TEST REPORT

Application No.:	SZCR2308002639ME
Applicant:	MIO LABS INC.
Address of Applicant:	#1023, ZGC Innovation Center 4500 Great America Pkwy, Santa Clara, California 95054, United States
Manufacturer:	MIO LABS INC.
Address of Manufacturer:	#1023, ZGC Innovation Center, 4500 Great America Pkwy, Santa Clara, CA 95054
Factory:	MIO LABS INC.
Address of factory:	#1023, ZGC Innovation Center, 4500 Great America Pkwy, Santa Clara, CA 95054
Equipment Under Test (EUT):	
EUT Name:	Blood Glucose Meter
Model No.:	TeleBGM 2283-A, TeleBGM 2284-A ♣
♣	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
FCC ID:	2A7JQTELEBGM2283-A
Standard(s) :	47 CFR Part 2 47 CFR Part 24 subpart E 47 CFR Part 27 subpart C
Date of Receipt:	2023-08-16
Date of Test:	2023-08-16 to 2023-09-14
Date of Issue:	2023-09-15
Test Result:	**Pass**

* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu
EMC Laboratory Manager

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Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2023-09-15		Original

Authorized for issue by:				
		Edison Li **Edison Li/Project Engineer**		
		Eric Fu **Eric Fu/Reviewer**		

2 Test Summary

CatM1 Band 2

Test Item	FCC Rule No.	Requirements	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046 §24.232	EIRP≤2W	PASS
Peak-Average Ratio	§2.1046 §24.232	≤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 §24.238	≤ -13dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	PASS
Spurious emissions at antenna terminals	§2.1051 §24.238	≤ -13 dBm/1MHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	PASS
Field strength of spurious radiation	§2.1053 §24.238	≤ -13dBm/1MHz	PASS
Frequency stability	§2.1055 §24.235	≤ ±2.5ppm	PASS

CatM1 Band 4

Test Item	FCC Rule No.	Requirements	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046 §27.50(d)	EIRP≤1W	PASS
Peak-Average Ratio	§2.1046 §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 §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 §27.53(h)	≤ -13 dBm/1MHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	PASS
Field strength of spurious radiation	§2.1053 §27.53(h)	≤ -13dBm/1MHz	PASS
Frequency stability	§2.1055 §27.54	≤ ±2.5ppm	PASS

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CatM1 Band 12

Test Item	FCC Rule No.	Requirements	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046 §27.50(c)	ERP≤3W	PASS
Peak-Average Ratio	§2.1046 §27.50(c)	≤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 §27.53(g)	≤ -13dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	PASS
Spurious emissions at antenna terminals	§2.1051 §27.53(g)	≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	PASS
Field strength of spurious radiation	§2.1053 §27.53(g)	≤ -13dBm/100KHz	PASS
Frequency stability	§2.1055 §27.54	≤ ±2.5ppm	PASS

CatM1 Band 13

Test Item	FCC Rule No.	Requirements	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046 §27.50(c)	ERP≤3W	PASS
Peak-Average Ratio	§2.1046 §27.50(c)	≤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 §27.53(g)	≤ -13dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	PASS
Spurious emissions at antenna terminals	§2.1051 §27.53(g)	≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	PASS
Field strength of spurious radiation	§2.1053 §27.53(g)	≤ -13dBm/100KHz	PASS
Frequency stability	§2.1055 §27.54	≤ ±2.5ppm	PASS

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Remark:

Model No.: TeleBGM 2283-A, TeleBGM 2284-A

Since according to the declaration from the applicant, the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above models, with only difference on the shell and antenna.

Therefore in this report Field strength of spurious radiation were fully retested on Model TeleBGM 2283-A, TeleBGM 2284-A and shown the data in this report.

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3 Contents

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4 General Information

4.1 Details of E.U.T.

Power supply:	AC Adapter Model: BLJ06L050100U-U Input: AC 100-240V, 50/60Hz, 0.2A Max Output: DC 5.0V, 1.0A or DC 3.7V, 1080mAh rechargeable battery which charged by AC adapter
USB Type C cable	Type-C cable:80cm unshielded
Internal Source:	More than 108MHz
Sample Type:	Portable device
Operation Frequency Band:	CatM1 Band 2, 4, 12, 13
Modulation Type:	QPSK, 16QAM
Antenna Type:	PIFA Antenna
Antenna Gain:	TeleBGM 2283-A CatM1 Band 2: 2.16dBi CatM1 Band 4: 0.43dBi CatM1 Band 12: 1.52dBi CatM1 Band 13: 1.92dBi TeleBGM 2284-A CatM1 Band 2: 2.58dBi CatM1 Band 4: 1.39dBi CatM1 Band 12: 0.29dBi CatM1 Band 13: 0.83dBi
Extreme temp. Tolerance:	-30°C to +50°C
Extreme vol. Limits:	3.14VDC to 4.25VDC (nominal: 3.7VDC)

Remark:The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

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4.2 Test Frequency

Test Mode	Nominal Bandwidth (MHz)	RF Channel		
		Low (L)	Middle (M)	High (H)
		MHz	MHz	MHz
CatM1 Band 2	1.4	1850.7	1880	1909.3
	3	1850.87	1879.37	1909.13
	5	1850.79	1878.29	1909.21
	10	1851.22	1876.22	1908.78
	15	1851.47	1873.97	1908.53
	20	1851.9	1871.9	1908.1
Test Mode	**Nominal Bandwidth (MHz)**	**RF Channel**		
		Low (L)	**Middle (M)**	**High (H)**
		MHz	**MHz**	**MHz**
CatM1 Band 4	1.4	1710.7	1732.5	1754.3
	3	1710.87	1731.87	1754.13
	5	1710.79	1730.79	1754.21
	10	1711.22	1728.72	1753.78
	15	1711.47	1726.47	1753.53
	20	1711.9	1724.4	1753.1
Test Mode	**Nominal Bandwidth (MHz)**	**RF Channel**		
		Low (L)	**Middle (M)**	**High (H)**
		MHz	**MHz**	**MHz**
CatM1 Band 12	1.4	699.7	707.5	715.3
	3	699.87	706.87	715.13
	5	699.79	705.79	715.21
	10	700.22	703.72	714.78
Test Mode	**Nominal Bandwidth (MHz)**	**RF Channel**		
		Low (L)	**Middle (M)**	**High (H)**
		MHz	**MHz**	**MHz**
CatM1 Band 13	5	777.79	780.29	786.21
	10	778.22	778.22	785.78

4.3 Test Environment

Environment Parameter	Selected Values During Tests	
Relative Humidity	52%	
Atmospheric Pressure:	1015Pa	
Temperature:	TL	-30°C
	TN	+20°C
	TH	+50°C
Voltage:	VL	3.14 V
	VN	3.7 V
	VH	4.25 V

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

4.4 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Wideband Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-08
RF Cable	SGS	N/A(Cable loss:0.6dB)	N/A

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4.5 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.25×10^{-8}
2	Duty cycle	0.37%
3	Occupied Bandwidth	3%
4	RF conducted power	0.75dB
5	RF power density	2.84dB
6	Conducted Spurious emissions	0.75dB
7	RF Radiated power	5.14dB (below 1GHz)
		5.08dB (above 1GHz)
8	Radiated Spurious emission test	5.14dB (below 1GHz)
		5.08dB (above 1GHz)
9	Temperature test	1°C
10	Humidity test	3%
11	Supply voltages	1.5%
12	Time	3%

4.6 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

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

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.7 Test Facility

• 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 (Member No. 1937)

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. Shenzhen EMC laboratory 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: CN1336

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

Designation Number: CN1336. Test Firm Registration Number: 787754.

• 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

5 Equipment List

RF conducted test					
Test Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal. Date**	**Cal. Due date**
Programmable DC Source	Chroma	62024P-80-60	SEM011-09	2023/3/30	2024/3/29
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2023/3/21	2024/3/20
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2023/3/20	2024/3/19
Measurement Software	TST	TST PASS V2.0	N/A	N/A	N/A
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2023/3/31	2024/3/30
Universal Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-03	2023/3/20	2024/3/19
Power Sensor	KEYSIGHT	U2021XA	SEM009-15	2023/03/21	2024/03/20

RE in Chamber					
Test Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal. Date**	**Cal. Due date**
Trilog-Broadband Antenna	Schwarzbeck	VULB9168	SEM003-26	2021/10/19	2023/10/18
MXE EMI receiver	Agilent	N9038A	SEM004-05	2022/10/20	2023/10/19
Pre-amplifier	HP	8447D	SEM005-02	2022/9/15	2023/9/14
Spectrum Analyzer	Rohde & Schwarz	101288	SEM004-08	2023/3/20	2024/3/19
Low Noise Amplifier	CLAVIIO	BDLNA-0118-352810	SEM005-05	2023/3/31	2024/3/30
Substitution Antenna	Schwarzbeck	VULB9168	SEM003-18	2021/10/28	2023/10/27
Signal Generator(9kHz-40GHz)	Agilent	N5173B	SEM006-05	2022/9/29	2023/9/28
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2022/8/10	2024/8/9
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120D	SEM003-32	2021/9/19	2023/9/18
Double-ridged waveguide horn	ETS-LINDGREN	3117	SEM003-11	2021/9/17	2023/9/16
Pre-amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2023/3/20	2024/3/19
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2023/3/20	2024/3/19
Substitution Antenna	ETS-Lindgren	3142C	SEM003-01	2021/9/17	2023/9/16
Universal Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-03	2023/3/20	2024/3/19

General used equipment					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Humidity/ Temperature Indicator	deli	8838	SEM002-32	2023-07-28	2024-07-27
Humidity/ Temperature Indicator	deli	8838	SEM002-33	2023-07-28	2024-07-27
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2023-03-23	2024-03-22

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6 Radio Spectrum Matter Test Results

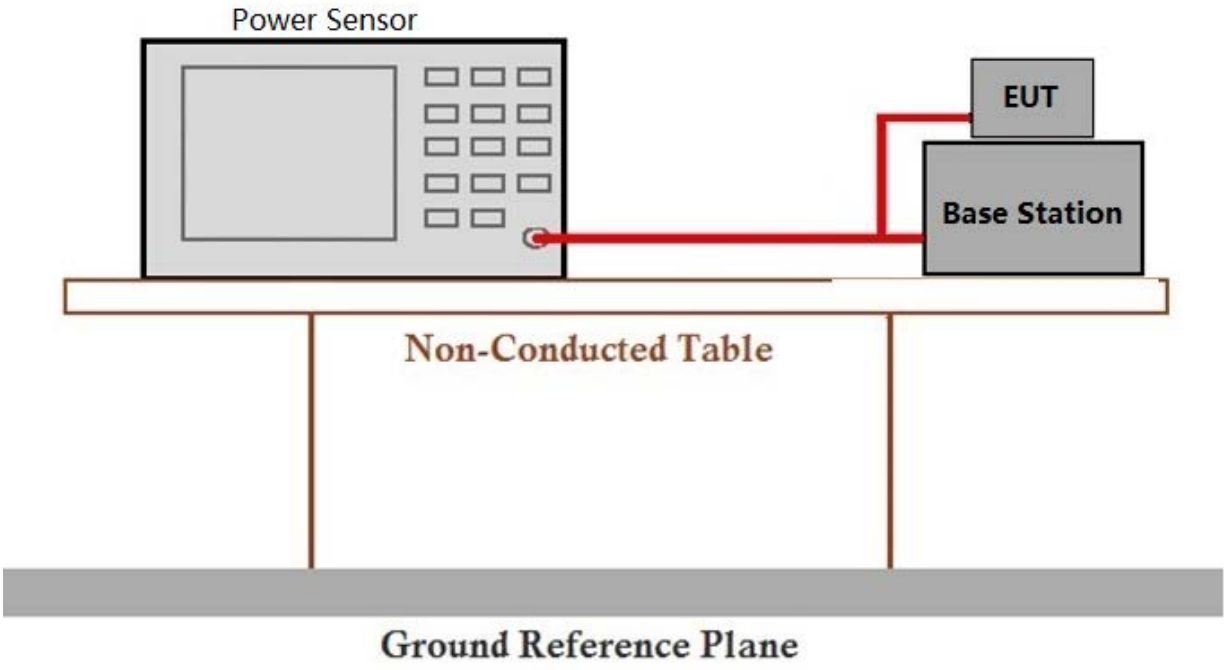
6.1 Effective (Isotropic) Radiated Power Output Data

Test Requirement: Reference test summary
Test Method: ANSI C63.26, KDB 971168 D01 v03r01
Limit: Reference test summary

6.1.1 E.U.T. Operation

Operating Environment:
Temperature: 21.6 °C Humidity: 53.3 % RH Atmospheric Pressure: 1005 mbar
Test mode: 02: Tx mode, Keep the EUT in transmitting mode.

6.1.2 Test Setup Diagram



6.1.3 Measurement Data

Please refer to Appendix_FCC_CatM_4G_RF power

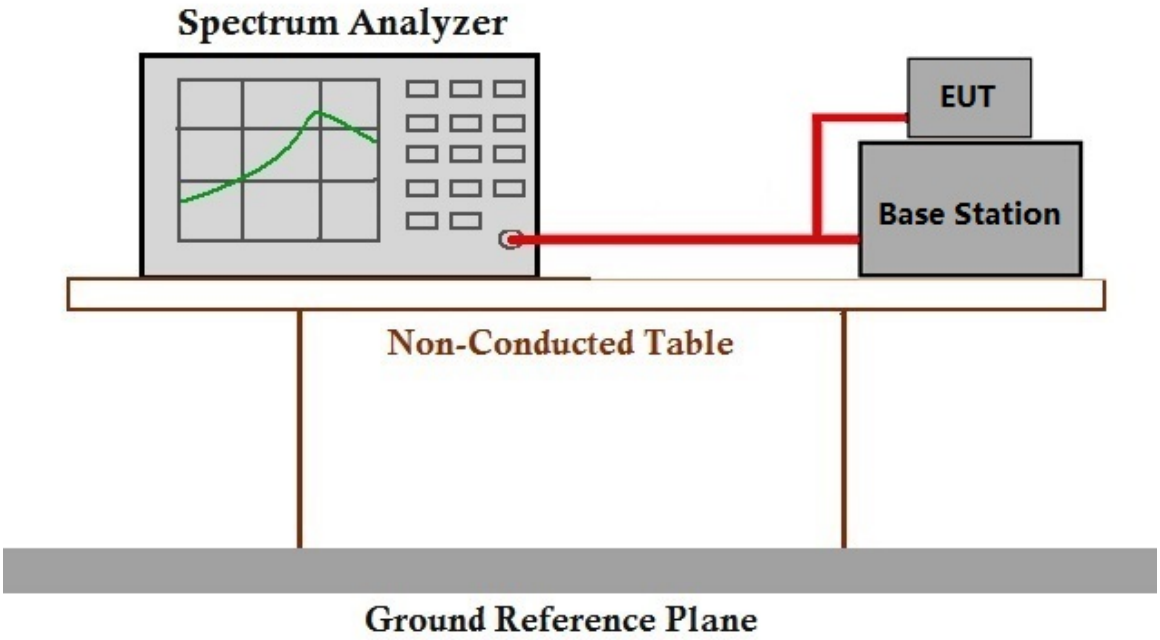
6.2 Peak-Average Ratio

Test Requirement: Reference test summary
Test Method: ANSI C63.26, KDB 971168 D01 v03r01
Limit: ≤13dB

6.2.1 E.U.T. Operation

Operating Environment:
Temperature: 21.6 °C Humidity: 53.3 % RH Atmospheric Pressure: 1005 mbar
Test mode: 02: Tx mode, Keep the EUT in transmitting mode.

6.2.2 Test Setup Diagram



6.2.3 Measurement Data

Please refer to Appendix_FCC_CatM_4G_PAR

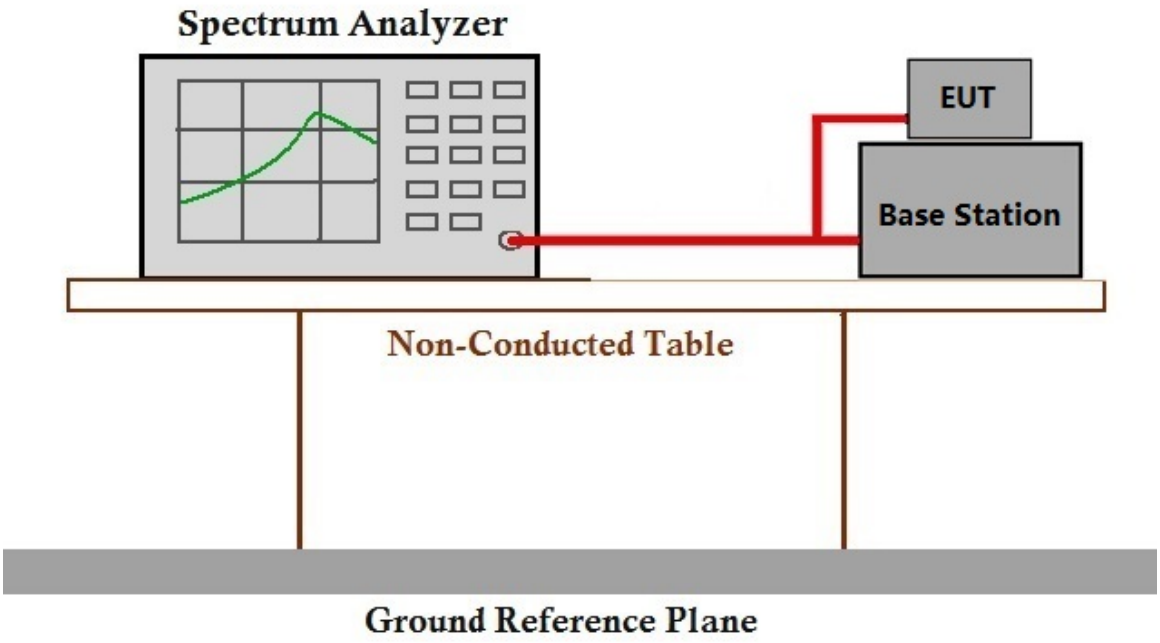
6.3 Bandwidth

Test Requirement: Reference test summary
Test Method: ANSI C63.26, KDB 971168 D01 v03r01
Limit: OBW: No limit
EBW: No limit

6.3.1 E.U.T. Operation

Operating Environment:
Temperature: 21.6 °C Humidity: 53.3 % RH Atmospheric Pressure: 1005 mbar
Test mode: 02: Tx mode, Keep the EUT in transmitting mode.

6.3.2 Test Setup Diagram



6.3.3 Measurement Data

Please refer to Appendix_FCC_CatM_4G_Bandwidth

6.4 Band Edge Compliance

Test Requirement: Reference test summary

Test Method: ANSI C63.26, KDB 971168 D01 v03r01

Limit: Reference test summary

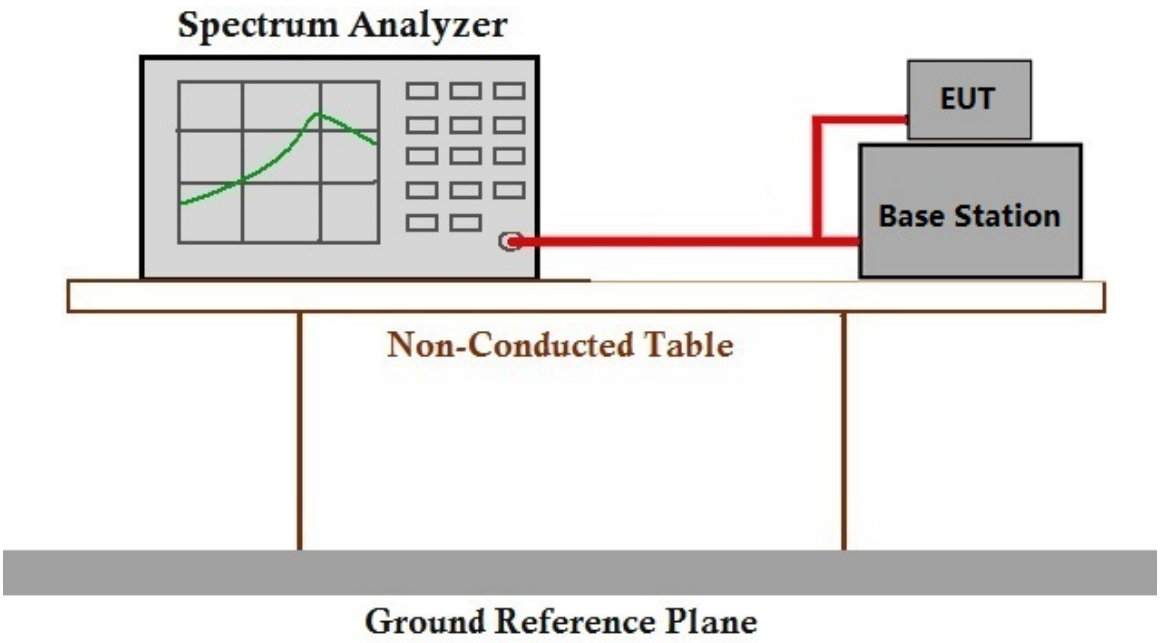
6.4.1 E.U.T. Operation

Operating Environment:

Temperature: 21.6 °C Humidity: 53.3 % RH Atmospheric Pressure: 1005 mbar

Test mode: 02: Tx mode, Keep the EUT in transmitting mode.

6.4.2 Test Setup Diagram



6.4.3 Measurement Data

Please refer to Appendix_FCC_CatM_4G_Bandedge

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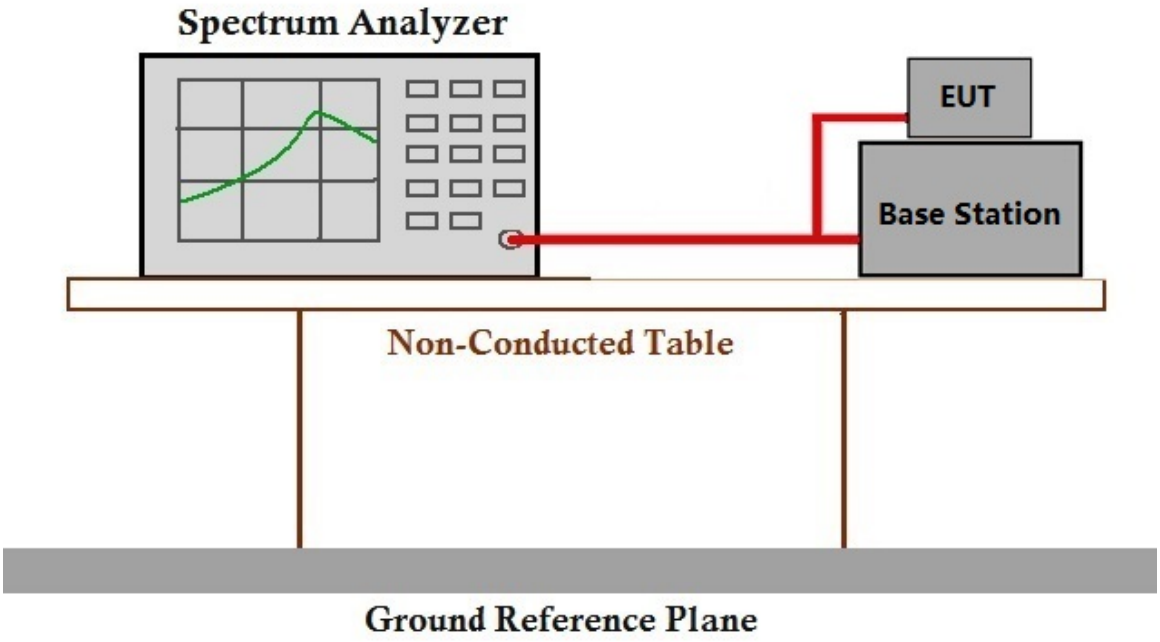
6.5 Spurious emissions at antenna terminals

Test Requirement: Reference test summary
Test Method: ANSI C63.26, KDB 971168 D01 v03r01
Limit: Reference test summary

6.5.1 E.U.T. Operation

Operating Environment:
Temperature: 21.6 °C Humidity: 53.3 % RH Atmospheric Pressure: 1005 mbar
Test mode: 02: Tx mode, Keep the EUT in transmitting mode.

6.5.2 Test Setup Diagram



6.5.3 Measurement Data

Please refer to Appendix_FCC_CatM_4G_Spurious emission

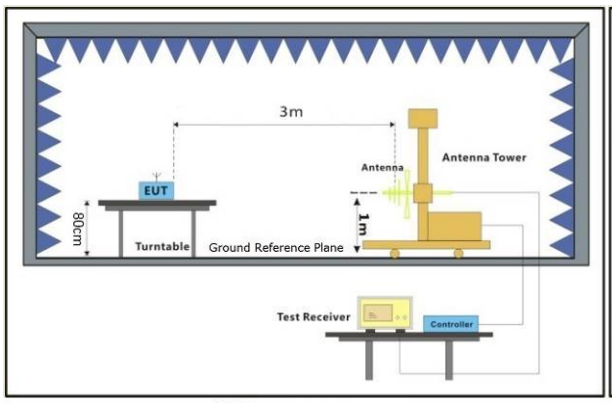
6.6 Field strength of spurious radiation

Test Requirement: Reference test summary
Test Method: ANSI C63.26, KDB 971168 D01 v03r01
Limit: Reference test summary

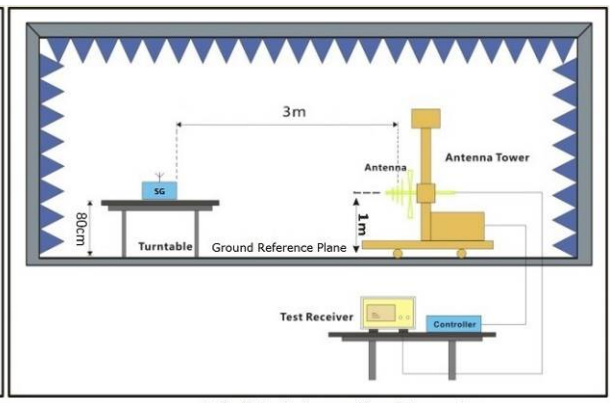
6.6.1 E.U.T. Operation

Operating Environment:
Temperature: 21.6 °C Humidity: 53.3 % RH Atmospheric Pressure: 1005 mbar
Test mode: 02: Tx mode, Keep the EUT in transmitting mode.

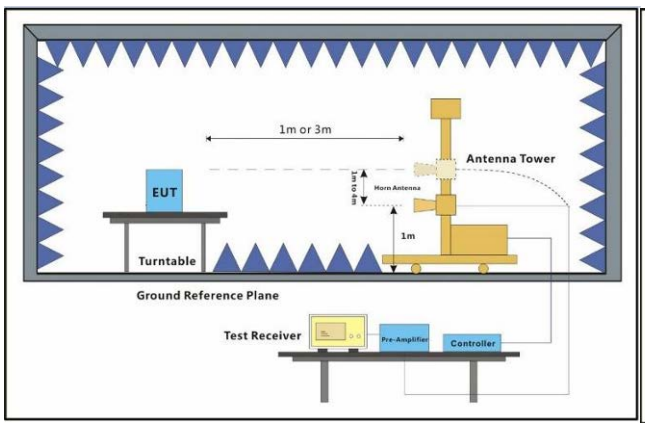
6.6.2 Test Setup Diagram



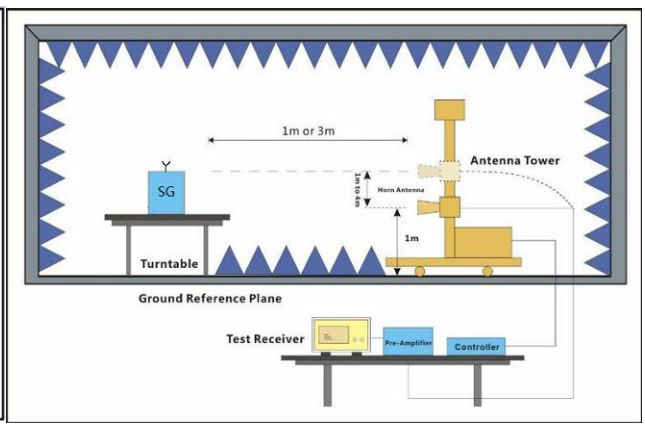
EUT



Substiute Antenna+Signal Generator



EUT



Substiute Antenna+Signal Generator

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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 than 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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Test data for TeleBGM 2284-A

CatM Band 2-20MHz Low channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3702	-54.56	-13.00	-41.56	-56.78	6.99	9.21	Horizontal	Pass
5553	-52.41	-13.00	-39.41	-54.73	8.27	10.59	Horizontal	Pass
7404	-49.66	-13.00	-36.66	-53.2	8.19	11.73	Horizontal	Pass
3702	-54.3	-13.00	-41.3	-56.52	6.99	9.21	Vertical	Pass
5553	-51.79	-13.00	-38.79	-54.11	8.27	10.59	Vertical	Pass
7404	-50.66	-13.00	-37.66	-54.2	8.19	11.73	Vertical	Pass

CatM Band 2-20MHz Middle channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3742	-56.03	-13.00	-43.03	-58.25	6.99	9.21	Horizontal	Pass
5613	-52.33	-13.00	-39.33	-54.65	8.27	10.59	Horizontal	Pass
7484	-49.04	-13.00	-36.04	-52.58	8.19	11.73	Horizontal	Pass
3742	-54.91	-13.00	-41.91	-57.13	6.99	9.21	Vertical	Pass
5613	-52.43	-13.00	-39.43	-54.75	8.27	10.59	Vertical	Pass
7484	-49.51	-13.00	-36.51	-53.05	8.19	11.73	Vertical	Pass

CatM Band 2-20MHz High channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3782	-54.43	-13.00	-41.43	-56.65	6.99	9.21	Horizontal	Pass
5673	-53.53	-13.00	-40.53	-55.85	8.27	10.59	Horizontal	Pass
7564	-49.42	-13.00	-36.42	-53.25	8.43	12.26	Horizontal	Pass
3782	-53.74	-13.00	-40.74	-55.96	6.99	9.21	Vertical	Pass
5673	-53.06	-13.00	-40.06	-55.38	8.27	10.59	Vertical	Pass
7564	-49.34	-13.00	-36.34	-53.17	8.43	12.26	Vertical	Pass

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CatM Band 4-20MHz Low channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3422	-55.81	-13.00	-42.81	-58.39	5.72	8.3	Horizontal	Pass
5133	-50.23	-13.00	-37.23	-52.23	8.3	10.3	Horizontal	Pass
6844	-51.21	-13.00	-38.21	-54.76	7.7	11.25	Horizontal	Pass
3422	-55.07	-13.00	-42.07	-57.65	5.72	8.3	Vertical	Pass
5133	-52.27	-13.00	-39.27	-54.27	8.3	10.3	Vertical	Pass
6844	-51.82	-13.00	-38.82	-55.37	7.7	11.25	Vertical	Pass

CatM Band 4-20MHz Middle channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3447	-55.95	-13.00	-42.95	-58.53	5.72	8.3	Horizontal	Pass
5170.5	-51.95	-13.00	-38.95	-53.95	8.3	10.3	Horizontal	Pass
6894	-52.02	-13.00	-39.02	-55.57	7.7	11.25	Horizontal	Pass
3447	-55.38	-13.00	-42.38	-57.96	5.72	8.3	Vertical	Pass
5170.5	-53.09	-13.00	-40.09	-55.09	8.3	10.3	Vertical	Pass
6894	-51.63	-13.00	-38.63	-55.18	7.7	11.25	Vertical	Pass

CatM Band 4-20MHz High channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3472	-55.62	-13.00	-42.62	-58.2	5.72	8.3	Horizontal	Pass
5208	-52.7	-13.00	-39.7	-54.7	8.3	10.3	Horizontal	Pass
6944	-51.43	-13.00	-38.43	-54.98	7.7	11.25	Horizontal	Pass
3472	-55.41	-13.00	-42.41	-57.99	5.72	8.3	Vertical	Pass
5208	-52.94	-13.00	-39.94	-54.94	8.3	10.3	Vertical	Pass
6944	-50.22	-13.00	-37.22	-53.77	7.7	11.25	Vertical	Pass

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CatM Band 12-10MHz Low channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1399	-61.63	-13.00	-48.63	-64.16	2.64	5.17	Horizontal	Pass
2098.5	-59.70	-13.00	-46.70	-62.03	4.75	7.08	Horizontal	Pass
2798	-57.74	-13.00	-44.74	-60.21	5.13	7.6	Horizontal	Pass
1399	-61.32	-13.00	-48.32	-63.85	2.64	5.17	Vertical	Pass
2098.5	-59.52	-13.00	-46.52	-61.85	4.75	7.08	Vertical	Pass
2798	-56.71	-13.00	-43.71	-59.18	5.13	7.6	Vertical	Pass

CatM Band 12-10MHz Middle channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1406	-61.27	-13.00	-48.27	-63.8	2.64	5.17	Horizontal	Pass
2109	-58.40	-13.00	-45.40	-60.73	4.75	7.08	Horizontal	Pass
2812	-57.41	-13.00	-44.41	-59.88	5.13	7.6	Horizontal	Pass
1406	-62.74	-13.00	-49.74	-65.27	2.64	5.17	Vertical	Pass
2109	-59.96	-13.00	-46.96	-62.29	4.75	7.08	Vertical	Pass
2812	-57.67	-13.00	-44.67	-60.14	5.13	7.6	Vertical	Pass

CatM Band 12-10MHz High channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1413	-62.16	-13.00	-49.16	-64.69	2.64	5.17	Horizontal	Pass
2119.5	-60.21	-13.00	-47.21	-62.54	4.75	7.08	Horizontal	Pass
2826	-56.07	-13.00	-43.07	-58.54	5.13	7.6	Horizontal	Pass
1413	-61.75	-13.00	-48.75	-64.28	2.64	5.17	Vertical	Pass
2119.5	-59.57	-13.00	-46.57	-61.9	4.75	7.08	Vertical	Pass
2826	-57.90	-13.00	-44.90	-60.37	5.13	7.6	Vertical	Pass

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CatM Band 13-10MHz Middle channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1555	-63.10	-13.00	-50.10	-66.76	3.77	7.43	Horizontal	Pass
2332.5	-58.42	-13.00	-45.42	-60.75	4.75	7.08	Horizontal	Pass
3110	-54.25	-13.00	-41.25	-56.83	5.72	8.3	Horizontal	Pass
1555	-63.61	-13.00	-50.61	-67.27	3.77	7.43	Vertical	Pass
2332.5	-60.18	-13.00	-47.18	-62.51	4.75	7.08	Vertical	Pass
3110	-55.19	-13.00	-42.19	-57.77	5.72	8.3	Vertical	Pass

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Test data for TeleBGM 2283-A

CatM Band 2-20MHz Low channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3702	-54.82	-13.00	-41.82	-57.04	6.99	9.21	Horizontal	Pass
5553	-51.8	-13.00	-38.8	-54.12	8.27	10.59	Horizontal	Pass
7404	-49.76	-13.00	-36.76	-53.3	8.19	11.73	Horizontal	Pass
3702	-55.16	-13.00	-42.16	-57.38	6.99	9.21	Vertical	Pass
5553	-50.87	-13.00	-37.87	-53.19	8.27	10.59	Vertical	Pass
7404	-50.1	-13.00	-37.1	-53.64	8.19	11.73	Vertical	Pass

CatM Band 2-20MHz Middle channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3742	-55.22	-13.00	-42.22	-57.44	6.99	9.21	Horizontal	Pass
5613	-52.84	-13.00	-39.84	-55.16	8.27	10.59	Horizontal	Pass
7484	-49.29	-13.00	-36.29	-52.83	8.19	11.73	Horizontal	Pass
3742	-55.64	-13.00	-42.64	-57.86	6.99	9.21	Vertical	Pass
5613	-52.73	-13.00	-39.73	-55.05	8.27	10.59	Vertical	Pass
7484	-49.09	-13.00	-36.09	-52.63	8.19	11.73	Vertical	Pass

CatM Band 2-20MHz High channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3782	-53.45	-13.00	-40.45	-55.67	6.99	9.21	Horizontal	Pass
5673	-52.95	-13.00	-39.95	-55.27	8.27	10.59	Horizontal	Pass
7564	-49.59	-13.00	-36.59	-53.42	8.43	12.26	Horizontal	Pass
3782	-54.4	-13.00	-41.4	-56.62	6.99	9.21	Vertical	Pass
5673	-52.76	-13.00	-39.76	-55.08	8.27	10.59	Vertical	Pass
7564	-49.62	-13.00	-36.62	-53.45	8.43	12.26	Vertical	Pass

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CatM Band 4-20MHz Low channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3422	-55.35	-13.00	-42.35	-57.93	5.72	8.3	Horizontal	Pass
5133	-52.62	-13.00	-39.62	-54.62	8.3	10.3	Horizontal	Pass
6844	-50.27	-13.00	-37.27	-53.82	7.7	11.25	Horizontal	Pass
3422	-54.94	-13.00	-41.94	-57.52	5.72	8.3	Vertical	Pass
5133	-52.47	-13.00	-39.47	-54.47	8.3	10.3	Vertical	Pass
6844	-51.81	-13.00	-38.81	-55.36	7.7	11.25	Vertical	Pass

CatM Band 4-20MHz Middle channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3447	-56.52	-13.00	-43.52	-59.1	5.72	8.3	Horizontal	Pass
5170.5	-52.83	-13.00	-39.83	-54.83	8.3	10.3	Horizontal	Pass
6894	-51.23	-13.00	-38.23	-54.78	7.7	11.25	Horizontal	Pass
3447	-55.4	-13.00	-42.4	-57.98	5.72	8.3	Vertical	Pass
5170.5	-53.21	-13.00	-40.21	-55.21	8.3	10.3	Vertical	Pass
6894	-51.37	-13.00	-38.37	-54.92	7.7	11.25	Vertical	Pass

CatM Band 4-20MHz High channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
3472	-55.34	-13.00	-42.34	-57.92	5.72	8.3	Horizontal	Pass
5208	-53.2	-13.00	-40.2	-55.2	8.3	10.3	Horizontal	Pass
6944	-51.09	-13.00	-38.09	-54.64	7.7	11.25	Horizontal	Pass
3472	-55.26	-13.00	-42.26	-57.84	5.72	8.3	Vertical	Pass
5208	-52.34	-13.00	-39.34	-54.34	8.3	10.3	Vertical	Pass
6944	-50.44	-13.00	-37.44	-53.99	7.7	11.25	Vertical	Pass

CatM Band 12-10MHz Low channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1399	-60.74	-13.00	-47.74	-63.27	2.64	5.17	Horizontal	Pass
2098.5	-60.14	-13.00	-47.14	-62.47	4.75	7.08	Horizontal	Pass
2798	-58.26	-13.00	-45.26	-60.73	5.13	7.6	Horizontal	Pass
1399	-62.28	-13.00	-49.28	-64.81	2.64	5.17	Vertical	Pass
2098.5	-59.62	-13.00	-46.62	-61.95	4.75	7.08	Vertical	Pass
2798	-57.65	-13.00	-44.65	-60.12	5.13	7.6	Vertical	Pass

CatM Band 12-10MHz Middle channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1406	-61.22	-13.00	-48.22	-63.75	2.64	5.17	Horizontal	Pass
2109	-60.43	-13.00	-47.43	-62.76	4.75	7.08	Horizontal	Pass
2812	-56.61	-13.00	-43.61	-59.08	5.13	7.6	Horizontal	Pass
1406	-61.50	-13.00	-48.50	-64.03	2.64	5.17	Vertical	Pass
2109	-59.98	-13.00	-46.98	-62.31	4.75	7.08	Vertical	Pass
2812	-57.52	-13.00	-44.52	-59.99	5.13	7.6	Vertical	Pass

CatM Band 12-10MHz High channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1413	-60.43	-13.00	-47.43	-62.96	2.64	5.17	Horizontal	Pass
2119.5	-59.56	-13.00	-46.56	-61.89	4.75	7.08	Horizontal	Pass
2826	-55.37	-13.00	-42.37	-57.84	5.13	7.6	Horizontal	Pass
1413	-62.45	-13.00	-49.45	-64.98	2.64	5.17	Vertical	Pass
2119.5	-60.48	-13.00	-47.48	-62.81	4.75	7.08	Vertical	Pass
2826	-58.02	-13.00	-45.02	-60.49	5.13	7.6	Vertical	Pass

CatM Band 13-10MHz Middle channel, Modulation: QPSK, 1 RB								
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1555	-62.80	-13.00	-49.80	-66.46	3.77	7.43	Horizontal	Pass
2332.5	-59.83	-13.00	-46.83	-62.16	4.75	7.08	Horizontal	Pass
3110	-54.18	-13.00	-41.18	-56.76	5.72	8.3	Horizontal	Pass
1555	-62.20	-13.00	-49.20	-65.86	3.77	7.43	Vertical	Pass
2332.5	-59.69	-13.00	-46.69	-62.02	4.75	7.08	Vertical	Pass
3110	-55.08	-13.00	-42.08	-57.66	5.72	8.3	Vertical	Pass

Note: All modes have been tested and we found QPSK test mode has the worst test result. Only record the worst test result.

EIRP= S.G. Power- Cable loss+ Antenna Gain

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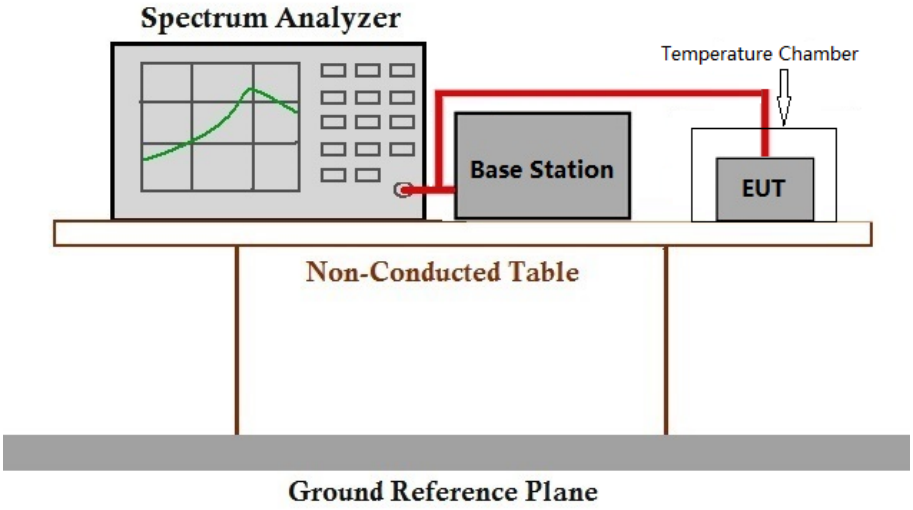
6.7 Frequency stability

Test Requirement: Reference test summary
Test Method: ANSI C63.26, KDB 971168 D01 v03r01
Limit: Reference test summary

6.7.1 E.U.T. Operation

Operating Environment:
Temperature: 21.6 °C Humidity: 53.3 % RH Atmospheric Pressure: 1005 mbar
Test mode: 02: Tx mode, Keep the EUT in transmitting mode.

6.7.2 Test Setup Diagram



6.7.3 Measurement Data

Please refer to Appendix_FCC_CatM_4G_Frequency stability

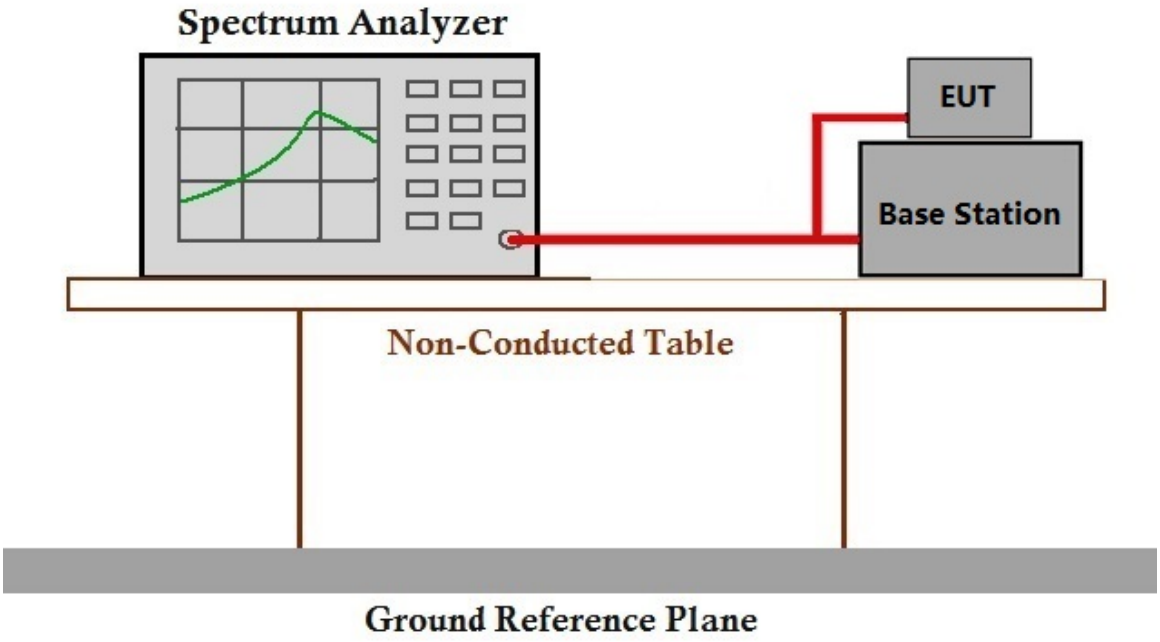
6.8 Modulation Characteristics

Test Requirement: Reference test summary
Test Method: ANSI C63.26, KDB 971168 D01 v03r01
Limit: Digital modulation

6.8.1 E.U.T. Operation

Operating Environment:
Temperature: 21.6 °C Humidity: 53.3 % RH Atmospheric Pressure: 1005 mbar
Test mode: 02: Tx mode, Keep the EUT in transmitting mode.

6.8.2 Test Setup Diagram



6.8.3 Measurement Data

Note: This device uses digital modulation.

7 Test Setup Photo

Refer to Appendix – Test Setup Photos for SZCR2308002639ME

8 EUT Constructional Details (EUT Photos)

Refer to Appendix - External and Internal Photos for SZCR2308002639ME

- End of the Report -

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