

Prüfbericht-Nr.: <i>Test report No.:</i>	50298107 001	Auftrags-Nr.: <i>Order No.:</i>	170103327	Seite 1 von 19 <i>Page 1 of 19</i>	
Kunden-Referenz-Nr.: <i>Client reference No.:</i>	N/A	Auftragsdatum: <i>Order date.:</i>	14.01.2019		
Auftraggeber: <i>Client:</i>	Zhao Qing Bo Han Sports Company Ltd. No. 2-1, Kang Tai Street, High-tech Zone, Zhaoqing City, Guangdong Province, P. R. China				
Prüfgegenstand: <i>Test item:</i>	Remote Control				
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	GD01				
Auftrags-Inhalt: <i>Order content:</i>	FCC approval				
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.249 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 CFR47 FCC Part 2: Section 2.1091				
Wareneingangsdatum: <i>Date of receipt:</i>	26.03.2019	Please refer to photo documents			
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000867916-001				
Prüfzeitraum: <i>Testing period:</i>	21.07.2019 - 24.07.2019				
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland (Guangdong) Ltd.				
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Guangdong) Ltd.				
Prüfergebnis*: <i>Test result*:</i>	Pass				
geprüft von / tested by:  05.11.2019 Storm Shu / Assistant Project Manager		kontrolliert von / reviewed by:  06.11.2019 Amy Wang / Technical Certifier			
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>
Sonstiges / Other: FCC ID: 2AGSKML02-GD01					
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>			Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged:</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specifications(s) F(ail) = failed a.m. test specifications(s) N/A = not applicable N/T = not tested					
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>					

V04

Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 FUNDAMENTAL & HARMONICS RADIATED EMISSION

RESULT: Pass

5.1.3 20dB BANDWIDTH

RESULT: Pass

5.1.4 RADIATED SPURIOUS EMISSION & BAND EDGE

RESULT: Pass

5.1.5 CONDUCTED EMISSION ON AC MAINS

RESULT: Pass

6.1.1 ELECTROMAGNETIC FIELDS

RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

Appendix B: Test Results of General 2.4GHz wireless

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Guangdong) Ltd.

No.102, 1F of Southwest and No.205, 2F No.767 Tianyuan Road, Tianhe District, Guangzhou 510663,
Guangdong Province P.R. China

FCC Accreditation Designation No.: CN1207

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

For the measurement Equipment list, refer to the appendix B.

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Item		Extended Uncertainty
Conducted Emission		± 2.68 dB
Radiated Emission (30-1000MHz)	Field strength (dBµV/m)	± 5.16 dB
Radiated Emission (above 1000MHz)	Field strength (dBµV/m)	± 2.22 dB
Radio Spectrum		± 4.51 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Guangdong) Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Guangdong) Ltd. Test facility located at No.102, 1F of Southwest and No.205, 2F No.767 Tianyuan Road, Tianhe District, Guangzhou 510663, Guangdong Province P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUT is Remote Control operating in 2438MHz. The EUT is powered by DC 5.0V via USB port or DC 3.7V via lithium battery.

Therefore, full tests were performed on **GD01**.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	Remote Control
Type Designation	GD01
FCC ID	2AGSKML02-GD01
Operating Voltage	DC 3.7V (lithium battery)
Testing Voltage	DC 3.7V
Operating Frequency	2438MHz
Type of Modulation	GFSK
Channel Number	1 channel
Antenna Type	Integral Antenna
Antenna number	1
Antenna Gain	0 dBi Max

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, General 2.4GHz wireless transmitting mode
- B. On, Normal operation mode
- C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- | | |
|----------------------------------|------------------|
| - Application Form | - Photo Document |
| - Block Diagram | - Schematics |
| - FCC/IC Label and Location Info | - User Manual |
| - Operation Description | |

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2013.

According to clause 3.1, all tests were performed on model X1-P0-XX in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 3: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
N/A	N/A	N/A	N/A	N/A

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

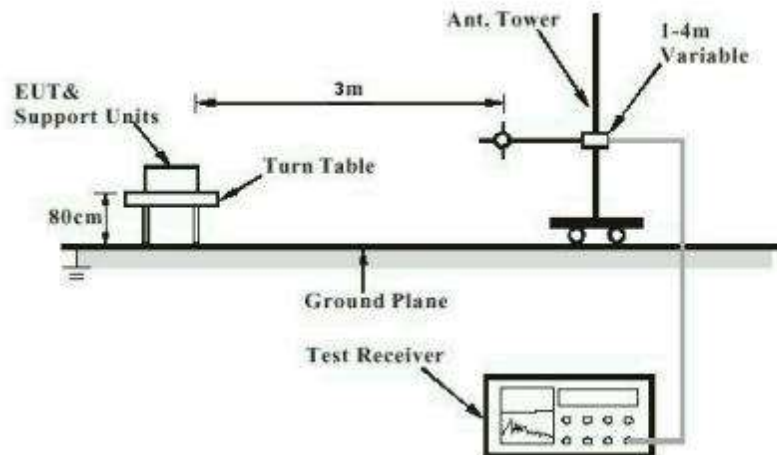


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

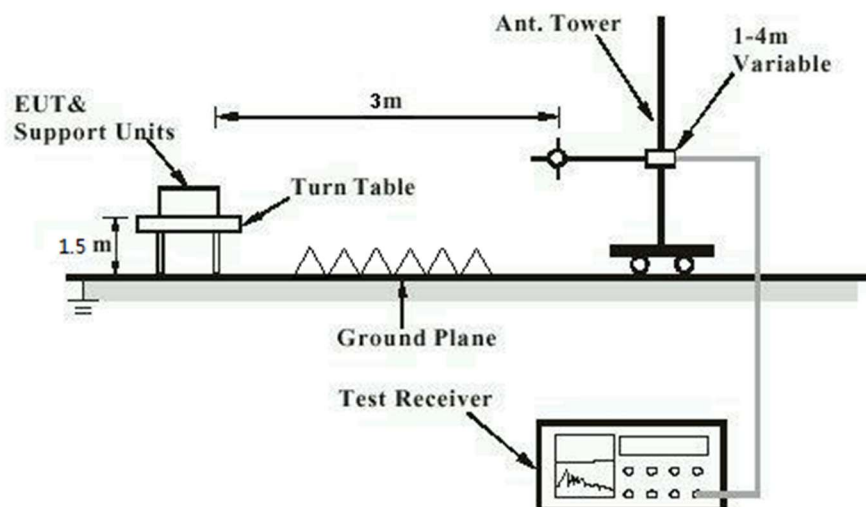


Diagram of Measurement Configuration for Mains Conduction Measurement

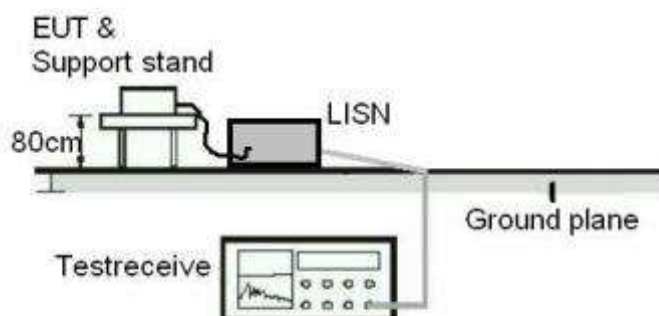
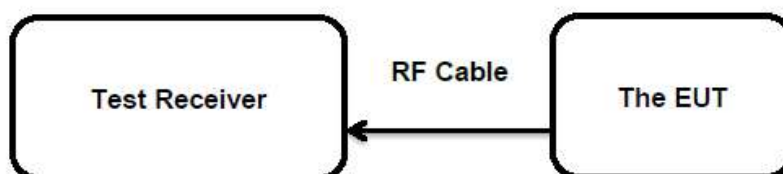


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:

Pass

Test Specification

Test standard : FCC Part 15.247(b)(4) and Part 15.203

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is **Error! Reference source not found.** dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 Fundamental & Harmonics Radiated Emission

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.249(a)
Basic standard	: ANSI C63.10: 2013
Limits	: Refer to FCC Part 15.209(a)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 21.07.2019
Input voltage	: DC 3.7V
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: 22 °C
Relative humidity	: 56 %
Atmospheric pressure	: 100 kPa

For the measurement records, refer to the appendix B.

5.1.3 20dB Bandwidth

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.215
Basic standard : ANSI C63.10: 2013
Kind of test site : Shielded Room

Test Setup

Date of testing : 21.07.2019
Input voltage : DC 3.7V
Operation mode : A
Ambient temperature : 22 °C
Relative humidity : 56 %
Atmospheric pressure : 100 kPa

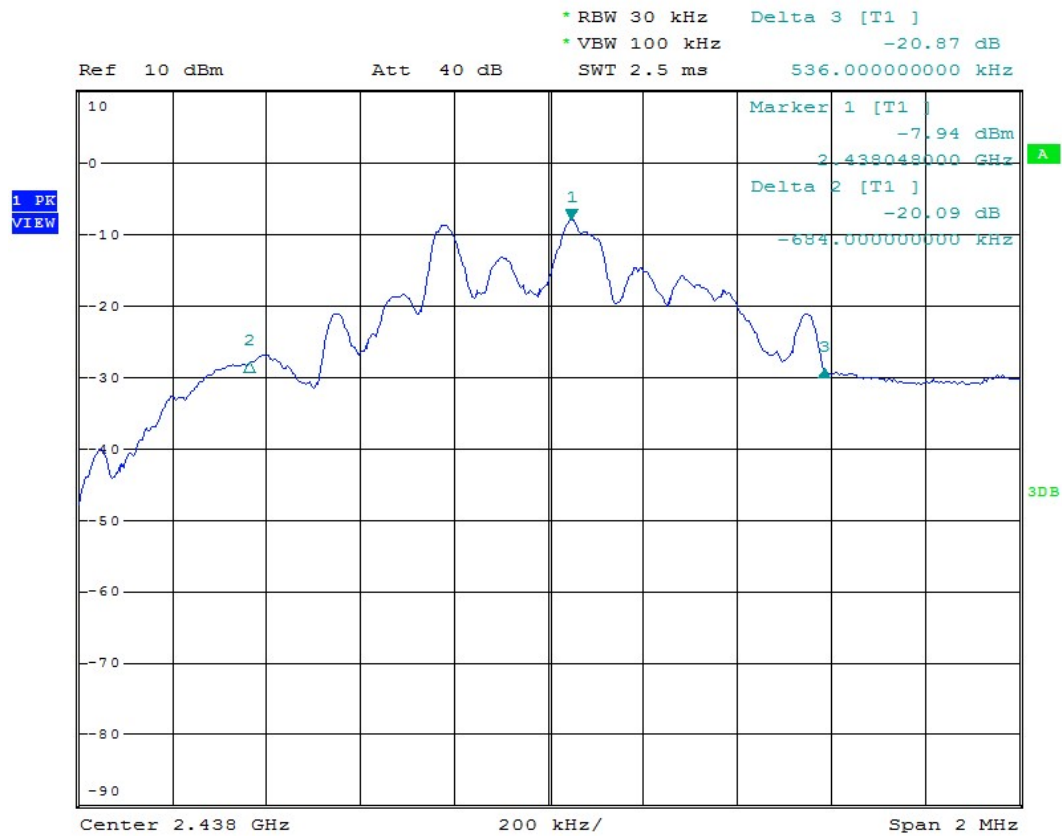
For details refer to following test result.

Table 4: Test Result of 20dB Bandwidth, General 2.4GHz

Test Mode Test Channel (MHz)	20dB Bandwidth (kHz)	Limit (MHz)
2438	1220.00	Within the assigned frequency band 2400~2483.5MHz
Maximum Measured Value	1220.00	

For the measurement records, refer to following test plot:

Test Plot of 20dB Bandwidth



5.1.4 Radiated Spurious Emission & Band Edge

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.249 (d) & FCC Part 15.205
Basic standard	: ANSI C63.10: 2013
Limits	: Refer to 15.209(a) of FCC part 15.247(d)
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: Refer to test result
Input voltage	: DC 3.7V
Operation mode	: A
Ambient temperature	: 22 °C
Relative humidity	: 56 %
Atmospheric pressure	: 100 kPa

Remark:

Testing was carried out within frequency range 9kHz to the tenth harmonics. Only the worst case spurious emissions configuration of the each mode were reported.

For the measurement records, refer to the appendix B.

5.1.5 Conducted Emission on AC Mains

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.207(a)
Basic standard	: ANSI C63.10: 2013
Frequency range	: 0.15 – 30MHz
Limits	: FCC Part 15.207(a) RSS-Gen Table 3
Kind of test site	: Shielded Room

Test Setup

Date of testing	: Refer to test result
Input voltage	: DC 3.7V (supplied by PC)
Operation mode	: C
Earthing	: Not connected
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix B.

6 Safety Human Exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT:

Pass

Test Specification

Test standard : CFR47 FCC Part 2: Section 2.1093
CFR47 FCC Part 1: Section 1.1310
FCC KDB Publication 447498 D01 v06

➤ **FCC requirements**

FCC requirement: Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20cm normally can be maintained between the user and the device.

Measurement Record for CFR47 FCC Part 2.1093

The minimum distance for the EUT is less than 5mm.

The maximum specified e.i.r.p.: 95.898dBuV/m @3m = 0.67dBm=1.167mW

Antenna Gain: 0dBi max

According to KDB 447498 D01 v06 4.3.1 a)

Exempted Power: 9.5mW, hence the EUT is compliance with the RF exposure.

7 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

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Appendix A: Photographs of the Test Set-Up

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Photograph 1: Set-up for Radiated Spurious Emission, 9kHz - 30MHz



Photograph 2: Set-up for Radiated Spurious Emission, 30MHz - 1GHz



Photograph 3: Set-up for Radiated Spurious Emission, 1GHz - 18GHz



Photograph 4: Set-up for Radiated Spurious Emission, 18GHz - 26.5GHz



Photograph 5: Set-up for Conducted Emission on AC Mains



Appendix B: Test Results of General 2.4GHz

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Appendix B.1: Measurement Equipment List



Measurement Equipment List

Testing Start Date 10.07.2019
Testing end date 01.09.2019

Project Manager Storm Shu
Cost Center 144
Test Report Number
Order Item Number

Customer

Comment

Page 1 of 1

Old ID	Equip.	Description	Model	Manufacturer	Inte. (mon)	Due Date DD.MM.YYYY
1.887	1813944	EMI Test Receiver	ESCI	Rohde & Schwarz	12	15.03.2020
1.886	1813943	Two-Line V-Network	ENV216	Rohde & Schwarz	12	24.05.2020
1.807	1813832	EMI Test Receiver	ESCI	Rohde & Schwarz	12	14.03.2020
1.805	1813829	FSP30 Spectrum Analyzer	FSP30	Rohde & Schwarz	12	15.08.2020
1.921B	1814142	Trilog Broadband Antenna	VULB9168(6dB)	SCHWARZBECK	24	20.09.2019
1.922	1813850	Loop Antenna	HFH2-Z2	Rohde & Schwarz	24	15.03.2021
1.889C	1814199	Double-Ridged Horn Antenna	HF907(3##)	Rohde & Schwarz	24	23.10.2020
1.808	1813833	Horn Antenna	3160-09	EMCO	60	19.01.2024
1.819C	1814068	Pre-Amplifier	A44-00101800-25-10P-	MITEQ	12	08.05.2020
1.819A	1813846	Band Reject Filter	BRM50702	Micro-Tronics	24	04.07.2020
1.808A	1813834	Pre-Amplifier	A33-18002650-30-8P-4	MITEQ	24	29.07.2021
1.666	1813697	SAC	N/A	Albatross Project	36	27.11.2021
1.913	1814012	Shielding Room	9x4x3.4	Changzhou Yuanping	60	08.12.2020
3.769	1814017	Regulated power supply	APS-33045TT	APS	12	15.07.2020
3.765	1814004	Frequency Invertor	APW-1100N	APE	12	15.07.2020
3.770	1814018	Regulated power supply	APS-11020	APS	12	15.07.2020
3.647	1822646	Stable Power Supply	APS-11010GG	APS	12	15.07.2020
1.844	1813877	Automatic Voltage Regulator	AFR-345	Allpower	12	26.04.2020
3.648	1822647	Frequency Invertor	CIF-5000A	IDRC	12	15.07.2020
1.803C	1822648	Artificial Mains Network	LT32C/10	AFJ	12	30.07.2020
1.923B	1825388	EMI Test Receiver	ESR7	Rohde & Schwarz	12	08.04.2020
1.657N	1825384	Power Meter	NRX	Rohde & Schwarz	12	08.04.2020
1.657O	1825385	Average Power Sensor	NRP6A	Rohde & Schwarz	12	08.04.2020
1.657P	1825386	Average Power Sensor	NRP6A	Rohde & Schwarz	12	08.04.2020

Note: Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz -26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

Appendix B.2: Fundamental & Harmonics Radiated Emission 30MHz - 1GHz

TUV Rheinland (Guangdong) Ltd.

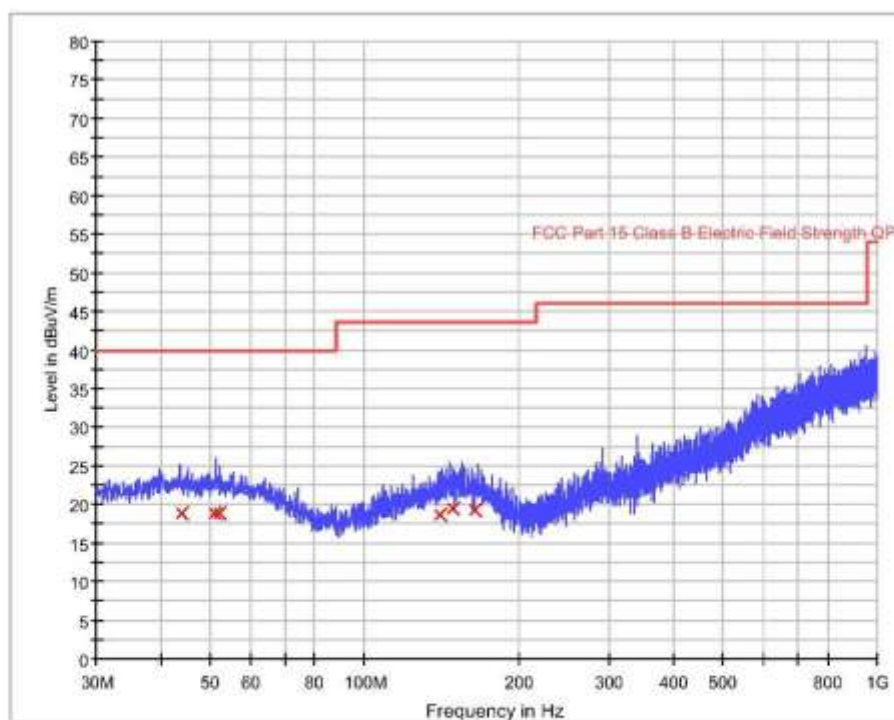
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Bohan
Test Item:	Hemel Remote Control
Identification:	GD01
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	DC 3.7 V
Receipt No:	170103327
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal

Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by: Jason Wu
20190721

Reviewed by: Jacky Chen
20190724

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBuV/m)	Comment
43.840000	18.7	1000.0	120.000	H	20.4	21.3	40.0	
51.200000	18.8	1000.0	120.000	H	20.5	21.2	40.0	
52.080000	18.7	1000.0	120.000	H	20.5	21.3	40.0	
140.960000	18.6	1000.0	120.000	H	20.4	24.9	43.5	
148.840000	19.3	1000.0	120.000	H	21.0	24.2	43.5	
164.120000	19.2	1000.0	120.000	H	21.2	24.4	43.5	

Tested by: Jason Wu

20190721

Reviewed by: Jacky Chen

20190724

TUV Rheinland (Guangdong) Ltd.

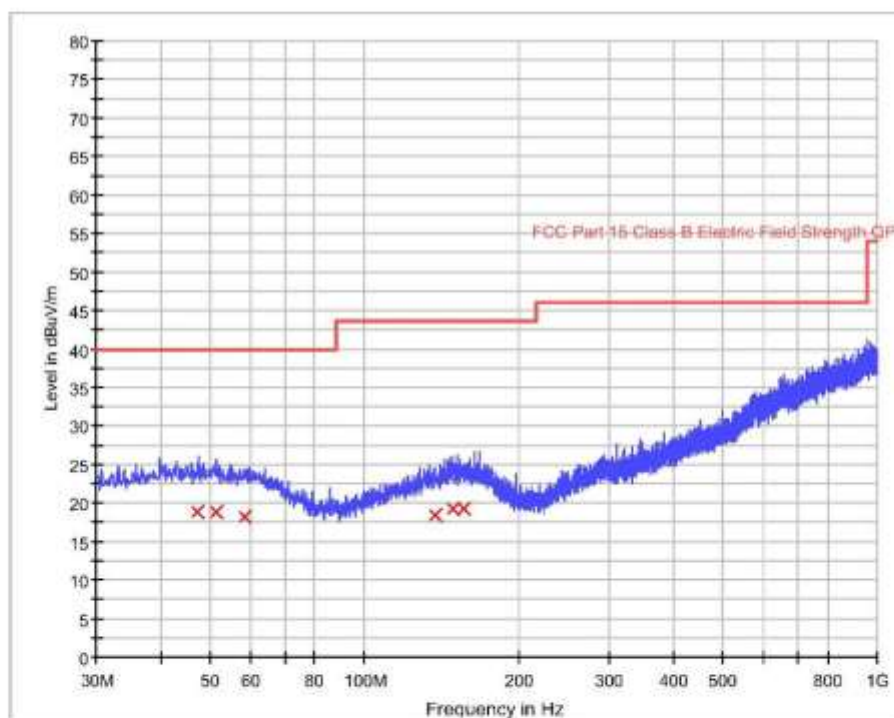
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Bohan
Test Item:	Helmet Remote Control
Identification:	GD01
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	DC 3.7 V
Receipt No:	170103327
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Vertical

Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by: Jason Wu
20190721

Reviewed by: Jacky Chen
20190724

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBuV/m)	Comment
47.320000	18.8	1000.0	120.000	V	20.5	21.2	40.0	
51.480000	18.9	1000.0	120.000	V	20.5	21.2	40.0	
58.360000	18.3	1000.0	120.000	V	20.0	21.7	40.0	
137.800000	18.4	1000.0	120.000	V	20.2	25.1	43.5	
148.320000	19.3	1000.0	120.000	V	21.0	24.2	43.5	
156.600000	19.3	1000.0	120.000	V	21.3	24.3	43.5	

Tested by: Jason Wu

20190721

Reviewed by: Jacky Chen

20190724

Fundamental Emissions

TUV Rheinland (Guangdong) Ltd.

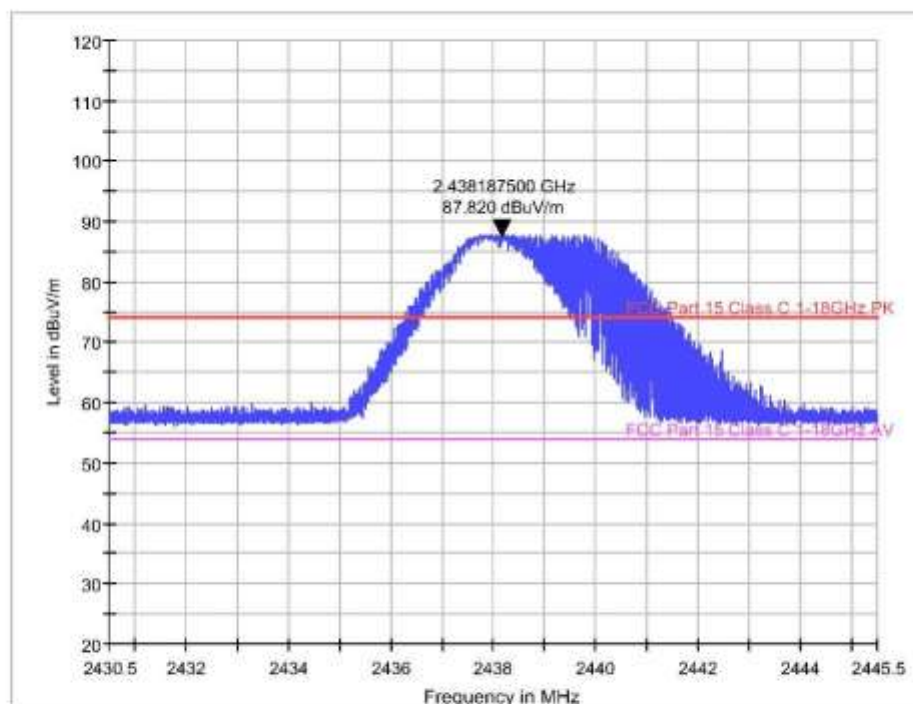
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Bohan
Test Item:	Helmet Remote Control
Identification:	GD01
Test Standard:	FCC Part 15
Test Detail:	Radiant Power
Operation Mode:	Transmitting
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	DC 3.7 V
Receipt No:	170103327
Report No:	/
Result:	Pass
Comment:	Horizontal
Subrange 1	
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: Jason Wu

Reviewed by: Jacky Chen

20190721

20190724

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

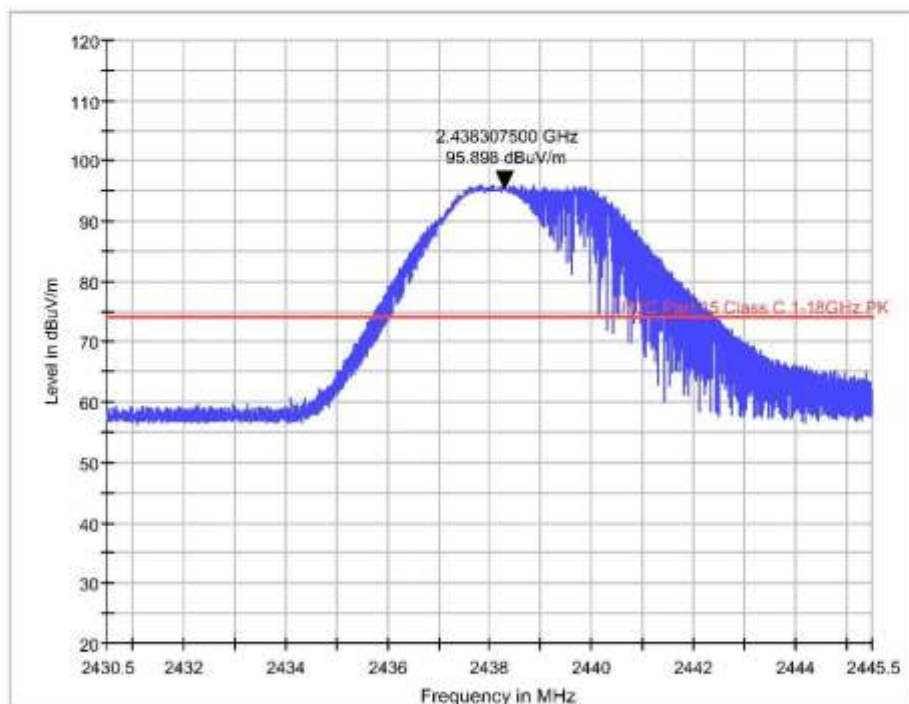
Common Information

Manufacturer:	Bohan
Test Item:	Helmet Remote Control
Identification:	GD01
Test Standard:	FCC Part 15
Test Detail:	Radiant Power
Operation Mode:	Transmitting
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	DC 3.7 V
Receipt No:	170103327
Report No:	/
Result:	Pass
Comment:	Vertical

Subrange 1

Receiver: TUV FSP30
Transducer: TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: Jason Wu	Reviewed by: Jacky Chen
20190721	20190724

Produkte
Products

Limit and Margin

Frequency (MHz)	Max Peak	Max Average	Bandwidth (KHz)	Pol	Limit Peak	Limit Average	Margin (PK)	Margin (AV)
	(dBμV/m)				(dBμV/m)		(dB)	
2438.188	87.8	/	1000	H	114	94	26.2	/
2438.308	95.9	91.3	1000	V	114	94	18.1	2.7

Above 1GHz

Note: The measurement results 2402-2483.5MHz was exclusion band, when Band Reject Filter used. So only the radiated spurious emissions of out this exclusion band were evaluated.

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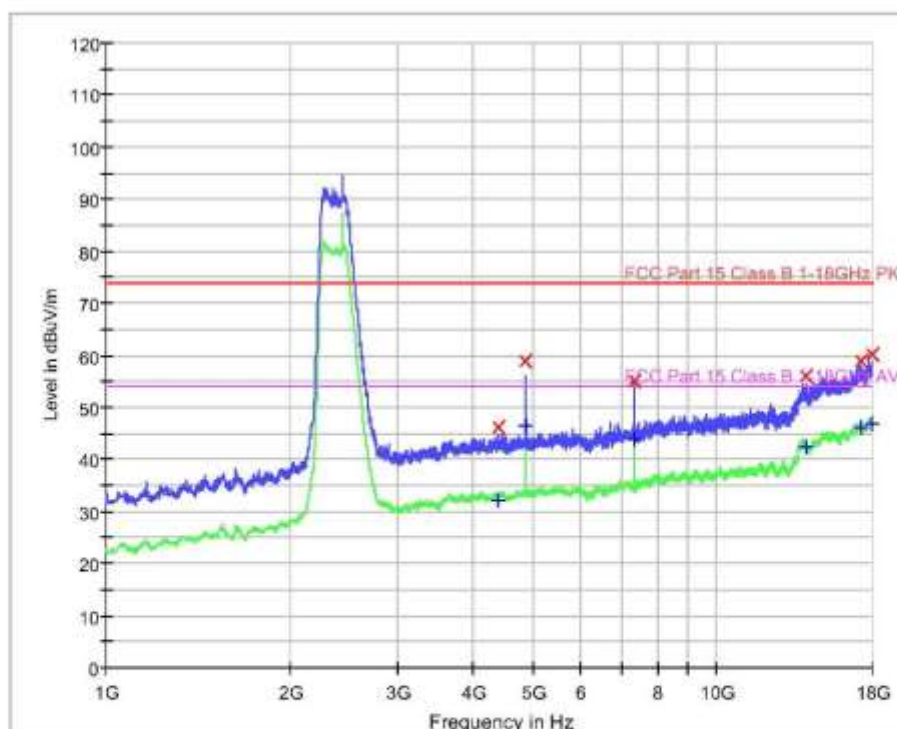
EMC Test Record (Emission)

Common Information

Manufacturer:	Bohan
Test Item:	Helmet Remote Control
Identification:	GD01
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	DC 3.7V
Receipt No:	170103327
Report No:	/
Result:	Pass
Comment:	Horizontal

Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_ERE011-A02-07_1GHz-18GHz_With PreAMP EXT & Notch filter



Tested by: Jason Wu

Reviewed by: Jacky Chen

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Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
4402.000000	46.0	1000.0	1000.000	H	-5.3	28.0	74.0
4876.000000	58.9	1000.0	1000.000	H	-4.5	15.2	74.0
7313.000000	55.2	1000.0	1000.000	H	-1.3	18.8	74.0
13996.000000	56.1	1000.0	1000.000	H	5.9	17.9	74.0
17263.000000	58.9	1000.0	1000.000	H	11.5	15.1	74.0
17985.000000	60.2	1000.0	1000.000	H	11.8	13.8	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBuV/m)
4402.000000	32.2	1000.0	1000.000	H	-5.3	21.8	54.0
4876.000000	46.4	1000.0	1000.000	H	-4.5	7.6	54.0
7313.000000	44.0	1000.0	1000.000	H	-1.3	10.0	54.0
13996.000000	42.2	1000.0	1000.000	H	5.9	11.8	54.0
17263.000000	46.1	1000.0	1000.000	H	11.5	7.9	54.0
17985.000000	46.8	1000.0	1000.000	H	11.8	7.2	54.0

Tested by:

Jason Wu

Reviewed by:

Jacky Chen

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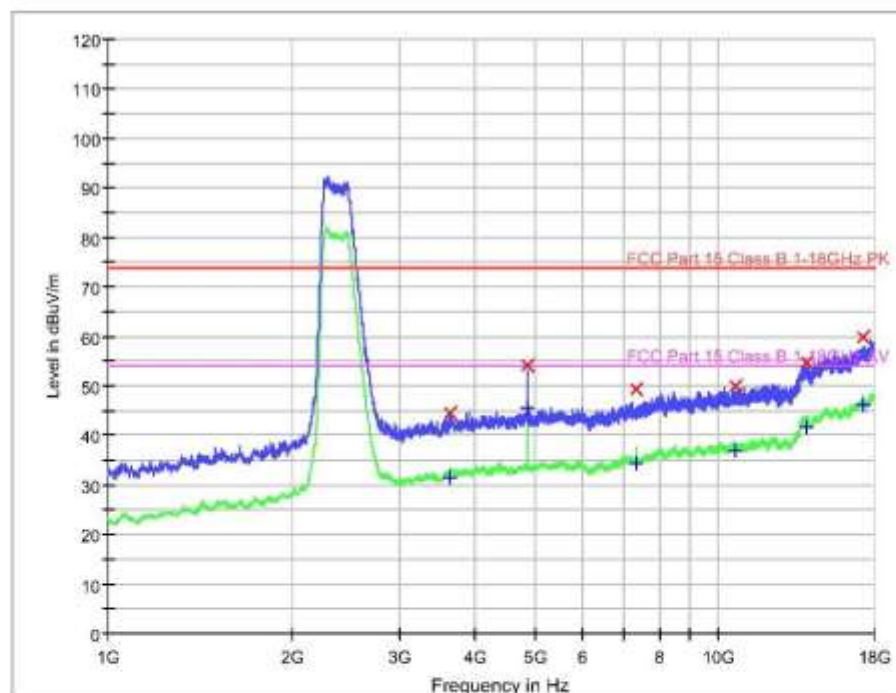
EMC Test Record (Emission)

Common Information

Manufacturer:	Bohan
Test Item:	Helmet Remote Control
Identification:	GD01
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	DC 3.7V
Receipt No:	170103327
Report No:	/
Result:	Pass
Comment:	Vertical

Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



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Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
3641.000000	44.6	1000.0	1000.000	V	-6.9	29.4	74.0
4876.000000	54.2	1000.0	1000.000	V	-4.5	19.8	74.0
7313.000000	49.3	1000.0	1000.000	V	-1.3	24.7	74.0
10652.000000	50.1	1000.0	1000.000	V	4.2	23.9	74.0
13899.000000	54.9	1000.0	1000.000	V	5.6	19.1	74.0
17237.000000	59.8	1000.0	1000.000	V	11.5	14.2	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBuV/m)
3641.000000	31.5	1000.0	1000.000	V	-6.9	22.5	54.0
4876.000000	45.7	1000.0	1000.000	V	-4.5	8.3	54.0
7313.000000	34.5	1000.0	1000.000	V	-1.3	19.5	54.0
10652.000000	36.8	1000.0	1000.000	V	4.2	17.2	54.0
13899.000000	41.8	1000.0	1000.000	V	5.6	12.2	54.0
17237.000000	46.3	1000.0	1000.000	V	11.5	7.8	54.0

Tested by: Jason Wu

Reviewed by: Jacky Chen

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Appendix B.3: Test Results of Radiated Emissions in Restricted Bands

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EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

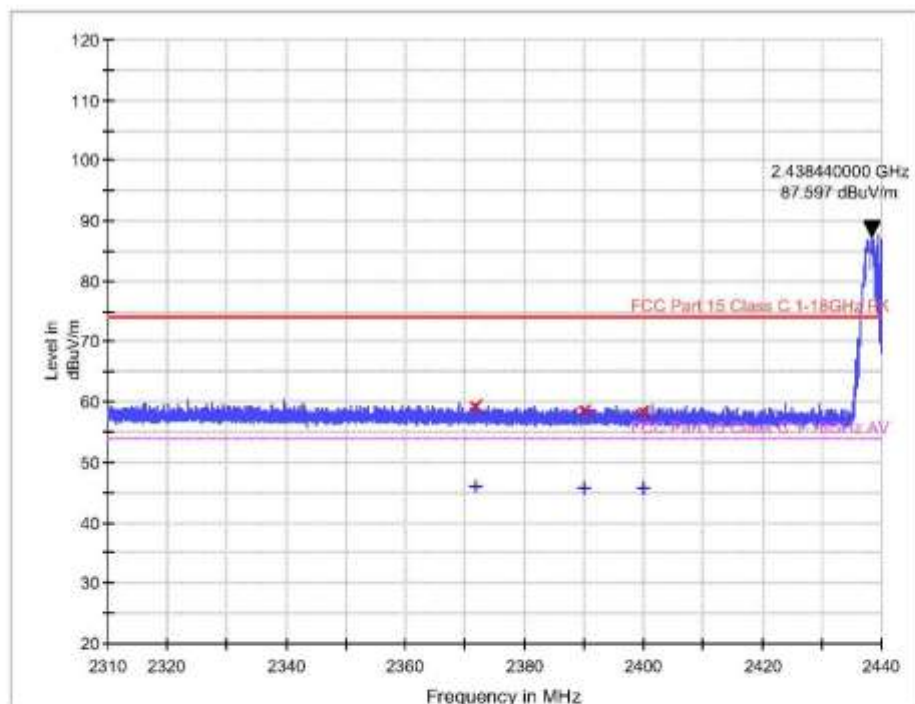
Manufacturer:	Bohan
Test Item:	Helmet Remote Control
Identification:	GD01
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Transmitting
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	DC 3.7 V
Receipt No:	170103327
Report No:	/
Result:	Pass
Comment:	Horizontal

Subrange 1

Receiver: TUV FSP30

Transducer: TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_ERE011-A02-04_1GHz-18GHz



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EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2371.685000	59.3	1000.0	1000.000	H	33.0	14.7	74.0
2390.000000	58.5	1000.0	1000.000	H	33.0	15.5	74.0
2400.000000	58.3	1000.0	1000.000	H	33.0	15.7	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBuV/m)
2371.685000	46.0	1000.0	1000.000	H	33.0	8.0	54.0
2390.000000	45.8	1000.0	1000.000	H	33.0	8.2	54.0
2400.000000	45.7	1000.0	1000.000	H	33.0	8.3	54.0

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

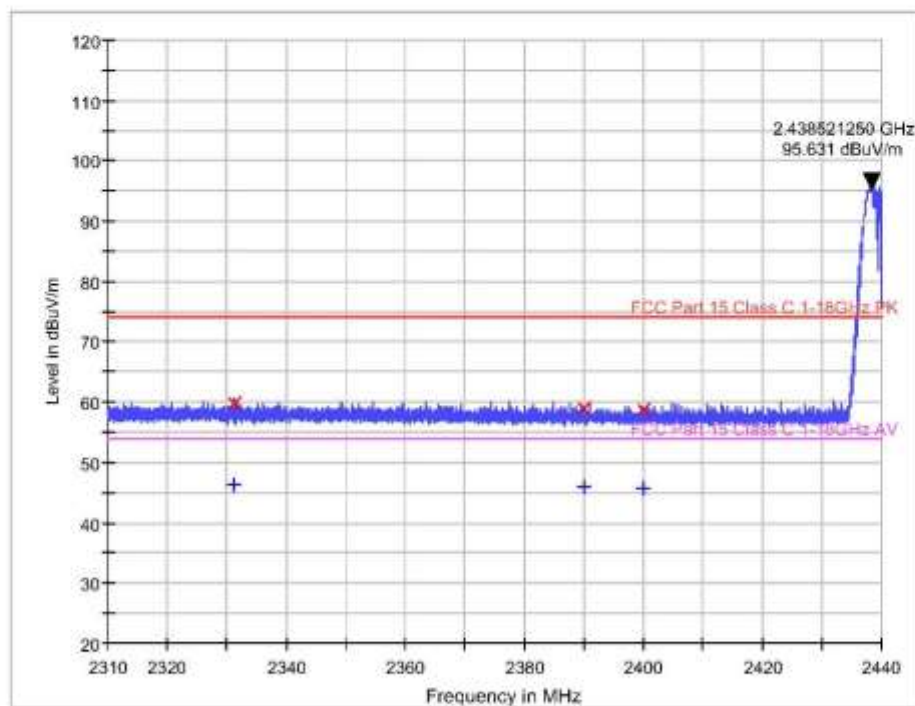
Manufacturer:	Bohan
Test Item:	Helmet Remote Control
Identification:	GD01
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Transmitting
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	DC 3.7 V
Receipt No:	170103327
Report No:	/
Result:	Pass
Comment:	Vertical

Subrange 1

Receiver: TUV FSP30

Transducer: TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREF011-A02-04_1GHz-18GHz



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Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2331.255000	59.7	1000.0	1000.000	V	32.9	14.3	74.0
2390.000000	59.0	1000.0	1000.000	V	33.0	15.0	74.0
2400.000000	58.7	1000.0	1000.000	V	33.0	15.3	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBuV/m)
2331.255000	46.3	1000.0	1000.000	V	32.9	7.7	54.0
2390.000000	46.0	1000.0	1000.000	V	33.0	8.0	54.0
2400.000000	45.8	1000.0	1000.000	V	33.0	8.2	54.0

Tested by:

Jason Wu

Reviewed by:

Jacky Chen

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EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

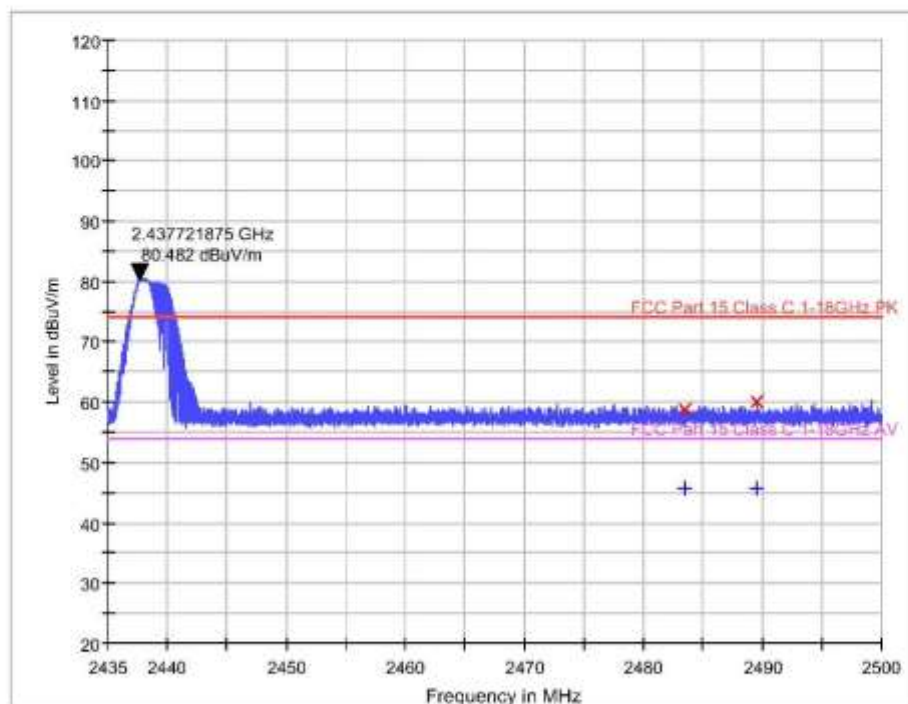
Manufacturer:	Bohan
Test Item:	Helmet Remote Control
Identification:	GD01
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Transmitting
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	DC 3.7 V
Receipt No:	170103327
Report No:	/
Result:	Pass
Comment:	Horizontal

Subrange 1

Receiver: TUV FSP30

Transducer: TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFO11-A02-04_1GHz-18GHz



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Reviewed by: Jody Chen

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Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2483.500000	58.6	1000.0	1000.000	H	33.2	15.4	74.0
2489.502500	60.0	1000.0	1000.000	H	33.2	14.0	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBuV/m)
2483.500000	45.8	1000.0	1000.000	H	33.2	8.2	54.0
2489.502500	45.8	1000.0	1000.000	H	33.2	8.2	54.0

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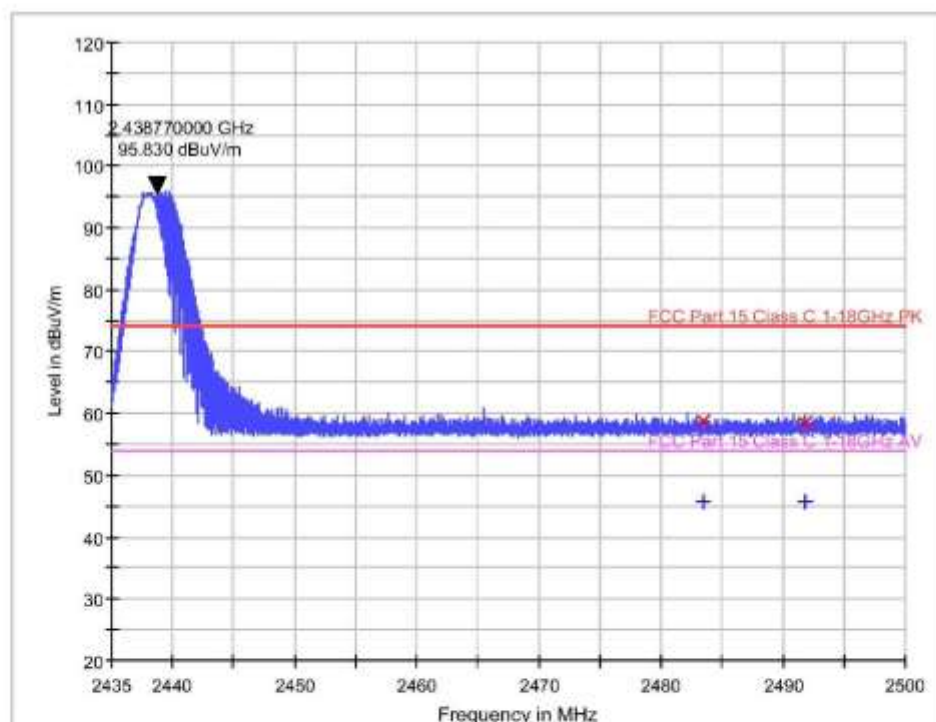
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Bohan
Test Item:	Helmet Remote Control
Identification:	GD01
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Transmitting
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	DC 3.7 V
Receipt No:	170103327
Report No:	/
Result:	Pass
Comment:	Vertical
Subrange 1	
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: Jason Wu

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EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2483.500000	58.7	1000.0	1000.000	V	33.2	15.3	74.0
2491.818125	58.5	1000.0	1000.000	V	33.2	15.5	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBuV/m)
2483.500000	45.8	1000.0	1000.000	V	33.2	8.2	54.0
2491.818125	45.9	1000.0	1000.000	V	33.2	8.1	54.0

Tested by: Jason Wu

Reviewed by: Jacky Chen

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Appendix B.4: Test Results of Conducted Emission on AC Mains

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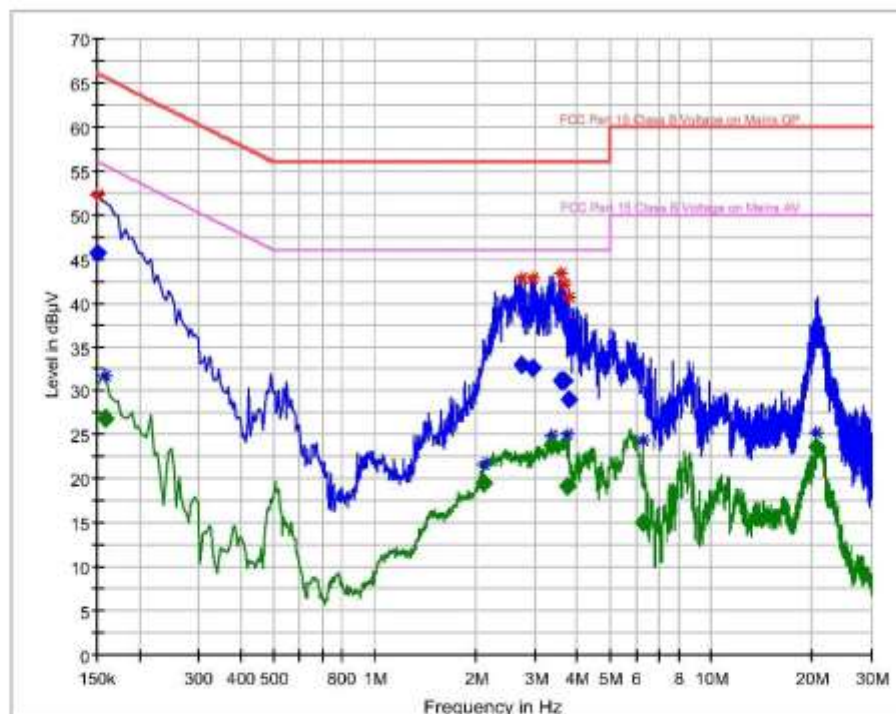
EMC Test Record (EMISSION)

Test Information

Manufacturer: Bohan
Test Item: Helmet Remote Control
Identification: GD01
Test Standard: FCC Part 15
Test Detail: Conducted Emission
Operation Mode: On
Climate Condition: 21 °C; 50 %RH; 101 kPa.
Test Voltage/ Freq.: AC 120 V/ 60Hz(With laptop)
Receipt No.: 170103327
Report No.: /
Result: Pass
Comment: /

Hardware Setup: 1phase LISN ENV216 to ESCI 3
Level Unit: dBuV

Subrange	Detectors	IF Bandwidth	Step Size	Meas. Time	Receiver
150kHz - 30MHz	Peak; Average	9kHz	4.5kHz	10ms	ESCI 3



Tested by: Jason Wu

Reviewed by: Jacky Chan

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Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.150000	45.70	---	66.00	20.30	1000.	9.000	N	ON	9.6
0.159000	---	26.81	55.52	28.71	1000.	9.000	N	ON	9.6
2.121000	---	19.58	46.00	26.42	1000.	9.000	N	ON	9.8
2.733000	32.97	---	56.00	23.03	1000.	9.000	N	ON	9.8
2.958000	32.52	---	56.00	23.48	1000.	9.000	N	ON	9.8
3.354000	---	23.82	46.00	22.18	1000.	9.000	N	ON	9.8
3.588000	31.19	---	56.00	24.81	1000.	9.000	N	ON	9.8
3.642000	31.14	---	56.00	24.86	1000.	9.000	L1	ON	9.8
3.718500	---	19.08	46.00	26.92	1000.	9.000	L1	ON	9.8
3.772500	29.07	---	56.00	26.93	1000.	9.000	N	ON	9.8
6.292500	---	14.95	50.00	35.05	1000.	9.000	N	ON	9.9
20.634000	---	23.60	50.00	26.40	1000.	9.000	N	ON	10.4

Tested by: Jason Wu

Reviewed by: Jacky Chan

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