

FCC C2PC Test Report

FCC ID : MCLU97B003
Equipment : Femto Cell (Sprint Magic Box Voice Amp),
Femto Cell (Sprint Voice Pro)
(Two product names are for marketing purpose.)
Model No. : AVC
Brand Name : Airspan
Applicant : Hon Hai Precision Ind. Co., Ltd.
Address : 5F-1, 5 Hsin-An Road, Hsinchu,
Science-Based Industrial Park, Taiwan, R.O.C
Standard : 47 CFR FCC Part 24 Subpart E
Received Date : Jan. 08, 2019
Tested Date : Jan. 10, 2019

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:



Along Chen / Assistant Manager

Approved by:



Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FG882003-02	Rev. 01	Initial issue	Mar. 08, 2019

Summary of Test Results

FCC Rules	Test Items	Measured	Result
2.1053 / 24.238(a)	Radiated Emissions	Meet the requirement of limit	Pass

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared values of gain for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of the gain.

1 General Description

1.1 Information

This report is prepared for Class II Permissive change. (C2PC)

This report is issued as a supplementary report to original ICC report no. FG882003. The modification is concerned with following item:

- ✧ Adding one adapter.

1.1.1 Specification of the Equipment under Test (EUT)

Operating Band (MHz)	CDMA2000 1Tx/2Rx, Voice only BC1, 1930~1990MHz
H/W Version	S1
S/W Version	2.0.01.06

1.1.2 Maximum EIRP and Emission Designator

Mode	Maximum EIRP (W / 1MHz)	Emission Designator
CDMA 2000 BC1	0.145	1M22F9W

1.1.3 Antenna Details

Ant. No.	Type	Connector	Gain (dBi)	Remark
1	PIFA	UFL	2.92	---

1.1.4 EUT Operational Condition

Power Supply Type	12Vdc from AC adapter
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1.1.5 Accessories (New addition is marked in boldface.)

Accessories		
No.	Equipment	Description
1	External GPS Antenna	10m non-shielded without core
2	RJ45 cable	1m non-shielded without core
3	AC adapter	Brand: DVE Model: DSA-42PFB-12 2 120300 Power Rating: I/P: 100-240Vac, 50/60Hz, 1.2A O/P: 12Vdc, 3A Power Line: 1.5m non-shielded without one core

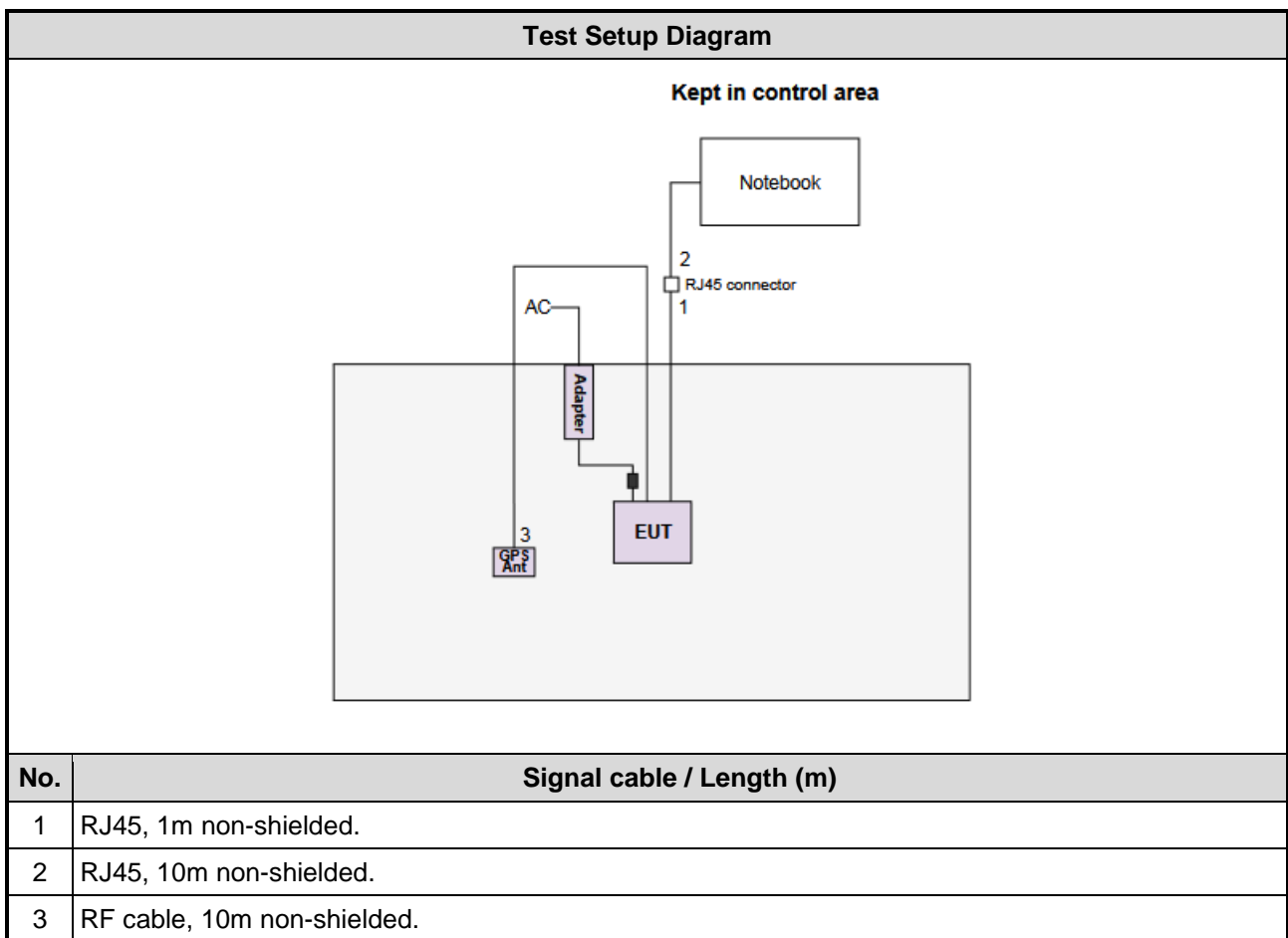
1.1.6 Operating Channel List

CDMA 2000 BC1		
Channel location	Channel	Frequency (MHz)
Low	25	1931.25
Middle	600	1960.00
High	1175	1988.75

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Notebook	DELL	Latitude E6430	DoC	---

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Radiated Emission				
Test Site	966 chamber 3 / (03CH03-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101499	Jan. 07, 2019	Jan. 06, 2020
Receiver	R&S	ESR3	101658	Dec. 11, 2018	Dec. 10, 2019
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Apr. 19, 2018	Apr. 18, 2019
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 09, 2018	Nov. 08, 2019
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 08, 2018	Oct. 07, 2019
Preamplifier	EMC	EMC02325	980187	Aug. 24, 2018	Aug. 23, 2019
Preamplifier	Agilent	83017A	MY53270014	Aug. 09, 2018	Aug. 08, 2019
Preamplifier	EMC	EMC184045B	980192	Aug. 09, 2018	Aug. 08, 2019
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Oct. 01, 2018	Sep. 30, 2019
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Oct. 01, 2018	Sep. 30, 2019
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Oct. 01, 2018	Sep. 30, 2019
Measurement Software	AUDIX	e3	6.120210g	NA	NA

Note: Calibration Interval of instruments listed above is one year.

1.5 Test Standards

According to the specification of EUT, the EUT must comply with following standards.

47 CFR FCC Part 24 Subpart E

ANSI C63.4-2014

ANSI C63.26-2015

FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Deviation from Test Standard and Measurement Procedure

None

1.7 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Measurement Uncertainty	
Parameters	Uncertainty
Radiated emission \leq 1GHz	± 3.66 dB

2 Test Configuration

2.1 Testing Condition and Location Information

Test Item	Test Site	Ambient Condition	Tested By
Radiated Emissions	03CH03-WS	24°C / 65%	Roger Lu

- FCC Designation No.: TW0009
- FCC site registration No.: 207696
- IC site registration No.: 10807C-1

2.2 The Worst Test Modes and Channel Details

Test item	Mode	Test channel
Radiated Emission \leq 1GHz	CDMA 2000 BC1	25

3 Test Results

3.1 Radiated Emissions

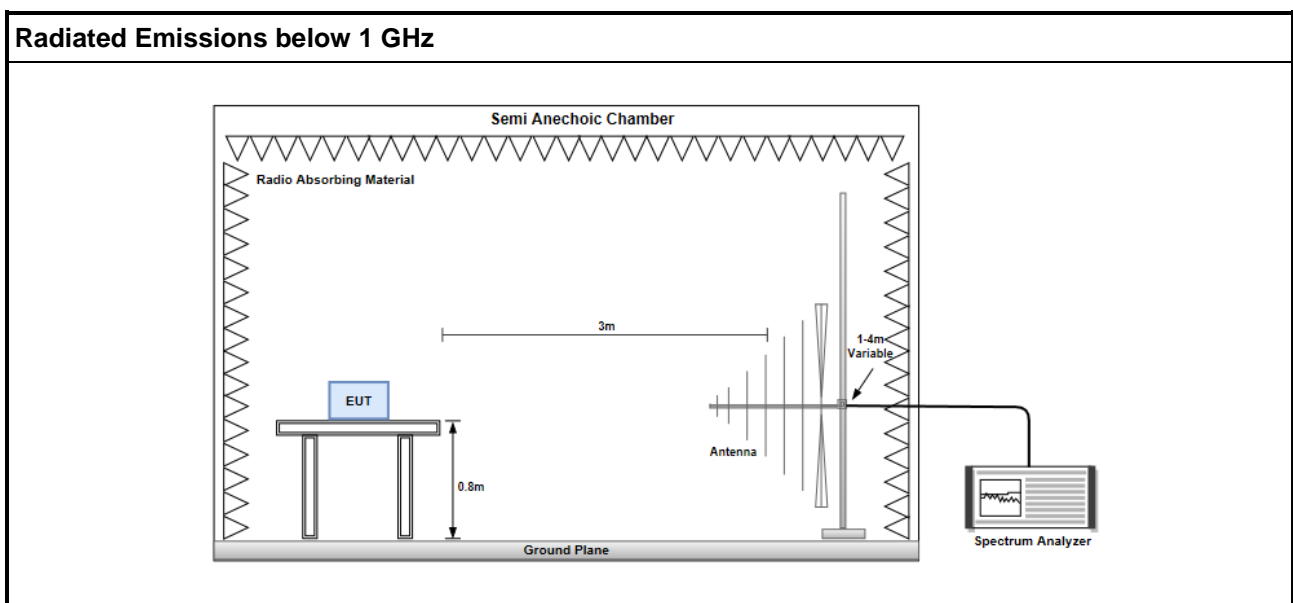
3.1.1 Limit of Radiated Emissions

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 $43 + 10 \log(P)$ dB equal to -13dBm.

3.1.2 Test Procedures

1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360° . A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane.
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360° , the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.
4. After finding the max radiated emission, substitution method will be used for getting effective radiated power. EUT will be removed and substitution antenna will be placed at same position. Signal generator will output CW signal to substitution antenna through a RF cable. Rotate turntable and move antenna to find maximum radiated emission. Adjust output power of signal generator to let the maximum radiated emission is same as step 3. Record the output power level.
5. E.I.R.P = output power of step 4 + gain of substitution antenna – cable loss of RF cable.

3.1.3 Test Setup



3.1.4 Test Result of Radiated Emissions below 1GHz

Mode	CDMA 2000, Channel : 25						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
38.73	H	-62.77	-13	-49.77	-71.06	-50.07	-12.7
108.57	H	-61.63	-13	-48.63	-59.7	-61.34	-0.29
138.64	H	-65.12	-13	-52.12	-65.6	-63.71	-1.41
249.22	H	-59.47	-13	-46.47	-57.23	-63.6	4.13
374.35	H	-67.29	-13	-54.29	-70.22	-71.32	4.03
624.61	H	-65.41	-13	-52.41	-72.04	-68.9	3.49
55.22	V	-56.58	-13	-43.58	-54.33	-46.72	-9.86
108.57	V	-57.22	-13	-44.22	-57.3	-56.93	-0.29
140.58	V	-59.95	-13	-46.95	-63.13	-58.52	-1.43
249.22	V	-60.66	-13	-47.66	-63.56	-64.79	4.13
499.48	V	-64.63	-13	-51.63	-70.44	-68.51	3.88
624.61	V	-61.41	-13	-48.41	-70.71	-64.9	3.49

Note: EIRP = S.G Power value + Correction factor.

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

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If you have any suggestion, please feel free to contact us as below information

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