

Report No.: ZR/2020/C004304 Page: 1 of 36

# FCC TEST REPORT

Application No.:	ZR/2020/C0043
Applicant:	Sony Mobile Communications, Inc.
Address of Applicant	4-12-3 Higashi-shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan
Manufacturer:	Sony Mobile Communications, Inc.
Address of Manufacturer	4-12-3 Higashi-shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan
EUT Description:	GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac, GPS and NFC
Trade Mark:	Sony
FCC ID:	PY7-76625R
Standards:	47 CFR FCC Part 2, Subpart J
	47 CFR Part 15, Subpart C
Date of Receipt:	2021/1/11
Date of Test:	2021/1/11 to 2021/3/15
Date of Issue:	2021/4/21
Test Result :	PASS *

In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:

Derde yang

Derek Yang Wireless Laboratory Manager



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# 1 Version

Revision Record					
Version	Chapter	Date	Modifier	Remark	
01		2021-03-18		Original	
02		2021-04-21	Eason wang	Update equipment list	

Authorized for issue by:	
Prepared By	Zason Wong (Eason Wang)/Engineer
Checked By	David Chen (David Chen)/Reviewer



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# 2 Test Summary

Test Item	Test Requirement	Test Method	Result	Remark	Test Lab*
AC Power Line Conducted Emission	15.207	ANSI C63.10 2013	-	See Note	-
Duty cycle	-	-	PASS	-	А
Conducted Output Power	15.247 (b)(3)	ANSI C63.10 2013	PASS	-	А
DTS (6 dB) Bandwidth	15.247 (a)(2)	ANSI C63.10 2013	-	See Note	-
Power Spectral Density	15.247 (e)	ANSI C63.10 2013	-	See Note	-
Band-edge for RF Conducted Emissions	15.247(d)	ANSI C63.10 2013	-	See Note	-
RF Conducted Spurious Emissions	15.247(d)	ANSI C63.10 2013	-	See Note	-
Radiated Spurious Emissions	15.205/15.209	ANSI C63.10 2013	PASS	-	В
Restricted bands around fundamental frequency (Radiated Emission)	15.205/15.209	ANSI C63.10 2013	PASS	-	В

Note: The RF circuit, output power level and antenna performance is the same in WLAN function across all two FCC ID PY7-54955X and PY7-76625R, since the change, only verify RF output power and radiated spurious emission test data the worst mode was reported in this report.



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# **3** General Information

# 3.1 Details of Client

Applicant:	Sony Mobile Communications, Inc.
Address of Applicant	4-12-3 Higashi-shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan
Manufacturer:	Sony Mobile Communications, Inc.
Address of Manufacturer	4-12-3 Higashi-shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan

# 3.2 Test Location

# Lab A:

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
Post code:	518057
Test Engineer:	Dee Zheng, Mike Hu

# Lab B:

Company:	SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.
Address:	1/F, Unit D, Building 1, Kanghong Orange Technology Park, No.137, Keyuan 3rd Road, Fengdong New City, Xi'an, Shaanxi China
Post code:	710086
Test Engineer:	Ben Huang



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# SGS

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# 3.3 Test Facility

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

Lab A:

# • A2LA (Certificate No. 3816.01)

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

#### • VCCI

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

### • FCC – Designation Number: CN1178

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

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

# Innovation, Science and Economic Development Canada

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

CAB identifier: CN0006.

IC#: 4620C.

Lab B:

# • A2LA (Certificate No. 4854.01)

SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4854.01.

• FCC – Designation Number: CN1271



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# 3.4 General Description of EUT

EUT Description:	GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac, GPS and NFC
Trade Mark:	Sony
S/N:	005059ADNVM2
Operation Frequency:	2400MHz~2483.5MHz fc = 2402 MHz + N * 2 MHz, where: -fc = "Operating Frequency" in MHz, -N = "Channel Number" with the range from 0 to 39.
Bluetooth version:	Bluetooth V5.1
Modulation Type:	GFSK
Number of Channel:	40
Sample Type:	⊠ Portable Device, □Module
Antenna Type:	🔲 External, 🔀 Integrated
Antenna Gain:	2.0 dBi

Operation Frequency of each channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
2	2406MHz	12	2426MHz	22	2446MHz	32	2466MHz
3	2408MHz	13	2428MHz	23	2448MHz	33	2468MHz
4	2410MHz	14	2430MHz	24	2450MHz	34	2470MHz
5	2412MHz	15	2432MHz	25	2452MHz	35	2472MHz
6	2414MHz	16	2434MHz	26	2454MHz	36	2474MHz
7	2416MHz	17	2436MHz	27	2456MHz	37	2476MHz
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz



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#### Remark:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel(CH0)	2402MHz
The Middle channel(CH19)	2440MHz
The Highest channel(CH39)	2480MHz

# 3.5 Test Environment

Operating Environment:			
Temperature:	25.0 °C		
Humidity:	50 % RH		
Atmospheric Pressure:	101.30 KPa		

# 3.6 Description of Support Units

The EUT has been tested independent unit.



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# 4 Test results and Measurement Data

# 4.1 Antenna Requirement

Standard requirement: 47 CFR Part 15C Section 15.203 /247(c)

15.203 requirement:

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, 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.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2.0 dBi.



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# 4.2 Duty Cycle

# 4.2.1 Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]	T(ms)	1/T(kHz)	VBW(kHz)
BLE_1M	CH0, CH19, CH39	61.66	0.386	2.591	3
BLE_2M	CH0, CH19, CH39	31.94	0.199	5.025	10



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### 4.2.2.1 ANT1

### 4.2.2.1.1 BLE 1M



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# 4.3 Conducted Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(3)			
Test Method:	ANSI C63.10 :2013 Section 11.9.1.1			
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane			
Test Instruments:	Refer to section 6 for details			
Test Mode:	Transmitting with GFSK modulation.			
Limit:	30dBm			
Test Results:	Pass			



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# 4.3.1 Test Results

Measurement Data of Peak Power:

GFSK_2M mode							
Test Channel	Peak Output Power (dBm)	Limit (dBm)	Result				
Middle	7.02	30.00	Pass				

# 4.3.2 Test Plots

# 4.3.2.1 GFSK 2M\_Middle Channel



Date: 17.MAR.2021 16:42:27



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# 4.4 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205							
Test Method:	ANSI C63.10 :2013 Sect	ion 11.12						
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)							
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)			
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300			
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30			
	1.705MHz-30MHz	30	-	-	30			
	30MHz-88MHz	100	40.0	Quasi-peak	3			
	88MHz-216MHz	150	43.5	Quasi-peak	3			
	216MHz-960MHz	200	46.0	Quasi-peak	3			
	960MHz-1GHz	500	54.0	Quasi-peak	3			
	Above 1GHz	500	54.0	Average	3			
	Remark: 15.35(b),Unless	s otherwise specifie	ed, the limit o	on peak radio fi	requency			
	emissions is 20dB above	e the maximum per	mitted avera	age emission lir	nit			
	applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.							



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检验检测去用音

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	<ul> <li>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.</li> <li>h. Test the EUT in the lowest channel, the middle channel ,the Highest channel.</li> <li>i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case.</li> </ul>
	J. Repeat above procedures until all frequencies measured was complete.
Test Configuration:	Measurements Below 1000MHz
	• RBW = 120 kHz
	• VBW = 300 kHz
	Detector = Peak
	Trace mode = max hold
	Peak Measurements Above 1000 MHz
	• RBW = 1 MHz
	• VBW $\ge$ 3 MHz
	Detector = Peak
	Sweep time = auto
	<ul> <li>Trace mode = max hold</li> </ul>
	Average Measurements Above 1000MHz
	• RBW = 1 MHz
	<ul> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> </ul>
	+ VBW $\ge$ 1/T, when duty cycle is less than 98 percent where T is the minimum
	transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Exploratory Test Mode:	Transmitting with GFSK modulation.
	Charge + Transmitting mode.
Final Test Mode:	Transmitting with GFSK modulation.
	Pretest the EUT at Charge + Transmitting mode,
	For below 1GHz part, through pre-scan, the worst case is the lowest channel. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 6 for details
Test Results:	Pass
Remark:	The Emission Test is performed by the Lab B



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#### **Radiated Emission below 1GHz** 4.4.1 Charge + Transmitting 4.4.1.1



# Suspected List

Suspe	Suspected List										
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity			
1	43.0006	25.54	-29.59	40.00	14.46	203	22	Horizontal			
2	137.3035	20.52	-35.42	43.50	22.98	307	216	Horizontal			
3	215.8892	21.65	-30.82	43.50	21.85	254	230	Horizontal			
4	357.1494	22.65	-26.68	46.00	23.35	156	221	Horizontal			
5	654.6109	26.36	-19.98	46.00	19.64	189	224	Horizontal			
6	966.8194	29.07	-15.25	54.00	24.93	167	76	Horizontal			

**Final Data List** 



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#### Suspected List

Suspe	Suspected List									
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity		
1	43.3887	25.59	-29.76	40.00	14.41	175	317	Vertical		
2	67.4495	23.28	-33.76	40.00	16.72	204	247	Vertical		
3	82.3905	19.97	-35.57	40.00	20.03	245	114	Vertical		
4	116.5413	16.90	-33.03	43.50	26.60	279	104	Vertical		
5	592.5185	23.16	-20.84	46.00	22.84	236	162	Vertical		
6	844.9630	26.65	-16.97	46.00	19.35	356	250	Vertical		

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#### Suspected List

Suspected List									
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	
1	43.1946	25.30	-29.68	40.00	14.70	125	140	Horizontal	
2	71.9124	14.62	-34.73	40.00	25.38	235	151	Horizontal	
3	136.3333	20.45	-35.37	43.50	23.05	356	229	Horizontal	
4	325.9092	22.44	-27.53	46.00	23.56	156	232	Horizontal	
5	611.9224	26.55	-20.49	46.00	19.45	245	306	Horizontal	
6	912.2945	29.86	-15.89	46.00	16.14	243	346	Horizontal	

**Final Data List** 



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#### Suspected List

Suspected List									
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	
1	43.3887	26.32	-29.76	40.00	13.68	186	320	Vertical	
2	56.9714	18.32	-31.41	40.00	21.68	179	161	Vertical	
3	82.3905	20.54	-35.57	40.00	19.46	254	321	Vertical	
4	118.0936	16.02	-33.27	43.50	27.48	247	104	Vertical	
5	555.4571	21.87	-21.89	46.00	24.13	286	346	Vertical	
6	908.8018	28.58	-15.93	46.00	17.42	189	14	Vertical	

**Final Data List** 



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#### 4.4.2 **Transmitter Emission above 1GHz** 4.4.2.1 BLE 1M Channel 39



#### **Suspected List**

Susp	ected List							
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2934.483	45.14	10.63	54.00	8.86	146	285	Horizontal
2	2938.484	56.38	10.54	74.00	17.62	152	263	Horizontal
3	4960.000	42.65	-16.28	74.00	31.35	176	219	Horizontal
4	4960.000	31.70	-16.28	54.00	22.30	205	83	Horizontal
5	7440.000	37.68	-8.83	54.00	16.32	159	185	Horizontal
6	7440.000	48.61	-8.83	74.00	25.39	173	219	Horizontal

**Final Data List** 



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### 4.4.2.2BLE 1M Channel 39



#### Suspected List

Susp	Suspected List									
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity		
1	2954.488	56.15	10.73	74.00	17.85	246	96	Vertical		
2	2998.999	44.85	10.76	54.00	9.15	279	181	Vertical		
3	4960.000	31.63	-16.28	54.00	22.37	251	55	Vertical		
4	4960.000	43.62	-16.28	74.00	30.38	302	346	Vertical		
5	7440.000	48.63	-8.83	74.00	25.37	279	278	Vertical		
6	7440.000	37.38	-8.83	54.00	16.62	231	55	Vertical		

Final Data List



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#### BLE 2M Channel 0 4.4.2.3



#### Suspected List

#### **Suspected List** Level Factor Limit Margin Height Angle Freq. NO. Polarity [dBµV/m] [dB] [dBµV/m] [dB] [°] [MHz] [cm] 10.70 54.00 8.90 156 323 1 2928.482 45.10 Horizontal 2 10.73 74.00 17.33 2996.999 56.67 152 30 Horizontal 3 4804.000 42.56 -17.18 74.00 31.44 176 48 Horizontal 4 4804.000 31.24 -17.18 54.00 22.76 147 82 Horizontal 5 35.76 -9.48 54.00 18.24 203 14 Horizontal 7206.000 6 46.54 -9.48 74.00 27.46 151 201 Horizontal 7206.000

**Final Data List** 



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#### 4.4.2.4 BLE 2M Channel 0



#### Suspected List

Juspe	Suspected List										
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity			
1	2904.476	45.08	10.40	54.00	8.92	247	346	Vertical			
2	2915.478	56.33	10.52	74.00	17.67	254	158	Vertical			
3	4804.000	41.36	-17.18	74.00	32.64	304	6	Vertical			
4	4804.000	30.91	-17.18	54.00	23.09	249	160	Vertical			
5	7206.000	35.94	-9.48	54.00	18.06	279	23	Vertical			
6	7206.000	47.17	-9.48	74.00	26.83	256	40	Vertical			

#### **Final Data List**

#### 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

- 2) Scan from 9kHz to 25GHz, the disturbance between 9KHz to 30MHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- As shown in this section, for frequencies above 1GHz, the field strength limits are based on average 3) limits. However, 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. So, only the peak measurements were shown in the report.
- 4) All Modes have been tested, but only the worst case data displayed in this report.



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# 4.5 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205						
Test Method:	ANSI C63.10: 2013 Section	11.12					
Test Site:	Measurement Distance: 3m	(Semi-Anechoic Cham	ber)				
Limit:	Frequency	Limit (dBuV/m)	Remark				
	30MHz-88MHz	40.0	Quasi-peak				
	88MHz-216MHz	43.5	Quasi-peak				
	216MHz-960MHz	46.0	Quasi-peak				
	960MHz-1GHz	54.0	Quasi-peak				
		54.0	Average Value				
	ADOVE IGHZ	74.0	Peak Value				
TaskOstas							

Test Setup:





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Test Procedure:	<ul> <li>a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> </ul>
	c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-beight antenna tower.
	<ul> <li>d. 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.</li> </ul>
	e. 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 and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
	f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
	g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel
	h. Test the EUT in the lowest channel, the Highest channel
	i. The radiation measurements are performed in X, Y, Z axis positioning for
	I ransmitting mode, And found the X axis positioning which it is worse case.
	J. Repeat above procedures until all requencies measured was complete.
Test Configuration:	Measurements Below 1000MHz
, , , , , , , , , , , , , , , , , , ,	• RBW = 120 kHz
	• VBW = 300 kHz
	<ul> <li>Detector = Peak</li> </ul>
	Trace mode = max hold
	Peak Measurements Above 1000 MHz
	• RBW = 1 MHz
	• VBW $\ge$ 3 MHz
	Detector = Peak
	Sweep time = auto
	<ul> <li>Trace mode = max hold</li> </ul>
	Average Measurements Above 1000MHz
	• RBW = 1 MHz
	<ul> <li>VBW = 10 Hz, when duty cycle is no less than 98 percent.</li> </ul>
	+ VBW $\ge$ 1/T, when duty cycle is less than 98 percent where T is the minimum
	transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Exploratory Test Mode:	Transmitting with GFSK modulation.
	Charge + Transmitting mode



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	1 age. 20 01 00
Final Test Mode:	Transmitting with GFSK modulation.
	Pretest the EUT at Charge + Transmitting mode.
	Only the worst case is recorded in the report.
Instruments Used:	Refer to section 6 for details
Test Results:	Pass
Remark:	The Emission Test is performed by the Lab B



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#### 4.5.1 **Test Plots**

#### BLE 1M Channel 0 4.5.1.1

#### **Test Graph**



#### Suspected List

Susp	ected List							
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2376.183	48.19	7.96	74.00	25.81	159	156	Horizontal
2	2376.633	33.94	7.96	54.00	20.06	178	360	Horizontal
3	2386.913	48.44	7.89	74.00	25.56	204	192	Horizontal
4	2390.000	33.78	7.98	54.00	20.22	176	192	Horizontal
5	2402.000	98.77	8.06	0.00	-98.77	189	197	Horizontal
6	2402.000	98.13	8.06	0.00	-98.13	157	181	Horizontal

**Final Data List** 



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# 4.5.1.2 BLE 1M Channel 0



#### Suspected List

Susp	ected List							
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2367.028	47.78	8.07	74.00	26.22	246	39	Vertical
2	2375.807	33.89	7.95	54.00	20.11	239	112	Vertical
3	2390.000	33.65	7.98	54.00	20.35	234	39	Vertical
4	2390.000	45.76	7.98	74.00	28.24	305	125	Vertical
5	2402.000	91.48	8.06	0.00	-91.48	279	256	Vertical
6	2402.000	90.75	8.06	0.00	-90.75	245	260	Vertical

**Final Data List** 



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#### Suspected List

Susp	ected List							
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2376.858	33.92	7.96	54.00	20.08	146	123	Horizontal
2	2378.434	48.15	7.98	74.00	25.85	179	115	Horizontal
3	2387.738	48.10	7.91	74.00	25.90	156	160	Horizontal
4	2390.000	33.61	7.98	54.00	20.39	176	322	Horizontal
5	2402.000	98.52	8.06	0.00	-98.52	206	160	Horizontal
6	2402.000	88.54	8.06	0.00	-88.54	189	190	Horizontal

**Final Data List** 



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# 4.5.1.4 BLE 2M Channel 0



#### Suspected List

S.,	en	۵r	to	Ы	l ic
Ju	эp	モレ	LC	u	

Susp	ected List							
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2374.757	33.97	7.95	54.00	20.03	256	187	Vertical
2	2376.258	47.85	7.96	74.00	26.15	247	346	Vertical
3	2388.339	47.71	7.93	74.00	26.29	302	160	Vertical
4	2390.000	33.83	7.98	54.00	20.17	255	106	Vertical
5	2402.000	92.83	8.06	0.00	-92.83	246	252	Vertical
6	2402.000	79.98	8.06	0.00	-79.98	273	103	Vertical

#### **Final Data List**

#### Remark:

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 All Modes have been tested, but only the worst case data displayed in this report.



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# 5 Measurement Uncertainty (95% confidence levels, k=2)

Lab A:		
No.	Item	Measurement Uncertainty
1	Total RF power, conducted	±0.41dB

Lab B:

No.	Item	Measurement Uncertainty
1	Conduction Emission	± 3.0dB (150kHz to 30MHz)
		± 4.8dB (Below 1GHz)
2	Radiated Emission	± 4.8dB (1GHz to 6GHz)
Z		± 4.5dB (6GHz to 18GHz)
		± 5.02dB (Above 18GHz)



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# 6 Equipment List

		RF conducted			
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2020/4/16	2021/4/15
DC Power Supply	Rohde & Schwarz	HMP2020	W009-08	2020/7/15	2021/7/15
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2020/7/14	2021/7/13
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1	W006-17	2020/4/21	2021/4/20

CE Test System									
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date				
Shielding Room	Brilliant-emc	N/A	XAW03-35-01	2019-09-11	2022-09-10				
Test receiver	ROHDE&SCHWARZ	ESR	XAW01-08-01	2020-09-11	2021-09-10				
Artificial network	ROHDE&SCHWARZ	ENV216	XAW01-04-01	2020-08-04	2021-08-03				
Temperature and humidity meter	MingGao	TH101B	XAW01-01-01	2020-11-06	2021-11-05				
Measurement Software	Tonscend	TS+ CE V2.5	XAW02-05-02	NCR	NCR				



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RSE Test System					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Semi-Anechoic Chamber	Brilliant-emc	N/A	XAW03-35-01	2019-09-11	2022-09-10
MXA signal analyzer	Keysight	N9020A	XAW01-06-01	2020-04-02	2021-04-01
Test receiver	ROHDE&SCHWARZ	ESR	XAW01-08-01	2020-09-11	2021-09-10
Receiving antenna (30MHz-3GHz)	Schwarzbeck	VULB 9163	XAW01-09-01	2019-10-13	2021-10-12
Receiving antenna (1GHz~18GHz)	Schwarzbeck	BBHA 9120D	XAW01-09-02	2019-10-13	2021-10-12
Receiving antenna (15GHz~40GHz)	Schwarzbeck	BBHA 9170	XAW01-09-03	2019-10-13	2021-10-12
Directional antenna rack controller	Max-Full	MF-7802BS	XAW03-03-01	NCR	NCR
High-speed antenna rack controller	Max-Full	MF-7802	XAW03-04-01	NCR	NCR
Filter bank	Tonscend	JS0806-F	XAW03-05-01	NCR	NCR
Filter bank	Tonscend	JS0806s	XAW03-05-02	NCR	NCR
Amplifier	Tonscend	TAP00903040	XAW01-41-01	2020-10-26	2021-10-25
Amplifier	Tonscend	TAP01018048	XAW01-41-02	2020-10-26	2021-10-25
Amplifier	Tonscend	TAP18040048	XAW01-41-03	2020-10-27	2021-10-26
Amplifier	Shanghai Steed	YX28980930	XAW01-41-06	2020-10-26	2021-10-25
Temperature and humidity meter	MingGao	TH101B	XAW01-01-01	2020-11-06	2021-11-05
Measurement Software	Tonscend	TS+ RSE V3.0.0.2	XAW02-05-01	NCR	NCR



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#### 7 **Photographs - EUT Constructional Details**

Refer to Appendix A PCE&NII&DTS&DSS Setup Photos.

The End



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No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn 中国・深圳・科技园中区M-10栋一号厂房

邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com