

TEST REPORT

Application No.: SZCR2404001160WM
Applicant: vivo Mobile Communication Co., Ltd.
Address of Applicant: No.1, vivo Road, Chang'an, Dongguan, Guangdong, China
Manufacturer: vivo Mobile Communication Co., Ltd.
Address of Manufacturer: No.1, vivo Road, Chang'an, Dongguan, Guangdong, China
Equipment Under Test (EUT):
EUT Name: Mobile phone
Model No.: V2341
Trade Mark: vivo
FCC ID: 2AUCY-V2341
Standard(s) : 47 CFR Part 15, Subpart B
Date of Receipt: 2024-04-02
Date of Test: 2024-04-17 to 2024-04-28
Date of Issue: 2024-05-08

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

Kenxu

Keny Xu
EMC Laboratory Manager



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

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2024-05-08		Original

Authorized for issue by:				
		Sherlock Fang		
		Sherlock Fang/Project Engineer		
		Eric Fu		
		Eric Fu/Reviewer		



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2 Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at Mains Terminals (150kHz-30MHz)	47 CFR Part 15, Subpart B	ANSI C63.4:2014	15.107(a);Class B	Pass
Radiated Emissions (30MHz-1GHz)		ANSI C63.4:2014	15.109(a);Class B	Pass
Radiated Emissions (Above 1GHz)		ANSI C63.4:2014	15.109(g);Class B	Pass



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4 General Information

4.1 Details of E.U.T.

Power supply:	DC 3.91V from internal rechargeable battery which can be charged by AC/DC adapter
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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.

Item No.	Mode No.	Manufacturer	Remark
Adapter	V4440L0A0-US	Dongguan Aohai Technology Co., Ltd	/
USB cable	BK-C-49-B	/	/
Battery	BA40	Sunwoda Electronic CO., LTD.	/
Sample 1	V2341	/	The only difference is the material of the battery back cover. Sample 1 is made of glass, while Sample 2 is made of plastic.
Sample 2	V2341	/	

Remark: Adapter 1 was selected to test.

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Router	NETGEAR	DGN2200	REF. No.SEA22A00
Laptop	Lenovo	T14	REF. No.SEA18F04
Mouse	Lenovo	M-U0025-O	REF. No.:SEA24A00
Earphone	vivo	XE710	/

4.3 Test modes

Pretest these modes to find the worst case and show the worse data in the test items:	00	Transfer data between the EUT1 and the PC+USB Cable
	01	Transfer data between the EUT2 and the PC+USB Cable
	02	Telecom Idle+EUT(worst)+playing MP4+USB cable+Adapter/earphone
	03	Telecom Idle+EUT(worst)+BT+WLAN5G+USB cable+Adapter/earphone
	04	Telecom Idle+EUT(worst)+camera(Front)+USB cable+Adapter/earphone
	05	Telecom Idle+EUT(worst)+camera(Back)+USB cable+Adapter/earphone
	06	Telecom Idle+EUT(worst)+BT+WLAN2.4G+GNSS+OTG output
	07	GSM 850(RX)+EUT(worst)+BT+WLAN2.4G+USB cable+Adapter/earphone
	08	WCDMA Band 5(RX)+EUT(worst)+BT+WLAN2.4G+USB cable+Adapter/earphone
	09	LTE band 5(RX)+EUT(worst)+BT+WLAN2.4G+USB cable+Adapter/earphone
	10	LTE band 12(RX)+EUT(worst)+BT+WLAN2.4G+USB cable+Adapter/earphone
	11	LTE band 13(RX)+EUT(worst)+BT+WLAN2.4G+USB cable+Adapter/earphone
	12	LTE band 17(RX)+EUT(worst)+BT+WLAN2.4G+USB cable+Adapter/earphone



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13	LTE band 26(RX)+EUT(worst)+BT+WLAN2.4G+USB cable+Adapter/earphone
14	NR_SA_N5(RX)+EUT(worst)+BT+WLAN2.4G+USB cable+Adapter/earphone
15	NR_SA_N26(RX)+EUT(worst)+BT+WLAN2.4G+USB cable+Adapter/earphone

4.4 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at Mains Terminals (150kHz-30MHz)	$\pm 3.1\text{dB}$
Radiated Emissions (30MHz-1GHz)	$\pm 6.0\text{dB}$ for 3m; $\pm 5.0\text{dB}$ for 10m
Radiated Emissions (Above 1GHz)	$\pm 4.6\text{dB}$

Remark:

The U_{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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4.5 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.

4.6 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.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None



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5 Equipment List

Conducted Emissions at Mains Terminals (150kHz-30MHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2022-05-14	2025-05-13
EMI Test Receiver	Rohde&Schwarz	ESCI	SEM004-02	2024-03-14	2025-03-13
Measurement Software	AUDIX	e3 V8.2014-6-27a	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2023-07-07	2024-07-06
LISN	Rohde&Schwarz	ENV216	SEM007-01	2023-09-19	2024-09-18
LISN	ETS-LINDGREN	3816/2	SEM007-02	2024-03-14	2025-03-13

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	2023-10-19	2024-10-18
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-01	2023-09-16	2025-09-15
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2024-03-14	2025-03-13
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2023-07-07	2024-07-06

Radiated Emissions (Above 1GHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
3m Fully-Anechoic Chamber	AUDIX	N/A	SEM001-02	2023-04-01	2026-03-31
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2024-03-15	2025-03-14
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2023-07-23	2025-07-22
Microwave system amplifier	Agilent	83017A	SEM005-25	2023-09-19	2024-09-18
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2023-07-07	2024-07-06

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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	2024-03-18	2025-03-17



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6 Emission Test Results

6.1 Conducted Emissions at Mains Terminals (150kHz-30MHz)

Test Requirement: 47 CFR Part 15, Subpart B

Test Method: ANSI C63.4:2014

Limit:

0.15M-0.5MHz 66dB(μV)-56dB(μV) quasi-peak, 56dB(μV)-46dB(μV) average

0.5M-5MHz 56dB(μV) quasi-peak, 46dB(μV) average

5M-30MHz 60dB(μV) quasi-peak, 50dB(μV) average

Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 23.5 °C

Humidity: 45.5 % RH

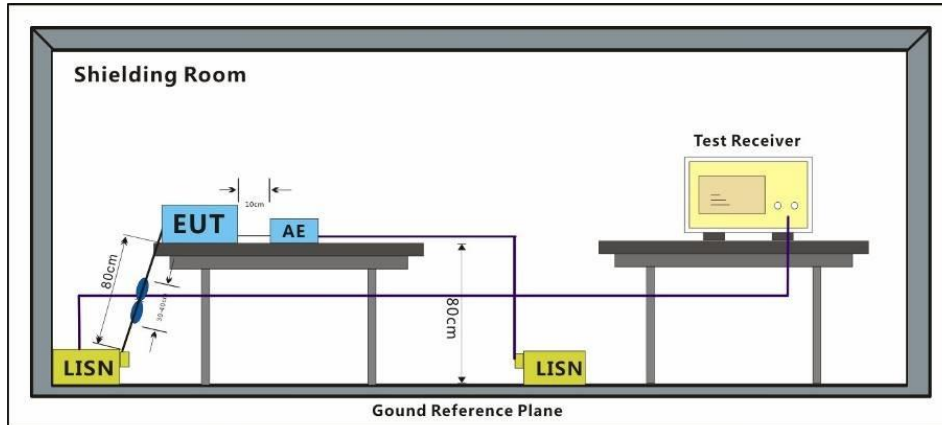
Atmospheric Pressure: 1020 mbar

6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Transfer data between the EUT1 and the PC+USB Cable
Final test	01	Transfer data between the EUT2 and the PC+USB Cable
Pre-scan	02	Telecom Idle+EUT(worst)+playing MP4+USB cable+Adapter/earphone
Pre-scan	03	Telecom Idle+EUT(worst)+BT+WLAN5G+USB cable+Adapter/earphone
Pre-scan	04	Telecom Idle+EUT(worst)+camera(Front)+USB cable+Adapter/earphone
Pre-scan	05	Telecom Idle+EUT(worst)+camera(Back)+USB cable+Adapter/earphone
Pre-scan	06	Telecom Idle+EUT(worst)+BT+WLAN2.4G+GNSS+OTG output
Pre-scan	07	GSM 850(RX)+EUT(worst)+BT+WLAN2.4G+USB cable+Adapter/earphone



6.1.3 Test Setup Diagram



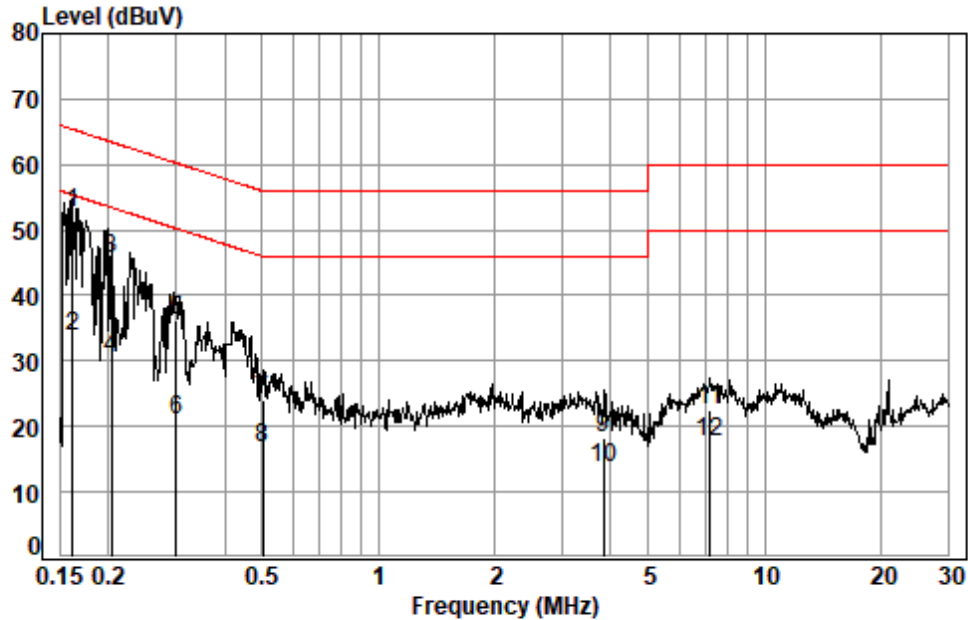
6.1.4 Measurement Procedure and Data

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

Remark: Level= Read Level+ Cable Loss+ LISN Factor



Test Mode: 00; Line: Live line

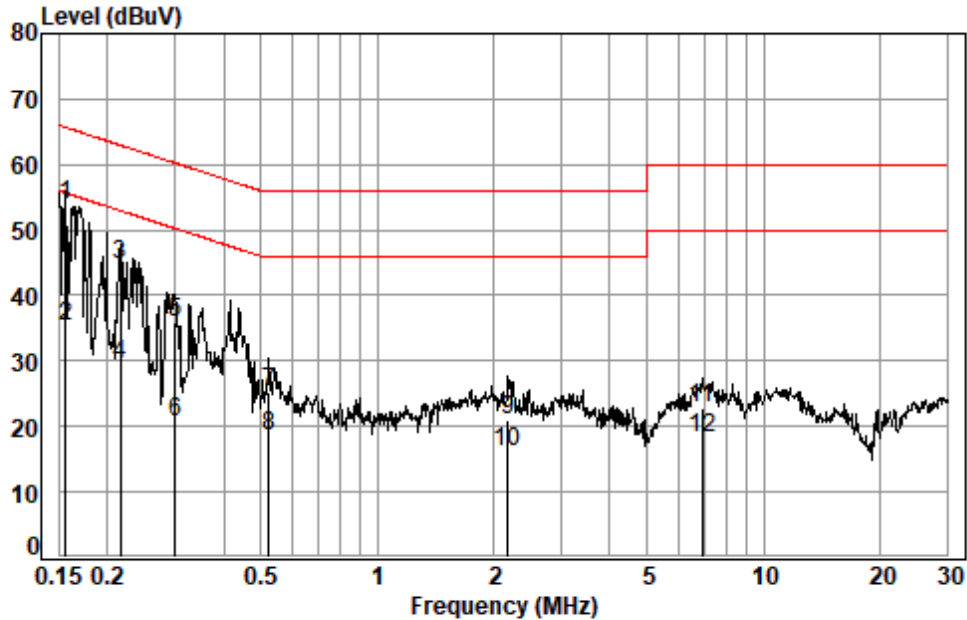


Site : Shielding Room
Condition: Line
Job No. : 01160WM
Test mode: 00

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1 *	0.1615	0.02	9.89	42.75	52.66	65.38	-12.72	QP
2 *	0.1615	0.02	9.89	23.72	33.63	55.38	-21.75	Average
3	0.2040	0.02	9.93	35.76	45.71	63.45	-17.74	QP
4	0.2040	0.02	9.93	20.40	30.35	53.45	-23.10	Average
5	0.3003	0.03	10.01	26.21	36.25	60.24	-23.99	QP
6	0.3003	0.03	10.01	10.94	20.98	50.24	-29.26	Average
7	0.5020	0.04	9.99	14.02	24.05	56.00	-31.95	QP
8	0.5020	0.04	9.99	6.69	16.72	46.00	-29.28	Average
9	3.8399	0.08	10.02	8.22	18.32	56.00	-37.68	QP
10	3.8399	0.08	10.02	3.55	13.65	46.00	-32.35	Average
11	7.2135	0.13	10.11	12.27	22.51	60.00	-37.49	QP
12	7.2135	0.13	10.11	7.27	17.51	50.00	-32.49	Average



Test Mode: 00; Line: Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 01160WM
Test mode: 00

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1 *	0.1557	0.02	9.89	43.99	53.90	65.69	-11.79	QP
2 *	0.1557	0.02	9.89	25.30	35.21	55.69	-20.48	Average
3	0.2162	0.03	9.92	34.63	44.58	62.96	-18.38	QP
4	0.2162	0.03	9.92	19.43	29.38	52.96	-23.58	Average
5	0.3003	0.03	9.91	25.92	35.86	60.24	-24.38	QP
6	0.3003	0.03	9.91	10.85	20.79	50.24	-29.45	Average
7	0.5238	0.04	9.93	15.30	25.27	56.00	-30.73	QP
8	0.5238	0.04	9.93	8.60	18.57	46.00	-27.43	Average
9	2.1783	0.07	9.96	10.91	20.94	56.00	-35.06	QP
10	2.1783	0.07	9.96	6.22	16.25	46.00	-29.75	Average
11	6.9508	0.12	10.10	12.72	22.94	60.00	-37.06	QP
12	6.9508	0.12	10.10	8.17	18.39	50.00	-31.61	Average



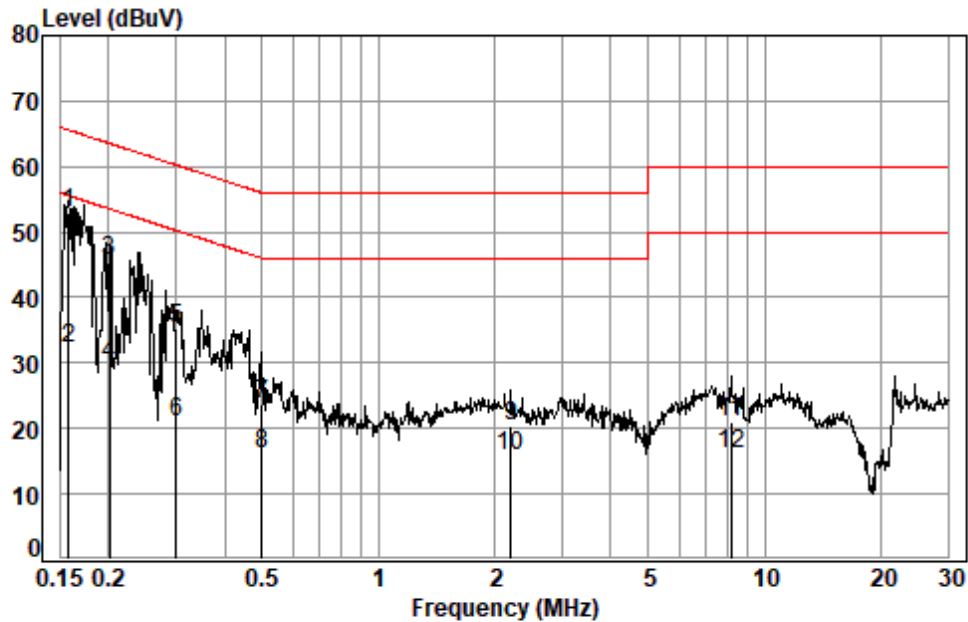
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Test Mode: 01; Line: Live line



Site : Shielding Room
Condition: Line
Job No. : 01160WM
Test mode: 01

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1 *	0.1582	0.02	9.89	42.96	52.87	65.56	-12.69	QP
2 *	0.1582	0.02	9.89	22.27	32.18	55.56	-23.38	Average
3	0.2018	0.02	9.93	35.62	45.57	63.54	-17.97	QP
4	0.2018	0.02	9.93	19.85	29.80	53.54	-23.74	Average
5	0.3003	0.03	10.01	25.34	35.38	60.24	-24.86	QP
6	0.3003	0.03	10.01	10.97	21.01	50.24	-29.23	Average
7	0.4994	0.04	9.99	13.79	23.82	56.01	-32.19	QP
8	0.4994	0.04	9.99	6.19	16.22	46.01	-29.79	Average
9	2.2015	0.07	10.01	10.40	20.48	56.00	-35.52	QP
10	2.2015	0.07	10.01	5.61	15.69	46.00	-30.31	Average
11	8.1916	0.14	10.17	10.65	20.96	60.00	-39.04	QP
12	8.1916	0.14	10.17	5.86	16.17	50.00	-33.83	Average



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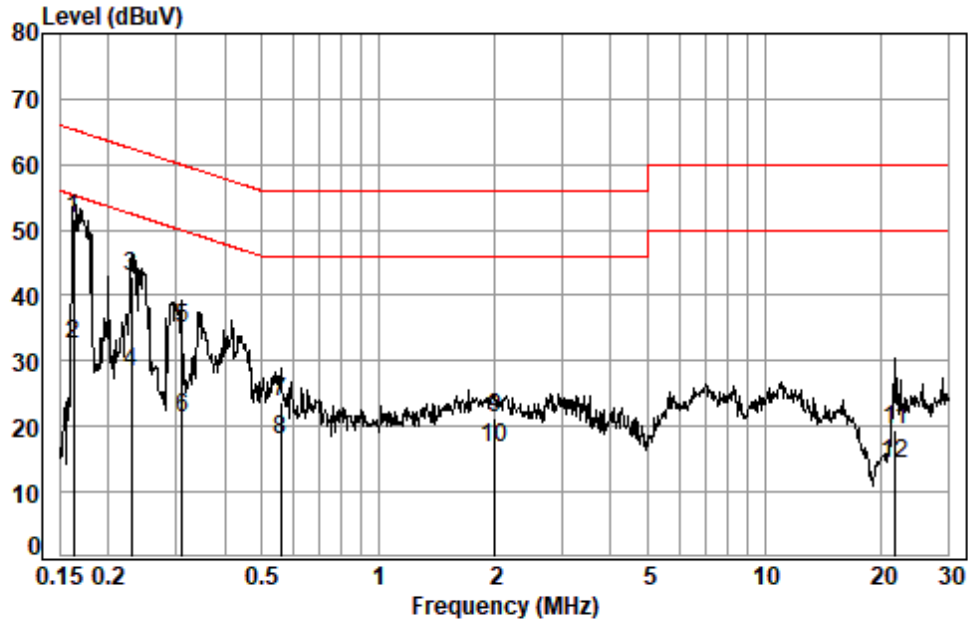
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240400116007

Page: 15 of 40

Test Mode: 01; Line: Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 01160WM
Test mode: 01

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1 *	0.1624	0.02	9.89	41.95	51.86	65.34	-13.48	QP
2 *	0.1624	0.02	9.89	22.59	32.50	55.34	-22.84	Average
3	0.2292	0.03	9.91	33.10	43.04	62.48	-19.44	QP
4	0.2292	0.03	9.91	18.49	28.43	52.48	-24.05	Average
5	0.3100	0.03	9.91	25.03	34.97	59.97	-25.00	QP
6	0.3100	0.03	9.91	11.30	21.24	49.97	-28.73	Average
7	0.5581	0.04	9.95	13.87	23.86	56.00	-32.14	QP
8	0.5581	0.04	9.95	8.10	18.09	46.00	-27.91	Average
9	2.0012	0.07	9.96	11.26	21.29	56.00	-34.71	QP
10	2.0012	0.07	9.96	6.55	16.58	46.00	-29.42	Average
11	21.8303	0.28	10.31	8.83	19.42	60.00	-40.58	QP
12	21.8303	0.28	10.31	3.74	14.33	50.00	-35.67	Average



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6.2 Radiated Emissions (30MHz-1GHz)

Test Requirement: 47 CFR Part 15, Subpart B

Test Method: ANSI C63.4:2014

Measurement Distance: 3m

Limit:

FREQUENCY (MHz)	dBμV/m (At 10m)	dBμV/m (At 3m)
	Class B	Class B
30MHz -88MHz	29.5	40.0
88MHz-216MHz	33.1	43.5
216MHz-960MHz	35.6	46.0
960MHz-1000MHz	43.5	54.0
Detector: Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz		

6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 23.2 °C

Humidity: 45.8 % RH

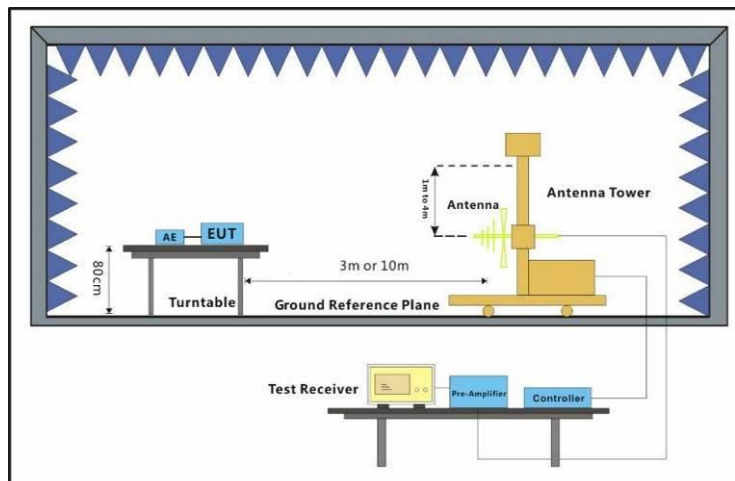
Atmospheric Pressure: 1020 mbar

6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Transfer data between the EUT1 and the PC+USB Cable
Final test	01	Transfer data between the EUT2 and the PC+USB Cable
Final test	02	Telecom Idle+EUT(worst)+playing MP4+USB cable+Adapter/earphone
Final test	03	Telecom Idle+EUT(worst)+BT+WLAN5G+USB cable+Adapter/earphone
Final test	04	Telecom Idle+EUT(worst)+camera(Front)+USB cable+Adapter/earphone
Final test	05	Telecom Idle+EUT(worst)+camera(Back)+USB cable+Adapter/earphone
Final test	06	Telecom Idle+EUT(worst)+BT+WLAN2.4G+GNSS+OTG output
Final test	07	GSM 850(RX)+EUT(worst)+BT+WLAN2.4G+USB cable+Adapter/earphone



6.2.3 Test Setup Diagram



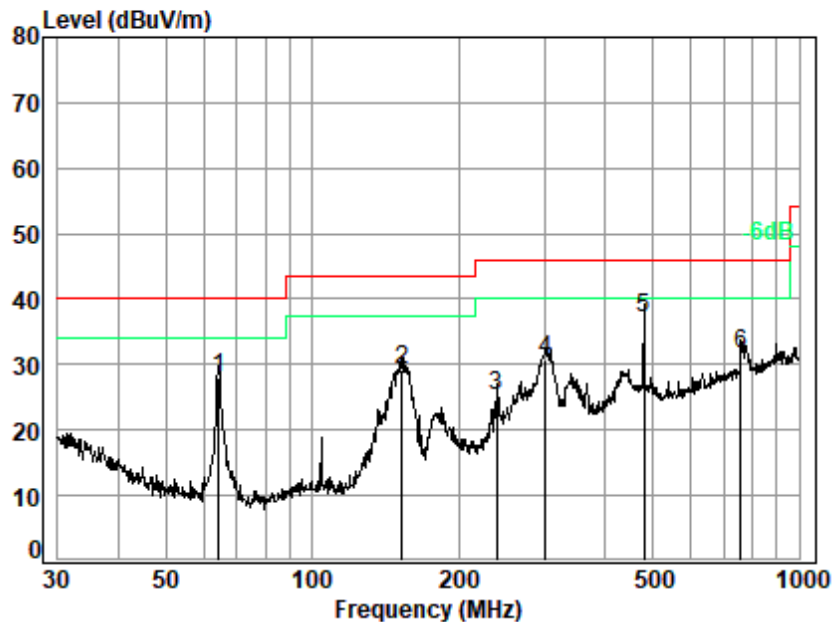
6.2.4 Measurement Procedure and Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



Test Mode: 00; Polarity: Horizontal

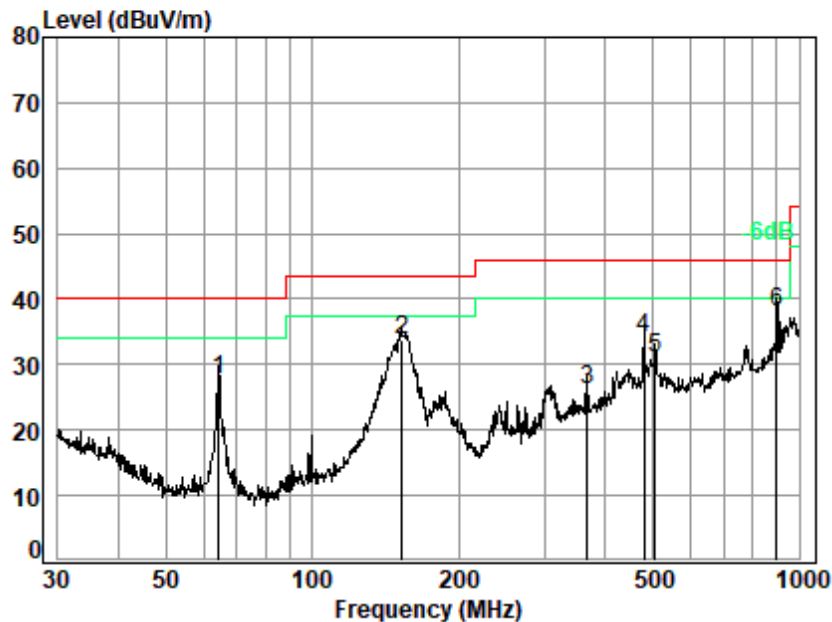


Site : chamber
Condition: 3m HORIZONTAL
Job No. : 01160WM
Test Mode: 00

	Ant	Cable	Preamp	Read		Limit	Over	
Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	64.21	11.09	0.95	27.71	43.62	27.95	40.00	-12.05 QP
2	152.66	13.34	1.47	27.42	41.78	29.17	43.50	-14.33 QP
3	239.15	17.07	1.90	27.11	33.36	25.22	46.00	-20.78 QP
4	301.42	18.13	2.18	26.90	37.27	30.68	46.00	-15.32 QP
5 q	480.53	22.75	2.82	27.70	39.25	37.12	46.00	-8.88 QP
6	758.04	26.48	3.70	27.74	29.20	31.64	46.00	-14.36 QP



Test Mode: 00; Polarity: Vertical

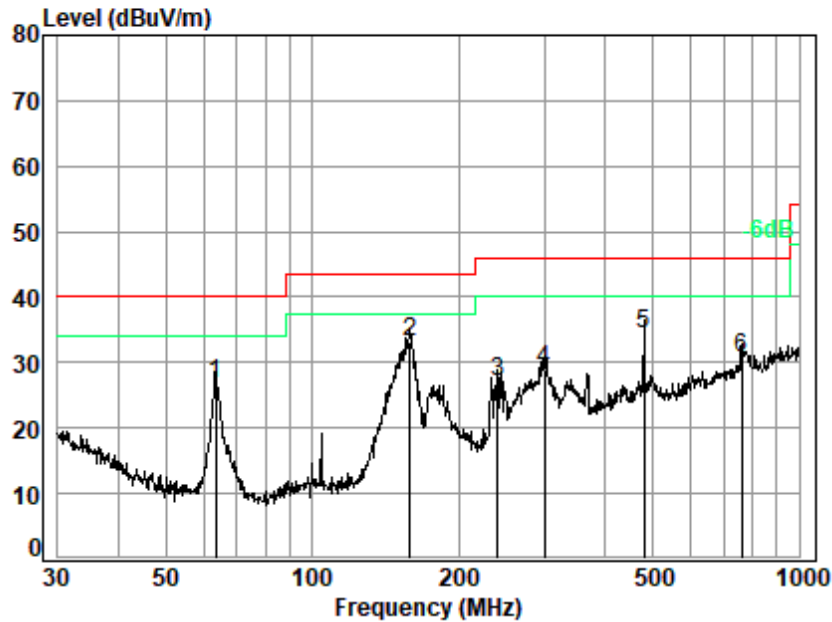


Site : chamber
Condition: 3m VERTICAL
Job No. : 01160WM
Test Mode: 00

	Ant Freq	Cable Factor	Preamp Loss	Read Level	Limit Level	Over Line	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	64.21	11.09	0.95	27.71	43.45	27.78	40.00 -12.22 QP
2	152.66	13.34	1.47	27.42	46.31	33.70	43.50 -9.80 QP
3	366.82	20.35	2.42	27.19	30.62	26.20	46.00 -19.80 QP
4	480.53	22.75	2.82	27.70	36.24	34.11	46.00 -11.89 QP
5	506.48	23.09	2.91	27.81	32.91	31.10	46.00 -14.90 QP
6 q	900.15	27.82	4.09	27.13	33.23	38.01	46.00 -7.99 QP



Test Mode: 01; Polarity: Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : 01160WM
Test Mode: 01

	Ant	Cable	Preamp	Read		Limit	Over	
Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	63.31	11.15	0.94	27.71	42.33	26.71	40.00	-13.29 QP
2	158.67	13.63	1.51	27.40	45.35	33.09	43.50	-10.41 QP
3	240.83	17.08	1.91	27.10	35.15	27.04	46.00	-18.96 QP
4	300.37	18.05	2.17	26.89	35.72	29.05	46.00	-16.95 QP
5	480.53	22.75	2.82	27.70	36.54	34.41	46.00	-11.59 QP
6	760.70	26.47	3.70	27.73	28.34	30.78	46.00	-15.22 QP



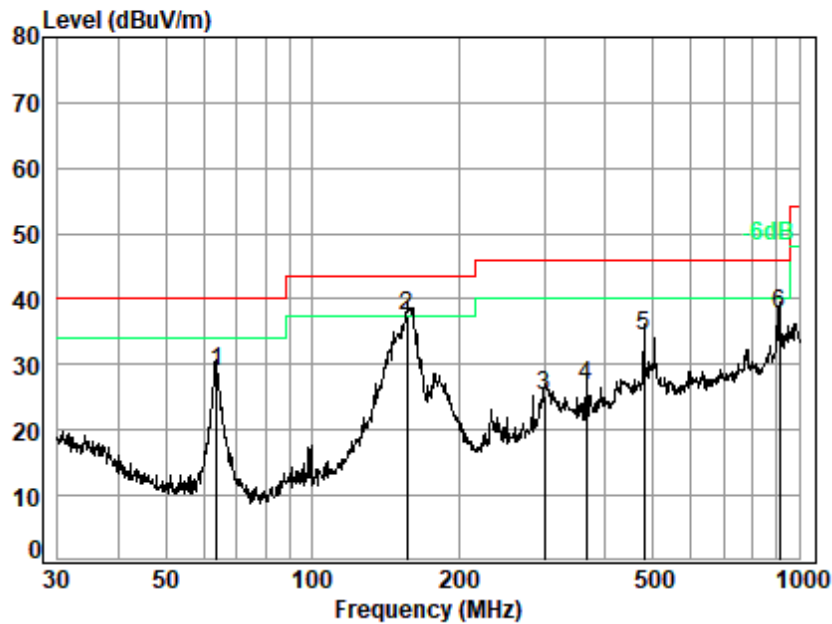
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Test Mode: 01; Polarity: Vertical

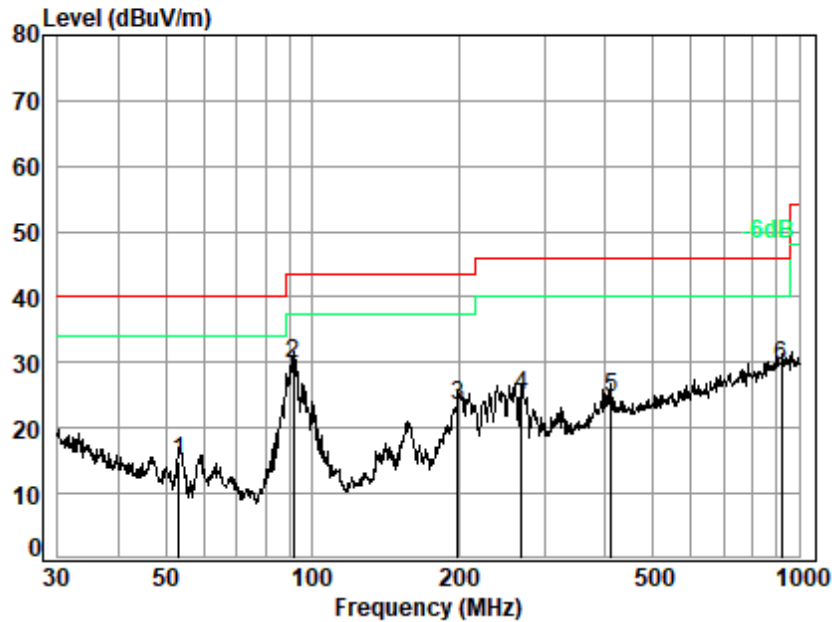


Site : chamber
Condition: 3m VERTICAL
Job No. : 01160WM
Test Mode: 01

		Ant	Cable	Preamp	Read		Limit	Over	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	63.54	11.14	0.94	27.71	44.47	28.84	40.00	-11.16	QP
2 q	156.46	13.60	1.49	27.41	49.76	37.44	43.50	-6.06	QP
3	300.37	18.05	2.17	26.89	31.85	25.18	46.00	-20.82	QP
4	365.54	20.31	2.42	27.18	31.07	26.62	46.00	-19.38	QP
5	480.53	22.75	2.82	27.70	36.47	34.34	46.00	-11.66	QP
6	909.67	27.97	4.12	27.08	32.62	37.63	46.00	-8.37	QP



Test Mode: 02; Polarity: Horizontal

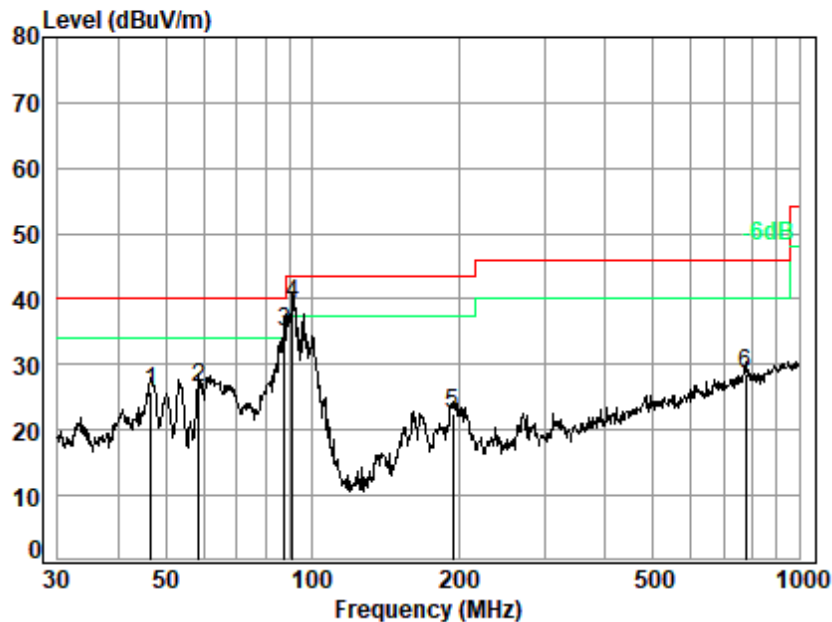


Site : chamber
Condition: 3m HORIZONTAL
Job No. : 01160WM
Test Mode: 02

	Ant	Cable	Preamp	Read		Limit	Over	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1	53.32	12.24	0.86	27.74	29.69	15.05	40.00	-24.95 QP
2 q	91.49	11.86	1.14	27.63	44.38	29.75	43.50	-13.75 QP
3	199.29	14.08	1.73	27.25	34.86	23.42	43.50	-20.08 QP
4	268.49	17.09	2.03	27.00	32.78	24.90	46.00	-21.10 QP
5	411.82	20.51	2.59	27.39	29.06	24.77	46.00	-21.23 QP
6	922.52	28.19	4.15	27.02	24.16	29.48	46.00	-16.52 QP



Test Mode: 02; Polarity: Vertical

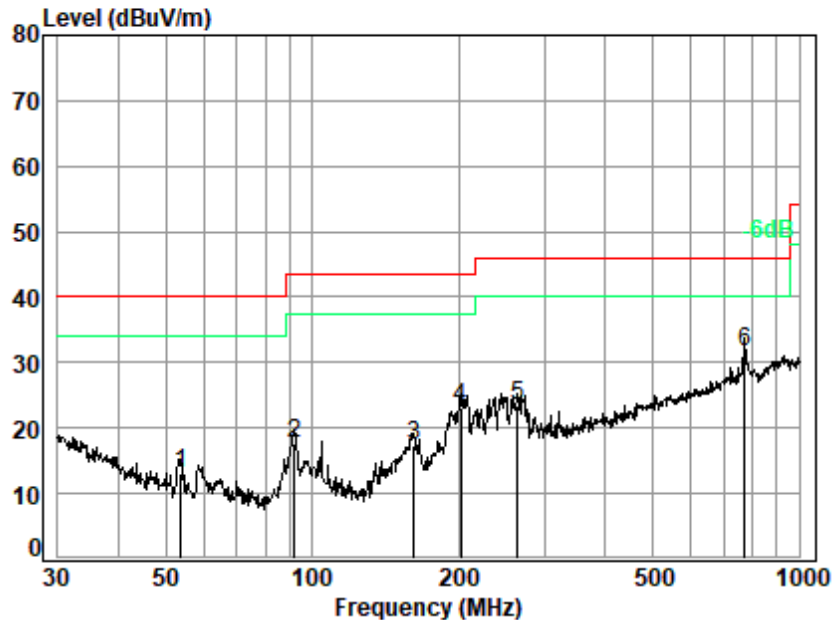


Site : chamber
Condition: 3m VERTICAL
Job No. : 01160WM
Test Mode: 02

	Ant Freq	Cable Factor	Preamp Loss	Read Factor	Level	Limit	Over	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1	46.67	13.74	0.80	27.76	39.16	25.94	40.00	-14.06 QP
2	58.41	11.65	0.91	27.73	41.75	26.58	40.00	-13.42 QP
3	87.72	11.43	1.11	27.64	50.12	35.02	40.00	-4.98 QP
4 q	90.86	11.80	1.14	27.64	53.88	39.18	43.50	-4.32 QP
5	194.45	14.15	1.70	27.27	33.81	22.39	43.50	-21.11 QP
6	776.88	26.93	3.76	27.68	25.54	28.55	46.00	-17.45 QP



Test Mode: 03; Polarity: Horizontal



Site : chamber

Condition: 3m HORIZONTAL

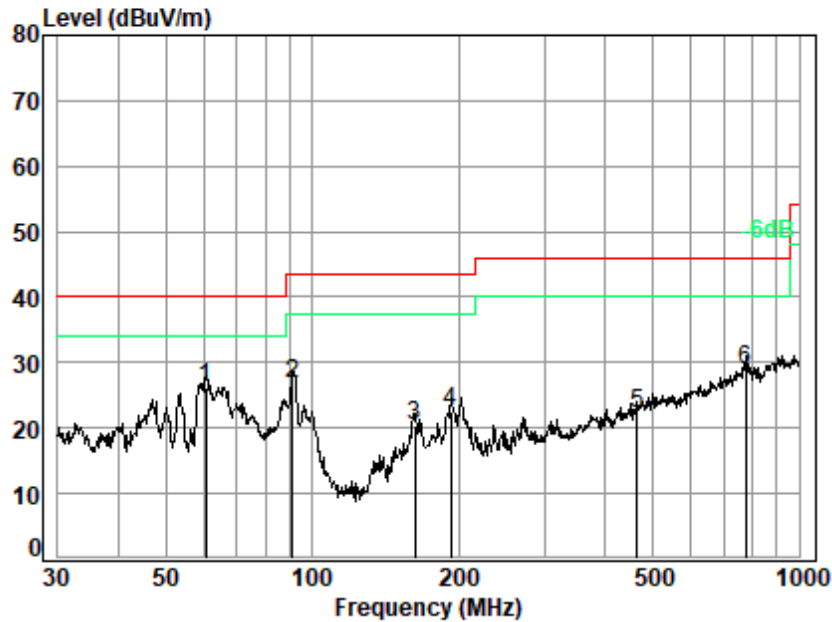
Job No. : 01160WM

Test Mode: 03

	Ant	Cable	Preamp	Read		Limit	Over	
Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	53.69	12.18	0.86	27.74	27.89	13.19	40.00	-26.81 QP
2	91.82	11.89	1.14	27.63	32.35	17.75	43.50	-25.75 QP
3	161.47	13.48	1.52	27.39	29.70	17.31	43.50	-26.19 QP
4	201.39	14.22	1.74	27.24	34.51	23.23	43.50	-20.27 QP
5	263.82	17.11	2.01	27.02	31.28	23.38	46.00	-22.62 QP
6 q	774.16	26.84	3.75	27.69	28.85	31.75	46.00	-14.25 QP



Test Mode: 03; Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : 01160WM
Test Mode: 03

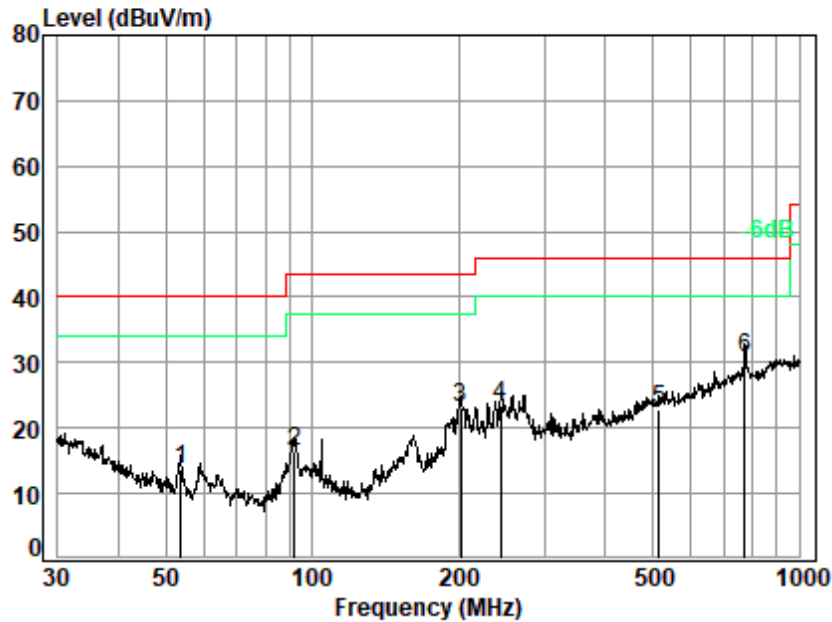
		Ant	Cable	Preamp	Read		Limit	Over	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	q	60.49	11.43	0.92	27.72	41.39	26.02	40.00	-13.98 QP
2		90.86	11.80	1.14	27.64	41.34	26.64	43.50	-16.86 QP
3		162.61	13.38	1.53	27.38	32.76	20.29	43.50	-23.21 QP
4		192.42	14.23	1.69	27.28	33.88	22.52	43.50	-20.98 QP
5		465.60	21.82	2.77	27.63	25.11	22.07	46.00	-23.93 QP
6		776.88	26.93	3.76	27.68	26.03	29.04	46.00	-16.96 QP



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Test Mode: 04; Polarity: Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : 01160WM
Test Mode: 04

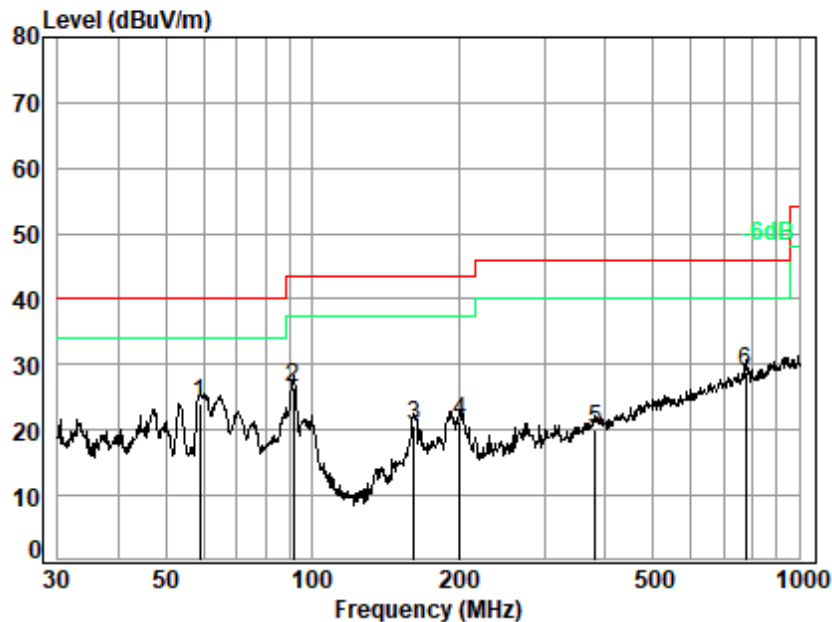
	Ant	Cable	Preamp	Read		Limit	Over	
Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	53.69	12.18	0.86	27.74	28.37	13.67	40.00	-26.33 QP
2	91.82	11.89	1.14	27.63	31.03	16.43	43.50	-27.07 QP
3	201.39	14.22	1.74	27.24	34.31	23.03	43.50	-20.47 QP
4	244.23	17.10	1.92	27.09	31.50	23.43	46.00	-22.57 QP
5	515.44	23.30	2.94	27.85	24.52	22.91	46.00	-23.09 QP
6 q	774.16	26.84	3.75	27.69	27.93	30.83	46.00	-15.17 QP



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Test Mode: 04; Polarity: Vertical

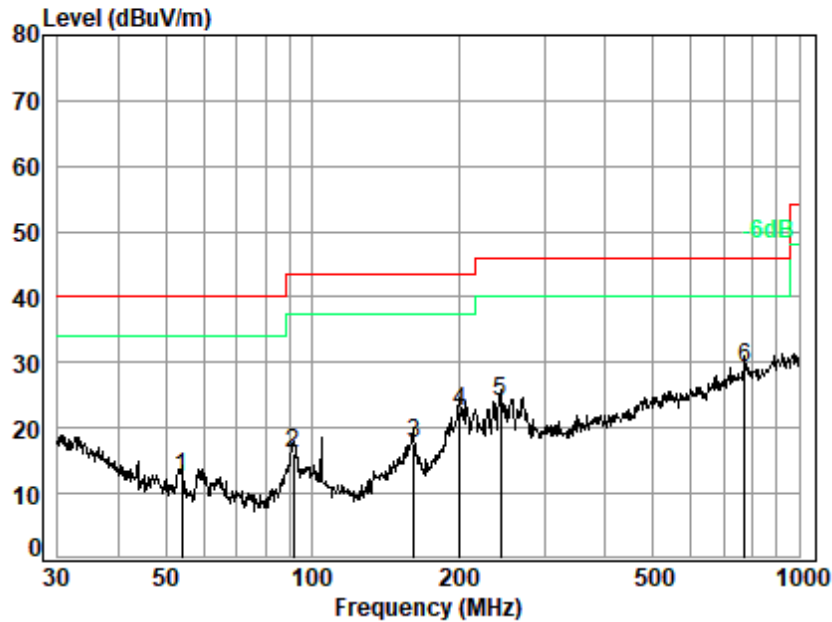


Site : chamber
Condition: 3m VERTICAL
Job No. : 01160WM
Test Mode: 04

		Ant	Cable	Preamp	Read		Limit	Over	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	q	58.82	11.61	0.91	27.72	39.21	24.01	40.00	-15.99 QP
2		91.49	11.86	1.14	27.63	41.04	26.41	43.50	-17.09 QP
3		161.47	13.48	1.52	27.39	33.02	20.63	43.50	-22.87 QP
4		200.69	14.16	1.73	27.25	32.61	21.25	43.50	-22.25 QP
5		381.25	20.91	2.48	27.25	23.98	20.12	46.00	-25.88 QP
6		776.88	26.93	3.76	27.68	25.81	28.82	46.00	-17.18 QP



Test Mode: 05; Polarity: Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : 01160WM
Test Mode: 05

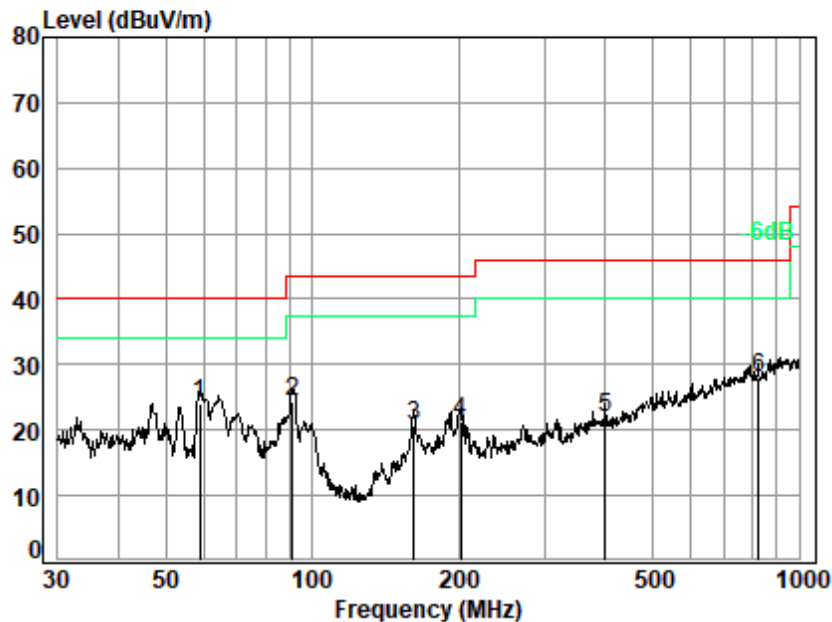
	Ant	Cable	Preamp	Read		Limit	Over	
Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	54.07	12.12	0.87	27.74	27.08	12.33	40.00	-27.67 QP
2	91.49	11.86	1.14	27.63	30.63	16.00	43.50	-27.50 QP
3	161.47	13.48	1.52	27.39	30.06	17.67	43.50	-25.83 QP
4	200.69	14.16	1.73	27.25	33.96	22.60	43.50	-20.90 QP
5	244.23	17.10	1.92	27.09	32.01	23.94	46.00	-22.06 QP
6 q	771.45	26.76	3.74	27.70	26.28	29.08	46.00	-16.92 QP



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Test Mode: 05; Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : 01160WM
Test Mode: 05

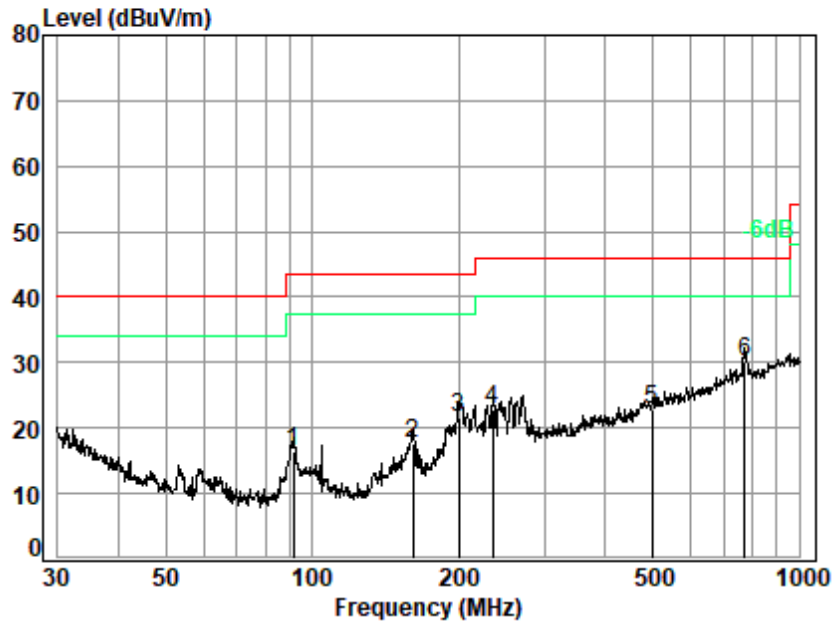
		Ant	Cable	Preamp	Read		Limit	Over	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	q	58.82	11.61	0.91	27.72	39.27	24.07	40.00	-15.93 QP
2		90.86	11.80	1.14	27.64	38.93	24.23	43.50	-19.27 QP
3		162.04	13.44	1.53	27.39	33.10	20.68	43.50	-22.82 QP
4		201.39	14.22	1.74	27.24	32.66	21.38	43.50	-22.12 QP
5		400.43	20.60	2.55	27.34	26.08	21.89	46.00	-24.11 QP
6		824.60	26.59	3.89	27.49	25.08	28.07	46.00	-17.93 QP



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Test Mode: 06; Polarity: Horizontal

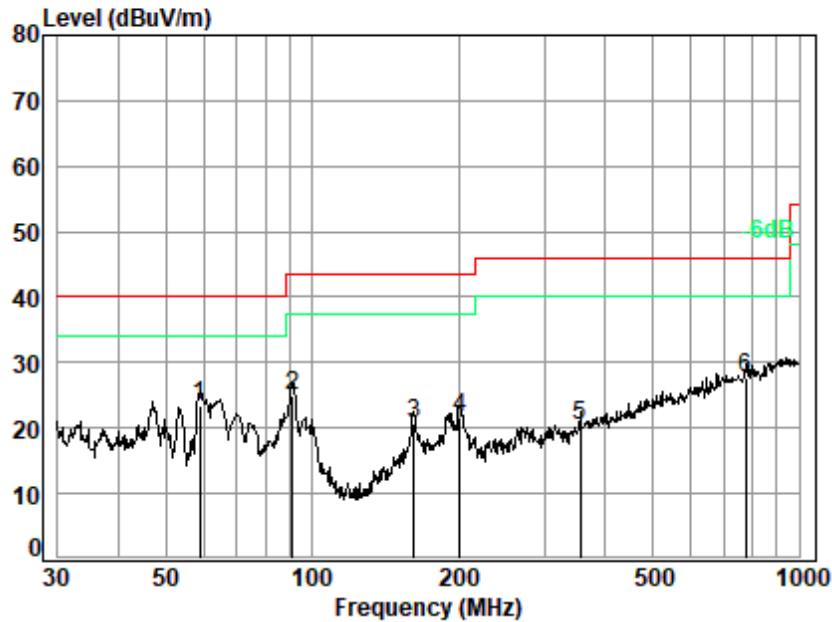


Site : chamber
Condition: 3m HORIZONTAL
Job No. : 01160WM
Test Mode: 06

	Ant	Cable	Preamp	Read		Limit	Over	
Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	91.49	11.86	1.14	27.63	31.12	16.49	43.50	-27.01 QP
2	160.91	13.53	1.52	27.39	30.13	17.79	43.50	-25.71 QP
3	199.99	14.10	1.73	27.25	33.17	21.75	43.50	-21.75 QP
4	234.99	17.07	1.88	27.12	31.05	22.88	46.00	-23.12 QP
5	499.42	22.90	2.89	27.78	24.75	22.76	46.00	-23.24 QP
6 q	774.16	26.84	3.75	27.69	27.32	30.22	46.00	-15.78 QP



Test Mode: 06; Polarity: Vertical

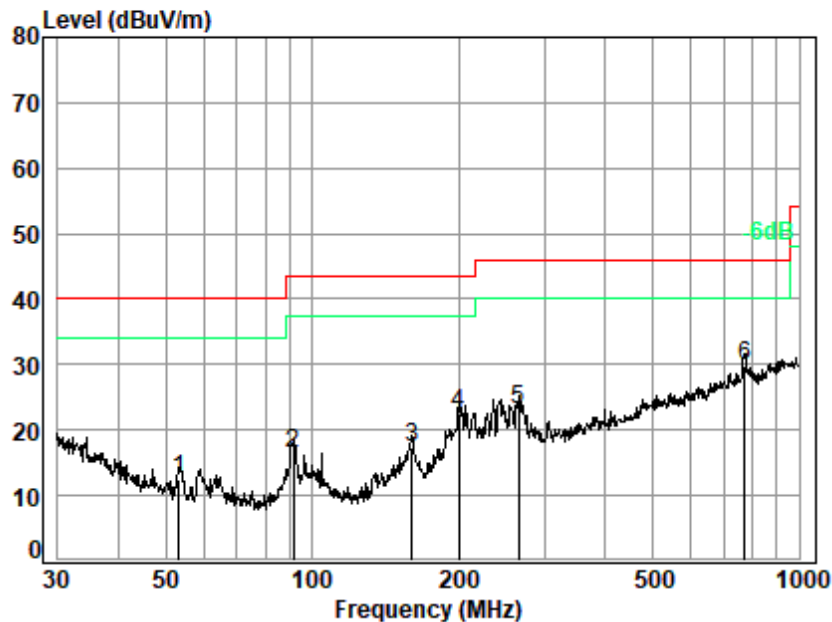


Site : chamber
Condition: 3m VERTICAL
Job No. : 01160WM
Test Mode: 06

		Ant	Cable	Preamp	Read		Limit	Over	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	q	58.82	11.61	0.91	27.72	38.75	23.55	40.00	-16.45 QP
2		91.17	11.83	1.14	27.63	39.70	25.04	43.50	-18.46 QP
3		161.47	13.48	1.52	27.39	33.01	20.62	43.50	-22.88 QP
4		200.69	14.16	1.73	27.25	32.90	21.54	43.50	-21.96 QP
5		355.43	20.09	2.38	27.14	25.20	20.53	46.00	-25.47 QP
6		776.88	26.93	3.76	27.68	24.79	27.80	46.00	-18.20 QP



Test Mode: 07; Polarity: Horizontal



Site : chamber

Condition: 3m HORIZONTAL

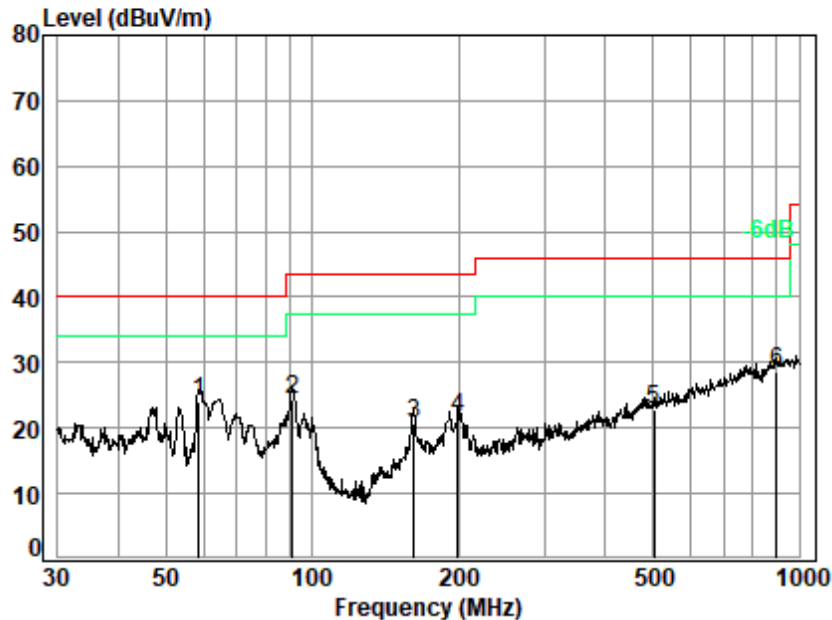
Job No. : 01160WM

Test Mode: 07

	Ant	Cable	Preamp	Read		Limit	Over	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1	53.32	12.24	0.86	27.74	27.03	12.39	40.00	-27.61 QP
2	91.49	11.86	1.14	27.63	31.20	16.57	43.50	-26.93 QP
3	160.35	13.56	1.52	27.39	29.61	17.30	43.50	-26.20 QP
4	199.99	14.10	1.73	27.25	33.86	22.44	43.50	-21.06 QP
5	264.75	17.08	2.01	27.02	31.10	23.17	46.00	-22.83 QP
6 q	774.16	26.84	3.75	27.69	26.86	29.76	46.00	-16.24 QP



Test Mode: 07; Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : 01160WM
Test Mode: 07

		Ant	Cable	Preamp	Read	Limit	Over	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1	q	58.41	11.65	0.91	27.73	39.07	23.90	40.00 -16.10 QP
2		91.17	11.83	1.14	27.63	39.11	24.45	43.50 -19.05 QP
3		162.04	13.44	1.53	27.39	33.19	20.77	43.50 -22.73 QP
4		199.29	14.08	1.73	27.25	32.90	21.46	43.50 -22.04 QP
5		504.71	23.05	2.91	27.80	24.56	22.72	46.00 -23.28 QP
6		900.15	27.82	4.09	27.13	23.86	28.64	46.00 -17.36 QP



6.3 Radiated Emissions (Above 1GHz)

Test Requirement: 47 CFR Part 15, Subpart B

Test Method: ANSI C63.4:2014

Measurement Distance: 3m

Limit:

Above 1GHz 74(dBμV/m) peak, 54(dBμV/m) average at 3m distance
83.54(dBμV/m) peak, 63.54(dBμV/m) average at 1m distance

Detector: Peak for pre-scan (1MHz resolution bandwidth) 1GHz to 40GHz

6.3.1 E.U.T. Operation

Operating Environment:

Temperature: 20.4 °C

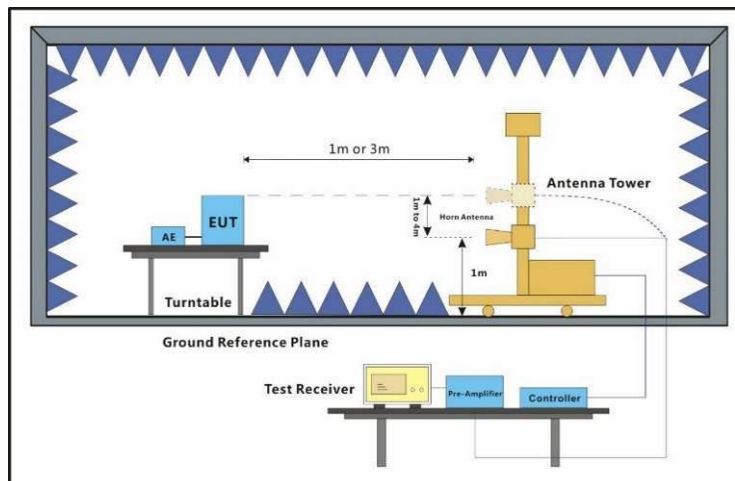
Humidity: 45.6 % RH

Atmospheric Pressure: 1020 mbar

6.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Transfer data between the EUT1 and the PC+USB Cable
Final test	01	Transfer data between the EUT2 and the PC+USB Cable
Pre-scan	02	Telecom Idle+EUT(worst)+playing MP4+USB cable+Adapter/earphone
Pre-scan	03	Telecom Idle+EUT(worst)+BT+WLAN5G+USB cable+Adapter/earphone
Pre-scan	04	Telecom Idle+EUT(worst)+camera(Front)+USB cable+Adapter/earphone
Pre-scan	05	Telecom Idle+EUT(worst)+camera(Back)+USB cable+Adapter/earphone
Pre-scan	06	Telecom Idle+EUT(worst)+BT+WLAN2.4G+GNSS+OTG output
Pre-scan	07	GSM 850(RX)+EUT(worst)+BT+WLAN2.4G+USB cable+Adapter/earphone

6.3.3 Test Setup Diagram



6.3.4 Measurement Procedure and Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.

The red line show in graphic is the limit in standard used in this section.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Emission for frequency above 6GHz is noise floor which is far away from limit, and is not recorded in the report.



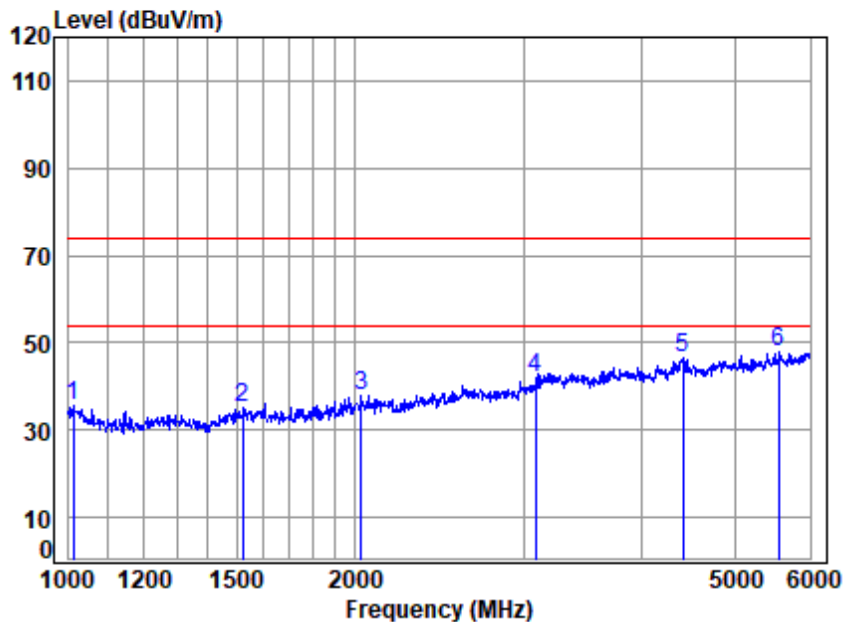
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240400116007

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Test Mode: 00; Polarity: Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01160WM
Mode : 00

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1010.809	3.21	25.95	38.30	44.70	35.56	74.00	-38.44	peak
2	1523.581	4.10	26.89	38.39	42.61	35.21	74.00	-38.79	peak
3	2029.410	4.71	28.92	38.37	42.68	37.94	74.00	-36.06	peak
4	3091.970	5.71	31.38	36.14	41.06	42.01	74.00	-31.99	peak
5	4408.687	7.06	34.70	35.79	40.79	46.76	74.00	-27.24	peak
6 p	5565.048	7.86	34.70	35.10	40.46	47.92	74.00	-26.08	peak



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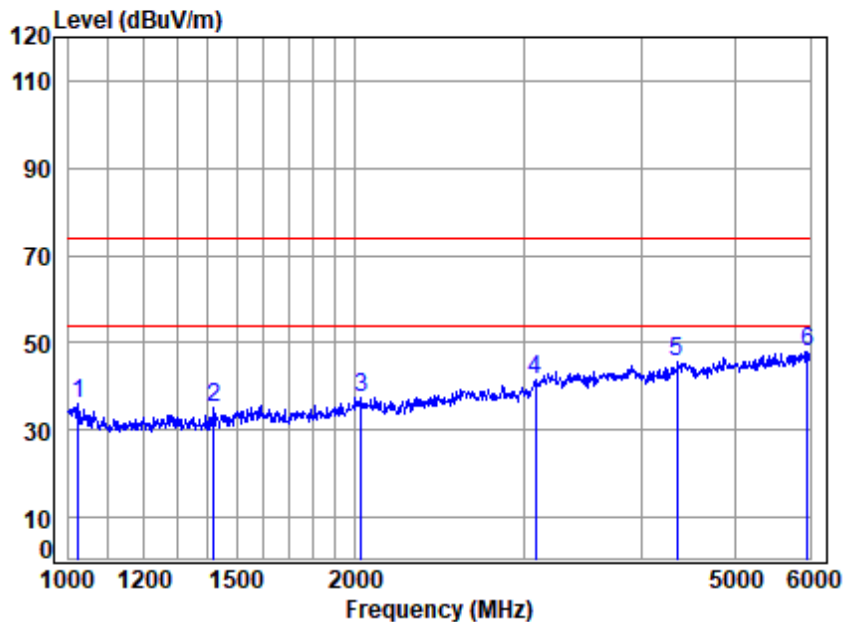
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Report No.: SZCR240400116007

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Test Mode: 00; Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
Job No : 01160WM
Mode : 00

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1023.566	3.24	25.55	38.31	45.38	35.86	74.00	-38.14	peak
2	1420.750	3.94	24.93	38.38	44.48	34.97	74.00	-39.03	peak
3	2029.410	4.71	28.92	38.37	42.36	37.62	74.00	-36.38	peak
4	3086.435	5.70	31.22	36.14	40.68	41.46	74.00	-32.54	peak
5	4353.737	7.03	34.43	35.83	40.07	45.70	74.00	-28.30	peak
6 p	5957.151	8.14	34.73	34.92	40.14	48.09	74.00	-25.91	peak



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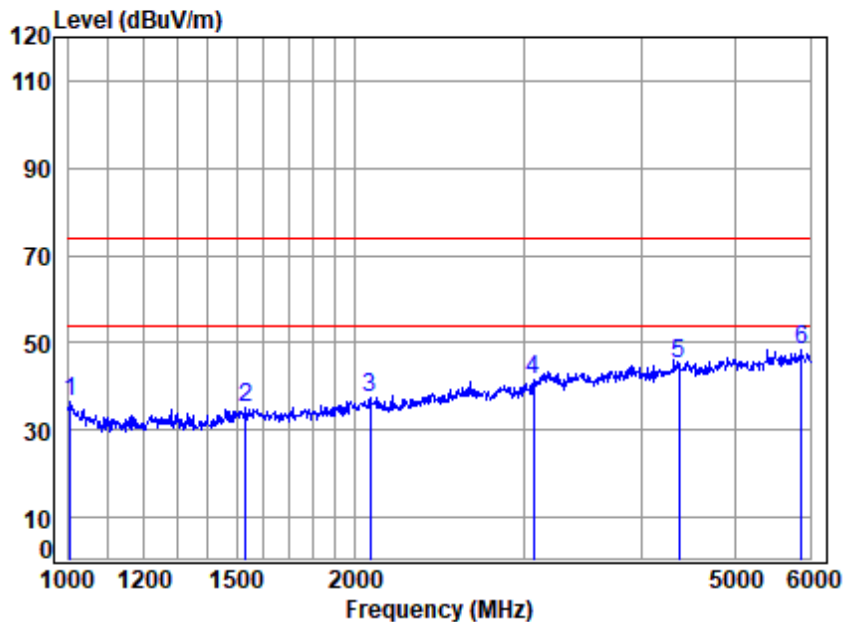
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Report No.: SZCR240400116007

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Test Mode: 01; Polarity: Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01160WM
Mode : 01

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1003.590	3.20	26.19	38.30	45.52	36.61	74.00	-37.39	peak
2	1534.540	4.11	26.94	38.39	42.26	34.92	74.00	-39.08	peak
3	2069.805	4.76	28.92	38.25	42.05	37.48	74.00	-36.52	peak
4	3075.395	5.68	30.91	36.14	40.88	41.33	74.00	-32.67	peak
5	4369.367	7.04	34.55	35.82	39.63	45.40	74.00	-28.60	peak
6 p	5872.370	8.08	34.49	34.96	40.75	48.36	74.00	-25.64	peak



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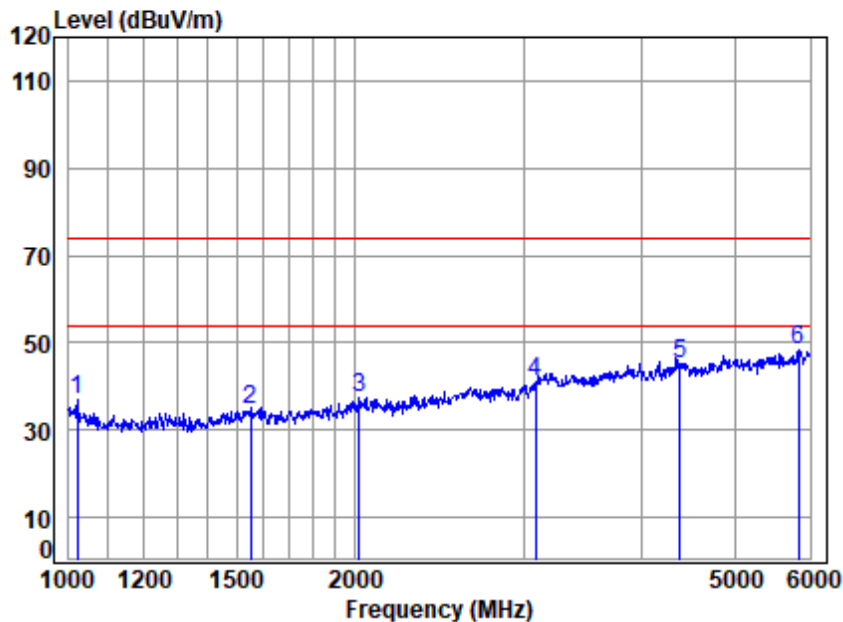
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Report No.: SZCR240400116007

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Test Mode: 01; Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
Job No : 01160WM
Mode : 01

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1019.905	3.23	25.66	38.30	46.25	36.84	74.00	-37.16	peak
2	1551.126	4.13	27.00	38.39	41.94	34.68	74.00	-39.32	peak
3	2018.530	4.70	28.87	38.40	42.46	37.63	74.00	-36.37	peak
4	3091.970	5.71	31.38	36.14	40.12	41.07	74.00	-32.93	peak
5	4385.052	7.05	34.68	35.81	39.32	45.24	74.00	-28.76	peak
6 p	5830.433	8.05	34.36	34.98	40.83	48.26	74.00	-25.74	peak



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7 Test Setup Photo

Please refer to Appendix A.3 - Part15B Setup Photos.

8 EUT Constructional Details (EUT Photos)

Refer to Appendix – External and Internal Photos for SZCR2404001160WM

- End of the Report -

