



RADIO TEST REPORT

Report No.: STS2212073W04

Issued for

Winmate Inc.

9F, No.111-6, Shing-De Rd., San-Chung District, New Taipei
City 241, Taiwan

Product Name:	Rugged Tablet PC
Brand:	Winmate
Model Number:	S101TG
Series Model(s):	S101XXXXXXXXXXXX, ("X"= A~Z, a~z, 0~9, "-" Blank or Slash for marketing purpose only, no impact safety related constructions or critical components)
FCC ID:	PX9S10101
Test Standard:	FCC Part 22H and 24E, 27

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TEST RESULT CERTIFICATION


Applicant's Name: Winmate Inc.
 Address.....: 9F, No.111-6, Shing-De Rd., San-Chung District, New Taipei City
 241, Taiwan
 Manufacturer's Name: Winmate Inc.
 Address.....: 9F, No.111-6, Shing-De Rd., San-Chung District, New Taipei City
 241, Taiwan

Product Description


Product Name: Rugged Tablet PC
 Brand: Winmate
 Model Number.....: S101TG
 Series Model(s): S101XXXXXXXXXXXX , ("X"= A~Z, a~z, 0~9,"-" Blank or Slash
 for marketing purpose only, no impact safety related constructions
 or critical components)
 Test Standards: FCC Part 22H and 24E, 27
 Test Procedure: KDB 971168 D01 v03r01,ANSI C63.26(2015)

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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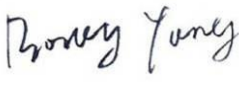
Date of Test..... :
 Date of receipt of test item: 19 Dec. 2022
 Date (s) of performance of tests : 19 Dec. 2022 ~ 08 Feb. 2023
 Date of Issue: 08 Feb. 2023
 Test Result: Pass

Testing Engineer : 

 (Chris Chen)

Technical Manager : 

 (Sean she)

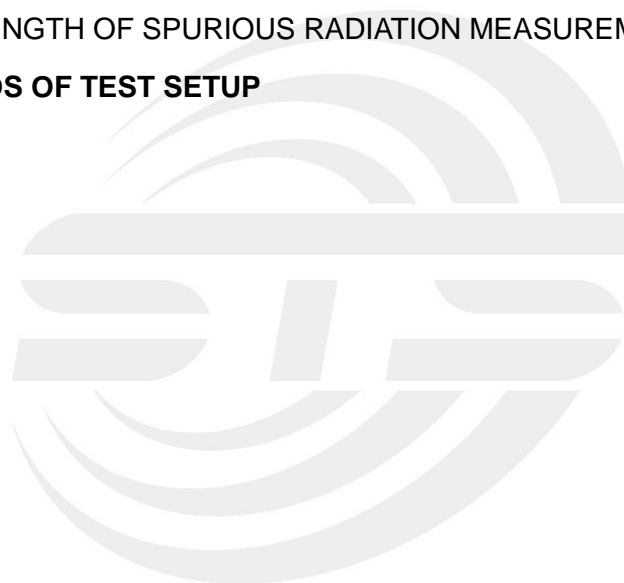
Authorized Signatory : 

 (Bovey Yang)





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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	08 Feb. 2023	STS2212073W04	ALL	Initial Issue





SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

The radiated emission testing was performed according to the procedures of KDB 971168 D01 v03r01 and ANSI C63.26(2015)

FCC Rules	Test Description	Test Limit	Test Result	Reference
2.1046	Conducted Output Power	Reporting Only	PASS	
2.1046 22.913 24.232 27.50	Effective Radiated Power/Equivalent Isotropic Radiated Power	< 7 Watts max. ERP(Part 22) < 2 Watts max. EIRP(Part 24) <1 Watts max. EIRP(Part 27)	PASS	
2.1051 22.917 24.238 27.53	Spurious Emission at Antenna Terminals	< 43+10log ₁₀ (P[Watts])	PASS	

Note: Please refer to the module report for conduction test data. The report FCC ID is N7NEM75L.



1 INTRODUCTION

1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95% level of confidence. The measurement data shown herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

No.	Item	Uncertainty
1	RF output power, conducted	$\pm 1.197\text{dB}$
2	Unwanted Emissions, conducted	$\pm 2.896\text{dB}$
3	All emissions, radiated 9K-30MHz	$\pm 3.84\text{dB}$
4	All emissions, radiated 30M-1GHz	$\pm 3.94\text{dB}$
5	All emissions, radiated 1G-6GHz	$\pm 4.59\text{dB}$
6	All emissions, radiated >6G	$\pm 5.22\text{dB}$
7	Conducted Emission (9KHz-150KHz)	$\pm 2.14\text{dB}$
8	Conducted Emission (150KHz-30MHz)	$\pm 2.54\text{dB}$



2 PRODUCT INFORMATION

Product Name	Rugged Tablet PC
Brand	Winmate
Model Number	S101TG
Series Model(s)	S101XXXXXXXXXXXX, ("X"= A~Z, a~z, 0~9,"-" Blank or Slash for marketing purpose only, no impact safety related constructions or critical components)
Model Difference	Only for Marketing purpose
Tx Frequency:	Band V: 824 MHz ~ 849 MHz Band II: 1850 MHz ~ 1910 MHz Band IV: 1710 MHz ~ 1755 MHz
Rx Frequency:	Band V: 869 MHz ~ 894 MHz Band II: 1930 MHz ~ 1990 MHz Band IV: 2110 MHz ~ 2155 MHz
Max RF Output Power:	WCDMA Band V:22.86dBm, WCDMA Band II:22.58dBm WCDMA Band IV:22.83dBm
Modulation Characteristics:	WCDMA: QPSK; HSDPA:QPSK/16QAM; HSUPA:BPSK
SIM Card:	SIM 1 and SIM 2 is a chipset unit and tested as single chipset, SIM 1 is used to tested.
Antenna:	PIFA
Antenna gain:	WCDMA 850: 0.97dBi, WCDMA1900: 0.78dBi, WCDMA1700: 2.30dBi
Battery parameter:	Rated Voltage:11.4V Charge Limit Voltage:8.4V Capacity:3500mAh
Adapter:	Input: AC 100-240V~1.7A 50-60Hz Output: DC 19V 3.42A
Extreme Vol. Limits:	DC 8.4V~ DC 13.05V(Normal: DC 11.4V)
Extreme Temp. Tolerance:	-30°C to +50°C
Hardware version number:	S101TG-120
Software version number:	005
** Note: The High Voltage 13.05V and Low Voltage 8.4V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage, the antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.	



3 TEST CONFIGURATION OF EQUIPMENT UNDER TEST

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 and ANSI C63.26 2015 Power Meas. License Digital Systems with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated as following frequency range:

1. 30 MHz to 10th harmonic for WCDMA Band V.
2. 30 MHz to 10th harmonic for WCDMA Band IV.
3. 30 MHz to 10th harmonic for WCDMA Band II.

All modes and data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

BAND	TEST MODES	
	RADIATED TCS	CONDUCTED TCS
WCDMA BAND V	RMC 12.2KBPS LINK	RMC 12.2KBPS LINK
WCDMA BAND II	RMC 12.2KBPS LINK	RMC 12.2KBPS LINK
WCDMA BAND IV	RMC 12.2KBPS LINK	RMC 12.2KBPS LINK



4 MEASUREMENT INSTRUMENTS

RF Radiation Test Equipment					
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Temperature & Humidity	SW-108	SuWei	N/A	2022.03.02	2023.03.01
Wireless Communications Test Set	R&S	CMW 500	117239	2022.03.01	2023.02.28
Pre-Amplifier(0.1M-3GHz)	EM	EM330	060665	2022.07.04	2023.07.03
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2022.09.29	2023.09.28
Positioning Controller	MF	MF-7802	MF-780208587	N/A	N/A
Signal Analyzer	R&S	FSV 40-N	101823	2022.09.29	2023.09.28
Switch Control Box	N/A	N/A	N/A	N/A	N/A
Filter Box	BALUN Technology	SU319E	BL-SZ1530051	N/A	N/A
Video Controller	SKET	FCS C-3	N/A	N/A	N/A
Bilog Antenna	TESEQ	CBL6111D	34678	2022.09.30	2024.09.29
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2021.10.11	2023.10.10
Antenna Mast	MF	MFA-440H	N/A	N/A	N/A
Turn Table	MF	N/A	N/A	N/A	N/A
AC Power Source	APC	KDF-11010G	F214050035	N/A	N/A
DC Power Supply	Zhaoxin	RXN 605D	20R605D11010081	N/A	N/A
Test SW	EMC Test Software	15.2.0.339			
	EZ-EMC	Ver.STSLAB-03A1 RE			
RF Connected Test Equipment					
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Temperature & Humidity	SW-108	SuWei	N/A	2022.03.02	2023.03.01
Wireless Communications Test Set	R&S	CMW 500	131428	2022.03.01	2023.02.28
Signal Analyzer	Agilent	N9020A	MY52440124	2022.03.01	2023.02.28
RF Automatic Test System	Maiwei	MW200-SFCB	N/A	N/A	N/A
Temperature & Humidity Test Chamber	Safety test	AG80L	171200018	2022.03.01	2023.02.28
Programmable Power Supply	Agilent	E3642A	MY40002025	2022.09.29	2023.09.28
Test SW	MTS 8200	2.0.0.0			

Equipment with a calibration date of “NCR” shown in this list was not used to make direct calibrated measurements.

5 TEST ITEMS

5.1 CONDUCTED OUTPUT POWER&TRANSMITTER RADIATED POWER

TEST OVERVIEW

CONDUCTED OUTPUT POWER:

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

TRANSMITTER RADIATED POWER (EIRP/ERP)

Determining ERP and/or EIRP from conducted RF output power measurements according to ANSI C63.26 2015 Section 5.2.5.5.

In many cases, RF output power limits are specified in terms of the ERP or the EIRP. Typically, ERP is specified when the operating frequency is less than or equal to 1 GHz and EIRP is specified when the operating frequency is greater than 1 GHz. Both are defined as the product of the power supplied to the antenna and its gain (relative to a dipole antenna in the case of ERP, and relative to an isotropic antenna in the case of EIRP); however, when working in decibels (i.e., logarithmic scale), the ERP and EIRP represent the sum of the transmit antenna gain (in dBd or dBi, respectively) and the conducted RF output power (expressed in dB relative to watts or milliwatts). The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation (1) as follows:

$$(1) \text{ ERP or EIRP} = P_{\text{Meas}} + GT$$
$$\text{ERP} = \text{EIRP} - 2.15$$

where

ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas} , e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

GT gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

For devices utilizing multiple antennas, see 6.4 for guidance with respect to determining the effective array transmit antenna gain term to be used in the above equation.

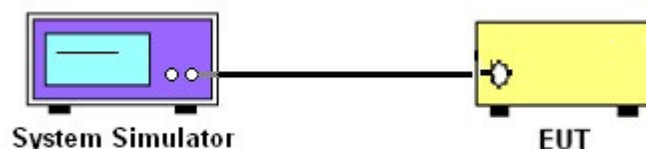
The following equations demonstrate the mathematical relationship between ERP and EIRP:

- ERP = EIRP – 2.15, where ERP and EIRP are expressed in consistent units.
- EIRP = ERP + 2.15, where ERP and EIRP are expressed in consistent units.

TEST PROCEDURES

1. The transmitter output port was connected to the system simulator.
2. Set eut at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

TEST SETUP





TEST RESULT

Radiated Power (EIRP) for WCDMA Band 2							
Mode	Frequency (MHz)	Conduction AVG Power(dBm)	Ant Gain (dBi)	EIRP (dBm)	EIRP Limit(W)	EIRP Limit (dBm)	Conclusion
WCDMA	1852.40	22.58	0.78	23.36	2.00	33.01	PASS
	1880.00	22.43	0.78	23.21	2.00	33.01	PASS
	1907.60	22.56	0.78	23.34	2.00	33.01	PASS
HSDPA Subtest 1	1852.40	21.60	0.78	22.38	2.00	33.01	PASS
	1880.00	21.43	0.78	22.21	2.00	33.01	PASS
	1907.60	21.59	0.78	22.37	2.00	33.01	PASS
HSDPA Subtest 2	1852.40	21.58	0.78	22.36	2.00	33.01	PASS
	1880.00	21.42	0.78	22.20	2.00	33.01	PASS
	1907.60	21.59	0.78	22.37	2.00	33.01	PASS
HSDPA Subtest 3	1852.40	21.07	0.78	21.85	2.00	33.01	PASS
	1880.00	20.96	0.78	21.74	2.00	33.01	PASS
	1907.60	21.09	0.78	21.87	2.00	33.01	PASS
HSDPA Subtest 4	1852.40	21.05	0.78	21.83	2.00	33.01	PASS
	1880.00	20.94	0.78	21.72	2.00	33.01	PASS
	1907.60	21.08	0.78	21.86	2.00	33.01	PASS
HSUPA Subtest 1	1852.40	21.54	0.78	22.32	2.00	33.01	PASS
	1880.00	21.38	0.78	22.16	2.00	33.01	PASS
	1907.60	21.53	0.78	22.31	2.00	33.01	PASS
HSUPA Subtest 2	1852.40	19.56	0.78	20.34	2.00	33.01	PASS
	1880.00	19.41	0.78	20.19	2.00	33.01	PASS
	1907.60	19.52	0.78	20.30	2.00	33.01	PASS
HSUPA Subtest 3	1852.40	20.57	0.78	21.35	2.00	33.01	PASS
	1880.00	20.41	0.78	21.19	2.00	33.01	PASS
	1907.60	20.51	0.78	21.29	2.00	33.01	PASS
HSUPA Subtest 4	1852.40	19.53	0.78	20.31	2.00	33.01	PASS
	1880.00	19.38	0.78	20.16	2.00	33.01	PASS
	1907.60	19.51	0.78	20.29	2.00	33.01	PASS
HSUPA Subtest 5	1852.40	21.54	0.78	22.32	2.00	33.01	PASS
	1880.00	21.39	0.78	22.17	2.00	33.01	PASS
	1907.60	21.52	0.78	22.30	2.00	33.01	PASS



Radiated Power (EIRP) for WCDMA Band 4							
Mode	Frequency (MHz)	Conduction AVG Power(dBm)	Ant Gain (dBi)	EIRP (dBm)	EIRP Limit(W)	EIRP Limit (dBm)	Conclusion
WCDMA	1712.40	22.76	2.30	25.06	1.00	30.00	PASS
	1732.60	22.83	2.30	25.13	1.00	30.00	PASS
	1752.60	22.77	2.30	25.07	1.00	30.00	PASS
HSDPA Subtest 1	1712.40	21.77	2.30	24.07	1.00	30.00	PASS
	1732.60	21.86	2.30	24.16	1.00	30.00	PASS
	1752.60	21.81	2.30	24.11	1.00	30.00	PASS
HSDPA Subtest 2	1712.40	21.75	2.30	24.05	1.00	30.00	PASS
	1732.60	21.85	2.30	24.15	1.00	30.00	PASS
	1752.60	21.79	2.30	24.09	1.00	30.00	PASS
HSDPA Subtest 3	1712.40	21.26	2.30	23.56	1.00	30.00	PASS
	1732.60	21.34	2.30	23.64	1.00	30.00	PASS
	1752.60	21.28	2.30	23.58	1.00	30.00	PASS
HSDPA Subtest 4	1712.40	21.24	2.30	23.54	1.00	30.00	PASS
	1732.60	21.34	2.30	23.64	1.00	30.00	PASS
	1752.60	21.27	2.30	23.57	1.00	30.00	PASS
HSUPA Subtest 1	1712.40	21.69	2.30	23.99	1.00	30.00	PASS
	1732.60	21.80	2.30	24.10	1.00	30.00	PASS
	1752.60	21.74	2.30	24.04	1.00	30.00	PASS
HSUPA Subtest 2	1712.40	19.65	2.30	21.95	1.00	30.00	PASS
	1732.60	19.84	2.30	22.14	1.00	30.00	PASS
	1752.60	19.73	2.30	22.03	1.00	30.00	PASS
HSUPA Subtest 3	1712.40	20.65	2.30	22.95	1.00	30.00	PASS
	1732.60	20.82	2.30	23.12	1.00	30.00	PASS
	1752.60	20.71	2.30	23.01	1.00	30.00	PASS
HSUPA Subtest 4	1712.40	19.64	2.30	21.94	1.00	30.00	PASS
	1732.60	19.83	2.30	22.13	1.00	30.00	PASS
	1752.60	19.71	2.30	22.01	1.00	30.00	PASS
HSUPA Subtest 5	1712.40	21.71	2.30	24.01	1.00	30.00	PASS
	1732.60	21.81	2.30	24.11	1.00	30.00	PASS
	1752.60	21.74	2.30	24.04	1.00	30.00	PASS



Radiated Power (ERP) for WCDMA Band 5							
Mode	Frequency (MHz)	Conduction AVG Power(dBm)	Ant Gain (dBi)	ERP (dBm)	ERP Limit(W)	ERP Limit (dBm)	Conclusion
WCDMA	826.40	22.81	0.97	21.63	7.00	38.45	PASS
	836.40	22.80	0.97	21.62	7.00	38.45	PASS
	846.60	22.86	0.97	21.68	7.00	38.45	PASS
HSDPA Subtest 1	826.40	21.82	0.97	20.64	7.00	38.45	PASS
	836.40	21.83	0.97	20.65	7.00	38.45	PASS
	846.60	21.87	0.97	20.69	7.00	38.45	PASS
HSDPA Subtest 2	826.40	21.81	0.97	20.63	7.00	38.45	PASS
	836.40	21.82	0.97	20.64	7.00	38.45	PASS
	846.60	21.85	0.97	20.67	7.00	38.45	PASS
HSDPA Subtest 3	826.40	21.31	0.97	20.13	7.00	38.45	PASS
	836.40	21.31	0.97	20.13	7.00	38.45	PASS
	846.60	21.34	0.97	20.16	7.00	38.45	PASS
HSDPA Subtest 4	826.40	21.30	0.97	20.12	7.00	38.45	PASS
	836.40	21.32	0.97	20.14	7.00	38.45	PASS
	846.60	21.34	0.97	20.16	7.00	38.45	PASS
HSUPA Subtest 1	826.40	21.77	0.97	20.59	7.00	38.45	PASS
	836.40	21.78	0.97	20.60	7.00	38.45	PASS
	846.60	21.83	0.97	20.65	7.00	38.45	PASS
HSUPA Subtest 2	826.40	19.79	0.97	18.61	7.00	38.45	PASS
	836.40	19.82	0.97	18.64	7.00	38.45	PASS
	846.60	19.84	0.97	18.66	7.00	38.45	PASS
HSUPA Subtest 3	826.40	20.76	0.97	19.58	7.00	38.45	PASS
	836.40	20.79	0.97	19.61	7.00	38.45	PASS
	846.60	20.82	0.97	19.64	7.00	38.45	PASS
HSUPA Subtest 4	826.40	19.77	0.97	18.59	7.00	38.45	PASS
	836.40	19.78	0.97	18.60	7.00	38.45	PASS
	846.60	19.85	0.97	18.67	7.00	38.45	PASS
HSUPA Subtest 5	826.40	21.78	0.97	20.60	7.00	38.45	PASS
	836.40	21.75	0.97	20.57	7.00	38.45	PASS
	846.60	21.82	0.97	20.64	7.00	38.45	PASS



5.2 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

TEST OVERVIEW

Radiated spurious emissions measurements are performed using the substitution method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized horn antennas. All measurements are performed as peak measurements while the EUT is operating at maximum power and at the appropriate frequencies.

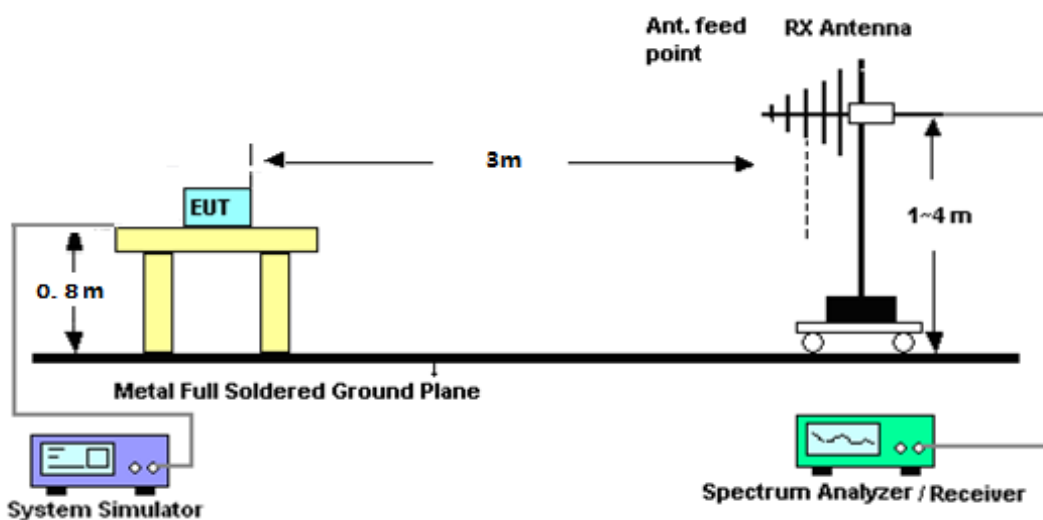
It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

TEST PROCEDURE

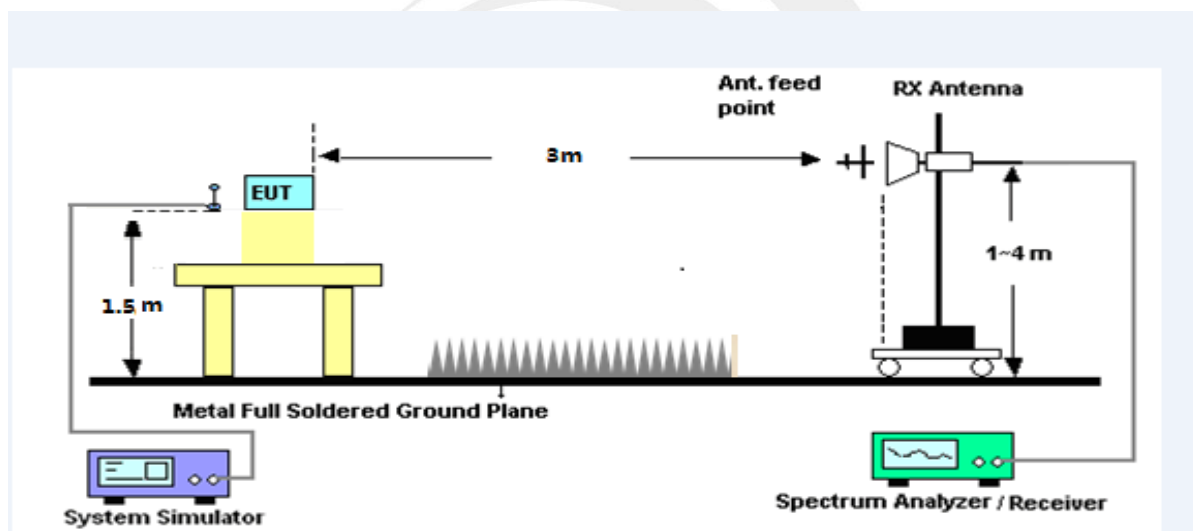
1. The testing FCC KDB 971168 D01 Section 5.8 and ANSI C63.26-2015-Section 5.5.
2. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
3. VBW $\geq 3 \times$ RBW
4. Span = 1.5 times the OBW
5. No. of sweep points $> 2 \times$ span/RBW
6. Detector = Peak
7. Trace mode = max hold
8. The trace was allowed to stabilize
9. Effective Isotropic Spurious Radiation was measured by substitution method according to TIA/EIA-603-D. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna.
 $P_{Mea} = S.G \text{ Level} + \text{Ant-Cable loss}$; $\text{Margin} = P_{Mea} - \text{Limit}$.

TEST SETUP

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz



**TEST RESULT**

Note: (1) Spurious emissions which are attenuated by more than 20dB below the permissible value for frequency below 1000MHz.

(2) Above 3.5GHz amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value

(3) Test is divided into three directions, X/Y/Z. X pattern for the worst.

WCDMA Band 2: (30-20000)MHz							
The Worst Test Results for Lowest Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3704.21	-34.03	12.60	12.93	-34.36	-13.00	-21.36	H
5557.55	-34.23	13.10	17.11	-38.24	-13.00	-25.24	H
7409.86	-33.57	11.50	22.20	-44.27	-13.00	-31.27	H
3704.10	-35.00	12.60	12.93	-35.33	-13.00	-22.33	V
5557.45	-34.42	13.10	17.11	-38.43	-13.00	-25.43	V
7409.52	-32.74	11.50	22.20	-43.44	-13.00	-30.44	V
The Worst Test Results for Middle Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3760.18	-34.65	12.60	12.93	-34.98	-13.00	-21.98	H
5640.06	-34.26	13.10	17.11	-38.27	-13.00	-25.27	H
7520.05	-32.16	11.50	22.20	-42.86	-13.00	-29.86	H
3760.23	-35.77	12.60	12.93	-36.10	-13.00	-23.10	V
5639.99	-35.12	13.10	17.11	-39.13	-13.00	-26.13	V
7520.28	-33.18	11.50	22.20	-43.88	-13.00	-30.88	V
The Worst Test Results for Highest Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3815.53	-33.55	12.60	12.93	-33.88	-13.00	-20.88	H
5722.14	-34.22	13.10	17.11	-38.23	-13.00	-25.23	H
7630.06	-33.09	11.50	22.20	-43.79	-13.00	-30.79	H
3815.61	-34.70	12.60	12.93	-35.03	-13.00	-22.03	V
5722.23	-34.14	13.10	17.11	-38.15	-13.00	-25.15	V
7630.08	-33.04	11.50	22.20	-43.74	-13.00	-30.74	V



HSUPA Band 2: (30-20000)MHz							
The Worst Test Results for Lowest Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3704.46	-34.12	12.60	12.93	-34.45	-13.00	-21.45	H
5557.58	-34.48	13.10	17.11	-38.49	-13.00	-25.49	H
7409.72	-32.94	11.50	22.20	-43.64	-13.00	-30.64	H
3704.22	-35.26	12.60	12.93	-35.59	-13.00	-22.59	V
5557.57	-34.32	13.10	17.11	-38.33	-13.00	-25.33	V
7409.54	-31.77	11.50	22.20	-42.47	-13.00	-29.47	V
The Worst Test Results for Middle Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3759.86	-34.16	12.60	12.93	-34.49	-13.00	-21.49	H
5640.05	-34.82	13.10	17.11	-38.83	-13.00	-25.83	H
7519.87	-32.16	11.50	22.20	-42.86	-13.00	-29.86	H
3760.00	-34.98	12.60	12.93	-35.31	-13.00	-22.31	V
5640.19	-33.83	13.10	17.11	-37.84	-13.00	-24.84	V
7520.06	-32.44	11.50	22.20	-43.14	-13.00	-30.14	V
The Worst Test Results for Highest Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3815.33	-33.82	12.60	12.93	-34.15	-13.00	-21.15	H
5722.25	-35.45	13.10	17.11	-39.46	-13.00	-26.46	H
7630.07	-32.39	11.50	22.20	-43.09	-13.00	-30.09	H
3815.54	-35.55	12.60	12.93	-35.88	-13.00	-22.88	V
5722.01	-34.19	13.10	17.11	-38.20	-13.00	-25.20	V
7630.06	-32.55	11.50	22.20	-43.25	-13.00	-30.25	V



HSDPA Band 2: (30-20000)MHz							
The Worst Test Results for Lowest Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3704.06	-34.26	12.60	12.93	-34.59	-13.00	-21.59	H
5557.36	-34.30	13.10	17.11	-38.31	-13.00	-25.31	H
7409.94	-33.50	11.50	22.20	-44.20	-13.00	-31.20	H
3704.46	-34.66	12.60	12.93	-34.99	-13.00	-21.99	V
5557.54	-35.20	13.10	17.11	-39.21	-13.00	-26.21	V
7409.69	-31.93	11.50	22.20	-42.63	-13.00	-29.63	V
The Worst Test Results for Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3760.03	-34.34	12.60	12.93	-34.67	-13.00	-21.67	H
5640.26	-34.28	13.10	17.11	-38.29	-13.00	-25.29	H
7520.12	-32.57	11.50	22.20	-43.27	-13.00	-30.27	H
3759.93	-34.73	12.60	12.93	-35.06	-13.00	-22.06	V
5639.92	-34.46	13.10	17.11	-38.47	-13.00	-25.47	V
7519.96	-33.05	11.50	22.20	-43.75	-13.00	-30.75	V
The Worst Test Results for Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3815.39	-34.69	12.60	12.93	-35.02	-13.00	-22.02	H
5722.07	-35.36	13.10	17.11	-39.37	-13.00	-26.37	H
7630.07	-33.11	11.50	22.20	-43.81	-13.00	-30.81	H
3815.29	-35.99	12.60	12.93	-36.32	-13.00	-23.32	V
5722.02	-34.46	13.10	17.11	-38.47	-13.00	-25.47	V
7630.17	-32.74	11.50	22.20	-43.44	-13.00	-30.44	V



WCDMA Band 4: (30-18000)MHz							
The Worst Test Results for Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3424.71	-34.62	12.90	12.05	-33.77	-13.00	-20.77	H
5137.77	-35.39	12.80	16.27	-38.86	-13.00	-25.86	H
6850.01	-33.30	12.30	20.13	-41.13	-13.00	-28.13	H
3425.14	-35.33	12.90	12.05	-34.48	-13.00	-21.48	V
5137.66	-34.98	12.80	16.27	-38.45	-13.00	-25.45	V
6850.09	-32.66	12.30	20.13	-40.49	-13.00	-27.49	V
The Worst Test Results for Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3479.53	-33.58	12.90	12.05	-32.73	-13.00	-19.73	H
5219.85	-35.19	12.80	16.27	-38.66	-13.00	-25.66	H
6959.69	-32.37	12.30	20.13	-40.20	-13.00	-27.20	H
3480.00	-35.42	12.90	12.05	-34.57	-13.00	-21.57	V
5219.85	-34.04	12.80	16.27	-37.51	-13.00	-24.51	V
6959.85	-32.07	12.30	20.13	-39.90	-13.00	-26.90	V
The Worst Test Results for Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3504.30	-34.68	12.90	12.05	-33.83	-13.00	-20.83	H
5257.05	-35.36	12.80	16.27	-38.83	-13.00	-25.83	H
7009.45	-33.52	12.30	20.13	-41.35	-13.00	-28.35	H
3504.34	-35.08	12.90	12.05	-34.23	-13.00	-21.23	V
5256.97	-34.66	12.80	16.27	-38.13	-13.00	-25.13	V
7009.34	-32.36	12.30	20.13	-40.19	-13.00	-27.19	V



HSUPA Band 4: (30-18000)MHz							
The Worst Test Results for Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3424.91	-34.21	12.90	12.05	-33.36	-13.00	-20.36	H
5137.51	-35.42	12.80	16.27	-38.89	-13.00	-25.89	H
6850.14	-32.61	12.30	20.13	-40.44	-13.00	-27.44	H
3425.13	-35.03	12.90	12.05	-34.18	-13.00	-21.18	V
5137.69	-34.83	12.80	16.27	-38.30	-13.00	-25.30	V
6849.95	-32.70	12.30	20.13	-40.53	-13.00	-27.53	V
The Worst Test Results for Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3479.83	-33.55	12.90	12.05	-32.70	-13.00	-19.70	H
5219.72	-34.02	12.80	16.27	-37.49	-13.00	-24.49	H
6959.98	-32.26	12.30	20.13	-40.09	-13.00	-27.09	H
3479.74	-34.62	12.90	12.05	-33.77	-13.00	-20.77	V
5219.63	-35.16	12.80	16.27	-38.63	-13.00	-25.63	V
6959.54	-31.82	12.30	20.13	-39.65	-13.00	-26.65	V
The Worst Test Results for Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3504.42	-34.33	12.90	12.05	-33.48	-13.00	-20.48	H
5257.09	-34.51	12.80	16.27	-37.98	-13.00	-24.98	H
7009.21	-32.67	12.30	20.13	-40.50	-13.00	-27.50	H
3504.31	-34.66	12.90	12.05	-33.81	-13.00	-20.81	V
5257.12	-35.20	12.80	16.27	-38.67	-13.00	-25.67	V
7009.57	-32.66	12.30	20.13	-40.49	-13.00	-27.49	V



HSDPA Band 4: (30-18000)MHz							
The Worst Test Results for Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3425.19	-34.05	12.90	12.05	-33.20	-13.00	-20.20	H
5137.51	-35.20	12.80	16.27	-38.67	-13.00	-25.67	H
6849.93	-32.71	12.30	20.13	-40.54	-13.00	-27.54	H
3424.84	-34.96	12.90	12.05	-34.11	-13.00	-21.11	V
5137.69	-34.22	12.80	16.27	-37.69	-13.00	-24.69	V
6850.16	-32.21	12.30	20.13	-40.04	-13.00	-27.04	V
The Worst Test Results for Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3479.70	-33.85	12.90	12.05	-33.00	-13.00	-20.00	H
5219.52	-35.01	12.80	16.27	-38.48	-13.00	-25.48	H
6959.54	-32.84	12.30	20.13	-40.67	-13.00	-27.67	H
3479.80	-35.01	12.90	12.05	-34.16	-13.00	-21.16	V
5220.00	-33.80	12.80	16.27	-37.27	-13.00	-24.27	V
6959.90	-32.97	12.30	20.13	-40.80	-13.00	-27.80	V
The Worst Test Results for Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3504.49	-34.42	12.90	12.05	-33.57	-13.00	-20.57	H
5256.91	-34.65	12.80	16.27	-38.12	-13.00	-25.12	H
7009.52	-32.97	12.30	20.13	-40.80	-13.00	-27.80	H
3504.52	-35.54	12.90	12.05	-34.69	-13.00	-21.69	V
5256.76	-34.97	12.80	16.27	-38.44	-13.00	-25.44	V
7009.24	-32.68	12.30	20.13	-40.51	-13.00	-27.51	V



WCDMA Band 5: (30-9000)MHz							
The worst testresults channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1652.18	-41.45	9.40	4.75	-36.80	-13.00	-23.80	H
2479.55	-40.56	10.60	8.39	-38.35	-13.00	-25.35	H
3305.45	-32.14	12.00	11.79	-31.93	-13.00	-18.93	H
1652.50	-44.38	9.40	4.75	-39.73	-13.00	-26.73	V
2479.57	-45.43	10.60	8.39	-43.22	-13.00	-30.22	V
3305.72	-42.97	12.00	11.79	-42.76	-13.00	-29.76	V
The Worst Test Results Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1673.19	-41.20	9.40	4.75	-36.55	-13.00	-23.55	H
2509.80	-39.52	10.60	8.39	-37.31	-13.00	-24.31	H
3346.23	-31.43	12.00	11.79	-31.22	-13.00	-18.22	H
1672.85	-43.44	9.40	4.75	-38.79	-13.00	-25.79	V
2509.51	-44.67	10.60	8.39	-42.46	-13.00	-29.46	V
3346.43	-43.30	12.00	11.79	-43.09	-13.00	-30.09	V
The Worst Test Results Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1693.55	-40.77	9.40	4.75	-36.12	-13.00	-23.12	H
2539.26	-39.35	10.60	8.39	-37.14	-13.00	-24.14	H
3386.09	-31.39	12.00	11.79	-31.18	-13.00	-18.18	H
1693.42	-44.15	9.40	4.75	-39.50	-13.00	-26.50	V
2539.42	-44.56	10.60	8.39	-42.35	-13.00	-29.35	V
3385.88	-42.63	12.00	11.79	-42.42	-13.00	-29.42	V



HSUPA Band 5: (30-9000)MHz							
The most testresults channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1652.40	-40.22	9.40	4.75	-35.57	-13.00	-22.57	H
2479.67	-39.84	10.60	8.39	-37.63	-13.00	-24.63	H
3305.88	-31.59	12.00	11.79	-31.38	-13.00	-18.38	H
1652.18	-44.44	9.40	4.75	-39.79	-13.00	-26.79	V
2479.40	-44.26	10.60	8.39	-42.05	-13.00	-29.05	V
3305.69	-43.61	12.00	11.79	-43.40	-13.00	-30.40	V
The Worst Test Results Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1673.04	-40.58	9.40	4.75	-35.93	-13.00	-22.93	H
2509.45	-40.08	10.60	8.39	-37.87	-13.00	-24.87	H
3346.08	-32.16	12.00	11.79	-31.95	-13.00	-18.95	H
1673.25	-44.27	9.40	4.75	-39.62	-13.00	-26.62	V
2509.49	-44.15	10.60	8.39	-41.94	-13.00	-28.94	V
3346.39	-43.56	12.00	11.79	-43.35	-13.00	-30.35	V
The Worst Test Results Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1693.52	-41.36	9.40	4.75	-36.71	-13.00	-23.71	H
2539.39	-39.50	10.60	8.39	-37.29	-13.00	-24.29	H
3385.91	-31.01	12.00	11.79	-30.80	-13.00	-17.80	H
1693.65	-43.19	9.40	4.75	-38.54	-13.00	-25.54	V
2539.56	-44.25	10.60	8.39	-42.04	-13.00	-29.04	V
3386.15	-43.67	12.00	11.79	-43.46	-13.00	-30.46	V



HSDPA Band 5: (30-9000)MHz							
The most testresults channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1652.06	-41.42	9.40	4.75	-36.77	-13.00	-23.77	H
2479.39	-40.43	10.60	8.39	-38.22	-13.00	-25.22	H
3305.65	-31.01	12.00	11.79	-30.80	-13.00	-17.80	H
1652.42	-44.48	9.40	4.75	-39.83	-13.00	-26.83	V
2479.44	-44.70	10.60	8.39	-42.49	-13.00	-29.49	V
3305.88	-43.50	12.00	11.79	-43.29	-13.00	-30.29	V
The Worst Test Results Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1673.12	-41.61	9.40	4.75	-36.96	-13.00	-23.96	H
2509.84	-39.65	10.60	8.39	-37.44	-13.00	-24.44	H
3346.40	-31.01	12.00	11.79	-30.80	-13.00	-17.80	H
1673.26	-43.41	9.40	4.75	-38.76	-13.00	-25.76	V
2509.46	-45.13	10.60	8.39	-42.92	-13.00	-29.92	V
3345.97	-42.84	12.00	11.79	-42.63	-13.00	-29.63	V
The Worst Test Results Channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1693.24	-40.14	9.40	4.75	-35.49	-13.00	-22.49	H
2539.34	-39.25	10.60	8.39	-37.04	-13.00	-24.04	H
3385.95	-30.92	12.00	11.79	-30.71	-13.00	-17.71	H
1693.54	-43.33	9.40	4.75	-38.68	-13.00	-25.68	V
2539.49	-45.30	10.60	8.39	-43.09	-13.00	-30.09	V
3386.19	-43.61	12.00	11.79	-43.40	-13.00	-30.40	V



APPENDIX-PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※※END OF THE REPORT※※※※※

