



Report No.: SZEM201001064007

Page: 1 of 25

TEST REPORT

Application No.: SZEM2010010640CR
Applicant: Dspread Technology (Beijing) Inc
Address of Applicant: Rm.407, B12C, #10(Universal Business Park), Jiuxianqiao Road, Chaoyang District, Beijing, 100027 China
Manufacturer: Dspread Technology (Beijing) Inc
Address of Manufacturer: Rm.407, B12C, #10(Universal Business Park), Jiuxianqiao Road, Chaoyang District, Beijing, 100027 China
Factory: Sichuan DOOV PTY Co., Ltd.
Address of factory: Duo Wei Yun Gu Industrial Demonstration Park, No.35, west section of Gangyuan Road, Guoxing Avenue, Lingang Economic Development Zone, Yibin City, Sichuan Province
Equipment Under Test (EUT):
EUT Name: Smart PoS
Model No.: D20
Trade mark: Dspread
FCC ID: 2AGQ6-D20
Standard(s) : 47 CFR Part 2
47 CFR Part 22 subpart H
47 CFR Part 24 subpart E
47 CFR Part 27 subpart C
Date of Receipt: 2020-10-26
Date of Test: 2020-10-27 to 2020-12-16
Date of Issue: 2020-12-18

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu

Keny Xu
EMC Laboratory Manager



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Shenzhen Branch EMC Laboratory

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2020-12-18		Original

Authorized for issue by:			
			
		Calvin Weng /Project Engineer	
			
		Eric Fu /Reviewer	



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2 Test Summary

Test Item	FCC Rule No.	Requirements	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913, §24.232 §27.50(d)	ERP≤7W(GSM850, WCDMA band V) EIRP≤2W(GSM1900, WCDMA band II) EIRP≤1W(WCDMA Band IV)	PASS
Peak-Average Ratio	§24.232 §27.50(d)	≤13dB	PASS
Modulation Characteristics	§2.1047	Digital modulation	PASS
Bandwidth	§2.1049(h)	OBW: No limit EBW: No limit	PASS
Band Edge Compliance	§2.1051, §22.917, §24.238 §27.53(h)	≤ -13dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	PASS
Spurious emissions at antenna terminals	§2.1051, §22.917, §24.238 §27.53(h)	≤ -13dBm	PASS
Field strength of spurious radiation	§2.1051, §22.917, §24.238 §27.53(h)	≤ -13dBm	PASS
Frequency stability	§2.1055, §22.355, §24.235 §27.54	≤ ±2.5ppm.	PASS

3 Contents

	Page
1 COVER PAGE	1
2 TEST SUMMARY	3
3 CONTENTS	4
4 GENERAL INFORMATION	6
4.1 DETAILS OF E.U.T.	6
4.2 TEST FREQUENCY	7
4.3 TEST ENVIRONMENT	8
4.4 DESCRIPTION OF SUPPORT UNITS	8
4.5 MEASUREMENT UNCERTAINTY	8
4.6 TEST LOCATION.....	9
4.7 TEST FACILITY.....	9
4.8 DEVIATION FROM STANDARDS.....	9
4.9 ABNORMALITIES FROM STANDARD CONDITIONS	9
5 EQUIPMENT LIST.....	10
6 RADIO SPECTRUM MATTER TEST RESULTS.....	12
6.1 EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA	12
6.1.1 E.U.T. Operation	12
6.1.2 Test Setup Diagram.....	12
6.1.3 Measurement Data	12
6.2 PEAK-AVERAGE RATIO	13
6.2.1 E.U.T. Operation	13
6.2.2 Test Setup Diagram.....	13
6.2.3 Measurement Data	13
6.3 BANDWIDTH	14
6.3.1 E.U.T. Operation	14
6.3.2 Test Setup Diagram.....	14
6.3.3 Measurement Data	14
6.4 BAND EDGE COMPLIANCE.....	15
6.4.1 E.U.T. Operation	15
6.4.2 Test Setup Diagram.....	15
6.4.3 Measurement Data	15
6.5 SPURIOUS EMISSIONS AT ANTENNA TERMINALS	16
6.5.1 E.U.T. Operation	16
6.5.2 Test Setup Diagram.....	16
6.5.3 Measurement Data	16
6.6 FIELD STRENGTH OF SPURIOUS RADIATION.....	17
6.6.1 E.U.T. Operation	17
6.6.2 Test Setup Diagram.....	17
6.6.3 Measurement Procedure and Data.....	18
6.7 FREQUENCY STABILITY.....	24



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6.7.1	E.U.T. Operation	24
6.7.2	Test Setup Diagram	24
6.7.3	Measurement Data	24
6.8	MODULATION CHARACTERISTICS	25
6.8.1	E.U.T. Operation	25
6.8.2	Test Setup Diagram	25
6.8.3	Measurement Data	25



4 General Information

4.1 Details of E.U.T.

Power Supply:	DC 3.8V by Li-ion battery(2450mAh) Recharge input: DC5V/1A by adapter
Adapter:	Adapter M/N: TPA-46B050100UU Adapter input: AC100-240V, 50/60Hz, 0.2A Adapter output: DC5V/1A
Sample Type:	Portable production
Support Network:	GSM, GPRS, EGPRS, RMC, HSDPA, HSUPA
Operation Frequency Band:	GSM850/GSM1900/UMTS FDD Band II/IV/V
Modulation Type:	GMSK for GSM/GPRS/EGPRS; 8PSK for EGPRS; QPSK for WCDMA
Supported Channel Bandwidth:	200KHz for GSM; 5MHz for WCDMA
GPRS Class:	12
EGPRS Class:	12
UMTS Power Class:	Level 3
Antenna Type:	PIFA antenna
Antenna Gain:	GSM850: 0.9dBi; PCS1900: 2dBi WCDMA band II: 2dBi; band IV: 4.03dBi; band V: 0.9dBi
SIM Card:	This device has dual SIM Card sockets. Both the SIM sockets have been tested. SIM1 was worst case, only record SIM1.
Extreme temp. Tolerance:	-30°C to +50°C
Extreme vol. Limits:	3.4VDC to 4.35VDC (nominal: 3.8VDC)



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4.2 Test Frequency

Test mode:	TX / RX	RF Channel		
		Low (L)	Middle (M)	High (H)
GSM850	TX	Channel 128	Channel 190	Channel 251
		824.2MHz	836.6 MHz	848.8 MHz
	RX	Channel 128	Channel 190	Channel 251
		869.2 MHz	881.6 MHz	893.8 MHz
Test mode:	TX / RX	RF Channel		
		Low (L)	Middle (M)	High (H)
GSM1900	TX	Channel 512	Channel 661	Channel 810
		1850.2MHz	1880.0 MHz	1909.8 MHz
	RX	Channel 512	Channel 661	Channel 810
		1930.2 MHz	1960.0 MHz	1989.8 MHz
Test Mode	TX/RX	RF Channel		
		Low(L)	Middle (M)	High (H)
WCDMA Band V	TX	Channel 4132	Channel 4183	Channel 4233
		826.4 MHz	836.6 MHz	846.6 MHz
	RX	Channel 4357	Channel 4407	Channel 4458
		871.4 MHz	881.4 MHz	891.6 MHz
Test Mode	TX/RX	RF Channel		
		Low(L)	Middle (M)	High (H)
WCDMA Band IV	TX	Channel	Channel	Channel
		1712.4 MHz	1732.6 MHz	1752.6 MHz
	RX	Channel 9662	Channel 9800	Channel 9938
		2112.4	2132.6MHz	2152.6MHz
Test Mode	TX/RX	RF Channel		
		Low(L)	Middle (M)	High (H)
WCDMA Band II	TX	Channel 9262	Channel 9400	Channel 9538
		1852.4 MHz	1880.0 MHz	1907.6 MHz
	RX	Channel 9662	Channel 9800	Channel 9938
		1932.4 MHz	1960.0 MHz	1987.6 MHz



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4.3 Test Environment

Environment Parameter	Selected Values During Tests	
Relative Humidity	52%	
Atmospheric Pressure:	1015Pa	
Temperature:	TN	20 °C
Voltage:	VL	3.4 V
	VN	3.8 V
	VH	4.35 V

NOTE: VL= lower extreme test voltage
VN= nominal voltage
VH= upper extreme test voltage
TN= normal temperature

4.4 Description of Support Units

The EUT has been tested independent unit.

4.5 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 7.25 \times 10^{-8}$
2	Duty cycle	$\pm 0.37\%$
3	Occupied Bandwidth	$\pm 3\%$
4	RF conducted power	$\pm 0.75\text{dB}$
5	RF power density	$\pm 2.84\text{dB}$
6	Conducted Spurious emissions	$\pm 0.75\text{dB}$
7	RF Radiated power	$\pm 4.5\text{dB}$ (below 1GHz)
		$\pm 4.8\text{dB}$ (above 1GHz)
8	Radiated Spurious emission test	$\pm 4.5\text{dB}$ (Below 1GHz)
		$\pm 4.8\text{dB}$ (Above 1GHz)
9	Temperature test	$\pm 1^\circ\text{C}$
10	Humidity test	$\pm 3\%$
11	Supply voltages	$\pm 1.5\%$
12	Time	$\pm 3\%$



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4.6 Test Location

All tests were performed at:

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No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053

Fax: +86 755 2671 0594

No tests were sub-contracted.

4.7 Test Facility

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

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.8 Deviation from Standards

None

4.9 Abnormalities from Standard Conditions

None



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5 Equipment List

RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date	Cal. Due date
DC Power Supply	ZhaoXin	PS-3005D	SEM011-05	2020-09-23	2021-09-22
Spectrum Analyzer (20Hz-43GHz)	Rohde & Schwarz	FSU43	SEM004-08	2020-04-11	2021-04-10
Signal Analyzer (10Hz-40GHz)	Rohde & Schwarz	FSV40	SEM008-04	2020-03-31	2021-03-30
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.6	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2020-07-10	2021-07-09
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Universal Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-03	2020-03-31	2021-03-30
Power Sensor	KEYSIGHT	U2021XA	SEM009-13	2020-04-11	2021-04-10

RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date	Cal. Due date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
EXA Signal Analyzer (10Hz-44GHz)	Agilent Technologies Inc	N9010A	SEM004-12	2020-04-11	2021-04-10
Horn Antenna (800MHz-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2020-10-16	2023-10-15
Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2020-09-23	2021-09-22
Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2019-11-11	2020-11-10
Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2020-11-10	2021-11-09
Pre-amplifier (26-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2020-03-31	2021-03-30
Universal Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-03	2020-03-31	2021-03-30
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2020-07-10	2021-07-09



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Report No.: SZEM201001064007

Page: 11 of 25

Substitution Antenna	ETS-Lindgren	3142C	SEM003-01	2020-06-26	2023-06-25
Signal Generator	R&S	SMA100A	102174	2020-07-10	2021-07-09

RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date	Cal. Due date
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2020-08-04	2023-08-03
MXE EMI Receiver (20Hz-8.4GHz)	Agilent Technologies	N9038A	SEM004-05	2020-09-23	2021-09-22
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2020-06-26	2023-06-25
Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2020-03-31	2021-03-30
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2020-07-10	2021-07-09
Universal Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-03	2020-03-31	2021-03-30

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2020-09-15	2021-09-14
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2020-09-15	2021-09-14
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2020-04-07	2021-04-06



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6 Radio Spectrum Matter Test Results

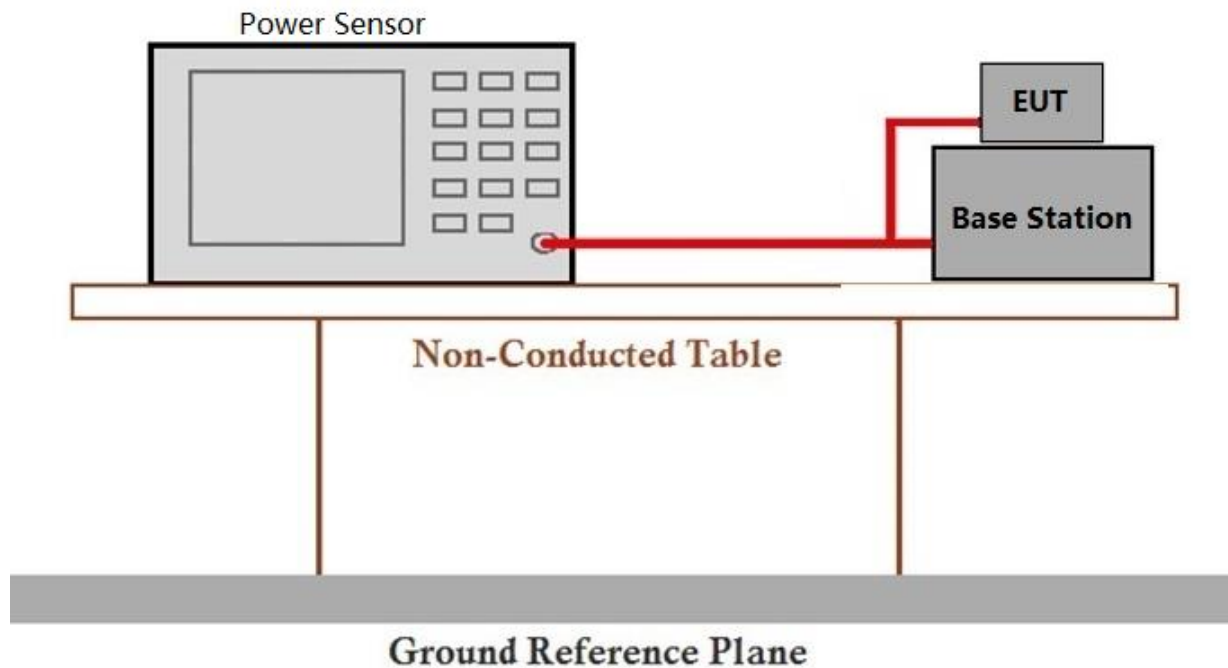
6.1 Effective (Isotropic) Radiated Power Output Data

Test Requirement: §2.1046, §22.913, §24.232
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: ERP≤7W(GSM850, WCDMA BAND V)
EIRP≤2W(GSM1900, WCDMA BAND II)
EIRP≤1W(WCDMA Band IV)

6.1.1 E.U.T. Operation

Operating Environment:
Temperature: 22.7 °C Humidity: 68.2 % RH Atmospheric Pressure: 1030 mbar
Test mode: 20: TX mode_Keep the EUT in transmitting mode

6.1.2 Test Setup Diagram



6.1.3 Measurement Data

Please refer to GSM & WCDMA test data appendix.

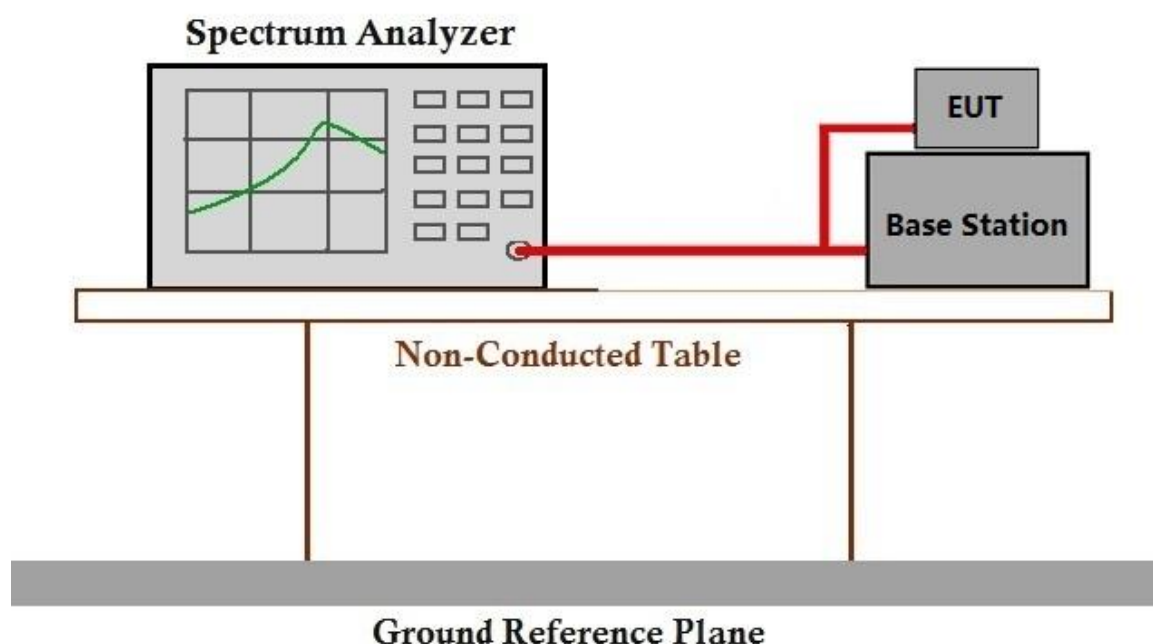
6.2 Peak-Average Ratio

Test Requirement: §24.232, §27.50(d)
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: ≤13dB

6.2.1 E.U.T. Operation

Operating Environment:
Temperature: 22.7 °C Humidity: 68.2 % RH Atmospheric Pressure: 1030 mbar
Test mode: 20: TX mode_Keep the EUT in transmitting mode

6.2.2 Test Setup Diagram



6.2.3 Measurement Data

Please refer to GSM & WCDMA test data appendix.

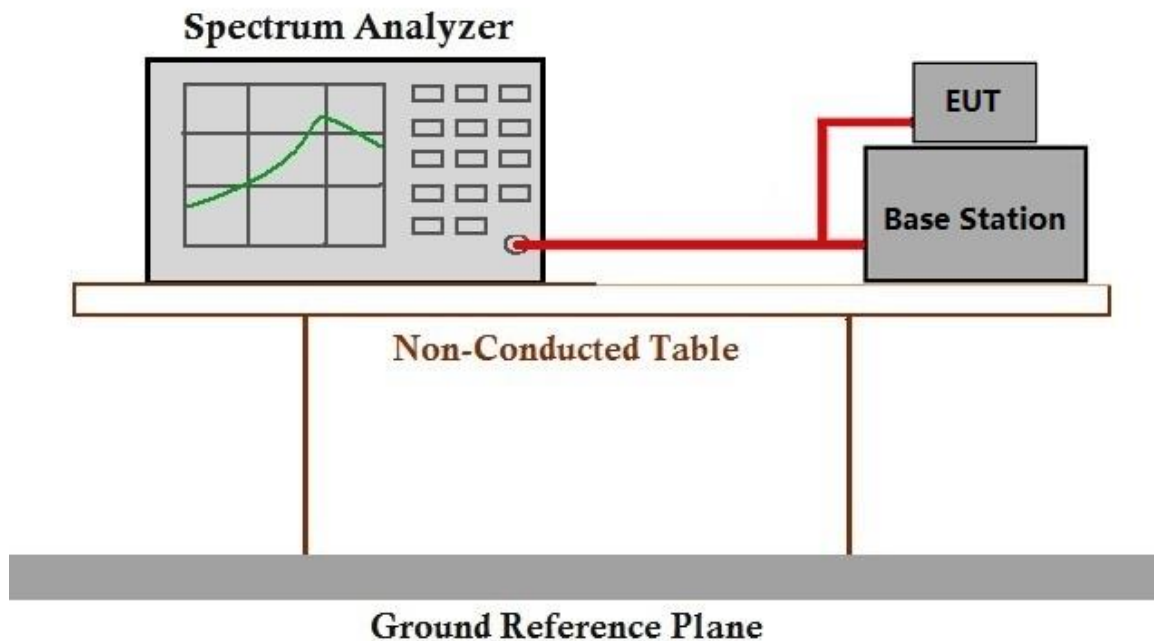
6.3 Bandwidth

Test Requirement: S2.1049(h)
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: OBW: No limit
EBW: No limit

6.3.1 E.U.T. Operation

Operating Environment:
Temperature: 22.7 °C Humidity: 68.2 % RH Atmospheric Pressure: 1030 mbar
Test mode: 20: TX mode_Keep the EUT in transmitting mode

6.3.2 Test Setup Diagram



6.3.3 Measurement Data

Please refer to GSM & WCDMA test data appendix.

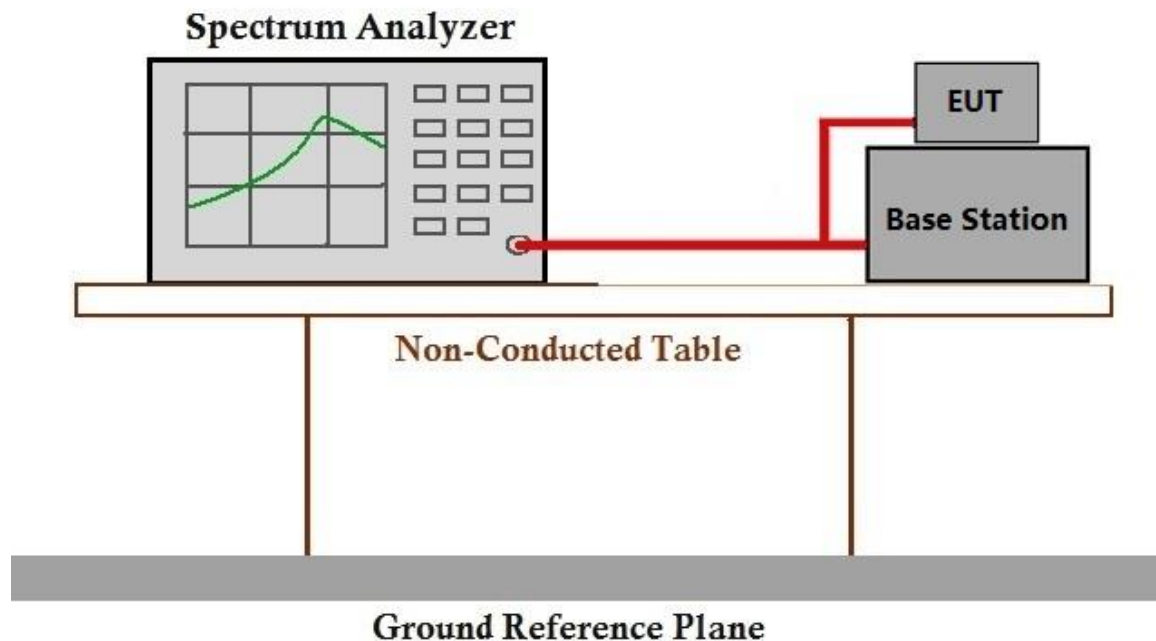
6.4 Band Edge Compliance

Test Requirement: §2.1051, §22.917, §24.238, §27.53(h)
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: $\leq -13\text{dBm}/1\% \cdot \text{EBW}$, in 1 MHz bands immediately outside and adjacent to the frequency block.

6.4.1 E.U.T. Operation

Operating Environment:
Temperature: 22.7 °C Humidity: 68.2 % RH Atmospheric Pressure: 1030 mbar
Test mode: 20: TX mode_Keep the EUT in transmitting mode

6.4.2 Test Setup Diagram



6.4.3 Measurement Data

Please refer to GSM & WCDMA test data appendix.

6.5 Spurious emissions at antenna terminals

Test Requirement: §2.1051, §22.917, §24.238, §27.53(h)

Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: $\leq -13\text{dBm}$

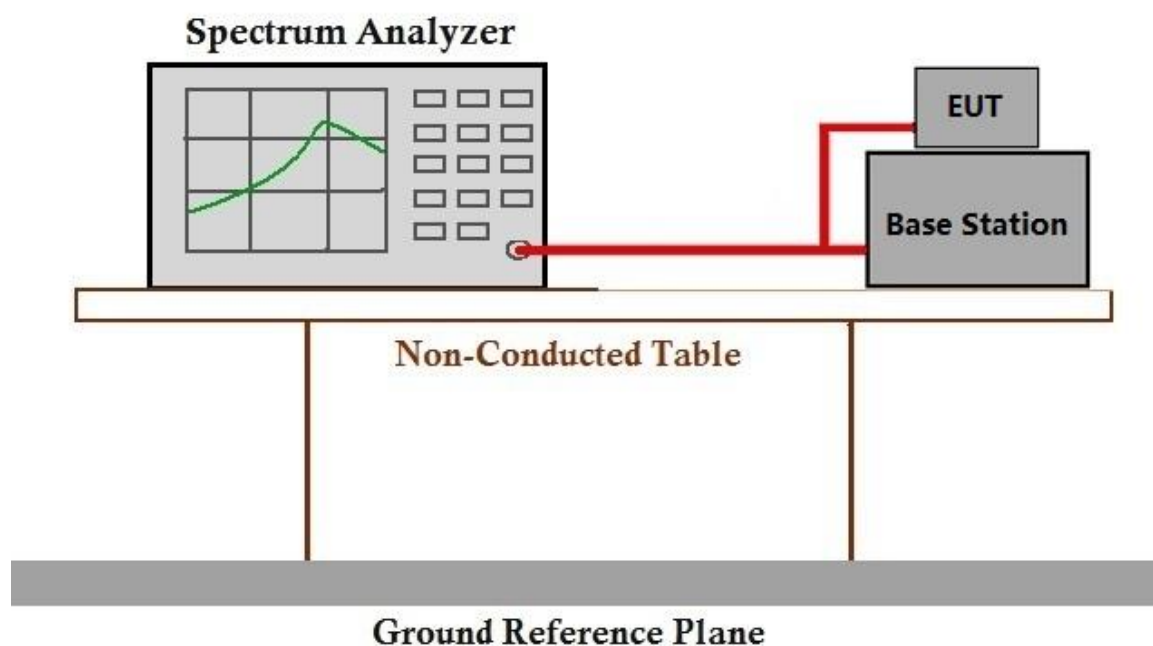
6.5.1 E.U.T. Operation

Operating Environment:

Temperature: 22.7 °C Humidity: 68.2 % RH Atmospheric Pressure: 1030 mbar

Test mode: 20: TX mode_Keep the EUT in transmitting mode

6.5.2 Test Setup Diagram



6.5.3 Measurement Data

Please refer to GSM & WCDMA test data appendix.

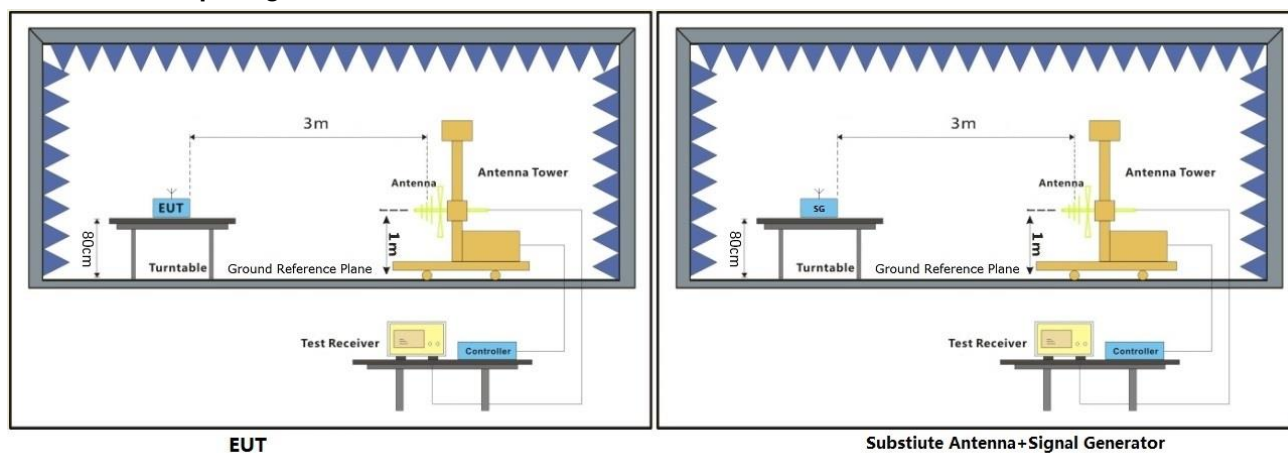
6.6 Field strength of spurious radiation

Test Requirement: §2.1051, §22.917, §24.238, §27.53(h)
 Test Method: ANSI C63.26, KDB 971168 D01 v03
 Limit: $\leq -13\text{dBm}$

6.6.1 E.U.T. Operation

Operating Environment:
 Temperature: 22.7 °C Humidity: 68.2 % RH Atmospheric Pressure: 1030 mbar
 Test mode: 20: TX mode_Keep the EUT in transmitting mode

6.6.2 Test Setup Diagram



6.6.3 Measurement Procedure and Data

Test Procedure:

- (1) On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.
- (2) The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
- (3) The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
- (4) The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
- (5) The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
- (6) The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- (7) The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
- (8) The maximum signal level detected by the measuring receiver shall be noted.
- (9) The measurement shall be repeated with the test antenna set to horizontal polarization.
- (10) Replace the antenna with a proper Antenna (substitution antenna).
- (11) The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
- (12) The substitution antenna shall be connected to a calibrated signal generator.
- (13) If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- (14) The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
- (15) The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
- (16) The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
- (17) The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.



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GPRS850-Low channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
1652.8	-58.41	0.52	6	-52.93	-13	-39.93	Horizontal	Pass
2479.2	-58.29	0.53	5.8	-53.02	-13	-40.02	Horizontal	Pass
3305.6	-53.36	0.65	6.2	-47.81	-13	-34.81	Horizontal	Pass
1652.8	-58.87	0.52	6	-53.39	-13	-40.39	Vertical	Pass
2479.2	-58.04	0.53	5.8	-52.77	-13	-39.77	Vertical	Pass
3305.6	-52.59	0.65	6.2	-47.04	-13	-34.04	Vertical	Pass

GPRS850-Middle channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
1672.8	-56.91	0.52	6	-51.43	-13	-38.43	Horizontal	Pass
2509.2	-56.08	0.59	5.3	-51.37	-13	-38.37	Horizontal	Pass
3345.6	-51.68	0.65	6.2	-46.13	-13	-33.13	Horizontal	Pass
1672.8	-57.31	0.52	6	-51.83	-13	-38.83	Vertical	Pass
2509.2	-54.16	0.59	5.3	-49.45	-13	-36.45	Vertical	Pass
3345.6	-52.68	0.65	6.2	-47.13	-13	-34.13	Vertical	Pass

GPRS850-High channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
1693.2	-59.14	0.52	6	-53.66	-13	-40.66	Horizontal	Pass
2539.8	-53.63	0.59	5.3	-48.92	-13	-35.92	Horizontal	Pass
3386.4	-51.59	0.65	6.2	-46.04	-13	-33.04	Horizontal	Pass
1693.2	-55.23	0.52	6	-49.75	-13	-36.75	Vertical	Pass
2539.8	-54.63	0.59	5.3	-49.92	-13	-36.92	Vertical	Pass
3386.4	-52.17	0.65	6.2	-46.62	-13	-33.62	Vertical	Pass



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Page: 20 of 25

GPRS1900-Low channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3704.8	-58.7	0.71	7.6	-51.81	-13	-38.81	Horizontal	Pass
5557.2	-56.45	0.85	10.3	-47	-13	-34	Horizontal	Pass
7409.6	-58.77	1	12.9	-46.87	-13	-33.87	Horizontal	Pass
3704.8	-58.64	0.71	7.6	-51.75	-13	-38.75	Vertical	Pass
5557.2	-57	0.85	10.3	-47.55	-13	-34.55	Vertical	Pass
7409.6	-58.66	1	12.9	-46.76	-13	-33.76	Vertical	Pass

GPRS1900-Middle channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3760	-59.34	0.71	7.6	-52.45	-13	-39.45	Horizontal	Pass
5640	-57.26	0.85	10.3	-47.81	-13	-34.81	Horizontal	Pass
7520	-58.51	0.99	13.2	-46.3	-13	-33.3	Horizontal	Pass
3760	-58.88	0.71	7.6	-51.99	-13	-38.99	Vertical	Pass
5640	-57.55	0.85	10.3	-48.1	-13	-35.1	Vertical	Pass
7520	-58.53	0.99	13.2	-46.32	-13	-33.32	Vertical	Pass

GPRS1900-Middle channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
3815.2	-59.25	0.71	7.6	-52.36	-52.36	-52.36	Horizontal	Pass
5722.8	-59.35	0.85	10.3	-49.9	-49.9	-49.9	Horizontal	Pass
7630.4	-59.39	0.99	13.2	-47.18	-47.18	-47.18	Horizontal	Pass
3815.2	-59.52	0.71	7.6	-52.63	-52.63	-52.63	Vertical	Pass
5722.8	-58.62	0.85	10.3	-49.17	-49.17	-49.17	Vertical	Pass
7630.4	-59.49	0.99	13.2	-47.28	-47.28	-47.28	Vertical	Pass



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WCDMA BAND V-Low channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
1652.8	-61.23	0.52	6	-55.75	-13	-42.75	Horizontal	Pass
2479.2	-57.47	0.53	5.8	-52.2	-13	-39.2	Horizontal	Pass
3305.6	-54.3	0.65	6.2	-48.75	-13	-35.75	Horizontal	Pass
1652.8	-59.92	0.52	6	-54.44	-13	-41.44	Vertical	Pass
2479.2	-59.76	0.53	5.8	-54.49	-13	-41.49	Vertical	Pass
3305.6	-55.66	0.65	6.2	-50.11	-13	-37.11	Vertical	Pass

WCDMA BAND V-Middle channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
1672.8	-60.73	0.52	6	-55.25	-13	-42.25	Horizontal	Pass
2509.2	-59.21	0.59	5.3	-54.5	-13	-41.5	Horizontal	Pass
3345.6	-53.29	0.65	6.2	-47.74	-13	-34.74	Horizontal	Pass
1672.8	-61.04	0.52	6	-55.56	-13	-42.56	Vertical	Pass
2509.2	-59.49	0.59	5.3	-54.78	-13	-41.78	Vertical	Pass
3345.6	-55.75	0.65	6.2	-50.2	-13	-37.2	Vertical	Pass

WCDMA BAND V-High channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Polarization (H/V)	Result
1693.2	-60.78	0.52	6	-55.3	-13	-42.3	Horizontal	Pass
2539.8	-56.79	0.59	5.3	-52.08	-13	-39.08	Horizontal	Pass
3386.4	-55.88	0.65	6.2	-50.33	-13	-37.33	Horizontal	Pass
1693.2	-61.17	0.52	6	-55.69	-13	-42.69	Vertical	Pass
2539.8	-58.11	0.59	5.3	-53.4	-13	-40.4	Vertical	Pass
3386.4	-54.39	0.65	6.2	-48.84	-13	-35.84	Vertical	Pass



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WCDMA Band II-Low channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization (H/V)	Result
3704.8	-59.04	0.71	7.6	-52.15	-13	-39.15	Horizontal	Pass
5557.2	-57.91	0.85	10.3	-48.46	-13	-35.46	Horizontal	Pass
7409.6	-60.93	1	12.9	-49.03	-13	-36.03	Horizontal	Pass
3704.8	-60.99	0.71	7.6	-54.1	-13	-41.1	Vertical	Pass
5557.2	-57.74	0.85	10.3	-48.29	-13	-35.29	Vertical	Pass
7409.6	-60.3	1	12.9	-48.4	-13	-35.4	Vertical	Pass

WCDMA Band II-Middle channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization (H/V)	Result
3760	-61.49	0.71	7.6	-54.6	-13	-41.6	Horizontal	Pass
5640	-58.55	0.85	10.3	-49.1	-13	-36.1	Horizontal	Pass
7520	-60.52	0.99	13.2	-48.31	-13	-35.31	Horizontal	Pass
3760	-61.52	0.71	7.6	-54.63	-13	-41.63	Vertical	Pass
5640	-57.89	0.85	10.3	-48.44	-13	-35.44	Vertical	Pass
7520	-60.73	0.99	13.2	-48.52	-13	-35.52	Vertical	Pass

WCDMA Band II-High channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization (H/V)	Result
3815.2	-60.72	0.71	7.6	-53.83	-13	-40.83	Horizontal	Pass
5722.8	-61.29	0.85	10.3	-51.84	-13	-38.84	Horizontal	Pass
7630.4	-58.25	0.99	13.2	-46.04	-13	-33.04	Horizontal	Pass
3815.2	-59.68	0.71	7.6	-52.79	-13	-39.79	Vertical	Pass
5722.8	-59.53	0.85	10.3	-50.08	-13	-37.08	Vertical	Pass
7630.4	-59.36	0.99	13.2	-47.15	-13	-34.15	Vertical	Pass



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WCDMA Band IV-Low channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization (H/V)	Result
3424.8	-57.91	0.65	6.2	-52.36	-13	-39.36	Horizontal	Pass
5137.2	-55.83	0.82	9.6	-47.05	-13	-34.05	Horizontal	Pass
6849.6	-57.24	0.95	11.8	-46.39	-13	-33.39	Horizontal	Pass
3424.8	-57.82	0.65	6.2	-52.27	-13	-39.27	Vertical	Pass
5137.2	-56.42	0.82	9.6	-47.64	-13	-34.64	Vertical	Pass
6849.6	-57.57	0.95	11.8	-46.72	-13	-33.72	Vertical	Pass

WCDMA Band IV-Middle channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization (H/V)	Result
3465.2	-56.56	0.65	6.2	-51.01	-13	-38.01	Horizontal	Pass
5197.8	-56.24	0.82	9.6	-47.46	-13	-34.46	Horizontal	Pass
6930.4	-57.01	0.95	11.8	-46.16	-13	-33.16	Horizontal	Pass
3465.2	-57.7	0.65	6.2	-52.15	-13	-39.15	Vertical	Pass
5197.8	-57.15	0.82	9.6	-48.37	-13	-35.37	Vertical	Pass
6930.4	-56.55	0.95	11.8	-45.7	-13	-32.7	Vertical	Pass

WCDMA Band IV-High channel								
Frequency (MHz)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization (H/V)	Result
3505.2	-59.42	0.71	7.6	-52.53	-13	-39.53	Horizontal	Pass
5257.8	-57.45	0.82	9.6	-48.67	-13	-35.67	Horizontal	Pass
7010.4	-58.79	1	12.9	-46.89	-13	-33.89	Horizontal	Pass
3505.2	-60.2	0.71	7.6	-53.31	-13	-40.31	Vertical	Pass
5257.8	-56.41	0.82	9.6	-47.63	-13	-34.63	Vertical	Pass
7010.4	-58.33	1	12.9	-46.43	-13	-33.43	Vertical	Pass

Note:

For GSM, all modes have been tested and we found GPRS Test mode has the worst test result. Only record the worst test result.

For WCDMA, all modes have been tested and we found RMC Test mode has the worst test result. Only record the worst test result.



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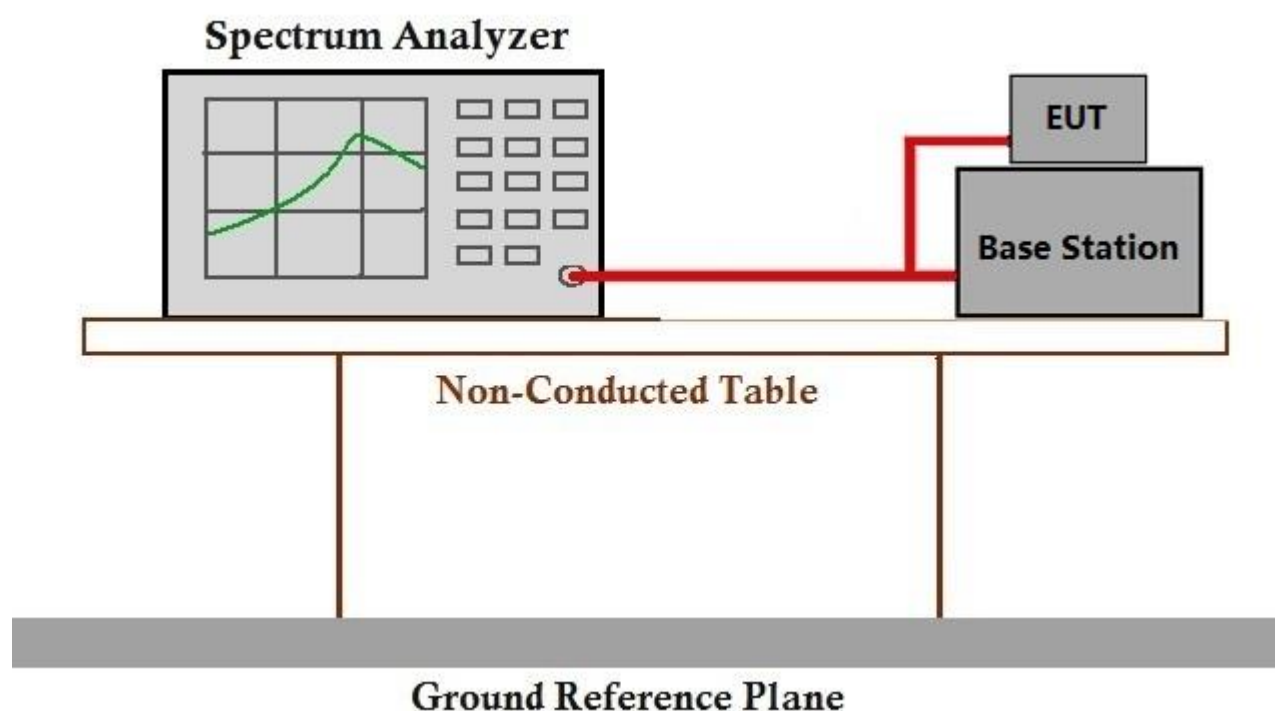
6.7 Frequency stability

Test Requirement: §2.1055, §22.355, §24.235, §27.54
 Test Method: ANSI C63.26, KDB 971168 D01 v03
 Limit: $\leq \pm 2.5\text{ppm}$.

6.7.1 E.U.T. Operation

Operating Environment:
 Temperature: 22.7 °C Humidity: 68.2 % RH Atmospheric Pressure: 1030 mbar
 Test mode: 20: TX mode_Keep the EUT in transmitting mode

6.7.2 Test Setup Diagram



6.7.3 Measurement Data

Please refer to GSM & WCDMA test data appendix.

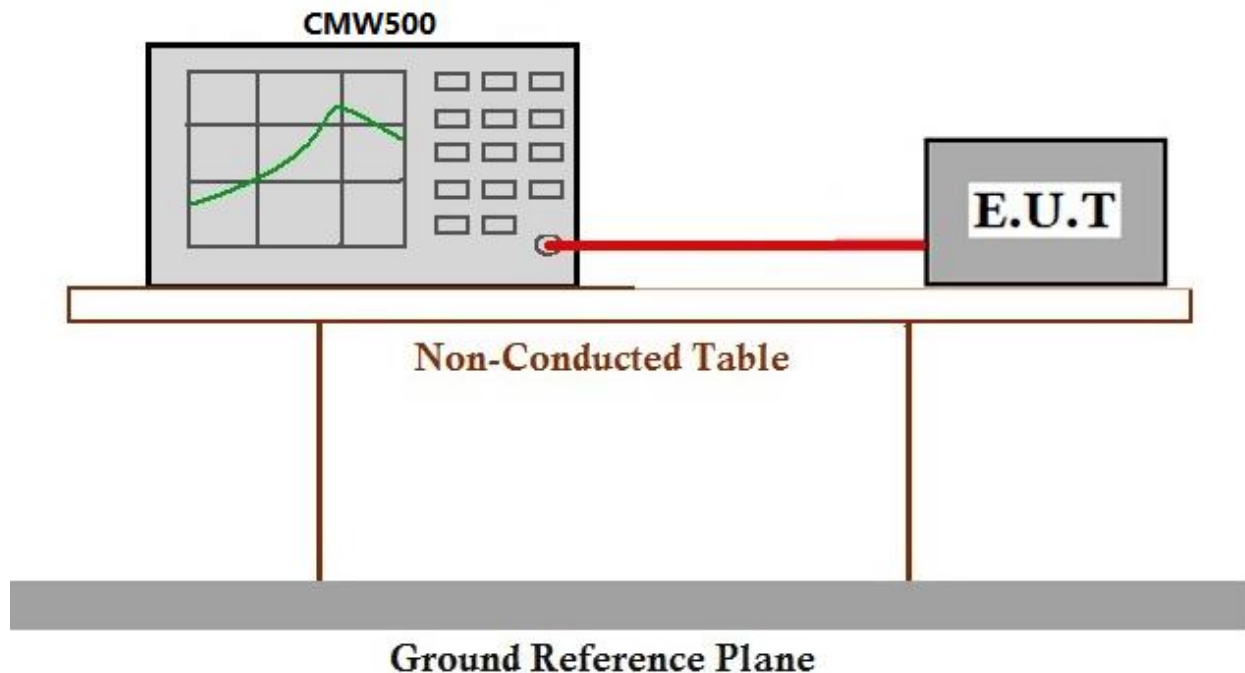
6.8 Modulation Characteristics

Test Requirement: S2.1047
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: Digital modulation

6.8.1 E.U.T. Operation

Operating Environment:
Temperature: 22.7 °C Humidity: 68.2 % RH Atmospheric Pressure: 1030 mbar
Test mode: 20: TX mode_Keep the EUT in transmitting mode

6.8.2 Test Setup Diagram



6.8.3 Measurement Data

Please refer to GSM & WCDMA test data appendix.

- End of the Report -