



HCT CO., LTD.

CERTIFICATION DIVISION
105-1, JANGAM-RI, MAJANG-MYEON, ICHEON-SI, KYOUNGKI-DO, REPUBLIC OF KOREA
TEL: +82 31 645 6300 FAX: +82 31 645 6401

EMI CERTIFICATION REPORT

Applicant:

TCT MOBILE LIMITED
5F, E Building, No. 232, Liang Jing Road,
Zhang Jiang High-Tech Park, Pudong Area

Date of Issue: September 20, 2011

Test Report No.: HCTE1109FE24

Test Site: HCT CO., LTD.

HCT FRN: 0005-8664-21

FCC ID:


RAD209

Rule Part(s) / Standard(s) : FCC PART 15 Subpart B Class B
Equipment Type : PCS CDMA Phone with Bluetooth / WLAN
Model(s) Name : JukeB
Port / Connector(s) : USB Port / Headset Port


The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2003. (See Test Report if any modifications were made for compliance)

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

HCT certifies that no party to application has been subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C 862



Report prepared by
: Jeong Hyeon Choi
Test Engineer of EMC Team



Approved by
: Sang Jun Lee
Manager of EMC Team

TABLE OF CONTENTS

	PAGE
1. GENERAL INFORMATION	3
1.1 Product Description.....	3
1.2 Related Submittal(s) / Grant(s)	3
1.3 Tested System Details	4
1.4 Cable Description.....	5
1.5 Noise Suppression Parts on Cable. (I/O cable)	5
1.6 Test Methodology.....	6
1.7 Test Facility	6
1.8 Frequency Range of Radiated Measurements.....	6
2. SYSTEM TEST CONFIGURATION	7
2.1 Configuration of Test System.....	7
3. PRELIMINARY TEST.....	8
3.1 Conducted Emission Test.....	8
4. CONDUCTED AND RADIATED EMISSION TEST SUMMARY	9
4.1 Conducted Emission Test	9
4.2 Radiated Emission Test	26
5. FIELD STRENGTH CALCULATION.....	30
6. TEST EQUIPMENT	31
7. CONCLUSION	32

ATTACHMENT: TEST SETUP PHOTOGRAPHS

1. GENERAL INFORMATION

1.1 Product Description

Equipment Under Test is **PCS CDMA Phone with Bluetooth/WLAN, Model: JukeB** manufactured by **TCT MOBILE LIMITED**. Its basic purpose is used for communications.

Model	JukeB
FCC ID	RAD209
E.U.T Type	PCS CDMA Phone with Bluetooth/WLAN
TX Frequency	1 851.25 MHz to 1 908.75 MHz (PCS CDMA) 2 402 MHz to 2 480 MHz (Bluetooth) 2 412 MHz to 2 462 MHz (WLAN)
RX Frequency	1 931.25 MHz to 1 988.75 MHz (PCS CDMA) 2 402 MHz to 2 480 MHz (Bluetooth) 2 412 MHz to 2 462 MHz (WLAN)

1.2 Related Submittal(s) / Grant(s)

Original submittal only.

1.3 Tested System Details

All equipment descriptions used in the tested system (including inserted cards) are:

Device Type	Manufacturer	Model Name	FCC ID / DoC	Connected To
PCS CDMA Phone with Bluetooth/WLAN	TCT	JukeB	RAD209	Notebook PC
Notebook PC	SAMSUNG	NT-R519	DoC	E.U.T Notebook PC adaptor
Notebook PC adaptor	DELTA (JIANG SU)	SADP-90FH BAD -9019S	-	Notebook PC
Mouse	Microsoft	Intellimouse optical USB and PS/2 compatible	DoC	Notebook PC
USB cable	-	-	-	E.U.T Notebook PC
Micro SD card #1(2GB)	Samsung	MMAGR02GU**A -*MB**	-	E.U.T
Micro SD card #2(2GB)	Netcom	-	-	E.U.T
Headset	Huizhou Lian Yun Electronic	TS813-28MS01	-	E.U.T
Travel adaptor	-	-	-	E.U.T

1.4 Cable Description

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
PCS CDMA Phone with Bluetooth /WLAN	Micro USB	Y	Y	(P,D)1.0
	Headset jack	-	N	(D)1.6
	USB data	Y	Y	(P,D)1.0
Notebook PC	USB (Mouse)	-	Y	(D)1.8

* The marked "(D)" means the data cable and "(P)" means the power cable.

1.5 Noise Suppression Parts on Cable. (I/O cable)

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
PCS CDMA Phone with Bluetooth /WLAN	Micro USB	N	-	Y	Both End
	Headset jack	N	-	Y	E.U.T End
	USB data	N	-	Y	Both End
Notebook PC	USB (Mouse)	Y	Notebook PC End	Y	Notebook PC End

1.6 Test Methodology

Both Conducted and Radiated testing was performed according to the procedures in ANSI C63.4/2003. Radiated testing was performed at an antenna to E.U.T distance of 3 m

1.7 Test Facility

The 10 m semi anechoic chamber used to collect the test data is located at the 105-1, Jangam-Ri, Majang-Myeon, Icheon-Si, Kyoungki-Do, Republic of Korea. Those measurement facilities are constructed in conformance with the requirements of ANSI C63.4.

Detailed description of test facilities was submitted to the Commission and accepted dated Sep. 03, 2010 (Registration Number: 90661)

1.8 Frequency Range of Radiated Measurements

An unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a Radiated Emission limit is specified, up to the frequency shown in the following table

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 to 108	1 000
108 to 500	2 000
500 to 1 000	5 000
Above 1 000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

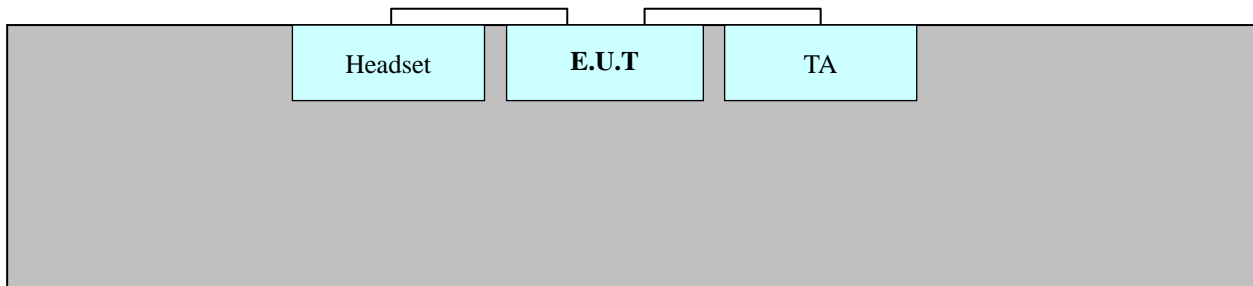
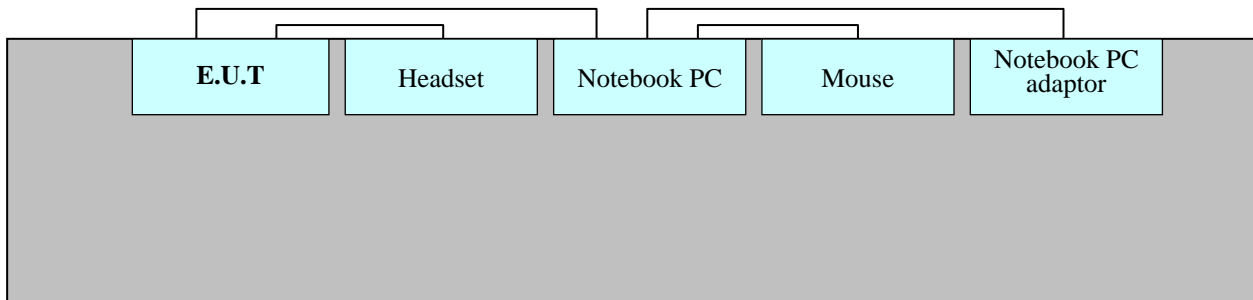
2. SYSTEM TEST CONFIGURATION

2.1 Configuration of Test System

Power Line Conducted test : E.U.T was connected to LISN via Notebook PC adaptor.
Preliminary Power Line Conducted Emission tests were performed by using the procedure in ANSI C63.4/2003 7.2.3 to determine the worst operating conditions.

Radiated Emission test : Preliminary Radiated Emission tests were performed by using the procedure in ANSI C63.4/2003 8.3.1.1 to determine the worst operating condition. Final Radiated Emission tests were performed at 10 m semi-anechoic chamber.

[Configuration of Tested System]



Non-Conductive Table

Power Line: 110 VAC

3. PRELIMINARY TEST

3.1 Conducted Emission Test

During preliminary tests, the following operating mode was investigated:

Operation Mode	The Worse Operating Condition		
	SD Card No.	#1	#2
Idle			
Camera			○
MP3		○	
Data communication		○	○

3.2 Radiated Emission Test

During preliminary tests, the following operating mode was investigated:

Operation Mode	The Worse Operating Condition		
	SD Card No.	#1	#2
Idle			
Camera		○	○
MP3			
Data communication		○	○

4. CONDUCTED AND RADIATED EMISSION TEST SUMMARY

4.1 Conducted Emission Test

The following table shows the highest levels of conducted emissions on both polarization of hot and neutral line.

- SD Card #1

Limit Apply to	: FCC PART 15 Subpart B Class B
Detector	: Quasi-Peak, Average (6 dB Bandwidth: 9 kHz)
Operation Mode	: Data Communication / MP3 mode
Temperature	: 24.0 °C
Humidity Level	: 49.6 %
Test Date	: September 19, 2011

- SD Card #2

Limit Apply to	: FCC PART 15 Subpart B Class B
Detector	: Quasi-Peak, Average (6 dB Bandwidth: 9 kHz)
Operation Mode	: Data Communication / Camera mode
Temperature	: 24.0 °C
Humidity Level	: 49.6 %
Test Date	: September 19, 2011

※ **NOTE:** Refer to page 10 to page 25 for details.

- SD Card #1

a. Data Communication Mode

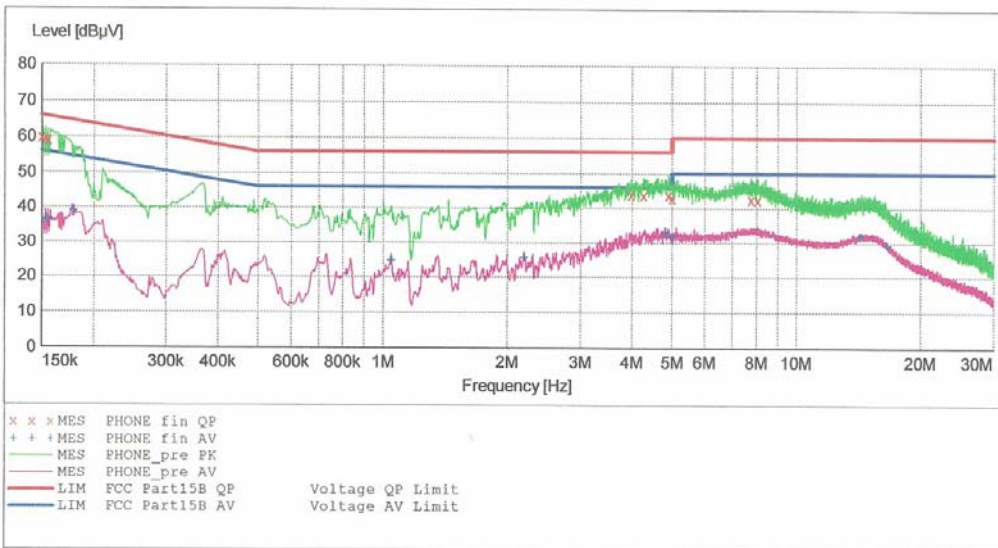
HCT

EMC

EUT: JukeB
 Manufacturer: TCT MOBILE LIMITED
 Operating Condition: DATA MODE
 Test Site: SHIELD ROOM
 Operator: JH-CHOI
 Test Specification: FCC PART15 CLASS B
 Comment: H (#1)

SCAN TABLE: "FCC PART 15 B(H)"

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	1.0 kHz	MaxPeak	10.0 ms	9 kHz	None
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin_QP"

9/19/2011 9:15PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.150010	59.80	10.1	66	6.2	---	---
0.153010	59.40	10.1	66	6.4	---	---
0.155010	59.10	10.1	66	6.6	---	---
3.988000	43.80	10.4	56	12.2	---	---
4.272000	43.60	10.4	56	12.4	---	---
4.912000	43.60	10.5	56	12.4	---	---
5.000000	42.80	10.5	56	13.2	---	---
7.776000	42.60	10.8	60	17.4	---	---
8.076000	42.30	10.8	60	17.7	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

9/19/2011 9:15PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.153010	36.40	10.1	56	19.4	---	---
0.155010	36.40	10.1	56	19.3	---	---
0.179010	38.90	10.1	55	15.6	---	---
1.048000	24.60	10.1	46	21.4	---	---
2.196000	25.40	10.2	46	20.6	---	---
4.812000	32.80	10.5	46	13.2	---	---
5.000000	31.70	10.5	46	14.3	---	---
14.232000	31.70	11.3	50	18.3	---	---
16.604000	29.10	11.6	50	20.9	---	---

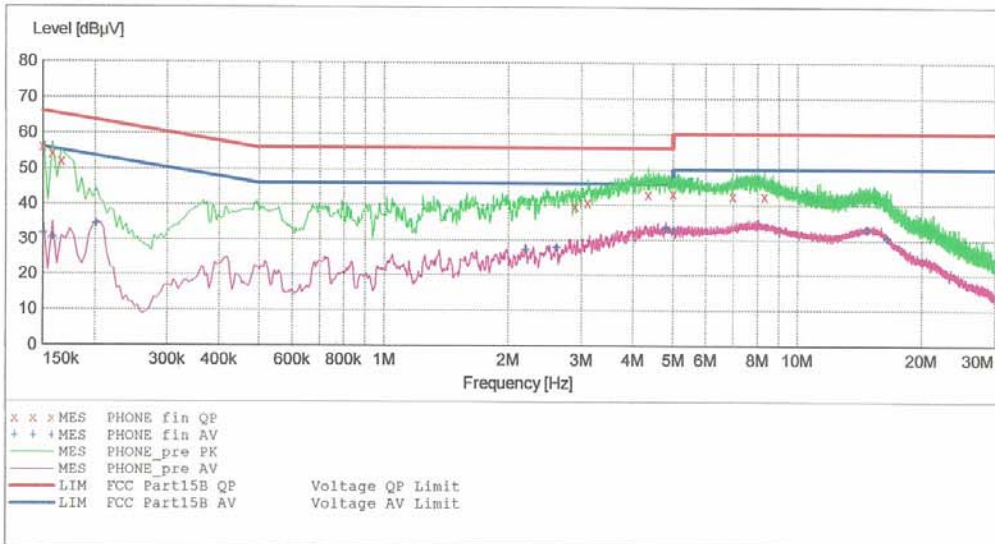
HCT

EMC

EUT: JukeB
 Manufacturer: TCT MOBILE LIMITED
 Operating Condition: DATA MODE
 Test Site: SHIELD ROOM
 Operator: JH-CHOI
 Test Specification: FCC PART15 CLASS B
 Comment: N (#1)

SCAN TABLE: "FCC PART 15 B(N)"

Start Frequency	Stop Frequency	Step Width	FCC PART 15 Detector	CLASS B 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"

9/19/2011 9:19PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.150010	56.10	10.3	66	9.9	---	---
0.158010	54.20	10.3	66	11.3	---	---
0.166010	52.20	10.3	65	12.9	---	---
2.900000	39.50	10.5	56	16.5	---	---
3.112000	40.60	10.5	56	15.4	---	---
4.364000	43.00	10.7	56	13.0	---	---
5.000000	43.20	10.7	56	12.8	---	---
6.980000	42.50	10.9	60	17.5	---	---
8.316000	42.60	11.0	60	17.4	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

9/19/2011 9:19PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.150010	31.60	10.3	56	24.4	---	---
0.158010	30.30	10.3	56	25.2	---	---
0.202010	34.30	10.3	54	19.2	---	---
2.204000	27.10	10.4	46	18.9	---	---
2.616000	27.70	10.5	46	18.3	---	---
4.808000	33.20	10.7	46	12.8	---	---
5.000000	32.60	10.7	46	13.4	---	---
14.768000	33.00	11.4	50	17.0	---	---
16.540000	30.50	11.5	50	19.5	---	---

b. MP3 Mode

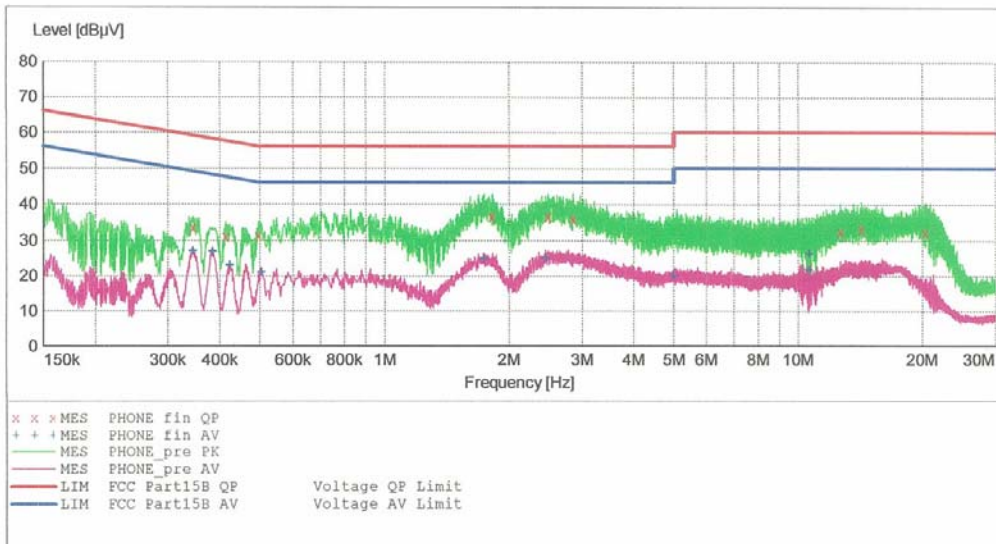
HCT

EMC

EUT: JukeB
 Manufacturer: TCT MOBILE LIMITED
 Operating Condition: MP3 MODE
 Test Site: SHIELD ROOM
 Operator: JH-CHOI
 Test Specification: FCC PART15 CLASS B
 Comment: H (#1)

SCAN TABLE: "FCC PART 15 B(H)"

Short Description:			FCC PART 15 CLASS B				Transducer
Start	Stop	Step	Detector	Meas. Time	IF Bandw.		
150.0 kHz	500.0 kHz	1.0 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"

9/19/2011 10:14PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.345010	33.60	10.1	59	25.5	---	---
0.413010	31.20	10.1	58	26.4	---	---
0.496010	31.40	10.1	56	24.6	---	---
1.820000	36.70	10.2	56	19.3	---	---
2.484000	36.60	10.2	56	19.4	---	---
2.856000	36.00	10.3	56	20.0	---	---
12.680000	32.40	11.2	60	27.6	---	---
14.216000	33.30	11.3	60	26.7	---	---
20.300000	32.30	11.9	60	27.7	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

9/19/2011 10:14PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.345010	27.10	10.1	49	22.0	---	---
0.384010	26.90	10.1	48	21.3	---	---
0.423010	23.20	10.1	47	24.2	---	---
0.504000	21.10	10.1	46	24.9	---	---
1.740000	24.90	10.2	46	21.1	---	---
2.448000	25.00	10.2	46	21.0	---	---
5.000000	20.00	10.5	46	26.0	---	---
10.624000	21.80	11.0	50	28.2	---	---
10.660000	26.30	11.0	50	23.7	---	---

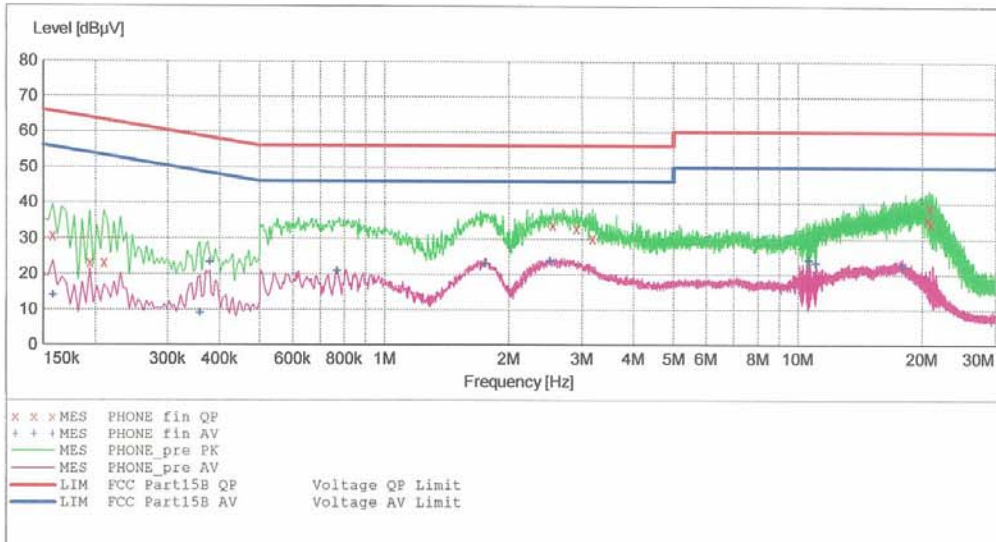
HCT

EMC

EUT: JukeB
 Manufacturer: TCT MOBILE LIMITED
 Operating Condition: MP3 MODE
 Test Site: SHIELD ROOM
 Operator: JH-CHOI
 Test Specification: FCC PART15 CLASS B
 Comment: N (#1)

SCAN TABLE: "FCC PART 15 B(N)"

Short Description:			FCC PART 15 CLASS B				Transducer
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.		
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"

9/19/2011 10:18PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.158010	30.70	10.3	66	34.9	---	---
0.194010	23.30	10.3	64	40.5	---	---
0.210010	23.30	10.3	63	39.9	---	---
2.552000	33.80	10.5	56	22.2	---	---
2.916000	32.90	10.5	56	23.1	---	---
3.188000	30.10	10.5	56	25.9	---	---
20.628000	35.40	11.7	60	24.6	---	---
20.812000	38.80	11.7	60	21.2	---	---
21.020000	34.40	11.7	60	25.6	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

9/19/2011 10:18PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.158010	14.00	10.3	56	41.5	---	---
0.358010	9.10	10.3	49	39.6	---	---
0.378010	23.40	10.3	48	24.9	---	---
0.768000	21.00	10.4	46	25.0	---	---
1.752000	23.00	10.4	46	23.0	---	---
2.520000	23.80	10.5	46	22.2	---	---
10.660000	24.00	11.1	50	26.0	---	---
11.040000	23.20	11.1	50	26.8	---	---
17.888000	22.30	11.6	50	27.7	---	---

- SD Card #2

a. Data Communication Mode

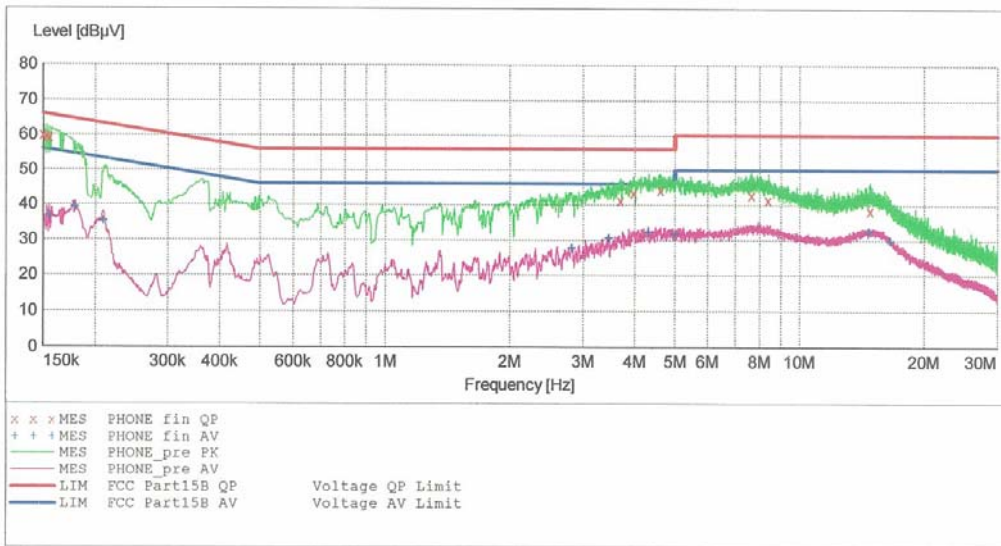
HCT

EMC

EUT: JukeB
 Manufacturer: TCT MOBILE LIMITED
 Operating Condition: DATA MODE
 Test Site: SHIELD ROOM
 Operator: JH-CHOI
 Test Specification: FCC PART15 CLASS B
 Comment: H (#2)

SCAN TABLE: "FCC PART 15 B(H)"

Start Frequency	Stop Frequency	Step Width	FCC PART 15 CLASS B Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	1.0 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"

9/19/2011 9:31PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.150010	60.00	10.1	66	6.0	---	---
0.153010	59.60	10.1	66	6.3	---	---
0.155010	59.20	10.1	66	6.5	---	---
3.704000	41.20	10.4	56	14.8	---	---
3.976000	43.40	10.4	56	12.6	---	---
4.624000	44.20	10.5	56	11.8	---	---
7.668000	42.80	10.8	60	17.2	---	---
8.416000	41.30	10.8	60	18.7	---	---
14.828000	38.40	11.4	60	21.6	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

9/19/2011 9:31PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.155010	36.60	10.1	56	19.1	---	---
0.179010	39.10	10.1	55	15.4	---	---
0.209010	35.10	10.1	53	18.1	---	---
2.828000	27.60	10.3	46	18.4	---	---
3.464000	30.30	10.3	46	15.7	---	---
4.312000	32.10	10.4	46	13.9	---	---
5.000000	31.60	10.5	46	14.4	---	---
14.724000	32.30	11.4	50	17.7	---	---
16.572000	29.70	11.6	50	20.3	---	---

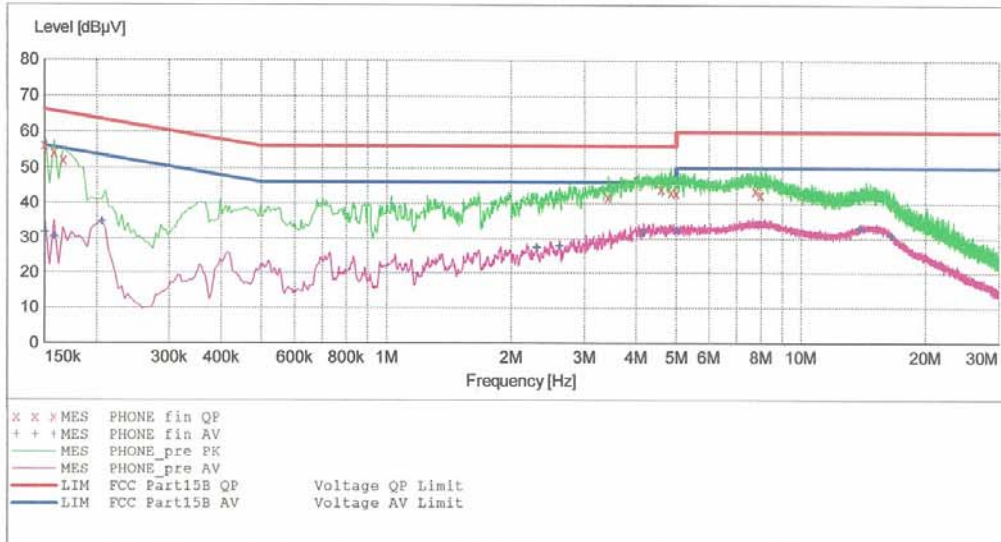
HCT

EMC

EUT: JukeB
 Manufacturer: TCT MOBILE LIMITED
 Operating Condition: DATA MODE
 Test Site: SHIELD ROOM
 Operator: JH-CHOI
 Test Specification: FCC PART15 CLASS B
 Comment: N (#2)

SCAN TABLE: "FCC PART 15 B(N)"

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
500.0 kHz	5.0 MHz	4.0 kHz	Average	10.0 ms	9 kHz	None
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin QP"

9/19/2011 9:27PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.150010	56.10	10.3	66	9.9	---	---
0.158010	54.10	10.3	66	11.5	---	---
0.166010	52.20	10.3	65	13.0	---	---
3.428000	41.70	10.6	56	14.3	---	---
4.612000	44.10	10.7	56	11.9	---	---
4.868000	43.30	10.7	56	12.7	---	---
5.000000	43.00	10.7	56	13.0	---	---
7.772000	43.70	11.0	60	16.3	---	---
8.012000	42.50	11.0	60	17.5	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

9/19/2011 9:27PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.150010	31.60	10.3	56	24.4	---	---
0.158010	30.30	10.3	56	25.2	---	---
0.206010	34.60	10.3	53	18.7	---	---
2.304000	27.40	10.4	46	18.6	---	---
2.620000	27.80	10.5	46	18.2	---	---
4.180000	31.70	10.6	46	14.3	---	---
5.000000	32.40	10.7	46	13.6	---	---
13.960000	32.80	11.3	50	17.2	---	---
16.596000	30.70	11.5	50	19.3	---	---

b. Camera Mode

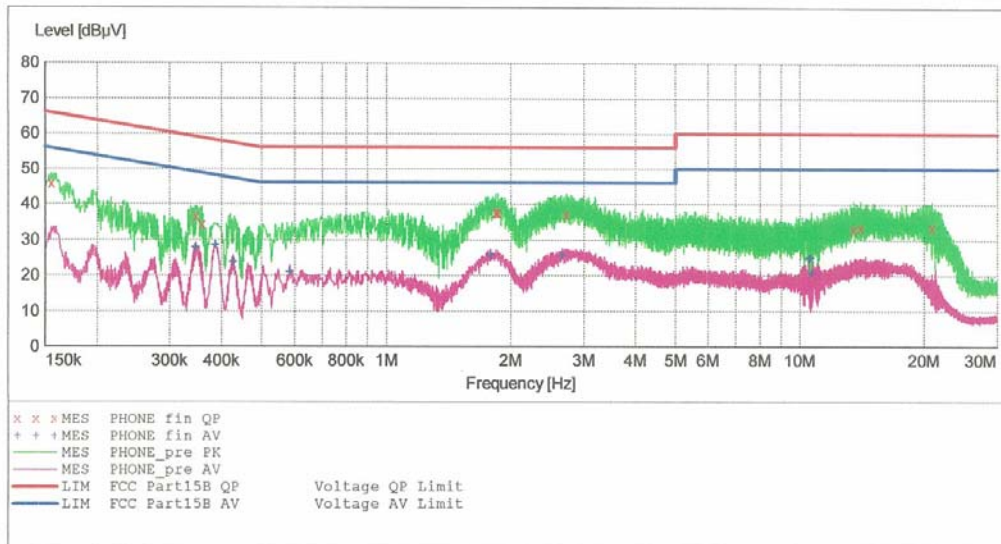
HCT

EMC

EUT: JukeB
 Manufacturer: TCT MOBILE LIMITED
 Operating Condition: CAMERA MODE
 Test Site: SHIELD ROOM
 Operator: JH-CHOI
 Test Specification: FCC PART15 CLASS B
 Comment: H (#2)

SCAN TABLE: "FCC PART 15 B(H)"

Start	Stop	Step	FCC PART 15	CLASS B	Meas.	IF	Transducer
Frequency	Frequency	Width	Detector		Time	Bandw.	
150.0 kHz	500.0 kHz	1.0 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"

9/19/2011 9:38PM

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.155010	45.80	10.1	66	19.9	---	---
0.347010	36.70	10.1	59	22.3	---	---
0.358010	34.30	10.1	59	24.5	---	---
1.840000	37.70	10.2	56	18.3	---	---
1.864000	37.50	10.2	56	18.5	---	---
2.728000	37.10	10.3	56	18.9	---	---
13.476000	33.10	11.3	60	26.9	---	---
14.056000	33.50	11.3	60	26.5	---	---
20.888000	33.50	11.9	60	26.5	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

9/19/2011 9:38PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.347010	27.70	10.1	49	21.4	---	---
0.387010	28.60	10.1	48	19.5	---	---
0.426010	23.70	10.1	47	23.6	---	---
0.584000	21.00	10.1	46	25.0	---	---
1.788000	25.60	10.2	46	20.4	---	---
2.668000	25.50	10.2	46	20.5	---	---
10.556000	24.70	11.0	50	25.3	---	---
10.636000	24.90	11.0	50	25.1	---	---
10.680000	20.90	11.0	50	29.1	---	---

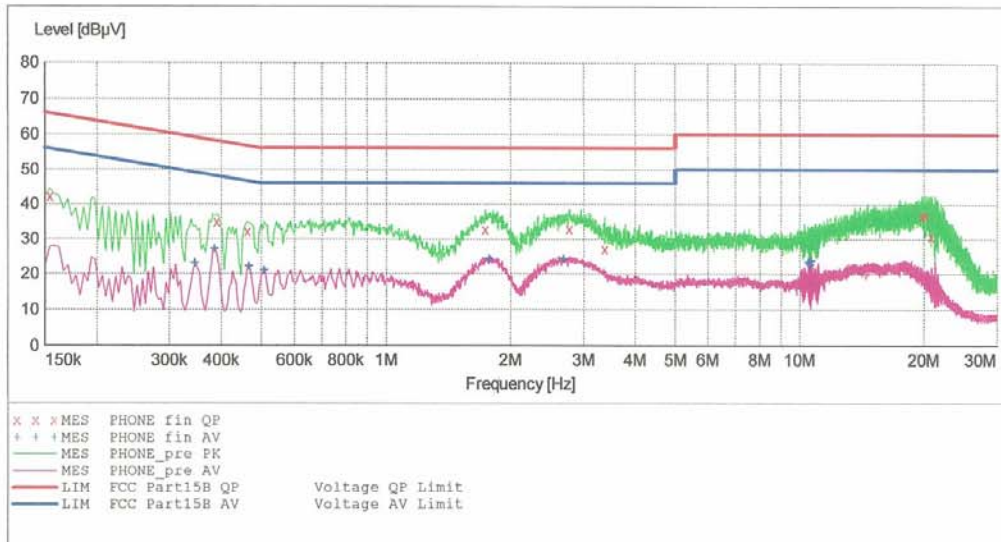
HCT

EMC

EUT: JukeB
 Manufacturer: TCT MOBILE LIMITED
 Operating Condition: CAMERA MODE
 Test Site: SHIELD ROOM
 Operator: JH-CHOI
 Test Specification: FCC PART15 CLASS B
 Comment: N (#2)

SCAN TABLE: "FCC PART 15 B(N)"

Short Description:				FCC PART 15 CLASS B			
Start	Stop	Step	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"

9/19/2011 9:43PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.154010	42.10	10.3	66	23.6	---	---
0.390010	34.90	10.3	58	23.2	---	---
0.462010	32.10	10.3	57	24.6	---	---
1.740000	32.70	10.4	56	23.3	---	---
2.776000	33.00	10.5	56	23.0	---	---
3.376000	27.10	10.5	56	28.9	---	---
19.740000	36.70	11.7	60	23.3	---	---
20.136000	36.90	11.7	60	23.1	---	---
20.840000	30.70	11.7	60	29.3	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

8/26/2011 9:43PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.346010	23.00	10.3	49	26.1	---	---
0.386010	27.10	10.3	48	21.1	---	---
0.466010	22.10	10.3	47	24.5	---	---
0.508000	21.00	10.3	46	25.0	---	---
1.776000	24.20	10.4	46	21.8	---	---
2.688000	24.10	10.5	46	21.9	---	---
10.548000	23.30	11.1	50	26.7	---	---
10.628000	22.60	11.1	50	27.4	---	---
10.668000	23.70	11.1	50	26.3	---	---

4.2 Radiated Emission Test

The following table shows the highest levels of Radiated Emissions on both polarization of horizontal and vertical.

- SD Card #1

Limit Apply to : FCC PART 15 Subpart B Class B

-For measurement above 1 GHz

Setting : Peak mode: Detector- Peak(RBW: 1 MHz / VBW: 1 MHz)
 : Average mode: Detector- Peak (RBW: 1 MHz / VBW: 10 Hz)

-For measurement below 1 GHz

Detector : Quasi-Peak (6 dB Bandwidth: 120 kHz)

Operation Mode : Data Communication mode

Temperature : 22.9 °C

Humidity Level : 50.5 %

Test Date : September 19, 2011

Frequency (MHz)	Reading (dBuV)	Polarity (H/V)	Antenna Height (m)	Correction Factor		Limit (dBuV/m)	Level (dBuV/m)	Margin (dB)
				Antenna (dB/m)	Cable (dB)			
75.00	14.37	H	1.00	9.27	1.46	40.0	25.10	14.90
160.00	7.69	V	1.30	13.13	2.18	43.5	23.00	20.50
240.00	24.18	H	1.00	11.32	2.70	46.0	38.20	7.80
480.00	8.96	H	1.00	17.54	3.90	46.0	30.40	15.60
720.00	5.17	H	1.00	21.48	4.85	46.0	31.50	14.50
798.10	6.31	H	1.00	22.66	5.13	46.0	34.10	11.90

-For measurement below 1 GHz

Detector : Quasi-Peak (6 dB Bandwidth: 120 kHz)
 Operation Mode : Camera mode
 Temperature : 22.9 °C
 Humidity Level : 50.5 %
 Test Date : September 19, 2011

Frequency (MHz)	Reading (dBUV)	Polarity (H/V)	Antenna Height (m)	Correction Factor		Limit (dBUV/m)	Level (dBUV/m)	Margin (dB)
				Antenna (dB/m)	Cable (dB)			
41.10	11.98	V	1.00	11.76	1.07	40.0	24.80	15.20
75.10	14.89	V	1.00	9.25	1.46	40.0	25.60	14.40
86.30	11.08	V	1.50	8.14	1.58	40.0	20.80	19.20
200.00	16.34	H	1.50	9.40	2.46	43.5	28.20	15.30
336.00	11.15	H	1.50	14.22	3.23	46.0	28.60	17.40
624.00	5.51	V	1.00	20.38	4.51	46.0	30.40	15.60

※ NOTE:

1. Measurement above 1 GHz was performed from 1 GHz to the 5th harmonic of highest fundamental frequency. The highest fundamental frequency is CDMA 1 900 center frequency.
2. For measurement above 1 GHz, Emission noise was not founded over the ambient noise.

- SD Card #2

Limit Apply to : FCC PART 15 Subpart B Class B

-For measurement above 1 GHz

Setting : Peak mode: Detector- Peak(RBW: 1 MHz / VBW: 1 MHz)
 : Average mode: Detector- Peak (RBW: 1 MHz / VBW: 10 Hz)

-For measurement below 1 GHz

Detector : Quasi-Peak (6 dB Bandwidth: 120 kHz)
 Operation Mode : Data Communication mode
 Temperature : 22.9 °C
 Humidity Level : 50.5 %
 Test Date : September 19, 2011

Frequency (MHz)	Reading (dBuV)	Polarity (H/V)	Antenna Height (m)	Correction Factor		Limit (dBuV/m)	Level (dBuV/m)	Margin (dB)
				Antenna (dB/m)	Cable (dB)			
74.80	17.25	H	1.50	9.30	1.46	40.0	28.00	12.00
122.50	15.63	H	2.25	11.46	1.91	43.5	29.00	14.50
161.80	7.93	H	2.75	12.98	2.19	43.5	23.10	20.40
240.30	24.06	H	1.50	11.33	2.70	46.0	38.10	7.90
720.00	6.77	H	1.50	21.48	4.85	46.0	33.10	12.90
798.00	4.91	H	1.50	22.66	5.13	46.0	32.70	13.30

-For measurement below 1 GHz

Detector : Quasi-Peak (6 dB Bandwidth: 120 kHz)
 Operation Mode : Camera mode
 Temperature : 22.9 °C
 Humidity Level : 50.5 %
 Test Date : September 19, 2011

Frequency (MHz)	Reading (dBUV)	Polarity (H/V)	Antenna Height (m)	Correction Factor		Limit (dBUV/m)	Level (dBUV/m)	Margin (dB)
				Antenna (dB/m)	Cable (dB)			
41.50	9.84	V	1.00	11.79	1.07	40.0	22.70	17.30
92.50	14.19	V	1.00	8.27	1.64	43.5	24.10	19.40
120.00	15.81	V	1.00	11.30	1.89	43.5	29.00	14.50
240.00	12.98	H	1.00	11.32	2.70	46.0	27.00	19.00
336.00	9.55	H	1.00	14.22	3.23	46.0	27.00	19.00
624.00	8.71	V	1.00	20.38	4.51	46.0	33.60	12.40

※ NOTE:

1. Measurement above 1 GHz was performed from 1 GHz to the 5th harmonic of highest fundamental frequency. The highest fundamental frequency is CDMA 1 900 center frequency.
2. For measurement above 1 GHz, Emission noise was not founded over the ambient noise.

5. FIELD STRENGTH CALCULATION

The field strength is calculated by adding the antenna factor and cable factor.
The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF$$

Where FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Attenuation Factor

Assume a receiver reading of 21.5 dB μ V is obtained. The antenna factor of 7.4 dB/m and a cable factor of 1.1 dB are added. The 30 dB μ V/m value is mathematically converted to its corresponding level in μ V/m.

$$FS = 21.5 + 7.4 + 1.1 = 30 \text{ dB}\mu\text{V/m}$$

[Radiated Emission Limits]

Frequency of Emission (MHz)	Field Strength	
	μ V/m	dB μ V/m
30 to 88	100	40.0
88 to 216	150	43.5
216 to 960	200	46.0
Above 960	500	54.0

6. TEST EQUIPMENT

<u>Type</u>	<u>Manufacturer</u>	<u>Model Number</u>	<u>Serial Number</u>	<u>Next CAL Date</u>
<u>Conducted Emission</u>				
<input type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESI40	831564103	2012.05.26
<input checked="" type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESCI	100584	2012.05.03
<input checked="" type="checkbox"/> LISN	Rohde & Schwarz	ESH3-Z5	100282	2012.02.01
<input type="checkbox"/> LISN	Rohde & Schwarz	ENV216	100073	2012.04.01
<input checked="" type="checkbox"/> Attenuator	Rohde & Schwarz	ESH3-Z2	357.8810.352	2012.08.01
<u>Radiated Emission</u>				
<input checked="" type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESU26	100241	2012.08.02
<input type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESI40	831564103	2012.05.26
<input checked="" type="checkbox"/> Trilog Antenna	Schwarzbeck	VULB9160	3125	2013.05.03
<input type="checkbox"/> Trilog Antenna	Schwarzbeck	VULB9160	3301	2012.09.13
<input type="checkbox"/> Antenna master	HD GmbH	MA240	240/520	-
<input checked="" type="checkbox"/> Antenna master	INNCO Systems	MA4000-EP	MA4000/283	-
<input type="checkbox"/> Turn Table	HD GmbH	2090	9702/1224	-
<input checked="" type="checkbox"/> Turn Table	INNCO Systems	DT3000-3T	DT3000/69	-
<input type="checkbox"/> Antenna master controller	HD GmbH	HD100	100/637BJ:00	
<input type="checkbox"/> Communication Antenna	Schwarzbeck	USLP9142	9142-248	-
<input checked="" type="checkbox"/> Horn Antenna	Schwarzbeck	BBHA 9120D	-	2012.04.13
<input type="checkbox"/> Power Amplifier	Rohde & Schwarz	SCU-18	10094	2011.09.29
<input checked="" type="checkbox"/> Power Amplifier	Rohde & Schwarz	CBL01188035-01	16074B	2012.04.28

7. CONCLUSION

The data collected shows that the **PCS CDMA Phone with Bluetooth/WLAN, Model: JukeB, FCC ID: RAD209** complies with §15.107 and §15.109 of the FCC rules.