

# **FCC Test Report**

Report No.: AGC02180200401FE03

FCC ID : IKQBTFM3B

**APPLICATION PURPOSE** : Original Equipment

**PRODUCT DESIGNATION**: Wireless hands free car kit

BRAND NAME : Scosche

**MODEL NAME** : BTFM3B, BTFM3-SPB, BTFM3SR-SP

**APPLICANT**: Scosche Industries Inc

**DATE OF ISSUE** : May 09, 2020

**STANDARD(S)** : FCC Part 15.247

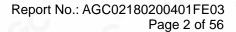
**REPORT VERSION** : V1.0

## Attestation of Global Compliance (Shenzhen) Co., Ltd

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#### REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	May 09, 2020	Valid	Initial Release



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## 1. VERIFICATION OF CONFORMITY

Applicant	Scosche Industries Inc
Address	1550 Pacific Ave Oxnard,CA,93033
Manufacturer	Scosche Industries Inc
Address	1550 Pacific Ave Oxnard,CA,93033
Factory	Scosche Industries Inc
Address	1550 Pacific Ave Oxnard,CA,93033
Product Designation	Wireless hands free car kit
Brand Name	Scosche
Test Model	ВТГМЗВ
Series Model	BTFM3-SPB, BTFM3SR-SP
Difference Description	All the same except for the model name and the packaging color
Date of test	Apr. 07, 2020 to May 09, 2020
Deviation	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Report Template	AGCRT-US-BR/RF

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC PART 15.247.

Prepared By	NINI. GMO	
	NiNi Guo (Project Engineer)	May 09, 2020
Reviewed By	Max Zhang	
CC -	Max Zhang (Reviewer)	May 09, 2020
Approved By	Forrest Wi	
GC CC	Forrest Lei (Authorized Officer)	May 09, 2020

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#### 2. GENERAL INFORMATION

#### 2.1. PRODUCT DESCRIPTION

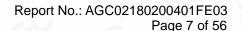
The EUT is designed as "Wireless hands free car kit". It is designed by way of utilizing the GFSK and Pi/4 DQPSK technology to achieve the system operation.

A major technical description of EUT is described as following

7 major tooriinoar accomption	To Let 13 described as following
Operation Frequency	2.402 GHz to 2.480GHz
RF Output Power	-1.449dBm(Max)
Bluetooth Version	V 5.0
Modulation	BR ⊠GFSK, EDR ⊠π /4-DQPSK, □8DPSK BLE □GFSK 1Mbps □GFSK 2Mbps
Number of channels	79
Hardware Version	HK-BTFM3-AC6926A-V3
Software Version	V5.0
Antenna Designation	PCB Antenna(Comply with requirements of the FCC part 15.203)
Antenna Gain	0.5dBi
Power Supply	DC 12/24V by car battery

## 2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency
- 6	0	2402MHZ
NO CO	1	2403MHZ
⊗		
60 6	38	2440 MHZ
2402~2480MHZ	39	2441 MHZ
	40	2442 MHZ
	77	2479 MHZ
®	78	2480 MHZ





#### 2.3. RECEIVER INPUT BANDWIDTH

The input bandwidth of the receiver is 1.3MHZ,In every connection one Bluetooth device is the master and the other one is slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally the type of connection(e.g. single of multislot packet) is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings.

Repeating of a packet has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means, a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

#### 2.4. EXAMPLE OF A HOPPING SEQUENCY IN DATA MODE

Example of a 79 hopping sequence in data mode: 40,21,44,23,42,53,46,55,48,33,52,35,50,65,54,67 56,37,60,39,58,69,62,71,64,25,68,27,66,57,70,59 72,29,76,31,74,61,78,63,01,41,05,43,03,73,07,75 09,45,13,47,11,77,15,00,64,49,66,53,68,02,70,06 01, 51, 03, 55, 05, 04

#### 2.5. EQUALLY AVERAGE USE OF FREQUENCIES AND BEHAVIOUR

The generation of the hopping sequence in connection mode depends essentially on two input values:

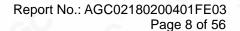
- 1. LAP/UAP of the master of the connection.
- 2. Internal master clock

The LAP(lower address part) are the 24 LSB's of the 48 BD\_ADDRESS. The BD\_ADDRESS is an unambiguous number of every Bluetooth unit. The UAP(upper address part) are the 24MSB's of the 48BD ADDRESS

The internal clock of a Bluetooth unit is derived from a free running clock which is never adjusted and is never turned off. For ehavior zation with other units only offset are used. It has no relation to the time of the day. Its resolution is at least half the RX/TX slot length of 312.5us. The clock has a cycle of about one day(23h30). In most case it is implemented as 28 bit counter. For the deriving of the hopping sequence the entire. LAP(24 bits),4LSB's(4bits)(Input 1) and the 27MSB's of the clock(Input 2) are used. With this input values different mathematical procedures(permutations, additions, XOR-operations) are performed to generate te Sequence. This will be done at the beginning of every new transmission.

Regarding short transmissions the Bluetooth system has the following ehavior:

The first connection between the two devices is established, a hopping sequence was generated. For Transmitting the wanted data the complete hopping sequence was not used. The connection ended. The second connection will be established. A new hopping sequence is generated. Due to the fact the Bluetooth clock has a different value, because the period between the two transmission is longer(and it Cannot be shorter) than the minimum resolution of the clock(312.5us). The hopping sequence will always Differ from the first one.





### 2.6. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: IKQBTFM3B** filing to comply with the FCC PART 15.247 requirements.

#### 2.7. TEST METHODOLOGY

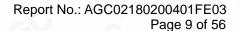
Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

#### 2.8. SPECIAL ACCESSORIES

Refer to section 5.2.

#### 2.9. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.





#### 3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ±U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

- Uncertainty of Conducted Emission, Uc = ±3.2 dB
- Uncertainty of Radiated Emission below 1GHz, Uc = ±3.9 dB
- Uncertainty of Radiated Emission above 1GHz, Uc = ±4.8 dB
- Uncertainty of total RF power, conducted, Uc = ±0.8dB
- Uncertainty of spurious emissions, conducted, Uc = ±2.7dB
- Uncertainty of Occupied Channel Bandwidth: Uc = ±2 %
- Uncertainty of Dwell Time: Uc = ±2 %
- Uncertainty of Frequency: Uc = ±2 %



## 4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION			
1	Low channel GFSK			
2	Middle channel GFSK			
3	High channel GFSK			
4	Low channel π/4-DQPSK			
5	Middle channel π/4-DQPSK			
6	High channel π/4-DQPSK			
7	Hopping mode GFSK			
8	Hopping mode π/4-DQPSK			

#### Note:

- 1. Only the result of the worst case was recorded in the report, if no other cases.
- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
- 3. For Conducted Test method, a temporary antenna connector is provided by the manufacture.
- 4. The test software is the FCCAssist 2.4 which can set the EUT into the individual test modes.



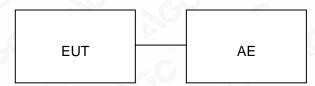
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## 5. SYSTEM TEST CONFIGURATION

## **5.1. CONFIGURATION OF EUT SYSTEM**

Radiated Emission Configure:



#### **5.2 EQUIPMENT USED IN TESTED SYSTEM**

Item	Equipment	Model No.	ID or Specification	Remark
1	Wireless hands free car kit	BTFM3B	IKQBTFM3B	EUT
2	Smart phone	P8	N/A	AE
3	Earphone	W800BT	N/A	AE
4	U-disk	DataTraveler SE9 16G	N/A	AE
5	Car battery	N/A	12V 60Ah	AE

#### **5.3. SUMMARY OF TEST RESULTS**

FCC RULES	DESCRIPTION OF TEST	RESULT	
15.247 (b)(1)	Peak Output Power	Compliant	
15.247 (a)(1)	20 dB Bandwidth	Compliant	
15.247 (d)	Conducted Spurious Emission	Compliant	
15.209	Radiated Emission	Compliant	
15.247 (a)(1)(iii)	Number of Hopping Frequency	Compliant	
15.247 (a)(1)(iii)	Time of Occupancy	Compliant	
15.247 (a)(1)	Frequency Separation	Compliant	
15.207 Conducted Emission		N/A	

Note: The EUT was supplied by car battery.

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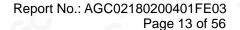
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#### 6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd		
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China		
Designation Number	CN1259		
FCC Test Firm Registration Number	975832		
A2LA Cert. No.	5054.02		
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA		

#### **TEST EQUIPMENT OF RADIATED EMISSION TEST**

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Jun. 12, 2019	Jun. 11, 2020
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 12, 2019	Dec. 11, 2020
2.4GHz Fliter	EM Electronics	2400-2500MHz	N/A	Mar. 23, 2020	Mar. 23, 2020
Attenuator	ZHINAN	E-002	N/A	Sep. 09, 2019	Sep. 08, 2020
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep.21, 2019	Sep. 20, 2021
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	Jun. 13, 2018	Jun. 12, 2020
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May. 17, 2018	May. 16, 2020
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Oct. 15, 2019	Oct. 16, 2020
ANTENNA	SCHWARZBECK	VULB9168	494	Sep. 20, 2019	Sep. 19, 2021
Test software	FARA	EZ-EMC (Ver RA-03A)	N/A	N/A	N/A





#### 7. PEAK OUTPUT POWER

#### 7.1. MEASUREMENT PROCEDURE

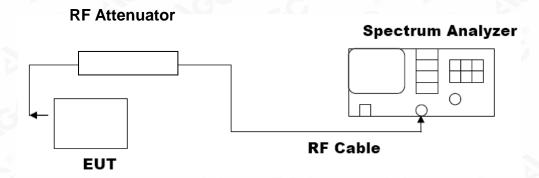
For peak power test:

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.
- 3. RBW > 20 dB bandwidth of the emission being measured.
- 4. VBW ≥RBW.
- 5. Sweep: Auto.
- 6. Detector function: Peak.
- 7. Trace: Max hold.

Allow trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power, after any corrections for external attenuators and cables.

#### 7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

#### **PEAK POWER TEST SETUP**





## 7.3. LIMITS AND MEASUREMENT RESULT

PEAK OUTPUT POWER MEASUREMENT RESULT						
	FOR GFSK MOUL	DULATION				
Frequency (GHz)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail			
2.402	-4.861	30	Pass			
2.441	-1.498	30	Pass			
2.480	-2.037	30	Pass			

#### CH<sub>0</sub>





#### **CH39**



#### **CH78**



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	FOR II /4-DQPSK N	MODULATION		
Frequency (GHz)	Applicable Limits (dBm)	Pass or Fail		
2.402	-4.202	30	Pass	
2.441	-2.892	30	Pass	
2.480	-1.449	30	Pass	

#### CH<sub>0</sub>





#### **CH39**



#### **CH78**



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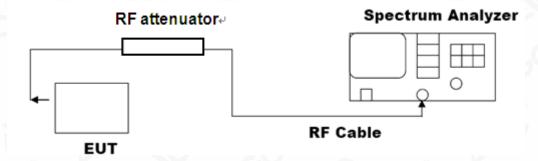
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#### 8. 20DB BANDWIDTH

#### **8.1. MEASUREMENT PROCEDURE**

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a hoping channel
  The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video
  bandwidth (VBW) shall be approximately three times RBW; Sweep = auto; Detector function = peak
- 4. Set SPA Trace 1 Max hold, then View.

#### 8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



#### 8.3. LIMITS AND MEASUREMENT RESULTS

MEASUREMENT RESULT FOR GFSK MOUDULATION						
Amuliaahla Limita		Measurement Resu	lt			
Applicable Limits	Test Data	(MHz)	Criteria			
70, 700	Low Channel	0.948	PASS			
N/A	Middle Channel	0.945	PASS			
NO CO	High Channel	0.948	PASS			



#### TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



#### TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



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#### TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL





MEASUREMENT RESULT FOR ∏ /4-DQPSK MODULATION						
Angliachia Limita		Measurement Resul	lt			
Applicable Limits	Test Data	(MHz)	Criteria			
N/A	Low Channel	1.309	PASS			
	Middle Channel	1.313	PASS			
	High Channel	1.308	PASS			

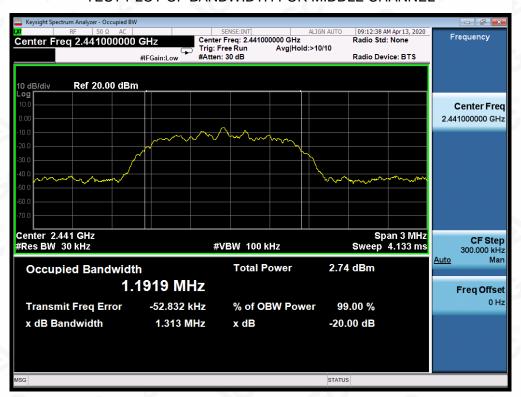
#### TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



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#### TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



#### TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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#### 9. CONDUCTED SPURIOUS EMISSION

## 9.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Set the EUT Work on the top, the Middle and the bottom operation frequency individually.
- 3. Set the Span = wide enough to capture the peak level of the in-band emission and all spurious emissions from the lowest frequency generated in the EUT up through the 10th harmonic.
  RBW = 100 kHz; VBW= 300 kHz; Sweep = auto; Detector function = peak.
- 4. Set SPA Trace 1 Max hold, then View.

## 9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2

#### 9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6

#### 9.4. LIMITS AND MEASUREMENT RESULT

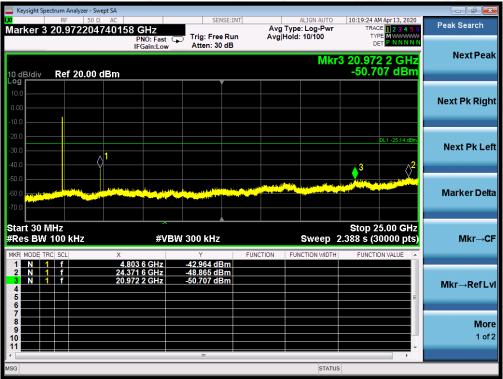
LIMITS AND MEASUREMENT RESULT					
Applicable Limite	Measurement Result				
Applicable Limits	Test Data	Criteria			
In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency	At least -20dBc than the limit Specified on the BOTTOM Channel	PASS			
power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power.  In addition, radiation emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in§15.209(a))	At least -20dBc than the limit Specified on the TOP Channel	PASS			



#### **TEST RESULT FOR ENTIRE FREQUENCY RANGE**

TEST PLOT OF OUT OF BAND EMISSIONS WITH THE WORST CASE
OF GFSK MODULATION IN LOW CHANNEL

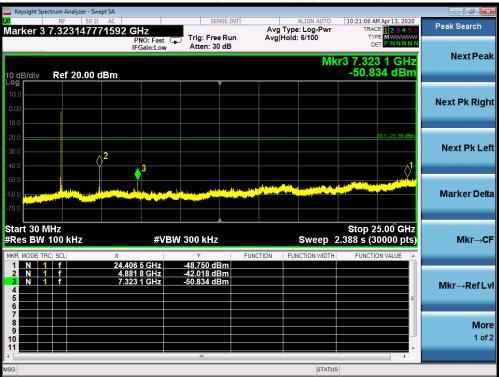






## TEST PLOT OF OUT OF BAND EMISSIONS OF GFSK MODULATION IN MIDDLE CHANNEL

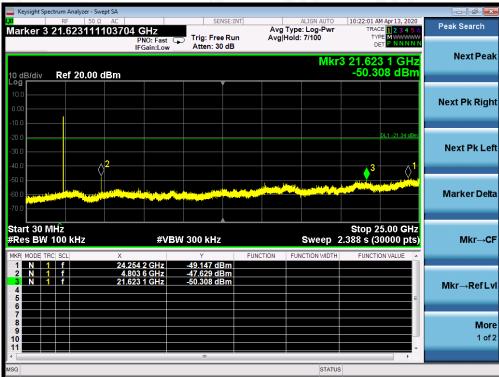






## TEST PLOT OF OUT OF BAND EMISSIONS OF GFSK MODULATION IN HIGH CHANNEL



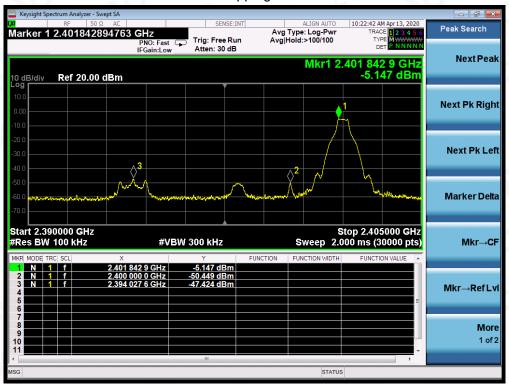


Note: The peak emissions without marker on the above plots are fundamental wave and need not to compare with the limit. The GFSK modulation is the worst case and only those data recorded in the report.



#### **TEST RESULT FOR BAND EDGE**

## GFSK MODULATION IN LOW CHANNEL Hopping off

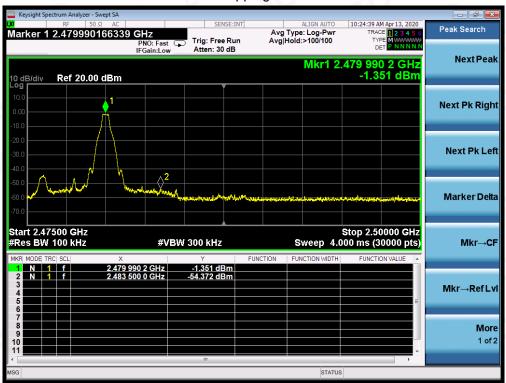


#### Hopping on

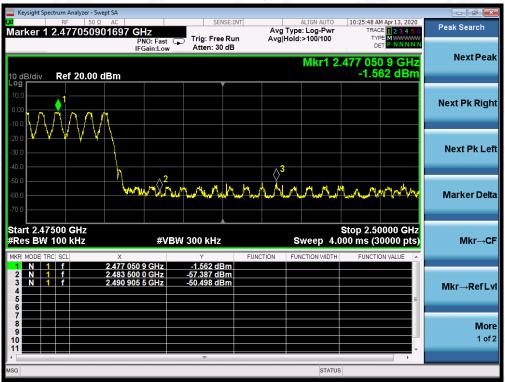




## GFSK MODULATION IN HIGH CHANNEL Hopping off



### Hopping on



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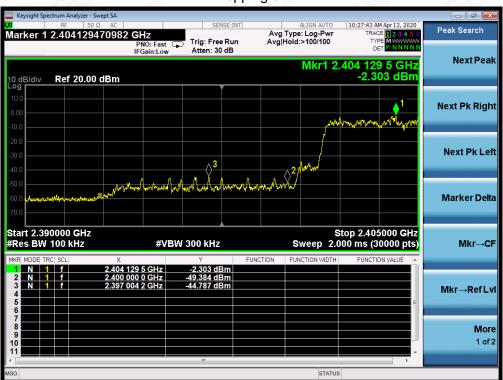
The test results



## $\pi$ /4-DQPSK MODULATION IN LOW CHANNEL Hopping off



### Hopping on

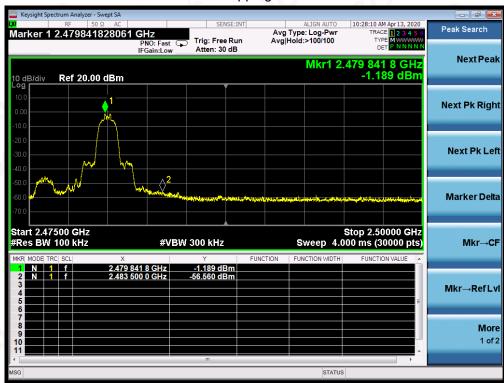


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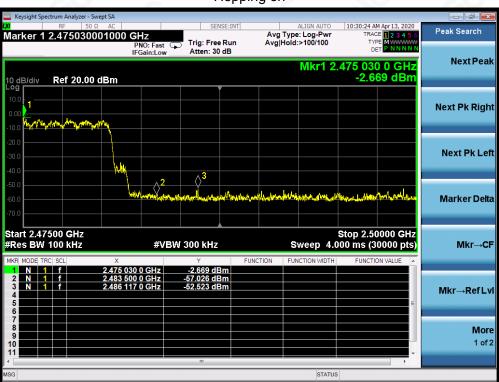
Attestation of Global Compliance(Shenzhen)Co., Ltd Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/



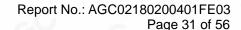
## $\pi$ /4-DQPSK MODULATION IN HIGH CHANNEL Hopping off



### Hopping on



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#### 10. RADIATED EMISSION

#### 10.1. MEASUREMENT PROCEDURE

- The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8.If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.



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## The following table is the setting of spectrum analyzer and receiver.

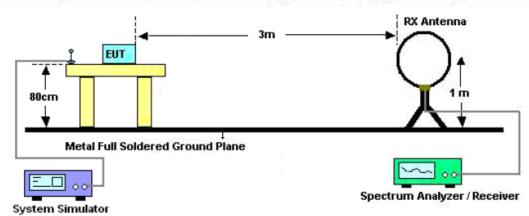
Spectrum Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
Start ~Stop Frequency	1GHz~26.5GHz 1MHz/3MHz for Peak, 1MHz/3MHz for Average

Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP



#### 10.2. TEST SETUP

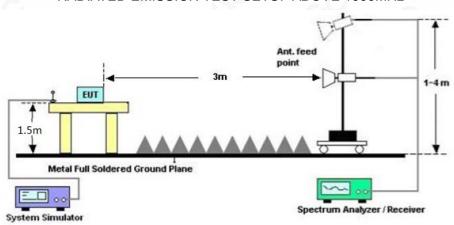
## Radiated Emission Test-Setup Frequency Below 30MHz



#### RADIATED EMISSION TEST SETUP 30MHz-1000MHz



## RADIATED EMISSION TEST SETUP ABOVE 1000MHz



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#### 10.3. LIMITS AND MEASUREMENT RESULT

15.209 Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (micorvolts/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

Note: All modes were tested For restricted band radiated emission,

the test records reported below are the worst result compared to other modes.

### 10.4. TEST RESULT

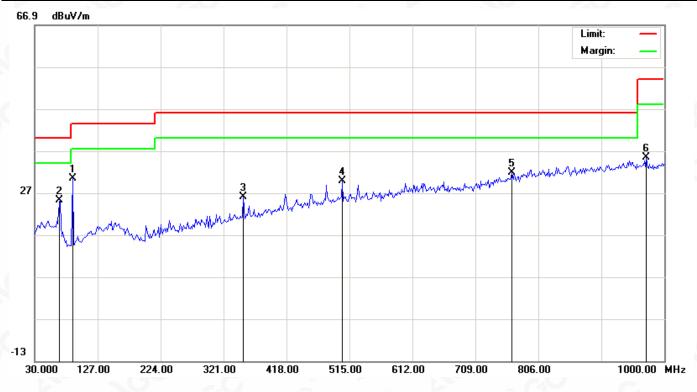
#### **RADIATED EMISSION BELOW 30MHZ**

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.



## **RADIATED EMISSION BELOW 1GHZ**

EUT	Wireless hands free car kit Model Name		ВТГМЗВ
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 4	Antenna	Horizontal

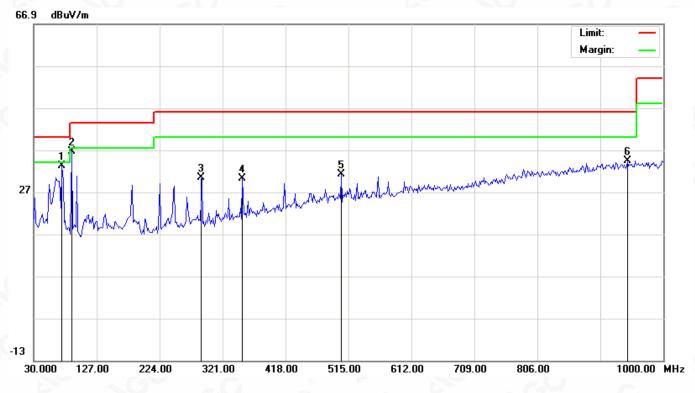


No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	á
	•	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	*	88.1000	15.42	14.97	30.39	43.50	-13.11	peak	
2		68.7999	7.93	17.32	25.25	40.00	-14.75	peak	Ī
3		351.7167	4.71	21.29	26.00	46.00	-20.00	peak	
4		503.6832	4.84	25.06	29.90	46.00	-16.10	peak	
5		765.5833	2.17	29.63	31.80	46.00	-14.20	peak	
6		972.5167	3.00	32.32	35.32	54.00	-18.68	peak	

**RESULT: PASS** 



EUT	Wireless hands free car kit Model		ВТГМЗВ
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 4	Antenna	Vertical

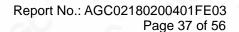


No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	1
	•	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	*	73.6500	16.87	16.32	33.19	40.00	-6.81	peak	I
2		88.1000	21.69	14.97	36.66	43.50	-6.84	peak	T
3		288.6666	10.65	19.74	30.39	46.00	-15.61	peak	T
4		351.7167	8.95	21.29	30.24	46.00	-15.76	peak	Ī
5		503.6832	6.11	25.06	31.17	46.00	-14.83	peak	Ī
6		945.0333	2.41	32.09	34.50	46.00	-11.50	peak	I

#### **RESULT: PASS**

Note: 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

2. All test modes had been pre-tested. The mode 4 is the worst case and recorded in the report.





## **RADIATED EMISSION ABOVE 1GHZ**

EUT	Wireless hands free car kit	Model Name	ВТГМЗВ
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

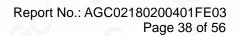
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Tree
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4804.000	43.59	0.08	43.67	74	-30.33	peak 🏻
4804.000	38.14	0.08	38.22	54	-15.78	AVG
7206.000	41.13	2.21	43.34	74	-30.66	peak
7206.000	34.45	2.21	36.66	54	-17.34	AVG
to a di	60			707	190	
emark:			©			

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

EUT	Wireless hands free car kit	Model Name	ВТГМЗВ
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Tree
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4804.000	42.49	0.08	42.57	74	-31.43	peak
4804.000	36.48	0.08	36.56	54	-17.44	AVG
7206.000	40.18	2.21 💿	42.39	74	-31.61	peak
7206.000	33.44	2.21	35.65	54	-18.35	AVG
8)						
1					(8)	

Factor = Antenna Factor + Cable Loss - Pre-amplifier.



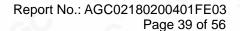


EUT	Wireless hands free car kit	Model Name	BTFM3B
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Tree
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	- Value Type
4882.000	43.89	0.14	44.03	74	-29.97	peak
4882.000	37.56	0.14	37.7	54	-16.3	AVG
7323.000	40.27	2.36	42.63	74	-31.37	peak
7323.000	33.02	2.36	35.38	54	-18.62	AVG
	0		9 70	8	8	
emark:	- 6	8			- C	®
actor = Anter	nna Factor + Cable	Loss - Pre-	-amplifier.			-G

EUT	Wireless hands free car kit	Model Name	ВТГМЗВ
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Volue Trac
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4882.000	42.59	0.14	42.73	74	-31.27	peak
4882.000	35.34	0.14	35.48	54	-18.52	AVG
7323.000	39.71	2.36	42.07	74	-31.93	peak
7323.000	32.12	2.36	34.48	54	-19.52	AVG
			<i>e</i> .C			
	· _					





EUT	Wireless hands free car kit	Model Name	ВТГМЗВ
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	\/alua Tima
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4960.000	42.58	0.22	42.8	74	-31.2	peak
4960.000	36.45	0.22	36.67	54	-17.33	AVG
7440.000	40.28	2.64	42.92	74	-31.08	peak
7440.000	33.26	2.64	35.9	54	-18.1	AVG
8	0		9		8	
emark:	- C	<b>®</b>		~0~	- G	8
actor = Anter	nna Factor + Cable	Loss - Pre-	amplifier.			C

EUT	Wireless hands free car kit	Model Name	ВТГМЗВ
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	\/alua Tima
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4960.000	43.46	0.22	43.68	74	-30.32	peak
4960.000	36.47	0.22	36.69	54	-17.31	AVG
7440.000	39.48	2.64	42.12	74	-31.88	peak
7440.000	32.34	2.64	34.98	54	-19.02	AVG
		10		8		
emark:	(0)			C	®	
actor = Anter	nna Factor + Cable	Loss - Pre-	-amplifier.			

#### **RESULT: PASS**

#### Note

The amplitude of other spurious emissions from 1G to 25 GHz which are attenuated more than 20 dB below the permissible value need not be reported.

Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

All test modes had been tested. The GFSK modulation is the worst case and recorded in the report.

The test results of the test report.



#### TEST RESULT FOR RESTRICTED BANDS REQUIREMENTS

EUT	Wireless hands free car kit	Model Name	ВТГМЗВ
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

PΚ



ΑV



**RESULT: PASS** 

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