Test Report

Verified code: 005273

Report No.: E202211048579-1

Customer:	Queclink Wireless Solutions Co., Ltd.
Address:	No.30, Lane 500, Xinlong Road, Minhang District, Shanghai, China 201101
Sample Name:	Box-Disguised Rechargeable Tracker
Sample Model:	GL33
Receive Sample Date:	Nov.15,2022
Test Date:	Nov.16,2022 ~ Nov.30,2022
Reference Document:	FCC CFR Title 47 Part 2 FCC CFR Title 47 Part 22 Subpart H FCC CFR Title 47 Part 24 Subpart E
Test Result:	Pass

Prepared by: Huang Lifang Reviewed by: Feng Yanni Approved by: Zhao Zetian

GUANGZHOU GRG METROLOGY & TEST CO., LTD

Issued Date: 2023-02-03

GUANGZHOU GRG METROLOGY & TEST CO., LTD.
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Statement

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2. The sample information is provided by the client and responsible for its authenticity; The content of the report is only valid for the samples sent this time.

3. When there are reports in both Chinese and English, the Chinese version will prevail when the language problems are inconsistent.

4. If there is any objection concerning the report, please inform us within 15 days from the date of receiving the report.

5. Without the agreement of the laboratory, the client is not authorized to use the test results for unapproved propaganda.

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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E202211048579-1	Original Issue	2022-12-30

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1. TEST RESULT SUMMARY

1.1 TEST STANDARDS

No.	Identity	Document Title
1	FCC CFR Title 47 Part 2 Section 2.1047, 21049	Frequency Allocations And Radio Treaty Mattres; General Rules And Regulations
2	FCC CFR Title 47 Part 22 Subpart H	Cellular Radiotelephone Service
3	FCC CFR Title 47 Part 24 Subpart E	Broadband PCS

1.2 TEST RESULT

GSM850			
Item	**FCC Rule No.**	**Requirements**	**Result**
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913(a)(5)	ERP ≤7 W	PASS
Peak-Average Ratio	§22.913(d)	Limit≤13 dB	PASS
Modulation Characteristics	§2.1047	Digital modulation	PASS
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	PASS
Band Edges Compliance	§2.1051, §22.917(b)(1)	Refer to section 9.1	PASS
Spurious Emission at Antenna Terminals	§2.1051, §22.917(a)	≤-13 dBm/1MHz	PASS
Field Strength of Spurious Radiation	§2.1053, §22.917(a)	≤-13 dBm/1MHz.	PASS
Frequency Stability	§2.1055, §22.355	≤ ±2.5ppm.	PASS

Remark: For the verdict, the “N/A” denotes “not applicable”, the “N/T” denotes “not tested”.

GSM1900			
Item	**FCC Rule No.**	**Requirements**	**Result**
Effective (Isotropic) Radiated Power Output Data	§2.1046, §24.232(c)	EIRP ≤ 2 W	PASS
Peak-Average Ratio	§24.232(d)	Limit≤13 dB	PASS
Modulation Characteristics	§2.1047	Digital modulation	PASS
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	PASS
Band Edges Compliance	§2.1051, §24.238(a)(b)	Refer to section 9.1	PASS
Spurious Emission at Antenna Terminals	§2.1051, §24.238(a)(b)	≤ -13 dBm/1MHz	PASS
Field Strength of Spurious Radiation	§2.1053, §24.238(a)	≤ -13 dBm/1MHz.	PASS
Frequency Stability	§2.1055, §24.235	No limit	PASS

Remark: For the verdict, the “N/A” denotes “not applicable”, the “N/T” denotes “not tested”.

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2. GENERAL DESCRIPTION OF EUT

2.1 APPLICANT

Name:	Queclink Wireless Solutions Co., Ltd.
Address:	No.30, Lane 500, Xinlong Road, Minhang District, Shanghai, China 201101

2.2 MANUFACTURER

Name:	Queclink Wireless Solutions Co., Ltd.
Address:	No.30, Lane 500, Xinlong Road, Minhang District, Shanghai, China 201101

2.3 FACTORY

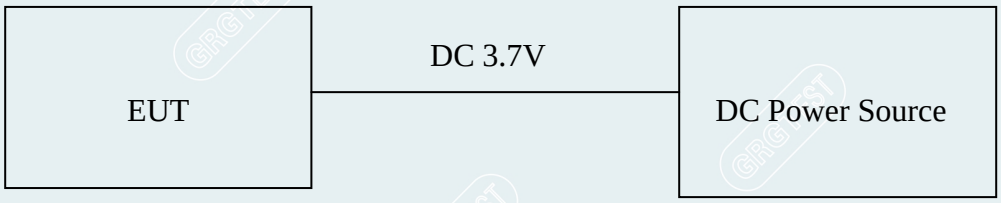
Name:	Queclink Wireless Solutions Co., Ltd.
Address:	No.30, Lane 500, Xinlong Road, Minhang District, Shanghai, China 201101

2.4 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment:	Box-Disguised Rechargeable Tracker
Model No.:	GL33
Trade Name:	Queclink
Brand Name:	Queclink
Adding Model	/
FCC ID:	YQD-GLC33
Power supply:	Input power:5V ⎓ 1A DC 3.7V power supplied by battery
Hardware Version:	R104V1.04
Software Version:	A01V42
Battery Type	Brand Name: Great Power Model No.: GSP104065 Capacity: 2800 mAh Rated Voltage:3.7V Charge Limit:4.2V
Antenna Type	PCB Antenna
Antenna Gain:	GSM850(824MHz~849MHz): -4.62dBi GSM1900(1850MHz~1910MHz): 0.15dBi
Power Class:	GSM850: 4 GSM1900: 1
Frequency range:	GSM850: Tx 824MHz~849MHz, Rx 869MHz ~ 894 MHz GSM1900: Tx 1850MHz~1910MHz, Rx 1930MHz ~ 1990 MHz
Bandwidth:	GSM850: 0.2MHz GSM1900: 0.2MHz
Modulation:	GSM850: GMSK GSM1900: GMSK
Sample No.:	E202211048579-0001
IMEI:	359464031262368

Temperature Range:	-20℃~60℃
Voltage Range	3.6V~4.2V
Sample Submitting Way :	■Provided by customer □Sampling
Note:	/

2.5 CONFIGURATION OF SYSTEM UNDER TEST



2.6 DESIGNATION OF EMISSION

Test Mode	Emission Designator
GSM850(GPRS)	247KGXW
GSM1900(GPRS)	247KGXW

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3. LABORATORY AND ACCREDITATIONS AND MEASUREMENT UNCERTAINTY

3.1 LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of Guangzhou GRG Metrology & Test Co., Ltd.

Add.:	No.1301 Guanguang Road Xinlan Community, Guanlan Street, Longhua District Shenzhen, 518110, People's Republic of China.
P.C.:	518110
Tel :	0755-61180008
Fax:	0755-61180008

3.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to GB/T 27025(ISO/IEC 17025:2017)

USA	A2LA(Certificate #2861.01)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	ISED (Company Number: 24897，CAB identifier:CN0069)
USA	FCC (Registration Number: 759402，Designation Number:CN1198)

Copies of granted accreditation certificates are available for downloading from our web site, http://www.grgtest.com

3.3 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement		Frequency	Uncertainty
Radiated Emission	Horizontal	30MHz～1000MHz	3.7dB
		1GHz～18GHz	4.5dB
		18GHz~40GHz	4.3dB
	Vertical	30MHz～1000MHz	3.7dB
		1GHz～18GHz	4.5dB
		18GHz~40GHz	4.3dB
	Coaxial	9kHz～30MHz	4.5dB
	Coplanar	9kHz～30MHz	4.5dB

Measurement	Uncertainty
RF frequency	6.0×10^{-6}
RF power conducted	0.8dB
Occupied channel bandwidth	0.4dB
Unwanted emission, conducted	0.7dB
Humidity	6%
Temperature	2℃

This uncertainty represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of *k*=2.

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4. LIST OF USED TEST EQUIPMENT AT GRGT

Conducted system:

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Keysight	N9010B	MY60680122	2023-04-06
Wideband radio Communication Tester	R&S	CMW500	144611-nC	2023-05-08
Temperature& humidity chamber	HT	SMC-22PF	SZGDB-2022-140	2023-07-06
Filter bank	Tonscend	JS0806-F	2118060476	/
RF switch box	Tonscend	JS0806-1	21H8060463	/
Test SW	Tonscend	JS1120	/	/
Dc Source	LW	PS-305DM	180704473	2023-03-30

RSE system:

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Wireless communication tester	Agilent	E5515C	MY50265054	2023-05-08
Amplifier	Tonscend	TAP9E6343	AP20E806065	2023-05-08
Amplifier	Tonscend	TAP01018048	AP20E8060075	2023-05-05
Spectrum Analyzer	Agilent	N9010A	MY55370330	2023-10-25
Low frequency radiation disturbs the antenna	Schwarzbeck	VULB 9163	01279	2023-04-24
High-frequency radiation harasses the antenna	Schwarzbeck	BBHA 9120D(1201)	02143	2023-10-15
Double ridged broadband horn antenna	Schwarzbeck	BBHA 9170	BBHA 9170-497	2023-10-14
Test S/W	tonscend	JS36-RSE/2.5.1.5		
Dc Source	LW	PS-305DM	180704473	2023-03-30

5. EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA

5.1 LIMIT

According to FCC section22.913 (a)(5) the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.
According to FCC section24.232 (c) the mobile and portable stations are limited to 2 watts EIRP.

5.2 TEST PROCEDURES

Measurement Procedure: FCC KDB 971168 D01 V03r01

1. Connect the test system to the UE antenna connector.
2. A call is set up according to the Generic call setup procedure.
3. Set and send continuously up power control commands to the UE, until the UE output power shall be maximum level.
4. Read the conducted power in the base station.

Remark:

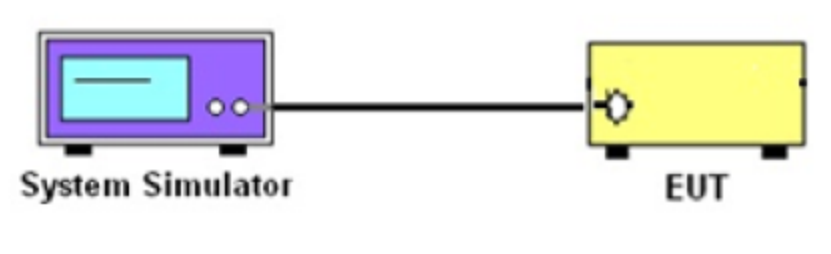
a: For getting the EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

EIRP [dBm] = Conducted output power [dBm] + Gain [dBi]

ERP [dBm] = Conducted output power [dBm] +Gain [dBi]-2.15dB

P [dBm]=10lg(p/1mw)

5.3 TEST SETUP



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5.4 TEST RESULTS

Effective Radiated Power

EUT Name	Box-Disguised Rechargeable Tracker	Model	GL33
Sample No.	E202211048579-0001	Test Mode	GPRS
Power supply	DC 3.7V	Environmental Conditions	Temp:23.1℃;Humi:45%RH
Test Date	2022-11-16	Test Site	/
Tested By	Zhang Shuangshuang	Reviewed by	Zhao Zetian

Band	Channel	Slot	Power(dBm)	ERP/EIRP (dBm)	Limit(dBm)	Verdict
GPRS850	128	1	32.36	25.59	38.45	PASS
GPRS850	190	1	32.43	25.66	38.45	PASS
GPRS850	251	1	32.43	25.66	38.45	PASS
GPRS1900	512	1	29.06	29.21	33.00	PASS
GPRS1900	661	1	29.00	29.15	33.00	PASS
GPRS1900	810	1	28.87	29.02	33.00	PASS

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6. PEAK-TO-AVERAGE RATIO

6.1 LIMIT

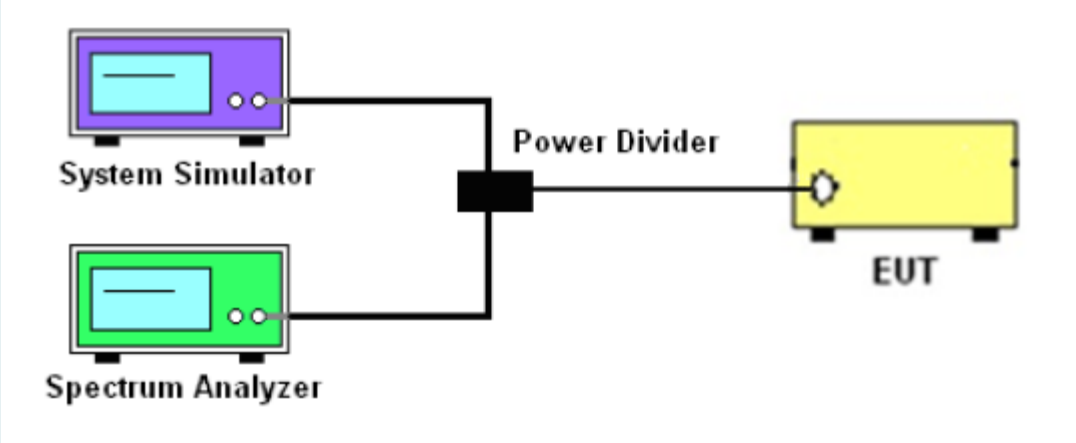
According to FCC section 22.913(d), 24.232(d), the peak to average ratio (PAR) of the transmission may not exceed 13dB.

6.2 TEST PROCEDURES

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.7.1
A peak to average ratio measurement is performed at the conducted port of the EUT. For WWAN signals, the spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

Test Settings
1.The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW>Emission bandwidth of signal
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

6.3 TEST SETUP



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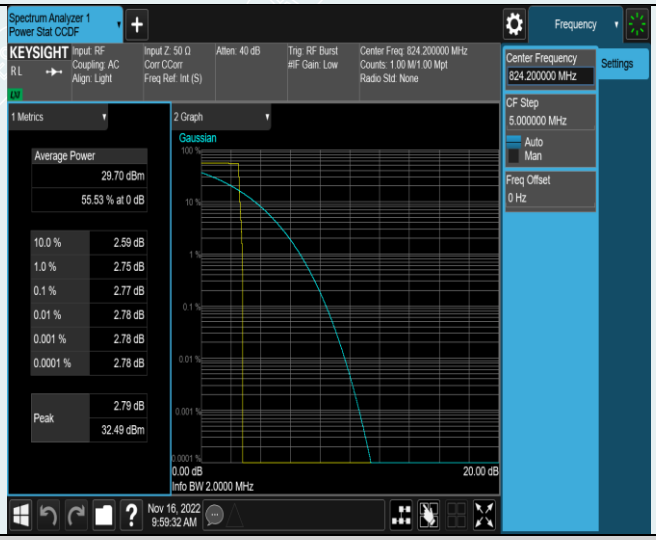
6.4 TEST RESULTS

EUT Name	Box-Disguised Rechargeable Tracker	Model	GL33
Sample No.	E202211048579-0001	Test Mode	GPRS
Power supply	DC 3.7V	Environmental Conditions	Temp:23.1℃;Humi:45%RH
Test Date	2022-11-16	Test Site	/
Tested By	Zhang Shuangshuang	Reviewed by	Zhao Zetian

Band	Channel	Result(dB)	Limit(dB)	Verdict
GPRS850	128	2.77	13	PASS
GPRS850	190	2.77	13	PASS
GPRS850	251	2.77	13	PASS
GPRS1900	512	2.67	13	PASS
GPRS1900	661	2.67	13	PASS
GPRS1900	810	2.67	13	PASS



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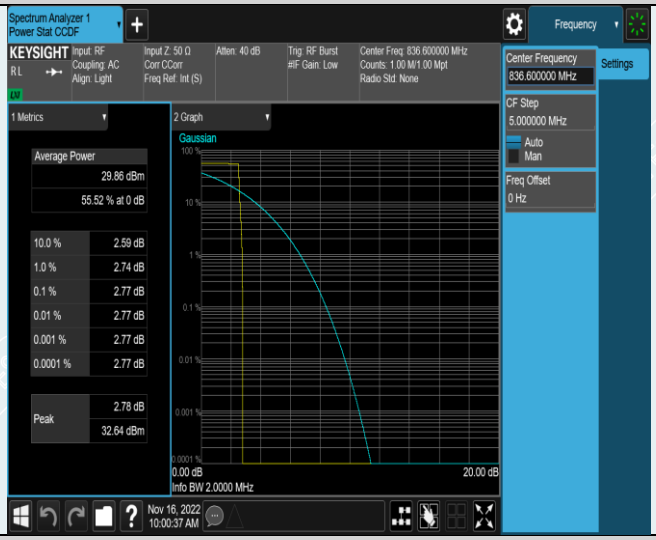

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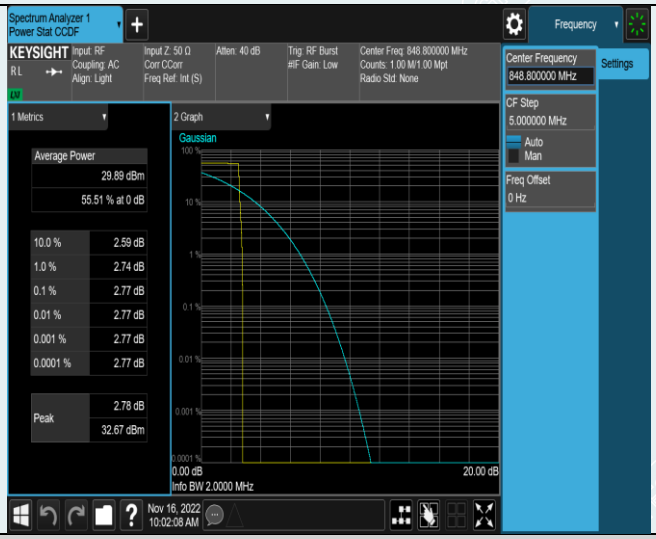

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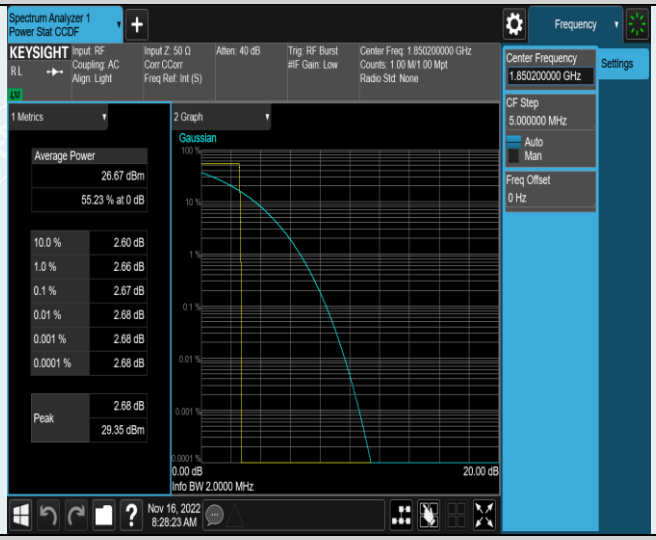

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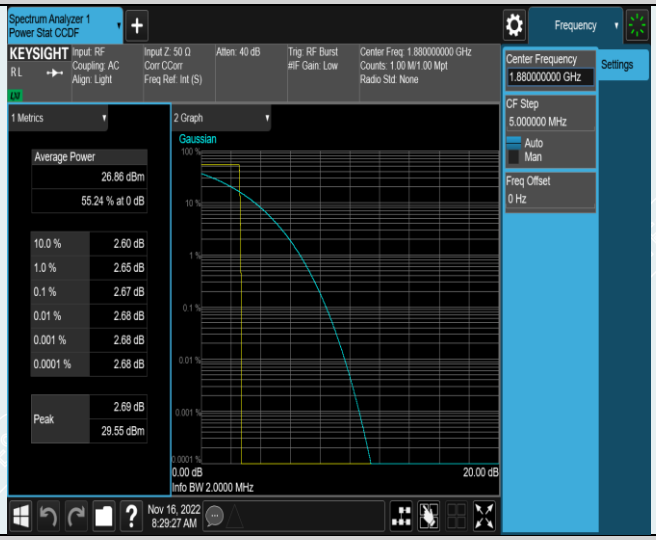

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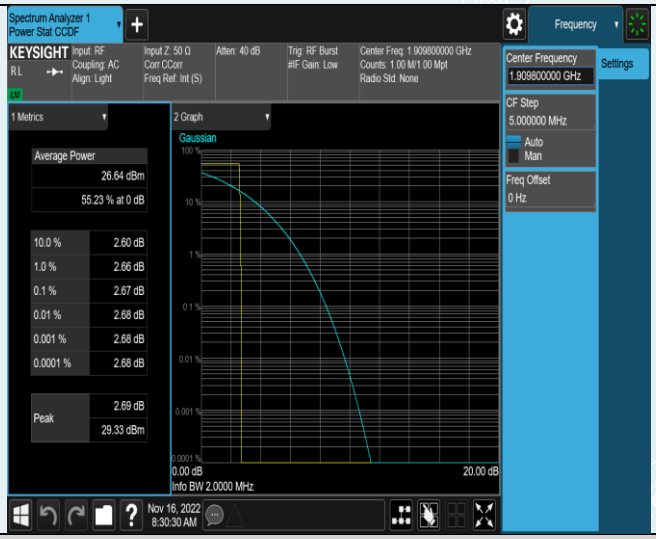

GPRS1900-810

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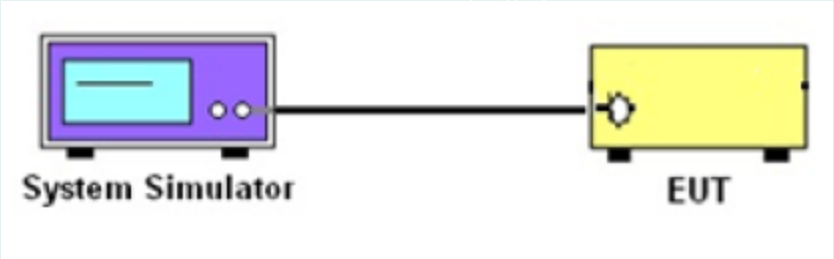
7. MODULATION CHARACTERISTICS

7.1 TEST PROCEDURES

The devices may employ any type of modulation techniques. The type of modulation used must be reported.

7.2 TEST SETUP



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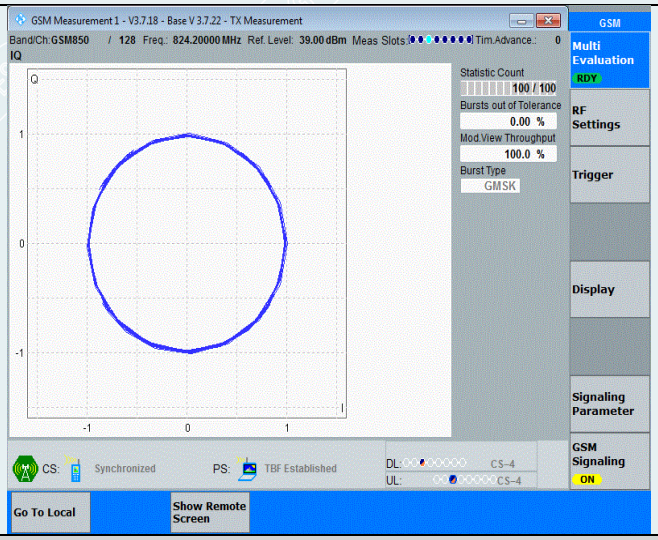
7.3 TEST RESULTS

GSM

EUT Name	Box-Disguised Rechargeable Tracker	Model	GL33
Sample No.	E202211048579-0001	Test Mode	GPRS
Power supply	DC 3.7V	Environmental Conditions	Temp:23.1℃;Humi:45%RH
Test Date	2022-11-16	Test Site	/
Tested By	Zhang Shuangshuang	Reviewed by	Zhao Zetian

Band	Channel	Result	Verdict
GPRS850	128	Digital modulation	PASS
GPRS850	190	Digital modulation	PASS
GPRS850	251	Digital modulation	PASS
GPRS1900	512	Digital modulation	PASS
GPRS1900	661	Digital modulation	PASS
GPRS1900	810	Digital modulation	PASS



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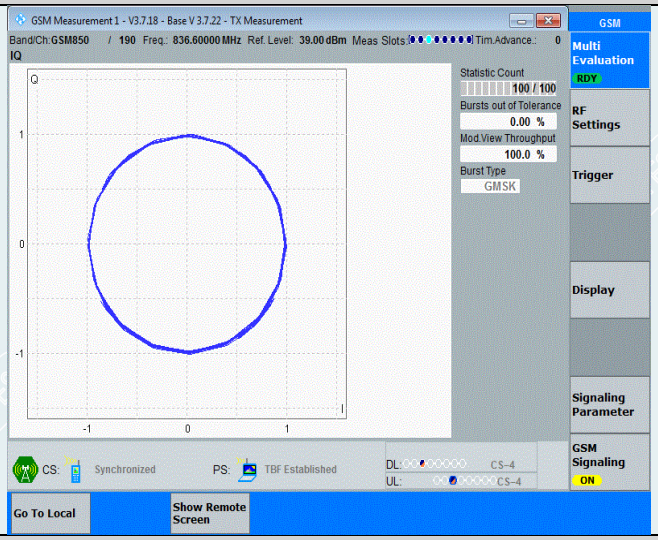

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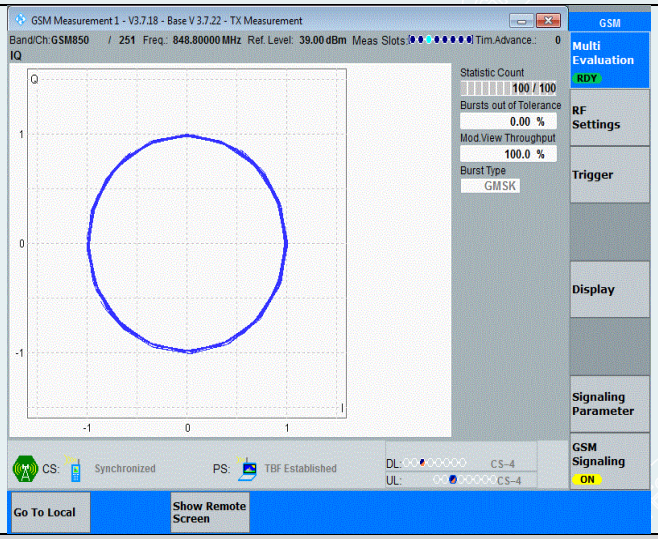

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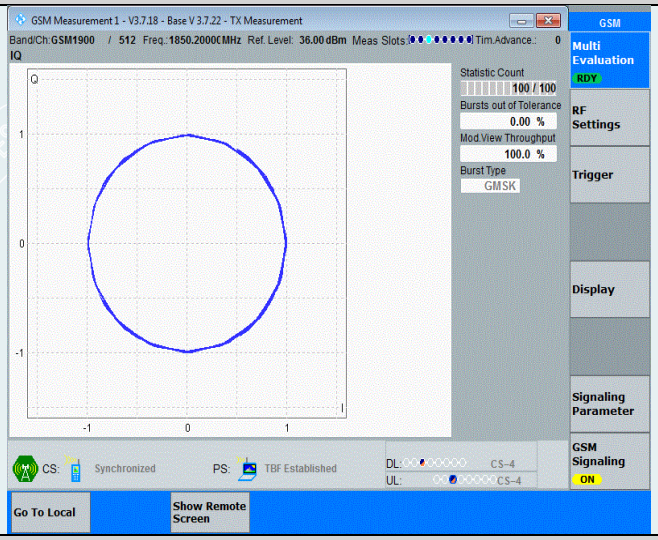

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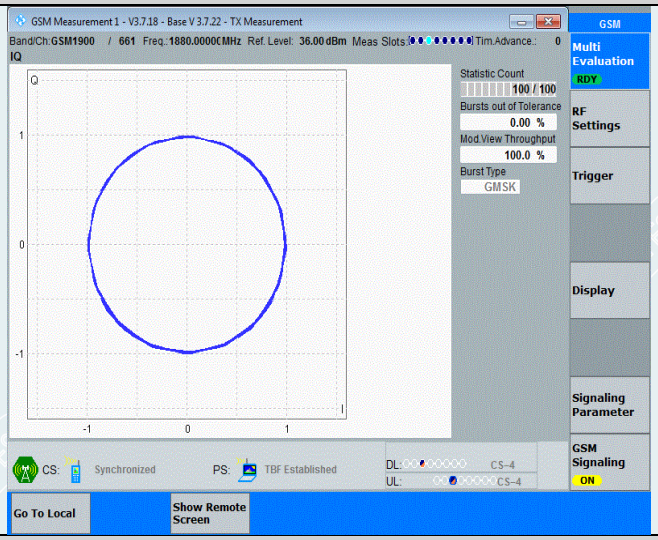

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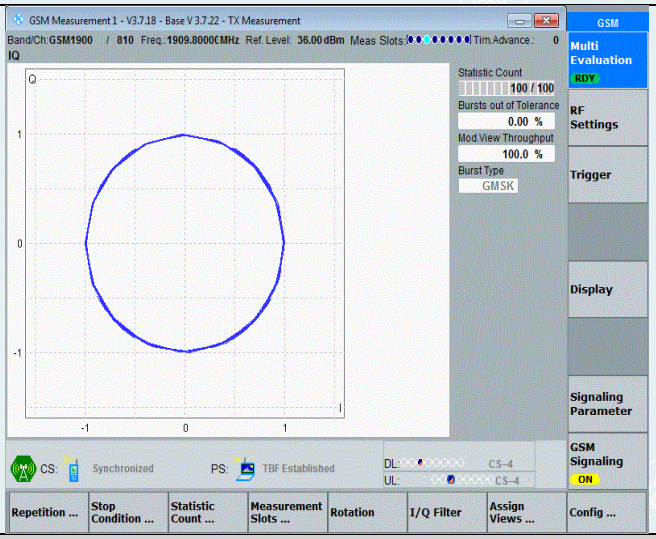

GPRS1900-810

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8. BANDWIDTH

8.1 LIMIT

According to FCC section 2.1049, OBW and EBW no limit.

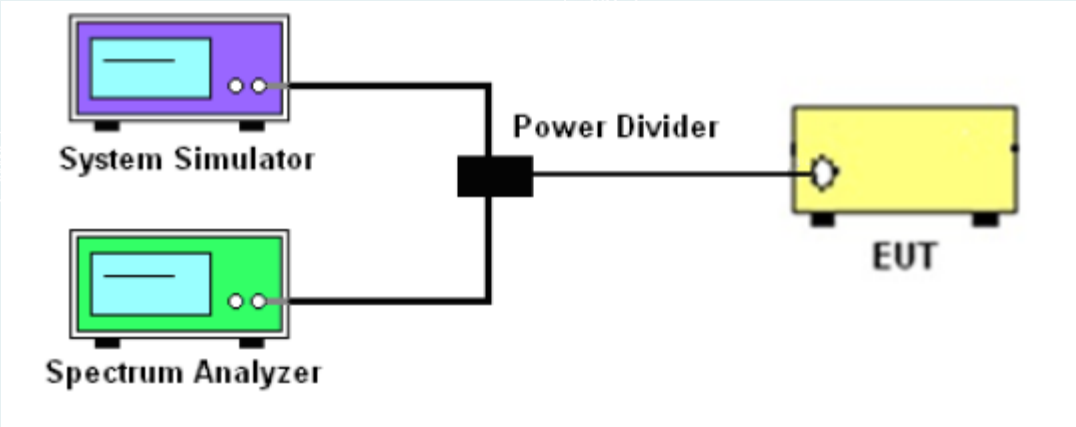
8.2 TEST PROCEDURES

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel, middle channel and high channel).The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1 percent of the selected span as is possible without being below 1 percent. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual. The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 percent of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded. The span between the two recorded frequencies is the occupied bandwidth.

Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW=1-5% of the expected OBW
3. VBW≥3×RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1- 5% of the 99% occupied bandwidth observed in Step 7

8.3 TEST SETUP

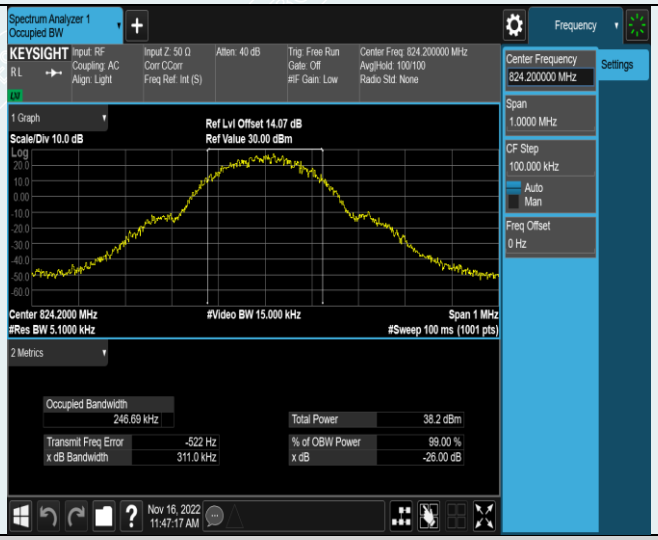


8.4 TEST RESULTS

GSM

EUT Name	Box-Disguised Rechargeable Tracker	Model	GL33
Sample No.	E202211048579-0001	Test Mode	GPRS
Power supply	DC 3.7V	Environmental Conditions	Temp:23.1℃;Humi:45%RH
Test Date	2022-11-16	Test Site	/
Tested By	Zhang Shuangshuang	Reviewed by	Zhao Zetian

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GPRS850	128	0.24669	0.3110	---	PASS
GPRS850	190	0.24245	0.3116	---	PASS
GPRS850	251	0.24458	0.3122	---	PASS
GPRS1900	512	0.24662	0.3165	---	PASS
GPRS1900	661	0.24555	0.3148	---	PASS
GPRS1900	810	0.24441	0.3101	---	PASS



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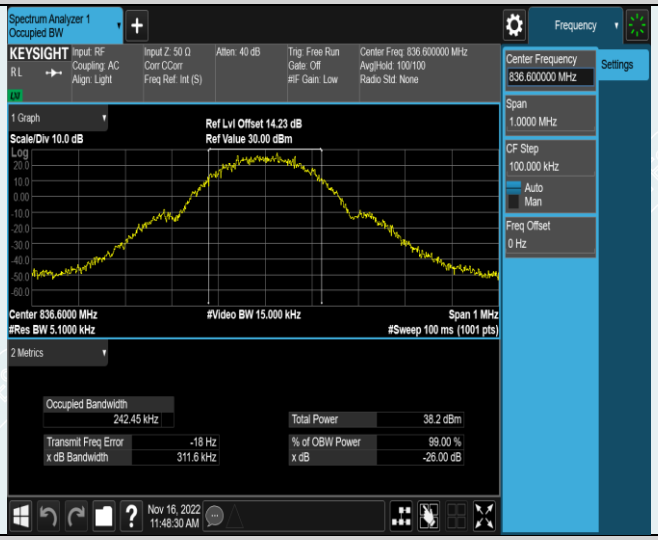

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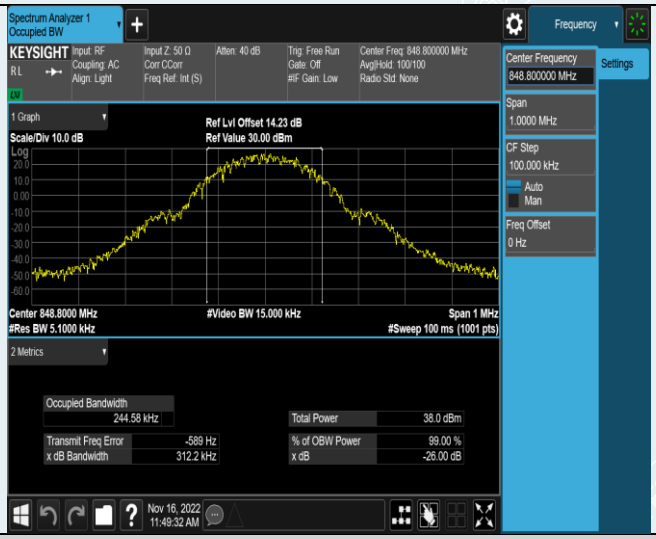

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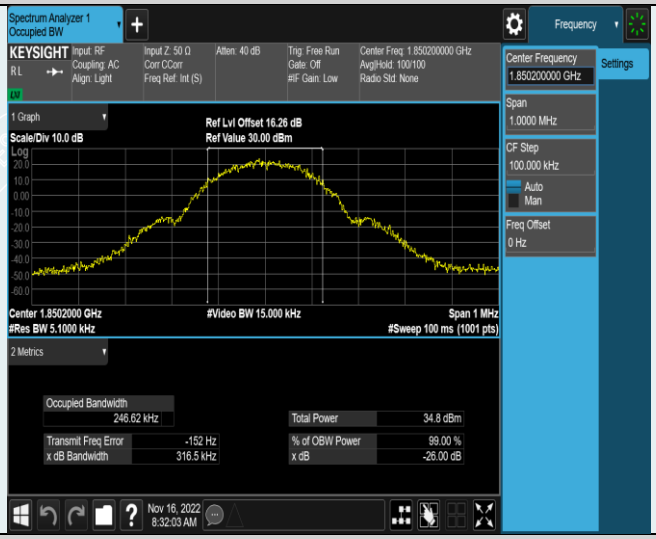
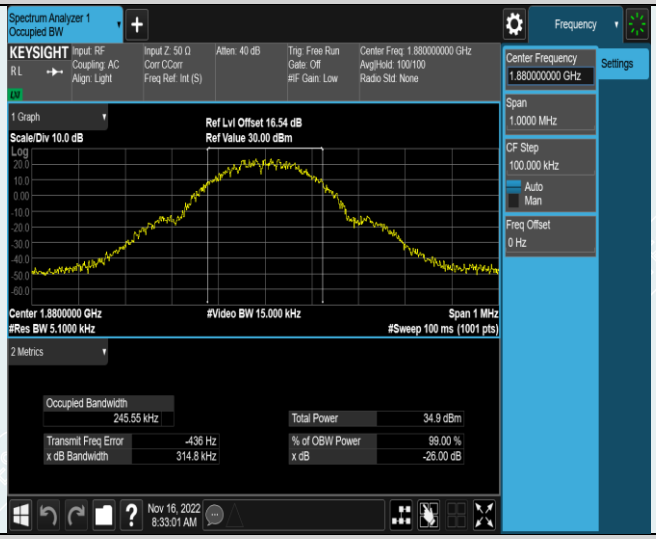
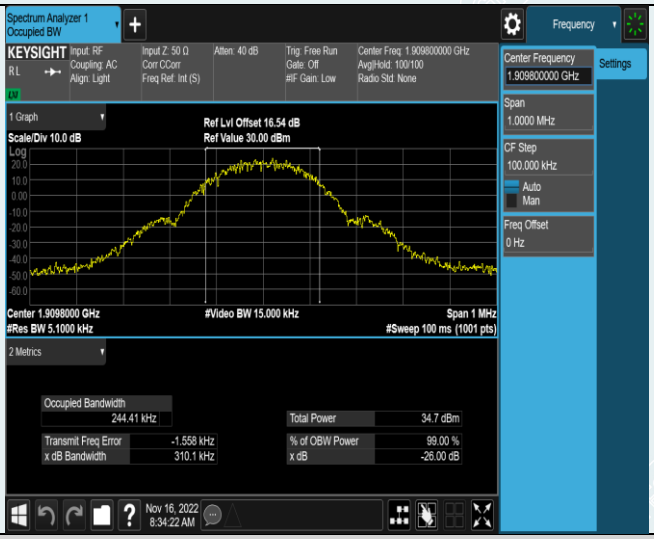


GPRS1900-512



GPRS1900-661



GPRS1900-810

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9. BAND EDGES COMPLIANCE

9.1 LIMIT

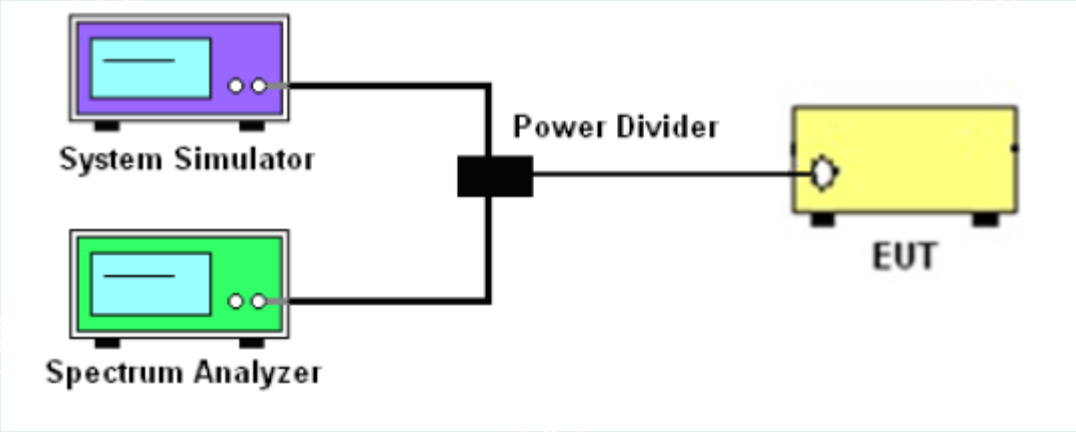
According to FCC section 22.917(b)(1), 24.238(a)(b), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10log(P) dB.

9.2 TEST PROCEDURES

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 6
The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at two frequencies (low channel and high channel).in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of 100kHz or 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed. The EUT emission bandwidth is measured as the width of the signal between two points, outside of which all emission are attenuated at least 26dB below the transmitter power. The video bandwidth of the spectrum analyzer was set at thrice the resolution bandwidth. Detector Mode was set to peak or peak hold power.

Test Settings
1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW ≥ 1% of the emission bandwidth
4. VBW ≥ 3 ×RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 ×Span/RBW
7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
8. Sweep time = auto couple
9. The trace was allowed to stabilize

9.3 TEST SETUP

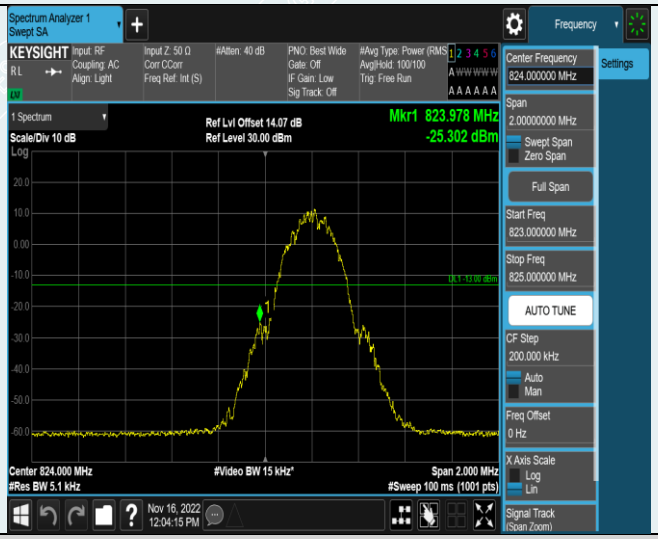


9.4 TEST RESULTS

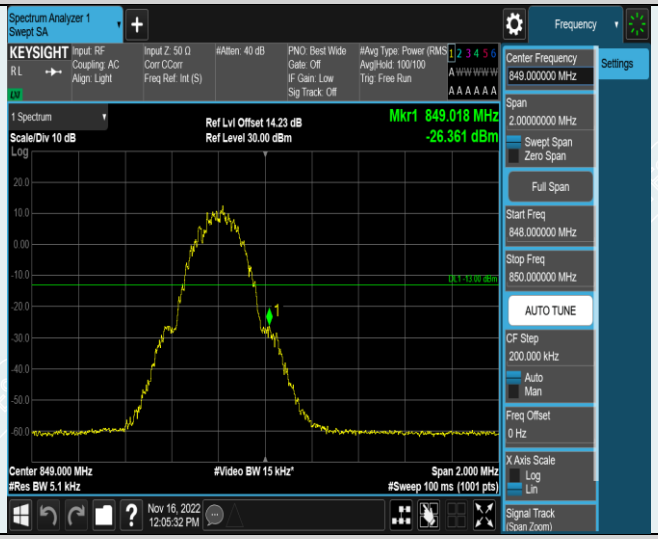
GSM

EUT Name	Box-Disguised Rechargeable Tracker	Model	GL33
Sample No.	E202211048579-0001	Test Mode	GPRS
Power supply	DC 3.7V	Environmental Conditions	Temp:23.1℃;Humi:45%RH
Test Date	2022-11-16	Test Site	/
Tested By	Zhang Shuangshuang	Reviewed by	Zhao Zetian

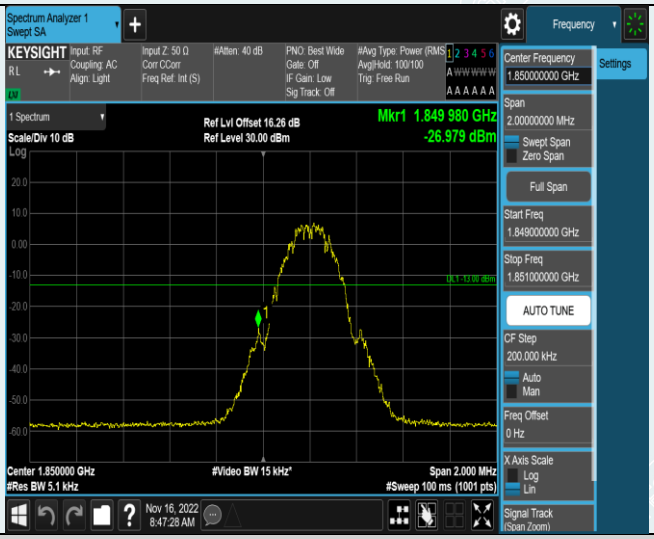
Band	Channel	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GPRS850	128	823.98	-25.30	-13	PASS
GPRS850	251	849.02	-26.36	-13	PASS
GPRS1900	512	1849.98	-26.98	-13	PASS
GPRS1900	810	1910.03	-29.70	-13	PASS



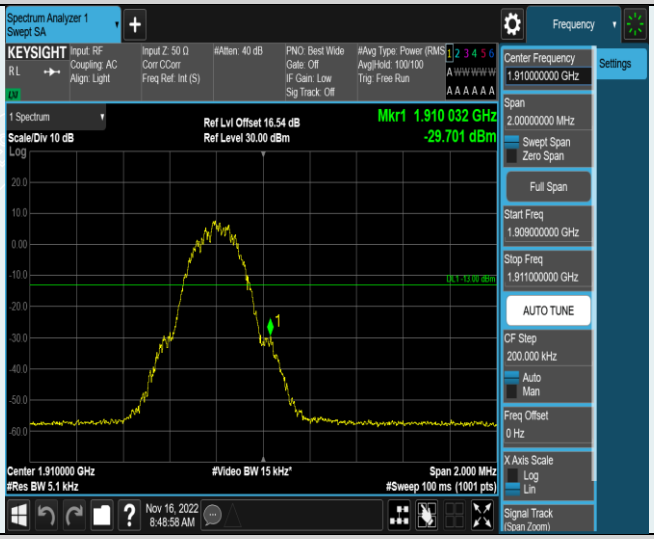
GPRS850-128



GPRS850-251



GPRS1900-512



GPRS1900-810

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10. SPURIOUS EMISSION AT ANTENNA TERMINAL

10.1 LIMIT

According to FCC section 22.917(a), 24.238(a)(b), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10log(P) dB.

10.2 TEST PROCEDURES

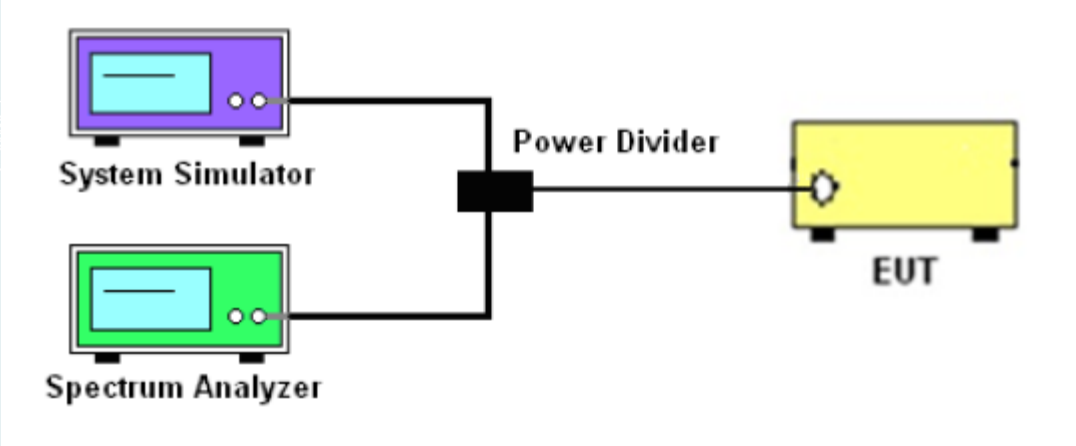
Measurement Procedure: FCC KDB 971168 D01 V03r01
The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyzer, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel and high channel).The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to at least 10*the fundamental frequency (separated into at least two plots per channel)
2. Detector=RMS
3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
4. Sweep time = auto couple
5. The trace was allowed to stabilize
6. Please see test notes below for RBW and VBW settings

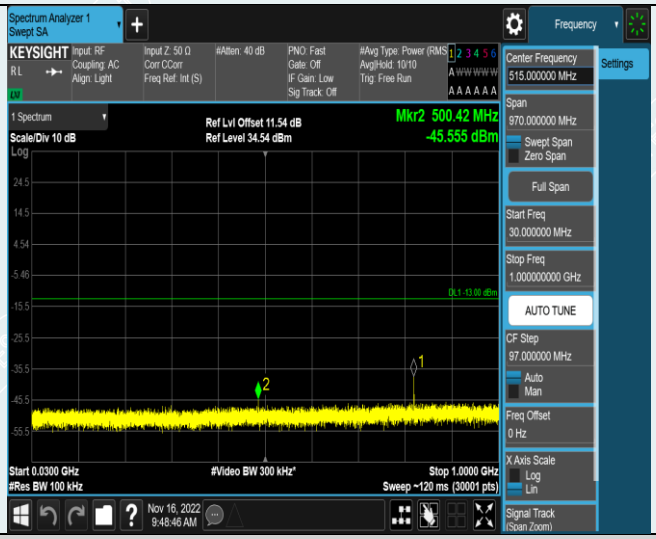
Remark:
The disturbance below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the worst case data had been displayed.

10.3 TEST SETUP



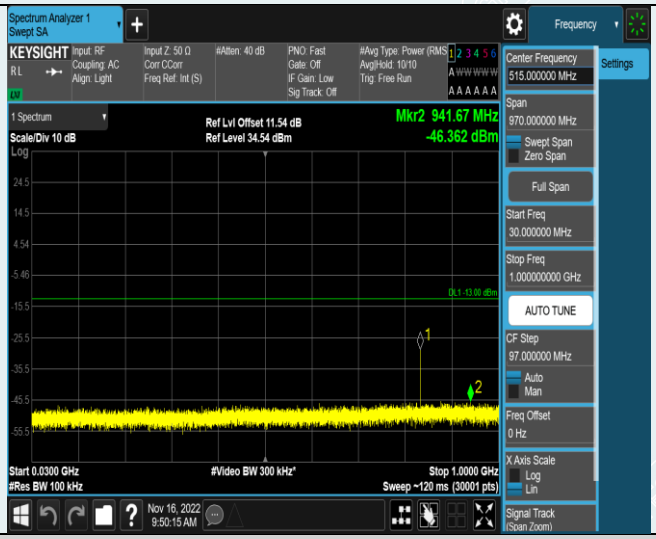
10.4 TEST RESULTS

EUT Name	Box-Disguised Rechargeable Tracker	Model	GL33
Sample No.	E202211048579-0001	Test Mode	GPRS
Power supply	DC 3.7V	Environmental Conditions	Temp:23.1℃;Humi:45%RH
Test Date	2022-11-16	Test Site	/
Tested By	Zhang Shuangshuang	Reviewed by	Zhao Zetian



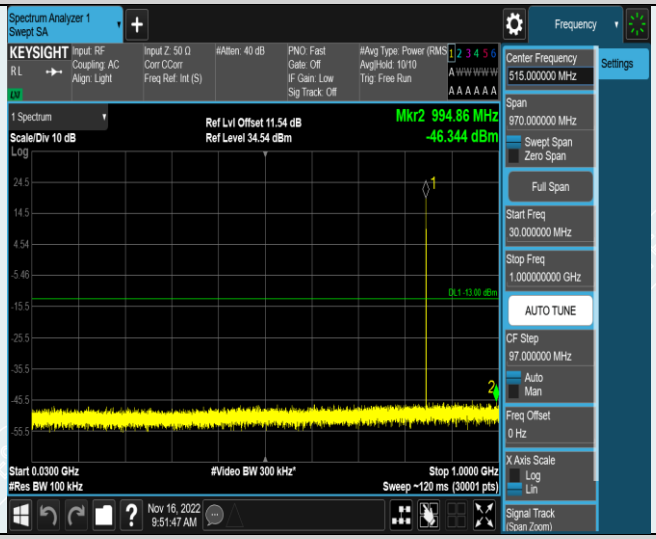
GPRS850-128-30~1000MHz

GPRS850-128-1000~10000MHz



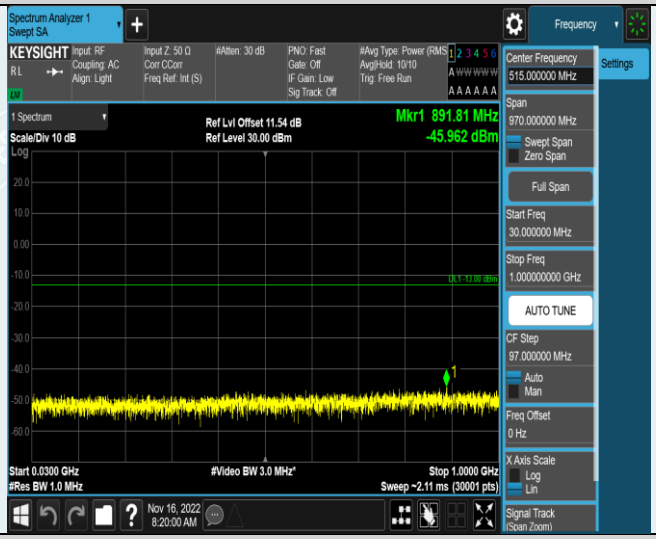
GPRS850-190-30~1000MHz

GPRS850-190-1000~10000MHz

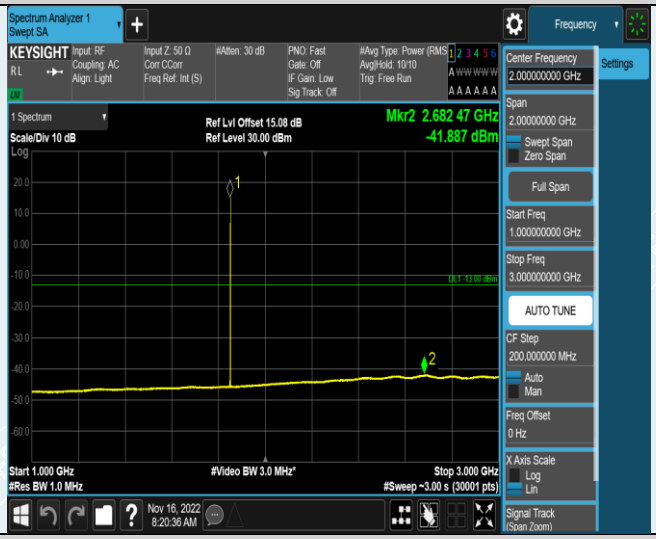


GPRS850-251-30~1000MHz

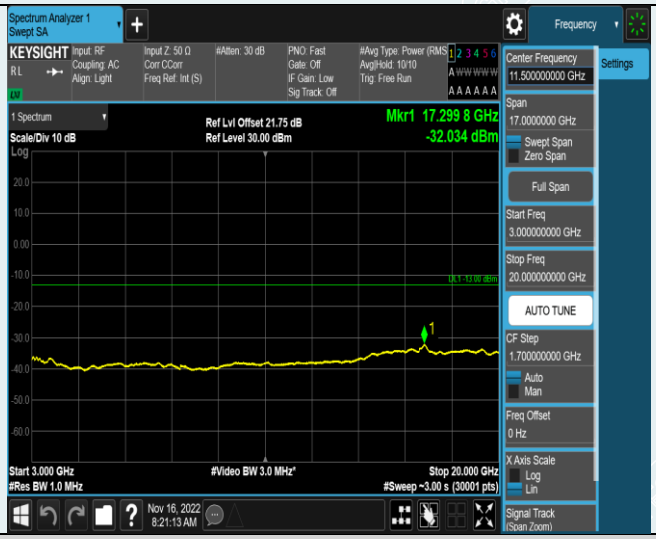
GPRS850-251-1000~10000MHz



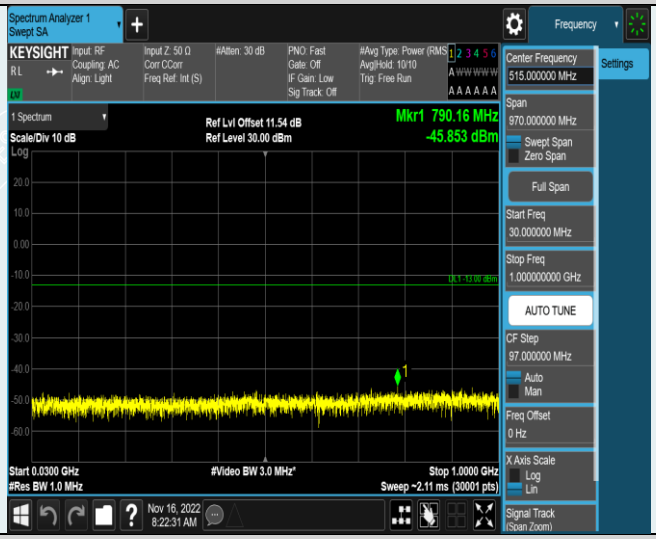
GPRS1900-512-30~1000MHz



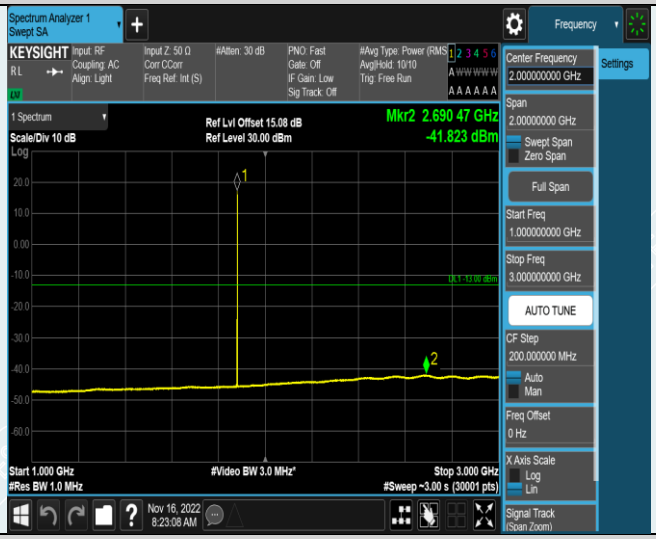
GPRS1900-512-1000~3000MHz



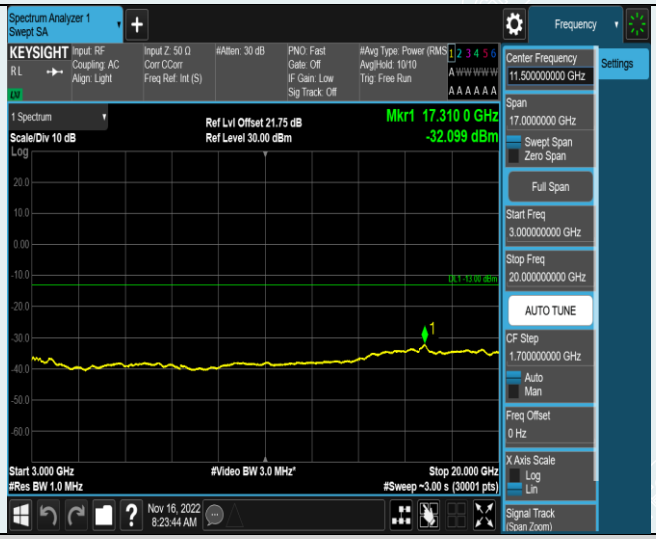
GPRS1900-512-3000~20000MHz



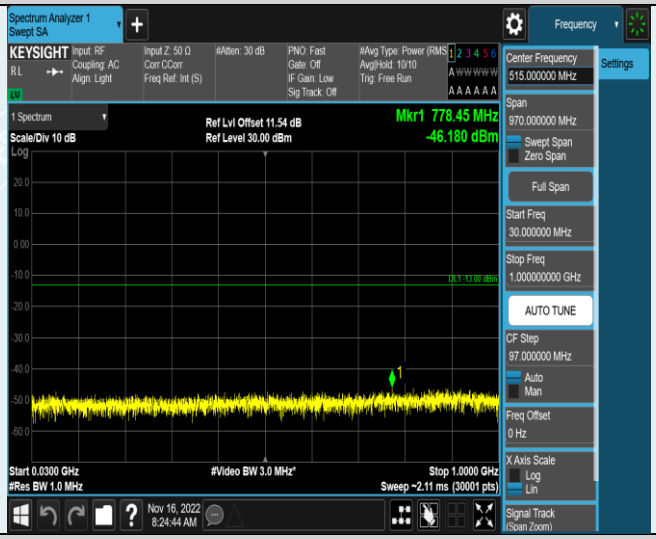
GPRS1900-661-30~1000MHz



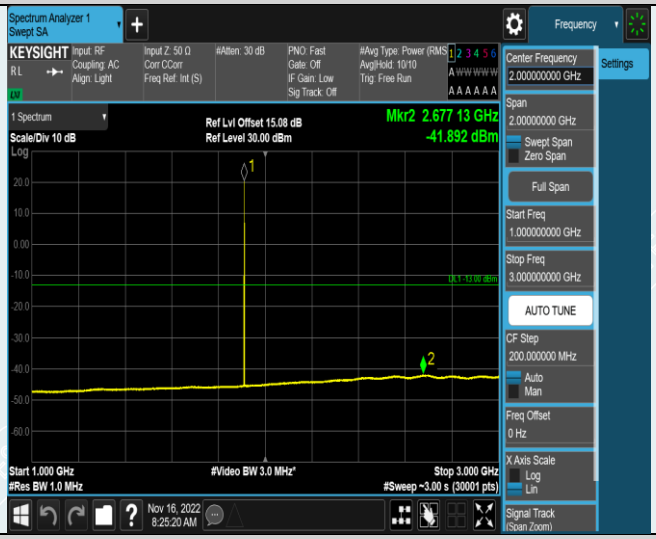
GPRS1900-661-1000~3000MHz



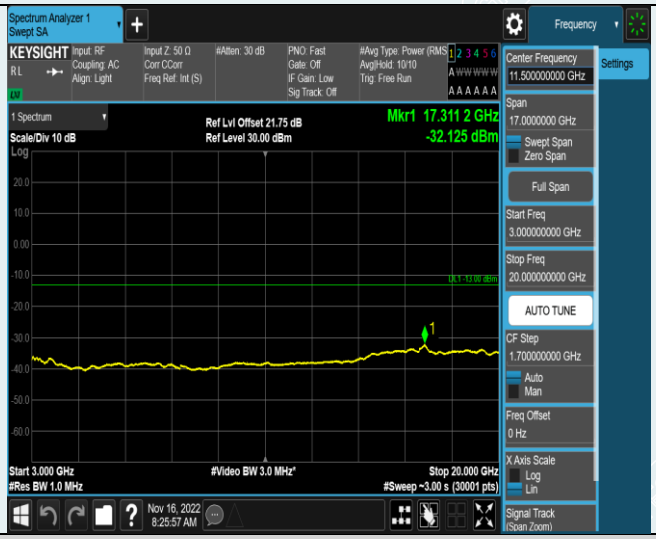
GPRS1900-661-3000~20000MHz



GPRS1900-810-30~1000MHz



GPRS1900-810-1000~3000MHz



GPRS1900-810-3000~20000MHz

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11. FREQUENCY STABILITY

11.1 LIMIT

According to FCC section 22.355, frequency stability of the transmission may not exceed ±2.5ppm.
According to FCC section 24.235, section 27.54, frequency stability no limit.

11.2 TEST PROCEDURES

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 9

Frequency stability over variations in temperature

1. The EUT was set up in the thermal chamber and connected with the base station.
2. With power off, temperature was decreased to -30 ℃ and EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power off, the temperature was rised in -30 ℃ step up to 50 ℃. The EUT was stabilizes at each step for at least half an hour at. Power was applied the maximum frequency change was recorded within one minute.

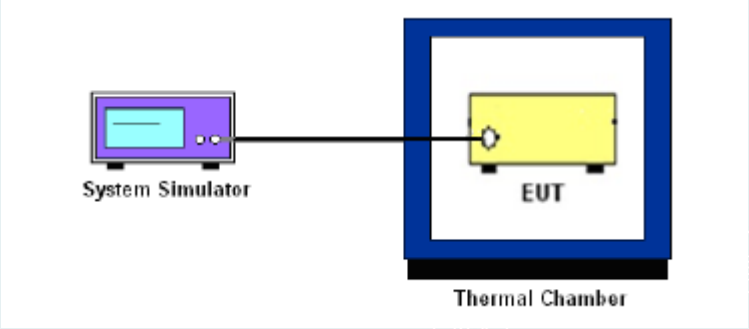
Frequency stability when varying supply voltage

1. The EUT was placed in a temperature chamber at 20±5 ℃ and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment..
3. For hand carried battery powered equipment, reduce the primary AC or DC supply voltage to the battery operating end point, which shall be specified by the manufacturer.
4. In the worst case, frequency changes are measured.

Test Settings

N/A

11.3 TEST SETUP



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11.4 TEST RESULTS

EUT Name	Box-Disguised Rechargeable Tracker	Model	GL33
Sample No.	E202211048579-0001	Test Mode	GPRS
Power supply	DC 3.7V	Environmental Conditions	Temp:23.1℃;Humi:45%RH
Test Date	2022-11-16	Test Site	/
Tested By	Zhang Shuangshuang	Reviewed by	Zhao Zetian

Voltage							
Band	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GPRS850	190	LV	NT	-9.65	-0.011535	±2.5	PASS
GPRS850	190	NV	NT	-12.01	-0.014356	±2.5	PASS
GPRS850	190	HV	NT	-18.60	-0.022233	±2.5	PASS
GPRS1900	661	LV	NT	-28.19	-0.014995	±2.5	PASS
GPRS1900	661	NV	NT	-24.47	-0.013016	±2.5	PASS
GPRS1900	661	HV	NT	-43.42	-0.023096	±2.5	PASS

Temperature							
Band	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GPRS850	190	NV	-20	-19.69	-0.023536	±2.5	PASS
GPRS850	190	NV	-10	-23.34	-0.027899	±2.5	PASS
GPRS850	190	NV	0	-22.02	-0.026321	±2.5	PASS
GPRS850	190	NV	10	-19.66	-0.023500	±2.5	PASS
GPRS850	190	NV	20	-19.40	-0.023189	±2.5	PASS
GPRS850	190	NV	30	-23.25	-0.027791	±2.5	PASS
GPRS850	190	NV	40	-22.47	-0.026859	±2.5	PASS
GPRS850	190	NV	50	-21.92	-0.026201	±2.5	PASS
GPRS1900	661	NV	-20	-28.57	-0.015197	±2.5	PASS
GPRS1900	661	NV	-10	-31.38	-0.016691	±2.5	PASS
GPRS1900	661	NV	0	-34.74	-0.018479	±2.5	PASS
GPRS1900	661	NV	10	-38.13	-0.020282	±2.5	PASS
GPRS1900	661	NV	20	-36.87	-0.019612	±2.5	PASS
GPRS1900	661	NV	30	-45.04	-0.023957	±2.5	PASS
GPRS1900	661	NV	40	-37.39	-0.019888	±2.5	PASS
GPRS1900	661	NV	50	-44.30	-0.023564	±2.5	PASS

---------- The following blanks ----------

12. FIELD STRENGTH OF SPURIOUS RADIATION

12.1 LIMIT

According to FCC section 22.917(a), 24.238(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10log(P) dB.

12.2 TEST PROCEDURES

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 7

Below 1GHz test procedure as below:

1). The EUT was powered ON and placed on a 80cm high table in the chamber. The antenna of the transmitter was extended to its maximum length.

2). The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) the receive antenna and by rotating through 360 °the turntable. After the fundamental emission was maximized, a field strength measurement was made.

3). Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.

4). The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter.

5). A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 2) is obtained for this set of conditions.

6). The output power into the substitution antenna was then measured.

7). Steps 5) and 6) were repeated with both antennas polarized.

8) Calculate power in dBm by the following formula:

ERP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBd)

Where:

Pd is the dipole equivalent power, Pg is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to Pg [dBm] – cable loss [dB]. The calculated Pd levels are then compared to the absolute spurious emission limit of -13dBm which is equivalent to the required minimum attenuation of 43 + 10log10(Power [Watts]).

Above 1GHz test procedure as below:

1.Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber

2.Calculate power in dBm by the following formula:

EIRP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBi)

EIRP=ERP+2.15dB

Where:

Pg is the generator output power into the substitution antenna.

3. Test the EUT in the lowest channel, the middle channel the Highest channel

4. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.

5. Repeat above procedures until all frequencies measured was complete

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to at least 10*the fundamental frequency (separated into at least two plots per channel)

2.RBW=100kHz for emission below 1GHz and 1MHz for emission above 1GHz.

3.Number of sweep point≥2*span/RBW

4. Detector=RMS

5. Trace mode = trace average for continuous emissions, max hold for pulse emissions

6. The trace was allowed to stabilize

12.3 TEST SETUP

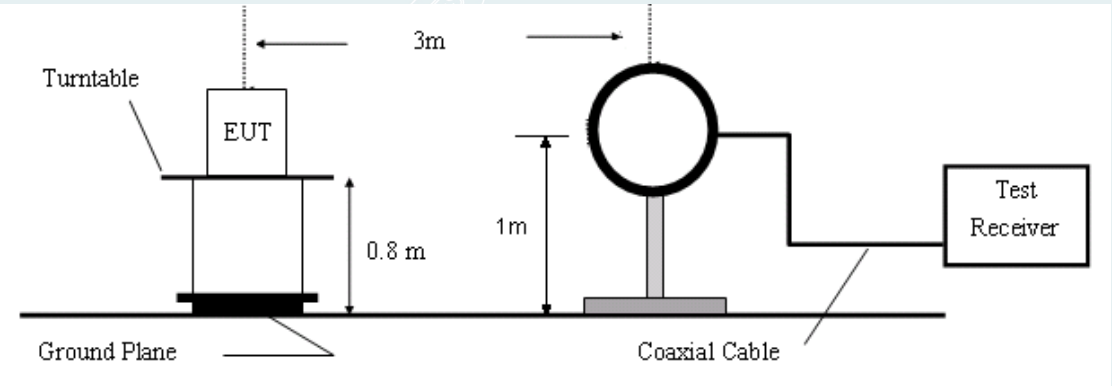

Figure 1. 9kHz to 30MHz radiated emissions test configuration

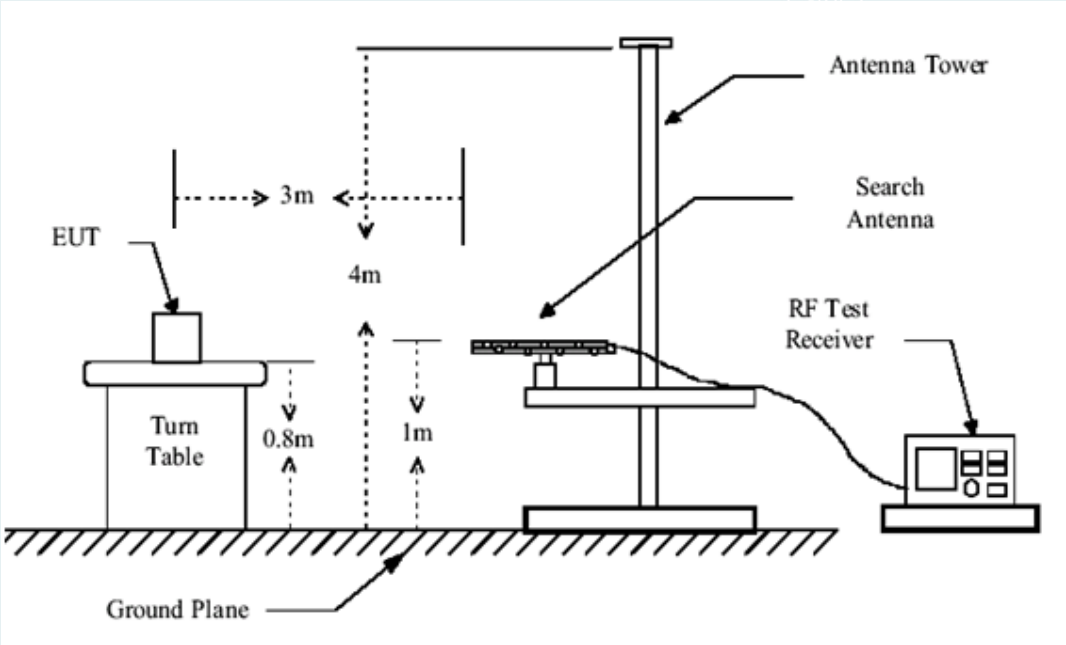

Figure 2. 30MHz to 1GHz radiated emissions test configuration

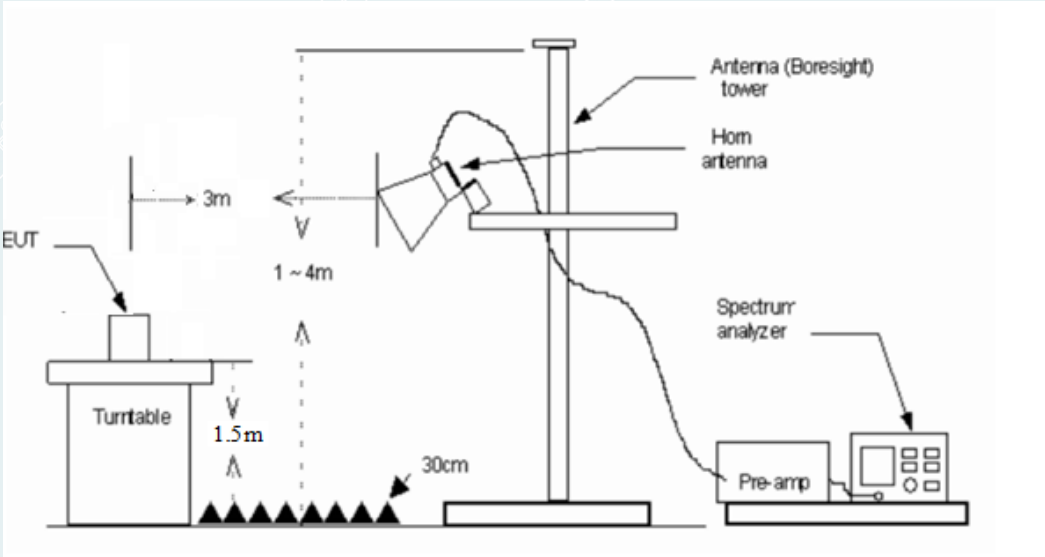

Figure 3. 1GHz-18GHz radiated emissions test configuration

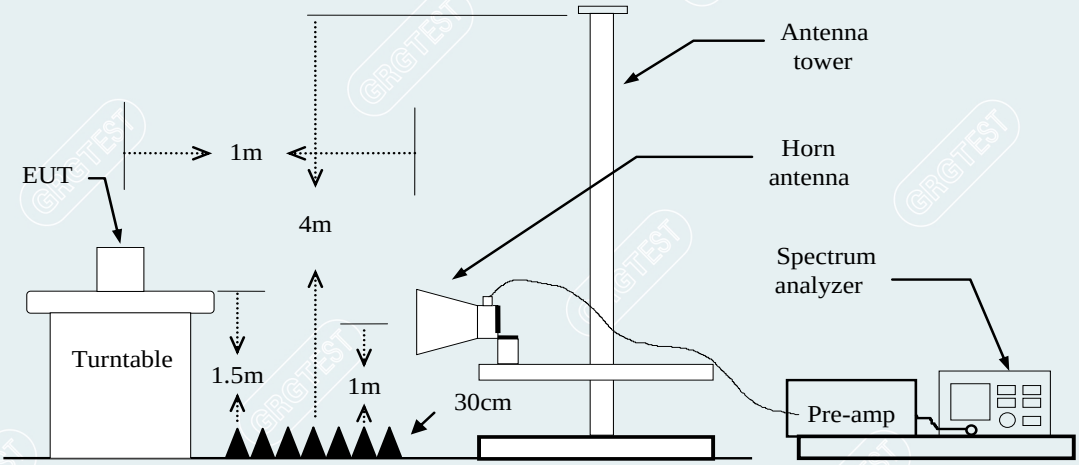

Figure 4. Above 18GHz radiated emissions test configuration

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12.4 DATA SAMPLE

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
x	xxxx	-66.69	-77.73	-25.00	52.73	-11.04	RMS	Horizontal

Frequency (MHz) = Emission frequency in MHz

Ant.Pol. (H/V) = Antenna polarization

Reading (dBm) = Uncorrected Analyzer / Receiver reading

Result (dBm) = Reading (dBm) + Correction Factor (dBm)

Limit (dBm) = Limit stated in standard

Margin (dB) = Remark Result (dBm) – Limit (dBm)

Peak = Peak Reading

RMS = RMS Reading

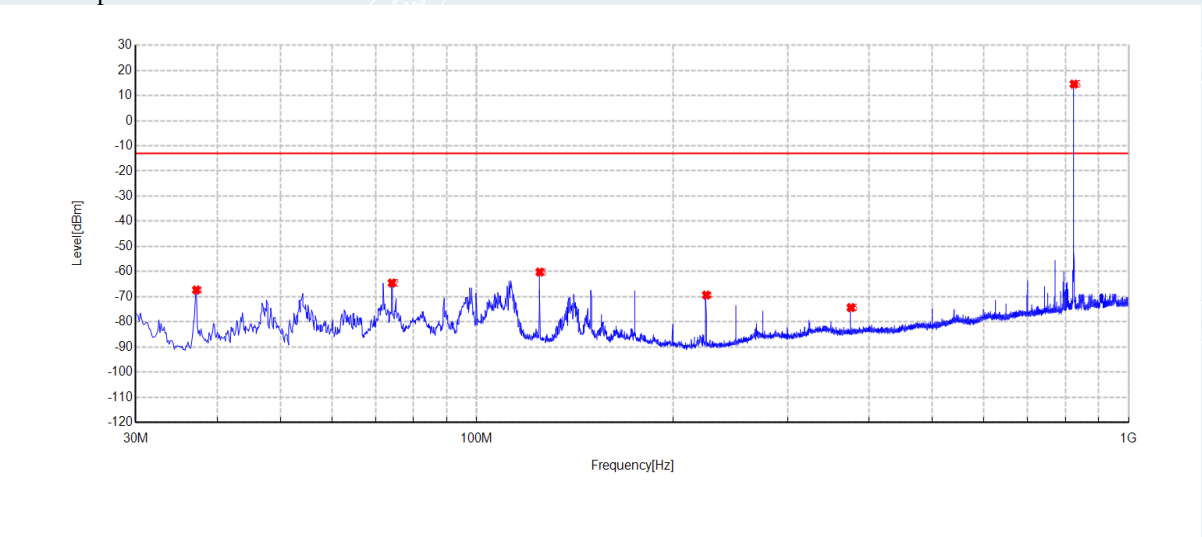
AVG = Average Reading

---------- **The following blanks** ----------

12.5 TEST RESULTS

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	128	Band:	GSM850
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:24:48		

Test Graph



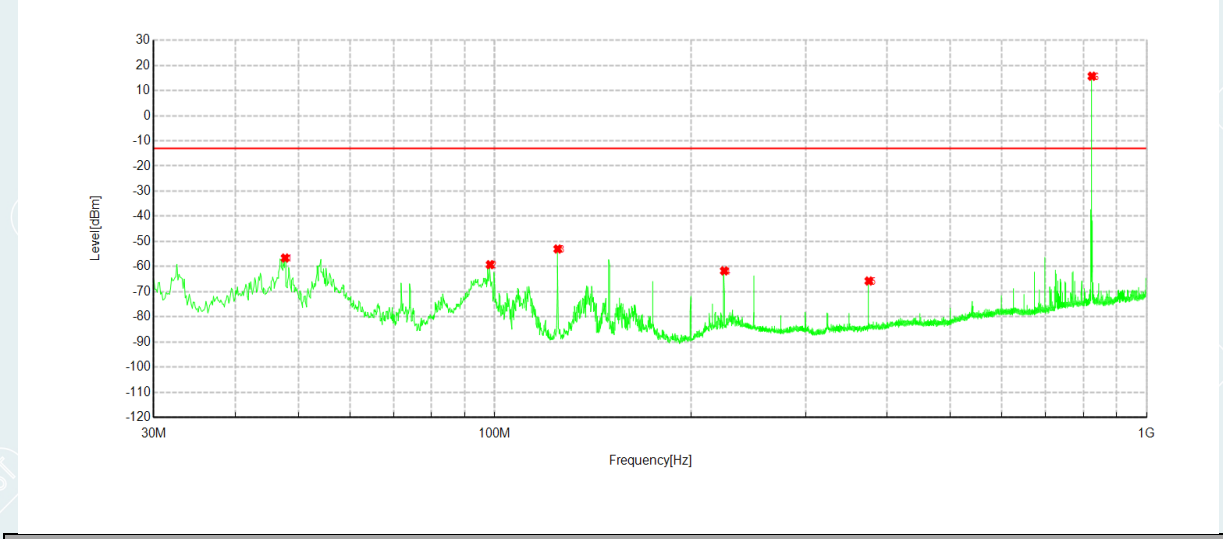
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	37.1538	-45.41	-67.32	-13.00	54.32	-21.91	RMS	Vertical
2	74.135	-43.71	-64.56	-13.00	51.56	-20.85	RMS	Vertical
3	124.9388	-44.07	-60.21	-13.00	47.21	-16.14	RMS	Vertical
4	224.97	-50.99	-69.36	-13.00	56.36	-18.37	RMS	Vertical
5	374.9562	-62.00	-74.32	-13.00	61.32	-12.32	RMS	Vertical
6	824.1875	17.48	14.54	/	/	-2.94	RMS	Vertical

NOTE：NO.6 is the fundamental frequency signal.

---------- **The following blanks** ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	128	Band:	GSM850
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:24:04		

Test Graph



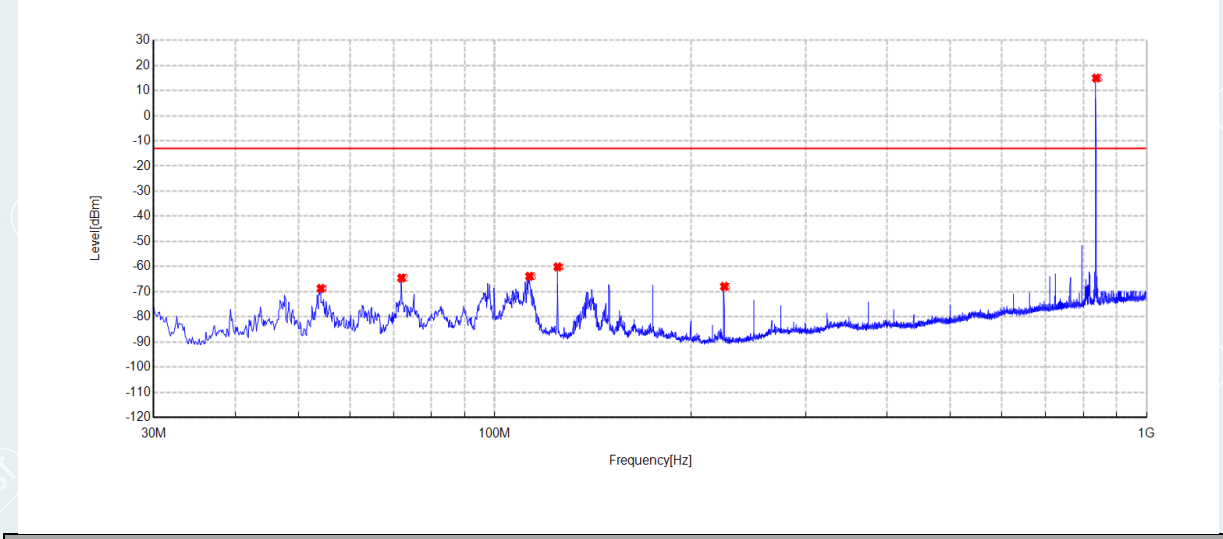
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	47.7025	-43.26	-56.62	-13.00	43.62	-13.36	RMS	Horizontal
2	98.385	-38.31	-59.26	-13.00	46.26	-20.95	RMS	Horizontal
3	124.9388	-32.78	-53.02	-13.00	40.02	-20.24	RMS	Horizontal
4	224.97	-47.65	-61.72	-13.00	48.72	-14.07	RMS	Horizontal
5	374.9562	-53.12	-65.75	-13.00	52.75	-12.63	RMS	Horizontal
6	824.3088	18.58	15.67	/	/	-2.91	RMS	Horizontal

NOTE：NO.6 is the fundamental frequency signal.

---------- The following blanks ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	190	Band:	GSM850
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:32:00		

Test Graph



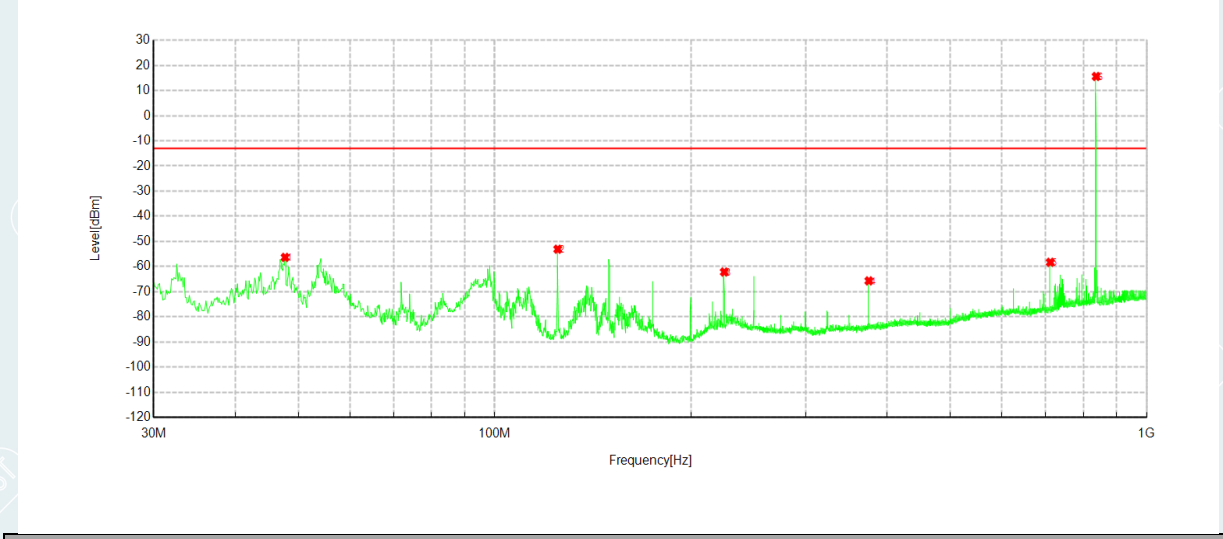
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	54.1288	-48.66	-68.70	-13.00	55.70	-20.04	RMS	Vertical
2	71.9525	-44.13	-64.57	-13.00	51.57	-20.44	RMS	Vertical
3	113.0562	-51.36	-63.89	-13.00	50.89	-12.53	RMS	Vertical
4	124.9388	-44.00	-60.14	-13.00	47.14	-16.14	RMS	Vertical
5	224.97	-49.54	-67.91	-13.00	54.91	-18.37	RMS	Vertical
6	836.6762	18.17	14.94	/	/	-3.23	RMS	Vertical

NOTE：NO.6 is the fundamental frequency signal.

---------- **The following blanks** ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	190	Band:	GSM850
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:31:16		

Test Graph



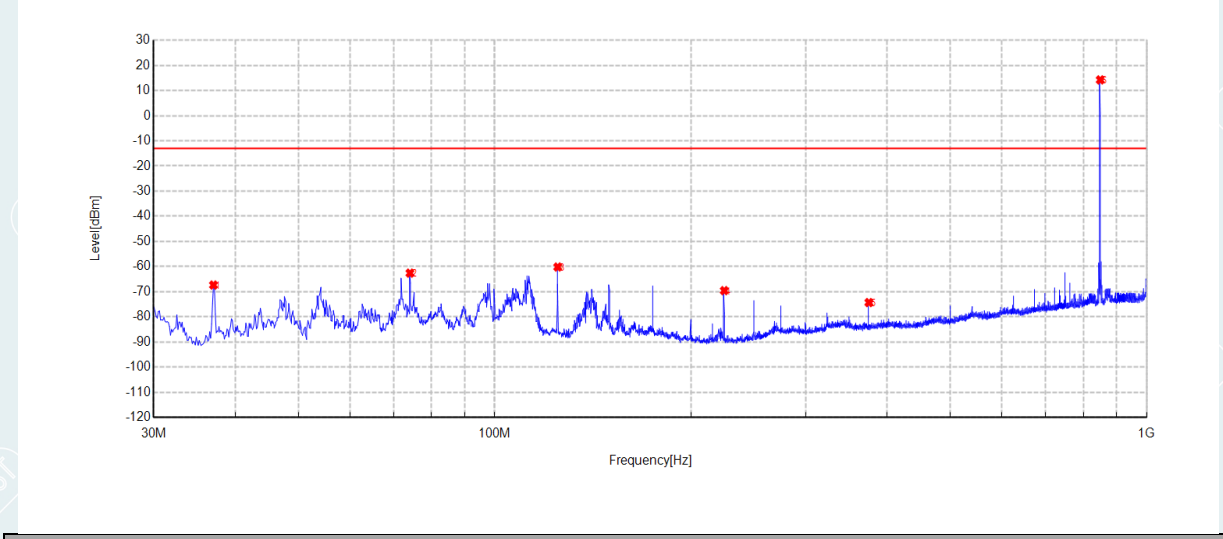
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	47.7025	-43.01	-56.37	-13.00	43.37	-13.36	RMS	Horizontal
2	124.9388	-32.87	-53.11	-13.00	40.11	-20.24	RMS	Horizontal
3	224.97	-48.10	-62.17	-13.00	49.17	-14.07	RMS	Horizontal
4	374.9562	-53.07	-65.70	-13.00	52.70	-12.63	RMS	Horizontal
5	711.5462	-52.79	-58.31	-13.00	45.31	-5.52	RMS	Horizontal
6	836.6762	18.43	15.58	/	/	-2.85	RMS	Horizontal

NOTE：NO.6 is the fundamental frequency signal.

---------- **The following blanks** ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	251	Band:	GSM850
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:18:59		

Test Graph



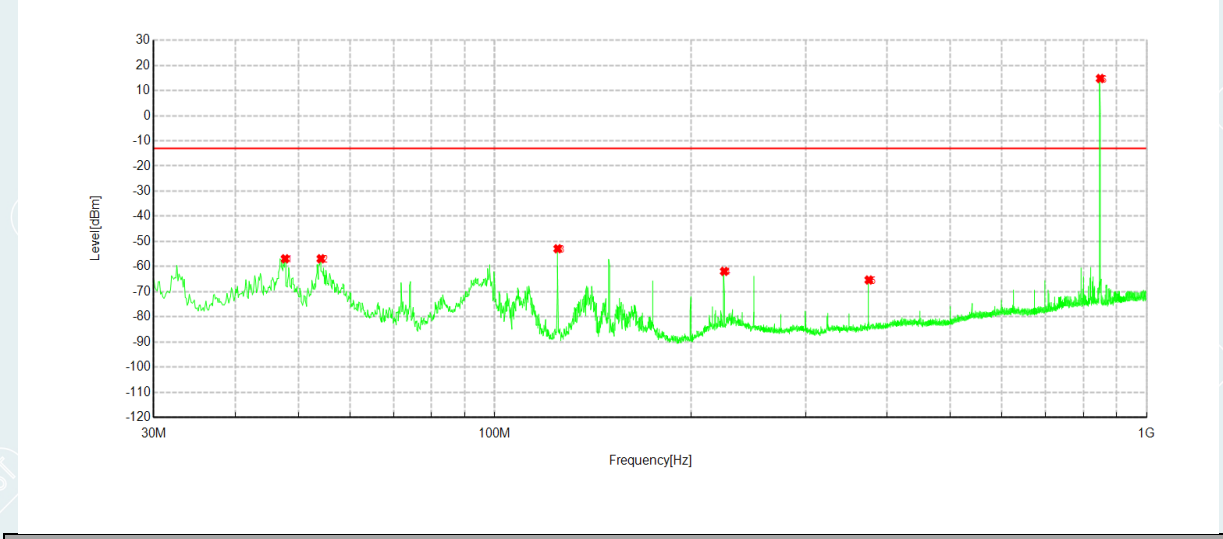
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	37.0325	-45.43	-67.36	-13.00	54.36	-21.93	RMS	Vertical
2	74.135	-41.76	-62.61	-13.00	49.61	-20.85	RMS	Vertical
3	124.9388	-44.04	-60.18	-13.00	47.18	-16.14	RMS	Vertical
4	224.97	-51.20	-69.57	-13.00	56.57	-18.37	RMS	Vertical
5	374.9562	-62.00	-74.32	-13.00	61.32	-12.32	RMS	Vertical
6	848.8012	17.49	14.23	/	/	-3.26	RMS	Vertical

NOTE：NO.6 is the fundamental frequency signal.

---------- The following blanks ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	251	Band:	GSM850
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:18:16		

Test Graph



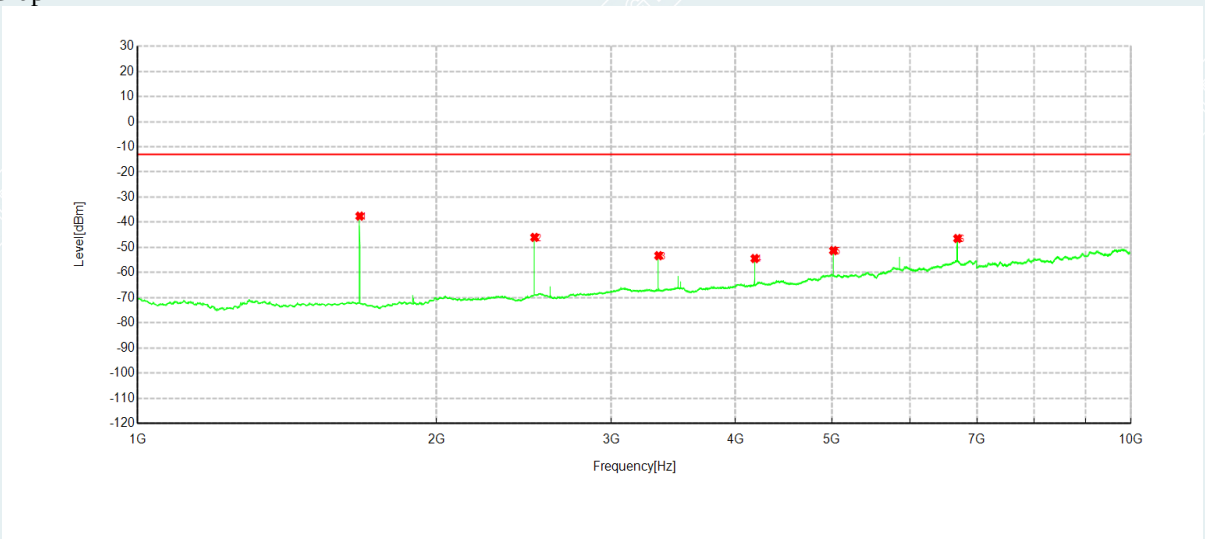
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	47.7025	-43.56	-56.92	-13.00	43.92	-13.36	RMS	Horizontal
2	54.1288	-43.02	-56.90	-13.00	43.90	-13.88	RMS	Horizontal
3	124.9388	-32.68	-52.92	-13.00	39.92	-20.24	RMS	Horizontal
4	224.97	-47.84	-61.91	-13.00	48.91	-14.07	RMS	Horizontal
5	374.9562	-52.72	-65.35	-13.00	52.35	-12.63	RMS	Horizontal
6	848.8012	17.95	14.77	/	/	-3.18	RMS	Horizontal

NOTE：NO.6 is the fundamental frequency signal.

---------- The following blanks ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	190	Band:	GSM850
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-18 11:01:11		

Test Graph



Suspected Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1673.2	-24.44	-37.57	-13.00	24.57	-13.13	RMS	Horizontal
2	2509.75	-36.71	-46.02	-13.00	33.02	-9.31	RMS	Horizontal
3	3346.3	-46.06	-53.29	-13.00	40.29	-7.23	RMS	Horizontal
4	4182.85	-49.92	-54.43	-13.00	41.43	-4.51	RMS	Horizontal
5	5019.4	-50.90	-51.28	-13.00	38.28	-0.38	RMS	Horizontal
6	6693.4	-51.64	-46.47	-13.00	33.47	5.17	RMS	Horizontal

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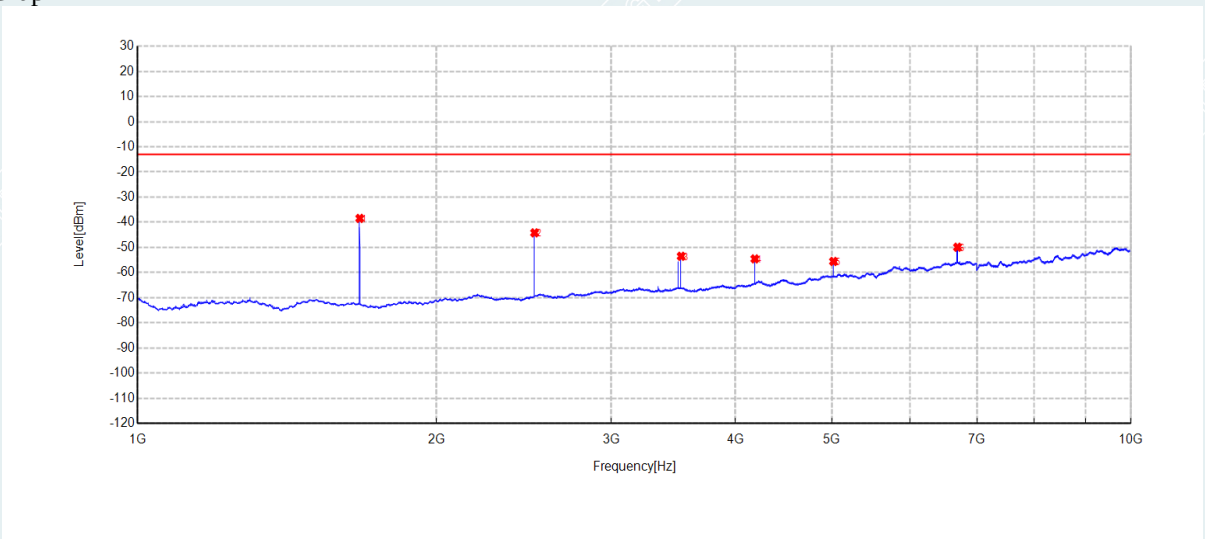
Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	190	Band:	GSM850
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-18 11:01:57		

Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1673.2	-24.94	-38.46	-13.00	25.46	-13.52	RMS	Vertical
2	2509.75	-34.42	-44.21	-13.00	31.21	-9.79	RMS	Vertical
3	3525.85	-47.30	-53.52	-13.00	40.52	-6.22	RMS	Vertical
4	4182.85	-50.53	-54.57	-13.00	41.57	-4.04	RMS	Vertical
5	5019.4	-54.81	-55.58	-13.00	42.58	-0.77	RMS	Vertical
6	6692.95	-54.48	-49.93	-13.00	36.93	4.55	RMS	Vertical

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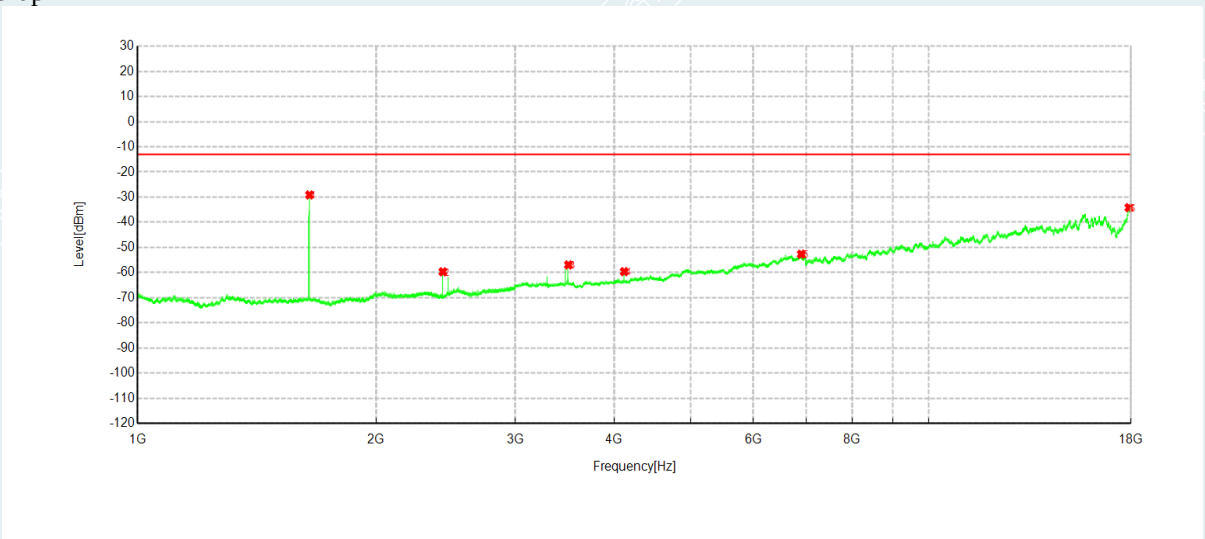
Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	128	Band:	GSM850
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 16:50:52		

Test Graph

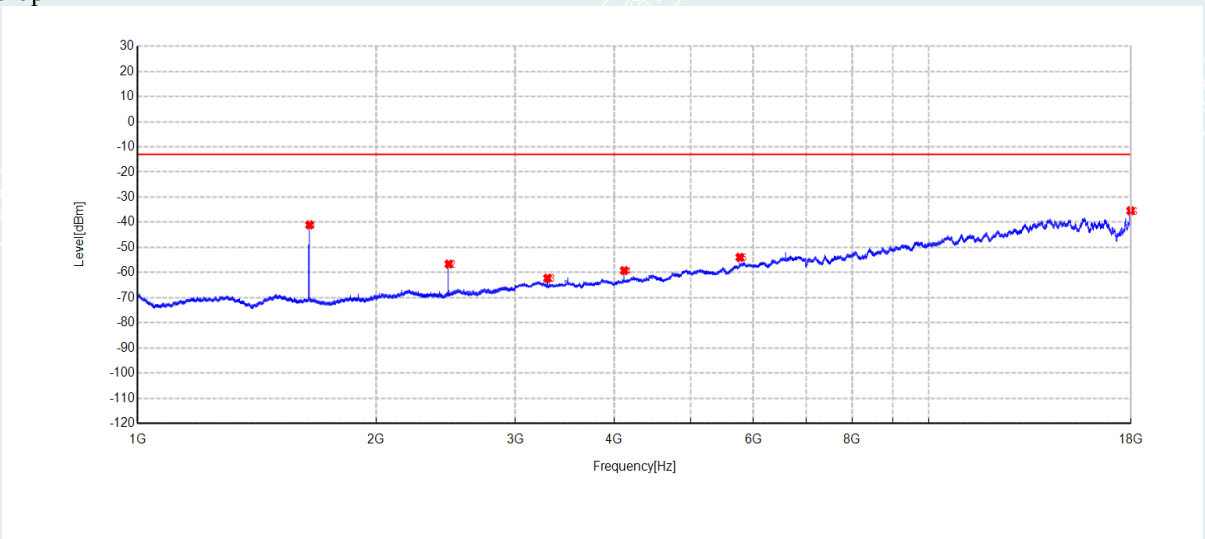


Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1648.4	-16.36	-29.14	-13.00	16.14	-12.78	RMS	Horizontal
2	2430.4	-48.53	-59.70	-13.00	46.70	-11.17	RMS	Horizontal
3	3503.25	-51.30	-56.96	-13.00	43.96	-5.66	RMS	Horizontal
4	4121.25	-54.93	-59.64	-13.00	46.64	-4.71	RMS	Horizontal
5	6899.25	-57.97	-52.70	-13.00	39.70	5.27	RMS	Horizontal
6	17907	-57.37	-34.19	-13.00	21.19	23.18	RMS	Horizontal

---------- The following blanks ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	128	Band:	GSM850
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 16:52:20		

Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1648.4	-27.97	-41.06	-13.00	28.06	-13.09	RMS	Vertical
2	2472.6	-46.05	-56.64	-13.00	43.64	-10.59	RMS	Vertical
3	3296.25	-55.29	-62.26	-13.00	49.26	-6.97	RMS	Vertical
4	4120.5	-54.56	-59.21	-13.00	46.21	-4.65	RMS	Vertical
5	5769	-55.52	-53.95	-13.00	40.95	1.57	RMS	Vertical
6	17997.75	-57.99	-35.44	-13.00	22.44	22.55	RMS	Vertical

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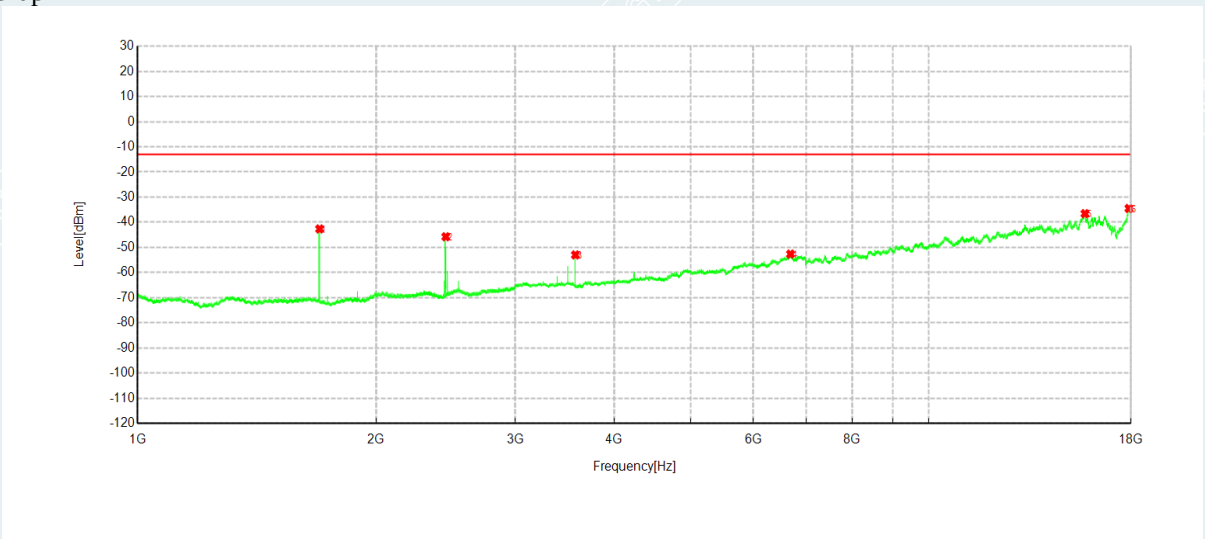
Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	251	Band:	GSM850
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 16:58:47		

Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1697.6	-29.16	-42.66	-13.00	29.66	-13.50	RMS	Horizontal
2	2451	-34.76	-45.77	-13.00	32.77	-11.01	RMS	Horizontal
3	3574.5	-46.78	-52.99	-13.00	39.99	-6.21	RMS	Horizontal
4	6685.5	-58.31	-52.66	-13.00	39.66	5.65	RMS	Horizontal
5	15756	-55.91	-36.58	-13.00	23.58	19.33	RMS	Horizontal
6	17910.75	-57.77	-34.51	-13.00	21.51	23.26	RMS	Horizontal

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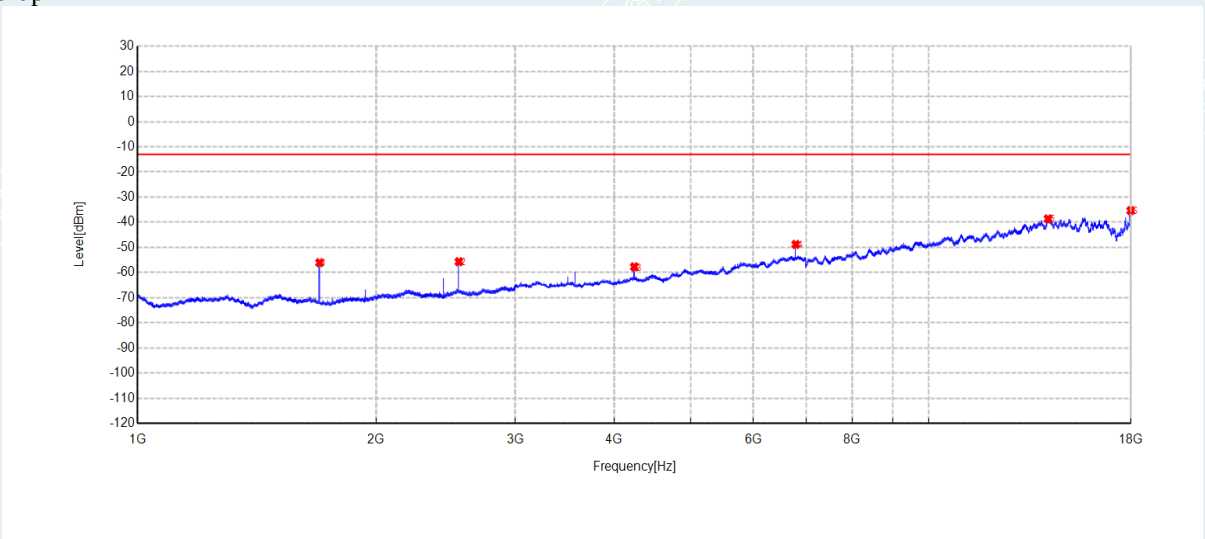
Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	251	Band:	GSM850
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:00:15		

Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1697.7	-42.07	-56.07	-13.00	43.07	-14.00	RMS	Vertical
2	2546.4	-46.61	-55.71	-13.00	42.71	-9.10	RMS	Vertical
3	4243.5	-54.35	-57.73	-13.00	44.73	-3.38	RMS	Vertical
4	6789.75	-53.70	-48.81	-13.00	35.81	4.89	RMS	Vertical
5	14153.25	-60.60	-38.65	-13.00	25.65	21.95	RMS	Vertical
6	17999.25	-58.06	-35.38	-13.00	22.38	22.68	RMS	Vertical

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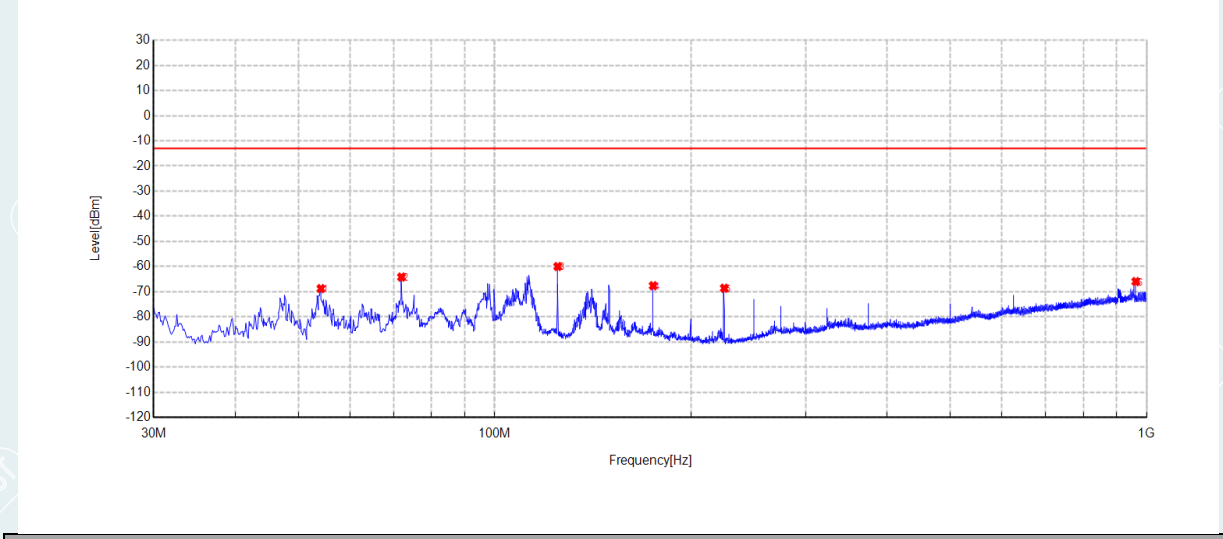
Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	810	Band:	GSM1900
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:36:51		

Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	54.1288	-48.73	-68.77	-13.00	55.77	-20.04	RMS	Vertical
2	71.9525	-43.74	-64.18	-13.00	51.18	-20.44	RMS	Vertical
3	124.9388	-43.85	-59.99	-13.00	46.99	-16.14	RMS	Vertical
4	175.015	-52.01	-67.63	-13.00	54.63	-15.62	RMS	Vertical
5	224.97	-50.25	-68.62	-13.00	55.62	-18.37	RMS	Vertical
6	962.4125	-63.95	-65.98	-13.00	52.98	-2.03	RMS	Vertical

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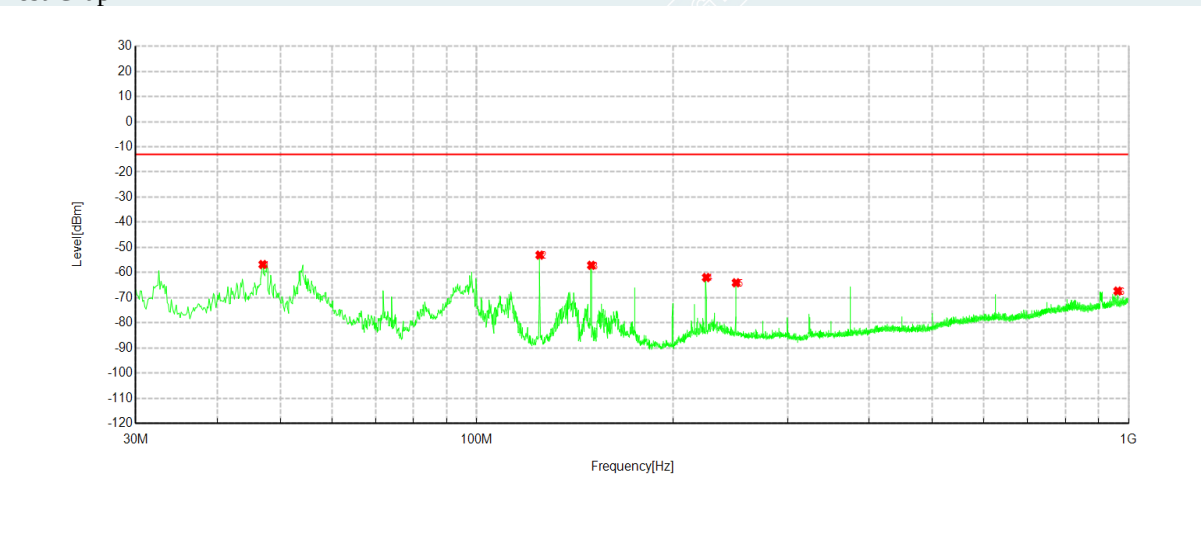
Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	810	Band:	GSM1900
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:36:07		

Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	46.975	-43.59	-56.81	-13.00	43.81	-13.22	RMS	Horizontal
2	124.9388	-32.82	-53.06	-13.00	40.06	-20.24	RMS	Horizontal
3	149.9162	-40.15	-57.12	-13.00	44.12	-16.97	RMS	Horizontal
4	224.97	-47.92	-61.99	-13.00	48.99	-14.07	RMS	Horizontal
5	249.9475	-51.06	-64.07	-13.00	51.07	-13.01	RMS	Horizontal
6	962.2912	-65.52	-67.37	-13.00	54.37	-1.85	RMS	Horizontal

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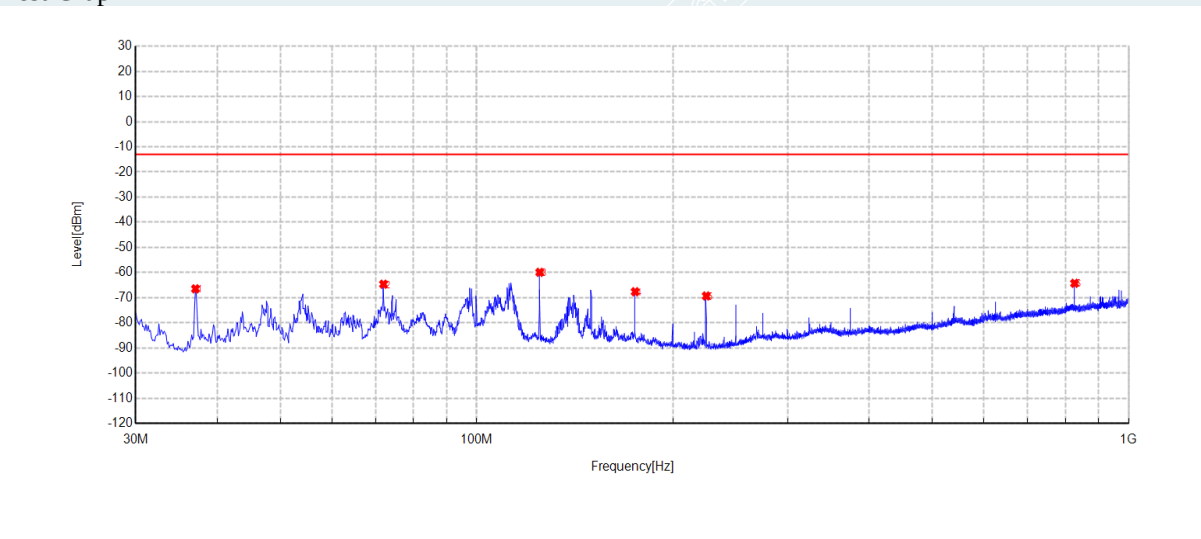
Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	661	Band:	GSM1900
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:45:32		

Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	37.0325	-44.56	-66.49	-13.00	53.49	-21.93	RMS	Vertical
2	71.9525	-44.19	-64.63	-13.00	51.63	-20.44	RMS	Vertical
3	124.9388	-43.78	-59.92	-13.00	46.92	-16.14	RMS	Vertical
4	175.015	-52.01	-67.63	-13.00	54.63	-15.62	RMS	Vertical
5	224.97	-50.95	-69.32	-13.00	56.32	-18.37	RMS	Vertical
6	826.1275	-61.31	-64.28	-13.00	51.28	-2.97	RMS	Vertical

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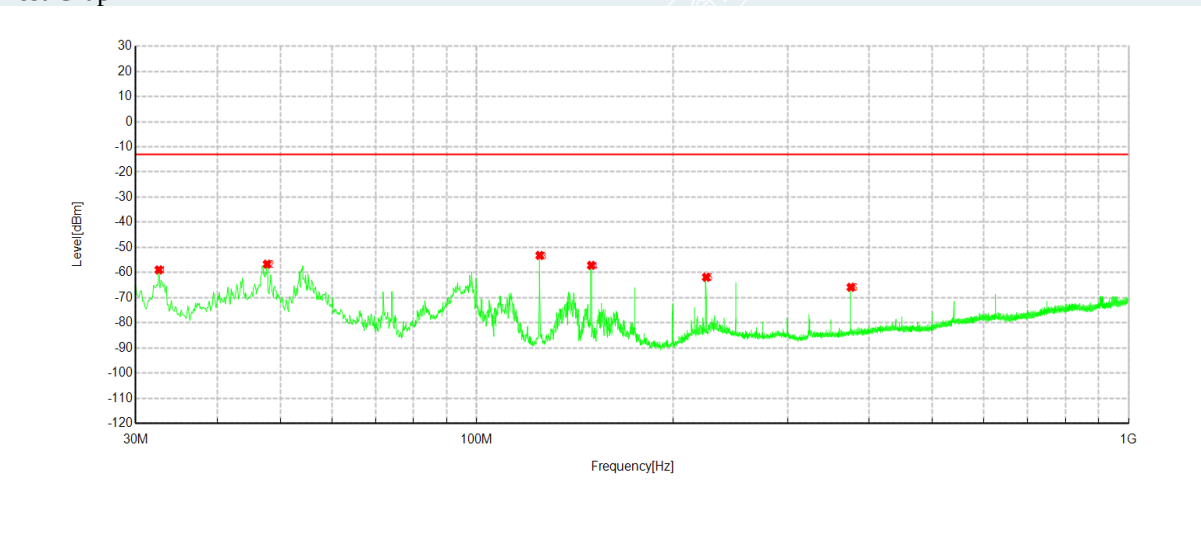
Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	661	Band:	GSM1900
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:44:48		

Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	32.5462	-47.30	-58.94	-13.00	45.94	-11.64	RMS	Horizontal
2	47.7025	-43.32	-56.68	-13.00	43.68	-13.36	RMS	Horizontal
3	124.9388	-32.95	-53.19	-13.00	40.19	-20.24	RMS	Horizontal
4	149.9162	-40.17	-57.14	-13.00	44.14	-16.97	RMS	Horizontal
5	224.97	-47.80	-61.87	-13.00	48.87	-14.07	RMS	Horizontal
6	374.9562	-53.22	-65.85	-13.00	52.85	-12.63	RMS	Horizontal

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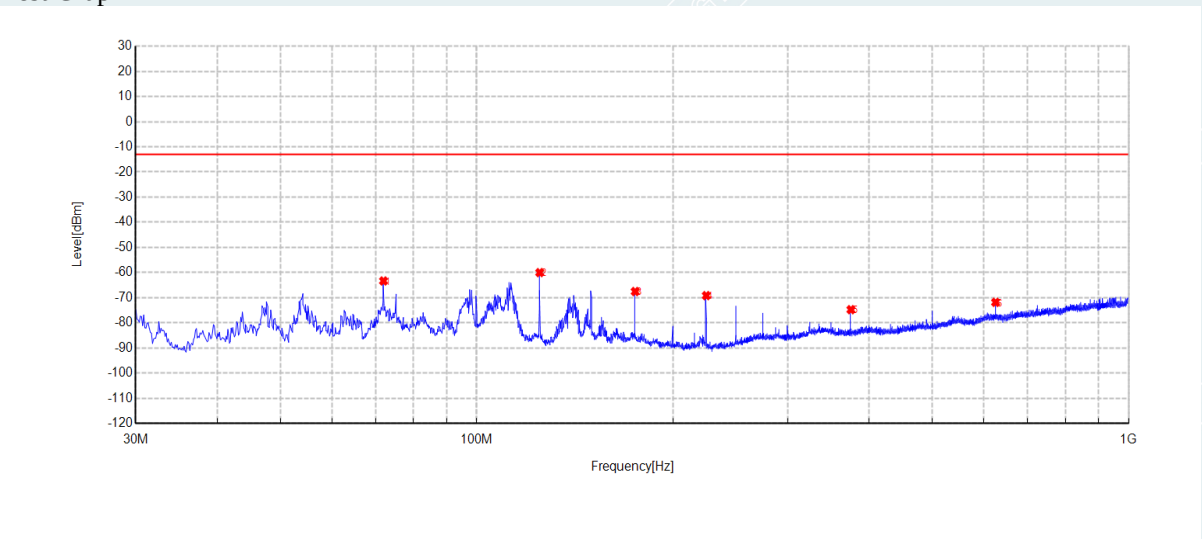
Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	521	Band:	GSM1900
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:53:26		

Test Graph

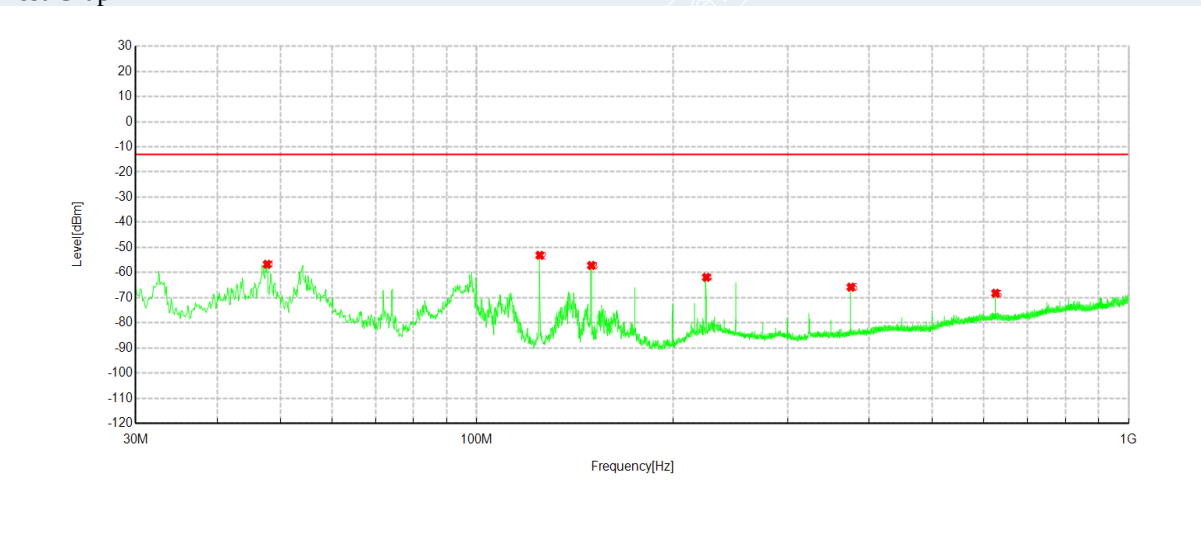


Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	71.9525	-42.90	-63.34	-13.00	50.34	-20.44	RMS	Vertical
2	124.9388	-43.88	-60.02	-13.00	47.02	-16.14	RMS	Vertical
3	175.015	-51.93	-67.55	-13.00	54.55	-15.62	RMS	Vertical
4	224.97	-50.80	-69.17	-13.00	56.17	-18.37	RMS	Vertical
5	374.9562	-62.44	-74.76	-13.00	61.76	-12.32	RMS	Vertical
6	624.9738	-65.34	-71.85	-13.00	58.85	-6.51	RMS	Vertical

---------- The following blanks ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	521	Band:	GSM1900
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 17:52:42		

Test Graph

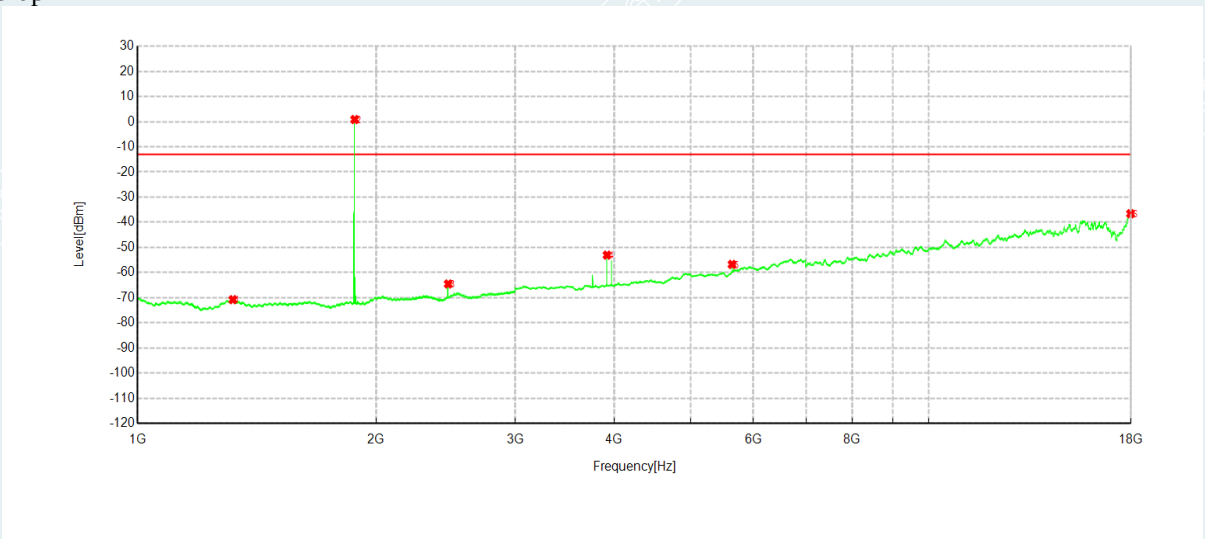


Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	47.7025	-43.38	-56.74	-13.00	43.74	-13.36	RMS	Horizontal
2	124.9388	-32.90	-53.14	-13.00	40.14	-20.24	RMS	Horizontal
3	149.9162	-40.22	-57.19	-13.00	44.19	-16.97	RMS	Horizontal
4	224.97	-47.85	-61.92	-13.00	48.92	-14.07	RMS	Horizontal
5	374.9562	-53.19	-65.82	-13.00	52.82	-12.63	RMS	Horizontal
6	624.9738	-61.80	-68.24	-13.00	55.24	-6.44	RMS	Horizontal

---------- The following blanks ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	661	Band:	GSM1900
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-18 11:20:07		

Test Graph



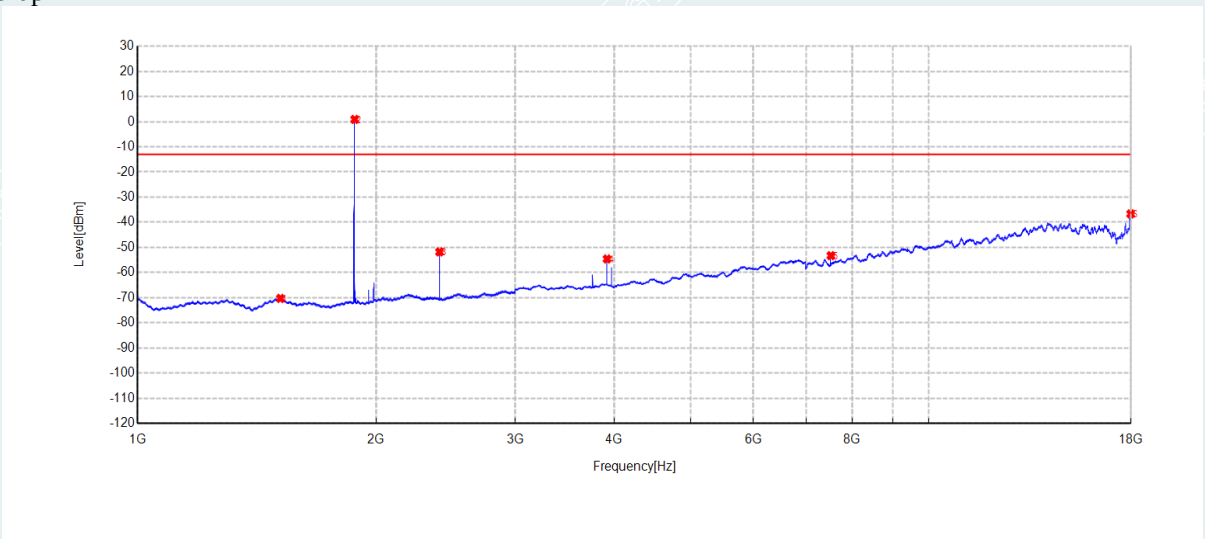
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1318.9	-57.92	-70.79	-13.00	57.79	-12.87	RMS	Horizontal
2	1880.1	13.66	0.84	/	/	-12.82	RMS	Horizontal
3	2468.5	-54.10	-64.55	-13.00	51.55	-10.45	RMS	Horizontal
4	3919.5	-48.12	-53.07	-13.00	40.07	-4.95	RMS	Horizontal
5	5640	-57.16	-56.76	-13.00	43.76	0.40	RMS	Horizontal
6	17993.25	-59.64	-36.61	-13.00	23.61	23.03	RMS	Horizontal

NOTE：NO.2 is the fundamental frequency signal.

---------- The following blanks ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	661	Band:	GSM1900
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-18 11:21:35		

Test Graph



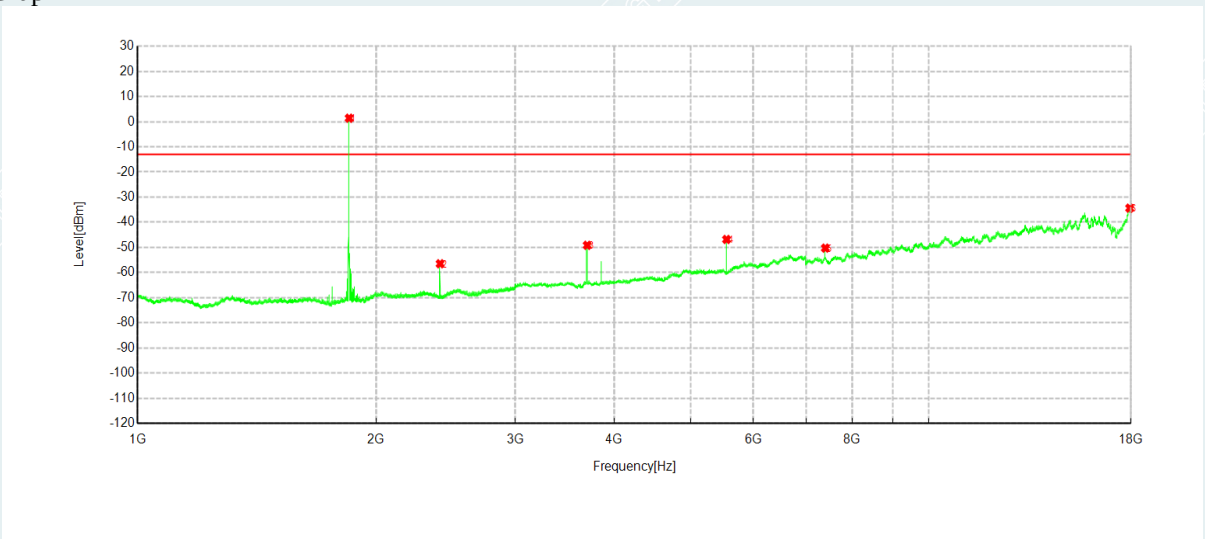
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1514.7	-58.20	-70.28	-13.00	57.28	-12.08	RMS	Vertical
2	1880	13.47	1.39	/	/	-12.58	RMS	Vertical
3	2407	-40.88	-51.80	-13.00	38.80	-10.92	RMS	Vertical
4	3919.5	-50.03	-54.60	-13.00	41.60	-4.57	RMS	Vertical
5	7520.25	-59.48	-53.28	-13.00	40.28	6.20	RMS	Vertical
6	18000	-59.43	-36.68	-13.00	23.68	22.75	RMS	Vertical

NOTE：NO.2 is the fundamental frequency signal.

---------- The following blanks ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	512	Band:	GSM1900
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 16:36:53		

Test Graph



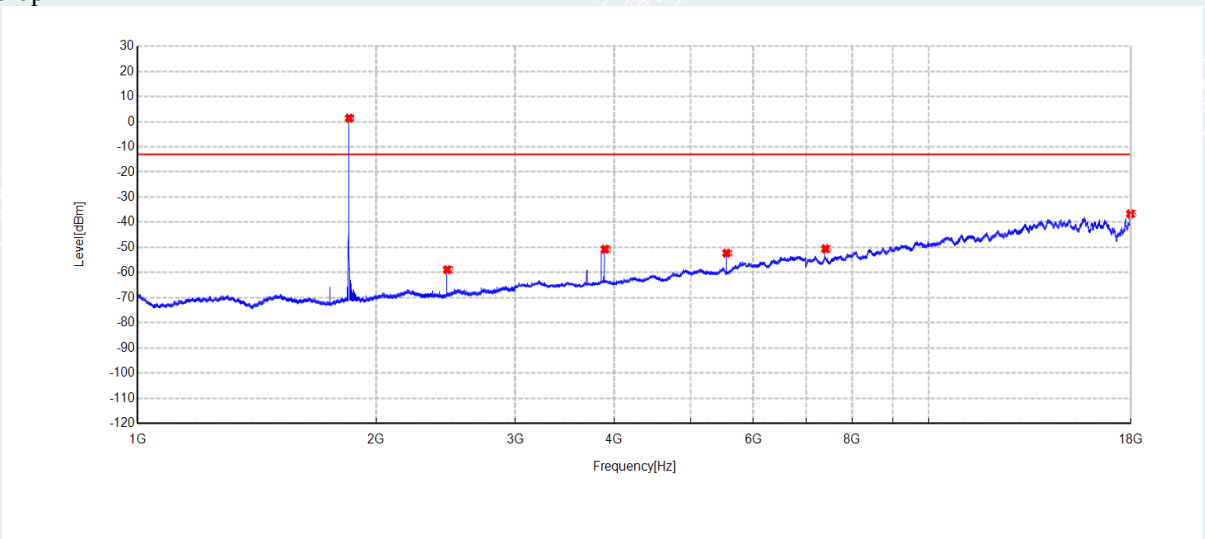
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1850.2	13.98	1.38	/	/	-12.60	RMS	Horizontal
2	2411.2	-45.21	-56.50	-13.00	43.50	-11.29	RMS	Horizontal
3	3699.75	-44.42	-49.17	-13.00	36.17	-4.75	RMS	Horizontal
4	5550.75	-45.89	-46.85	-13.00	33.85	-0.96	RMS	Horizontal
5	7400.25	-58.25	-50.28	-13.00	37.28	7.97	RMS	Horizontal
6	17948.25	-58.43	-34.39	-13.00	21.39	24.04	RMS	Horizontal

NOTE：NO.1 is the fundamental frequency signal.

---------- **The following blanks** ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	512	Band:	GSM1900
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 16:38:21		

Test Graph



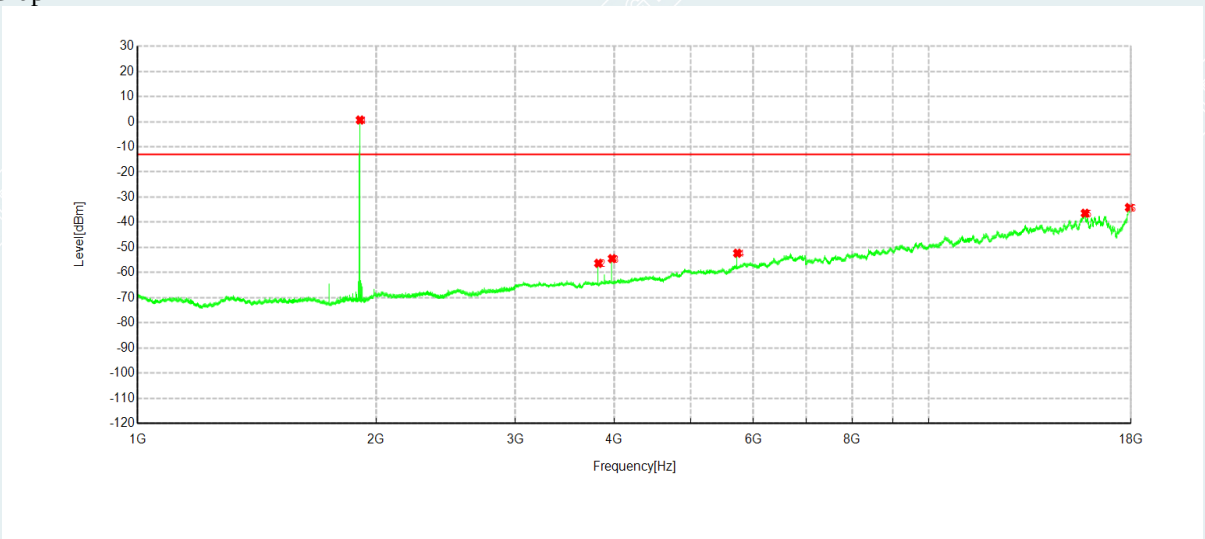
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1850.2	13.96	1.39	/	/	-12.57	RMS	Vertical
2	2460.9	-48.02	-58.86	-13.00	45.86	-10.84	RMS	Vertical
3	3894.75	-46.27	-50.74	-13.00	37.74	-4.47	RMS	Vertical
4	5550	-51.39	-52.30	-13.00	39.30	-0.91	RMS	Vertical
5	7400.25	-58.67	-50.55	-13.00	37.55	8.12	RMS	Vertical
6	17980.5	-57.61	-36.66	-13.00	23.66	20.95	RMS	Vertical

NOTE：NO.1 is the fundamental frequency signal.

---------- **The following blanks** ----------

Project Information			
Project No:	E202211048579	EUT:	E202211048579-0001
Channel	810	Band:	GSM1900
Mode:	GPRS	Voltage:	DC 3.7V
Environment:	Temp: 25.6℃; Humi:54%RH	Engineer:	Zhang Zishan
Date:	2022-11-25 16:44:22		

Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1909.8	13.58	0.65	/	/	-12.93	RMS	Horizontal
2	3823.5	-51.00	-56.33	-13.00	43.33	-5.33	RMS	Horizontal
3	3978.75	-49.61	-54.47	-13.00	41.47	-4.86	RMS	Horizontal
4	5729.25	-53.51	-52.32	-13.00	39.32	1.19	RMS	Horizontal
5	15763.5	-55.82	-36.42	-13.00	23.42	19.40	RMS	Horizontal
6	17925.75	-57.72	-34.14	-13.00	21.14	23.58	RMS	Horizontal

NOTE：NO.1 is the fundamental frequency signal.

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