FCC Test Report

APPLICANT	:	TCT Mobile Limited
EQUIPMENT	:	Quad-Band GSM mobile phone
BRAND NAME	:	ALCATEL
MODEL NAME	:	one touch 316S; one touch 316G
FCC ID	:	RAD304
STANDARD	:	FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	:	Certification

This is a variant report which is only valid together with the original test report. The product was received on Jul. 18, 2012 and completely tested on Sep. 05, 2012. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by:

Jones Tsai

Jones Tsai / Manager

Testing Laboratory 1190

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC261201-01	Rev. 01	This is a variant report for one touch 316S; one touch 316G. The product equality declaration can be referred to Appendix C. All the test cases were performed in original report which can be referred to Sporton Report Number FC261201 for FCC ID: RAD302 as Appendix D. Based on original report, only Radiated Emission was verified.	Sep. 07, 2012

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.109	7.2.3.2	Radiated Emission	< 15.109 limits or < RSS-Gen table 1 limits (Section 6)	PASS	Under limit 3.59 dB at 191.99 MHz for Quasi-Peak

1. General Description

1.1. Applicant

TCT Mobile Limited
5F, E building, No. 232, Liang Jing Road, ZhangJiang High-Tech Park, Pudong Area, Shanghai, 201203, P.R.China

1.2. Manufacturer

TCT Mobile Limited
5F, E building, No. 232, Liang Jing Road, ZhangJiang High-Tech Park, Pudong Area, Shanghai, 201203, P.R.China

1.3. Feature of Equipment Under Test

Product Feature	
Equipment	Quad-Band GSM mobile phone
Brand Name	ALCATEL
Model Name	one touch 316S; one touch 316G
FCC ID	RAD304
Sample 1	Double SIM cards
Sample 2	Single SIM card
EUT supports Radios application	GSM
HW Version	PIO
SW Version	V1.1
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are two different types of EUT. They are single SIM card mobile (Model Name: one touch 316S) and dual SIM card mobile (Model Name: one touch 316G). The others are the same including circuit design, PCB board, structure and all components. It is special to declare.

Product Specification subjective to this standard	
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz
Rx Frequency Range	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz FM: 88 MHz ~ 108 MHz
Antenna Type	Fixed Internal Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK FM

1.4. Test Site

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.	
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958	
Test Site No.	**Sporton Site No.**	**FCC/IC Registration No.**
	03CH01-KS	149928/4086E-1

1.5. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR FCC Part 15 Subpart B
- ANSI C63.4-2003
- IC RSS-Gen Issue 3

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

1.6. Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	Signal Generator	R&S	SMR40	N/A	N/A	Unshielded, 1.8 m
3.	PC	DELL	MT380	FCC DoC	N/A	Unshielded, 1.8 m
4.	Monitor	DELL	E1910Hc	FCC DoC	Shielded, 1.2m	Unshielded, 1.8 m
5.	Printer	HP	Laser Jet 1018	FCC DoC	Shielded, 1.8m	Unshielded, 1.8 m
6.	(USB) Mouse	DELL	MO56UC	FCC DoC	Shielded, 1.8m	N/A
7.	(USB) Mouse	DELL	L100	FCC DoC	Shielded, 1.8m with Core	N/A
8.	iPod	Apple	A1199	FCC DoC	Shielded, 1.2 m	N/A

2. Test Configuration of Equipment Under Test

2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: radiation (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The following tables are showing the test modes as the worst cases and recorded in this report.

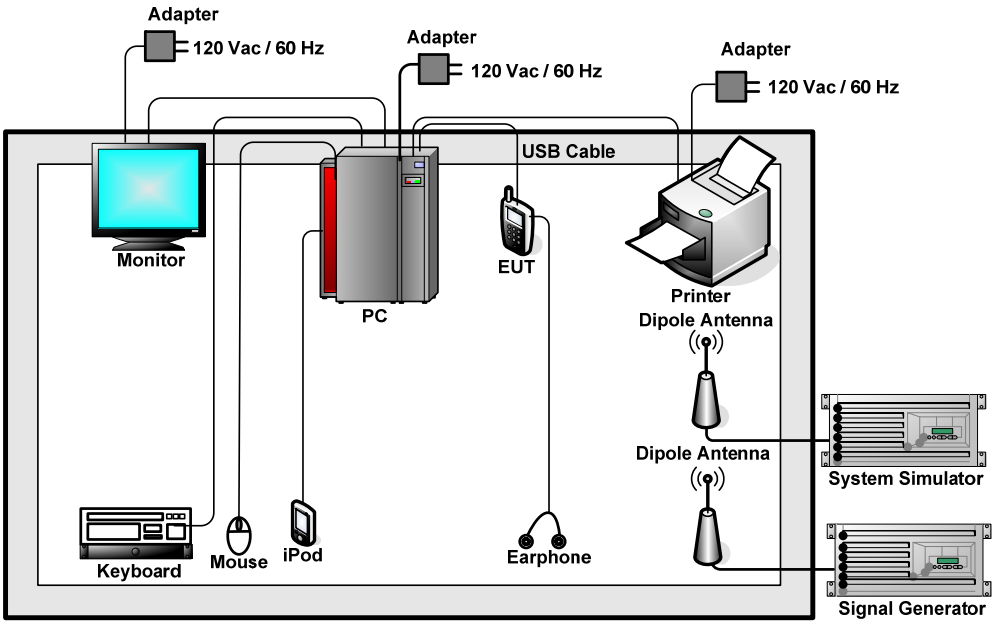
Item	EUT Configuration	Test Condition	
		EMI RE<1G	EMI RE≥1G
1.	Data application transferred mode (EUT with PC)	☒	☒

Abbreviations:

- EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz
- EMI RE < 1G: EUT radiated emissions < 1GHz

Test Items	EUT Configure Mode	Function Type
Radiated Emissions	1	Mode 1: GSM850 Idle + Earphone + FM Rx + SIM1 + USB Cable 2 (Data Link with PC)

2.2. Connection Diagram of Test System



2.3. Test Software

The EUT was in GSM idle mode during the testing. The EUT was synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization.

At the same time, execute the program, "Winthrax" under WIN7 installed in PC for files transfer with EUT via USB cable, and turn on FM function to make the EUT receive continuous signals from s.

3. Test Result

3.1. Test of Radiated Emission Measurement

3.1.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.1.2. Measuring Instruments

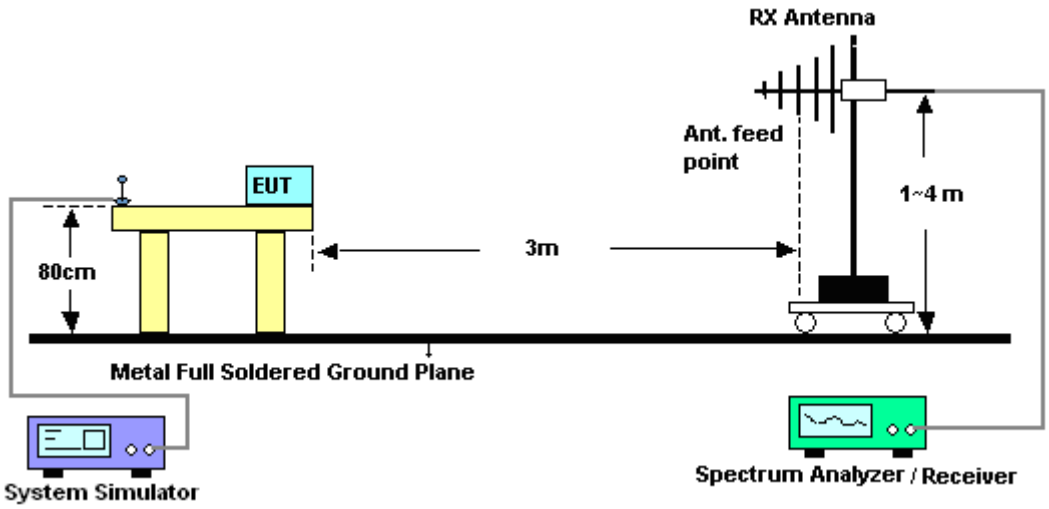
See list of measuring instruments of this test report.

3.1.3. Test Procedures

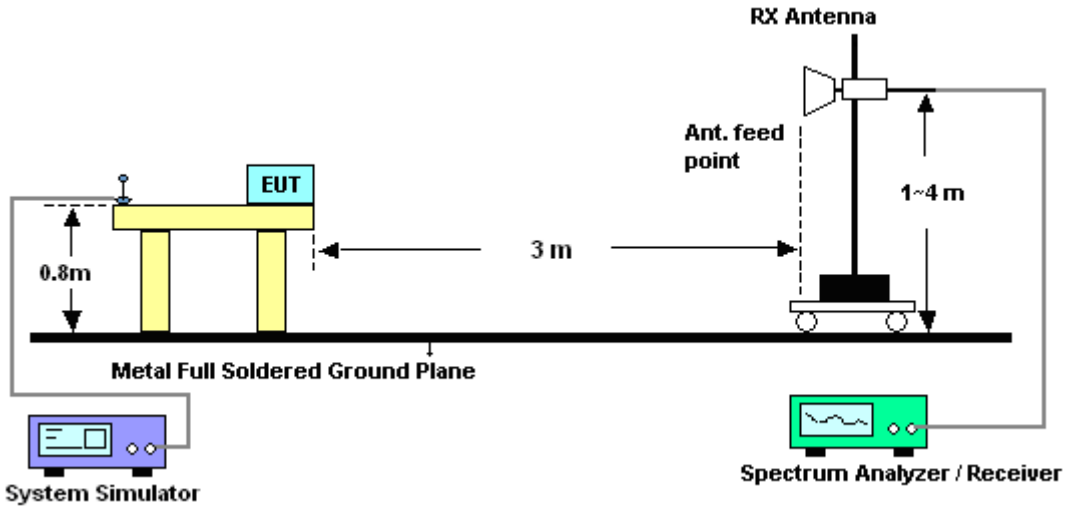
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
8. Emission level (dBuV/m) = 20 log Emission level (uV/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor= Level

3.1.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

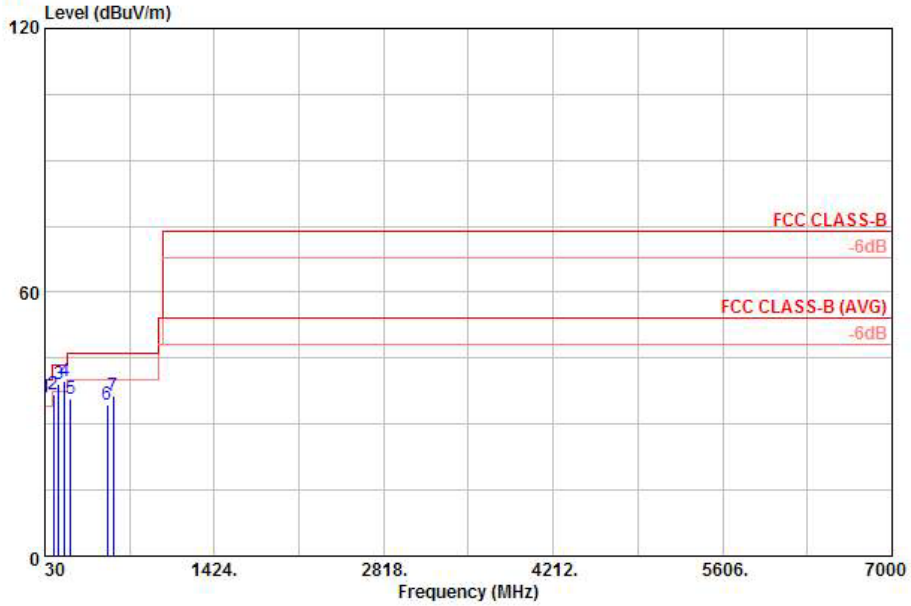


For radiated emissions above 1GHz



3.1.5. Test Result of Radiated Emission

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Jack Li	Relative Humidity :	42~43%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	GSM850 Idle + Earphone + FM Rx + SIM1 + USB Cable 2 (Data Link with PC)		

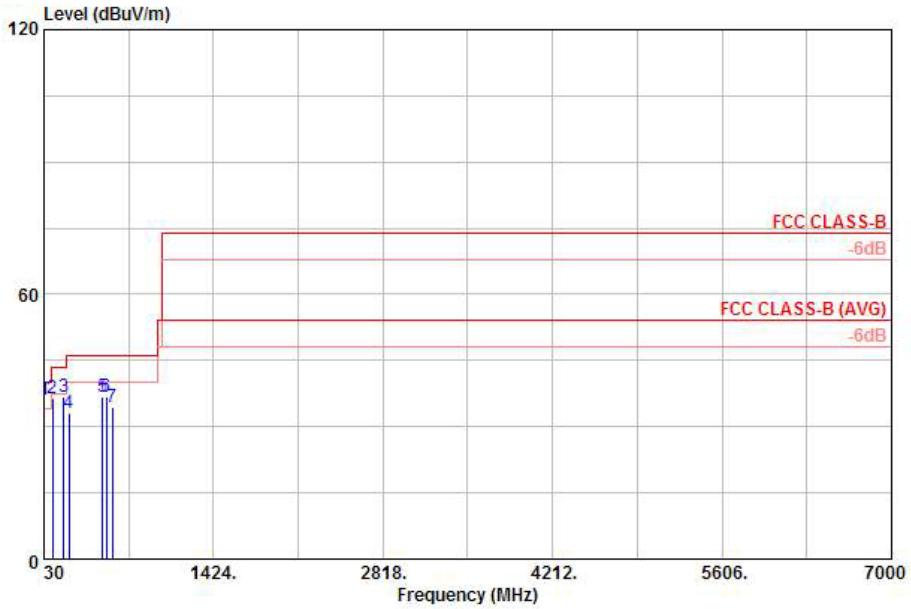


Site : 03CH01-KS
Condition: FCC CLASS-B 3m LF_ANT_100803 HORIZONTAL

Mode : mode 1

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	!	35.82	36.15	-3.85	40.00	51.35	14.65	0.23	30.08	---	---	Peak
2		98.00	36.84	-6.66	43.50	56.25	10.15	0.41	29.97	---	---	Peak
3	!	143.49	39.26	-4.24	43.50	58.20	10.55	0.50	29.99	---	---	Peak
4	!	191.99	39.91	-3.59	43.50	60.70	8.59	0.58	29.96	100	22	QP
5		239.52	35.82	-10.18	46.00	53.47	11.51	0.66	29.82	---	---	Peak
6		546.04	34.54	-11.46	46.00	44.79	18.43	1.00	29.68	---	---	Peak
7		594.54	36.42	-9.58	46.00	46.40	18.59	1.06	29.63	---	---	Peak

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Jack Li	Relative Humidity :	42~43%
Test Distance :	3m	Polarization :	Vertical
Function Type :	GSM850 Idle + Earphone + FM Rx + SIM1 + USB Cable 2 (Data Link with PC)		



Site : 03CH01-KS
Condition: FCC CLASS-B 3m LF_ANT_100803 VERTICAL

Mode : mode 1

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	!	35.82	36.01	-3.99	40.00	51.21	14.65	0.23	30.08	100	286	QP
2		98.00	36.38	-7.12	43.50	55.79	10.15	0.41	29.97	---	---	Peak
3		191.99	36.68	-6.82	43.50	57.47	8.59	0.58	29.96	---	---	Peak
4		233.70	33.03	-12.97	46.00	51.07	11.17	0.65	29.86	---	---	Peak
5		510.15	36.68	-9.32	46.00	48.03	17.40	0.97	29.72	---	---	Peak
6		546.04	36.93	-9.07	46.00	47.18	18.43	1.00	29.68	---	---	Peak
7		594.54	34.43	-11.57	46.00	44.41	18.59	1.06	29.63	---	---	Peak

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 09, 2011	Sep. 05, 2012	Nov. 08, 2012	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 30, 2011	Sep. 05, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 08, 2011	Sep. 05, 2012	Dec. 07, 2012	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 06, 2012	Sep. 05, 2012	Jan. 05, 2013	Radiation (03CH01-KS)
Amplifier	Wireless	FPA-6592G	060007	30MHz~2GHz	Dec. 30, 2011	Sep. 05, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Dec. 30, 2011	Sep. 05, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Signal Generator	R&S	SMR40	100455	10GHz~40GHz	Dec. 30, 2011	Sep. 05, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
System Simulator	R&S	CMU200	837587/066	2G Full-Band	Dec. 30, 2011	Sep. 05, 2012	Dec. 29, 2012	Radiation (03CH01-KS)

5. Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.54**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.72**

Appendix A. Photographs of EUT

Please refer to Sporton report number EP261201-01 as below.

Appendix C Product Equality Declaration

Appendix D Original Report

Please refer to Sporton report number FC261201 as below.