



# TEST REPORT

**No. C20T00033-SRD01**

*For*

**Client: MobiWire SAS**

**Production: 4G Smart Phone**

**Model Name: Mobiwire Honaw,Altice S33**

**Brand Name: MobiWire,Altice**

**FCC ID: QPN-HONAW**

**Hardware Version: V00B**

**Software Version: SORA\_V01\_200520**

**Issued date: 2020-12-22**

**Industrial Internet Innovation Center (Shanghai) Co.,Ltd**

## NOTE

1. The test results in this test report relate only to the devices specified in this report.
2. This report shall not be reproduced except in full without the written approval of Industrial Internet Innovation Center (Shanghai) Co.,Ltd.
3. For the test results, the uncertainty of measurement is not taken into account when judging the compliance with specification, and the results of measurement or the average value of measurement results are taken as the criterion of the compliance with specification directly.

**Test Laboratory:**

Industrial Internet Innovation Center (Shanghai) Co.,Ltd

Add: Block No.4, No.766, Jingang Road, Pudong District, Shanghai, P. R. China

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### Revision Version

Report Number	Revision	Date	Memo
C20T00033-SRD01	00	2020-12-22	Initial creation of test report

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## 1. Test Laboratory

### 1.1. Testing Location

Company Name	Industrial Internet Innovation Center (Shanghai) Co.,Ltd
Address	Block No.4, No.766, Jingang Road, Pudong District, Shanghai, P. R. China
Postal Code	201206
Telephone	+86 21 63843300
FCC registration No	CN1177

### 1.2. Testing Environment

Normal Temperature	15°C-35°C
Relative Humidity	20%-75%

### 1.3. Project Data

Project Leader	Xu Yuting
Testing Start Date	2020-12-07
Testing End Date	2020-12-09

### 1.4. Signature



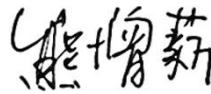
Liu Yan

(Prepared this test report)



Fan Songyan

(Reviewed this test report)



Xiong Zengxin

(Approved this test report)



## Client Information

### 2.1. Applicant Information

Company Name	MobiWire SAS
Address	79 avenue Francois Arago, 92017 NANTERRE France
Telephone	0625 028 368-33
Postcode	/

### 2.2. Manufacturer Information

Company Name	MobiWire SAS
Address	79 avenue Francois Arago, 92017 NANTERRE France
Telephone	0625 028 368-33
Postcode	/

## Equipment Under Test (EUT) and Ancillary Equipment (AE)

### 3.1. About EUT

Production	4G Smart Phone
Model name	Mobiwire Honaw, Altice S33
BT Frequency	2402MHz-2480MHz
BT Channel	Ch0-78
BT type of modulation	GFSK; $\pi/4$ DQPSK; 8DPSK
Extreme Temperature	-10/+55°C
Nominal Voltage	3.80V
Extreme High Voltage	4.35V
Extreme Low Voltage	3.60V

Note:

- Photographs of EUT are shown in ANNEX A of this test report.
- The value of the antenna gain is provided by the customer. For specific antenna information, please check the antenna specifications of the customer.

### 3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
N01	356290110440960 356290110440978	V00B	Honaw32_V02	2020-12-07

\*EUT ID: is used to identify the test sample in the lab internally.

### 3.3. Internal Identification of AE used during the test

AE ID*	Description	Type	Manufacturer
AE1	RF cable	/	AE1

\*AE ID: is used to identify the test sample in the lab internally.



## Reference Documents

### 4.1. Documents supplied by applicant

All technical documents are supplied by the client or manufacturer, which is the basis of testing.

### 4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part15	FCC CFR 47, Part 15,Subpart C: 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.247 Operation within the bands 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz.	2018-10-01
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2013
KDB 558074	Guidance for Performing Compliance Measurements on Frequency Hopping Spread Spectrum systems (DSS) Operating Under §15.247	v05r02



## Test Results

### 5.1. Summary of Test Results

Measurement Items	Sub-clause of Part15C	Verdict
Transmitter Spurious Emission-Radiated	15.247,15.209	P

Note: please refer to Annex A in this test report for the detailed test results.

The following terms are used in the above table.

P	Pass, the EUT complies with the essential requirements in the standard.
NP	Not Perform, the test was not performed by 3IN.
NA	Not Applicable, the test was not applicable.
F	Fail, the EUT does not comply with the essential requirements in the standard.

#### Test Conditions

Tnom	Normal Temperature
Tmin	Low Temperature
Tmax	High Temperature
Vnom	Normal Voltage
Vmin	Low Voltage
Vmax	High Voltage
Hnom	Norm Humidity
Anom	Norm Air Pressure

For this report, all the test case listed above are tested under Normal Temperature and Normal Voltage, and also under norm humidity, the specific conditions as following:

Temperature	Tnom	25°C
Voltage	Vnom	3.8V
Humidity	Hnom	48%
Air Pressure	Anom	1010hPa

#### Note:

- All the test data for each data were verified, but only the worst case was reported.
- The GFSK,  $\pi/4$  DQPSK and 8DPSK were set in DH1 for GFSK, 2-DH1 for  $\pi/4$  DQPSK, 3-DH1 for 8DPSK.
- The DC and low frequency voltages' measurement uncertainty is  $\pm 2\%$ .



## 5.2. Statements

The Mobewire Honaw, Altice S33 is a variant model for testing.

3IN only performed test cases which identified with P/NP/NA/F results in Annex A.

In this report, we only retest the radiation emission. And the conduct test results please refer to report No: I20D00050-SRD01-BT, which was prepared by ECIT Shanghai, East China Institute of Telecommunications.

3IN has verified that the compliance of the tested device specified in section 3 of this test report is successfully evaluated according to the procedure and test methods as defined in type certification requirement listed in section 4 of this test report.



## Test Equipments Utilized

### 6.1. Radiated Emission Test System

Item	Instrument Name	Type	SN	Manufacturer	Cal. Date	Cal. interval
1	Universal Radio Communication Tester	CMU200	123123	R&S	2020-05-10	1 year
2	EMI Test Receiver	ESU40	100307	R&S	2020-05-10	1 year
3	TRILOG Broadband Antenna	VULB9163	VULB9163-515	Schwarzbeck	2020-02-28	2 years
4	Double- ridged Waveguide Antenna	ETS-3117	00135890	ETS	2020-02-28	2 years
5	2-Line V-Network	ENV216	101380	R&S	2020-05-10	1 year

### Anechoic chamber

Fully anechoic chamber by ETS.



## Measurement Uncertainty

Measurement uncertainty for all the testing in this report are within the limit specified in 3IN documents. The detailed measurement uncertainty is defined in 3IN documents.

Measurement Items	Range	Confidence Level	Calculated Uncertainty
Peak Output Power-Conducted	2402MHz-2480MHz	95%	$\pm 0.544\text{dB}$
Frequency Band Edges-Conducted	2402MHz-2480MHz	95%	$\pm 0.544\text{dB}$
Conducted Emission	30MHz-2GHz	95%	$\pm 0.90\text{dB}$
Conducted Emission	2GHz-3.6GHz	95%	$\pm 0.88\text{dB}$
Conducted Emission	3.6GHz-8GHz	95%	$\pm 0.96\text{dB}$
Conducted Emission	8GHz-20GHz	95%	$\pm 0.94\text{dB}$
Conducted Emission	20GHz-22GHz	95%	$\pm 0.88\text{dB}$
Conducted Emission	22GHz-26GHz	95%	$\pm 0.86\text{dB}$
Transmitter Spurious Emission-Radiated	9KHz-30MHz	95%	$\pm 5.66\text{dB}$
Transmitter Spurious Emission-Radiated	30MHz-1000MHz	95%	$\pm 4.98\text{dB}$
Transmitter Spurious Emission-Radiated	1000MHz -18000MHz	95%	$\pm 5.06\text{dB}$
Transmitter Spurious Emission-Radiated	18000MHz -40000MHz	95%	$\pm 5.20\text{dB}$
Dwell Time	2402MHz-2480MHz	95%	$\pm 0.218\text{ms}$
20dB Bandwidth	2402MHz-2480MHz	95%	$\pm 62.04\text{Hz}$
AC Power line Conducted Emission	0.15MHz-30MHz	95%	$\pm 3.66\text{ dB}$

## Test Environment

**Shielding Room1** (6.0 meters×3.0 meters×2.7 meters) did not exceed following limits along the conducted RF performance testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	> 100 dB
Ground system resistance	< 0.5 Ω

**Control room** did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. =30 %, Max. = 60 %
Shielding effectiveness	> 100 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

**Fully-anechoic chamber1** (6.9 meters×10.9 meters×5.4 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 25 %, Max. = 75 %
Shielding effectiveness	> 100 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
VSWR	Between 0 and 6 dB, from 1GHz to 18GHz
Site Attenuation Deviation	Between -4 and 4 dB,30MHz to 1GHz
Uniformity of field strength	Between 0 and 6 dB, from 80MHz to 3000 MHz

## ANNEX A. Detailed Test Results

### ANNEX A.1. Radiated Emission

#### A.4.1 Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output power

In addition, radiated emissions which fall in the restricted bands, as defined in 15.205(a), must also comply with the radiated emission limits specified in 15.209(a) (see 15.205(c)).

#### Limit in restricted band:

Frequency of emission (MHz)	Field strength (uV/m)	Field strength (dBuV/m)
30~88	100	40
88~216	150	43.5
216~960	200	46
Above 960	500	54

#### A.4.2 Test Method

Portable, small, lightweight, or modular devices that may be handheld, worn on the body, or placed on a table during operation shall be positioned on a non-conducting platform, the top of which is 80 cm above the reference ground plane. The preferred area occupied by the EUT arrangement is 1 m by 1.5 m, For emissions testing at or below 1 GHz, the table height shall be 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m. but it may be larger or smaller to accommodate various sized EUTs. For testing purposes, ceiling- and wall-mounted devices also shall be positioned on a tabletop (see also ANSI C63.10-2013 section 6.3.4 and 6.3.5). In making any tests involving handheld, body-worn, or ceiling-mounted equipment, it is essential to recognize that the measured levels may be dependent on the orientation (attitude) of the three orthogonal axes of the EUT. Thus, exploratory tests as specified in 8.3.1 shall be carried out for various axes orientations to determine the attitude having maximum or near-maximum emission level.

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time (s)
30~1000	100KHz/300KHz	5
1000~4000	1MHz/3MHz	15
4000~18000	1MHz/3MHz	40
18000~26500	1MHz/3MHz	20

#### A.4.3 Measurement Results:

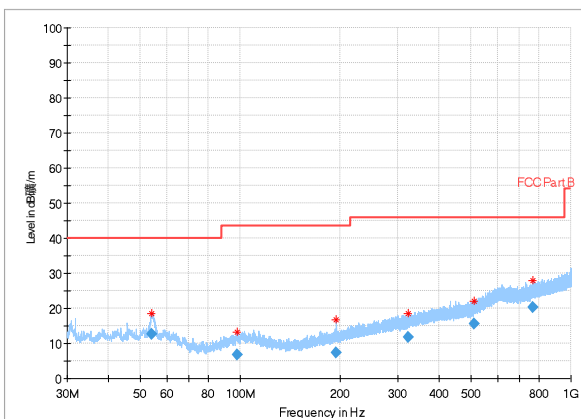
A “reference path loss” is established and  $A_{Rpi}$  is the attenuation of “reference path loss”, and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

The measurement results are obtained as described below:

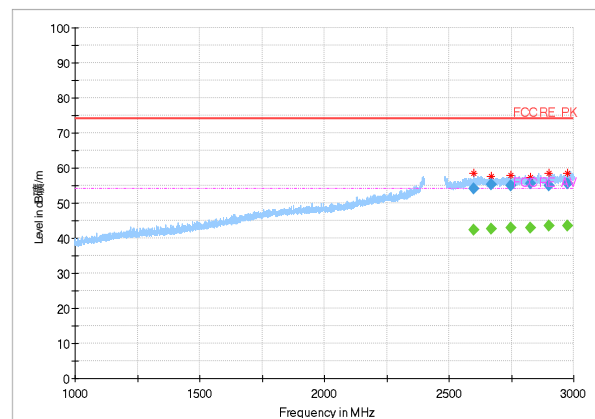
$$A_{Rpi} = \text{Cable loss} + \text{Antenna Gain} - \text{Preamplifier gain}$$

$$\text{Result} = P_{\text{Mea}} + A_{Rpi}$$

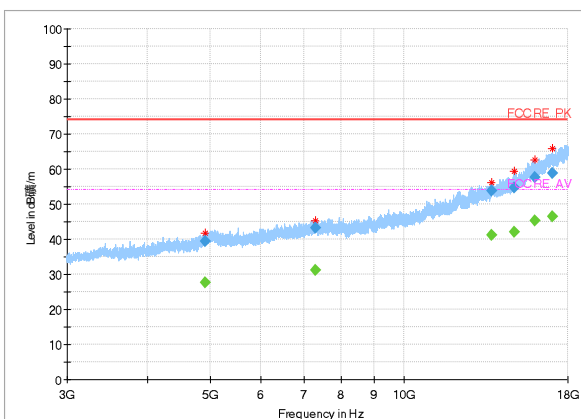
Radiated emission: GFSK, Ch78, 30MHz~1GHz



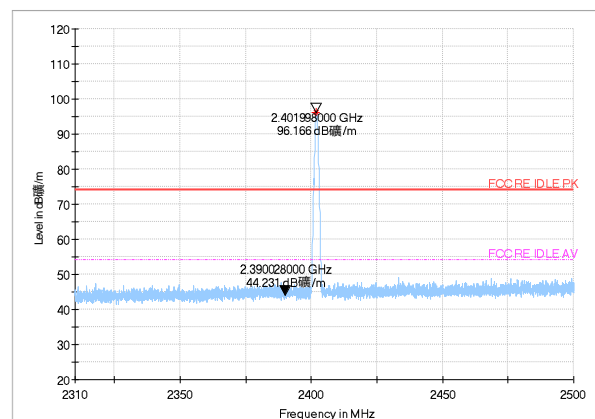
Radiated emission: GFSK, Ch78, 1GHz~3GHz



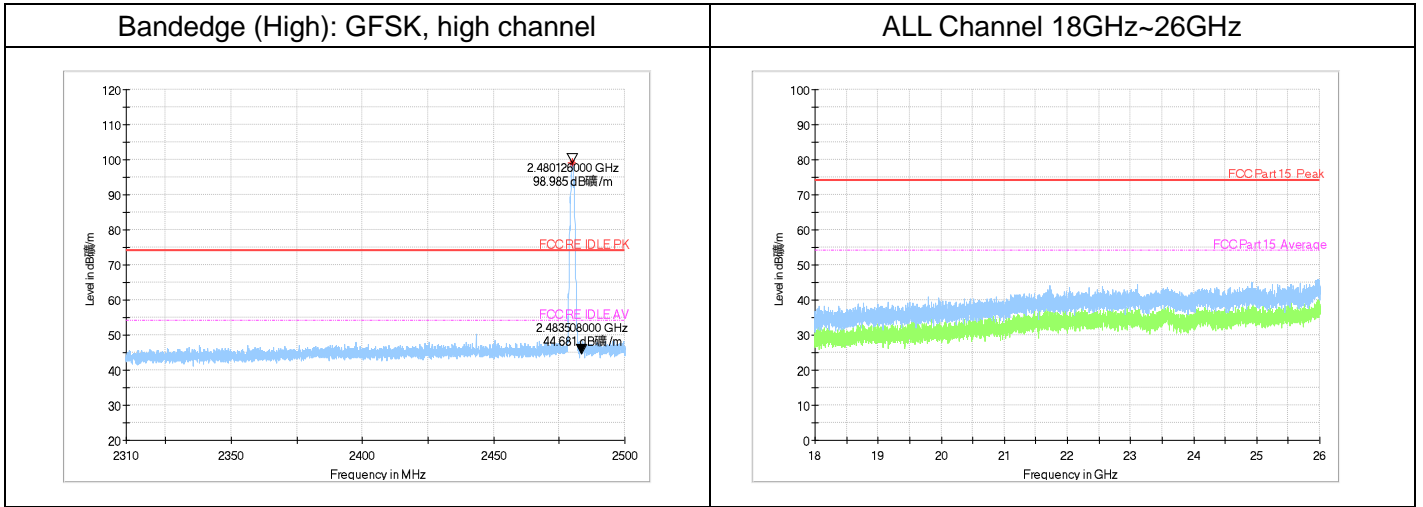
Radiated emission: GFSK, Ch78, 3GHz~18GHz



Bandedge (Low): GFSK, low channel







**GFSK Ch0 30MHz-1GHz**

Frequency(MHz)	Result(dBuV/m)	ARpl(dB)	PMea(dBuV/m)	Polarity
54.3	13.94	-15.4	29.34	V
97.8	6.9	-16.2	23.1	V
186.1	6.77	-15.7	22.47	H
271.4	9.9	-12	21.9	H
357.4	13.02	-9.7	22.72	H
631.7	19.12	-3.1	22.22	H

**GFSK Ch0 1GHz-3GHz (Peak)**

Frequency(MHz)	Result(dBuV/m)	ARpl(dB)	PMea(dBuV/m)	Polarity
2578.5	54.37	17.4	36.97	H
2668.1	54.69	17.8	36.89	H
2755.7	55.26	18	37.26	H
2829.2	54.76	18.3	36.46	H
2907.0	55.32	18.7	36.62	V
2964.2	55.22	19	36.22	V

**GFSK Ch0 1GHz-3GHz (Average)**

Frequency(MHz)	Result(dBuV/m)	ARpl(dB)	PMea(dBuV/m)	Polarity
2578.5	42.4	17.4	25	H
2668.1	42.52	17.8	24.72	H
2755.7	42.62	18	24.62	H
2829.2	42.71	18.3	24.41	H
2907.0	43.43	18.7	24.73	V
2964.2	43.31	19	24.31	V

**GFSK Ch0 3GHz-18GHz (Peak)**

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
4931.5	38.73	3.2	35.53	H
7206.5	43.03	6.1	36.93	V
13693.1	52.78	18.4	34.38	V
14905.1	54.07	22.3	31.77	V
15916.8	57.91	25.4	32.51	H
16818.2	57.45	26.9	30.55	H

**GFSK Ch0 3GHz-18GHz (Average)**

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
14905.1	42.69	22.3	20.39	V
15916.8	45.27	25.4	19.87	H
16818.2	45.51	26.9	18.61	H

**Note: Only the worst case is written in the report.**

## ANNEX A.2. Accreditation Certificate



**Accredited Laboratory**

A2LA has accredited

**3IN (Industrial Internet Innovation Center (Shanghai) Co., Ltd.)**  
Shanghai, People's Republic of China

for technical competence in the field of

**Electrical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This laboratory also meets the requirements of any additional program requirements in the «field» field. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 6th day of May 2019.



Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 3682.01  
Valid to February 28, 2021

*For the tests to which this accreditation applies, please refer to the laboratory's Electrical«field» Scope of Accreditation.*

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