

 Report No.: GZCR210802083301

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 FCC ID: 2AAJ7-720SYD

# TEST REPORT

Application No.:	GZCR2108020833AT				
Applicant:	SHENZHEN HEALTHCARE ELECTRONIC TECHNOLOGY CO., LTD.				
Address of Applicant:	Block 48, Changxing Industrial Zone, Changzhen Community,				
	Yutang Street, Guangming District, Shenzhen, Guangdong, P.R.China 518132				
Manufacturer:	SHENZHEN HEALTHCARE ELECTRONIC TECHNOLOGY CO., LTD.				
Address of Manufacturer:	Block 48, Changxing Industrial Zone, Changzhen Community,				
	Yutang Street, Guangming District, Shenzhen, Guangdong, P.R.China 518132				
Factory:	SHENZHEN HEALTHCARE ELECTRONIC TECHNOLOGY CO., LTD.				
Address of Factory:	Block 48, Changxing Industrial Zone, Changzhen Community,				
	Yutang Street, Guangming District, Shenzhen, Guangdong, P.R.China 518132				
Equipment Under Test (EUT)	):				
EUT Name:	Bluetooth® body fat scale				
Model No.:	BF 720, BF 720 silver, BF 720 black, SBF 77, SBF 77 black, SBF 77 white, SBF 73, SBF 73 S/B, SBF 73 black				
*	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.				
Trade Mark:	CVSHealth, beurer, SILVERCREST, Vitalcontrol, sanitas, Life				
Standard(s) :	47 CFR Part 15, Subpart C 15.247				
Date of Receipt:	2021-08-24				
Date of Test:	2021-08-24 to 2021-08-29				
Date of Issue:	2021-10-12				
Test Result:	Pass*				

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

ve. Jun

Kobe Jian EMC Laboratory Manager



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	Revision Record							
Version	Version Chapter Date Modifier Remark							
01		2021-10-12		Original				

Authorized for issue by		
	vius cui	
	Vico Cui/Project Engineer	
	Ridey Lin	
	Ricky Liu/Reviewer	





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# 2 Test Summary

Radio Spectrum Technical Requirement						
Item Standard Method Requirement Re						
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)	Pass		

Radio Spectrum Matter Part						
Item	Standard	Method	Requirement	Result		
Conducted Peak Output Power		ANSI C63.10 (2013) Section 11.9.1.3	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass		
Minimum 6dB Bandwidth		ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass		
Power Spectrum Density		ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass		
Conducted Band Edges Measurement		ANSI C63.10 (2013) Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass		
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass		
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass		
Radiated Spurious Emissions (Below 1GHz)		ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass		
Radiated Spurious Emissions (Above 1GHz)		ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass		

#### Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

## **Declaration of EUT Family Grouping:**

Model No.: BF 720, BF 720 silver, BF 720 black, SBF 77, SBF 77 black, SBF 77 white, SBF 73, SBF 73 S/B, SBF 73 black

Only the model BF720 was tested fully, since according to the declaration from the applicant, the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on model No., trademark, color of enclosure and appearance.

The model: SBF 73 and SBF 77 are selected for Radiated Spurious Emissions (Below 1GHz) testing.



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EMC-TRF-01 Rev 1.0

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#### 4 **General Information**

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

Power supply:	DC 4.5V(3*1.5V "AAA" Size batteries)
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V4.0 LE
Modulation Type:	GFSK
Number of Channels:	40
Channel Spacing:	2MHz
Antenna Type:	PIFA Antenna
Antenna Gain:	2.6dBi

## 4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.				
The EUT has been tested as an independent unit.							



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## 4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Peak Output Power	± 0.75dB
Minimum 6dB Bandwidth	± 3%
Power Spectrum Density	± 2.84dB
Conducted Band Edges Measurement	± 0.75dB
Conducted Spurious Emissions	± 0.75dB
Radiated Emissions which fall in the restricted bands	±5.08dB (1GHz-6GHz);±5.14dB(above 6GHz)
Radiated Spurious Emissions (Below 1GHz)	±5.06dB (3m); ±4.46dB (10m)
Radiated Spurious Emissions (Above 1GHz)	±5.08dB (1GHz-6GHz);±5.14dB(above 6GHz)

#### Remark:

The Ulab (lab Uncertainty) is less than Ucispr (CISPR 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: SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory, 198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 Tel: +86 20 8215555 Fax: +86 20 82075059 No tests were sub-contracted.

## 4.5 Test Facility

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

## • NVLAP (Lab Code: 200611-0)

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

### • ACMA

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

### • SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

#### • CNAS (Lab Code: L0167)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2018 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of Testing Laboratories.

### FCC Recognized Accredited Test Firm(Registration No.: 486818)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

#### • ISED (Registration No.: 4620B, CAB identifier: CN0052)

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

#### • VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

## • CBTL (Lab Code: TL129)

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.



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- 4.6 Deviation from Standards None
- 4.7 Abnormalities from Standard Conditions None



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#### **Equipment List** 5

Conducted Peak Output Power					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Power Meter	Agilent			2024 05 40	2022 05 40
(U2021XA_Ch2)	Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
Test Software	TST	V2.0	GZE100-78	N/A	N/A
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01

Minimum 6dB Bandwidth						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
EXA Signal Analzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2020-09-17	2021-09-16	
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14	
Test Software	TST	V2.0	GZE100-78	N/A	N/A	
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01	

Power Spectrum Density							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
EXA Signal Analzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2020-09-17	2021-09-16		
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14		
Test Software	TST	V2.0	GZE100-78	N/A	N/A		
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01		

Conducted Band Edges Measurement							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
EXA Signal Analzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2020-09-17	2021-09-16		
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14		
Test Software	TST	V2.0	GZE100-78	N/A	N/A		
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01		

Conducted Spurious Emissions							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
EXA Signal Analzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2020-09-17	2021-09-16		
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14		
Test Software	TST	V2.0	GZE100-78	N/A	N/A		
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01		



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Radiated Emissions which fall in the restricted bands								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
EMI Test Receiver (20Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2021-01-08	2022-01-07			
Chamber cable (Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2020-09-09	2022-09-08			
Horn Antenna (1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2019-09-25	2022-09-24			
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2021-01-08	2022-01-07			
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2021-01-08	2022-01-07			
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2020-12-20	2023-12-19			
MXE EMI Receiver(10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2020-11-13	2021-11-12			
EXA Signal Analyzer(10Hz-44GHz)	Keysight	N9010A	EMC2138	2020-09-17	2021-09-16			
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A			
Horn Antenna(14- 40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2020-06-28	2023-06-27			
Microwave Broadband Preamplifier (18-40GHz)	SCHWARZBECK	BBV 9721	EMC2172	2020-09-09	2021-09-08			

Radiated Spurious Emissions (Below 1GHz)							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
Chamber cable	HangTianXing	N/A	EMC0542	2020-09-09	2022-09-08		
Trilog Broadband Antenna(25MHz-1GHz)- Lab	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	SEM003-18	2019-02-22	2022-02-22		
Amplifier(9kHz-1.3GHz)	HP	8447F	EMC2065	2021-05-19	2022-05-18		
Active Loop Antenna- RED	ETS-Lindgren	6502	EMC2190	2019-12-27	2021-12-26		
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2019-10-20	2022-10-19		
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A		
EMI Test Receiver(1Hz- 8GHz)	Rohde & Schwarz	ESW8	EMC2220	2021-05-26	2022-05-25		



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Radiated Spurious Emissions (Above 1GHz)							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
Chamber cable (Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2020-09-09	2022-09-08		
Horn Antenna (1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2019-09-25	2022-09-24		
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2021-01-08	2022-01-07		
High Pass Filter (915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2021-01-08	2022-01-07		
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2021-01-08	2022-01-07		
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2020-12-20	2023-12-19		
MXE EMI Receiver(10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2020-11-13	2021-11-12		
EXA Signal Analyzer(10Hz-44GHz)	Keysight	N9010A	EMC2138	2020-09-17	2021-09-16		
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A		
Horn Antenna(14- 40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2020-06-28	2023-06-27		

General used equipment						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
DMM	Fluke	73	EMC0006	2021-07-05	2022-07-05	
DMM	Fluke	73	EMC0007	2021-07-05	2022-07-05	



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#### 6 Radio Spectrum Technical Requirement

## 6.1 Antenna Requirement

### 6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)

#### 6.1.2 Conclusion

Standard 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 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, 15.221, or §15.236. 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.

#### 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.

#### EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2.6dBi.

Please refer to internal photos.



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#### **Radio Spectrum Matter Test Results** 7

## 7.1 Conducted Peak Output Power

Test Requirement	47 CFR Part 15, Subpart C 15.247(b)(3)
Test Method:	ANSI C63.10 (2013) Section 11.9.1.3
Limit:	

Frequency range(MHz)	Output power of the intentional radiator(watt)
	1 for ≥50 hopping channels
902-928	0.25 for 25≤ hopping channels <50
	1 for digital modulation
	1 for ≥75 non-overlapping hopping channels
2400-2483.5	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

### 7.1.1 E.U.T. Operation

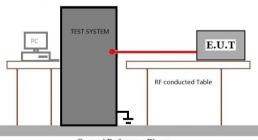
**Operating Environment:** 

Temperature: Humidity: 46.5 % RH 25.1 °C Atmospheric Pressure: 1010 mbar

### 7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.

## 7.1.3 Test Setup Diagram



Ground Reference Plane

## 7.1.4 Measurement Procedure and Data

cable loss=0.9dB

#### Please Refer to Appendix for Details



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## 7.2 Minimum 6dB Bandwidth

Test Requirement	47 CFR Part 15, Subpart C 15.247a(2)
Test Method:	ANSI C63.10 (2013) Section 11.8.1
Limit:	≥500 kHz

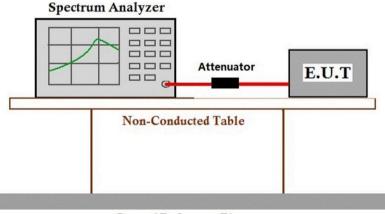
## 7.2.1 E.U.T. Operation

Operating Enviror	nment:					
Temperature:	25.1 °C	Humidity:	46.5 % RH	Atmospheric Pressure:	1010	mbar

### 7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.

#### 7.2.3 Test Setup Diagram



**Ground Reference Plane** 

## 7.2.4 Measurement Procedure and Data

cable loss=0.9dB

Please Refer to Appendix for Details



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## 7.3 Power Spectrum Density

Test Requirement	47 CFR Part 15, Subpart C 15.247(e)
Test Method:	ANSI C63.10 (2013) Section 11.10.2
Limit:	

≤8dBm in any 3 kHz band during any time interval of continuous transmission

### 7.3.1 E.U.T. Operation

**Operating Environment:** 

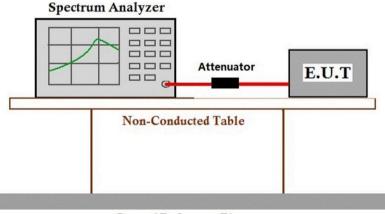
Temperature: 25.1 °C Humidity: 46.5 % RH

Atmospheric Pressure: 1010 mbar

### 7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.

#### 7.3.3 Test Setup Diagram



**Ground Reference Plane** 

## 7.3.4 Measurement Procedure and Data

cable loss=0.9dB

Please Refer to Appendix for Details



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## 7.4 Conducted Band Edges Measurement

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10 (2013) Section 11.13.3.2
Limit:	

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.205(c).

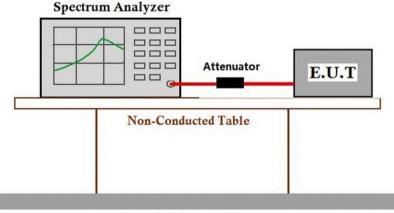
#### 7.4.1 E.U.T. Operation

Operating Enviro	onment:					
Temperature:	25.1 °C	Humidity:	46.5 % RH	Atmospheric Pressure:	1010	mbar

#### 7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.

#### 7.4.3 Test Setup Diagram



**Ground Reference Plane** 

#### 7.4.4 Measurement Procedure and Data

cable loss=0.9dB

#### Please Refer to Appendix for Details



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## 7.5 Conducted Spurious Emissions

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10 (2013) Section 11.11
Limit:	

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.205(c).

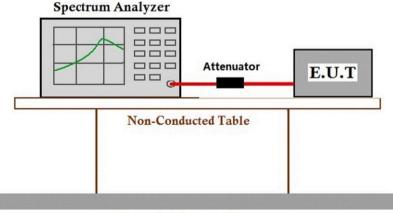
#### 7.5.1 E.U.T. Operation

Operating Enviro	onment:					
Temperature:	25.1 °C	Humidity:	46.5 % RH	Atmospheric Pressure:	1010	mbar

#### 7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.

#### 7.5.3 Test Setup Diagram



**Ground Reference Plane** 

#### 7.5.4 Measurement Procedure and Data

cable loss=0.9dB

#### Please Refer to Appendix for Details



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## 7.6 Radiated Emissions which fall in the restricted bands

Test Requirement	47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method:	ANSI C63.10 (2013) Section 6.10.5
Limit:	

Frequency(MHz)	Field strength(microvolts/meter)	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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and 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.

#### 7.6.1 E.U.T. Operation

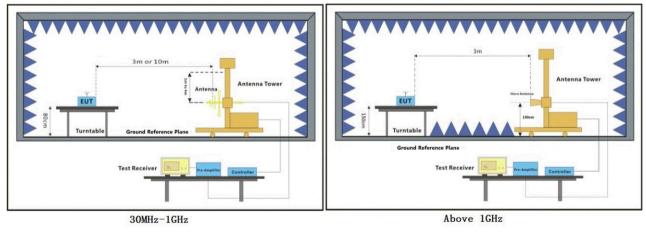
Operating Environment:

Temperature. 24.7 C Fluminity. 37.3 % Kin Atmospheric Pressure. 1010 mba	Temperature:	24.7 °C	Humidity:	57.5 % RH	Atmospheric Pressure:	1010	mbar
--	--------------	---------	-----------	-----------	-----------------------	------	------

#### 7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.

#### 7.6.3 Test Setup Diagram



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#### 7.6.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 12mm above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

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 fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

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.

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 (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.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. 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.

h. Test the EUT in the lowest channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average 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. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



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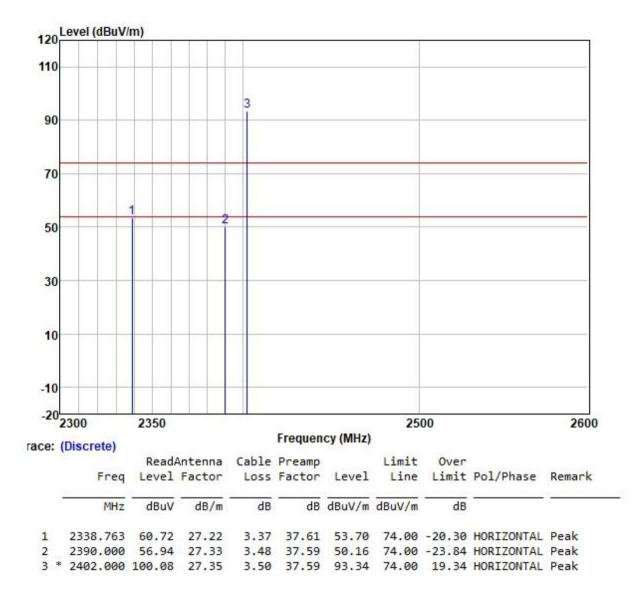
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Report No.: GZCR210802083301 Page: 21 of 63

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; ; Channel:Low





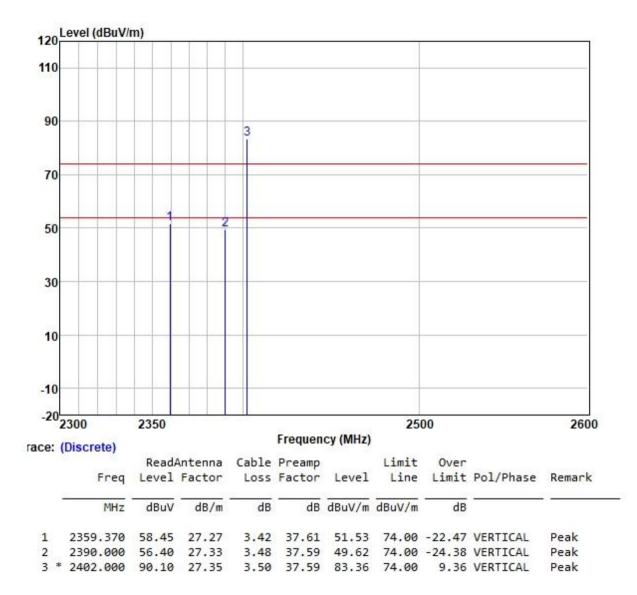
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Report No.: GZCR210802083301 Page: 22 of 63

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; ; Channel:Low





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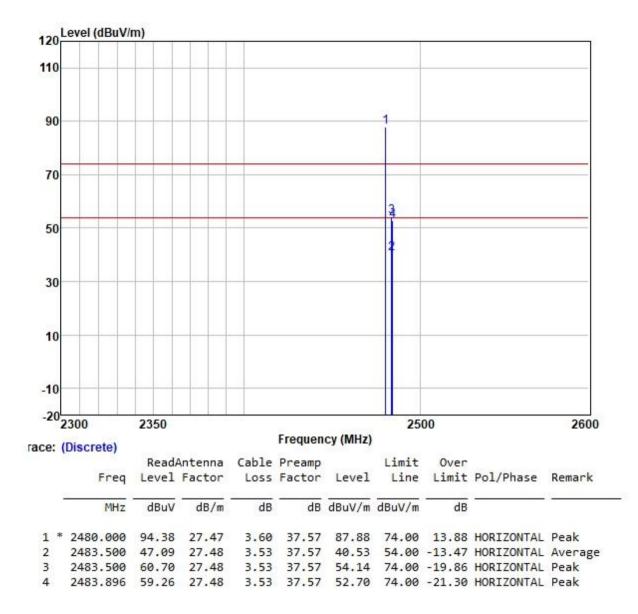
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Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; ; Channel:High





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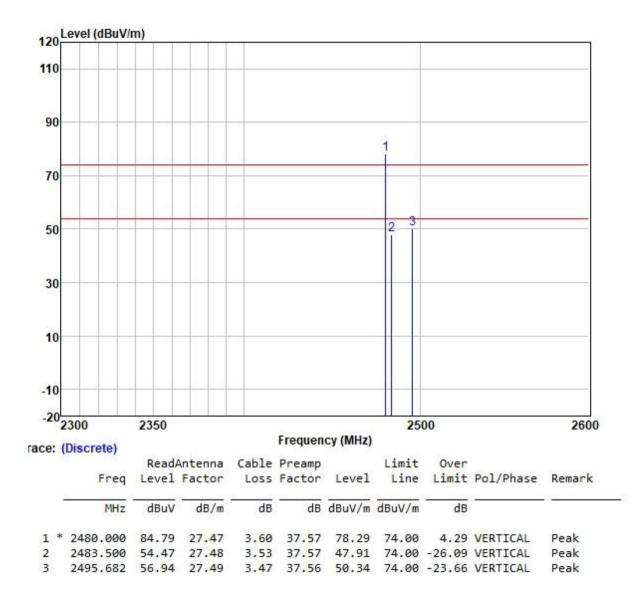
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Report No.: GZCR210802083301 Page: 24 of 63

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; ; Channel:High





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## 7.7 Radiated Spurious Emissions (Below 1GHz)

Test Requirement	47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method:	ANSI C63.10 (2013) Section 6.4,6.5,6.6
Limit:	

Frequency(MHz)	Field strength(microvolts/meter)	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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and 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.

### 7.7.1 E.U.T. Operation

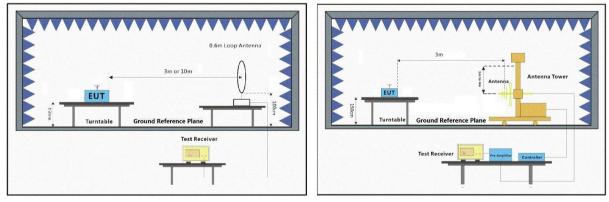
Operating Environment:

Temperature: 24.5 °C Humidity: 58.2 % RH Atmospheric Pressure: 1010 mba	Temperature:	24.5 °C	Humidity:	58.2 % RH	Atmospheric Pressure:	1010	mbar
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#### 7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.

## 7.7.3 Test Setup Diagram





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#### 7.7.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 12mm above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 or 10 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. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

Remark:

1) Through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.

2) 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

3) Scan from 9kHz to 1 GHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

4) Model: SBF 73, SBF 77 and BF 720 were selected for testing. Only the worst case data is reported.



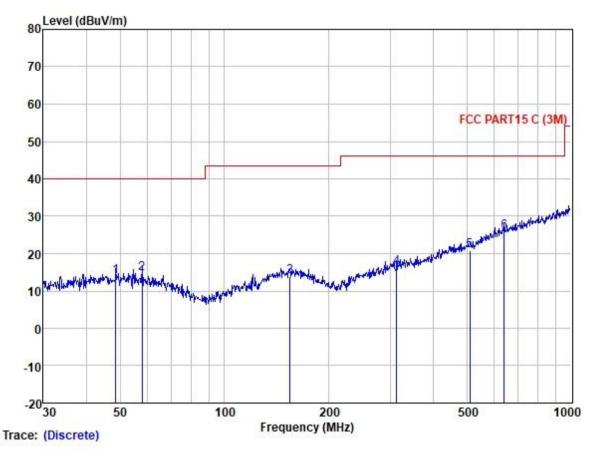
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Report No.: GZCR210802083301 27 of 63 Page:

Model: SBF 73; Polarity: Horizontal



Site	:	SGS			
Condition	:	FCC	PART15	С	(3M)
Job	:				
Model	:	73			
Power	:				
Test Mode	:	00			

	Freq					Measured Level			Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		0 <del></del>
1	48.50	25.96	13.98	1.14	27.17	13.91	40.00	-26.09	HORIZONTAL	QP
2	57.80	27.06	13.61	1.23	27.16	14.74	40.00	-25.26	HORIZONTAL	QP
3	154.28	24.71	13.78	2.28	26.82	13.95	43.50	-29.55	HORIZONTAL	QP
4	313.28	25.48	14.04	3.26	26.62	16.16	46.00	-29.84	HORIZONTAL	QP
5	510.04	26.20	18.10	4.47	28.00	20.77	46.00	-25.23	HORIZONTAL	QP
6	640.61	28.33	20.40	5.45	28.19	25.99	46.00	-20.01	HORIZONTAL	QP



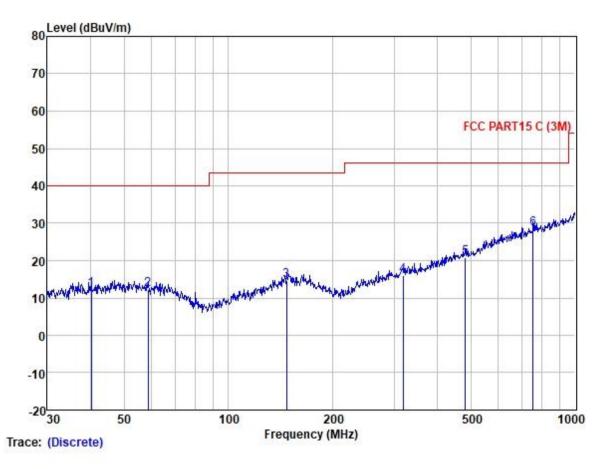
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Model: SBF 73; Polarity: Vertical



Site	:	SGS			
Condition	:	FCC	PART15	С	(3M)
Job	:				
Model	:	73			
Power	:				
Test Mode	:	00			

	Freq					Measured Level			Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		3 <del></del>
1	40.13	24.73	13.51	1.10	27.18	12.16	40.00	-27.84	VERTICAL	QP
2	58.61	24.66	13.54	1.24	27.16	12.28	40.00	-27.72	VERTICAL	QP
3	146.89	25.67	13.70	2.20	26.85	14.72	43.50	-28.78	VERTICAL	QP
4	318.82	25.14	14.25	3.32	26.65	16.06	46.00	-29.94	VERTICAL	QP
5	482.22	26.81	17.63	4.34	27.92	20.86	46.00	-25.14	VERTICAL	QP
6	755.39	28.36	22.20	6.01	28.08	28.49	46.00	-17.51	VERTICAL	QP



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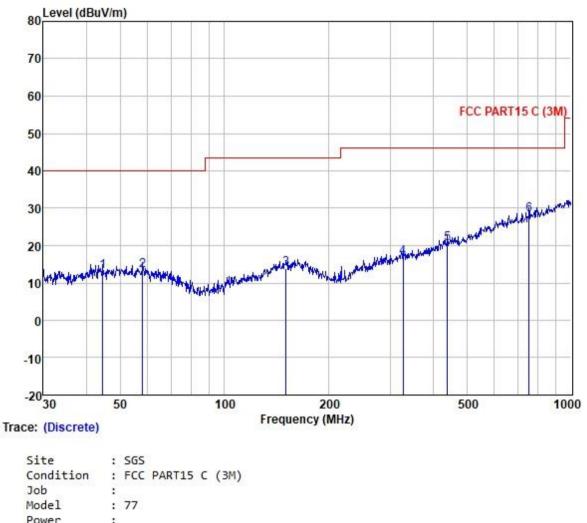
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Model: SBF 77; Polarity: Horizontal



Power	:	
Test Mode	:	00

	Freq					Measured Level			Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	44.59	25.26	13.83	1.12	27.17	13.04	40.00	-26.96	HORIZONTAL	QP
2	58.00	25.69	13.60	1.23	27.16	13.36	40.00	-26.64	HORIZONTAL	QP
3	150.54	24.78	13.80	2.24	26.83	13.99	43.50	-29.51	HORIZONTAL	QP
4	327.89	25.73	14.45	3.38	26.72	16.84	46.00	-29.16	HORIZONTAL	QP
5	440.20	26.98	17.00	4.13	27.57	20.54	46.00	-25.46	HORIZONTAL	QP
6	755.39	28.03	22.20	6.01	28.08	28.16	46.00	-17.84	HORIZONTAL	QP



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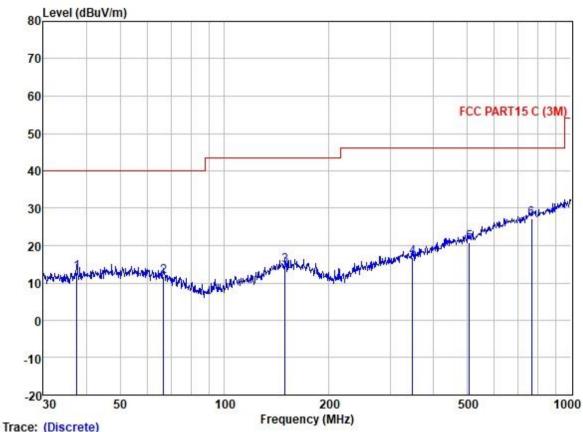
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Model: SBF 77; Polarity: Vertical



:	SGS			
:	FCC	PART15	С	(3M)
:				
:	77			
:				
:	00			
		: SGS : FCC : 77 : 77 : 00	: FCC PART15 : : 77 :	: FCC PART15 C : : 77 :

	Freq					Measured Level			Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
1	37.55	25.69	13.25	1.09	27.18	12.85	40.00	-27.15	VERTICAL	QP
2	66.73	25.11	12.46	1.37	27.14	11.80	40.00	-28.20	VERTICAL	QP
3	149.49	25.50	13.78	2.22	26.84	14.66	43.50	-28.84	VERTICAL	QP
4	349.25	25.59	14.50	3.59	26.99	16.69	46.00	-29.31	VERTICAL	QP
5	508.26	26.23	18.07	4.47	27.99	20.78	46.00	-25.22	VERTICAL	QP
6	768.75	27.00	22.20	6.05	28.06	27.19	46.00	-18.81	VERTICAL	QP



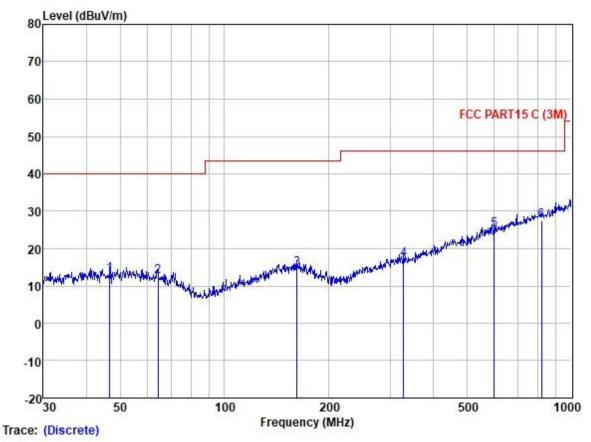
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Model: BF 720; Polarity: Horizontal



Site	:	SGS			
Condition	:	FCC	PART15	С	
Job	:				
Model	:	720			

Power : : 00 Test Mode

Freq								Pol/ Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
46.67	25.30	13.93	1.13	27.17	13.19	40.00	-26.81	HORIZONTAL	QP
64.21	25.37	12.87	1.34	27.15	12.43	40.00	-27.57	HORIZONTAL	QP
162.04	25.52	13.60	2.34	26.79	14.67	43.50	-28.83	HORIZONTAL	QP
329.04	25.83	14.48	3.38	26.73	16.96	46.00	-29.04	HORIZONTAL	QP
599.32	28.16	19.90	5.14	28.21	24.99	46.00	-21.01	HORIZONTAL	QP
821.71	26.26	22.78	6.30	28.00	27.34	46.00	-18.66	HORIZONTAL	QP
	MHz 46.67 64.21 162.04 329.04 599.32	Freq         Level           MHz         dBuV           46.67         25.30           64.21         25.37           162.04         25.52           329.04         25.83           599.32         28.16	Freq         Level         Factor           MHz         dBuV         dB/m           46.67         25.30         13.93           64.21         25.37         12.87           162.04         25.52         13.60           329.04         25.83         14.48	Freq         Level         Factor         Loss           MHz         dBuV         dB/m         dB           46.67         25.30         13.93         1.13           64.21         25.37         12.87         1.34           162.04         25.52         13.60         2.34           329.04         25.83         14.48         3.38           599.32         28.16         19.90         5.14	Freq         Level         Factor         Loss         Factor           MHz         dBuV         dB/m         dB         dB           46.67         25.30         13.93         1.13         27.17           64.21         25.37         12.87         1.34         27.15           162.04         25.52         13.60         2.34         26.79           329.04         25.83         14.48         3.38         26.73           599.32         28.16         19.90         5.14         28.21	Freq         Level         Factor         Loss         Factor         Level           MHz         dBuV         dB/m         dB         dB         dBuV/m           46.67         25.30         13.93         1.13         27.17         13.19           64.21         25.37         12.87         1.34         27.15         12.43           162.04         25.52         13.60         2.34         26.79         14.67           329.04         25.83         14.48         3.38         26.73         16.96           599.32         28.16         19.90         5.14         28.21         24.99	Freq         Level         Factor         Loss         Factor         Level         Line           MHz         dBuV         dB/m         dB         dB         dBuV/m         dBuV/m           46.67         25.30         13.93         1.13         27.17         13.19         40.00           64.21         25.37         12.87         1.34         27.15         12.43         40.00           162.04         25.52         13.60         2.34         26.79         14.67         43.50           329.04         25.83         14.48         3.38         26.73         16.96         46.00           599.32         28.16         19.90         5.14         28.21         24.99         46.00	MHz         dBuV         dB/m         dB         dB         dB         dBuV/m         dBuV/m         dBuV/m         dBuV/m         dBuV/m         dBuV/m         dBuV         dBuV	Freq         Level         Factor         Loss         Factor         Level         Line         Limit         Phase           MHz         dBuV         dB/m         dB         dB         dBuV/m         dBuV/m         dBuV         dBuV           46.67         25.30         13.93         1.13         27.17         13.19         40.00         -26.81         HORIZONTAL           64.21         25.37         12.87         1.34         27.15         12.43         40.00         -27.57         HORIZONTAL           162.04         25.52         13.60         2.34         26.79         14.67         43.50         -28.83         HORIZONTAL           329.04         25.83         14.48         3.38         26.73         16.96         46.00         -29.04         HORIZONTAL           599.32         28.16         19.90         5.14         28.21         24.99         46.00         -21.01         HORIZONTAL



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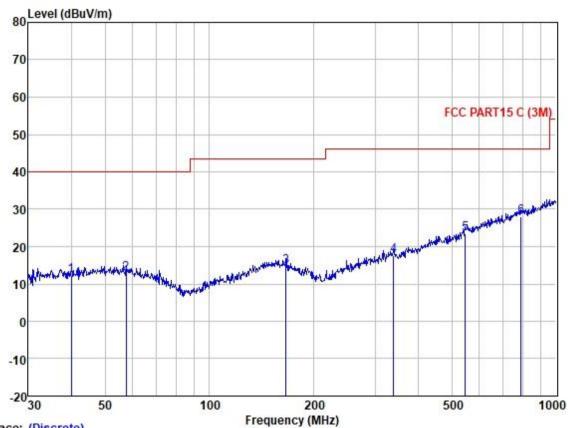
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(3M)



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Model: BF 720; Polarity: Vertical



Trace: (Discrete)

Site	:	SGS			
Condition	:	FCC	PART15	С	(3M)
Job	:				
Model	:	720			
Power	:				
Test Mode	:	00			

Freq								Pol/ Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV		
39.99	24.94	13.50	1.10	27.18	12.36	40.00	-27.64	VERTICAL	QP
57.39	25.19	13.63	1.22	27.16	12.88	40.00	-27.12	VERTICAL	QP
166.07	25.76	13.40	2.37	26.78	14.75	43.50	-28.75	VERTICAL	QP
339.59	26.31	14.50	3.50	26.84	17.47	46.00	-28.53	VERTICAL	QP
547.10	28.08	18.60	4.76	28.09	23.35	46.00	-22.65	VERTICAL	QP
793.40	27.26	22.53	6.14	28.04	27.89	46.00	-18.11	VERTICAL	QP
	MHz 39.99 57.39 166.07 339.59 547.10	Freq         Level           MHz         dBuV           39.99         24.94           57.39         25.19           166.07         25.76           339.59         26.31           547.10         28.08	Freq         Level         Factor           MHz         dBuV         dB/m           39.99         24.94         13.50           57.39         25.19         13.63           166.07         25.76         13.40           339.59         26.31         14.50	Freq         Level         Factor         Loss           MHz         dBuV         dB/m         dB           39.99         24.94         13.50         1.10           57.39         25.19         13.63         1.22           166.07         25.76         13.40         2.37           339.59         26.31         14.50         3.50           547.10         28.08         18.60         4.76	Freq         Level         Factor         Loss         Factor           MHz         dBuV         dB/m         dB         dB           39.99         24.94         13.50         1.10         27.18           57.39         25.19         13.63         1.22         27.16           166.07         25.76         13.40         2.37         26.78           339.59         26.31         14.50         3.50         26.84           547.10         28.08         18.60         4.76         28.09	FreqLevelFactorLossFactorLevelMHzdBuVdB/mdBdBdBuV/m39.9924.9413.501.1027.1812.3657.3925.1913.631.2227.1612.88166.0725.7613.402.3726.7814.75339.5926.3114.503.5026.8417.47547.1028.0818.604.7628.0923.35	Freq         Level         Factor         Loss         Factor         Level         Line           MHz         dBuV         dB/m         dB         dB         dBuV/m         dBuV/m           39.99         24.94         13.50         1.10         27.18         12.36         40.00           57.39         25.19         13.63         1.22         27.16         12.88         40.00           166.07         25.76         13.40         2.37         26.78         14.75         43.50           339.59         26.31         14.50         3.50         26.84         17.47         46.00           547.10         28.08         18.60         4.76         28.09         23.35         46.00	MHz         dBuV         dB/m         dB         dB         dB         dBuV/m         dBuV/m         dBuV/m         dBuV/m         dBuV           39.99         24.94         13.50         1.10         27.18         12.36         40.00         -27.64           57.39         25.19         13.63         1.22         27.16         12.88         40.00         -27.12           166.07         25.76         13.40         2.37         26.78         14.75         43.50         -28.75           339.59         26.31         14.50         3.50         26.84         17.47         46.00         -28.53           547.10         28.08         18.60         4.76         28.09         23.35         46.00         -22.65	Freq         Level         Factor         Loss         Factor         Level         Line         Limit         Phase           MHz         dBuV         dB/m         dB         dB         dB         dBuV/m         dBuV/m         dBuV         dBuV         dBuV         m           39.99         24.94         13.50         1.10         27.18         12.36         40.00         -27.64         VERTICAL           57.39         25.19         13.63         1.22         27.16         12.88         40.00         -27.12         VERTICAL           166.07         25.76         13.40         2.37         26.78         14.75         43.50         -28.75         VERTICAL           339.59         26.31         14.50         3.50         26.84         17.47         46.00         -28.53         VERTICAL           547.10         28.08         18.60         4.76         28.09         23.35         46.00         -22.65         VERTICAL



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## 7.8 Radiated Spurious Emissions (Above 1GHz)

Test Requirement	47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method:	ANSI C63.10 (2013) Section 6.4,6.5,6.6
Limit:	

Frequency(MHz)	Field strength(microvolts/meter)	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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and 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.

#### 7.8.1 E.U.T. Operation

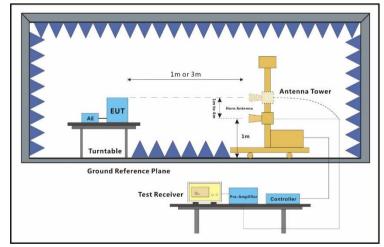
Operating Environment:

Temperature:	24.4 °C	Humidity:	56.6 % RH	Atmospheric Pressure:	1010	mbar
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#### 7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in continuously transmitting mode with GFSK modulation.

#### 7.8.3 Test Setup Diagram





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#### 7.8.4 Measurement Procedure and Data

a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-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 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. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

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 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

3) The field strength limits are based on average 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. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

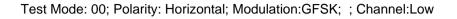


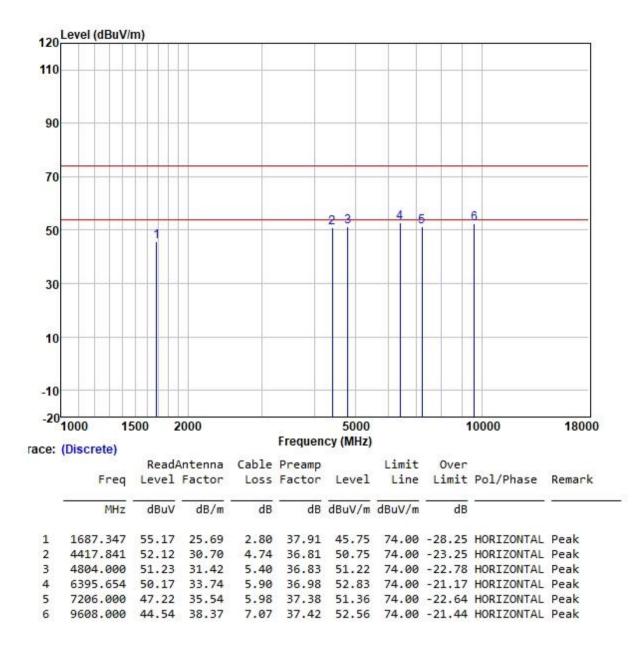
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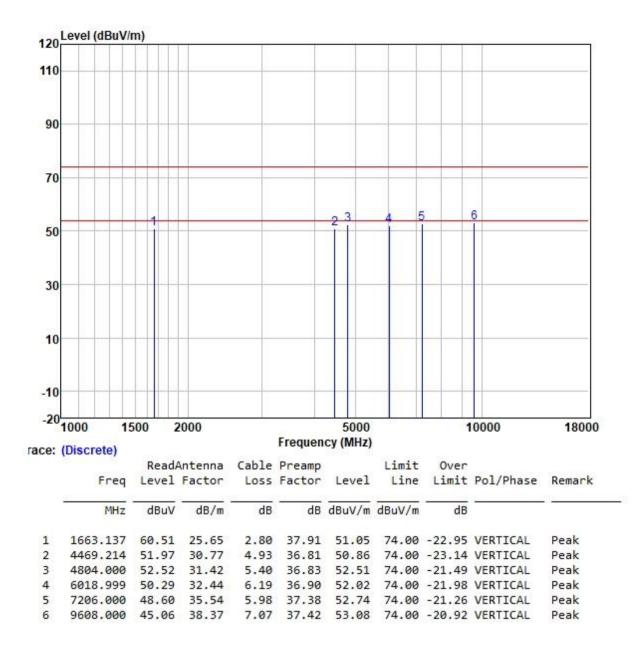
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Test Mode: 00; Polarity: Vertical; Modulation:GFSK; ; Channel:Low





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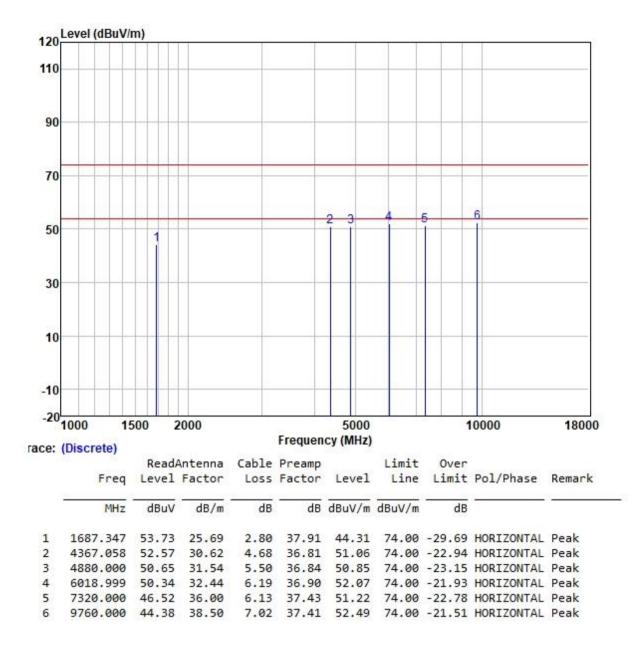
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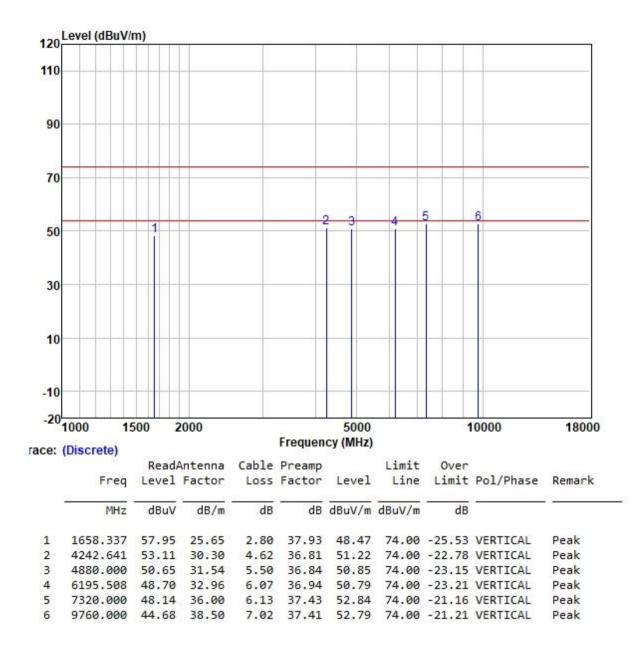
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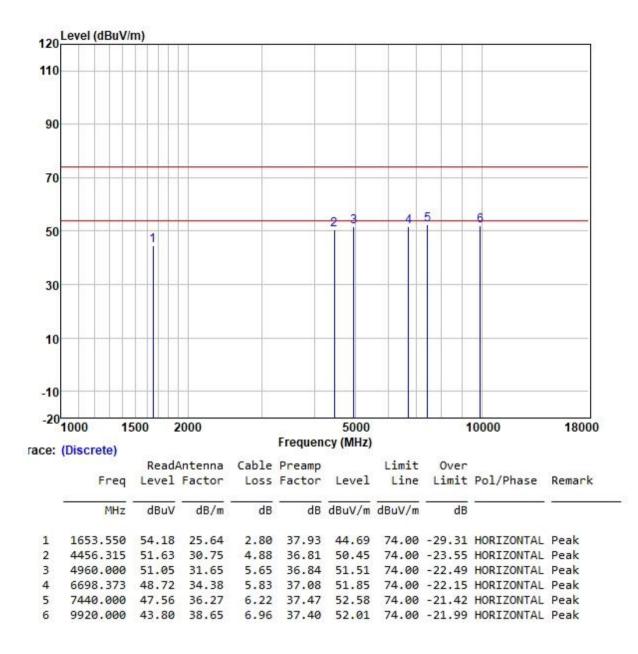
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Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; ; Channel:High





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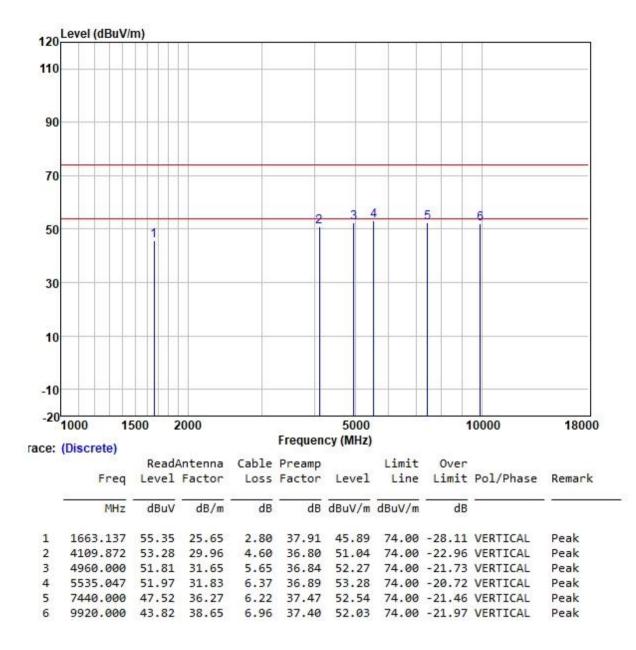
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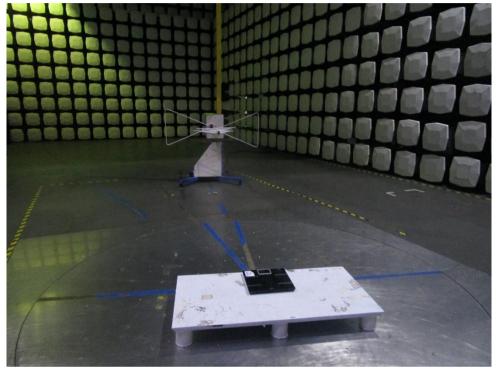
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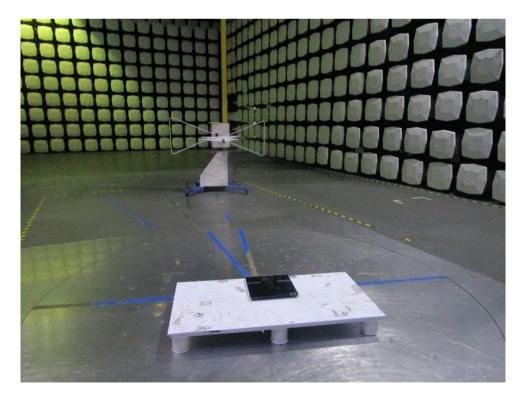


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## 8 Test Setup Photo

Radiated Spurious Emissions (Below 1GHz)







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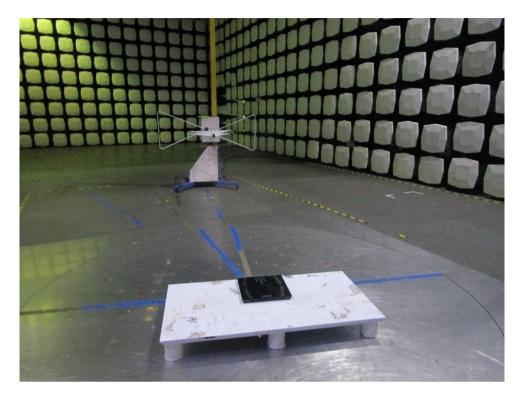
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**Radiated Spurious Emissions (Above 1GHz)** 





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#### **EUT Constructional Details (EUT Photos)** 9

Refer to External and Internal Photos for GZCR2108020833AT



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## **10** Appendix

### 1. Duty Cycle

1.1 Ant1

#### 1.1.1 Test Result

Ant1								
Mode	ТХ Туре	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)	
	SISO	2402	0.381	0.610	62.46	2.04	0.12	
1M		2440	0.381	0.611	62.36	2.05	0.15	
		2480	0.370	0.611	60.56	2.18	0.15	



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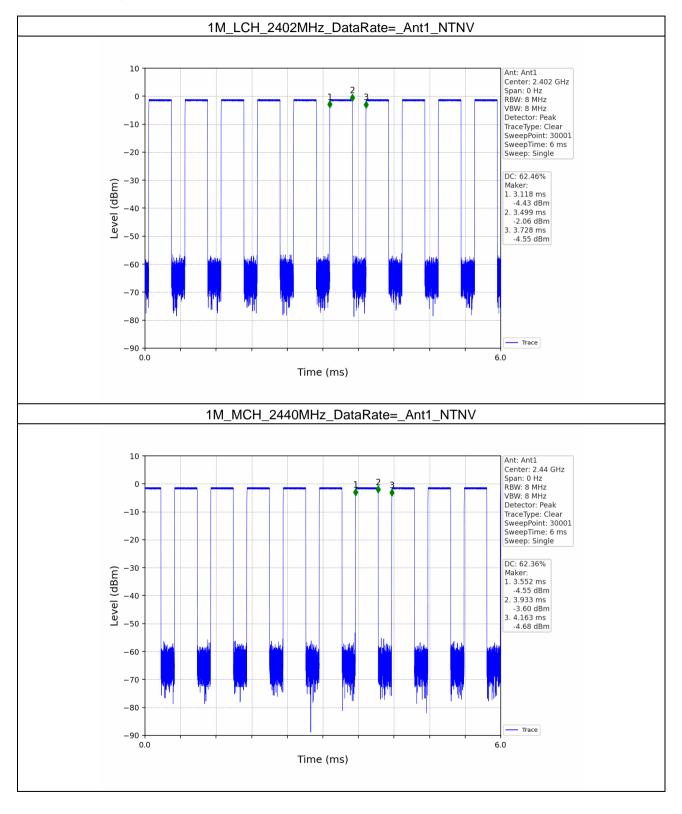
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### 1.1.2 Test Graph



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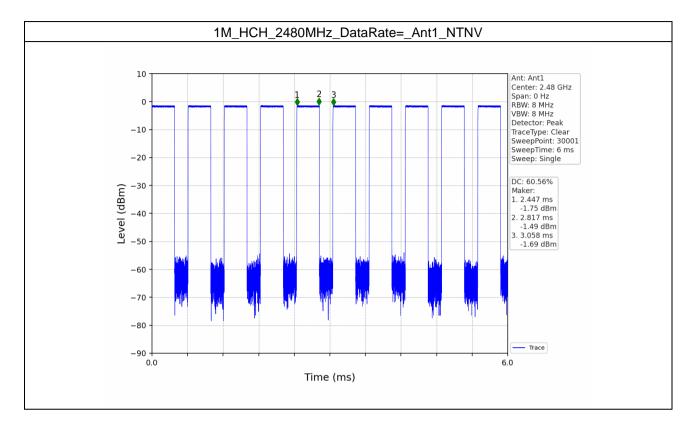
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### 2. Bandwidth

2.1 OBW

2.1.1 Test Result

Mode	ТХ Туре	Frequency (MHz)	Ant	99% Occupied Bandwidth (MHz)	Verdict
				Result	verdict
1M	SISO	2402	1	1.062	Pass
		2440	1	1.056	Pass
		2480	1	1.061	Pass



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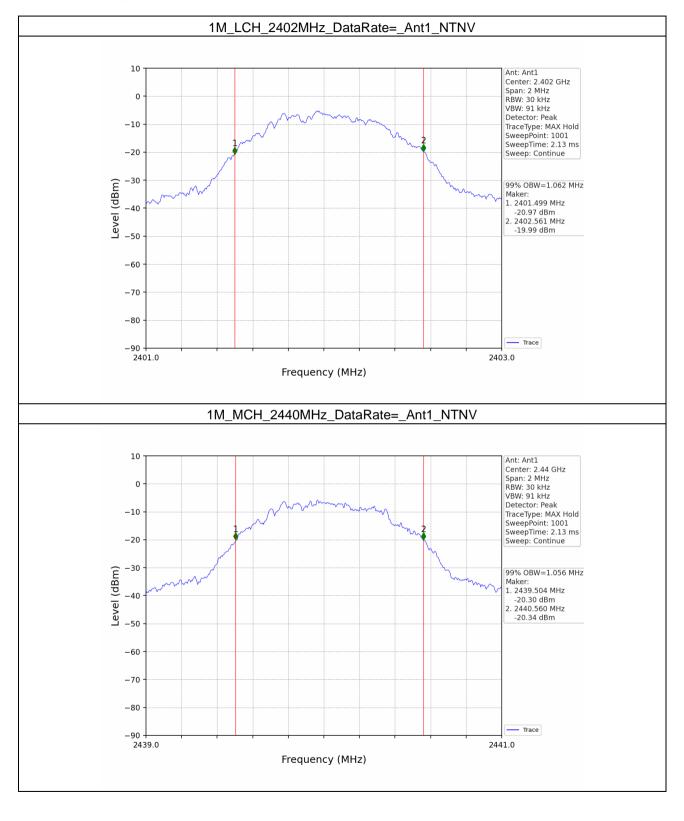
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### 2.1.2 Test Graph



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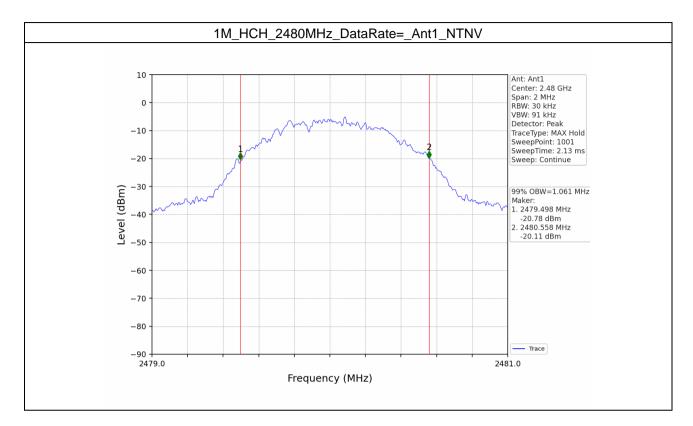
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#### 2.2 6dB BW

#### 2.2.1 Test Result

Mode	ТХ Туре	Frequency (MHz)	Ant	6dB Bandw	Vordiet	
				Result	Limit	Verdict
1M	SISO	2402	1	0.716	>=0.5	Pass
		2440	1	0.711	>=0.5	Pass
		2480	1	0.727	>=0.5	Pass



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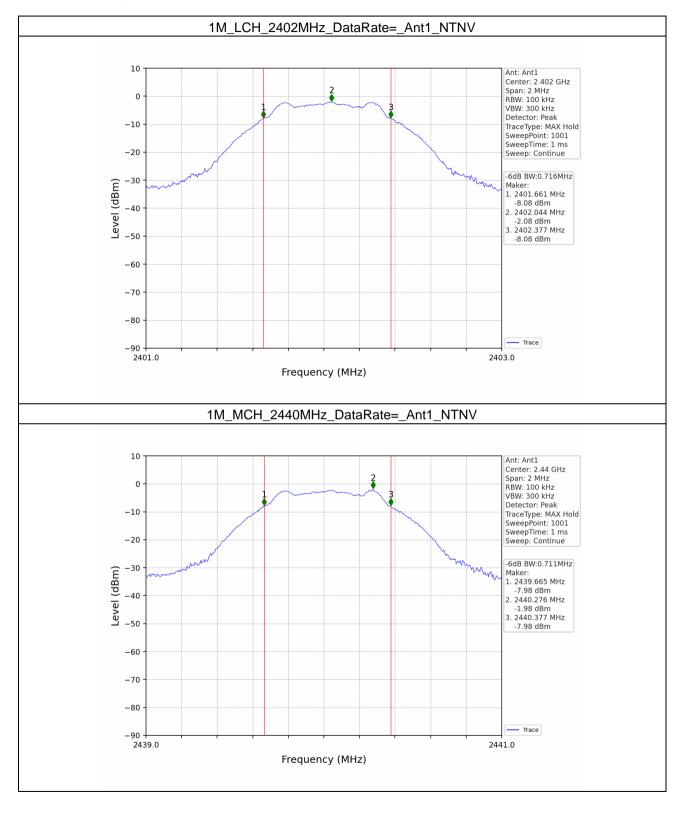
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### 2.2.2 Test Graph



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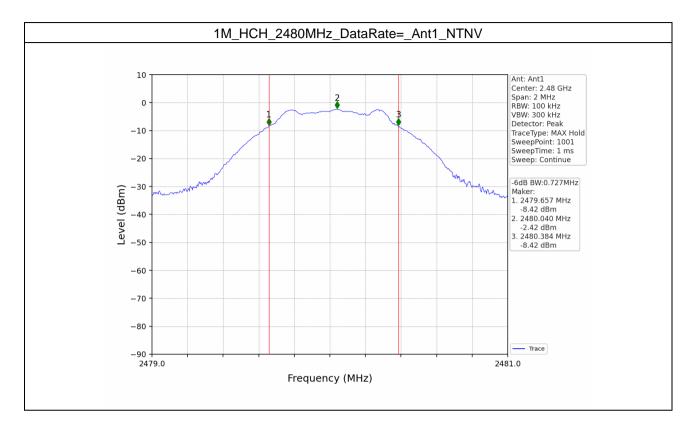
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### 3. Maximum Conducted Output Power

3.1 Power

#### 3.1.1 Test Result

Mode	ТХ Туре	Frequency (MHz)	Maximum Peak Conduc	Vordiat				
			Ant1	Limit	Verdict			
	SISO	2402	-1.28	<=30	Pass			
1M		2440	-1.47	<=30	Pass			
		2480	-1.56	<=30	Pass			
Note1: Ant	Note1: Antenna Gain: Ant1: 2.60dBi;							



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### 4. Maximum Power Spectral Density

#### 4.1 PSD

#### 4.1.1 Test Result

Mode	ТХ Туре	Frequency (MHz)	Maximum PS	Verdict			
			Ant1	Limit	verdict		
1M	SISO	2402	-15.58	<=8	Pass		
		2440	-16.39	<=8	Pass		
		2480	-16.43	<=8	Pass		
Note1: Antenna Gain: Ant1: 2 60dBi							

Note 1: Antenna Gain: Ant1: 2.600BI;



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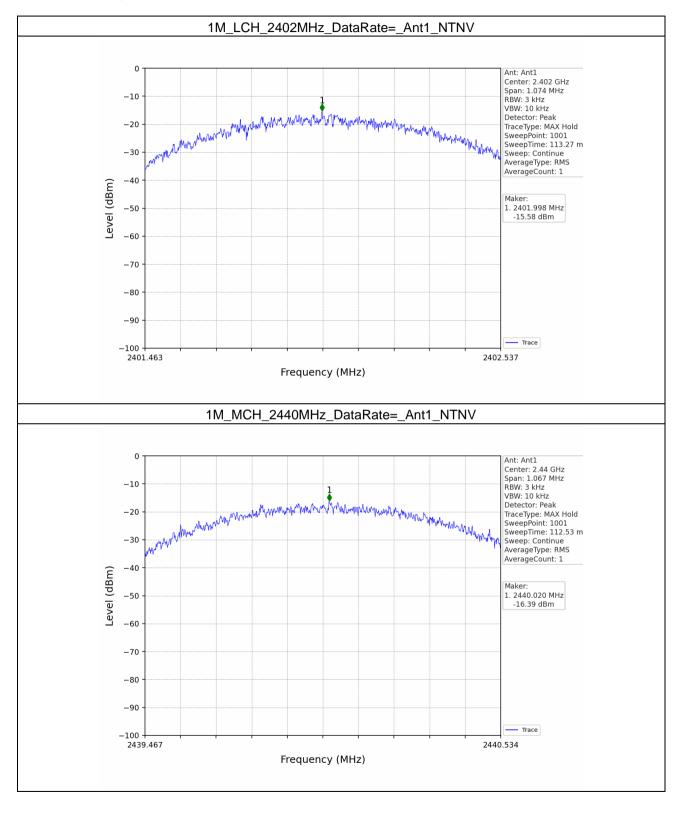
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### 4.1.2 Test Graph



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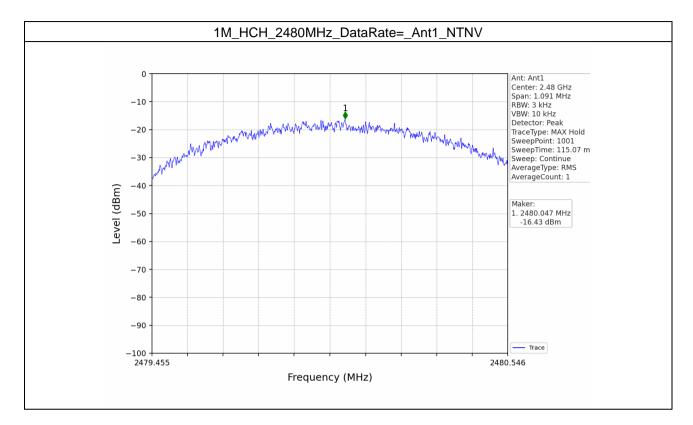
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### 5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Ref

5.1.1 Test Result

Mode	ТХ Туре	Frequency (MHz)	Ant	Level of Reference (dBm)
		2402	1	-1.62
1M	SISO	2440	1	-2.13
		2480	1	-2.36

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.



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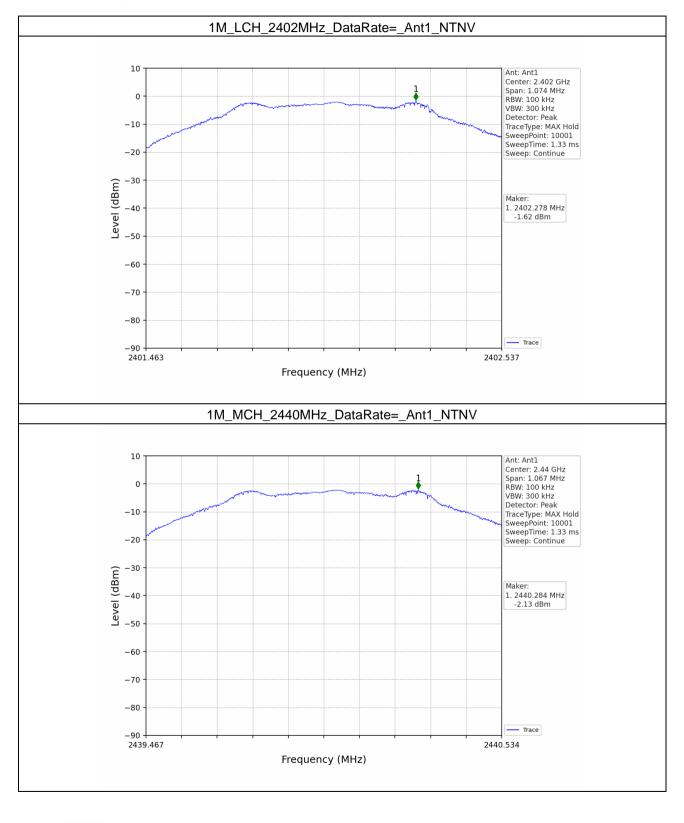
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### 5.1.2 Test Graph



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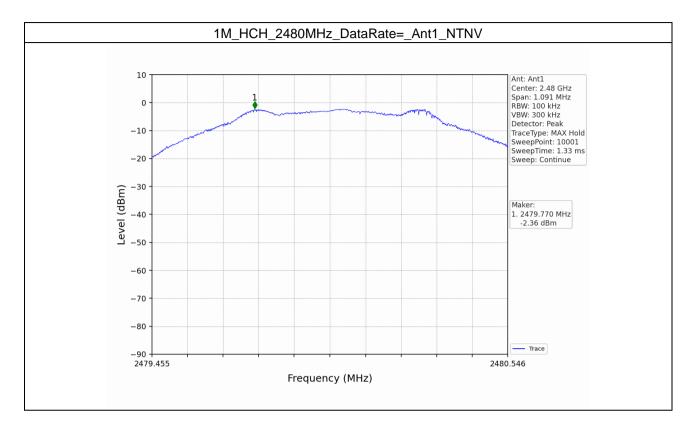
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### 5.2 CSE

5.2.1 Test Result

Mode	ТХ Туре	Frequency (MHz)	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	-1.62	-21.62	Pass
		2440	1	-1.62	-21.62	Pass
		2480	1	-1.62	-21.62	Pass

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.



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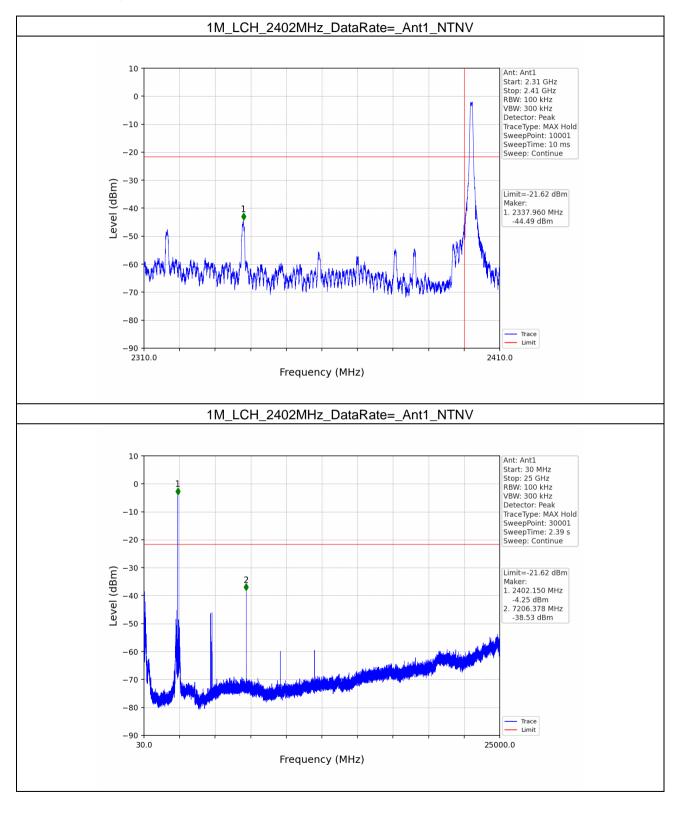
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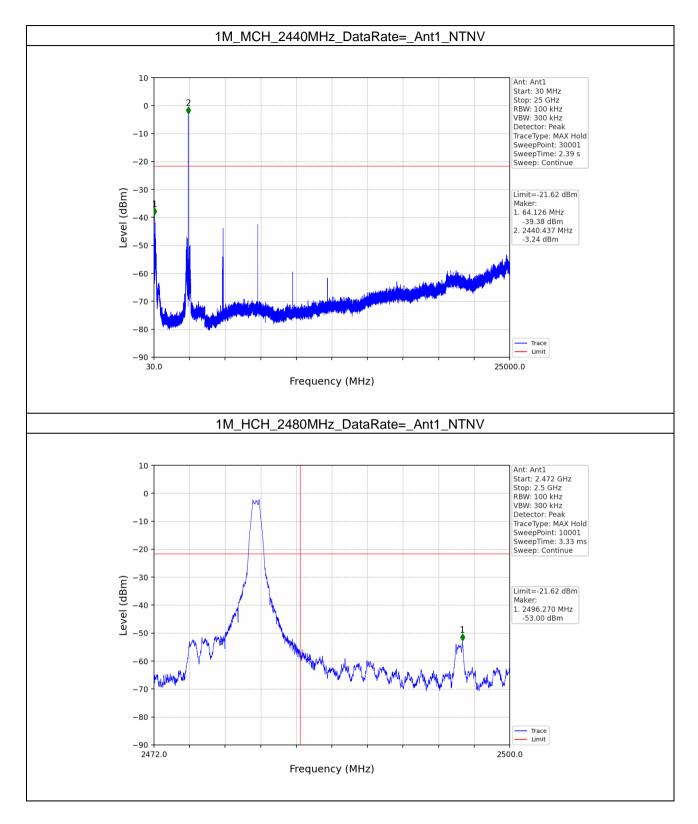
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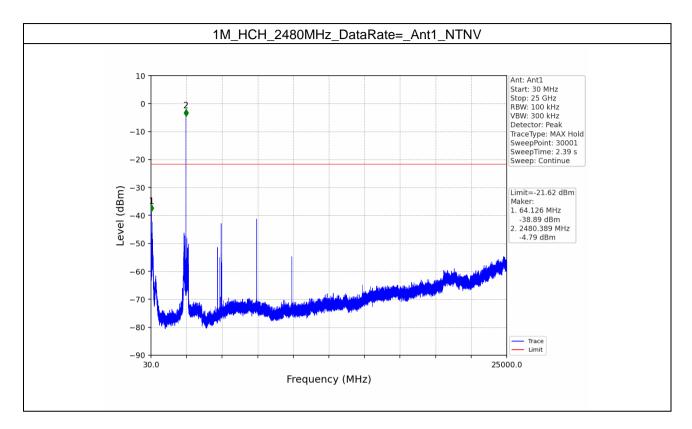
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中国·广州·经济技术开发区科学城科珠路198号

or email: CN.Doccheck@sgs.com No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

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