FCC PART 90

TEST REPORT

For

Fujian Juston Electronic Equipment Co., Ltd.

No.115，117，119,Yuantai 3rd Road,Jiangnan, Hi-tech Park,Licheng District, Quanzhou ,Fujian,China

FCC ID:2AB4FHYDXD50

Report Type:	**Product Type:**
Class II Permissive Change	DMR

Test Engineer:	Shawn Xiao
Report Number:	RSZ151209015-00A2
Report Date:	2015-12-22
Reviewed By:	Candy Li RF Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

TABLE OF CONTENTS

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Fujian Juston Electronic Equipment Co., Ltd.'s* product, model number: *HYDX-D50 (FCC ID:* 2AB4FHYDXD50*)* or the "EUT" in this report was a *DMR*, the unit was measured approximately: 131 mm (L) × 61 mm (W)× 36 mm (H) rated with input voltage: DC 7.4 V battery.

**All measurement and test data in this report was gathered from production sample serial number: 1507310 (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2015-12-09.*

Objective

This test report is prepared on behalf of *Fujian Juston Electronic Equipment Co., Ltd.* in accordance with Part 2 and Part 90 of the Federal Communication Commissions rules.

This is a CIIPC application of the device; the differences between the original device and the current one are as follows:

1. Change of appearance style;

2. Change of battery contacting-point from 3 points to 4 points;

3. Change of the device's clip on the back side from screw fixing to slot type.

For the change made to the device, the test item "spurious radiated emissions" and "RF Output Power "was performed.

Related Submittal(s)/Grant(s)

No related submittal(s)

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of federal Regulations Title 47 Part 2, Sub-part J as well as the following individual parts:

Part 90 – Private Land Mobile Radio Service

Applicable Standards: TIA-603-D and ANSI 63.4-2014.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement uncertainty with radiated emission is 5.91 dB for 30MHz-1GHz.and 4.92 dB for above 1GHz, 1.95dB for conducted measurement.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a test mode which has been done in the factory.

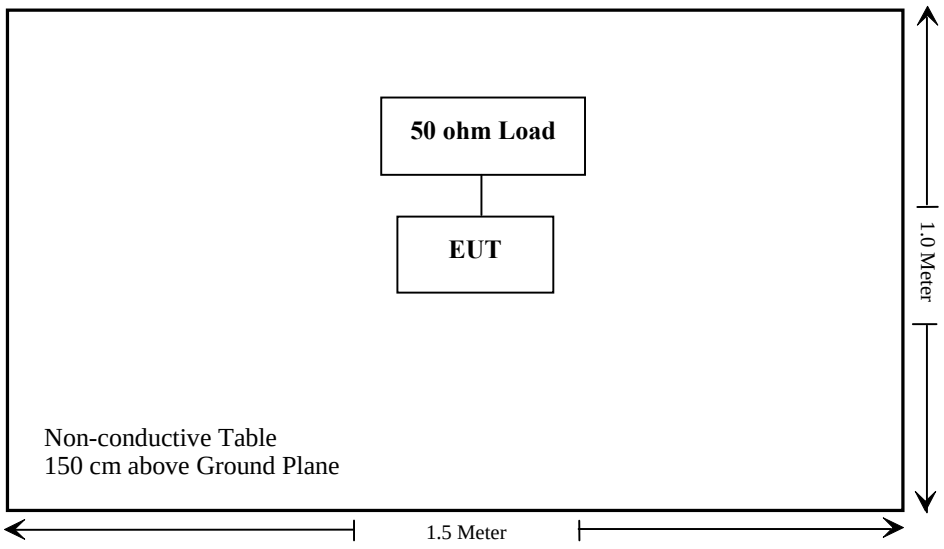
Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
N/A	50 ohm Load	N/A	N/A

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§1.1307(b);§2.1093	RF Exposure	Compliance
§2.1046;§90.205	RF Output Power	Compliance
§2.1047;§90.207	Modulation Characteristic	Compliance*
§2.1049;§90.209; §90.210	Occupied Bandwidth & Emission Mask	Compliance*
§2.1051;§90.210	Spurious Emission at Antenna Terminal	Compliance*
§2.1053;§90.210	Spurious Radiated Emissions	Compliance
§2.1055;§90.213	Frequency Stability	Compliance*
§90.214	Transient Frequency Behavior	Compliance*

Compliance*: Please referred to FCC ID: 2AB4FHYDXD50, granted on 2015-12-04，which was tested by Bay Area Compliance Laboratories Corp. (Shenzhen).

FCC §1.1307(b) & §2.1093 - RF EXPOSURE

Applicable Standard

According to FCC §1.1307(b) and §2.1093, protable device operates Part 90 should be subjected to rountine environmental evaluation for RF exposure prior or equipment authorization or use.

Result: Compliance.

Please refer to SAR Report Number: RSZ151209015-20A1.

FCC §2.1046 & §90.205 - RF Output Power

Applicable Standard

FCC §2.1046 and §90.205

Test Procedure

Conducted RF Output Power:

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

Spectrum Analyzer Setting:

R B/W	Video B/W
100 kHz	300 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	837405/023	2015-08-22	2016-08-22
HP Agilent	RF Communication test set	8920A	3325U00859	2015-06-03	2016-06-03

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	50 %
ATM Pressure:	101.0 kPa

The testing was performed by William Li on 2015-12-31

Test Mode: Transmitting

Test Result: Compliance. Please refer to following table.

Modulation	Channel Separation (kHz)	Frequency (MHz)	Power Level	Output Power (dBm)	Output Power (W)	Result
Analog	12.5	400.0125	High	37.08	5.105	Pass
			Low	30.18	1.042	Pass
	12.5	450.0125	High	37.27	5.333	Pass
			Low	30.25	1.059	Pass
	12.5	479.9875	High	37.07	5.093	Pass
			Low	30.31	1.074	Pass
Digital	12.5	400.0125	High	37.12	5.152	Pass
			Low	30.24	1.057	Pass
	12.5	450.0125	High	37.16	5.200	Pass
			Low	30.19	1.045	Pass
	12.5	479.9875	High	37.13	5.164	Pass
			Low	30.28	1.067	Pass

Note： The rated high power is 5W. The limit of the high output power is 4W-6W.
The rated low power is 1W. The limit of the low output power is 0.8W-1.2W.

FCC §2.1053 & §90.210 - RADIATED SPURIOUS EMISSIONS

Applicable Standard

FCC §2.1053 and §90.210

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2015-11-03	2016-11-03
HP	Amplifier	8447E	1937A01046	2015-05-06	2016-05-05
Sunol Sciences	Broadband Antenna	JB3	A111513	2014-06-18	2017-06-17
Rohde & Schwarz	Signal Analyzer	FSIQ26	837405/023	2015-08-22	2016-08-22
Sunol Sciences	Horn Antenna	DRH-118	A052304	2013-12-01	2016-11-30
HP	Synthesized Sweeper	8341B	2624A00116	2015-06-03	2016-06-03
Mini-Circuits	Amplifier	ZVA-183-S+	5969001149	2015-04-23	2016-04-22
A.H. System	Horn Antenna	SAS-200/571	135	2015-02-11	2016-02-10
COM POWER	Dipole Antenna	AD-100	041000	2015-04-23	2016-04-22

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load, which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT .The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to teeth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB =10 1g (TXpwr in Watts/0.001)-the absolute level

Spurious attenuation limit in dB =50+10 Log_{10} (power out in Watts) for EUT with a 12.5 kHz channel bandwidth.

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	50 %
ATM Pressure:	101.0 kPa

The testing was performed by Shawn Xiao on 2015-12-31.

Test Mode: Transmitting

30 MHz – 5 GHz:

Frequency (MHz)	Receiver Reading (dBμV)	Turn Table Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 90	
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)		Limit (dBm)	Margin (dB)
Analog Modulation 450.0125MHz, Channel Spacing 12.5kHz										
900.02	61.99	339	1.7	H	-35.0	0.70	0	-35.70	-20	15.70
900.02	68.06	208	2.2	V	-28.9	0.70	0	-29.60	-20	9.60
1350.04	60.80	297	2.0	H	-37.1	1.20	6.40	-31.90	-20	11.90
1350.04	67.50	18	1.3	V	-30.4	1.20	6.40	-25.20	-20	5.20
1800.05	59.65	38	2.2	H	-37.5	1.40	7.10	-31.80	-20	11.80
1800.05	68.09	192	2.3	V	-29.0	1.40	7.10	-23.30	-20	3.30
2250.06	64.07	153	2.1	H	-28.5	1.30	8.30	-21.50	-20	1.50
2250.06	61.21	139	1.8	V	-31.5	1.30	8.30	-24.50	-20	4.50
2700.08	61.09	52	2.1	H	-33.7	1.10	9.30	-25.50	-20	5.50
2700.08	60.32	244	1.2	V	-35.2	1.10	9.30	-27.00	-20	7.00
Digital Modulation 450.0125MHz, Channel Spacing 12.5 kHz										
900.02	67.02	117	1.8	H	-30.0	0.70	0	-30.70	-20	10.70
900.02	71.22	240	1.6	V	-25.8	0.70	0	-26.50	-20	6.50
1350.04	59.57	165	2.2	H	-38.3	1.20	6.40	-33.10	-20	13.10
1350.04	68.79	127	2.0	V	-29.1	1.20	6.40	-23.90	-20	3.90
1800.05	57.88	76	1.3	H	-39.3	1.40	7.10	-33.60	-20	13.60
1800.05	66.00	176	2.4	V	-31.1	1.40	7.10	-25.40	-20	5.40
2250.06	63.55	251	2.2	H	-29.0	1.30	8.30	-22.00	-20	2.00
2250.06	62.64	256	1.9	V	-30.1	1.30	8.30	-23.10	-20	3.10
2700.08	61.03	286	1.5	H	-33.7	1.10	9.30	-25.50	-20	5.50
2700.08	63.66	19	1.8	V	-31.9	1.10	9.30	-23.70	-20	3.70

Note:
Absolute Level = SG Level - Cable loss + Antenna Gain
Margin = Limit- Absolute Level

******* END OF REPORT *******