

## Certification Test Report

**FCC ID: IHDT56KQ1**  
**IC: 1090-KQ1**

**FCC Rule Part: CFR 47 Part 90 / CFR 47 Part 24**

**IC Radio Standards Specification: RSS 119 / RSS 134**

**ACS Report Number: 10-2009.W06.12.B**

Applicant: Motorola  
Model: i897 H75XAH6JS5BN

Test Begin Date: 02-01-2010  
Test End Date: 02-15-2010

Report Issue Date: 03-19-2010



FOR THE SCOPE OF ACCREDITATION UNDER LAB Code 200897-0

This report is not be used to claim certification, approval, or endorsement by NVLAP, NIST or any government agency.

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**Reviewed by:**



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**This report contains 14 pages**

# Table of Content

---

1.0 GENERAL-----	3
1.1 PURPOSE -----	3
1.2 PRODUCT DESCRIPTION-----	3
1.3 TEST CONFIGURATIONS AND JUSTIFICATION-----	3
1.4 EMISSION DESIGNATORS-----	3
2.0 TEST FACILITIES -----	4
2.1 LOCATION-----	4
2.2 LABORATORY ACCREDITATIONS/RECOGNITIONS/CERTIFICATIONS -----	4
2.3 RADIATED & CONDUCTED EMISSIONS TEST SITE DESCRIPTION-----	5
3.0 APPLICABLE STANDARD REFERENCES -----	6
4.0 LIST OF TEST EQUIPMENT-----	7
6.0 EQUIPMENT UNDER TEST SETUP AND BLOCK DIAGRAM-----	8
7.0 SUMMAY OF TESTS -----	9
7.1 FIELD STRENGTH OF SPURIOUS EMISSIONS – FCC PART 2.1053, <u>PART 90.210, PART 24.133; IC RSS-119, RSS-134.</u> -----	9
8.0 CONCLUSION -----	13

## 1.0 GENERAL

### 1.1 Purpose

The purpose of this report is to demonstrate compliance with Part 2 Subpart J, Part 24 and Part 90 of the FCC's Code of Federal Regulations; as well as RSS 119 and RSS 134 of Industry Canada's Radio Standard Specifications for a Class II permissive change.

### 1.2 Product Description

The unit is an iDEN, Narrow Band PCS, ISM, Bluetooth cellular phone.

#### Manufacturer Information:

Foxconn International Holdings  
1551 Sawgrass Corporate Pkwy., Suite 300  
Sunrise, FL 33323

Contact: Amit Verma

Phone: (954) 641-7626

Email: amit.verma@foxconn.com

Test Sample Serial Numbers: 364VLA6NHR

Test Sample Condition: The test sample was provided in good physical condition with no noticeable functional defects.

### 1.3 Test Configurations and Justification

This document reports the results for the equipment under test (EUT) operating in the iDEN mode. The EUT was evaluated for radiated spurious emissions up to the 10<sup>th</sup> harmonic of the fundamental frequency. The unit was pre-scanned in three orthogonal orientations and final measurements were performed in the orientation leading to the maximum emissions.

### 1.4 Emission Designators

The i897 H75XAH6JS5BN transmitter produces for both iDEN 800 MHz and 900 MHz one distinct modulation format. The emissions designators for the modulation types used by the i897 H75XAH6JS5BN transmitter are as follows:

#### EMISSIONS DESIGNATORS:

18K3D7W - iDEN 800 MHz

18K3D7W - iDEN 900 MHz

## 2.0 TEST FACILITIES

### 2.1 Location

The radiated and conducted emissions test sites are located at the following address:

Advanced Compliance Solutions, Inc.  
3998 FAU Blvd, Suite 310  
Boca Raton, Florida 33431  
Phone: (561) 961-5585  
Fax: (561) 961-5587  
[www.acstestlab.com](http://www.acstestlab.com)

FCC Test Firm Registration #: 581606  
Industry Canada Lab Code: 4175C

### 2.2 Laboratory Accreditations/Recognitions/Certifications

ACS is accredited to ISO/IEC 17025 by the National Institute of Standards and Technology under their National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 200897-0. Unless otherwise specified, all tests methods described within this report are covered under the ISO/IEC 17025 scope of accreditation.

**2.3 Radiated & Conducted Emissions Test Site Description**

**2.3.1 Semi-Anechoic Chamber Test Site**

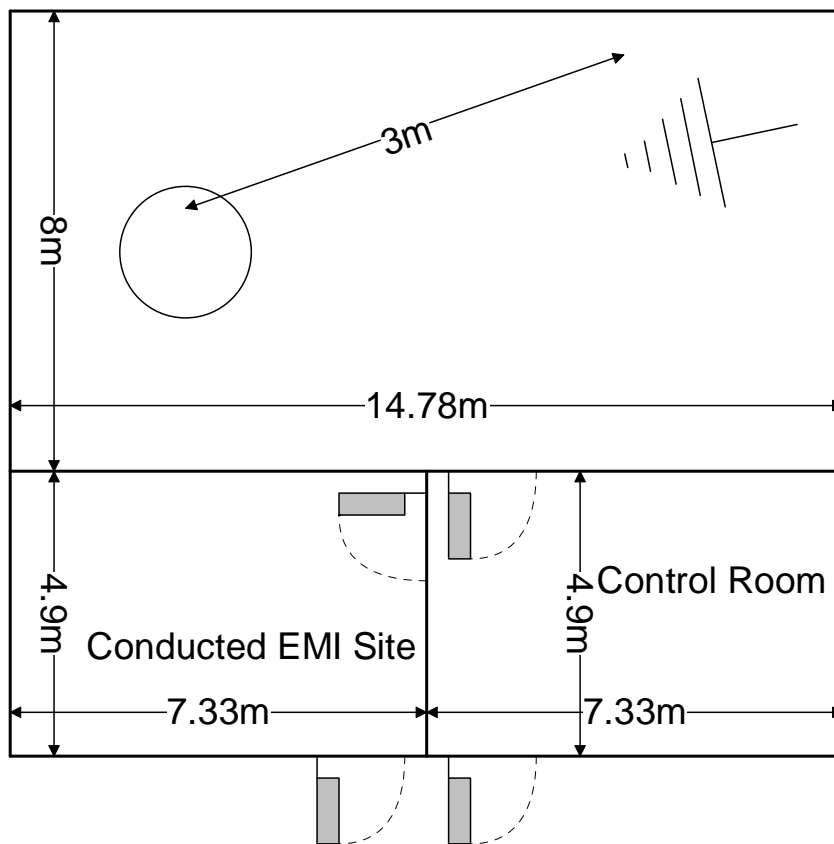
The EMC radiated test facility consists of an RF-shielded enclosure. The interior dimensions of the indoor semi-anechoic chamber are approximately 48 feet (14.6 m) long by 36 feet (10.8 m) wide by 24 feet (7.3 m) high and consist of rigid, 1/8 inch (0.32 cm) steel-clad, wood core modular panels with steel framing. In the shielded enclosure, the faces of the panels are galvanized and the chamber is self-supporting. 8-foot RF absorbing cones are installed on 4 walls and the ceiling. The steel-clad ground plane is covered with vinyl floor.

The turntable is driven by a pneumatic motor, which is capable of supporting a 2000-lb load. The turntable is flushed with the chamber floor which it is connected to, around its circumference, with metallic loaded springs. An EMCO Model 1051 Multi-device Controller controls the turntable position.

A pneumatic motor is used to control antenna polarizations and height relative to the ground. The height information is displayed on the control unit EMCO Model 1050.

The control room is an RF shielded enclosure attached to the semi-anechoic chamber with two bulkhead panels for connecting RF, and control cables. The dimension of the room is 7.3 m x 4.9 m x 3 m high and the entrance doors of both control and conducted rooms are 3 feet (0.91 m) by 7 feet (2.13 m).

A diagram of the Semi-Anechoic Chamber Test Site is shown in Figure 2.3.1-1 below:



**Figure 2.3.1-1: Semi-Anechoic Chamber Test Site**

### 2.3.2 Conducted Emissions Test Site Description

The dimensions of the shielded conducted room are 7.3 x 4.9 x 3 m<sup>3</sup>. As per ANSI C63.4 2003 requirements, the data were taken using an EMCO LISN (Model 3825). For evaluations requiring 220 V, 50 Hz AC input, a Polarad LISN (S/N 879341/048) is used in conjunction with a 1 kVA, 220 V ELGAR, Model 1001B, variable frequency generator set to 50 Hz, to filter the conducted noise from the generator.

A diagram of the room is shown below in Figure 2.3.2-1:

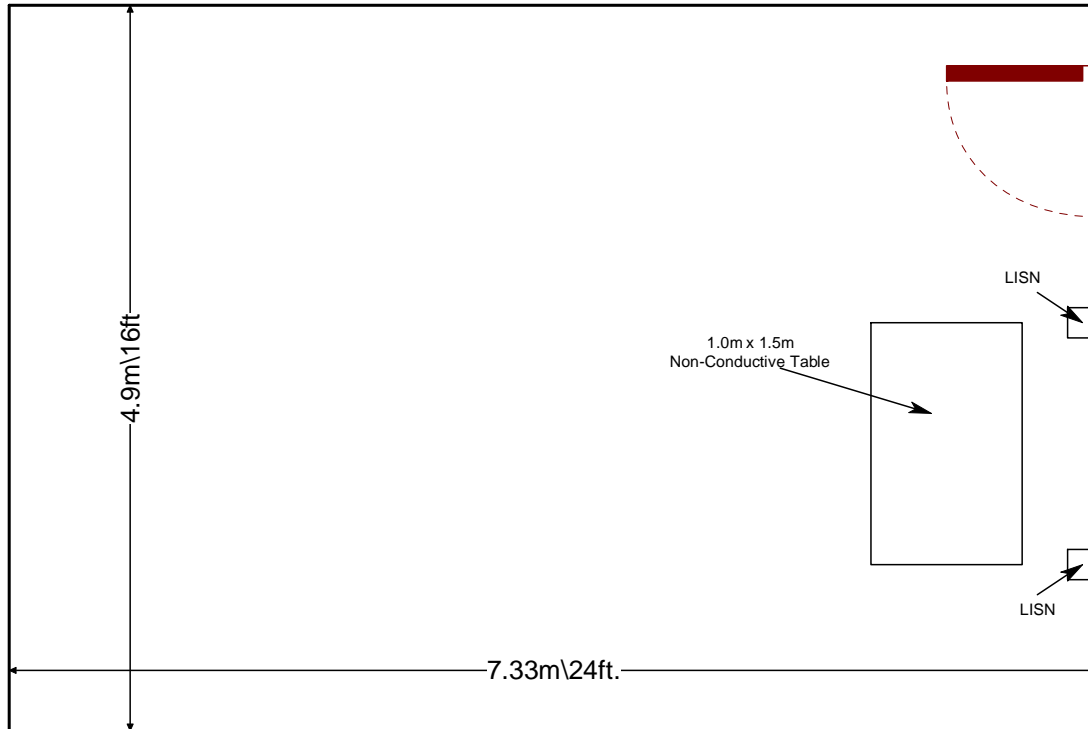


Figure 2.3.2-1: AC Mains Conducted EMI Site

### 3.0 APPLICABLE STANDARD REFERENCES

The following standards were used:

- 1 - ANSI C63.4-2003: Method of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the 9 kHz to 40GHz - 2003
- 2 - US Code of Federal Regulations (CFR): Title 47, Part 2, Subpart J: Equipment Authorization Procedures - 2009
- 3 - US Code of Federal Regulations (CFR): Title 47, Part 90: Private Land Mobile Radio Services – 2009
- 4 - US Code of Federal Regulations (CFR): Title 47, Part 24: Personal Communications Services - 2009
- 5 – TIA-603-C: Land Mobile FM or PM - Communications Equipment - Measurement and Performance Standards – 2004
- 6 - Industry Canada Radio Standards Specification: RSS-119 - Land Mobile and Fixed Radio Transmitters and Receivers Operating in the Frequency Range 27.41-960 MHz - Issue 9, June 2007
- 7 - Industry Canada Radio Standards Specification: RSS-134 - 900 MHz Narrowband Personal Communication Service - Issue 1, March 2000

#### 4.0 LIST OF TEST EQUIPMENT

The calibration interval of test equipment is annually or the manufacturer's recommendations. Where the calibration interval deviates from the annual cycle based on the instrument manufacturer's recommendations, it shall be stated below.

**Table 4-1: Test Equipment**

AssetID	Manufacturer	Model #	Equipment Type	Serial #	Cal Due Date
2006	EMCO	3115	Antennas	2573	2/21/2011
2007	EMCO	3115	Antennas	2419	1/12/2012
2012	Hewlett-Packard	HP83017A	Amplifier	3123A00324	12/30/2010
2013	Hewlett Packard	HP8566B	Spectrum Analyzers	2407A03233	8/7/2010
2014	Hewlett Packard	HP 85650A	Quasi Peak Adapter	2430A00559	8/7/2010
2037	ACS Boca	Chamber EMI Cable Set	Cable Set	2037	12/30/2010
RE563	Hewlett Packard	8673D	Signal Generator	3034A01078	N/A
N/A	Thrilitic	4HC1400-1-KK	Filter	9643263	N/A

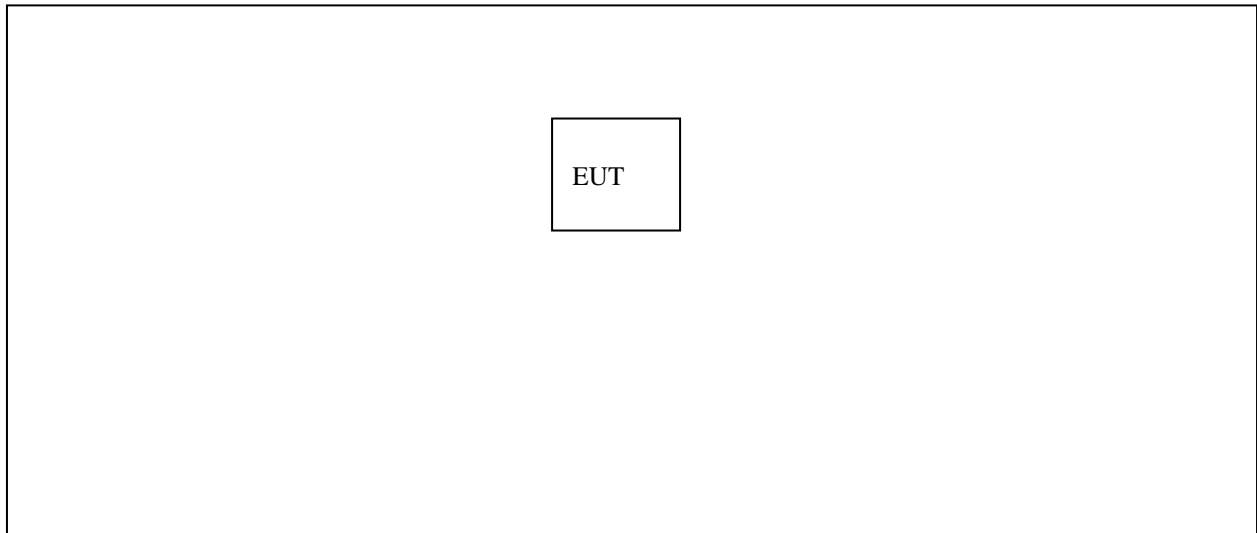
**5.0 SUPPORT EQUIPMENT**

For the radiated spurious emissions measurements, the radio was tested stand alone. Hence, there is no support equipment to be reported in Table 5.1.

**Table 5-1: Support Equipment**

Diagram #	Manufacturer	Equipment Type	Model Number	Serial Number	FCC ID

**6.0 EQUIPMENT UNDER TEST SETUP AND BLOCK DIAGRAM**



**Figure 6-1: EUT Test Setup**

**7.0 SUMMARY OF TESTS**

**7.1 Field Strength of Spurious Emissions – FCC Part 2.1053, Part 90.210, Part 24.133; IC RSS-119, RSS-134.**

**7.1.1 Measurement Procedure**

The equipment under test is placed in the Semi-Anechoic Chamber (described in section 2.3.1) on a wooden table at the turntable center. For each spurious emission, the antenna mast is raised and lowered from one (1) to four (4) meters and the turntable is rotated 360° and the maximum reading on the spectrum analyzer is recorded. This was repeated for both horizontal and vertical polarizations of the receive antenna.

The equipment under test is then replaced with a substitution antenna fed by a signal generator. The signal generator’s frequency is set to that of the spurious emission recorded from the equipment under test. The antenna mast is raised and lowered from one (1) to four (4) meters to obtain a maximum reading on the spectrum analyzer. The output of the signal generator is then adjusted until the reading on the spectrum analyzer matches that obtained from the equipment under test. The signal generator level is recorded. The power in dBm of each spurious emission is calculated by correcting the signal generator level for the cable loss and gain of the substitution antenna referenced to a dipole. The spectrum was investigated in accordance to CFR 47 Part 2.1057.

Results are shown below in Tables 7.1.2-1 through 7.1.2-5.

**7.1.2 Measurement Results**

**Table 7.1.2-1: Field Strength of Spurious Emissions – 806.0625 MHz – TX Mode**

Frequency (MHz)	Antenna Polarity (H/V)	Limit (dBm)	Margin (dB)
1612.125	H	-13.00	15.66
2418.1875	H	-13.00	*
3224.25	H	-13.00	*
4030.3125	H	-13.00	*
4836.375	H	-13.00	*
5642.4375	H	-13.00	*
6448.5	H	-13.00	*
7254.5625	H	-13.00	*
8060.625	H	-13.00	*
1612.125	V	-13.00	14.86
2418.1875	V	-13.00	*
3224.25	V	-13.00	*
4030.3125	V	-13.00	*
4836.375	V	-13.00	*
5642.4375	V	-13.00	*
6448.5	V	-13.00	*
7254.5625	V	-13.00	*
8060.625	V	-13.00	*

NOTE: (\*) The reported frequencies were attenuated by more than 20 dB below the limit.

**Table 7.1.2-2: Field Strength of Spurious Emissions – 813.5125 MHz – TX Mode**

Frequency (MHz)	Antenna Polarity (H/V)	Limit (dBm)	Margin (dB)
1627.025	H	-13.00	14.49
2440.5375	H	-13.00	*
3254.05	H	-13.00	*
4067.5625	H	-13.00	*
4881.075	H	-13.00	*
5694.5875	H	-13.00	*
6508.1	H	-13.00	*
7321.6125	H	-13.00	*
8135.125	H	-13.00	*
1627.025	V	-13.00	16.49
2440.5375	V	-13.00	*
3254.05	V	-13.00	*
4067.5625	V	-13.00	*
4881.075	V	-13.00	*
5694.5875	V	-13.00	*
6508.1	V	-13.00	*
7321.6125	V	-13.00	*
8135.125	V	-13.00	*

NOTE: (\*) The reported frequencies were attenuated by more than 20 dB below the limit.

**Table 7.1.2-3: Field Strength of Spurious Emissions – 824.9875 MHz – TX Mode**

Frequency (MHz)	Antenna Polarity (H/V)	Limit (dBm)	Margin (dB)
1649.975	H	-13.00	15.16
2474.9625	H	-13.00	*
3299.95	H	-13.00	*
4124.9375	H	-13.00	*
4949.925	H	-13.00	*
5774.9125	H	-13.00	*
6599.9	H	-13.00	*
7424.8875	H	-13.00	*
8249.875	H	-13.00	*
1649.975	V	-13.00	15.11
2474.9625	V	-13.00	*
3299.95	V	-13.00	*
4124.9375	V	-13.00	*
4949.925	V	-13.00	*
5774.9125	V	-13.00	*
6599.9	V	-13.00	*
7424.8875	V	-13.00	*
8249.875	V	-13.00	*

NOTE: (\*) The reported frequencies were attenuated by more than 20 dB below the limit.

**Table 7.1.2-4: Field Strength of Spurious Emissions – 896.04175 MHz – TX Mode**

Frequency (MHz)	Antenna Polarity (H/V)	Limit (dBm)	Margin (dB)
1792.0835	H	-13.00	13.16
2688.12525	H	-13.00	*
3584.167	H	-13.00	*
4480.20875	H	-13.00	*
5376.2505	H	-13.00	*
6272.29225	H	-13.00	*
7168.334	H	-13.00	*
8064.37575	H	-13.00	*
8960.4175	H	-13.00	*
1792.0835	V	-13.00	12.46
2688.12525	V	-13.00	*
3584.167	V	-13.00	*
4480.20875	V	-13.00	*
5376.2505	V	-13.00	*
6272.29225	V	-13.00	*
7168.334	V	-13.00	*
8064.37575	V	-13.00	*
8960.4175	V	-13.00	*

NOTE: (\*) The reported frequencies were attenuated by more than 20 dB below the limit.

Table 7.1.2-5: Field Strength of Spurious Emissions – 901.98125 MHz – TX Mode

Frequency (MHz)	Antenna Polarity (H/V)	Limit (dBm)	Margin (dB)
1803.9625	H	-13.00	13.60
2705.94375	H	-13.00	*
3607.925	H	-13.00	*
4509.90625	H	-13.00	*
5411.8875	H	-13.00	*
6313.86875	H	-13.00	*
7215.85	H	-13.00	*
8117.83125	H	-13.00	*
9019.8125	H	-13.00	*
1803.9625	V	-13.00	12.50
2705.94375	V	-13.00	*
3607.925	V	-13.00	*
4509.90625	V	-13.00	*
5411.8875	V	-13.00	*
6313.86875	V	-13.00	*
7215.85	V	-13.00	*
8117.83125	V	-13.00	*
9019.8125	V	-13.00	*

NOTE: (\*) The reported frequencies were attenuated by more than 20 dB below the limit.

## 8.0 CONCLUSION

The model i897 H75XAH6JS5BN, manufactured by Foxconn International Holdings, meets all the requirements of FCC Part 90 and Part 24 as well as IC RSS-119 and RSS-134 as applicable.

End Report