

# TEST REPORT

**Application No.:** SZCR2504001597WM  
**Applicant:** Sonim Technologies, Inc.  
**Address of Applicant:** 4445 Eastgate Mall, Suite 200, San Diego, California 92121 United States  
**Manufacturer:** Sonim Technologies, Inc.  
**Address of Manufacturer:** 4445 Eastgate Mall, Suite 200, San Diego, California 92121 United States  
**Equipment Under Test (EUT):**  
**EUT Name:** smartphone  
**Model No.:** X800  
**Type No.:** S1003/S1001/S1004/S1005/S1006/S1010  
**Trade Mark:** Sonim  
**FCC ID:** WYPS1003  
**Standard(s) :** 47 CFR Part 15, Subpart C 15.225  
**Date of Receipt:** 2025-04-22  
**Date of Test:** 2025-04-26  
**Date of Issue:** 2025-05-07

<b>Test Result:</b>	<b>Pass*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

*Keny Xu*

Keny Xu  
EMC Laboratory Manager



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch (EMC) Laboratory

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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR250400159707

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2025-05-07		Original

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



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## 2 Test Summary

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Radiated Emissions (9kHz-30MHz)	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.4&6.5	47 CFR Part 15, Subpart C 15.225(d) & 15.209	Pass
Radiated Emissions (30MHz-1GHz)		ANSI C63.10 (2013) Section 6.4&6.5	47 CFR Part 15, Subpart C 15.225(d) & 15.209	Pass

### Remark:

Model No.: X800

This test report (Ref. No.: SZCR250400159707) is only valid with the original test report (Ref. No.: SZCR241000381007).

According to the declaration from the applicant, the models in this report and models in original report were identical, only difference with being added an alternative battery and LCD.

Considering to the difference, pre-scan were performed on the sample in this report to find the items which can be influential to the result in the original test report for retest.

Therefore in this report Radiated Emission were spot checked on model and shown the data in this report, other tests please refer to original report SZCR241000381007.



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## 4 General Information

### 4.1 Details of E.U.T.

Power supply:	DC3.87V by Li-ion battery(5000mAh) Recharged by AC/DC power adapter Adapter M/N:1-CHUSQ302-097 Adapter Manufacturer: HUIZHOU PUAN ELEOTRONICS CO.,LTD Adapter output: 5V/3A,9V/2A,12V/1.5A Battery M/N:BAT-05000-21S Battery Manufacturer: Tianjin Lishen Juyuan New Energy Technology Co., Ltd.
Cable(s):	USB type C cable M/N: HX-YLMK-16 1.5m shielded cable without ferrite core USB type C cable manufacturer: HUIZHOU WASHIN ELECTRONICS CO.,LTD
Operation Frequency:	13.56MHz
Modulation Type:	ASK
Antenna Type:	Loop Antenna

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.

### 4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
--	--	--	--

The EUT has been tested as an independent unit.

### 4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Radiated Emissions (9kHz-30MHz)	$\pm 3.6\text{dB}$
Radiated Emissions (30MHz-1GHz)	$\pm 6.0\text{dB}$ for 3m; $\pm 5.0\text{dB}$ for 10m

Remark:

The  $U_{\text{lab}}$  (lab Uncertainty) is less than  $U_{\text{CISPR/ETSI}}$  (CISPR/ETSI Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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### 4.4 Test Location

All tests were performed at:

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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.

### 4.5 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 (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.

### 4.6 Deviation from Standards

None

### 4.7 Abnormalities from Standard Conditions

None



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## 5 Equipment List

Radiated Emissions (9kHz-30MHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2025-03-21	2026-03-20
MXE EMI receiver	KEYSIGHT	N9038A	SEM004-16	2024-08-14	2025-08-13
Trilog-Broadband Antenna	Schwarzbeck	VULB9168	SEM003-18	2023-09-23	2025-09-22
Pre-amplifier	Sonoma Instrument Co	310N	SEM005-04	2025-03-04	2026-03-03
Loop Antenna	ETS-Lindgren	6502	SEM003-08	2023-11-20	2025-11-19
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM029-01	2024-07-06	2025-07-05

Radiated Emissions (30MHz-1GHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2023-06-19	2026-06-18
MXE EMI Receiver	Agilent Technologies	N9038A	SEM004-15	2024-08-14	2025-08-13
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-01	2023-09-16	2025-09-15
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2025-03-04	2026-03-03
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2024-07-06	2025-07-05

General used equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	deli	8838	SEM002-32	2024-07-24	2025-07-23
Humidity/ Temperature Indicator	deli	8838	SEM002-33	2024-07-24	2025-07-23
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2025-03-03	2026-03-02



## 6 Radio Spectrum Matter Test Results

### 6.1 Radiated Emissions (9kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.225(d) & 15.209

Test Method: ANSI C63.10 (2013) Section 6.4&6.5

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength (microvolts/meter)	Limit (dBuV/m)	Detector	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	-	-	300
0.490-1.705	24000/F(kHz)	-	-	30
1.705-30	30	-	-	30

Note:

At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

#### 6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 23.6 °C

Humidity: 50.5 % RH

Atmospheric Pressure: 1020 mbar

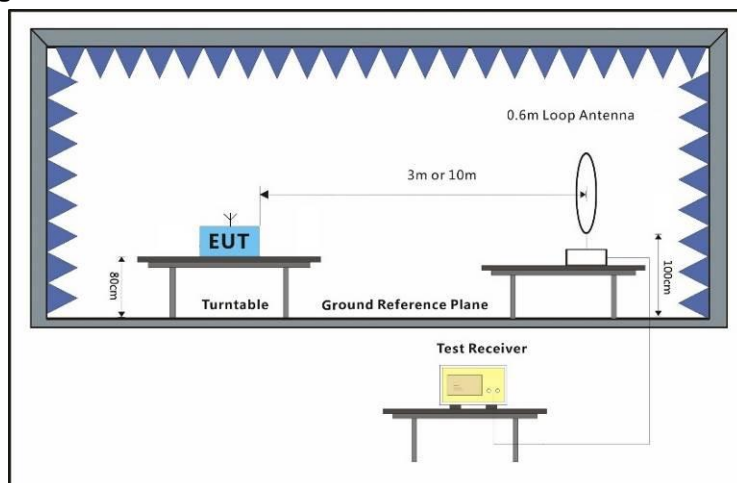




### 6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	13	TX mode with modulation

### 6.1.3 Test Setup Diagram



### 6.1.4 Measurement Procedure and Data

For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.

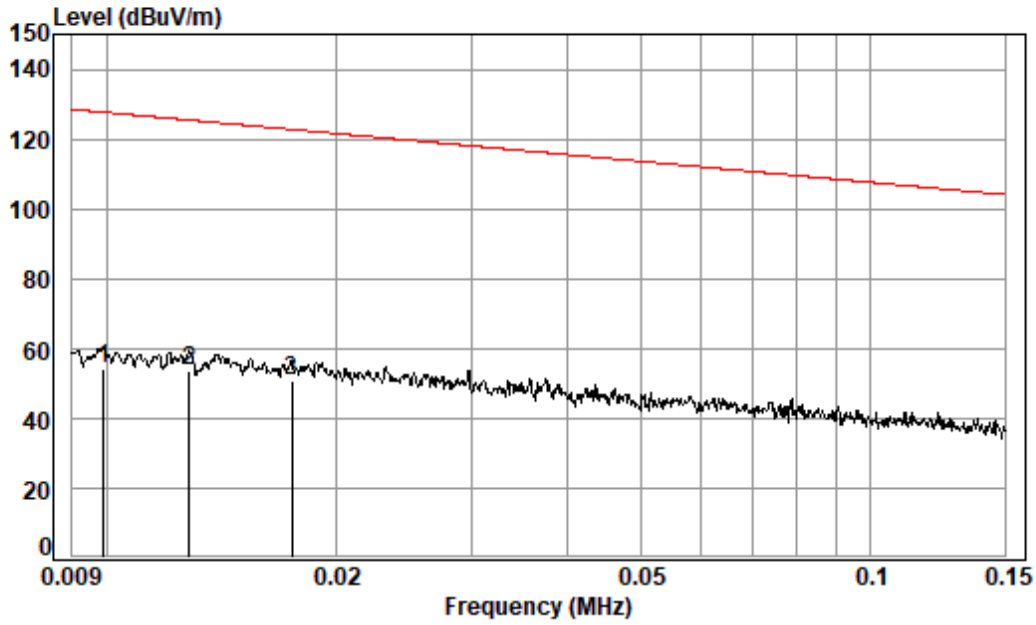


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Condition: 3m

Job No. : 01597WM/01599WM

Test Mode: 13

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	Level	Limit	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	0.010	66.81	18.29	0.34	31.03	54.41	127.67	-73.26	Average
2 pp	0.013	67.20	16.94	0.34	31.14	53.34	125.42	-72.08	Average
3	0.017	66.62	14.87	0.34	31.31	50.52	122.74	-72.22	Average

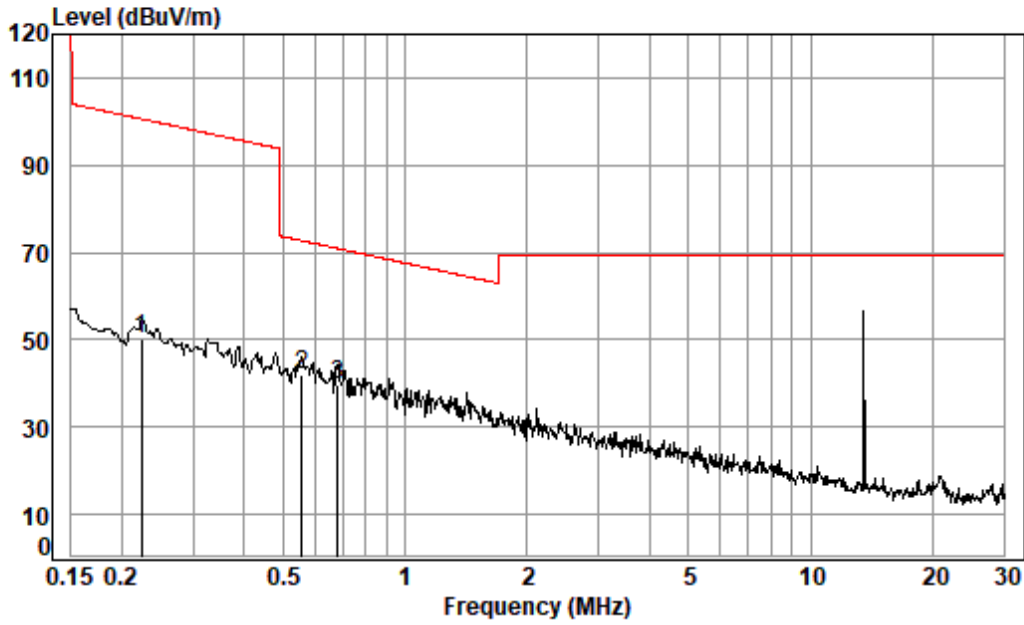


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Condition: 3m

Job No. : 01597WM/01599WM

Test Mode: 13

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	0.224	72.02	10.45	0.34	32.51	50.30	100.58	-50.28	QP
2 pp	0.558	63.71	10.36	0.39	32.68	41.78	72.66	-30.88	QP
3	0.683	61.72	10.35	0.40	32.63	39.84	70.90	-31.06	QP



## 6.2 Radiated Emissions (30MHz-1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.225(d) & 15.209

Test Method: ANSI C63.10 (2013) Section 6.4&6.5

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

### 6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 23.6 °C Humidity: 50.5 % RH Atmospheric Pressure: 1020 mbar

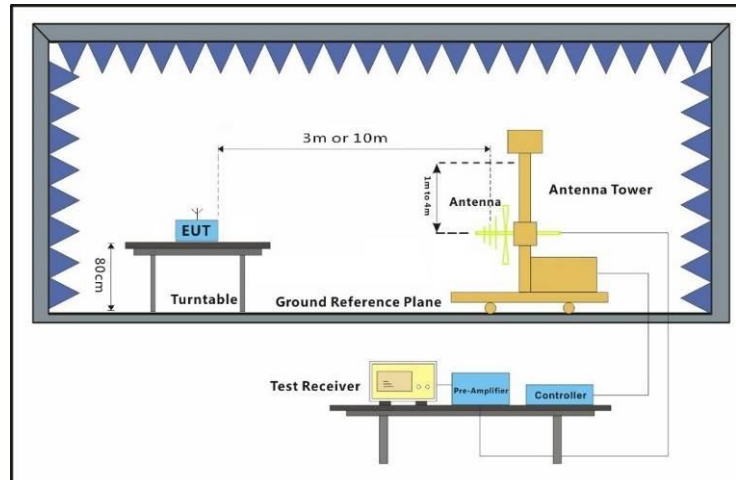
### 6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	13	TX mode with modulation





### 6.2.3 Test Setup Diagram

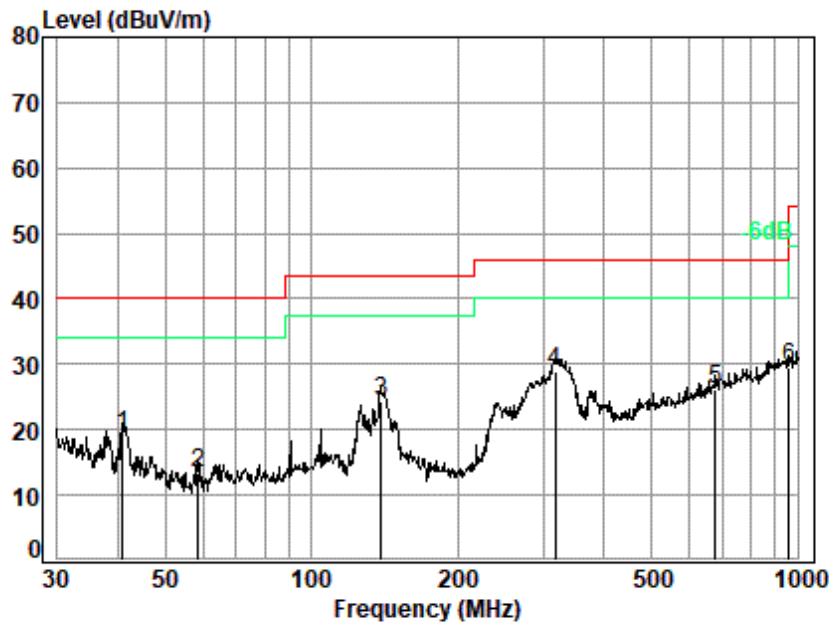


### 6.2.4 Measurement Procedure and Data

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground for below 1GHz at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. g. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report. Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



Test Mode: 13; Polarity: Horizontal

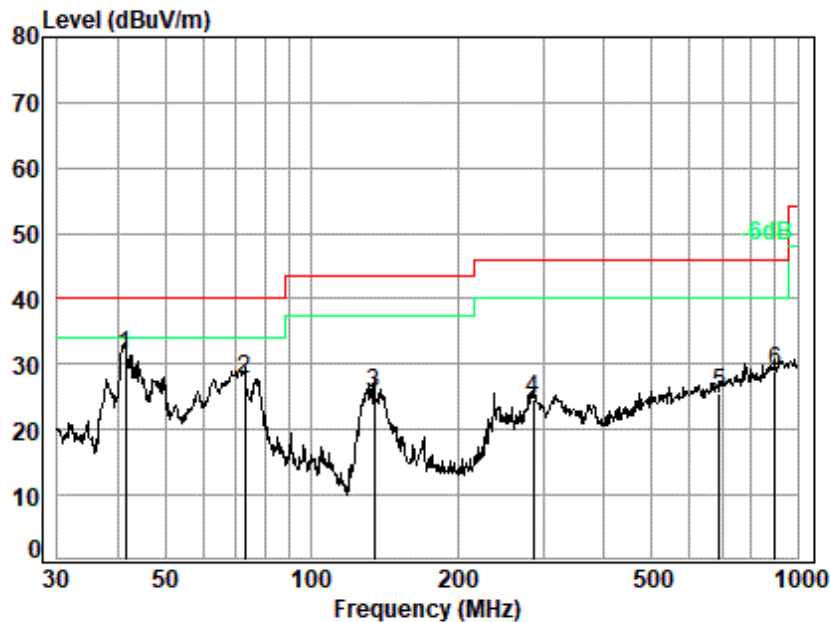


Site : chamber  
Condition: 3m HORIZONTAL  
Job No. : 01597WM/01599WM  
Test Mode: 13

	Ant Freq	Cable Factor	Preamp Loss	Read Factor	Level	Limit	Over	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dB	
1	40.845	15.98	0.79	27.76	30.04	19.05	40.00	-20.95 QP
2	58.407	11.65	0.94	27.71	28.39	13.27	40.00	-26.73 QP
3	138.874	11.70	1.48	27.43	38.63	24.38	43.50	-19.12 QP
4	316.589	18.44	2.27	26.82	35.11	29.00	46.00	-17.00 QP
5	677.580	25.78	3.48	27.78	24.70	26.18	46.00	-19.82 QP
6 q	958.794	28.10	4.28	26.34	23.32	29.36	46.00	-16.64 QP



Test Mode: 13; Polarity: Vertical



Site : chamber  
Condition: 3m VERTICAL  
Job No. : 01597WM/01599WM  
Test Mode: 13

		Ant Freq	Cable Factor	Preamp Loss	Read Level	Limit Level	Limit Line	Over Limit	Remark
		MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	q	41.422	15.69	0.79	27.76	42.68	31.40	40.00	-8.60 QP
2		72.847	10.44	1.04	27.67	43.73	27.54	40.00	-12.46 QP
3		134.559	11.35	1.45	27.44	40.26	25.62	43.50	-17.88 QP
4		285.978	16.93	2.15	26.81	32.23	24.50	46.00	-21.50 QP
5		689.565	25.69	3.51	27.75	24.08	25.53	46.00	-20.47 QP
6		896.997	27.93	4.11	26.79	23.51	28.76	46.00	-17.24 QP



## 7 Test Setup Photo

Refer to Appendix - Test Setup Photo for SZCR2504001597WM

## 8 EUT Constructional Details (EUT Photos)

Refer to Appendix – External and Internal Photos for SZCR2504001597WM

- End of the Report -

