Report On

Limited FCC Testing of the
Sharp CDMA SHI14 Dual Band CDMA (800 MHz, BC0 and 1900 MHz, BC6) Cellular Phone with Bluetooth, WLAN, FeliCa and GPS
In accordance with FCC CFR 47 Part 15C

COMMERCIAL-IN-CONFIDENCE

FCC ID: APYHRO00163

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TÜV SÜD Product Service Ltd, Octagon House, Concorde Way, Segensworth North,
Fareham, Hampshire, United Kingdom, PO15 5RL
Tel: +44 (0) 1489 558100. Website: www.tuvps.co.uk

REPORT ON

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PREPARED FOR

Sharp Communication Compliance Ltd
Azure House
Bagshot Road
Bracknell
Berkshire
RG12 7QY

PREPARED BY

Natalie Bennett
Senior Administrator

APPROVED BY

Mark Jenkins
Authorised Signatory

DATED 08 December 2011

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part 15C. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineer(s);

G Lawler

UKAS TESTING 0141

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SECTION 1

REPORT SUMMARY

Limited FCC Testing of the
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with Bluetooth, WLAN, FeliCa and GPS
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1.1 INTRODUCTION

The information contained in this report is intended to show verification of the Limited FCC Testing of the Sharp CDMA SHI14 Dual Band CDMA (800 MHz, BC0 and 1900 MHz, BC6) Cellular Phone with Bluetooth, WLAN, FeliCa and GPS to the requirements of FCC CFR 47 Part 15C.

Objective	To perform Limited FCC Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Manufacturer	Sharp Corporation
Model Number(s)	CDMA SHI14
Serial Number(s)	SSHFA002156
Number of Samples Tested	1
Test Specification/Issue/Date	FCC CFR 47 Part 15C (2010)
Incoming Release Date	Application Form 24 October 2011
Disposal Reference Number Date	Held Pending Disposal Not Applicable Not Applicable
Order Number Date	8857 07 November 2011
Start of Test	15 November 2011
Finish of Test	15 November 2011
Name of Engineer(s)	G Lawler
Related Document(s)	ANSI C63.10: 2009

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1.2 BRIEF SUMMARY OF RESULTS

A brief summary of the tests carried out in accordance with FCC CFR 47 Part 15C is shown below.

Section	Spec Clause	Test Description	Result	Comments/Base Standard
FeliCa				
2.1	15.225 (a)(b)(c)(d)	Field Strength of any Emission	Pass	

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1.3 APPLICATION FORM

APPLICANT'S DETAILS			
COMPANY NAME :	Sharp Telecommunications of Europe Ltd		
ADDRESS :	Azure House, Bagshot Road Bracknell, Berkshire RG12 7QY		
NAME FOR CONTACT PURPOSES : Ken Newman			
TELEPHONE NO: 01344 301 883	FAX NO:	01344 300 293	
		E-MAIL:	ken.newman@sharp.eu

EQUIPMENT INFORMATION

Equipment designator:
Model name/number CDMA SHI14 Identification number APYHRO00163

Supply Voltage:

[ ]	AC mains	State AC voltage …… V	and AC frequency …… Hz
[ ]	DC (external)	State DC voltage …… V	and DC current …… A
[X]	DC (internal)	State DC voltage …3.7 V	and Battery type…Li-Ion.

Frequency characteristics:
Frequency range 13.56MHz to 13.56MHz Channel spacing ……
(if channelized)

Designated test frequencies:
Bottom: ……. MHz Middle: …… MHz Top: ……..MHz

Power characteristics:
Maximum transmitter power ……..W Minimum transmitter power …… W
(if variable)

[X]	Continuous transmission	
[ ]	Intermittent transmission	State duty cycle ……

If intermittent, can transmitter be set to continuous transmit test mode? Y/N

Antenna characteristics:

[ ]	Antenna connector	State impedance ……ohm
[ ]	Temporary antenna connector	State impedance ……. ohm
[X]	Integral antenna	State gain 0 dBi

Modulation characteristics:

[X]	Amplitude	[ ]	Other
[ ]	Frequency	Details: ……..	
[ ]	Phase		

Can the transmitter operate un-modulated? ~~Y~~/N
ITU Class of emission: ……

Extreme conditions:
Maximum temperature 60 ºC Minimum temperature -20 ºC
Maximum supply voltage 4.0 V Minimum supply voltage 3.7 V

I hereby declare that I am entitled to sign on behalf of the applicant and that the information supplied is correct and complete.

Signature : Yasuhiro Kawauchi
Name : Yasuhiro Kawauchi
Position held : Manager
Date : 24 October 2011

1.4 PRODUCT INFORMATION

1.4.1 Technical Description

The Equipment Under Test (EUT) was a Sharp CDMA SHI14 Dual Band CDMA (800 MHz, BC0 and 1900 MHz, BC6) Cellular Phone with Bluetooth, WLAN, FeliCa and GPS. A full technical description can be found in the manufacturer's documentation.

1.5 TEST CONDITIONS

For all tests the EUT was set up in accordance with the relevant test standard and to represent typical operating conditions. Tests were applied with the EUT situated in a shielded enclosure.

The EUT was powered from a 4.0 V DC supply.

FCC Accreditation
90987 Octagon House, Fareham Test Laboratory

1.6 DEVIATIONS FROM THE STANDARD

No deviations from the applicable test standard or test plan were made during testing.

1.7 MODIFICATION RECORD

Modification 0 - No modifications were made to the test sample during testing.

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SECTION 2

TEST DETAILS

Limited FCC Testing of the
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2.1 FIELD STRENGTH OF ANY EMISSION

2.1.1 Specification Reference

FCC CFR 47 Part 15C, Clause 15.225 (a)(b)(c)(d)

2.1.2 Equipment Under Test and Modification State

CDMA SHI14 S/N: SSHFA002156 - Modification State 0

2.1.3 Date of Test

15 November 2011

2.1.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.1.5 Test Procedure

The EUT was placed on a remotely controlled turntable within a semi-anechoic chamber. Measurements of the carrier frequency from the EUT were maximised by adjusting the antenna height, antenna polarisation and turntable azimuth.

2.1.6 Environmental Conditions

Ambient Temperature	21.1°C
Relative Humidity	37.0%

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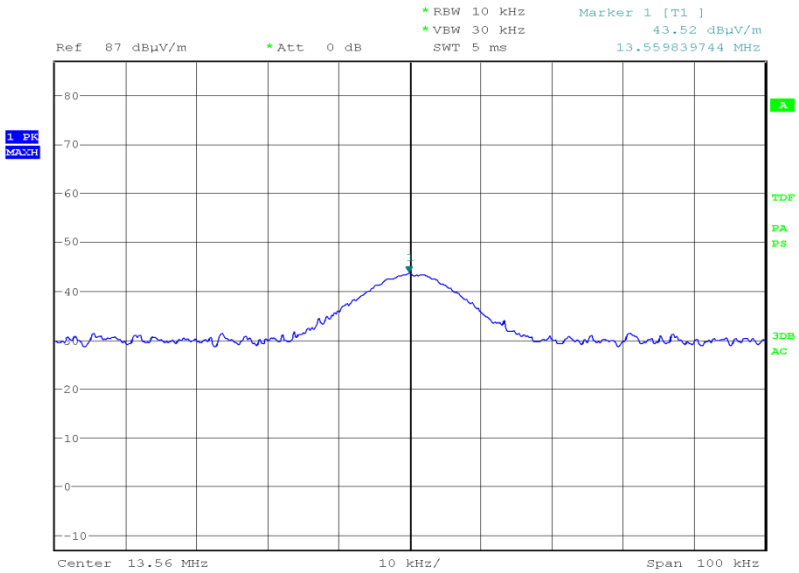
2.1.7 Test Results

4.0 V DC Supply

Carrier



Date: 15.NOV.2011 21:39:11

Frequency (MHz)	QP Level (dBµV/m) at 3m	QP Level (µV/m) at 3m	QP Limit (dBµV/m) at 3m	QP Limit (µV/m) at 30m	Angle (deg)	Height (m)	Polarity
13.56	44.03	159.04	84.0	15848.90	352	1.5	Face On

Note:
The measurement was performed at 3m and the specification limit converted to its equivalent at 3m to show compliance.

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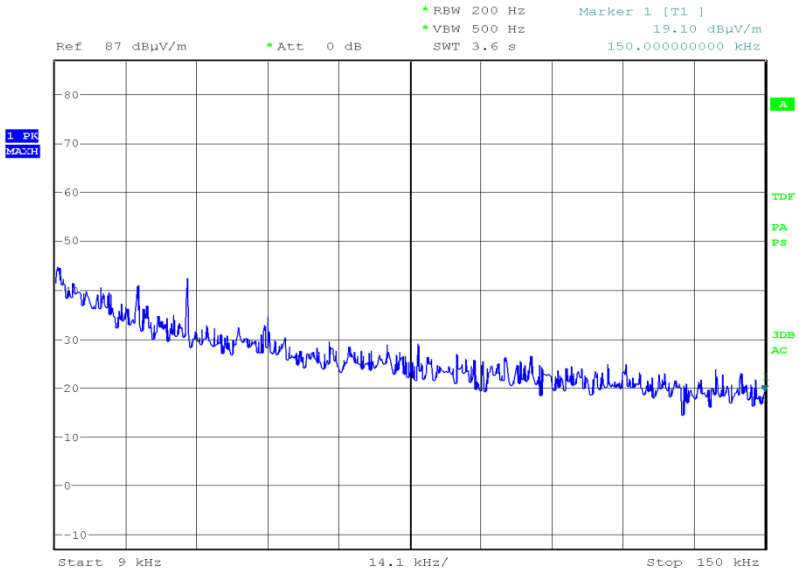
9 kHz to 150 kHz



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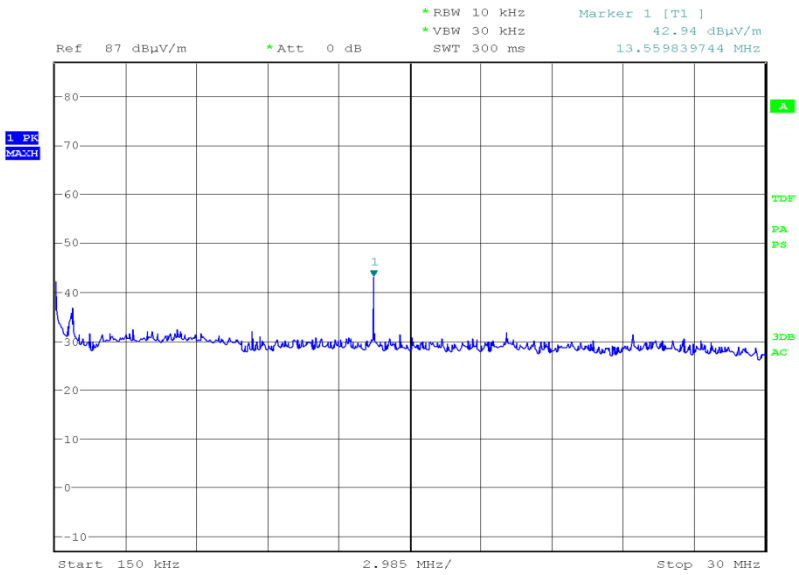
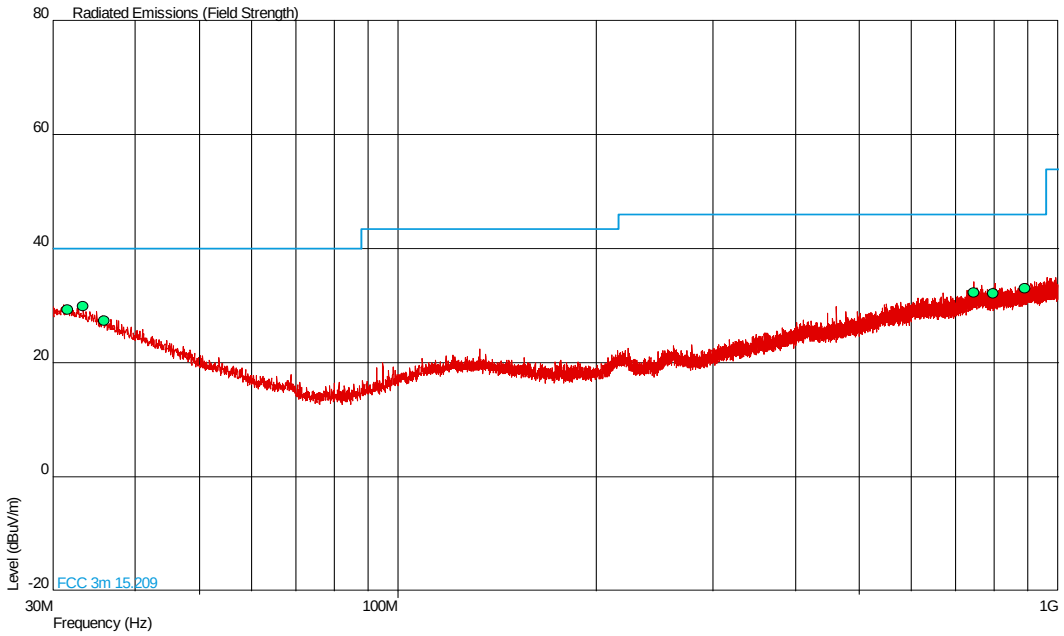
150 kHz to 30 MHz



Date: 15.NOV.2011 21:41:40

30 MHz to 1 GHz



Frequency (MHz)	QP Level (dBuV/m)	QP Level (uV/m)	QP Limit (dBuV/m)	QP Limit (uV/m)	QP Margin (dBuV/m)	QP Margin (uV/m)	Angle (Deg)	Height (m)	Polarity
31.601	29.3	29.2	40.0	100	-10.7	70.8	0	1.00	Vertical
33.298	30.0	31.6	40.0	100	-10.0	68.4	225	1.00	Vertical
35.869	27.4	23.4	40.0	100	-12.6	76.6	225	1.00	Vertical
744.987	32.3	41.2	46.0	200	-13.7	158.8	90	1.00	Vertical
796.591	32.2	40.7	46.0	200	-13.8	159.3	270	1.00	Vertical
891.651	33.0	44.7	46.0	200	-13.0	155.3	270	1.00	Vertical

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SECTION 3

TEST EQUIPMENT USED

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3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Section 2.1 - Field Strength of any Emission					
Antenna (Active Loop, 9kHz-30MHz)	Rohde & Schwarz	HFH2-Z2	333	24	20-Sep-2012
Antenna (Dish/Tripod/Adaptor, 1GHz-18GHz)	Rohde & Schwarz	AC-008	334	-	TU
Screened Room (5)	Rainford	Rainford	1545	36	3-Feb-2014
Mast Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Antenna (Bilog)	Chase	CBL6143	2904	24	12-May-2013
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	29-Sep-2012
9m RF Cable (N Type)	Rhophase	NPS-2303-9000-NPS	3791	12	26-Aug-2012
Tilt Antenna Mast	maturo Gmbh	TAM 4.0-P	3916	-	TU
Mast Controller	maturo Gmbh	NCD	3917	-	TU

TU – Traceability Unscheduled

3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:-

Test Discipline	MU
Field Strength of any Emission	30MHz to 1GHz: ± 5.1 dB

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SECTION 4

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

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4.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT

This report relates only to the actual item/items tested.

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation.

Results of tests not covered by our UKAS Accreditation Schedule are marked NUA (Not UKAS Accredited).