



**Sporton International Inc.**



**ctia** Authorized™  
Test Lab  
Lab Code: 20050715-00

# INITIAL CERTIFICATION TEST REPORT

## Module Integration

**Test of:**  
**Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**

**To:**  
**Conformance Test Cases (NAPRD03 V5.20)**

**Test Report Serial No: GC6D0261**  
**Test Report Version: Rev. 01**  
**PTCRB Request No: 59345**

**Issue Date: 22 May 2017**

### Declaration by Test Laboratory

The PCS1900, GSM850, UMTS FDDII, FDDIV, FDDV, E-UTRA FDD2, FDD4, FDD5 and FDD17 testing performed and shown in this report by Sporton International Inc. was conducted as per the requirements of the PTCRB (PCS Type Certification Review board).

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Summer Zhang

Hendry Yang

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Project Manager

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Technical Manager

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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**Table of Contents**

<b>Revision History .....</b>	<b>3</b>
<b>1 Details of Test.....</b>	<b>5</b>
1.1 Client	5
1.2 Manufacturer	5
1.3 Location of Test	5
1.3.1 Sporton International Inc. – Location 1	5
1.3.2 Sporton International Inc. – Location 2	5
1.4 Test Environment	6
<b>2 Details of Equipment under Test .....</b>	<b>7</b>
2.1 Final Equipment Build Status	7
2.1.1 Product Build Status	7
2.1.2 Module Build Status	7
2.1.3 Key Features Supported	8
2.2 Identification of Samples Tested	9
2.3 Description of Product	10
2.4 Generation of Conformance Test Plan	10
2.4.1 Module Integration Certification	10
2.5 Support Equipment	11
<b>3 Reference Documents .....</b>	<b>12</b>
<b>4 Test Results .....</b>	<b>14</b>
4.1 Result Summary	14
4.2 Tests Performed	14
4.2.1 Test Results for GERAN	15
4.2.2 Test Results for UMTS	17
4.2.3 Test Results for E-UTRA	19
4.3 Key to Result Codes	20
4.4 Key to Tested Bands Code	20
4.5 Key to Notes	20
<b>5 Test Equipment .....</b>	<b>21</b>
<b>6 People performing Accredited Testing .....</b>	<b>22</b>
<b>Annex A – Test Equipment Configuration Information .....</b>	<b>23</b>
<b>Annex B – Product Equality Declaration.....</b>	<b>29</b>
<b>Annex C – Software Change Notes .....</b>	<b>31</b>
<b>Annex D – DUT Photographs .....</b>	<b>33</b>

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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## **1 Details of Test**

### **1.1 Client**

<b>Address:</b>	Beijing InHand Networks Technology Co., Ltd. 101, West Wing, 11th Floor, No.101, Lize central Park, Wangjing, Chaoyang District, Beijing, 100102, P. R. China
<b>Contact Name:</b>	Biao Wang +010-64391099 wangbiao@inhand.com.cn

### **1.2 Manufacturer**

<b>Address:</b>	Beijing InHand Networks Technology Co., Ltd. 101, West Wing, 11th Floor, No.101, Lize central Park, Wangjing, Chaoyang District, Beijing, 100102, P. R. China
<b>Contact Name:</b>	Yinchun Ma +010-64391099 mayc@inhand.com.cn

### **1.3 Location of Test**

#### **1.3.1 Sporton International Inc. – Location 1**

<b>Address:</b>	Sporton International Inc. No. 52, Hwaya 1st Rd., Hwaya Technology Park, Guishan Dist., Taoyuan City, Taiwan, R.O.C.
<b>Contact Name:</b>	Mr. Hendry Yang, Laboratory Manager
<b>TAF Lab Code:</b>	1533

#### **1.3.2 Sporton International Inc. – Location 2**

<b>Address:</b>	Sporton International Inc. (Shenzhen) 1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P.R.C.
<b>Contact Name:</b>	Mr. Michael Lin, Laboratory Manager
<b>TAF Lab Code:</b>	2353

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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**1.4 Test Environment**

<b>Testing Start Date:</b>	09 December 2016
<b>Testing End Date:</b>	09 May 2017

<b>Environmental Data:</b>	<b>Temperature (°C)</b>	<b>Humidity (%)</b>
<b>Ambient Condition</b>	15~35	25~75
<b>Maximum Extreme</b>	+55	N.A.
<b>Minimum Extreme</b>	-10	N.A.

<b>Normal Supply Voltage (V d.c.):</b>	12.0
<b>Maximum Extreme Supply Voltage (V d.c.):</b>	26.0
<b>Minimum Extreme Supply Voltage (V d.c.):</b>	9.0

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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## **2 Details of Equipment under Test**

### **2.1 Final Equipment Build Status**

The following is the build status for which compliance has been demonstrated by test and declaration

#### **2.1.1 Product Build Status**

<b>Manufacturer Name:</b>	Beijing InHand Networks Technology Co., Ltd.
<b>Brand Name:</b>	Inhand
<b>Model Name:</b>	IR605 IR615 IR695
<b>Product type:</b>	Industrial Cellular Router
<b>GSM Operating Band(s):</b>	E-GSM900 / DCS1800 / PCS1900 / GSM850
<b>UMTS Operating Band(s):</b>	FDDII / FDDIV / FDDV
<b>E-UTRA Operating Band(s):</b>	FDD2 / FDD4 / FDD5 / FDD17
<b>Hardware Version:</b>	V11
<b>Software Version:</b>	V1.0.0
<b>SVN (Software Version Number):</b>	09

#### **2.1.2 Module Build Status**

<b>Manufacturer Name:</b>	Gemalto M2M
<b>Model Name:</b>	PLS8-US
<b>GSM Operating bands:</b>	E-GSM900 / DCS1800 / PCS1900 / GSM850
<b>UMTS Operating bands:</b>	FDDII / FDDIV / FDDV
<b>E-UTRA Operating Band(s):</b>	FDD2 / FDD4 / FDD5 / FDD17
<b>Hardware Version:</b>	B2 (Rev. 4.2.1)
<b>Software Version:</b>	Revision 02.011
<b>SVN (Software Version Number):</b>	09

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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### **2.1.3 Key Features Supported**

The following Table defines the key features supported in the device.

<b>Feature</b>	<b>Supported</b>	<b>Release/Comments</b>
<b>GSM</b>	Y	E-GSM900 / DCS1800 / PCS1900 / GSM850
<b>UMTS</b>	Y	FDDII / FDDIV / FDDV
<b>E-UTRA</b>	Y	FDD2 / FDD4 / FDD5 / FDD17
<b>GPRS</b>	Y	Supported
<b>GPRS Multi-Slot</b>	Y	GPRS Multi-Slot Class 12
<b>EGPRS</b>	Y	Supported
<b>EGPRS Multi-Slot</b>	Y	EGPRS Multi-Slot Class 12
<b>UMTS Release</b>	Y	Release 8
<b>HSDPA</b>	Y	Supported
<b>HSUPA</b>	Y	Supported
<b>E-UTRA Release</b>	Y	Release 8
<b>E-UTRA Category</b>	Y	Category 3



**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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**2.2 Identification of Samples Tested**

The following summary may be used to identify the samples referenced in the test summary and any declared hardware or software modifications. Where modifications have been made, conformance has been demonstrated by regression testing declared by the manufacturer.

<b>Sample Reference</b>	<b>IMEI</b>	<b>Hardware Version</b>	<b>Software Version</b>	<b>Date of Receipt</b>	<b>Note</b>
01.02.01	359347050036112	Host: V11 Module: B2 (Rev. 4.2.1)	Host: V1.0.0 Module: Revision 02.011	09-May-17	—
02.01.01	359347050189689	Host: V11 Module: B2 (Rev. 4.2.1)	Host: V1.0.0 Module: Revision 02.011	09-Dec-16	—

Note. Host hardware version different on version please refer to Annex C.

**Description of Sporton Reference sample number**

**E.g. 01.01.01**

<b>01 – Sample Identification</b>	<b>01 - Hardware Version</b>	<b>01 - Software Version</b>
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**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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### **2.3 Description of Product**

The product is an Industrial Cellular Router, operating in E-GSM900 / DCS1800 / PCS1900 / GSM850, UMTS FDDII / FDDIV / FDDV and E-UTRA FDD2 / FDD4 / FDD5 / FDD17 bands.

### **2.4 Generation of Conformance Test Plan**

The following route has been chosen by the manufacturer to demonstrate compliance.

#### **2.4.1 Module Integration Certification**

Testing based on and according to the information supplied within the device integration information to:

NAPRD03 V5.20

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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## **2.5 Support Equipment**

The following support equipment was used to exercise the EUT during testing.

<b>Description</b>	AC Charger
<b>Manufacturer Name</b>	None stated
<b>Model Name or Number</b>	None stated
<b>Serial Number</b>	None stated

<b>Description</b>	RF Cable
<b>Manufacturer Name</b>	None stated
<b>Model Name or Number</b>	None stated
<b>Serial Number</b>	None stated

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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### **3 Reference Documents**

Testing was performed according to the following reference documents and standards.

<b>Document</b>	<b>Version</b>	<b>Applicable</b>	<b>Title</b>
NAPRD03	V5.20	Y	Overview of PCS Type certification review board (PTCRB) Mobile Equipment Type Certification and IMEI control
3GPP TS 51.010-1	V13.3.0	Y	3rd Generation Partnership Project; Technical Specification Group GSM/EDGE Radio Access Network; Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification
3GPP TS 51.010-4	V14.0.0	Y	3rd Generation Partnership Project; Technical Specification Group GSM/EDGE Radio Access Network; Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 4: SIM Application Toolkit Conformance specification
3GPP TS 34.108	V14.0.0	Y	3rd Generation Partnership Project; Technical Specification Group Terminals; Common test environments for User Equipment (UE); Conformance testing
3GPP TS 34.121-1	V14.1.0	Y	3rd Generation Partnership Project; Technical Specification Group Radio Access Network; User Equipment (UE) conformance specification; Radio transmission and reception (FDD); Part 1: Conformance specification
3GPP TS 34.123-1	V14.0.0	Y	3rd Generation Partnership Project; Technical Specification Group Terminals; User Equipment (UE) conformance specification; Part 1: Protocol conformance specification
3GPP TS 34.124	V14.0.0	Y	Universal Mobile Telecommunications System (UMTS); LTE; Electromagnetic compatibility (EMC) requirements for mobile terminals and ancillary equipment
ETSI TS 102 230	V11.0.0	Y	Smart cards; UICC-Terminal interface; Physical, electrical and logical test specification

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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<b>Document</b>	<b>Version</b>	<b>Applicable</b>	<b>Title</b>
3GPP TS 36.521-1	V14.2.0	Y	3rd Generation Partnership Project; LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Conformance testing
3GPP TS 36.523-1	V14.0.1	Y	3rd Generation Partnership Project; LTE; Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification
3GPP TS 36.124	V14.1.0	Y	3rd Generation Partnership Project; Evolved Universal Terrestrial Radio Access (E-UTRA); Electromagnetic compatibility (EMC) requirements for mobile terminals and ancillary equipment

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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## **4 Test Results**

### **4.1 Result Summary**

The following table summarises the test results obtained. A definition of the result categories may be found at the end of the result tables.

<b>TOTAL RELEVANT TEST CASES PERFORMED</b>	52
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	<b>GERAN</b>	<b>UMTS</b>	<b>E-UTRA</b>
<b>PASS</b>	16	28	8
<b>FAIL</b>	0	0	0
<b>Total</b>	16	28	8

### **4.2 Tests Performed**

The following tables reflect the requirements of the relevant specification and show the tests performed. Result files verifying these verdicts are available for inspection at Sporton International Inc..

Where subcontracting has been performed these results are not covered by Sporton International Inc.'s accreditation.

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

**4.2.1 Test Results for GERAN**

Test_Spec	Identifier	Name	Condition_Designation	Category	Band	Verdict	Sample	Note
51.010-1	12.2.1	Radiated spurious emissions, MS allocated a channel	12.2.1; Frequency Band = 1800, VH	A	All	Pass	01.02.01	2
51.010-1	12.2.1	Radiated spurious emissions, MS allocated a channel	12.2.1; Frequency Band = 1900, VH	A	All	NA	—	1
51.010-1	12.2.1	Radiated spurious emissions, MS allocated a channel	12.2.1; Frequency Band = 850, VH	A	All	NA	—	1
51.010-1	12.2.1	Radiated spurious emissions, MS allocated a channel	12.2.1; Frequency Band = 900, VH	A	All	Pass	01.02.01	2
51.010-1	12.2.1	Radiated spurious emissions, MS allocated a channel	12.2.1; Frequency Band = 1800, VL	A	All	Pass	01.02.01	2
51.010-1	12.2.1	Radiated spurious emissions, MS allocated a channel	12.2.1; Frequency Band = 1900, VL	A	All	NA	—	1
51.010-1	12.2.1	Radiated spurious emissions, MS allocated a channel	12.2.1; Frequency Band = 850, VL	A	All	NA	—	1
51.010-1	12.2.1	Radiated spurious emissions, MS allocated a channel	12.2.1; Frequency Band = 900, VL	A	All	Pass	01.02.01	2
51.010-1	12.2.1	Radiated spurious emissions, MS allocated a channel	12.2.1; Frequency Band = 1800, VN	A	All	Pass	01.02.01	2
51.010-1	12.2.1	Radiated spurious emissions, MS allocated a channel	12.2.1; Frequency Band = 1900, VN	A	All	NA	—	1
51.010-1	12.2.1	Radiated spurious emissions, MS allocated a channel	12.2.1; Frequency Band = 850, VN	A	All	NA	—	1
51.010-1	12.2.1	Radiated spurious emissions, MS allocated a channel	12.2.1; Frequency Band = 900, VN	A	All	Pass	01.02.01	2
51.010-1	12.2.2	Radiated spurious emissions, MS in idle mode	12.2.2; Frequency Band = 1800, VH	A	All	Pass	01.02.01	2
51.010-1	12.2.2	Radiated spurious emissions, MS in idle mode	12.2.2; Frequency Band = 1900, VH	A	All	NA	—	1
51.010-1	12.2.2	Radiated spurious emissions, MS in idle mode	12.2.2; Frequency Band = 850, VH	A	All	NA	—	1
51.010-1	12.2.2	Radiated spurious emissions, MS in idle mode	12.2.2; Frequency Band = 900, VH	A	All	Pass	01.02.01	2
51.010-1	12.2.2	Radiated spurious emissions, MS in idle mode	12.2.2; Frequency Band = 1800, VL	A	All	Pass	01.02.01	2
51.010-1	12.2.2	Radiated spurious emissions, MS in idle mode	12.2.2; Frequency Band = 1900, VL	A	All	NA	—	1
51.010-1	12.2.2	Radiated spurious emissions, MS in idle mode	12.2.2; Frequency Band = 850, VL	A	All	NA	—	1

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**

**To: Conformance Test Cases (NAPRD03 V5.20)**

Test_Spec	Identifier	Name	Condition_Designation	Category	Band	Verdict	Sample	Note
51.010-1	12.2.2	Radiated spurious emissions, MS in idle mode	12.2.2; Frequency Band = 900, VL	A	All	Pass	01.02.01	2
51.010-1	12.2.2	Radiated spurious emissions, MS in idle mode	12.2.2; Frequency Band = 1800, VN	A	All	Pass	01.02.01	2
51.010-1	12.2.2	Radiated spurious emissions, MS in idle mode	12.2.2; Frequency Band = 1900, VN	A	All	NA	—	1
51.010-1	12.2.2	Radiated spurious emissions, MS in idle mode	12.2.2; Frequency Band = 850, VN	A	All	NA	—	1
51.010-1	12.2.2	Radiated spurious emissions, MS in idle mode	12.2.2; Frequency Band = 900, VN	A	All	Pass	01.02.01	2
51.010-1	26.6.8.5	Ciphering mode / IMEISV request	26.6.8.5; Frequency Band = 1900	A	Single	Pass	02.01.01	2
51.010-1	26.7.3.1-1	General Identification	26.7.3.1-1; Frequency Band = 1900	A	Single	Pass	02.01.01	2
51.010-1	26.7.3.1-2	General Identification	26.7.3.1-2; Frequency Band = 1900	A	Single	Pass	02.01.01	2
51.010-1	27.17.1.1	Electrical tests - Phase preceding ME power on	27.17.1.1	A	Single	Pass	02.01.01	2



Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695  
 To: Conformance Test Cases (NAPRD03 V5.20)

#### 4.2.2 Test Results for UMTS

Test_Spec	Identifier	Name	Condition_Designation	Category	Band	Verdict	Sample	Note
ETSI TS 102 230	5.1.1	Phase preceding Terminal power on	5.1.1	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.1.2.2	Phase during UICC power on: 1,8 V - 3 V	5.1.2.2; b-1)	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.1.2.2	Phase during UICC power on: 1,8 V - 3 V	5.1.2.2; b-2)	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.1.3.2	Phase during Terminal power off: 1,8 V - 3 V	5.1.3.2; b-1)	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.1.3.2	Phase during Terminal power off: 1,8 V - 3 V	5.1.3.2; b-2)	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.1.5.3	Reaction of 1,8 V technology Terminals on type recognition of 1,8 V technology UICCs	5.1.5.3	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.1.5.4	Reaction of 1,8 V technology Terminals on type recognition of 3V technology UICCs	5.1.5.4	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.1.5.6	Reaction of a Terminals receiving no ATR	5.1.5.6; 1.8V-3V	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.3	Electrical tests on contact C1, Test 1: 1,8 V - 3 V	5.2.2.3; b-1)	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.3	Electrical tests on contact C1, Test 1: 1,8 V - 3 V	5.2.2.3; b-2)	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.4	Electrical tests on contact C1, Test 2: 1,8 V - 3 V	5.2.2.4; b-1), Proc1	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.4	Electrical tests on contact C1, Test 2: 1,8 V - 3 V	5.2.2.4; b-1), Proc2	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.4	Electrical tests on contact C1, Test 2: 1,8 V - 3 V	5.2.2.4; b-1), Proc3	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.4	Electrical tests on contact C1, Test 2: 1,8 V - 3 V	5.2.2.4; b-1), Proc4	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.4	Electrical tests on contact C1, Test 2: 1,8 V - 3 V	5.2.2.4; b-1), Proc5	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.4	Electrical tests on contact C1, Test 2: 1,8 V - 3 V	5.2.2.4; b-1), Proc6	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.4	Electrical tests on contact C1, Test 2: 1,8 V - 3 V	5.2.2.4; b-2), Proc1	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.4	Electrical tests on contact C1, Test 2: 1,8 V - 3 V	5.2.2.4; b-2), Proc2	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.4	Electrical tests on contact C1, Test 2: 1,8 V - 3 V	5.2.2.4; b-2), Proc3	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.4	Electrical tests on contact C1, Test 2: 1,8 V - 3 V	5.2.2.4; b-2), Proc4	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.4	Electrical tests on contact C1, Test 2: 1,8 V - 3 V	5.2.2.4; b-2), Proc5	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.2.4	Electrical tests on contact C1, Test 2: 1,8 V - 3 V	5.2.2.4; b-2), Proc6	A	Single	Pass	02.01.01	2

Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695  
 To: Conformance Test Cases (NAPRD03 V5.20)

Test_Spec	Identifier	Name	Condition_Designation	Category	Band	Verdict	Sample	Note
ETSI TS 102 230	5.2.3.2	Electrical tests on contact C2: 1,8 V - 3 V	5.2.3.2; b-1)	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.3.2	Electrical tests on contact C2: 1,8 V - 3 V	5.2.3.2; b-2)	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.4.2	Electrical tests on contact C3: 1,8 V - 3 V	5.2.4.2; b-1)	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.4.2	Electrical tests on contact C3: 1,8 V - 3 V	5.2.4.2; b-2)	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.5.3	Electrical tests on contact C7, Test 1: 1,8 V - 3 V	5.2.5.3; b-1)	A	Single	Pass	02.01.01	2
ETSI TS 102 230	5.2.5.3	Electrical tests on contact C7, Test 1: 1,8 V - 3 V	5.2.5.3; b-2)	A	Single	Pass	02.01.01	2
3GPP TS 34.124	8.2	Radiated Emission	8.2; FDD2, idle	A	All	N.A.	—	1
3GPP TS 34.124	8.2	Radiated Emission	8.2; FDD2, traffic	A	All	N.A.	—	1
3GPP TS 34.124	8.2	Radiated Emission	8.2; FDD4, idle	A	All	N.A.	—	1
3GPP TS 34.124	8.2	Radiated Emission	8.2; FDD4, traffic	A	All	N.A.	—	1
3GPP TS 34.124	8.2	Radiated Emission	8.2; FDD5, idle	A	All	N.A.	—	1
3GPP TS 34.124	8.2	Radiated Emission	8.2; FDD5, traffic	A	All	N.A.	—	1

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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**4.2.3 Test Results for E-UTRA**

Test_Spec	Identifier	Name	Condition_Designation	Category	Band	Verdict	Sample	Note
3GPP TS 36.124	8.2	Radiated Emission	8.2; eFDD17, idle, TCB = 10 MHz	A	All	Pass	01.02.01	2
3GPP TS 36.124	8.2	Radiated Emission	8.2; eFDD17, traffic, TCB = 10 MHz	A	All	Pass	01.02.01	2
3GPP TS 36.124	8.2	Radiated Emission	8.2; eFDD2, idle, TCB = 10 MHz	A	All	Pass	01.02.01	2
3GPP TS 36.124	8.2	Radiated Emission	8.2; eFDD2, traffic, TCB = 10 MHz	A	All	Pass	01.02.01	2
3GPP TS 36.124	8.2	Radiated Emission	8.2; eFDD4, idle, TCB = 10 MHz	A	All	Pass	01.02.01	2
3GPP TS 36.124	8.2	Radiated Emission	8.2; eFDD4, traffic, TCB = 10 MHz	A	All	Pass	01.02.01	2
3GPP TS 36.124	8.2	Radiated Emission	8.2; eFDD5, idle, TCB = 10 MHz	A	All	Pass	01.02.01	2
3GPP TS 36.124	8.2	Radiated Emission	8.2; eFDD5, traffic, TCB = 10 MHz	A	All	Pass	01.02.01	2

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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### **4.3 Key to Result Codes**

The following codes are used in the table of results.

<b>Code</b>	<b>Meaning</b>
<b>PASS</b>	Test result shows that the requirements of the relevant specification have been met.
<b>FAIL</b>	Test result shows that the requirements of the relevant specification have not been met.
<b>NA</b>	Test is either not required/not applicable in the specified frequency band or is not applicable according to the specific PICS/PIXIT for the equipment under test.

### **4.4 Key to Tested Bands Code**

The following codes are used in the table of results.

<b>Code</b>	<b>Meaning</b>
<b>Single</b>	Test case is required to be completed in one of the supported frequency bands.
<b>All</b>	Test case is required to be completed in all supported frequency bands.
<b>Network Independent</b>	A test case which is validated without the use of a radio access bearer
<b>Bearer Agnostic</b>	A test case which is independent of the radio access bearer or frequency band used during the test
<b>I-RAT Single</b>	An InterRAT test case that should be tested in a single band combination.
<b>multi</b>	indicates that a band combination is required, e.g. GSM1900/850 MHz bands.
<b>Blank</b>	indicates that the test does not require a bearer

### **4.5 Key to Notes**

The following table describes the special notes, which are relevant to each test.

<b>Note</b>	<b>Meaning</b>
<b>1</b>	Radiated Spurious Emissions testing of a UE supporting multiple RATs shall be tested according to the RAT priority.
<b>2</b>	The test was performed at Sporton International Inc. (Shenzhen)

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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## **5 Test Equipment**

Conformance testing was performed using test equipment calibrated in accordance with Taiwan Accreditation Foundation accreditation requirements. Calibration, configuration records and equipment details used for conformance testing are available in Annex A.

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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## **6 People performing Accredited Testing**

Deng Gui Hai

Park Peng

Steven Tian

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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## **Annex A – Test Equipment Configuration Information**

The following information details the configuration of the test equipment used in assessing the conformance of this product.

**1 Test Equipment**

Conformance testing was performed using test equipment calibrated in accordance with TAF accreditation requirements. Calibration, configuration records and equipment details used for conformance testing are available for inspection at Sporton International Inc., if required.

**1.1 TP09 – Rohde & Schwarz CRTU-G/CRTU-S (Shenzhen)**

Hardware	Serial No.	Calibration Due Date		
CRTU-G	100409   100777	15-Jun-17		
CRTU-S	100836   100436	11-Nov-17		
CRTU-S	100162   100521	19-Feb-18		
CRTU-S	100403   100762	24-Apr-18		
Software Version				
<u>Testcase Software</u>	<u>Version</u>	<u>ASP</u>	<u>BP</u>	<u>EP</u>
CRTKEGS-900	V3.20	V5.61	V1.50	V4.00
CRTKLU1	V3.20	V5.61	V1.50	V4.00
CRTKSS1	V2.51	V5.61	V1.50	V4.00
CRTKSS2	V2.10	V5.61	V1.50	V4.00
CRTKSS3	V2.00	V5.61	V1.50	V4.00
CRTKSS5	V2.10	V5.61	V1.50	V4.00
CRTKSS6	V1.91	V5.61	V1.50	V4.00
CRTPK1	V3.40	V5.61	V1.50	V4.00
CRTPK2	V3.41	V5.61	V1.50	V4.00
CRTPK3	V3.42	V5.61	V1.50	V4.00
CRTPK4	V3.70	V5.61	V1.50	V4.00
CRTPK6	V3.31	V5.61	V1.50	V4.00
CRTPK8	V3.30	V5.61	V1.50	V4.00
CRTPK9	V3.40	V5.61	V1.50	V4.00
CRTPKB	V3.20	V5.30	V1.50	V4.00
CU-GC01	V2.21	V5.61	V1.50	V4.00
CRTU-GC02	V2.50	V5.61	V1.50	V4.00
CRTU-GC03	V2.10	V5.61	V1.50	V4.00
CRTU-GC04	V1.81	V5.61	V1.50	V4.00
CRTU-GC05	V2.10	V5.61	V1.50	V4.00
CRTU-GC06	V1.90	V5.61	V1.50	V4.00
CRTU-GC07	V2.00	V5.50	V1.50	V4.00
CRTU-GC08	V2.00	V5.50	V1.50	V4.00
CRTU-GC09	V4.50	V5.61	V1.50	V4.00
CRTU-GC10	V1.80	V5.61	V1.50	V4.00
CRTU-GC12	V1.60	V5.61	V1.50	V4.00
CRTU-GC16	V1.80	V5.61	V1.50	V4.00
CRTU-GC18	V4.90	V5.61	V1.50	V4.00
CRTU-GC19	V2.20	V5.61	V1.50	V4.00



CRTU-GC20	V2.00	V5.61	V1.50	V4.00
CRTU-GC21	V1.50	V5.61	V1.50	V4.00
CRTU-GC22	V2.01	V5.61	V1.50	V4.00
CRTU-GC23	V1.91	V5.61	V1.50	V4.00
CRTU-GC24	V2.10	V5.61	V1.50	V4.00
CRTU-GC28	V1.40	V5.50	V1.50	V4.00
CRTU-GC29	V1.71	V5.61	V1.50	V4.00
CRTU-GC31	V4.61	V5.50	V1.50	V4.00
CRTU-GC32	V4.60	V5.61	V1.50	V4.00
CRTU-GC33	V4.70	V5.61	V1.50	V4.00
CRTU-GC34	V5.00	V5.61	V1.50	V4.00
CRTU-GC35	V4.80	V5.61	V1.50	V4.00
CRTU-GC36	V4.70	V5.61	V1.50	V4.00
CRTU-GC37	V4.70	V5.61	V1.50	V4.00
CRTU-GC38	V4.60	V5.61	V1.50	V4.00
CRTU-GC47	V1.30	V5.61	V1.50	V4.00
CRTU-GC41	V4.90	V5.61	V1.50	V4.00
CRTU-GC52	V1.20	V5.50	V1.50	V4.00
CRTU-GC53	V1.60	V5.50	V1.50	V4.00
CRTU-GC54	V1.41	V5.61	V1.50	V4.00
CRTU-GC55	V1.50	V5.61	V1.50	V4.00
CRTU-GC56	V1.50	V5.61	V1.50	V4.00
CRTU-GC57	V1.40	V5.50	V1.50	V4.00
CRTU-GC59	V1.30	V5.70	V1.50	V4.00
CRTU-GC61	V4.60	V5.50	V1.50	V4.00
CRTU-GC62	V4.60	V5.61	V1.50	V4.00
CRTU-GC63	V4.60	V5.61	V1.50	V4.00
CRTU-GC64	V4.80	V5.61	V1.50	V4.00
CRTU-GC65	V4.70	V5.61	V1.50	V4.00
CRTU-GC68	V4.70	V5.61	V1.50	V4.00
CRTU-GC69	V5.00	V5.61	V1.50	V4.00
CRTU-GC70	V4.71	V5.61	V1.50	V4.00
CRTU-GC71	V4.60	V5.61	V1.50	V4.00
CRTU-GC72	V4.80	V5.61	V1.50	V4.00
CRTU-GC73	V4.71	V5.61	V1.50	V4.00
CRTU-GC74	V4.60	V5.61	V1.50	V4.00
CRTU-GC75	V4.80	V5.61	V1.50	V4.00
CRTU-GC76	V4.70	V5.61	V1.50	V4.00
CRTU-GC77	V4.91	V5.61	V1.50	V4.00
CRTU-GC78	V4.81	V5.61	V1.50	V4.00
CRTU-GC79	V4.60	V5.50	V1.50	V4.00
CRTU-GC80	V4.60	V5.61	V1.50	V4.00
CRTU-GC81	V4.70	V5.61	V1.50	V4.00

CRTU-GC82	V4.50	V5.61	V1.50	V4.00
CRTU-GC83	V4.70	V5.61	V1.50	V4.00
CRTU-GC84	V4.80	V5.61	V1.50	V4.00
CRTU-GC85	V4.90	V5.61	V1.50	V4.00
CRTU-GC86	V4.70	V5.61	V1.50	V4.00
CRTU-GC87	V4.70	V5.61	V1.50	V4.00
CRTU-GC88	V4.80	V5.61	V1.50	V4.00
CRTU-GC89	V4.70	V5.61	V1.50	V4.00
CRTU-GC90	V4.82	V5.61	V1.50	V4.00
CRTU-GC91	V4.61	V5.61	V1.50	V4.00
CRTU-GC92	V1.60	V5.61	V1.50	V4.00
TC12-2	V1.30	V5.61	V1.50	V4.00
CRTU-GF02	V1.40	V5.61	V1.50	V4.00

**1.2 TP12/13/31/77 – COMPRION UICC/USIM/USAT Simulator IT3 & InterLab (Shenzhen)**

<b>Test Platform Info</b>		TP012 - COMPRION IT3 SIM Simulator TP013 - COMPRION IT3 USIM Simulator		
		TP031 - InterLab® USIM Test Solution TP077 - InterLab® USAT Test Solution		
<b>Hardware Info</b>	IT <sup>3</sup> SIM Simulator v1.0			
	<b>Equipment List</b>			
<b>Manufacturer</b>	<b>Model Info</b>	<b>Description</b>	<b>Serial Number</b>	<b>Calibration Due Date</b>
Comprion	IT <sup>3</sup> Test System	Control PC	B2004-50102	NCR
Comprion	IT <sup>3</sup> Analog Probe	IT <sup>3</sup> APR v1.2	50143	02-Apr-18
<b>Software Version</b>	<b>IT<sup>3</sup> Test System</b>	<b>Operation System</b>		
		Windows XP Professional Pack 3		
	<b>Platform Software</b>			<b>Version</b>
	IT <sup>3</sup> Test Platform			V5.0.3
	Network Simulation Controller			V5.0.3
	<b>Software Modules</b>			<b>Version</b>
	3GPP TS 31.121 (digital)			V5.0.3
	3GPP TS 31.124 Stage 1			V5.0.3
	3GPP TS 31.124 Stage 2			V5.0.3
	3GPP TS 31.124 Stage 3			V5.0.3
	3GPP TS 51.010-1 (analog) 850/1900			V5.0.3
	3GPP TS 51.010-1 (analog) 900/1800			V5.0.3
	3GPP TS 51.010-1 (digital) 850/1900			V5.0.3
	3GPP TS 51.010-1 (digital) 900/1800			V5.0.3
	3GPP TS 51.010-4 SAT Rel.99 Stage 1 850/1900			V5.0.3
	3GPP TS 51.010-4 SAT Rel.99 Stage 1 900/1800			V5.0.3
	3GPP TS 51.010-4 SAT Rel.99 Stage 2 850/1900			V5.0.3
	3GPP TS 51.010-4 SAT Rel.99 Stage 2 900/1800			V5.0.3
	ETSI TS 102 230 (analog)			V5.0.3
	ETSI TS 102 230 (digital)			V5.0.3
InterLab®			V2.3.2	

**1.3 Radiated Spurious Emission (Shenzhen)**

NO.	Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date
1	Spectrum Analyzer	R&S	FSP30	101362	9kHz~30GHz	01-Sep.-16	31-Aug.-17
2	Radio communication analyzer	Anritsu	MT8820C	6201432835	2G/3G/4G/CDMA	03-Jan.-17	02-Jan.-18
3	Bilog Antenna	TESEQ	CBL 6112D	37877	25MHz~2GHz	17-Oct.-16	16- Oct. -17
4	Horn Antenna	SCHWARZBEC K	BBHA 9120D	9120D-1131	1GHz~18GHz	07-Jun.-16	06-Jun.-17
5	Horn Antenna	COM POWER	AH-840	101073	15GHz~40GHz	07-Jun.-16	06-Jun.-17
6	Amplifier	EM Electronics	EM330	060433	100KHz~3GHz	16-Jul.-16	15-Jul.-17
7	Amplifier	Keysight	8449B	3008A02575	1GHz~26.5GHz	20-Oct.-16	19-Oct.-17
8	Controller	MF	3000	MF780208143	N/A	N/A	N/A
9	Turn Table	MF	MF7802	N/A	0 ~ 360 degree	N/A	N/A
10	Antenna Mast	MF	MF7802	N/A	1 m - 4 m	N/A	N/A
11	AC Power Source	APC	AFC-110009	F104090004	N/A	N/A	N/A
12	3GHigh Pass Filter	Microwave Circuits	WHKX3.0/18 G-10SS	97	3G-18G	Note	Note
13	1GHigh Pass Filter	Wainwright Instruments Gmbh	WHKX1.0/15 G-10SS	10	1G-15G	Note	Note
14	2GHigh Pass Filter	Wainwright Instruments Gmbh	WHKX2.0/18 G-12SS	19	2G-13G	Note	Note
15	1.2GLow Pass Filter	Wainwright Instruments Gmbh	WLKS 1200- 8SS	5	0-1.22G	Note	Note
16	Turnable Notch Filter	Wainwright Instruments Gmbh	WRCT800/9 60-0.2/40- 8SS	35	800-960 MHz	Note	Note
17	Notch Filter	Wainwright Instruments Gmbh	WRCD1747. 5	N/A	1747.5MHz Notch	Note	Note
18	Notch Filter	Wainwright Instruments Gmbh	WRCT902.5	N/A	902.5MHz Notch	Note	Note
19	Notch Filter	Wainwright Instruments Gmbh	WRCD1700/ 2000-0.2/40- 10SS	N/A	1700~2000MHz Tunable Notch	Note	Note
20	Notch Filter	Wainwright Instruments Gmbh	WRCT800/9 60-0.2/40- 8SS	N/A	800~960MHz Tunable Notch	Note	Note
21	Notch Filter	Wainwright Instruments Gmbh	SN4	N/A	1850~2170 MHz Tunable Notch	Note	Note
22	2M ( RF Cable- HF )	SUCOFLEX	104	MY17398	0.05~40GHz	N/A	N/A

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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## **Annex B – Product Equality Declaration**

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# Declaration letter

Beijing InHand Networks Technology Co., Ltd.

Dear Sir,

For our business issue and marketing requirement, we would like to list different models numbers on the PTCRB certificates and reports, as following:

Test Model No.: IR615

IR605      IR695

The three models are the same in these: appearance, PCB layout, and basic software function;  
The only differences is the model name.

Thank you!

Signature: *Biao Wang*

Printed name/title: Wangbiao/ EMC engineer

Address: 101, West Wing, 11th Floor, No.101, Lize central Park, Wangjing, Chaoyang District, Beijing, 100102, P.R.China

**Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695**  
**To: Conformance Test Cases (NAPRD03 V5.20)**

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## **Annex C – Software Change Notes**

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# Change Note

Model Information:	
Manufacturer's Name:	Beijing InHand Networks Technology Co., Ltd.
Manufacturer's Business Address:	101, West Wing, 11th Floor, No.101, Lize central Park, Wangjing, Chaoyang District, Beijing, 100102, P.R.China
Model Name:	IR605 IR615 IR695
HW version:	V11
SW version:	V1.0.0

## Description:

We **Beijing InHand Networks Technology Co., Ltd.** declare **IR605 IR615 IR695**

Hardware change history is list below

Version	Hardware	Change Note
V1	V11	Initial
V2	V11	1. MCU and SDRAM power add 1nF capacitor to reduce noise 2. Add 2.4G band-pass filter ahead of WiFi antenna U-FL 3. Core board add aluminium foil and absorbing material as electromagnetic shielding 4. Antenna add magnet ring

Software change history is list below

Version	Software	Change Note
V1	V1.0.0	Initial

This declaration is issued to: Sporton International Inc.

Person responsible for making this statement.

Name/Surname: Biao Wang

Position/Title: EMC Engineer

Address/Location: 101, West Wing, 11th Floor, No.101, Lize central Park, Wangjing, Chaoyang District, Beijing, 100102, P.R.China

Issue Date: 2017-05-11



Test of: Beijing InHand Networks Technology Co., Ltd. – IR605 IR615 IR695  
To: Conformance Test Cases (NAPRD03 V5.20)

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Annex D – DUT Photographs

