

HCT CO., LTD.

CERTIFICATE OF COMPLIANCE

FCC Certification

Applicant Name:
SHARP CORPORATION

Address:
22-22 Nagaike-cho, Abeno-ku, Osaka 545-8522
Japan

Date of Issue:
January 21, 2011

Test Site/Location:

HCT CO., LTD., 105-1, Jangam-ri, Majang-Myeon, Icheon-si,
Kyunggi-Do, Korea

Test Report No.: HCTR1101FR19

HCT FRN: 0005866421

IC Recognition No.: 5944A-2

FCC ID : APYHRO00140

APPLICANT : SHARP CORPORATION

Model(s): CDMA SHI05
EUT Type: CDMA Phone with BT/WLAN & NFC
RF Output Field Strength 15.11 dBuV/m
Frequency of Operation: 13.56305 MHz
Modulation type ASK
FCC Classification: Low Power Communication Device – Transmitter
FCC Rule Part(s): FCC Part 15.225 Subpart C

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S. C.853(a)


Report prepared by
: Jong Seok Lee
Test engineer of RF Team


Approved by
: Sang Jun Lee
Manager of RF Team

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FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCTR1101FR19	Date of Issue: January 21, 2010	EUT Type: CDMA Phone with BT/WLAN & NFC	FCC ID: APYHRO00140	Page 1 of 24

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCTR1101FR19	January 21, 2011	First Approval Report

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1. GENERAL INFORMATION

Applicant: SHARP CORPORATION

Address: 22-22 Nagaike-cho, Abeno-ku, Osaka 545-8522 Japan

FCC ID: APYHRO00140

EUT: CDMA Phone with BT/WLAN & NFC

Model: CDMA SHI05

Date of Test: January 18, 2011 ~ January 20, 2011

Contact person: Name: Masaaki Nishil
Tel/ Fax: Phone #: +81-743-55-4091
 Fax #: +81-743-55-2553

2. EUT DESCRIPTION

Product	CDMA Phone with BT/WLAN & NFC
Model Name	CDMA SHI05
Power Supply	DC 3.7 V
Battery Type	Li-ion Battery(Standard)
Frequency of Operation	13.56305 MHz
Transmit Power	15.11 dBuV/m
Modulation Type	ASK
Manufacturer	SHARP CORPORATION
Antenna Specification	Manufacturer: E.M.W. Antenna Co., Ltd. Antenna type: Internal Antenna

3. TEST METHODOLOGY

The measurement procedure described in the American National Standard for Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz(ANSI C63.4-2003)

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.225 under the FCC Rules Part 15 Subpart C.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4. (Version :2003) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4. (Version: 2003)

3.4 DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

3.5 STANDARDS

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance With

FCC Part 15.Subpart C

Regulation	Measurement standard	Range
Title 47 of the CFR:2005, Part 15 Subpart (c), Clause 15.225(a)	ANSI C63.4:2003	13.553MHz to 13.567MHz
Title 47 of the CFR:2005, Part 15 Subpart (c), Clause 15.225(d)	ANSI C63.4:2003	outside of the 13.110-14.010 MHz band
Title 47 of the CFR:2005, Part 15 Subpart (c), Clause 15.209	ANSI C63.4:2003	9kHz to 30MHz
Title 47 of the CFR:2005, Part 15 Subpart (c), Clause 15.209	ANSI C63.4:2003	30MHz to 1GHz
Title 47 of the CFR:2005, Part 15 Subpart (c), Clause 15.207	ANSI C63.4:2003	150kHz to 30MHz
Title 47 of the CFR:2005, Part 15 Subpart (c), Clause 15.225(e)	ANSI C63.4:2003	0.01% of nominal
Title 47 of the CFR:2005, Part 15 Subpart (c), Clause 15.215(c)	ANSI C63.4:2003	-

4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipments, which is traceable to recognized national standards.

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

The open area test site and conducted measurement facility used to collect the radiated data are located at the 105-1, Jangam-ri, Majang-Myeon, Icheon-si, Kyunggi-Do, 467-811, Korea. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2003) and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated June 10, 2009 (Registration Number: 90661)

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements. Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

6. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

* The antennas of this E.U.T are permanently attached.

*The E.U.T Complies with the requirement of §15.203

7. TEST SUMMARY

The results in this report apply only to sample tested

Regulation	Test Type	Range	Result
Title 47 of the CFR:2009, Part 15 Subpart (c), Clause 15.225(a)	Radiated Electric Field Emissions	13.553MHz to 13.567MHz	Pass
Title 47 of the CFR:2009, Part 15 Subpart (c), Clause 15.225(b)	Radiated Electric Field Emissions	13.410MHz to 13.553MHz and 13.567MHz to 13.710MHz	Pass
Title 47 of the CFR:2009, Part 15 Subpart (c), Clause 15.225(c)	Radiated Electric Field Emissions	13.110 MHz to 13.410 MHz and 13.710 MHz to 14.010 MHz	Pass
Title 47 of the CFR:2009, Part 15 Subpart (c), Clause 15.209 (d)	Radiated Electric Field Emissions	9kHz to 30MHz	Pass
Title 47 of the CFR:2009, Part 15 Subpart (c), Clause 15.209	Radiated Electric Field Emissions	30MHz to 1GHz	Pass
Title 47 of the CFR:2009, Part 15 Subpart (c), Clause 15.207	AC power conducted emissions	150kHz to 30MHz	N/A
Title 47 of the CFR:2009, Part 15 Subpart (c), Clause 15.225(e)	Frequency Stability	0.01% of nominal	Pass
Title 47 of the CFR:2009, Part 15 Subpart (c), Clause 15.215(c)	20 dB Bandwidth	-	Pass

8. RADIATED EMISSION MEASUREMENT

Requirement(s): 15.209, 15.225

Except as provided elsewhere in this paragraph the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Minimum Standard: FCC Part 15.225 / 15.209

Rule Part	Frequency (MHz)	Limit
Part 15. 209	0.009 ~ 0.490	2400/F(kHz)uV/m@300
	0.490 ~1.705	24000/F(kHz)uV/m@30
	1.705 ~ 30	30 uV/m@30
	30 ~ 88	100 ** uV/m@3m
	88 ~ 216	150 ** uV/m@3m
	216 ~ 960	200 ** uV/m@3m
	Above 960	500 uV/m@3m

** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88MHz, 174-216MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

15.225 Operation within the band 13.110 – 14.010 MHz.

(a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter (= 84 dBuV/m) at 30 meters.

(b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter (=50.5dBuV/m) at 30 meters.

(c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter (=40.5 dBuV/m) at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

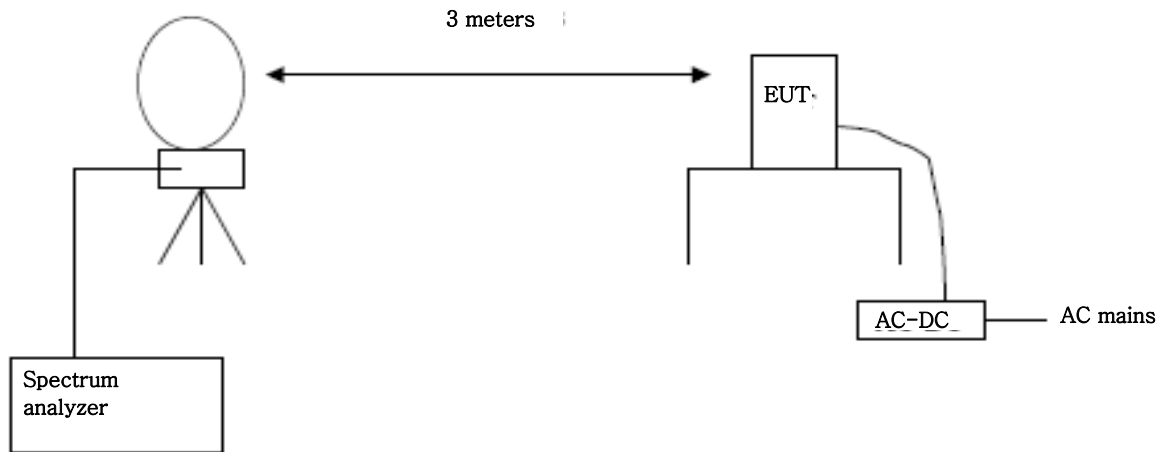
(e) The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

(f) In the case of radio frequency powered tags designed to operate with a device authorized under this section, the tag may be approved with the device or be considered as a separate device subject to its own authorization. Powered tags approved with a device under a single application shall be labeled with the same identification number as the device.

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8.1. RADIATED EMISSION 9 kHz – 30 MHz

Test Set-up



Test Procedure

The EUT was placed on a non-conductive table located on a large open test site. The loop antenna was placed at a location 3m from the EUT. Radiated emissions were measured with the loop antenna both parallel and perpendicular to the plane of the EUT loop antenna.

The limit is converted from microvolts/meter to decibel microvolts/meter. Sample Calculation:

Corrected Amplitude = Raw Amplitude(dBμV/m) + ACF(dB) + Cable Loss(dB) – Distance Correction Factor

The spectrum analyzer is set to:

Frequency Range = 9 kHz ~ 1GHz

RBW = 9 kHz (9 kHz ~ 30MHz)
= 120 kHz (30 MHz ~ 1 GHz)

Trace Mode = max hold

Detector Mode = peak / Quasi-peak

Sweep time = auto

Test Results

13.553 MHz-13.567 MHz						
Frequency (MHz)	Read Level (dBuV)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.56032	23.14	11.05	-19	15.11	84	68.89

13.410 MHz-13.553 MHz and 13.567 MHz-13.710 MHz						
Frequency (MHz)	Read Level (dBuV)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.55300	11.05	11.05	-19	3.02	50.47	47.45
13.56700	13.02	11.05	-19	4.99	50.47	45.48

13.110 MHz – 13.410 MHz and 13.710 MHz-14.010 MHz						
Frequency (MHz)	Read Level (dBuV)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.21048	8.49	11.05	-19	0.46	40.51	40.05
13.93500	7.94	11.05	-19	-0.09	40.51	40.60

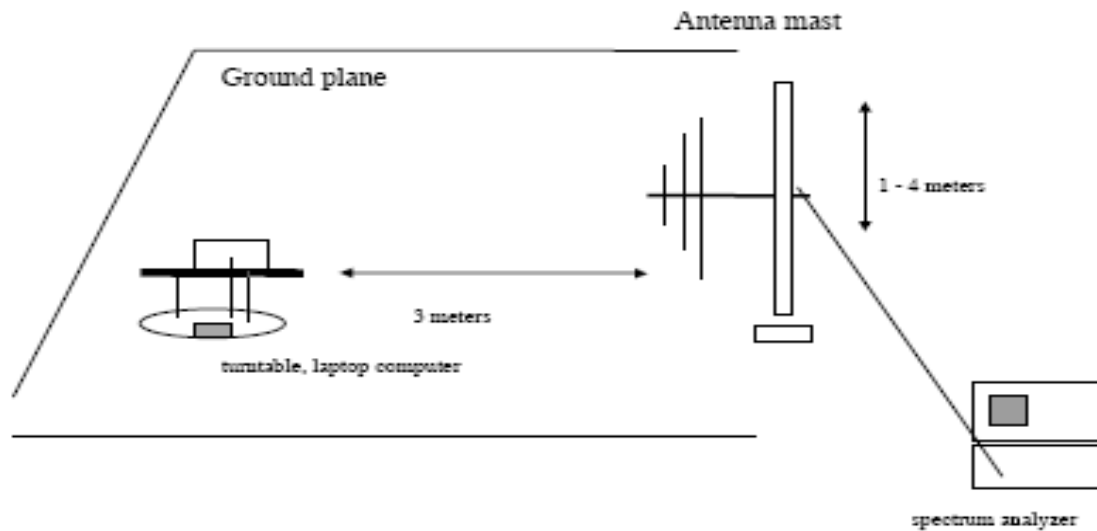
9 kHz-30 MHz						
Frequency (MHz)	Read Level (dBuV)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
27.11808	9.63	9.33	-19	-0.12	29.54	29.66

Remark :

1. Distance Correction Below 30MHz = $40\log(10\text{m}/30\text{m}) = -19$ dB
Measurement Distance : 3 m (Below 30MHz)
2. Factor = Antenna Factor + Cable Loss
3. Result Level = Read Level + Factor + Distance Correction
4. Margin = Limit – Result Level

8.2. RADIATED EMISSION 30 MHz – 1000 MHz

Test Set-up



Test Procedures: Radiated emissions were measured according to ANSI C63.4.

The EUT was set to transmit at the highest output power.

The EUT was set 3 meter away from the measuring antenna.

Frequency MHz	Reading dBuV	Ant. Factor dB/m	Cable Loss dB	ANT POL (H/V)	Total dBuV/m	Limit dBuV/m	Margin dB
137.53	3.52	12.5	1.4	V	17.4	43.5	26.1
137.71	3.36	12.5	1.4	H	17.3	43.5	26.2

Remark

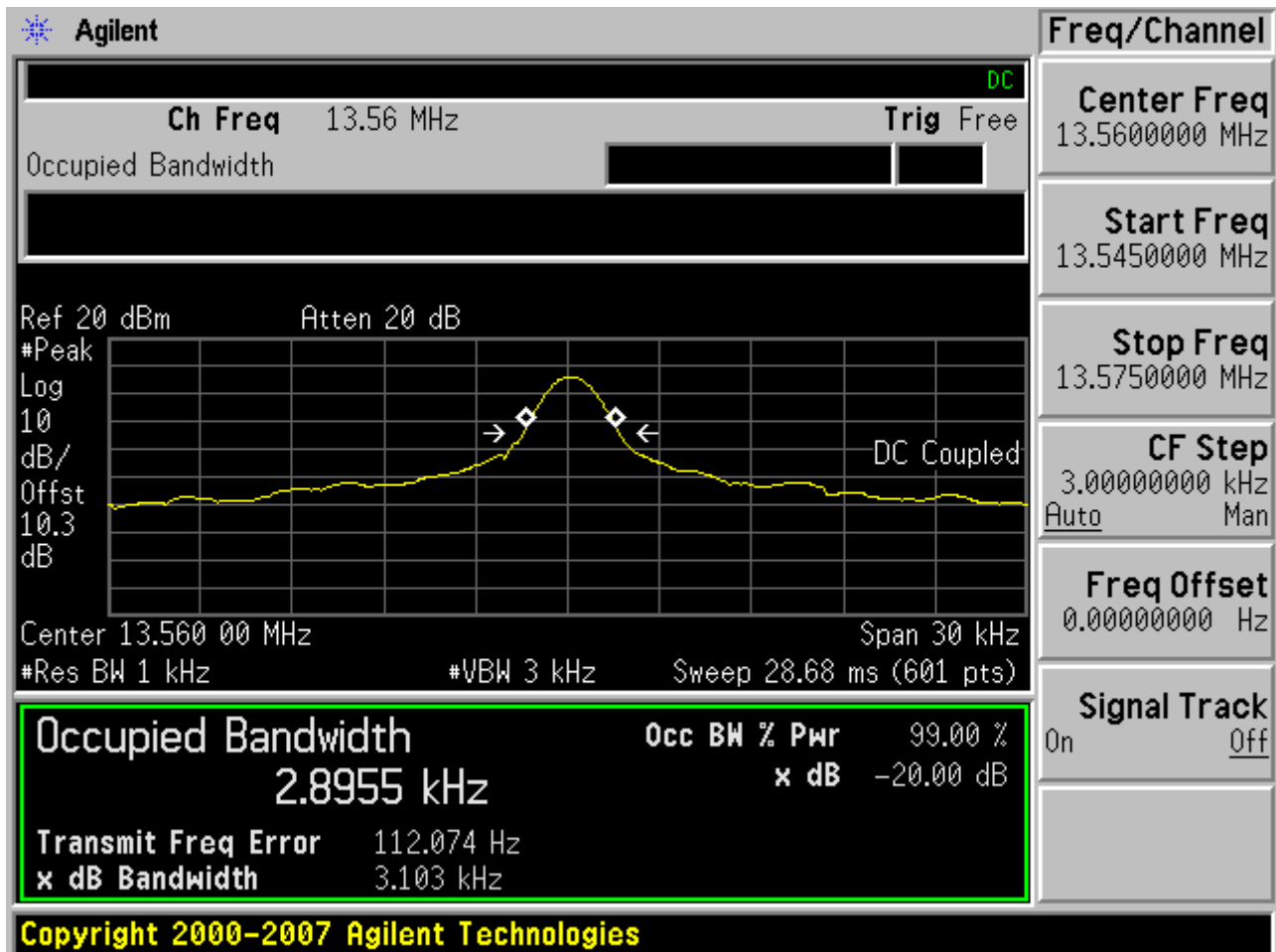
1. Result Level = Read Level + (ANT+ CL Factor)
2. Margin = Limit – Result Level

9. EMISSION BANDWIDTH PLOT.

Requirement(s):

Test Set-up: The EUT was connected to a spectrum analyzer.

Test Procedure: The 20dB bandwidth was measured by using a spectrum analyzer.



10. FREQUENCY TOLERANCE

Procedure: Part 15.225, ANSI 63.4

If required, the operating or transmitting frequency of an intentional radiator should be measured in accordance with the following procedure to ensure that the device operates outside certain precluded frequency bands and within the frequency range. No modulation needs to be supplied to the intentional radiator during these tests, unless modulation is required to produce an output, e.g., single-sideband suppressed carrier transmitters.

The frequency stability of the transmitter is measured by:

- a) Temperature: The temperature is varied from -20°C to + 50°C using an environmental chamber.
- b) For battery operated equipment, the equipment tests shall be performed using a new battery.

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency.

Measurement Result:

VOLTAGE (%)	POWER	Temperature (°C)	Frequency (MHz)	Frequency Error
100%	3.7 V	-20	13.56018	-0.00003
100%		-10	13.56016	-0.00001
100%		0	13.56016	-0.00001
100%		10	13.56017	-0.00002
100%		20	13.56015	0.00000
100%		30	13.56013	0.00002
100%		40	13.56012	0.00003
100%		50	13.56010	0.00005

Notes:

1. The EUT is supplied with the fully re-charged battery.

11. POWERLINE CONDUCTED EMISSIONS

LIMIT

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolt (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.

Test Plots

Untermine the Antenna

Conducted Emissions (Line 1)

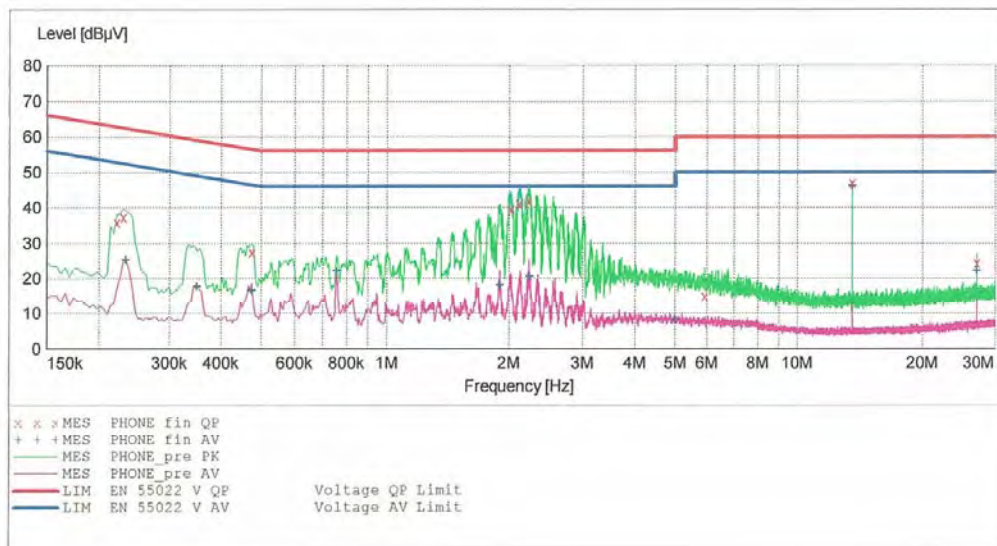
HCT

EMC

EUT: CDMA SHI05
 Manufacturer: SHARP CORPORATION
 Operating Condition: NFC MODE
 Test Site: SHIELD ROOM
 Operator: DH-RYU
 Test Specification: CISPR22 CLASS B
 Comment: N

SCAN TABLE: "CISPR22 CLASS B"

Short Description:				CISPR 22 CLASS B			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
Frequency	Frequency	Width					
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				



MEASUREMENT RESULT: "PHONE_fin QP"

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Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.222010	35.90	10.1	63	26.8	---	---
0.230010	37.40	10.1	62	25.0	---	---
0.474010	27.50	10.1	56	29.0	---	---
2.024000	39.50	10.3	56	16.5	---	---
2.120000	41.20	10.3	56	14.8	---	---
2.228000	41.90	10.3	56	14.1	---	---
5.912000	15.10	10.5	60	44.9	---	---
13.560000	46.90	11.1	60	13.1	---	---
27.120000	24.50	12.0	60	35.5	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

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Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.234010	25.30	10.1	52	27.0	---	---
0.350010	17.80	10.1	49	31.2	---	---
0.474010	16.80	10.1	46	29.6	---	---
0.756000	22.20	10.1	46	23.8	---	---
1.900000	18.30	10.3	46	27.7	---	---
2.236000	20.70	10.3	46	25.3	---	---
5.000000	8.10	10.5	46	37.9	---	---
13.560000	46.10	11.1	50	3.9	---	---
27.120000	22.20	12.0	50	27.8	---	---

Conducted Emissions (Line 2)

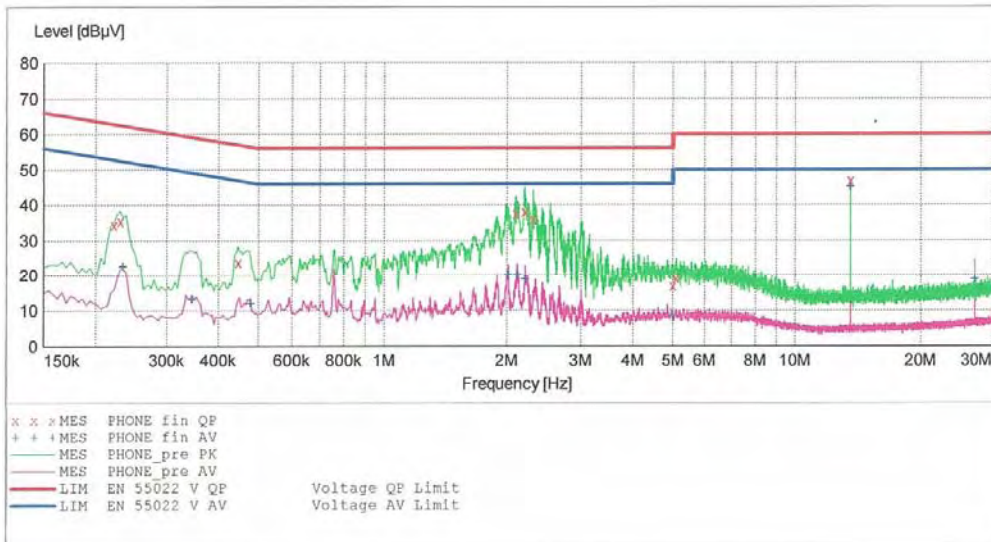
HCT

EMC

EUT: CDMA SHI05
 Manufacturer: SHARP CORPORATION
 Operating Condition: NFC MODE
 Test Site: SHIELD ROOM
 Operator: DH-RYU
 Test Specification: CISPR22 CLASS B
 Comment: H

SCAN TABLE: "CISPR22 CLASS B"

Short Description:			CISPR 22 CLASS B			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin_QP"

1/20/2011 3:25PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.222010	34.40	10.1	63	28.3	---	---
0.230010	35.50	10.1	62	26.9	---	---
0.446010	23.90	10.1	57	33.0	---	---
2.100000	37.50	10.3	56	18.5	---	---
2.208000	38.10	10.3	56	17.9	---	---
2.316000	35.90	10.3	56	20.1	---	---
5.000000	17.00	10.5	56	39.0	---	---
5.096000	19.20	10.5	60	40.8	---	---
13.560000	46.80	11.1	60	13.2	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

1/20/2011 3:25PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.234010	22.60	10.1	52	29.7	---	---
0.346010	13.20	10.1	49	35.9	---	---
0.478010	12.10	10.1	46	34.3	---	---
2.016000	20.10	10.3	46	25.9	---	---
2.120000	20.00	10.3	46	26.0	---	---
2.216000	18.90	10.3	46	27.1	---	---
5.000000	8.60	10.5	46	37.4	---	---
13.560000	45.20	11.1	50	4.8	---	---
27.120000	18.90	12.0	50	31.1	---	---

Terminate the Antenna Conducted Emissions (Line 1)

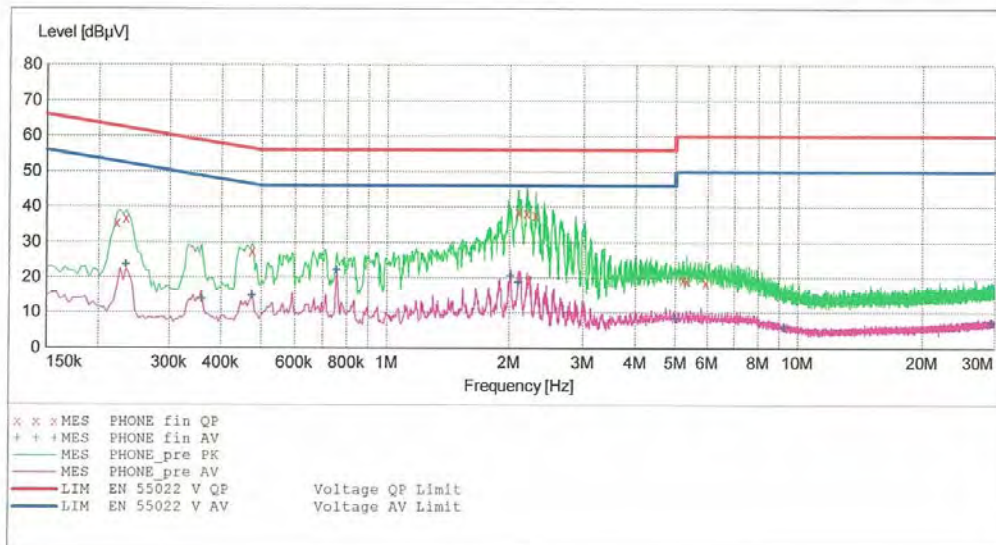
HCT

EMC

EUT: CDMA SHI05
 Manufacturer: SHARP CORPORATION
 Operating Condition: NFC MODE
 Test Site: SHIELD ROOM
 Operator: DH-RYU
 Test Specification: CISPR22 CLASS B
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SCAN TABLE: "CISPR22 CLASS B"

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Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin_QP"

1/20/2011 3:22PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.222010	35.60	10.1	63	27.2	---	---
0.234010	36.80	10.1	62	25.5	---	---
0.474010	27.50	10.1	56	29.0	---	---
2.100000	38.60	10.3	56	17.4	---	---
2.204000	38.30	10.3	56	17.7	---	---
2.316000	37.70	10.3	56	18.3	---	---
5.212000	19.50	10.5	60	40.5	---	---
5.336000	19.40	10.5	60	40.6	---	---
5.940000	18.80	10.5	60	41.2	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

1/20/2011 3:22PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.234010	23.70	10.1	52	28.6	---	---
0.358010	13.80	10.1	49	35.0	---	---
0.474010	14.90	10.1	46	31.5	---	---
0.756000	22.20	10.1	46	23.8	---	---
2.016000	20.60	10.3	46	25.4	---	---
2.100000	18.80	10.3	46	27.2	---	---
5.000000	8.40	10.5	46	37.6	---	---
9.256000	6.10	10.8	50	43.9	---	---
29.484000	7.10	12.1	50	42.9	---	---

Conducted Emissions (Line 2)

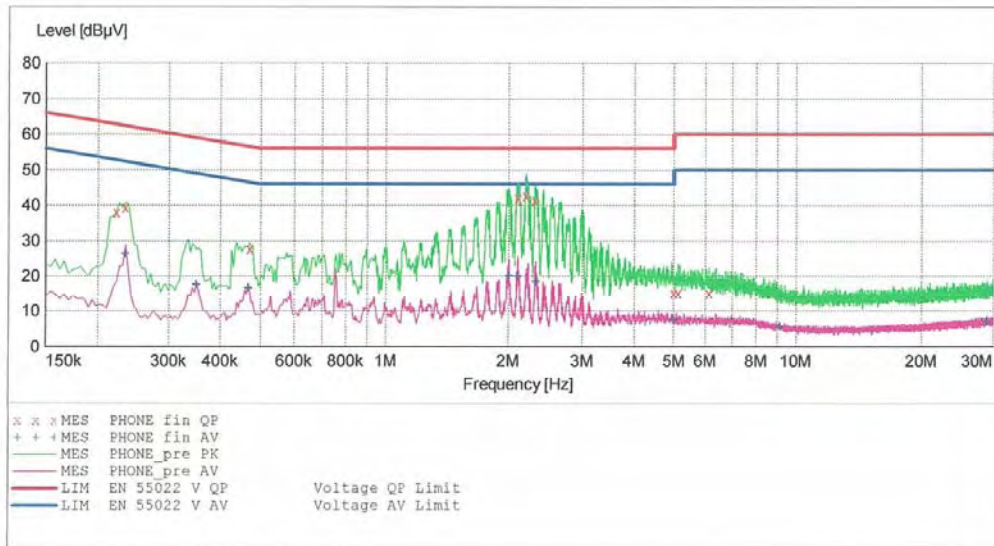
HCT

EMC

EUT: CDMA SHI05
 Manufacturer: SHARP CORPORATION
 Operating Condition: NFC MODE
 Test Site: SHIELD ROOM
 Operator: DH-RYU
 Test Specification: CISPR22 CLASS B
 Comment: N

SCAN TABLE: "CISPR22 CLASS B"

Short Description:		CISPR 22 CLASS B				
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin QP"

1/20/2011 3:18PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.222010	38.00	10.1	63	24.8	---	---
0.234010	39.40	10.1	62	22.9	---	---
0.470010	27.80	10.1	57	28.7	---	---
2.104000	42.00	10.3	56	14.0	---	---
2.200000	42.80	10.3	56	13.2	---	---
2.316000	41.40	10.3	56	14.6	---	---
5.000000	15.30	10.5	56	40.7	---	---
5.132000	15.20	10.5	60	44.8	---	---
6.132000	15.30	10.6	60	44.7	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

1/20/2011 3:18PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.234010	26.30	10.1	52	26.0	---	---
0.350010	17.70	10.1	49	31.3	---	---
0.466010	16.80	10.1	47	29.8	---	---
2.008000	20.20	10.3	46	25.8	---	---
2.104000	20.10	10.3	46	25.9	---	---
2.328000	18.70	10.3	46	27.3	---	---
5.000000	7.60	10.5	46	38.4	---	---
9.124000	5.60	10.7	50	44.4	---	---
28.960000	7.00	12.1	50	43.0	---	---

12. LIST OF TEST EQUIPMENT

Manufacturer	Model / Equipment	Calibration Interval	Calibration Due	Serial No.
Rohde & Schwarz	ESH2-Z5/ LISN	Annual	03/24/2011	861741/013
Rohde & Schwarz	ESH3-Z6/ LISN	Annual	03/05/2011	100329
Schwarzbeck	VULB 9160/ TRILOG Antenna	Biennial	07/15/2012	9160-3150
HD	MA240/ Antenna Position Tower	N/A	N/A	556
EMCO	1050/ Turn Table	N/A	N/A	114
HD GmbH	HD 100/ Controller	N/A	N/A	13
HD GmbH	KMS 560/ SlideBar	N/A	N/A	12
Rohde & Schwarz	ESH3-Z2/ PULSE LIMITER	Annual	10/25/2011	375.8810.352
Schwarzbeck	BBHA 9120D/ Horn Antenna	Biennial	09/23/2011	296
Rohde & Schwarz	FSP30 / Spectrum Analyzer	Annual	03/25/2011	839117/011
Agilent	E4440A / Spectrum Analyzer	Annual	06/09/2011	US45303008
Agilent	E4416A /Power Meter	Annual	01/04/2012	GB41291412
Agilent	E9327A /POWER SENSOR	Annual	07/23/2011	MY4442009
DIGITAL	EP-3010 /DC POWER SUPPLY	Annual	01/04/2012	3110117
ITECH	IT6720 / DC POWER SUPPLY	Annual	12/01/2011	010002156287001199
EMCO	6502.LOOP ANTENNA	Biennial	01/13/2012	9009-2536