

TEST REPORT

Guangdong OPPO Mobile Telecommunications Applicant:

Corp., Ltd.

NO.18 Haibin Road, Wusha Village, Chang'an Address:

Town, Dongguan City, Guangdong, China

Equipment Type: Mobile Phone

Model Name: CPH2531

Brand Name: OPPO

FCC ID: R9C-CPH2531

47 CFR Part 15 Subpart C

Feb. 28, 2023

Test Standard: ANSI C63.10-2013

Test Date: Apr. 04, 2023

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ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Sample Arrival Date:

Tested by: Zhang Guoxi Checked by: Xia Long Approved by: Liao Jianming

(Technical Director)

Zhang Guoxi

Xia Long

In time



Revision History

VersionIssue DateRevisionsRev. 01May 04, 2023Initial Issue

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.	
Addroso	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road,	
Address	Nanshan District, Shenzhen, Guangdong Province, P. R. China	
Phone Number	+86 755 6685 0100	

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.		
	☑ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi		
	Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China		
Location	□ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park,		
	No. 1008, Songbai Road, Yangguang Community, Xili Sub-district,		
	Nanshan District, Shenzhen, Guangdong Province, P. R. China		
A core ditation Contificate	The laboratory is a testing organization accredited by FCC as a		
Accreditation Certificate	accredited testing laboratory. The designation number is CN1196.		



2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant Guangdong OPPO Mobile Telecommunications Corp., Ltd.	
A diduce e	NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City,
Address	Guangdong, China

2.2 Manufacturer Information

	Manufacturer	Guangdong OPPO Mobile Telecommunications Corp., Ltd.	
	A ddraga	NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City,	
	Address	Guangdong, China	

2.3 Factory Information

Factory	Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Addross	NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City,
Address	Guangdong, China

2.4 General Description for Equipment under Test (EUT)

EUT Name	Mobile Phone	
Model Name Under Test	CPH2531	
Series Model Name	N/A	
Description of Model	N/A	
name differentiation		
Hardware Version	11	
Software Version	ColorOS 13.1	
Dimensions (Approx.)	162.43*74.19*7.99 mm	
Weight (Approx.)	185g±3g (with battery)	
EUT ID	S03, S04	
IMEI Number	S03: IMEI1: 865303060029453, IMEI2: 865303060029446	
IIVILI INUITIDEI	S04: IMEI1: 865303060027150, IMEI2: 865303060027143	



2.5 Technical Information

	2G Network GSM/GPRS/EDGE 850/1900 MHz	
	3G Network WCDMA/HSDPA/HSUPA Band 2/4/5	
	4G Network LTE FDD Band 2/4/5/7/12/13/17/18/19/26/66	
	LTE TDD Band 38/41	
	LTE CA Uplink (UL): CA_7C, CA_38C, CA_41C	
	5G Network	
	SA: NR n5/n7/n38/n41/n66	
Network and Wireless	NSA: DC_2A_n7A, DC_2A_n66A, DC_5A_n7A, DC_5A_n66A,	
connectivity	DC_7A_n5A, DC_7_n66A, DC_12_n66A, DC_26A_n41A,	
	DC_66A_n5A, DC_66A_n7A, DC_66A_n38A, DC_66A_n41A	
	Bluetooth 5.3 (BR+EDR+BLE)	
	2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40), VHT20/40 and	
	802.11ax(HE20/40)	
	5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) and	
	802.11ax(HE20/40/80)	
	U-NII-1/2A/2C/3, GPS, NFC, BeiDou, Galileo, GLONASS, SBAS	

The requirement for the following technical information of the EUT was tested in this report:

Modulation Type	ASK	
	☐ Mobile	
Product Type	□ Portable	
	☐ Fix Location	
Frequency Range	13.56 MHz	
Receiver Categorization	3	
Tested Channel	1	
Antenna Type	Coil Antenna	



SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title	
1	47 CFR Part 15, Subpart C	Miscellaneous Wireless Communications Services	
	ANSI C63.10-2013	American National Standard for Testing Unlicensed	
2	ANSI C03. 10-2013	Wireless Devices	

3.2 Verdict

No.	Description	FCC Part No.	Test Result	Verdict
1	Antenna Requirement	15.203		Pass Note
2	Emissions Bandwidth	15.215	ANNEX A.1	Pass
3	Field Strength of	15.225(a)	ANNEX A.2	Pass
3	Fundamental Emissions			
4	Radiated Emissions	15.225(d) / 15.209	ANNEX A.3	Pass
5	Frequency Stability	15.225(e)	ANNEX A.4	Pass
6	Conducted Emission	15.207	ANNEX A.5	Pass

Note: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203

3.3 Test Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Conducted emissions (9 kHz-30 MHz)	4.28 dB
Radiated emissions (9 kHz-30 MHz)	3.22 dB
Radiated emissions (30 MHz-1 GHz)-10m	4.80 dB
Radiated emissions (30 MHz-1 GHz)-3m	4.76 dB
Radiated emissions (1 GHz-18 GHz)-3m	4.88 dB



4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	30% to 60%			
Atmospheric Pressure	100 kPa to 102 kPa			
Temperature	NT (Normal Temperature)	+22°C to +25°C		
Working Voltage of the EUT	NV (Normal Voltage)	3.89 V		

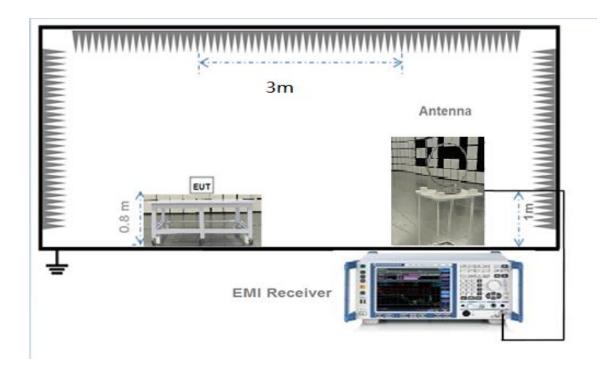
4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	
EMI Receiver	ROHDE&SCHWARZ	ESRP	ESRP 101036		2023.09.08	
LISN	SCHWARZBECK	NSLK 8127	8127-687	2022.06.01	2023.05.31	
DC Power Supply	ROHDE&SCHWARZ	HMP2020	018141664	2022.05.23	2023.05.22	
Temperature Chamber	AHK	SP20	1412	2022.09.20	2023.09.19	
Test Antenna-	SCHWARZBECK	FMZB 1519	1519-037	2021.04.16	2024.04.15	
Loop(9 kHz-30 MHz)	SCHWARZBECK	FINIZE 1319	1519-057	2021.04.10	2024.04.15	
Test Antenna-	SCHWARZBECK	VULB 9163	9163-624	2021.08.20	2024.08.19	
Bi-Log(30 MHz-3 GHz)	SOHWARZBECK	VOLD 9103	9105-024	2021.00.20	2024.00.19	
Anechoic Chamber	EMC	20.1m*11.6	130	2021.08.15	2024.08.14	
Affection Chamber	TECHNOLOGY LTD	m*7.35m	130	2021.00.13	2024.00.14	
Anechoic Chamber	CHANGNING	9m*6m*6m	101	2023.03.26	2026.03.03	
Shielded Room	YiHeng Electronic	3.5m*3.1m*	CE#1	2022.02.19	2025.02.18	
Silielded Roolli	Co., Ltd	2.8m	OL#1	2022.02.19	2023.02.10	
Test Software	BALUN	BL410_E	V19.918			



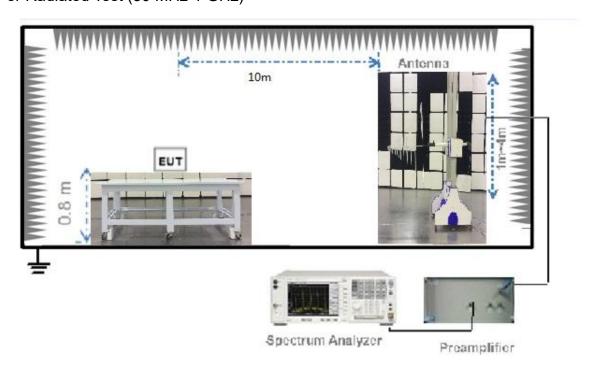
4.3 Description of Test Setup

4.3.1 For Radiated Test (Below 30 MHz)



(Diagram 1)

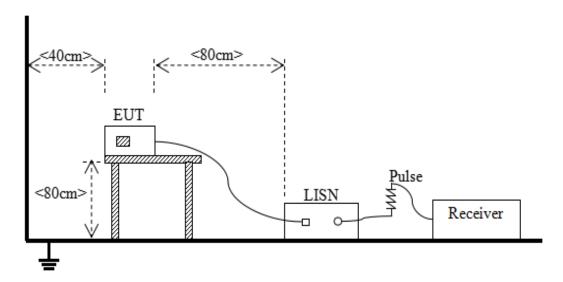
4.3.2 For Radiated Test (30 MHz-1 GHz)



(Diagram 2)



4.3.3 For AC Power Supply Port Test



(Diagram 3)



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5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Relevant Standards

FCC §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).

When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer. The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested.

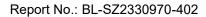
For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:

This radio transmitter [enter the device's ISED certification number] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:





Protected Method	Description
The antenna is embedded in the product.	An embedded-in antenna design is used.

Reference Documents	Item
Photo	Please refer EUT internal photos.



5.2 Emission Bandwidth

5.2.1 Definition

15.215(c);

Intentional radiators operating under the alternative provisions to the general emission limits must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

The following conditions shall be observed for measuring the occupied bandwidth and x dB bandwidth:

- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the spectrum analyzer shall be set large enough to capture all products of the modulation process, including the emission skirts, around the carrier frequency, but small enough to avoid having other emissions (e.g. on adjacent channels) within the span.
- The detector of the spectrum analyzer shall be set to "Sample". However, a peak, or peak hold, may be used in place of the sampling detector since this usually produces a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold (or "Max Hold") may be necessary to determine the occupied / x dB bandwidth if the device is not transmitting continuously.
- The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Note: It may be necessary to repeat the measurement a few times until the RBW and VBW are in compliance with the above requirement.

For the 99% emission bandwidth, the trace data points are recovered and directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached, and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded. The difference between the two recorded frequencies is the occupied bandwidth (or the 99% emission bandwidth).

5.2.2 Test Setup

See section 4.1.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

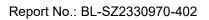
5.2.3 Test Procedure

The 20dB bandwidth is measured with a spectrum analyzer connected via a receiver antenna placed near the EUT while the EUT is operating in transmission mode.

Use the following spectrum analyzer settings:

Span = between 2 to 5 times the OBW

RBW = 1% to 5% the OBW





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VBW ≥ 3RBW

Sweep = auto

Detector function = peak

Trace = max hold

The 99% emission bandwidth is measured with a spectrum analyzer connected via a receiver antenna placed near the EUT while the EUT is operating in transmission mode.

Use the following spectrum analyzer settings:

Span = between 1.5 to 5 times the OBW

RBW = 1% to 5% OBW

VBW ≥ 3RBW

Sweep = auto

Detector function = peak

Trace = max hold

5.2.4 Test Result

Please refer to ANNEX A.1



5.3 Field Strength of Fundamental Emissions and Radiated Emissions

5.3.1 Limit

FCC §15.225(a), (b), (c)

According to FCC section 15.225, for <30 MHz, Radiated emissions were measured according to ANSI C63.4. The EUT was set to transmit at the highest output power. The EUT was set 10 meter away from the measuring antenna. The loop antenna was positioned 1 meter above the ground from the center of the loop. The measuring bandwidth was set to 10 kHz. (Note: During testing the receive antenna was rotated about its axis to maximize the emission from the EUT)

There was no detected Restricted bands and Radiated spurious emission below 30MHz. The 30m limit was converted to 3m Limit using square factor(x) as it was found by measurements as follows; 3 m Limit($dB\mu V/m$) = $20log(X)+40log(30/3)=20log(15848)+40log(30/3)=124dB\mu V$

Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency range	Field Strength@30m		Field Strength@10m	Field Strength@3m
(MHz)	μV/m dBμV/m		dBμV/m	dBµV/m
Below 13.110	30	29.5	48.58	69.5
13.110 ~ 13.410	106	40.5	59.58	80.5
13.410 ~ 13.553	334	50.5	69.58	90.5
13.553 ~13.567	15848	84	103.08	124
13.567 ~ 13.710	334	50.5	69.58	90.5
13.710 ~14.010	106	40.5	59.58	80.5
Above 14.010	30	29.5	48.58	69.5

NOTE:

- 1. Field Strength ($dB\mu V/m$) = 20*log[Field Strength ($\mu V/m$)].
- 2. In the emission tables above, the tighter limit applies at the band edges.

FCC §15.225(d)

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (µV/m)	Measurement distance (meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

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Note:

- 1. For Above 1000 MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.
- 2. For above 1000 MHz, limit field strength of harmonics: 54dBµV/m@3m (AV) and 74dBµV/m@3m (PK).

5.3.2 Test Setup

See section 4.1.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented. The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \ge 1$ GHz, 100 kHz for f < 1 GHz

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

5.3.4 Test Result

Please refer to ANNEX A.2 and A.3

NOTE:

1. Results $(dB\mu V/m)$ = Reading $(dB\mu V/m)$ + Factor (dB/m)

The reading level is calculated by software which is not shown in the sheet

- 2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) Amplifier Gain (dB)
- 3. Over limit = Results Limit.



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Frequency Tolerance 5.4

5.4.1 Limit

FCC §15.225(e)

The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

If the frequency stability limits are only met within a temperature range that is smaller than the -30°C to +50°C range specified in (a), the frequency stability requirement will be deemed to be met if the transmitter is automatically prevented from operating outside this smaller temperature range and if the published operating characteristics for the equipment are revised to reflect this restricted temperature range.

5.4.2 **Test Setup**

See section 4.1.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.4.3 **Test Procedure**

- The test is performed in a Temperature Chamber.
- The EUT is configured as MS + DC Power Supply.

5.4.4 Test Result

Please refer to ANNEX A.4.



5.5 Conducted Emission

5.5.1 Limit

FCC §15.207

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50μ H/50 Ω line impedance stabilization network (LISN).

Eroguanov rango (MUz)	Conducted Limit (dBμV)				
Frequency range (MHz)	Quai-peak	Average			
0.15 - 0.50	66 to 56	56 to 46			
0.50 - 5	56	46			
0.50 - 30	60	50			

5.5.2 Test Setup

See section 4.1.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

5.5.4 Test Result

Please refer to ANNEX A.5.

NOTE:

1. Results $(dB\mu V)$ = Reading $(dB\mu V)$ + Factor (dB)

The reading level is calculated by software which is not shown in the sheet

- 2. Factor = Insertion loss + Cable loss
- 3. Over limit = Results Limit.



ANNEX A TEST RESULT

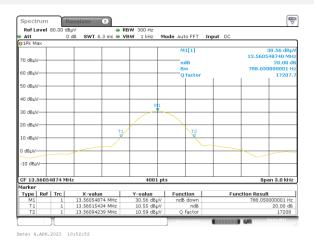
A.1 Emission Bandwidth

Test Data

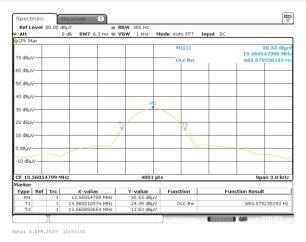
Frequency	Emission Bandwidth(20dB down)	Occupied Bandwidth(99%)
(MHz)	(kHz)	(kHz)
13.56	0.788	0.683

Test plots

Emission Bandwidth



99% Occupied Bandwidth



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A.2 Field Strength of Fundamental Emissions

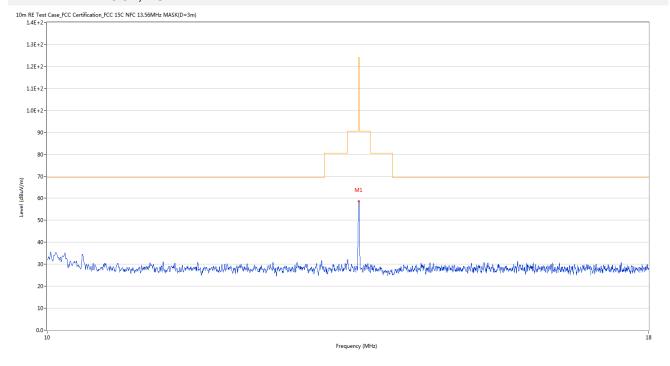
Note: Field Strength of Fundamental Emissions tests were performed in X, Y, Z axis direction of EUT. And only the worst axis test condition was recorded in this test report.

Test Data

Field Strength of Fundamental Emissions Value						
Frequency (MHz)	Detector	Field Strength (dBµV/m)	Limit @3m (dBµV/m)	EUT	Margin (dB)	
13.560	PEAK	58.73	124.0	Y axis	65.27	

Test Plot

Test Antenna-LOOP, EUT Y axis



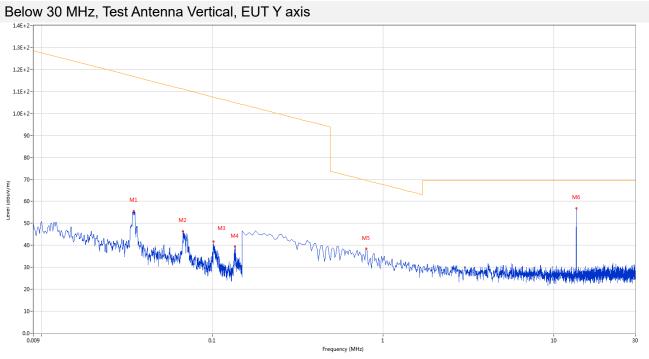


A.3 Radiated Emissions

Note 1: This frequency which near 13.560 MHz with circle should be ignored because they are NFC carrier frequency.

Note 2: All Radiated Emissions tests were performed in X, Y, Z axis direction of EUT. And only the worst axis test condition was recorded in this test report.

The Data and Plots (9 kHz ~ 30 MHz)(at 10m chamber)

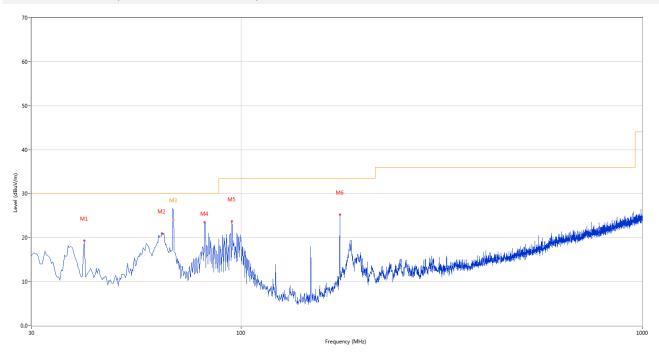


No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	0.035	55.49	20.26	116.8	61.31	Peak	130.00	100	Vertical	Pass
2	0.068	46.46	20.17	111.0	64.54	Peak	360.00	100	Vertical	Pass
3	0.102	41.70	20.17	107.5	65.80	Peak	60.00	100	Vertical	Pass
4	0.136	39.36	20.14	104.9	65.54	Peak	360.00	100	Vertical	Pass
5	0.799	38.41	20.47	69.6	31.19	Peak	210.00	100	Vertical	Pass
6	13.560	56.85	20.86	69.5	12.65	Peak	220.00	100	Vertical	N/A



Test Data and Plots (30 MHz ~ 10th Harmonic)

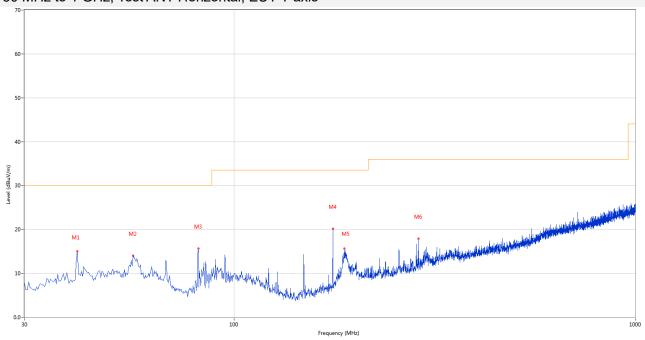
30 MHz to 1 GHz, Test Antenna Vertical, EUT Y axis



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	40.667	19.32	-27.19	30.0	10.68	Peak	208.00	100	Vertical	Pass
2	63.457	20.97	-28.10	30.0	9.03	Peak	118.00	100	Vertical	Pass
3	67.802	26.40	-29.10	30.0	3.60	Peak	99.00	100	Vertical	N/A
3*	67.802	23.92	-29.10	30.0	6.08	QP	99.00	100	Vertical	Pass
4	81.155	23.44	-31.94	30.0	6.56	Peak	133.00	200	Vertical	Pass
5	94.731	23.74	-28.89	33.5	9.76	Peak	93.00	200	Vertical	Pass
6	176.191	25.26	-29.95	33.5	8.24	Peak	251.00	100	Vertical	Pass



30 MHz to 1 GHz, Test ANT Horizontal, EUT Y axis



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	40.667	15.06	-27.19	30.0	14.94	Peak	279.00	200	Horizontal	Pass
2	55.941	14.05	-26.78	30.0	15.95	Peak	124.00	100	Horizontal	Pass
3	81.397	15.65	-31.87	30.0	14.35	Peak	347.00	200	Horizontal	Pass
4	176.191	20.18	-29.95	33.5	13.32	Peak	152.00	200	Horizontal	Pass
5	188.313	15.60	-28.77	33.5	17.90	Peak	344.00	200	Horizontal	Pass
6	287.956	17.84	-25.19	36.0	18.16	Peak	282.00	200	Horizontal	Pass



A.4 Frequency Stability

Note 1: Because the 85%(3.31V) and 115% (4.47V)of the rated supply voltage value exceeds the cut-off voltage upper(3.6V) and lower(4.48V) limit of the manufacturer, the cut-off voltage of EUT is test here. Note 2: The operating temperature range of the EUT is -20°C to 50°C.

OPERATING FREQUENCY:	13560000 Hz
REFERENCE VOLTAGE:	3.89 V
DEVIATION LIMIT:	±0.01%

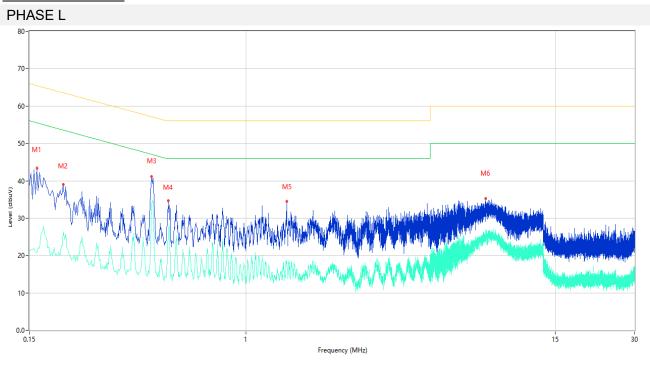
	Test Conditions				
VOLTAGE (%)	Power	Temperature	Frequency(Hz)	Deviation(%)	
	(VDC)	(°C)			
100		-20	13560592	0.004366	
100		-10	13560591	0.004358	Verdict
100		0	13560594	0.004381	
100		+10	13560601	0.004432	
100	3.89	+20	13560599	0.004417	
100		+25	13560597	0.004403	verdict
100		+30	13560594	0.004381	
100		+40	13560595	0.004388	
100		+50	13560593	0.004373	
MAX(Battery	3.60	+20	13560591	0.004358	
End Point, 85)	3.00	+20	13300391	0.004336	
MIN(Battery	4.47	+20	13560590	0.004351	
End Point, 115)	4.47	+20	13300390	0.004351	



A.5 Conducted Emissions

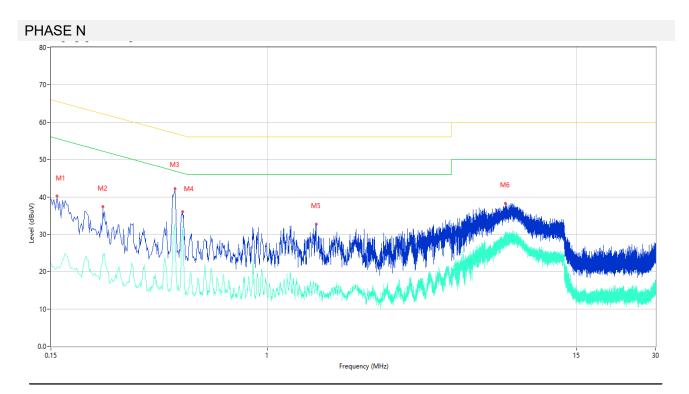
Note 1: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Test Data and Plots



No.	Frequency	Results	Factor	Limit	Margin	Detector	Line	Verdict
	(MHz)	(dBuV)	(dB)	(dBuV)	(dB)			
1	0.160	43.42	9.83	65.46	22.04	Peak	L	Pass
1**	0.160	20.59	9.83	55.46	34.87	AV	L	Pass
2	0.202	38.99	9.78	63.53	24.54	Peak	L	Pass
2**	0.202	26.30	9.78	53.53	27.23	AV	L	Pass
3	0.438	41.08	10.33	57.10	16.02	Peak	L	Pass
3**	0.438	33.77	10.33	47.10	13.33	AV	L	Pass
4	0.506	34.59	10.08	56.00	21.41	Peak	L	Pass
4**	0.506	26.05	10.08	46.00	19.95	AV	L	Pass
5	1.426	34.48	10.37	56.00	21.52	Peak	L	Pass
5**	1.426	18.70	10.37	46.00	27.30	AV	L	Pass
6	8.148	35.22	10.44	60.00	24.78	Peak	L	Pass
6**	8.148	26.71	10.44	50.00	23.29	AV	L	Pass





No.	Frequency	Results	Factor	Limit	Margin	Detector	Line	Verdict
	(MHz)	(dBuV)	(dB)	(dBuV)	(dB)			
1	0.158	40.15	9.83	65.57	25.42	Peak	N	Pass
1**	0.158	21.23	9.83	55.57	34.34	AV	N	Pass
2	0.236	37.32	9.79	62.24	24.92	Peak	N	Pass
2**	0.236	24.85	9.79	52.24	27.39	AV	N	Pass
3	0.444	42.17	10.32	56.99	14.82	Peak	N	Pass
3**	0.444	29.83	10.32	46.99	17.16	AV	N	Pass
4	0.476	35.98	10.18	56.41	20.43	Peak	N	Pass
4**	0.476	32.04	10.18	46.41	14.37	AV	N	Pass
5	1.534	32.66	10.15	56.00	23.34	Peak	N	Pass
5**	1.534	16.88	10.15	46.00	29.12	AV	N	Pass
6	8.028	38.26	10.51	60.00	21.74	Peak	N	Pass
6**	8.028	30.66	10.51	50.00	19.34	AV	N	Pass



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ANNEX B TEST SETUP PHOTOS

Please refer the document "BL-SZ2330970-AE-2.PDF".

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document "BL-SZ2330970-AW.PDF".

ANNEX D EUT INTERNAL PHOTOS

Please refer the document "BL-SZ2330970-AI.PDF".



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-- END OF REPORT--