1 V11.1.1 (2016-07) ETSI EN 301 908-2 V11.1.1 (2016-07)
Test Report Form No.	:	LCSEMC-1.0
TRF Originator	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF	:	Dated 2017-06

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Test Item Description.	:	**LTE GSM/WCDMA Smartphone**
Trade Mark	:	DOOGEE
Test Model	:	S60 Lite
Ratings	:	DC 3.8V by Li-ion Battery(5580mAh) Recharged by DC 5V/7V/3A,9V/2.7A,12V/2A Adapter
Result	:	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Calvin Weng	Dick Su	Gavin Liang
Calvin Weng/ Administrators	Dick Su/ Technique principal	Gavin Liang/ Manager

RADIO -- TEST REPORT

Test Report No. : LCS171221034AEG	Jan 03, 2018 Date of issue

Test Model.....	:	S60 Lite
EUT.....	:	LTE GSM/WCDMA Smartphone
Applicant.....	**:**	**Shenzhen KVD Communication Equipment Limited**
Address.....	:	Lenovo R&D Center 2F-B, South First Road, High-tech Park, Nanshan District, Shenzhen, Guangdong, China
Telephone.....	:	
Fax.....	:	
Manufacturer.....	**:**	**Shenzhen KVD Communication Equipment Limited**
Address.....	:	A,3rd floor, Building A2, Silicon valley Digital Industrial Park,22nd of Dafu industrial area,Aobei Community,Guanlan town,Longhua District,shenzhen 518000, China
Telephone.....	:	
Fax.....	:	
Factory.....	**:**	**Shenzhen KVD Communication Equipment Limited**
Address.....	:	A,3rd floor, Building A2, Silicon valley Digital Industrial Park,22nd of Dafu industrial area,Aobei Community,Guanlan town,Longhua District,shenzhen 518000, China
Telephone.....	:	
Fax.....	:	

Test Result	Positive

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.

Revision History

Revision	Issue Date	Revisions	Revised By
000	Jan 03, 2018	Initial Issue	Gavin Liang

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1. GENERAL INFORMATION

1.1. Product Description for Equipment Under Test (EUT)

EUT	:	LTE GSM/WCDMA Smartphone
Test Model	:	S60 Lite
Power Supply	:	DC 3.8V by Li-ion Battery(5580mAh) Recharged by DC 5V/7V/3A,9V/2.7A,12V/2A Adapter
Hardware Version	:	T777_MAIN_PCB_V1.1
Software Version	:	DOOGEE-S60 Lite-Android7.0-20171227
2G	:	
Support Band	:	☒GSM 900 (EU-Band) ☒DCS 1800 (EU-Band) ☒GSM 850 (U.S.-Band) ☒PCS 1900 (U.S.-Band)
Release Version	:	R99
GPRS Class	:	Class 12
EGPRS Class	:	Class 12
Uplink	:	GSM 900: 880MHz ~ 915MHz DCS 1800: 1710MHz ~ 1785MHz
Downlink	:	GSM 900: 925MHz ~ 960MHz DCS 1800: 1805MHz ~ 1880MHz
Type Of Modulation	:	GMSK for GSM/GPRS; GMSK/8PSK for EGPRS
Antenna Description	:	PIFA Antenna, 0dBi(Max.)
Power Class	:	GSM 900: Class 4, DCS 1800: Class 1
3G	:	
Support Band	:	☐WCDMA Band II (U.S.-Band) ☐WCDMA Band V (U.S.-Band) ☒WCDMA Band I (EU-Band) ☒WCDMA Band VIII (EU-Band)
Release Version	:	R99
Uplink	:	WCDMA Band I: 1920MHz ~ 1980MHz WCDMA Band VIII: 880MHz~915MHz
Downlink	:	WCDMA Band I: 2110MHz ~ 2170MHz WCDMA Band VIII: 925MHz~960MHz
Type Of Modulation	:	WCDMA: QPSK; HSDPA/HSUPA: QPSK
Antenna Description	:	PIFA Antenna, 0dBi(Max.)
Power Class	:	Class 3

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LTE	:	
Support Band	:	☒E-UTRA Band 1(EU-Band) ☒E-UTRA Band 3(EU-Band) ☒E-UTRA Band 7(EU-Band) ☒E-UTRA Band 8(EU-Band) ☒E-UTRA Band 20(EU-Band)
LTE Release Version	:	R9
Uplink	:	E-UTRA Band 1: 1920MHz ~ 1980MHz E-UTRA Band 3: 1710MHz~1785MHz E-UTRA Band 7: 2500MHz ~ 2570MHz E-UTRA Band 8: 880MHz ~ 915MHz E-UTRA Band 20: 832MHz ~ 862MHz
Downlink	:	E-UTRA Band 1: 2110MHz ~ 2170MHz E-UTRA Band 3: 1805MHz~1880MHz E-UTRA Band 7: 2620MHz ~ 2690MHz E-UTRA Band 8: 925MHz ~ 960MHz E-UTRA Band 20: 791MHz ~ 821MHz
Type Of Modulation	:	QPSK/16-QAM
Antenna Description	:	PIFA Antenna; 0dBi(Max.) for Band 1,3,7,8,20
Power Class	:	Class 3
Bluetooth	:	
Frequency Range	:	2.402-2.480GHz
Channel Number	:	79 channels for Bluetooth V4.0 (DSS) 40 channels for Bluetooth V4.0 (DTS)
Channel Spacing	:	1MHz for Bluetooth V4.0 (DSS) 2MHz for Bluetooth V4.0 (DTS)
Modulation Type	:	GFSK, π/4-DQPSK, 8-DPSK for Bluetooth V4.0 (DSS) GFSK for Bluetooth V4.0 (DTS)
Bluetooth Version	:	V4.0
Antenna Description	:	PIFA Antenna, -1dBi(Max.)
WIFI(2.4G Band)	:	
Frequency Range	:	2412-2472MHz
Channel Spacing	:	5MHz
Channel Number	:	13 Channel for 20MHz bandwidth(2412~2472MHz) 9 channels for 40MHz bandwidth(2422~2462MHz)
Modulation Type	:	802.11b: DSSS; 802.11g/n: OFDM
Antenna Description	:	PIFA Antenna, -1dBi(Max.)

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GPS Receiver	:
Receive Frequency	: 1575.42MHz
Channel Number	: 1
Antenna Description	: PIFA Antenna
FM Receiver	:
Frequency Range	: 87.5MHz ~ 108MHz
Modulation Type	: FM
Antenna Description	: External Antenna(earphone)

1.2. Support equipment List

Manufacturer	Description	Model	Serial Number	Certificate
--	--	--	--	--

1.3. External I/O

I/O Port Description	Quantity	Cable
USB Port	1	1 m, unshielded
Earphone	1	N/A

1.4. Objective

Standard Referenced	Standard Title	Standard Version
ETSI EN 301 908-1	IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 1: Introduction and common requirements	V11.1.1 (2016-07)
ETSI EN 301 908-2	IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 2: CDMA Direct Spread (UTRA FDD) User Equipment (UE)	V11.1.1 (2016-07)

The objective is to determine compliance with ETSI EN 301 908-1 V11.1.1 (2016-07) & ETSI EN 301 908-2 V11.1.1 (2016-07).

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1.5. Test Conditions

Conditions	Temperature	Voltage
Normal	21-25℃	DC 3.8V
Low extreme temperature/low extreme voltage (LT/LV);	-10℃	DC 3.4V
Low extreme temperature/high extreme voltage (LT/HV);	-10℃	DC 4.35V
High extreme temperature/low extreme voltage (HT/LV);	+55℃	DC 3.4V
High extreme temperature/high extreme voltage (HT/HV).	+55℃	DC 4.35V
Note1: For all conditions, the humidity range is:40-75%, the pressure range is 86-106kPa. The High Voltage DC 4.35V and Low Voltage DC 3.4V was declared by manufacturer		

1.6. Description Of Test Mode

1. WCDMA Band I
1). Low Channel Operation(9612Channel)
2). Middle Channel Operation(9750Channel)
3). High Channel Operation(9888Channel)

2. WCDMA Band VIII
1). Low Channel Operation(2712Channel)
2). Middle Channel Operation(2787Channel)
3). High Channel Operation(2863Channel)

Note: The EUT has one LTE/GSM/WCDMA card slot(SIM1) and one GSM card slot(SIM2). The result for LTE/GSM/WCDMA card slot(SIM1) is the worst case which was only recorded.

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1.7. List Of Measuring Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1	X-series USB Peak and Average Power Sensor Aglient	Agilent	U2021XA	MY54080022	2017-10-27	2018-10-26
2	4 CH. Simultaneous Sampling 14 Bits 2MS/s	Agilent	U2531A	MY54080016	2017-10-27	2018-10-26
3	Test Software	Ascentest	AT890-SW	20160630	N/A	N/A
4	RF Control Unit	Ascentest	AT890-RFB	N/A	2017-06-17	2018-06-16
5	ESA-E SERIES SPECTRUM ANALYZER	Agilent	E4407B	MY41440754	2017-11-18	2018-11-17
6	MXA Signal Analyzer	Agilent	N9020A	MY49100040	2017-06-17	2018-06-16
7	SPECTRUM ANALYZER	R&S	FSP	100503	2017-06-17	2018-06-16
8	MXG Vector Signal Generator	Agilent	N5182A	MY47071151	2017-11-18	2018-11-17
9	ESG VECTOR SIGNAL GENERATOR	Agilent	E4438C	MY42081396	2017-11-18	2018-11-17
10	PSG Analog Signal Generator	Agilent	E8257D	MY4520521	2017-11-18	2018-11-17
11	Universal Radio Communication Tester	R&S	CMU 200	105788	2017-06-17	2018-06-16
12	WIDEBAND RADIO COMMUNICATION TESTER	R&S	CMW 500	103818	2017-06-17	2018-06-16
13	RF Control Unit	Tonscend	JS0806-1	N/A	2017-06-17	2018-06-16
14	DC Power Supply	Agilent	E3642A	N/A	2017-11-18	2018-11-17
15	LTE Test Software	Tonscend	JS1120-1	N/A	N/A	N/A
16	Temperature & Humidity Chamber	GUANGZHOU GOGNWEN	GDS-100	70932	2017-10-11	2018-10-10
17	DC Source	CHROMA	62012P-80-60	34782951	2017-10-11	2018-10-10
18	RF Filter	Micro-Tronics	BRC50718	S/N-017	2017-06-17	2018-06-16
19	RF Filter	Micro-Tronics	BRC50719	S/N-011	2017-06-17	2018-06-16
20	RF Filter	Micro-Tronics	BRC50720	S/N-011	2017-06-17	2018-06-16
21	RF Filter	Micro-Tronics	BRC50721	S/N-013	2017-06-17	2018-06-16
22	RF Filter	Micro-Tronics	BRM50702	S/N-195	2017-06-17	2018-06-16
23	Splitter/Combiner	Micro-Tronics	PS2-15	CB11-20	2017-06-17	2018-06-16
24	Splitter/Combiner	Micro-Tronics	CB11-20	N/A	2017-06-17	2018-06-16
25	Attenuator	Micro-Tronics	PAS-8-10	S/N23466	2017-06-17	2018-06-16
26	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2017-06-17	2018-06-16
27	Positioning Controller	MF	MF-7082	/	2017-06-17	2018-06-16
28	EMI Test Software	AUDIX	E3	N/A	2017-06-17	2018-06-16
29	EMI Test Receiver	R&S	ESR 7	101181	2017-06-17	2018-06-16
30	AMPLIFIER	QuieTek	QTK-A2525G	CHM10809065	2017-11-18	2018-11-17
31	Active Loop Antenna	SCHWARZBECK	FMZB 1519B	00005	2017-06-23	2018-06-22
32	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2017-05-02	2018-05-01
33	Horn Antenna	EMCO	3115	6741	2017-06-23	2018-06-22
34	RF Cable-R03m	Jye Bao	RG142	CB021	2017-06-17	2018-06-16
35	RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	2017-06-17	2018-06-16
36	TEST RECEIVER	R&S	ESCI	101142	2017-06-17	2018-06-16
37	RF Cable-CON	UTIFLEX	3102-26886-4	CB049	2017-06-17	2018-06-16
38	10dB Attenuator	SCHWARZBECK	MTS-IMP136	261115-001-00	2017-06-17	2018-06-16

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				32		
39	Artificial Mains	R&S	ENV216	101288	2017-06-17	2018-06-16
40	Power Analyzer Test System	Voltech	PM6000	20000670053	2017-06-17	2018-06-16
41	ESD Simulator	SCHLODER	SESD 230	604035	2017-06-17	2018-06-16
42	RF POWER AMPLIFIER	OPHIR	5225R	1052	2017-03-22	2018-03-21
43	RF POWER AMPLIFIER	OPHIR	5273F	1019	2017-03-24	2018-03-23
44	Stacked Broadband Log Periodic Antenna	SCHWARZBECK	STLP 9128	9128ES-145	2017-04-28	2018-04-27
45	Stacked Mikrowellen Log.-Per Antenna	SCHWARZBECK	STLP 9149	9149-482	2017-04-28	2018-04-27
46	Electric field probe	Narda S.TS./PMM	EP601	611WX70332	2017-02-05	2018-02-04
47	Power Meter	Agilent	E4419B	MY45104493	2017-06-17	2018-06-16
48	Power Sensor	Agilent	E9301H	MY41495234	2017-06-17	2018-06-16
49	Power Sensor	Agilent	E4412A	MY41500229	2017-06-17	2018-06-16
50	Immunity Simulative Generator	EM TEST	UCS500-M4	0101-34	2017-11-18	2018-11-17
51	Simulator	FRANKONIA	CIT-10	A126A1195	2017-06-17	2018-06-16
52	CDN	FRANKONIA	CDN-M2	5100100100	2017-06-17	2018-06-16
53	CDN	FRANKONIA	CDN-M3	0900-11	2017-06-17	2018-06-16
54	Attenuator	FRANKONIA	ATT6	0010222A	2017-06-17	2018-06-16
55	Infuse tongs	EM TEST	EM-Clamp	0513A031201	2017-06-17	2018-06-16
56	Voltage dips and up generator	3CTEST	VDG-1105G	EC0171014	2017-06-17	2018-06-16
Note: All equipment is calibrated through GUANGZHOU LISAI CALIBRATION AND TEST CO.,LTD.						

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1.8. Measurement Uncertainty (95% confidence levels, k=2)

Test Item		Uncertainty
Radio Frequency	:	0.9×10^{-4}
Total RF Power, Conducted	:	1.0 dB
RF Power Density, Conducted	:	1.8 dB
Spurious Emissions, Conducted	:	1.8 dB
All Emissions, Radiated	:	3.1 dB
Temperature	:	0.5°C
Humidity	:	1 %
DC And Low Frequency Voltages	:	1 %

1.9. Description of Test Facility

FCC Registration Number. is 254912.
Industry Canada Registration Number. is 9642A-1.
ESMD Registration Number. is ARCB0108.
UL Registration Number. is 100571-492.
TUV SUD Registration Number. is SCN1081.
TUV RH Registration Number. is UA 50296516-001

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2. SYSTEM TEST CONFIGURATION

2.1. Justification

N/A

2.2. EUT Exercise Software

N/A

2.3. Special Accessories

The special accessories were supplied by Shenzhen LCS Compliance Testing Laboratory Ltd.

2.4. Block Diagram/Schematics

Please refer to the related document.

2.5. Equipment Modifications

Shenzhen LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

2.6. Test Setup

Please refer to the test setup photo.

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3. TEST RESULTS

Reference Clause No. (ETSI EN 301 908-2)	Description of Test Items	WCDMA Band VIII	WCDMA Band I
		Result	Result
4.2.2	Transmitter maximum output power		
	NT / NV	Pass	Pass
	LT / LV	Pass	Pass
	LT / HV	Pass	Pass
	HT / LV	Pass	Pass
	HT / HV	Pass	Pass
	HSDPA & HSUPA		
	NT / NV	Pass	Pass
	LT / LV	Pass	Pass
	LT / HV	Pass	Pass
	HT / LV	Pass	Pass
	HT / HV	Pass	Pass
4.2.3	Transmitter spectrum emission mask		
	NT / NV	Pass	Pass
	Transmitter spectrum emission mask for HSDPA & HSUPA		
	NT / NV	Pass	Pass
4.2.4	Transmitter spurious emissions		
	NT / NV	Pass	Pass
	Transmitter spurious emission for HSDPA & HSUPA		
	NT / NV	Pass	Pass
4.2.5	Transmitter minimum output power		
	NT / NV	Pass	Pass
	LT / LV	Pass	Pass
	LT / HV	Pass	Pass
	HT / LV	Pass	Pass
	HT / HV	Pass	Pass
4.2.6	Receiver Adjacent Channel Selectivity (ACS)		
	NT / NV	Pass	Pass
	Receiver Adjacent Channel Selectivity for HSDPA & HSUPA		
	NT / NV	Pass	Pass
4.2.7	Receiver blocking characteristics		
	NT / NV	Pass	Pass
4.2.8	Receiver spurious response		
	NT / NV	Pass	Pass
4.2.9	Receiver intermodulation characteristics		
	NT / NV	Pass	Pass
4.2.10	Receiver spurious emissions		
	NT / NV	Pass	Pass
4.2.11	Out-of-synchronization handling of output power		

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	NT / NV	Pass	Pass
4.2.12	Transmitter Adjacent Channel Leakage power Ratio (ACLR)		
	NT / NV	Pass	Pass
	LT / LV	Pass	Pass
	LT / HV	Pass	Pass
	HT / LV	Pass	Pass
	HT / HV	Pass	Pass
	Transmitter Adjacent Channel Leakage power Ratio (ACLR) for HSDPA & HSUPA		
	NT / NV	Pass	Pass
	LT / LV	Pass	Pass
	LT / HV	Pass	Pass
	HT / LV	Pass	Pass
	HT / HV	Pass	Pass

Reference Clause No. (ETSI EN 301 908-1)	**Description of Test Items**	**WCDMA Band VIII**	**WCDMA Band I**
		Result	**Result**
4.2.2	Radiated emissions (UE)		
	NT / NV	Pass	Pass
4.2.4	Control and monitoring functions (UE)		
	NT / NV	Pass	Pass

***Note:

Result: Describes test result of Test Case.

Pass: Test Case passed on specified conformance test platform.

NT: Normal temperature – 25℃

NV: Normal voltage. – DC 3.8V

HT: High temperature – +55℃

HV: High voltage – DC 4.35V

LT: Low temperature – -10℃

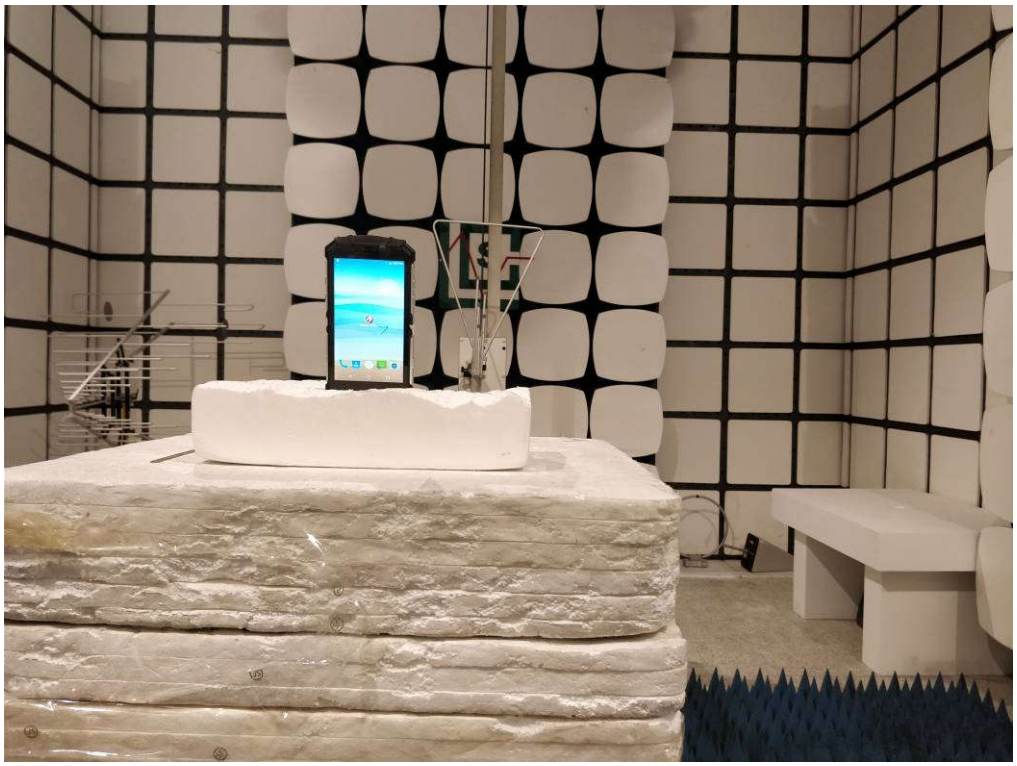
LV: Low voltage – DC 3.4V

Vibration X-axis/ Y-axis/ Z-axis: Vibration test condition for X/Y/Z axis.

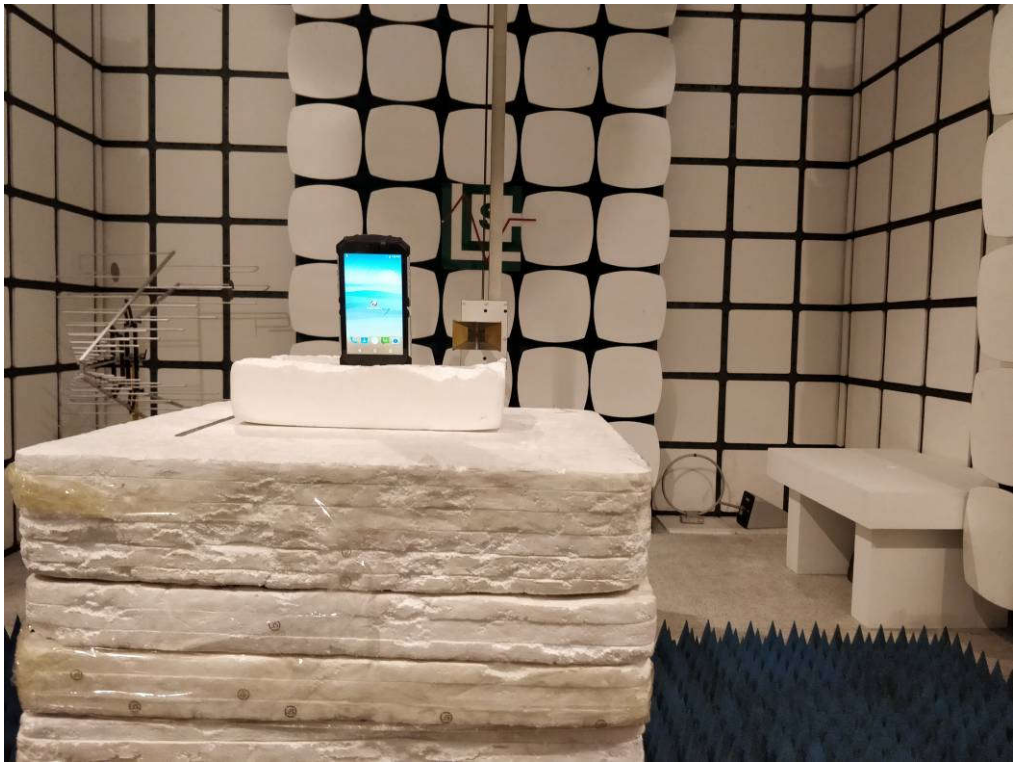
N/A: Not applicable.

—: Not test.

4. PHOTOGRAPHS OF TEST SETUP



Spurious Emission below 1GHz



Spurious Emission above 1GHz

Annex A

Transmitter maximum output power

The worst test result of maximum output power for WCDMA Band I (Middle Channel)

Test Condition		Measure Result (dBm)	Power Error (dB)	Conclusion
Temperature(℃)	Voltage(Vdc)			
-10	DC 3.4V	23.35	-0.65	Pass
	DC 3.8V	23.32	-0.68	Pass
	DC 4.35V	23.36	-0.64	Pass
25	DC 3.4V	**23.44**	-0.56	Pass
	DC 3.8V	23.40	-0.60	Pass
	DC 4.35V	23.37	-0.63	Pass
55	DC 3.4V	23.38	-0.62	Pass
	DC 3.8V	23.35	-0.65	Pass
	DC 4.35V	23.42	-0.58	Pass
Note: The maximum output power for Low Channel is 23.25dBm. The maximum output power for High Channel is 23.33dBm.				

The worst test result of maximum output power for WCDMA Band I (HSUPA) (Middle Channel)

Test Condition		Measure Result (dBm)	Power Error (dB)	Conclusion
Temperature(℃)	Voltage(Vdc)			
-10	DC 3.4V	22.92	-1.08	Pass
	DC 3.8V	22.92	-1.08	Pass
	DC 4.35V	22.93	-1.07	Pass
25	DC 3.4V	22.88	-1.12	Pass
	DC 3.8V	22.87	-1.13	Pass
	DC 4.35V	22.93	-1.07	Pass
55	DC 3.4V	22.91	-1.09	Pass
	DC 3.8V	22.87	-1.13	Pass
	DC 4.35V	22.91	-1.09	Pass
Note: The maximum output power for Low Channel is 22.83dBm. The maximum output power for High Channel is 22.79dBm.				

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The worst test result of maximum output power for WCDMA Band I (HSDPA) (Middle Channel)

Test Condition		Measure Result (dBm)	Power Error (dB)	Conclusion
Temperature(℃)	Voltage(Vdc)			
-10	DC 3.4V	22.88	-1.12	Pass
	DC 3.8V	22.93	-1.07	Pass
	DC 4.35V	22.87	-1.13	Pass
25	DC 3.4V	22.91	-1.09	Pass
	DC 3.8V	22.88	-1.12	Pass
	DC 4.35V	22.90	-1.10	Pass
55	DC 3.4V	22.91	-1.09	Pass
	DC 3.8V	22.89	-1.11	Pass
	DC 4.35V	22.91	-1.09	Pass
Note: The maximum output power for Low Channel is 22.86dBm. The maximum output power for High Channel is 22.79dBm.				

The worst test result of maximum output power for WCDMA Band VIII (Middle Channel)

Test Condition		Measure Result (dBm)	Power Error (dB)	Conclusion
Temperature(℃)	Voltage(Vdc)			
-10	DC 3.4V	**23.36**	-0.64	Pass
	DC 3.8V	23.34	-0.66	Pass
	DC 4.35V	23.20	-0.80	Pass
25	DC 3.4V	23.31	-0.69	Pass
	DC 3.8V	23.26	-0.74	Pass
	DC 4.35V	23.20	-0.80	Pass
55	DC 3.4V	23.33	-0.67	Pass
	DC 3.8V	23.23	-0.77	Pass
	DC 4.35V	23.19	-0.81	Pass
Note: The maximum output power for Low Channel is 23.24dBm. The maximum output power for High Channel is 23.27dBm.				

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The worst test result of maximum output power for WCDMA Band VIII (HSUPA) (Middle Channel)

Test Condition		Measure Result (dBm)	Power Error (dB)	Conclusion
Temperature(℃)	Voltage(Vdc)			
-10	DC 3.4V	22.80	-1.20	Pass
	DC 3.8V	22.81	-1.19	Pass
	DC 4.35V	22.79	-1.21	Pass
25	DC 3.4V	22.79	-1.21	Pass
	DC 3.8V	22.77	-1.23	Pass
	DC 4.35V	22.77	-1.23	Pass
55	DC 3.4V	22.78	-1.22	Pass
	DC 3.8V	22.77	-1.23	Pass
	DC 4.35V	22.81	-1.19	Pass
Note: The maximum output power for Low Channel is 22.72dBm. The maximum output power for High Channel is 22.75dBm.				

The worst test result of maximum output power for WCDMA Band VIII (HSDPA) (Middle Channel)

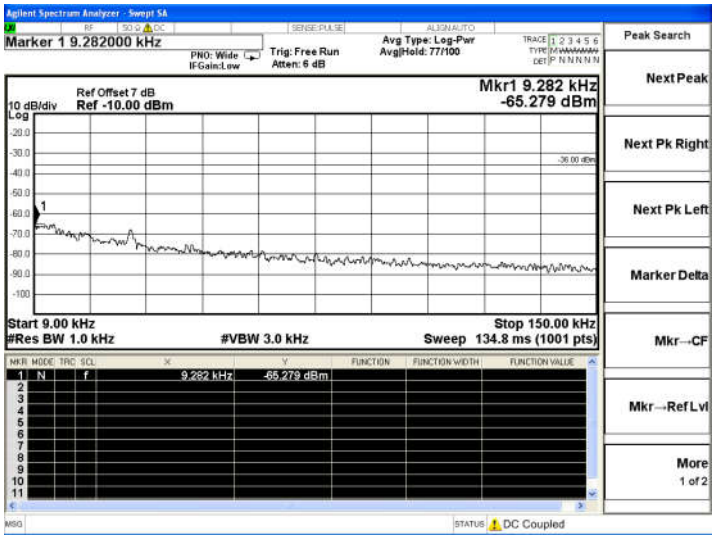
Test Condition		Measure Result (dBm)	Power Error (dB)	Conclusion
Temperature(℃)	Voltage(Vdc)			
-10	DC 3.4V	22.80	-1.20	Pass
	DC 3.8V	22.82	-1.18	Pass
	DC 4.35V	22.81	-1.19	Pass
25	DC 3.4V	22.81	-1.19	Pass
	DC 3.8V	22.80	-1.20	Pass
	DC 4.35V	22.83	-1.17	Pass
55	DC 3.4V	22.79	-1.21	Pass
	DC 3.8V	22.83	-1.17	Pass
	DC 4.35V	22.79	-1.21	Pass
Note: The maximum output power for Low Channel is 22.81dBm. The maximum output power for High Channel is 22.80dBm.				

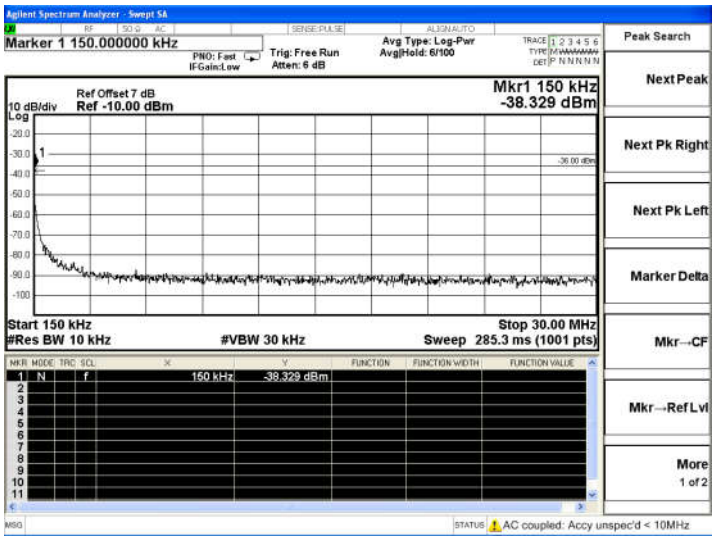
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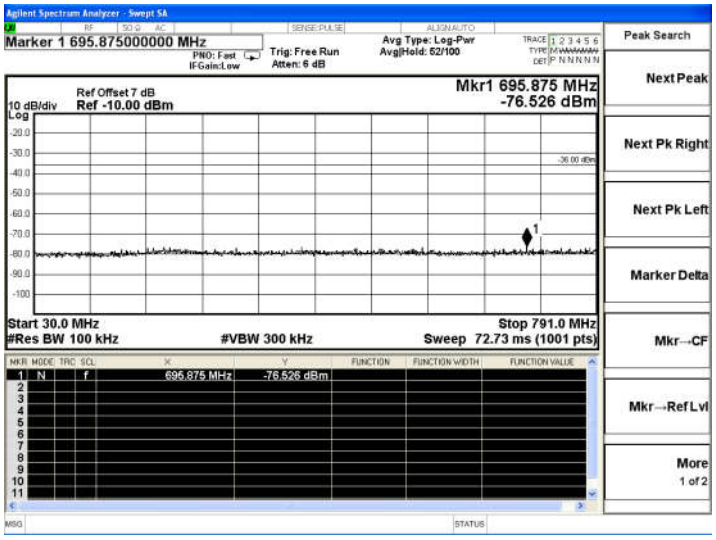
Transmitter spurious emissions

Only Report The Worst Test Result

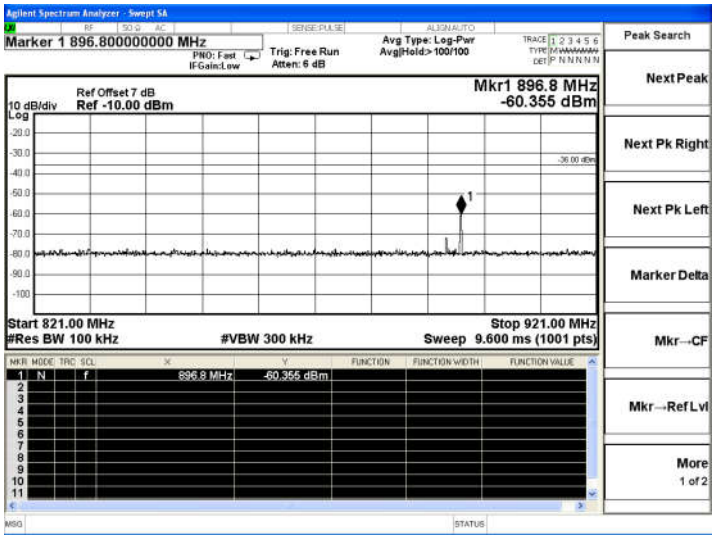
The Worst Test Result For WCDMA Band I (Middle Channel)

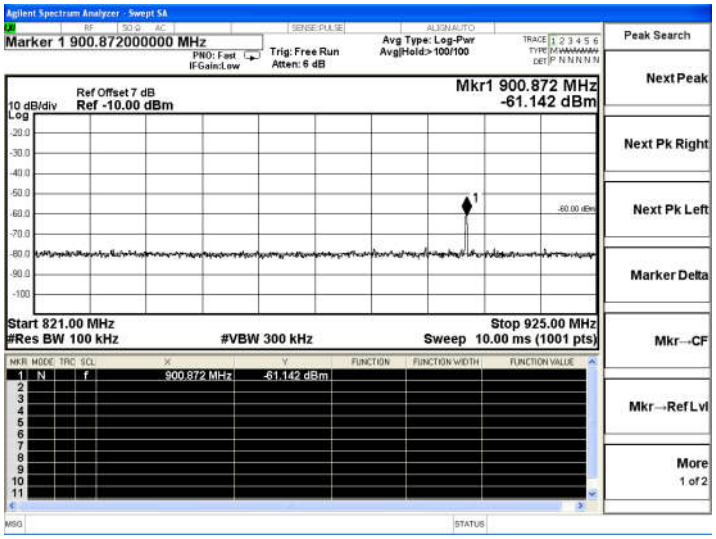




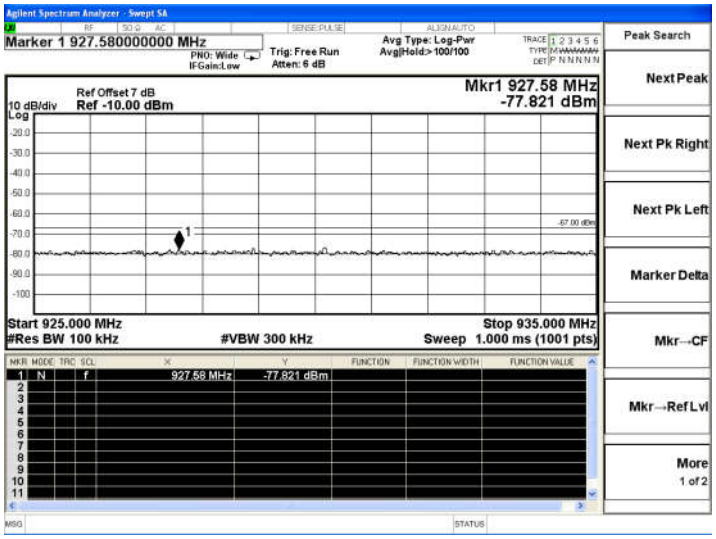


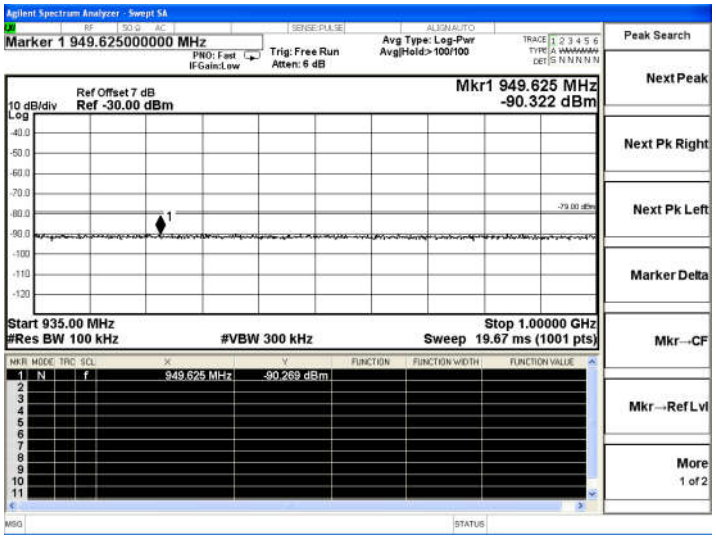


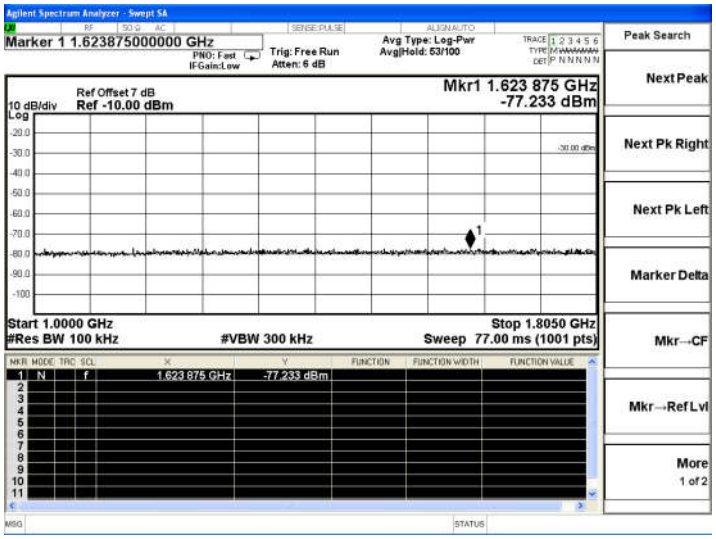




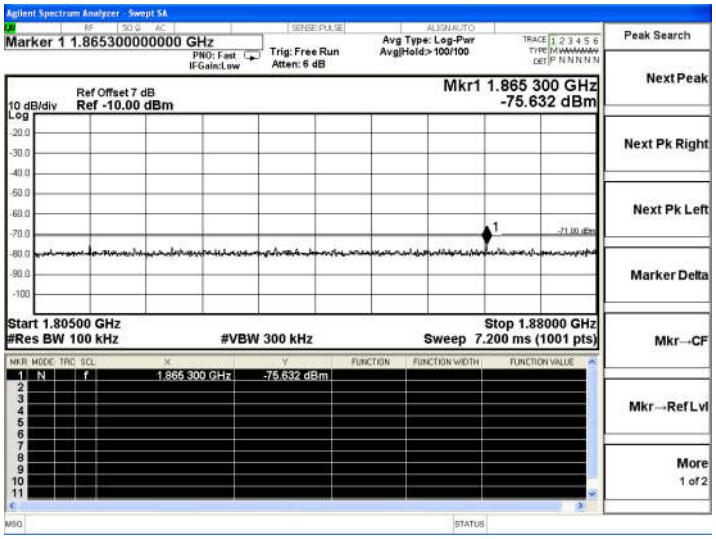
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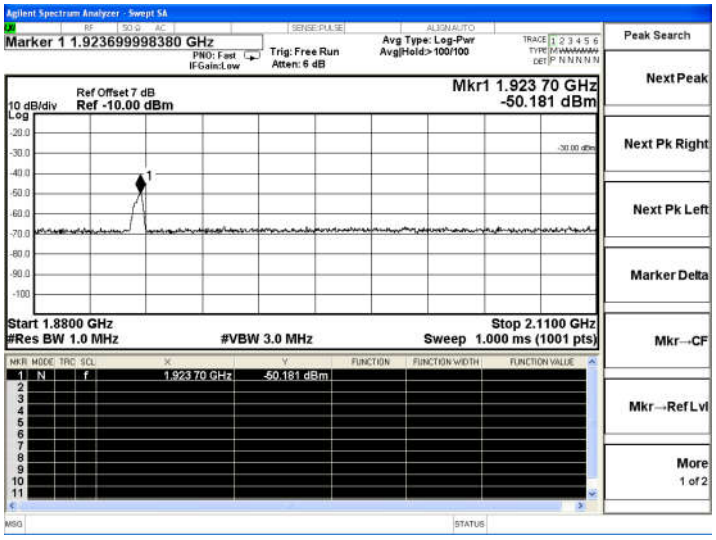


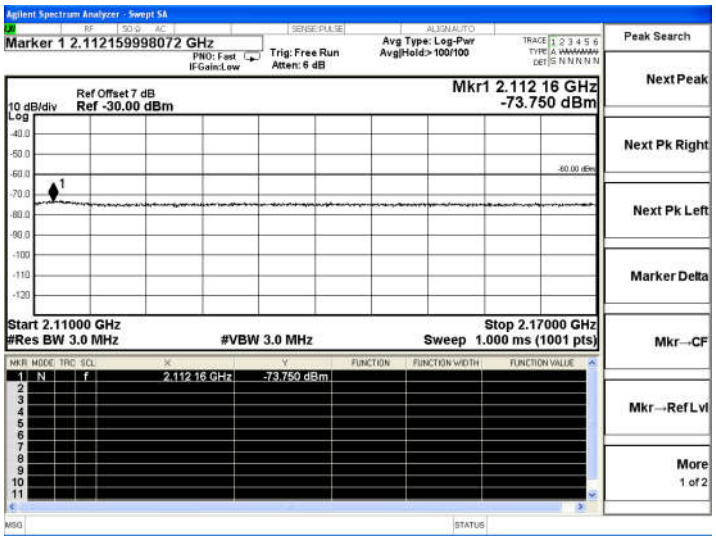




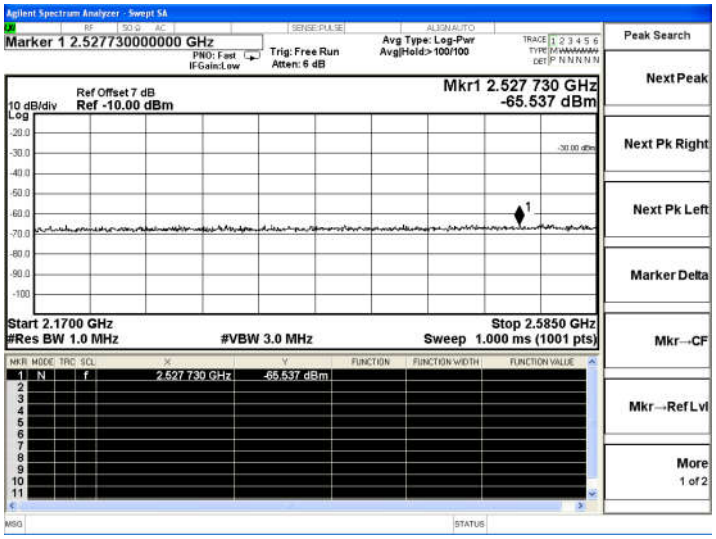
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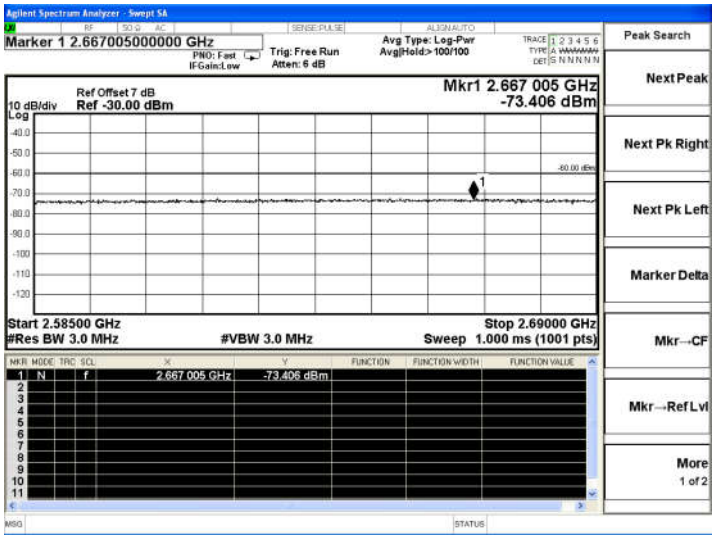


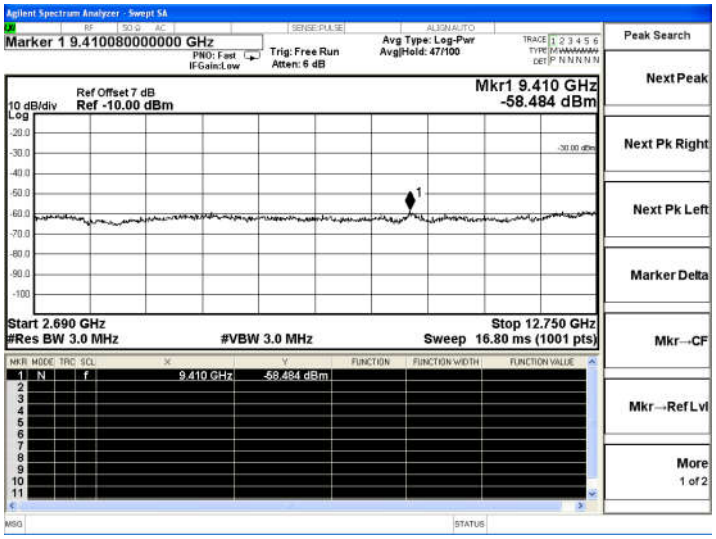




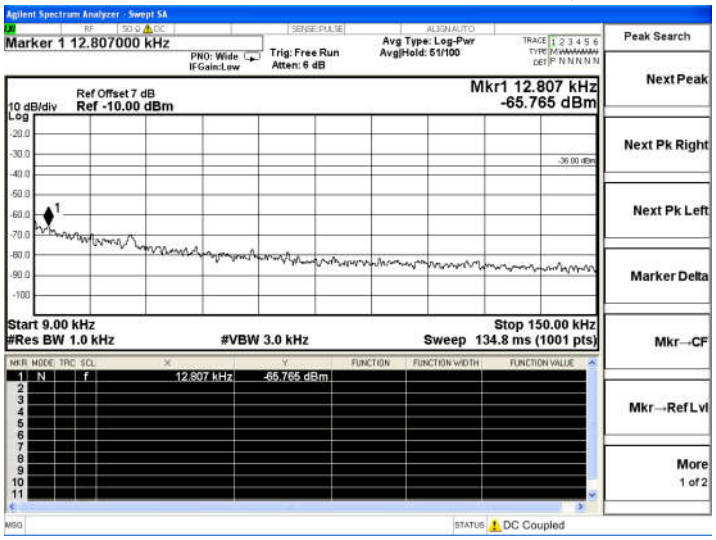
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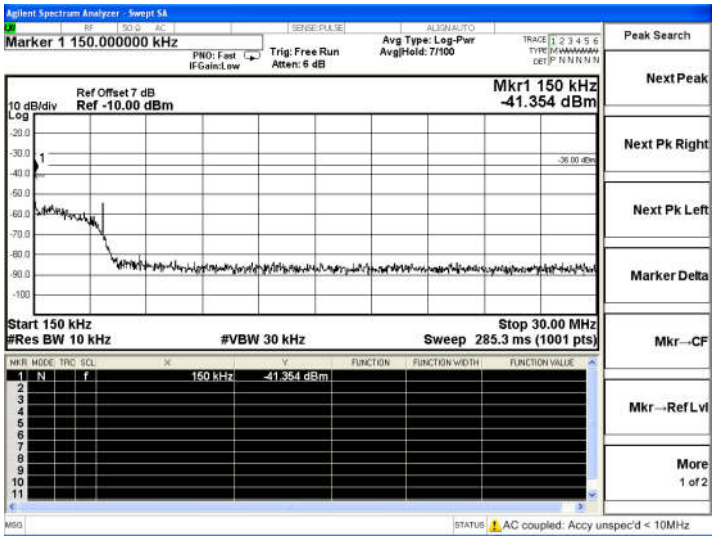

Agilent Spectrum Analyzer - Swept SA
Marker 1 2.527730000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 6 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ref Offset 7 dB
10 dB/div
Ref -10.00 dBm
Log
Mkr1 2.527 730 GHz
-65.537 dBm
Start 2.1700 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 2.5850 GHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.527 730 GHz -65.537 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

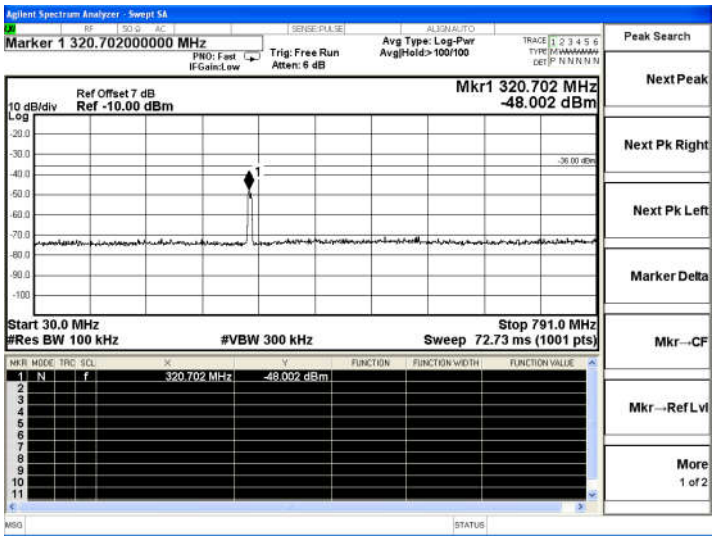

Agilent Spectrum Analyzer - Swept SA
Marker 1 2.667005000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 6 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ref Offset 7 dB
10 dB/div
Ref -30.00 dBm
Log
Mkr1 2.667 005 GHz
-73.406 dBm
Start 2.58500 GHz
#Res BW 3.0 MHz
#VBW 3.0 MHz
Stop 2.69000 GHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.667 005 GHz -73.406 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

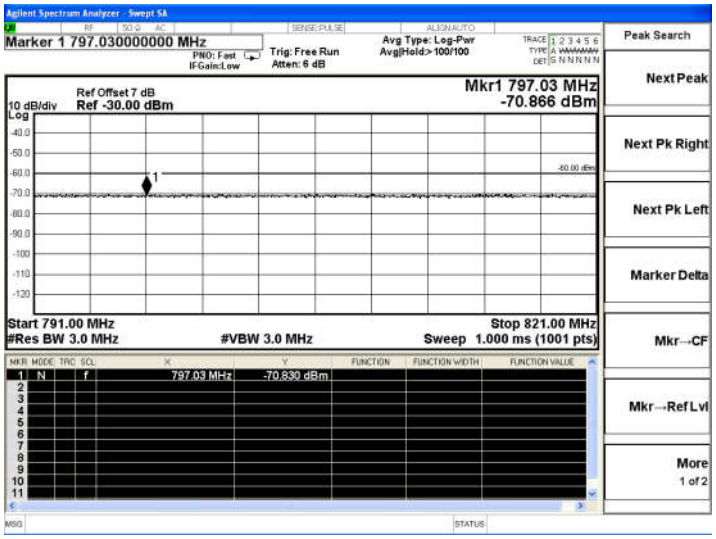

Agilent Spectrum Analyzer - Swept SA
Marker 1 9.410080000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 6 dB
Avg Type: Log-Pwr
Avg|Hold: 47/100
Ref Offset 7 dB
10 dB/div
Ref -10.00 dBm
Log
Mkr1 9.410 GHz
-58.484 dBm
Start 2.690 GHz
#Res BW 3.0 MHz
#VBW 3.0 MHz
Stop 12.750 GHz
Sweep 16.80 ms (1001 pts)
1 N 1 f 9.410 GHz -58.484 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

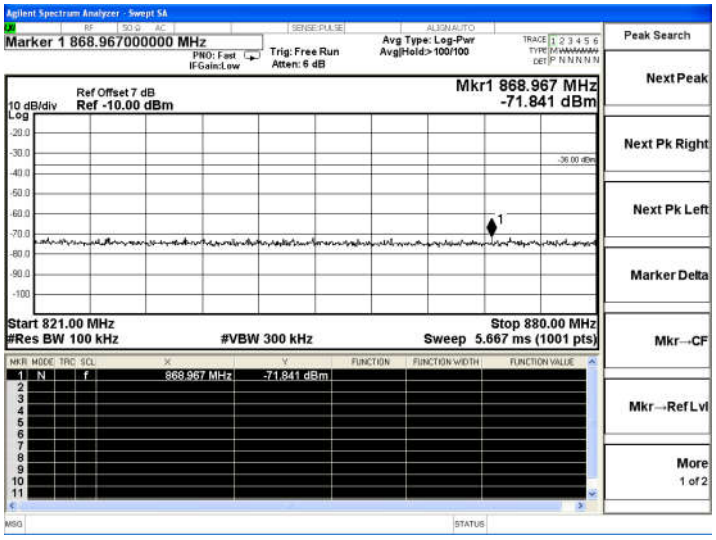
The Worst Test Result For WCDMA Band VIII(Middle Channel)

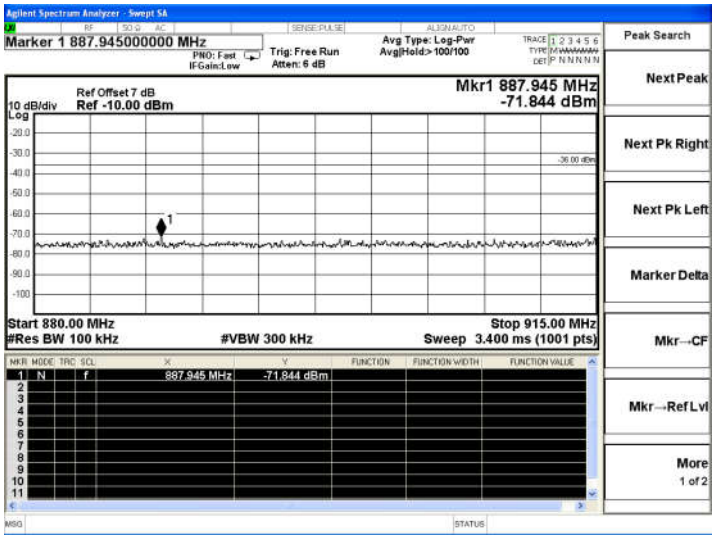






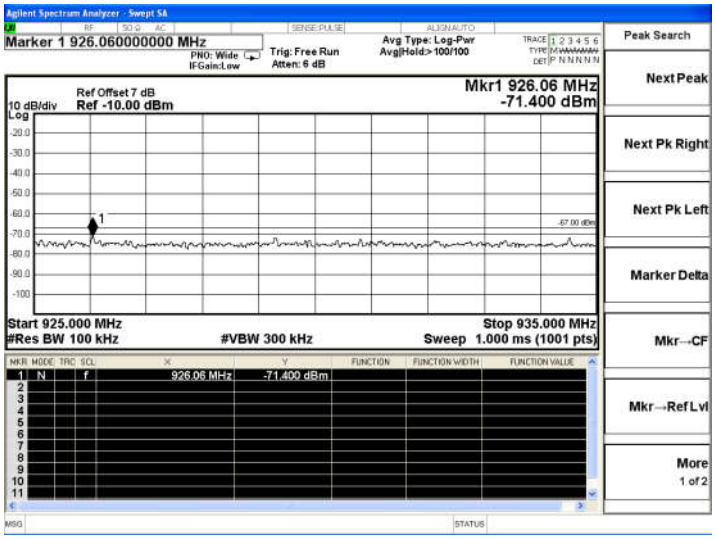


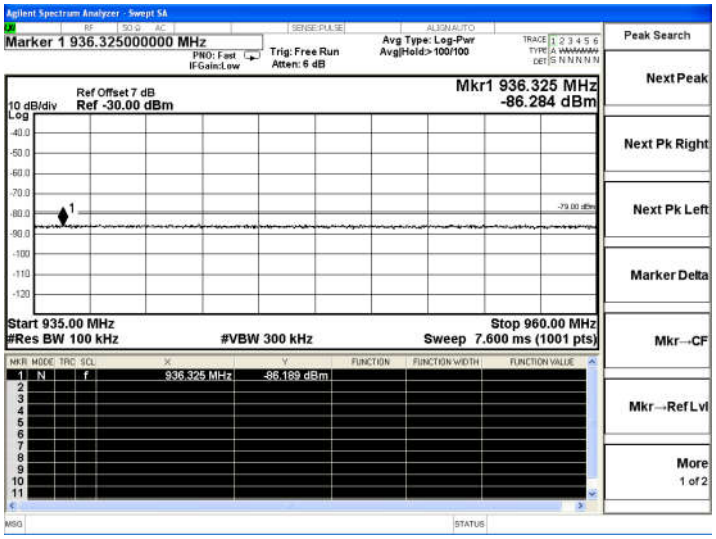




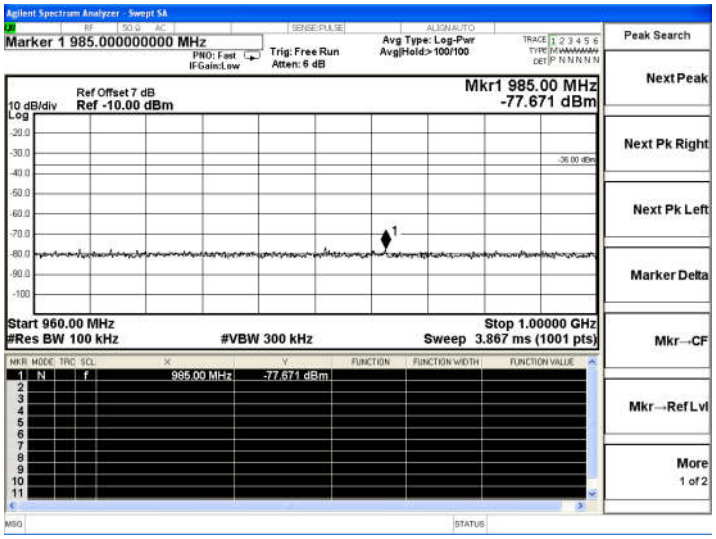
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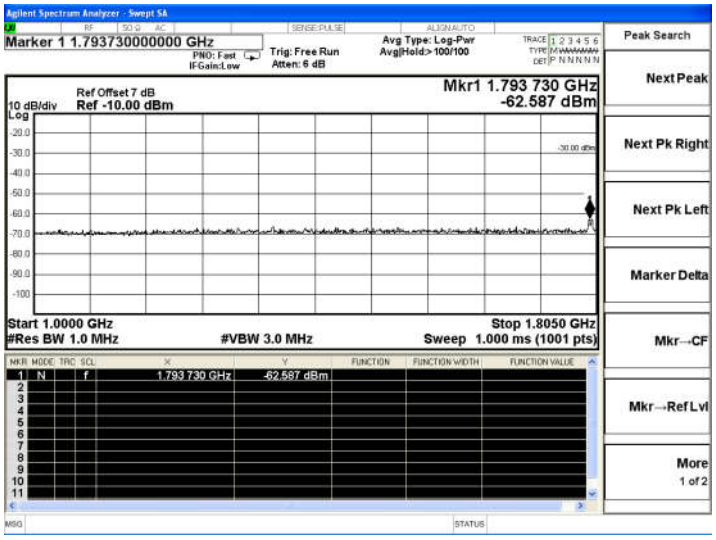


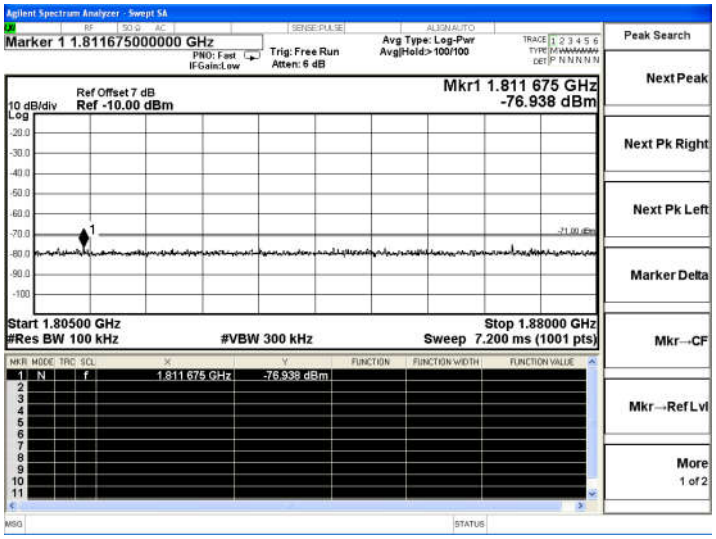


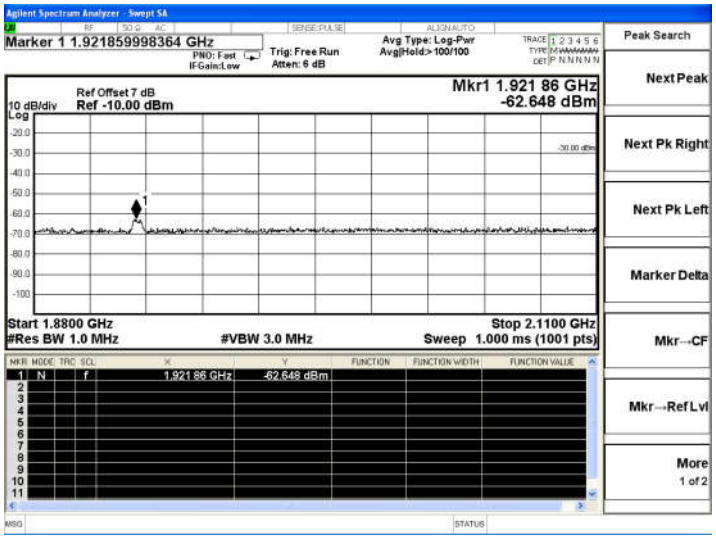


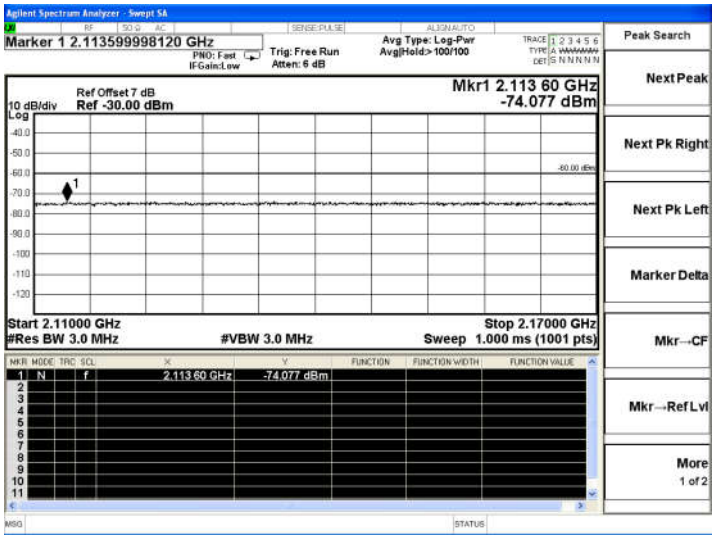
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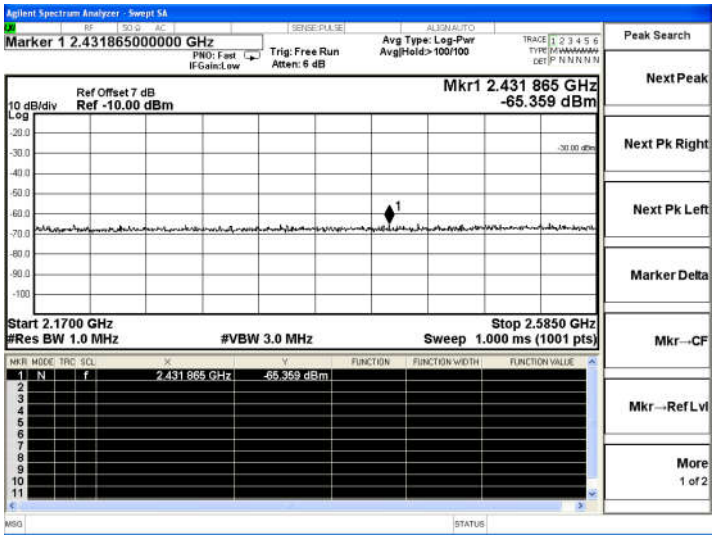

Agilent Spectrum Analyzer - Swept SA
Marker 1 985.000000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 6 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ref Offset 7 dB
10 dB/div
Ref -10.00 dBm
Log
Mkr1 985.00 MHz
-77.671 dBm
Start 960.00 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 1.00000 GHz
Sweep 3.867 ms (1001 pts)
1 N 1 f 985.00 MHz -77.671 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
Marker 1 1.793730000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 6 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ref Offset 7 dB
10 dB/div
Ref -10.00 dBm
Log
Mkr1 1.793 730 GHz
-62.587 dBm
Start 1.0000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 1.8050 GHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 1.793 730 GHz -62.587 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

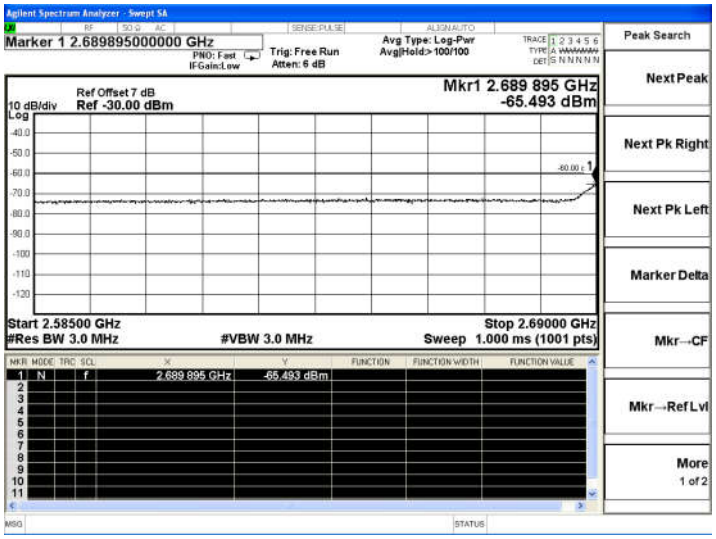

Agilent Spectrum Analyzer - Swept SA
Marker 1 1.811675000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 6 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ref Offset 7 dB
10 dB/div
Ref -10.00 dBm
Log
Mkr1 1.811 675 GHz
-76.938 dBm
Start 1.80500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 1.88000 GHz
Sweep 7.200 ms (1001 pts)
1 N 1 f 1.811 675 GHz -76.938 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

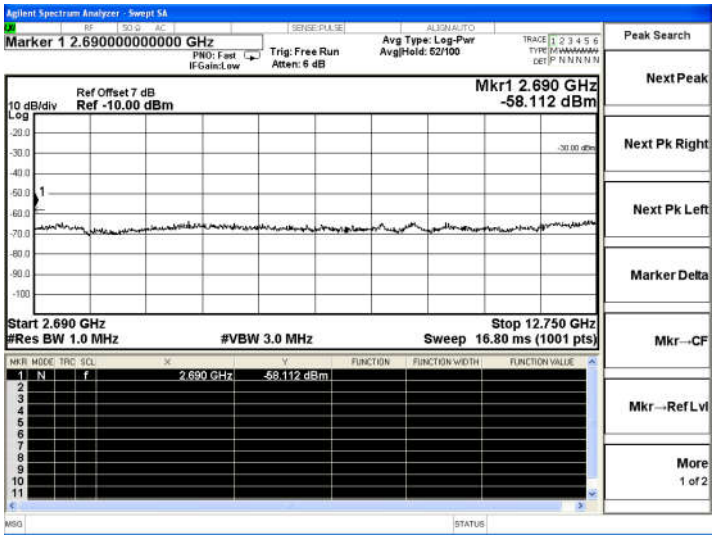






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Transmitter spurious emissions

Radiated spurious emissions - MS allocated a channel(Worst Case)

WCDMA Band I: Middle Channel, Normal condition				
Frequency (MHz)	Radiated Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
56.58	Horizontal	-83.81	-36.00	Pass
810.04	H	-77.04	-36.00	
3821.36	H	-63.47	-30.00	
5732.94	H	-58.68	-30.00	
7643.33	H	-49.44	-30.00	
WCDMA Band I: Middle Channel, Normal condition				
Frequency (MHz)	Radiated Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
66.68	Vertical	-77.41	-36.00	Pass
924.28	V	-74.79	-36.00	
3821.05	V	-59.62	-30.00	
5733.58	V	-59.44	-30.00	
7642.16	V	-48.68	-30.00	

WCDMA Band VIII: Middle Channel, Normal condition				
Frequency (MHz)	Radiated Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
57.23	Horizontal	-86.22	-36.00	Pass
808.78	H	-78.83	-36.00	
1280.72	H	-67.16	-30.00	
2585.08	H	-68.50	-30.00	
3503.67	H	-66.07	-30.00	
WCDMA Band VIII: Middle Channel, Normal condition				
Frequency (MHz)	Radiated Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
65.45	Vertical	-77.90	-36.00	Pass
927.04	V	-73.69	-36.00	
1286.91	V	-68.85	-30.00	
2572.89	V	-64.86	-30.00	
3494.82	V	-72.24	-30.00	

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Radiated spurious emissions - MS in Idle Mode(Worst Case)

WCDMA Band I: Middle Channel, Normal condition				
Frequency (MHz)	Radiated Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
55.01	Horizontal	-85.17	-57.00	Pass
807.23	H	-80.71	-57.00	
1798.14	H	-74.29	-47.00	
2708.78	H	-70.23	-47.00	
3620.33	H	-68.11	-47.00	
WCDMA Band I: Middle Channel, Normal condition				
Frequency (MHz)	Radiated Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
66.61	Vertical	-79.57	-57.00	Pass
921.96	V	-75.89	-57.00	
1807.45	V	-69.74	-47.00	
2718.14	V	-74.18	-47.00	
3608.36	V	-70.16	-47.00	

WCDMA Band VIII: Middle Channel, Normal condition				
Frequency (MHz)	Radiated Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
54.89	Horizontal	-82.78	-57.00	Pass
807.58	H	-77.59	-57.00	
1683.03	H	-66.60	-47.00	
2567.92	H	-65.30	-47.00	
3240.83	H	-66.47	-47.00	
WCDMA Band VIII: Middle Channel, Normal condition				
Frequency (MHz)	Radiated Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
60.72	Vertical	-76.56	-57.00	Pass
922.69	V	-76.46	-57.00	
1694.42	V	-68.96	-47.00	
2675.78	V	-67.56	-47.00	
3253.97	V	-70.50	-47.00	

----------THE END OF REPORT----------

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