

Report No: JYTSZB-R12-2100570

# FCC REPORT

Applicant:	TECNO MOBILE LIMITED			
Address of Applicant:	FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35 SHAN MEI STREET FOTAN NT			
Equipment Under Test (E	EUT)			
Product Name:	Mobile Phone			
Model No.:	L6502S			
Trade mark:	TECNO			
FCC ID:	2ADYY-L6502S			
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247			
Date of sample receipt:	15 Apr., 2021			
Date of Test:	16 Apr., to 07 May, 2021			
Date of report issued:	25 May, 2021			
Test Result:	PASS*			

\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



#### Bruce Zhang Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the JYT product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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#### Version 2

Version No.	Date	Description
00	25 May, 2021	Original

Tested by:

Reviewed by:

Mike.DU Test Engineer

Date: 25 May, 2021

Winner Thang

**Project Engineer** 

Date: 25 May, 2021

Project No.: JYTSZE2104060



# 3 Contents

		Page
1	COVER PAGE	1
2	VERSION	
3		
-		
4	TEST SUMMARY	4
5	GENERAL INFORMATION	5
5	5.1 CLIENT INFORMATION	5
5	6.2 GENERAL DESCRIPTION OF E.U.T.	5
5	5.3 TEST ENVIRONMENT AND MODE	6
5	5.4 DESCRIPTION OF SUPPORT UNITS	6
5	5.5 MEASUREMENT UNCERTAINTY	6
5	5.6 LABORATORY FACILITY	6
5	5.7 LABORATORY LOCATION	
5	5.8 TEST INSTRUMENTS LIST	7
6	TEST RESULTS AND MEASUREMENT DATA	8
6	ANTENNA REQUIREMENT	8
6	6.2 CONDUCTED EMISSION	9
6	6.3 CONDUCTED OUTPUT POWER	
6	0.4 OCCUPY BANDWIDTH	
6	0.5 Power Spectral Density	14
6	6.6 BAND EDGE	15
	6.6.1 Conducted Emission Method	15
	6.6.2 Radiated Emission Method	
6	5.7 Spurious Emission	29
	6.7.1 Conducted Emission Method	29
	6.7.2 Radiated Emission Method	
7	TEST SETUP PHOTO	
8	EUT CONSTRUCTIONAL DETAILS	



# 4 Test Summary

Test Items	Section in CFR 47	Test Data	Result
Antenna requirement	15.203 & 15.247 (b)	See Section 6.1	Pass
AC Power Line Conducted Emission	15.207	See Section 6.2	Pass
Duty Cycle	ANSI C63.10-2013	Appendix A – 2.4G Wi-Fi	Pass
Conducted Peak Output Power	15.247 (b)(3)	Appendix A – 2.4G Wi-Fi	Pass
6dB Emission Bandwidth 99% Occupied Bandwidth	15.247 (a)(2)	Appendix A – 2.4G Wi-Fi	Pass
Power Spectral Density	15.247 (e)	Appendix A – 2.4G Wi-Fi	Pass
Conducted Band Edge		Appendix A – 2.4G Wi-Fi	Pass
Radiated Band Edge	15.247 (d)	See Section 6.6.2	Pass
Conducted Spurious Emission		Appendix A – 2.4G Wi-Fi	Pass
Radiated Spurious Emission	15.205 & 15.209	See Section 6.7.2	Pass
Remark:	1	1	1

1. Pass: The EUT complies with the essential requirements in the standard.

2. N/A: Not Applicable.

3. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer).

Test Method:

ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02



# 5 General Information

# 5.1 Client Information

Applicant:	TECNO MOBILE LIMITED
Address:	FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35 SHAN MEI STREET FOTAN NT
Manufacturer:	TECNO MOBILE LIMITED
Address:	FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35 SHAN MEI STREET FOTAN NT
Factory:	SHENZHEN TECNO TECHNOLOGY CO.,LTD.
Address:	101, Building 24, Waijing Industrial Park, Fumin Community, Fucheng Street, Longhua District, Shenzhen City, P.R.China

# 5.2 General Description of E.U.T.

Product Name:	Mobile Phone			
Model No.:	L6502S			
Operation Frequency:	2412MHz~2462MHz: 802.11b/802.11g/802.11n(HT20)			
Channel numbers:	11: 802.11b/802.11g/802.11(HT20)			
Channel separation:	5MHz			
Modulation technology: (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)			
Modulation technology: (IEEE 802.11g/802.11n)	Orthogonal Frequency Division Multiplexing(OFDM)			
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps			
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps			
Data speed (IEEE 802.11n):	Up to 72.2Mbps			
Antenna Type:	Internal Antenna			
Antenna gain:	1.25dBi			
Power supply:	Rechargeable Li-Polymer Battery DC3.85V-3900mAh			
AC adapter:	Model: A18A-050100U-US2 Input: AC100-240V, 50/60Hz, 0.2A Output: DC 5.0V, 1000mA			
Test Sample Condition:	The test samples were provided in good working order with no visible defects.			

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		
Note: Channel 1, 6 & 11 selected for 802.11b/g/n-HT20 as Lowest, Middle and Highest channel. Channel 3, 6 & 9 selected for 802.11n-HT40 as Lowest, Middle and Highest Channel.							



## 5.3 Test environment and mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Transmitting mode	Keep the EUT in continuous transmitting with modulation

Radiated Emission: The sample was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

## Per-scan all kind of data rate, the follow list were the worst case.

Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(HT20)	6.5Mbps

# 5.4 Description of Support Units

The EUT has been tested as an independent unit.

## 5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty
Conducted Emission (9kHz ~ 30MHz)	±1.60 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	±3.12 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	±4.32 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	±5.16 dB (k=2)
Radiated Emission (18GHz ~ 40GHz)	±3.20 dB (k=2)

## 5.6 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

## • FCC - Designation No.: CN1211

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

### • ISED – CAB identifier.: CN0021

The 3m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

## • A2LA - Registration No.: 4346.01

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <u>https://portal.a2la.org/scopepdf/4346-01.pdf</u>

## 5.7 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd. Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China. Tel: +86-755-23118282, Fax: +86-755-23116366 Email: info@ccis-cb.com, Website: <u>http://www.ccis-cb.com</u>



# 5.8 Test Instruments list

Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	ETS	9m*6m*6m	966	01-19-2021	01-18-2024
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-03-2021	03-02-2022
Biconical Antenna	SCHWARZBECK	VUBA9117	359	06-18-2020	06-17-2021
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-03-2021	03-02-2022
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-18-2020	06-17-2021
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-18-2020	11-17-2021
EMI Test Software	AUDIX	E3	V	/ersion: 6.110919b	
Pre-amplifier	HP	8447D	2944A09358	03-03-2021	03-02-2022
Pre-amplifier	CD	PAP-1G18	11804	03-03-2021	03-02-2022
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-03-2021	03-02-2022
Spectrum analyzer	Rohde & Schwarz	FSP40	100363	11-18-2020	11-17-2021
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-03-2021	03-02-2022
Spectrum Analyzer	Agilent	N9020A	MY50510123	11-18-2020	11-17-2021
Signal Generator	Rohde & Schwarz	SMX	835454/016	03-03-2021	03-02-2022
Signal Generator	R&S	SMR20	1008100050	03-03-2021	03-02-2022
RF Switch Unit	MWRFTEST	MW200	N/A	N/A	N/A
Test Software	MWRFTEST	MTS8200		Version: 2.0.0.0	
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-03-2021	03-02-2022
Cable	MICRO-COAX	MFR64639	K10742-5	03-03-2021	03-02-2022
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-03-2021	03-02-2022
DC Power Supply	XinNuoEr	WYK-10020K	1409050110020	09-25-2020	09-24-2021
Temperature Humidity Chamber	HengPu	HPGDS-500	20140828008	11-01-2020	10-31-2021
Simulated Station	Rohde & Schwarz	CMW500	140493	07-22-2020	07-21-2021

<b>Conducted Emission:</b>					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
EMI Test Receiver	Rohde & Schwarz	ESCI	101189	03-03-2021	03-02-2022
Pulse Limiter	SCHWARZBECK	OSRAM 2306	9731	03-03-2021	03-02-2022
LISN	CHASE	MN2050D	1447	03-03-2021	03-02-2022
LISN	Rohde & Schwarz	ESH3-Z5	8438621/010	06-18-2020	06-17-2021
Cable	HP	10503A	N/A	03-03-2021	03-02-2022
EMI Test Software	AUDIX	E3	Version: 6.110919b		

Conducted method:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
Spectrum Analyzer	Keysight	N9010B	MY60240202	11-27-2020	11-26-2021
Vector Signal Generator	Keysight	N5182B	MY59101009	11-27-2020	11-26-2021
Analog Signal Generator	Keysight	N5173B	MY59100765	11-27-2020	11-26-2021
Power Detector Box	MWRF-test	MW100-PSB	MW201020JYT	11-27-2020	11-26-2021
Simulated Station	Rohde & Schwarz	CMW270	102335	11-27-2020	11-26-2021
RF Control Box	MWRF-test	MW100-RFCB	MW200927JYT	N/A	N/A
PDU	MWRF-test	XY-G10	N/A	N/A	N/A
Test Software	MWRF-tes	MTS 8310	, v	Version: 2.0.0.0	
DC Power Supply	Keysight	E3642A	MY60296194	11-27-2020	11-26-2021



# 6 Test results and Measurement Data

# 6.1 Antenna requirement

Standard requirement:	FCC Part 15 C Section 15.203 /247(b)
responsible party shall be us antenna that uses a unique so that a broken antenna ca electrical connector is prohil 15.247(b) (4) requirement: (4) The conducted output po antennas with directional ga section, if transmitting anter power from the intentional ra	be designed to ensure that no antenna other than that furnished by the sed with the device. The use of a permanently attached antenna or of an coupling to the intentional radiator, the manufacturer may design the unit in be replaced by the user, but the use of a standard antenna jack or bited. be the use of the intentional radiator (b) of this section is based on the use of ins that do not exceed 6 dBi. Except as shown in paragraph (c) of this in as of directional gain greater than 6 dBi are used, the conducted output adiator shall be reduced below the stated values in paragraphs (b)(1), tion, as appropriate, by the amount in dB that the directional gain of the
E.U.T Antenna:	
The Wi-Fi antenna is an Inter antenna is 1.25 dBi.	nal antenna which cannot replace by end-user, the best case gain of the



# 6.2 Conducted Emission

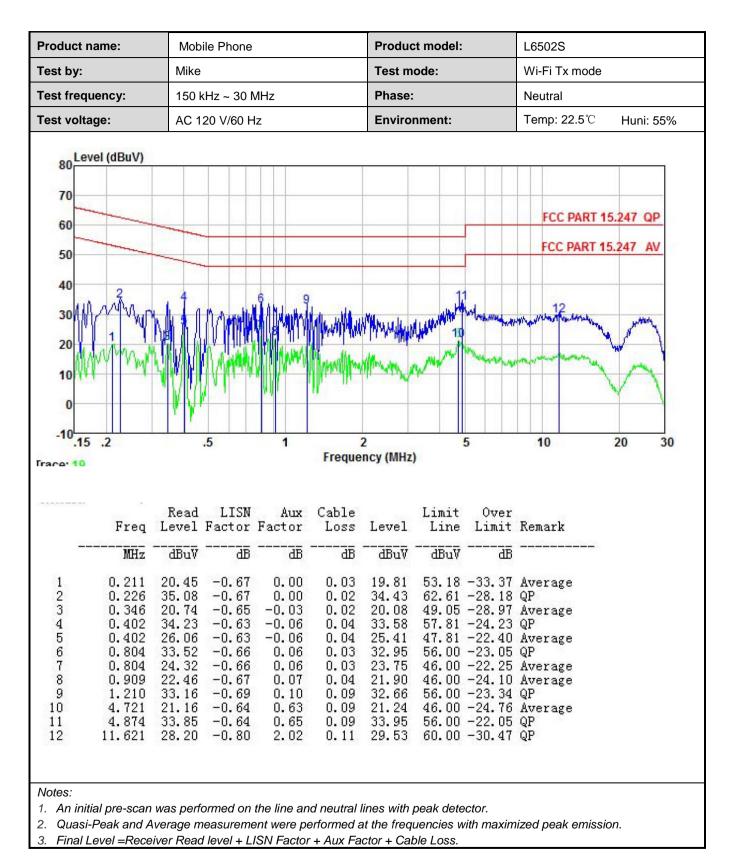
Test Requirement:	FCC Part 15 C Section 15.2	207	
Test Frequency Range:	150 kHz to 30 MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9 kHz, VBW=30 kHz		
Limit:	Frequency range (MHz)	Limit (c	dBuV)
	,	Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	* Decreases with the logarit		
Test procedure	<ol> <li>line impedance stabiliza 50ohm/50uH coupling i</li> <li>The peripheral devices LISN that provides a 50 termination. (Please ref photographs).</li> <li>Both sides of A.C. line a interference. In order to positions of equipment</li> </ol>	brs are connected to the mation network (L.I.S.N.), with mpedance for the measure are also connected to the Dohm/50uH coupling imperferent to the block diagram of are checked for maximum of find the maximum emission and all of the interface call. 10(latest version) on control of the second control of the se	hich provides a ing equipment. main power through a dance with 500hm the test setup and conducted on, the relative oles must be changed
Test setup:		st	er — AC power
Test Instruments:	Refer to section 5.9 for deta	ils	
Test mode:	Refer to section 5.3 for deta	ils	
Test results:	Passed		



#### **Measurement Data:**

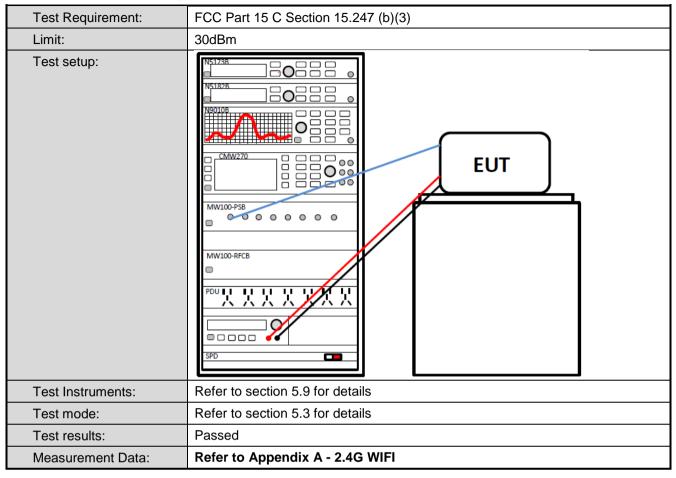
Product name:	Mobile Phone		Prod	uct model:	L6502S
Гest by:	Mike     Test mode:     Wi-Fi Tx mode       Juency:     150 kHz ~ 30 MHz     Phase:     Line				Wi-Fi Tx mode
Test frequency:					Line
Test voltage:	AC 120 V/60 Hz		Envi	ronment:	Temp: 22.5℃ Huni: 55%
80 Level (dBuV) 70 60 50 40 30 Mmm 20 20 20 10 0				12	FCC PART 15.247 QP FCC PART 15.247 AV
-10 <mark>.15 .2</mark>	.5	1	2	5	10 20 30
Franci 47			iency (Mł		
Freq I	Read LISN A Level Factor Facto	ux Cable or Loss	Level	Limit Over Line Limit	Remark
MHz	dBuV dB	abab _	dBuV	dBuV dB	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	33.48 20.07 30.25 29.54 20.36 32.42 28.28 26.28 33.61 23.01 26.87 35.61	$\begin{array}{r} 64.94 \ -31.46\\ 53.36 \ -33.29\\ 62.61 \ -32.36\\ 60.19 \ -30.65\\ 50.19 \ -29.83\\ 57.81 \ -25.39\\ 47.81 \ -19.53\\ 46.00 \ -19.72\\ 56.00 \ -22.39\\ 46.00 \ -19.13\\ 56.00 \ -20.39\\ \end{array}$	Average QP QP Average QP Average Average QP Average Average
Notes: 1. An initial pre-scan v	was performed on the li	ne and neutra	l lines wit	h peak detector.	
	verage measurement we ver Read level + LISN F				imized peak emission.





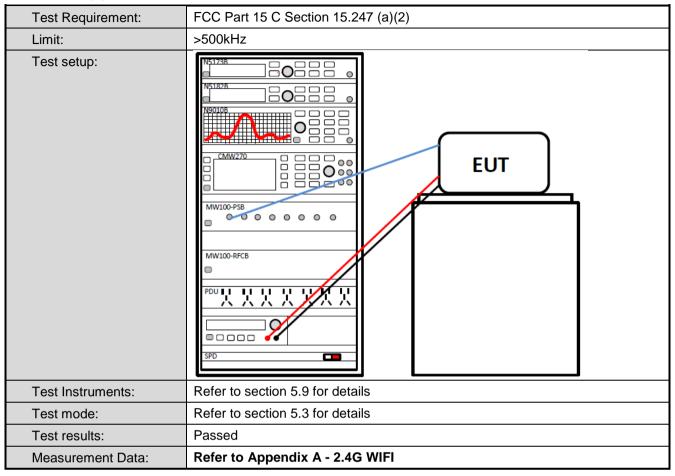


# 6.3 Conducted Output Power



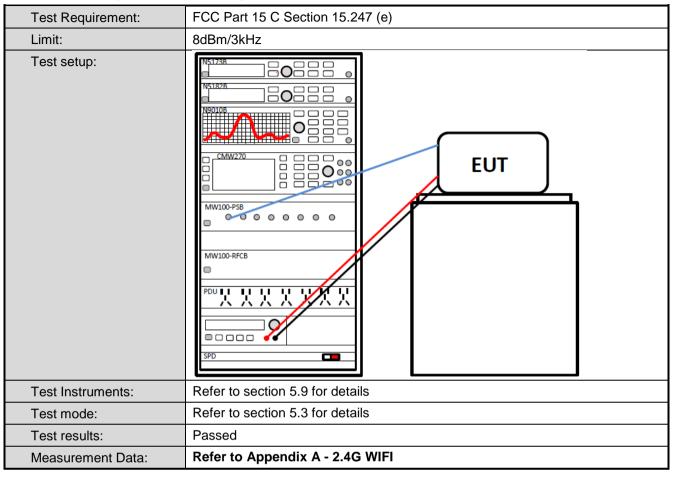


# 6.4 Occupy Bandwidth





# 6.5 Power Spectral Density





# 6.6 Band Edge

## 6.6.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Measurement Data:	Refer to Appendix A - 2.4G WIFI



## 6.6.2 Radiated Emission Method

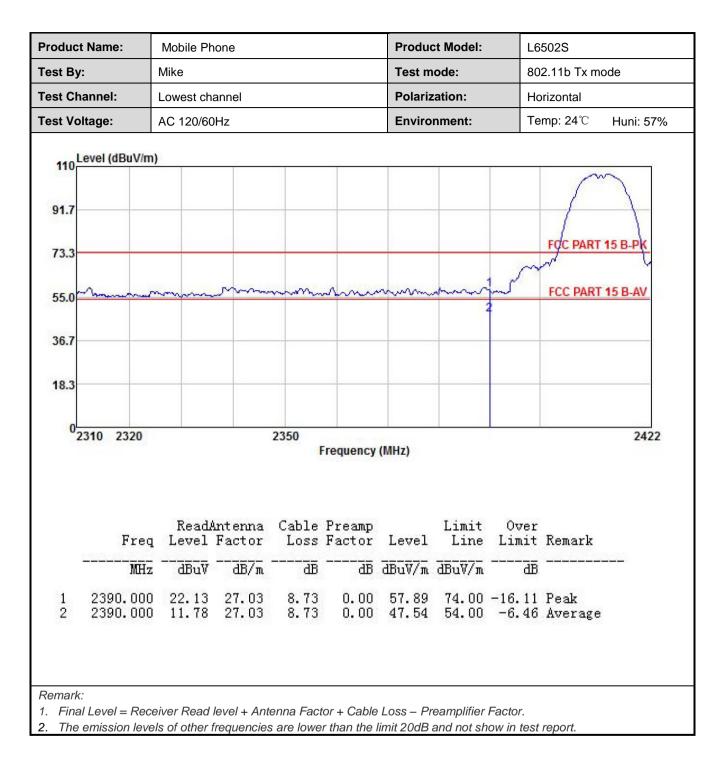
Test Requirement:	FCC Part 15 C Se	ection 15.209	and 15.205		
Test Frequency Range:	2310 MHz to 2390	) MHz and 24	483.5 MHz to 2	500 MHz	
Test Distance:	3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
L inste	Frequency	RMS	<u>1MHz</u> mit (dBuV/m @	3MHz	Average Value Remark
Limit:			54.00		verage Value
	Above 1GH	Z	74.00		Peak Value
Test Procedure:	<ol> <li>the ground at determine the</li> <li>The EUT was antenna, whic tower.</li> <li>The antenna ground to det horizontal and measuremen</li> <li>For each sus and then the and the rota t maximum rea</li> <li>The test-rece Specified Bar</li> <li>If the emission limit specified the EUT wou 10dB margin</li> </ol>	a 3 meter ca e position of s set 3 meter ch was mour height is var cermine the n d vertical pol t. pected emiss antenna was table was tur ading. viver system dwidth with on level of the d, then testing ld be reporte would be re-	the highest radi s away from the need on the top ied from one m naximum value arizations of the sion, the EUT w s tuned to heigh ned from 0 deg was set to Peal Maximum Hold e EUT in peak r g could be stop ed. Otherwise th	ble was rotate iation. e interference of a variable- eter to four m of the field st e antenna are vas arranged its from 1 me irees to 360 d k Detect Fund Mode. node was 100 ped and the p ine emissions one using pea	ed 360 degrees to e-receiving height antenna neters above the trength. Both e set to make the to its worst case ter to 4 meters legrees to find the ction and dB lower than the peak values of that did not have ak, quasi-peak or
Test setup:		AE EUT (Turntable)	Horn 3m Ground Reference Plane Receiver	Antenna Tow	ver
Test Instruments:	Refer to section 5	.9 for details			
Test mode:	Refer to section 5	.3 for details			
Test results:	Passed				



#### 802.11b mode:

	Mobile P	hone				Product I	Model:	L6502S	
est By:	Mike				,	Test mod	e:	802.11b Tx m	node
est Channel:	Lowest c	hannel				Polarizati	on:	Vertical	
est Voltage:	AC 120/6	i0Hz				Environm	nent:	<b>Temp: 24</b> ℃	Huni: 57%
110 Level (dBuV/r 91.7 73.3 55.0 36.7 18.3	n)	~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~	2	m	RT 15 B-PK
02310 2320	Read/	Interna	2350 Cable	Preamp	ency (MHz	Limit			2422
Freq	Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Limit	Remark	2422
	Level	Factor	Cable	Preamp Factor 	Level dBuV/m	Limit	Limit dB		2422







oduct Name:	Mobile Phone		Proc	duct Mode	el: L	_6502S		
st By:	Mike		Test	Test mode: Polarization:		802.11b Tx mode		
st Channel:	Highest channel		Pola					
est Voltage:	AC 120/60Hz		Envi	ironment:	٦	<b>Гетр: 24</b> ℃	Huni: 57%	
110 Level (dBu) 91.7 73.3 55.0 36.7	//m)			2		FCC PART 1		
18.3								
02452							2500	
	ReadAntenna	Cable Preamp	quency (MHz) Limit Level Line	Over Limit	Remark			
Freq	Level Factor	LUSS PACCOL	Dever Dillo					
Freq MHz	Level Factor		dBuV/m dBuV/m			<u></u>		



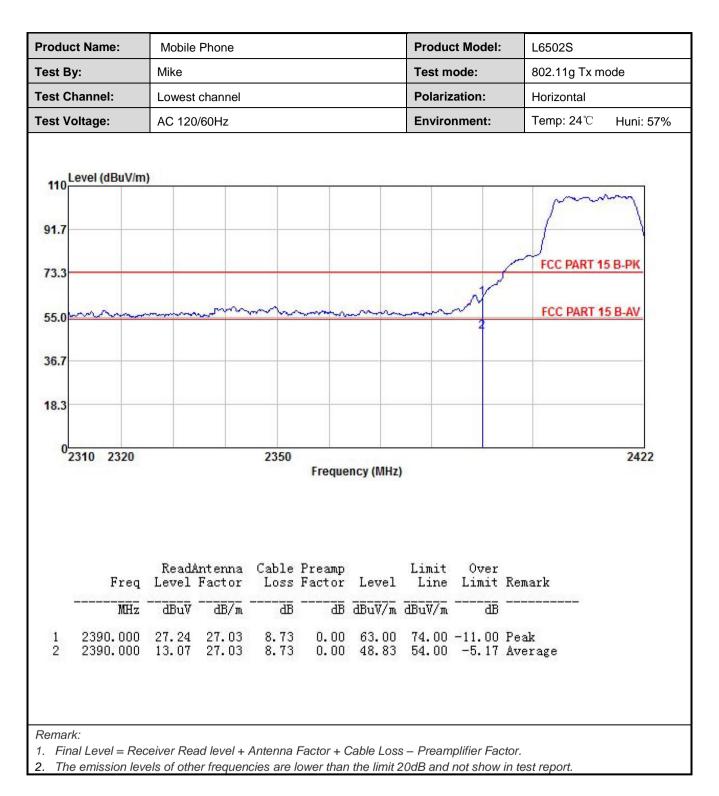
oduct Name:	Mobile Phone			Proc	duct Mod	lel:	_6502S		
est By:	Mike		Test mode:802.11b Tx mode				ode		
est Channel:	Highest channe			Pola	Polarization:		Horizontal		
est Voltage:	AC 120/60Hz			Envi	ironment	t: <sup>-</sup>	<b>Гетр: 24</b> ℃	Huni: 57%	
110 Level (dBu 91.7 73.3 55.0 36.7 18.3	V/m)		~~~~		2		FCC PART		
02452	- 54 - 45	Fre	equency (I	MHz)	2			2500	
Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line		Remark			
	dBuV dB/m	BB	dBuV/m	dBuV/m	₫₿				
MHz		8.82 0.00	58, 25	74.00	-15.75	Peak Average	8		



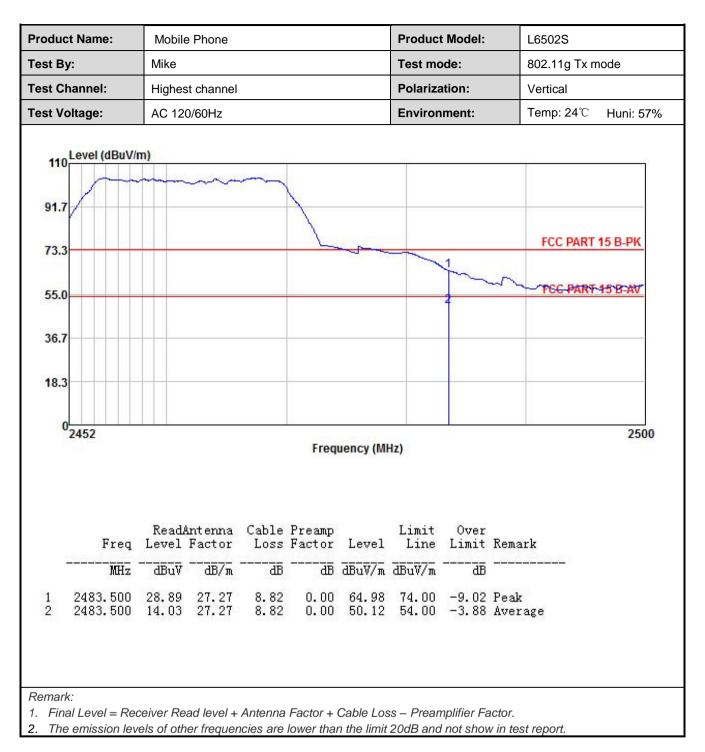
#### 802.11g mode:

roduct Name:	Mobile	Phone			F	Product M	odel:	L6502S	
est By:	Mike				Т	est mode	:	802.11g Tx m	ode
est Channel:	Lowest	channel			F	Polarizatio	on:	Vertical	
est Voltage:	AC 120/	60Hz			E	Invironme	ent:	<b>Temp: 24</b> ℃	Huni: 57%
110 Level (dBuV/n	n)								
91.7								m	
73.3							1/	FCC PART	15 B-PK
55.0	•••••••	mm	min	rinn	run	mm		FCC PART	15 B-AV
36.7									
18.3									
0									
<sup>0</sup> 2310 2320			2350		cy (MHz)				2422
Freq	Read/ Level	intenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark	
MHz	₫₿uѶ		āb	<u>d</u> B	dBuV/m	dBuV/m			
1 2390.000 2 2390.000			8.73 8.73	0.00 0.00	61.25 48.67	74.00 54.00	-12.75 -5.33	Peak Average	



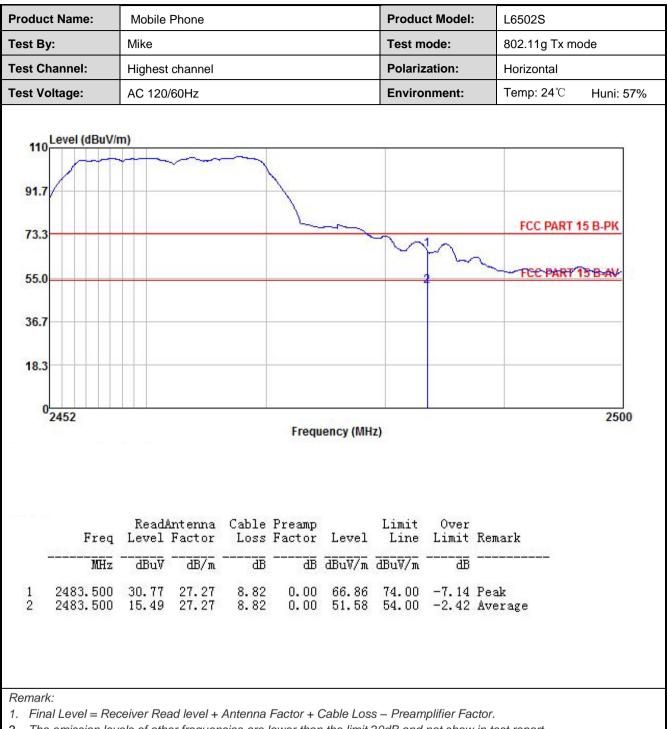






Project No.: JYTSZE2104060





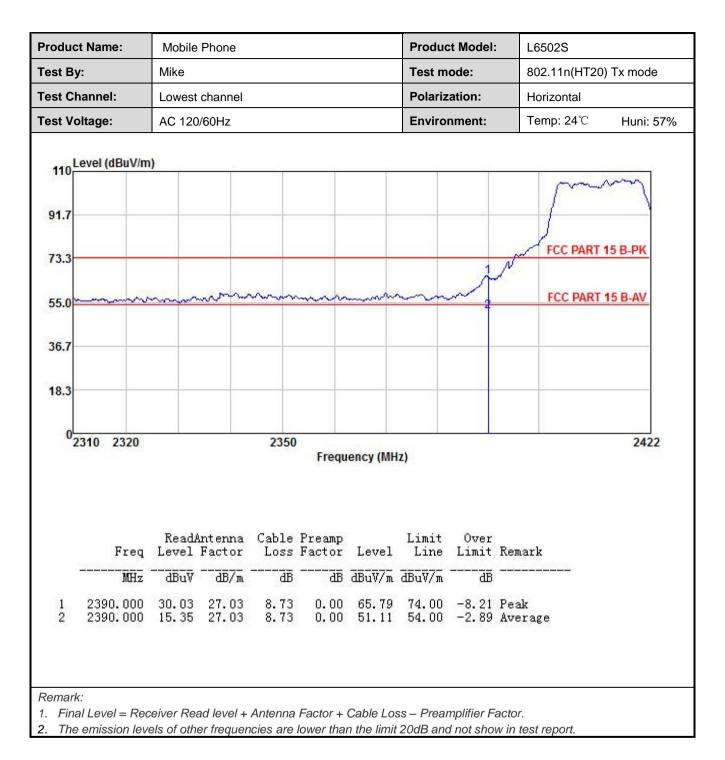
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.



#### 802.11n(HT20):

roduct Name:	Mobile	Phone				Produ	ct Mode	l: L6	6502S			
est By:	Mike					Test mode:			802.11n(HT20) Tx mode			
est Channel:	Lowest	channel				Polari	Polarization:		Vertical			
est Voltage:	AC 120	/60Hz				Enviro	onment:	Те	<b>emp: 24</b> ℃	Huni: 57%		
110 Level (dBu 91.7 73.3 55.0 36.7	V/m)	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~			~~~~	m	2	FCC PART			
18.3			235							2422		
02340 231			235		quency (N	(Hz)				2422		
2310 232 Fre		Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line						
	Read. eq Level	Antenna Factor 	Loss	Factor	Level	Line	Limit					

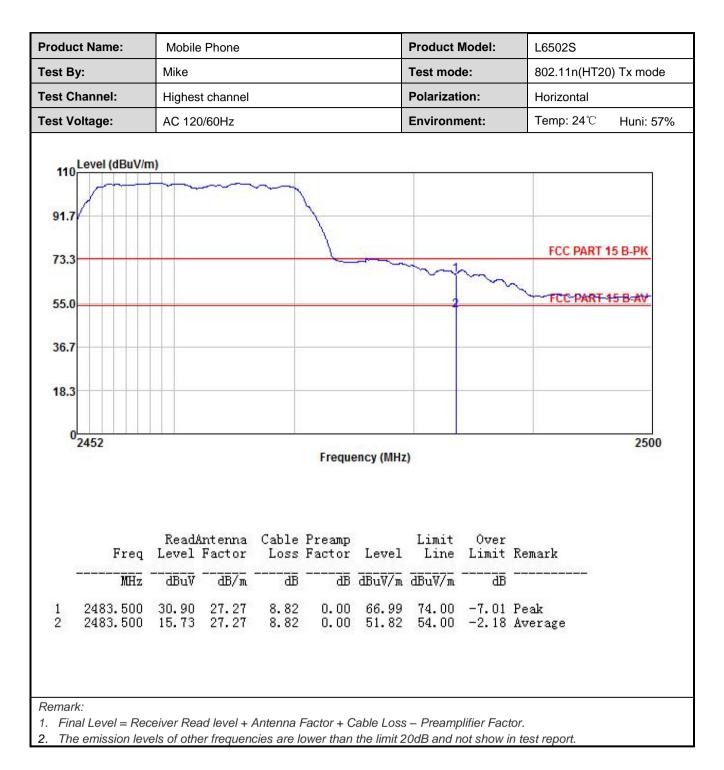






roduct Name:	Mobile Phone			Product	t Model:	L6502S	
est By:	Mike			Test mo	ode:	802.11n(HT	[20) Tx mode
est Channel:	Highest channel			Polariza	ation:	Vertical	
est Voltage:	AC 120/60Hz			Environ	ment:	<b>Temp: 24</b> °C	Huni: 57%
110 Level (dBuV/m 91.7 73.3 55.0 36.7 18.3						FCC PART	
					<u>.</u>		2500
0 <mark></mark> 2452		Freque	ency (MHz	)			
2452	ReadAntenna Level Factor	Cable Preamp		Limit	Over Limit	Remark	
2452	ReadAntenna Level Factor dBuV dB/m	Cable Preamp	Level	Limit Line		Remark	







# 6.7 Spurious Emission

## 6.7.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)						
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.						
Test setup:							
Test Instruments:	Refer to section 5.9 for details						
Test mode:	Refer to section 5.3 for details						
Test results:	Passed						
Measurement Data:	Refer to Appendix A - 2.4G WIFI						



## 6.7.2 Radiated Emission Method

Test Requirement:	FCC Part 15 C Section 15.209 and 15.205							
Test Frequency Range:	9kHz to 25GHz							
Test Distance:	3m							
Receiver setup:	Frequency Det		ctor	r RBW		BW	Remark	
	30MHz-1GHz Quasi		peak	120KHz 30		)KHz	Quasi-peak Value	
	Above 1GHz	Pea		1MHz	3MHz		Peak Value	
		RM		1MHz		ЛНz	Average Value	
Limit:							Remark	
	30MHz-88MH			40.0		Quasi-peak Value		
	88MHz-216MH 216MHz-960M			43.5 46.0			uasi-peak Value uasi-peak Value	
	960MHz-1GH			54.0			uasi-peak Value	
				54.0			Average Value	
	Above 1GHz	<u> </u>		74.0			Peak Value	
Test Procedure:	<ol> <li>The table was highest radiat</li> <li>The EUT was antenna, which tower.</li> <li>The antenna ground to det horizontal and measuremen</li> <li>For each sus and then the and the rota the maximum reat</li> <li>The test-rece Specified Bar</li> <li>If the emission limit specified the EUT wou 10dB margin average meth</li> </ol>	above 10 s rotated tion. s set 3 m ch was m height is cermine th d vertical d vertical t. pected e antenna able was ading. viver syste ndwidth v on level o d, then te ld be rep would be	GHz) at 360 de eters a nounted varied ne max polariz missior was tu bolariz missior was tu sturned em was vith Ma f the El sting co orted. (e)	bove the group egrees to determine way from the d on the top of from one me timum value of zations of the timum value of zations of the the EUT way ned to height d from 0 degr s set to Peak the peak mould UT in peak mould be stopp Otherwise the sted one by o	ind at ermin of a va eter to of the ante as arr s fror ees to Dete Mode voed ar e emin ne us	a 3 m e the p ference ariable- four m field s nna are ranged n 1 me o 360 c ct Fund was 10 od the p ssions ing pea	eter chamber. bosition of the e-receiving height antenna neters above the trength. Both e set to make the to its worst case ter to 4 meters degrees to find the ction and dB lower than the peak values of that did not have ak, quasi-peak or	
Test setup:	Below 1GHz		4m			5		

Project No.: JYTSZE2104060



## Report No: JYTSZB-R12-2100570

	Horn Artenna Tower Horn Artenna Tower Ground Reference Plane Test Receiver
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	<ol> <li>Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case.</li> <li>9 kHz to 30MHz is lower than the limit 20dB, so only shows the data of above 30MHz in this report.</li> </ol>



### Measurement Data (worst case):

## Below 1GHz:

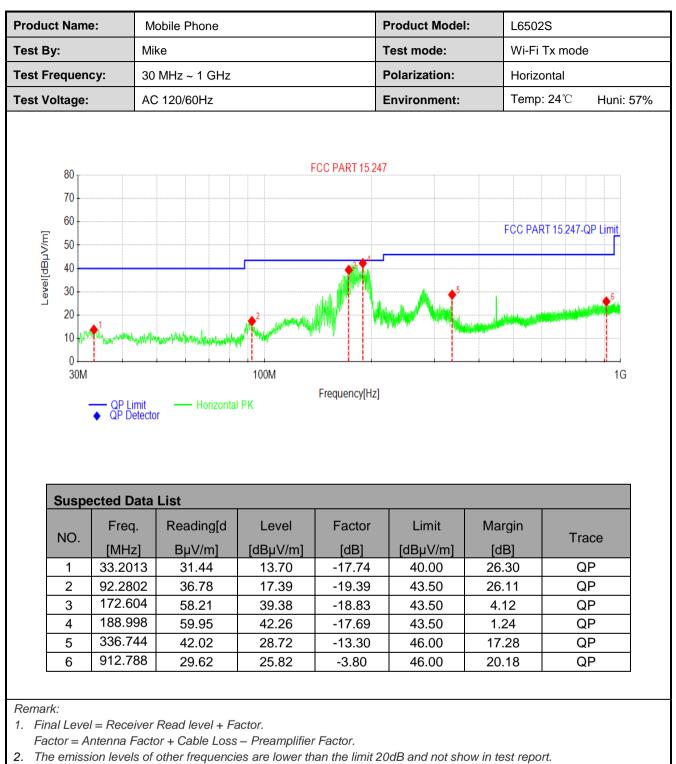
Product Name	e: N	lobile Phone			Product Model:	: L6502	L6502S		
Fest By:	st By: Mike					Wi-Fi	Wi-Fi Tx mode		
Fest Frequen	<b>cy:</b> 30	) MHz ~ 1 GHz			Polarization:	Vertica	Vertical		
Fest Voltage:	A	C 120/60Hz			Environment:	Temp:	: <b>24</b> ℃	Huni: 57%	
80 70 60 50 40 80 40 30			F	CC PART 15.24	7	FCC PAR	RT 15.247-QF	<sup>2</sup> Limit	
20 10 30M	QP Limit QP Detec	tor	100M	Frequency[Hz]				1G	
20 10 0 30M		tor		Frequency[Hz]				1G	
20 10 30M		tor		Frequency[Hz]	Limit	Margin			
20 10 0 30M	ected Data	tor Vertical P	K		Limit [dBµV/m]	Margin [dB]	Trac		
20 10 30M	ected Data	tor Vertical P a List Reading[d ΒμV/m]	K Level	Factor		-	Trac	ce	
20 10 30M Suspe NO.	ected Data Freq. [MHz]	• Vertical P tor • List Reading[d BµV/m] 52.59	K Level [dBµV/m]	Factor [dB]	[dBµV/m]	[dB]		ce	
20 10 30M Suspe NO.	Ected Data Freq. [MHz] 32.2312	A List Reading[d BµV/m] 52.59 45.04	K Level [dBµV/m] 34.63	Factor [dB] -17.96	[dBµV/m] 40.00	[dB] 5.37	QF		
20 10 30M Suspe NO. 1 2	Ected Data Freq. [MHz] 32.2312 89.8550	Vertical P tor A List Reading[d BµV/m] 52.59 45.04	K Level [dBµV/m] 34.63 25.45	Factor [dB] -17.96 -19.59	[dBµV/m] 40.00 43.50	[dB] 5.37 18.05	QF QF		
20 10 30M Suspe NO. 1 2 3	Ected Data Freq. [MHz] 32.2312 89.8550 172.604	Vertical P tor <b>a List</b> Reading[d BμV/m] 52.59 45.04 54.03	K Level [dBµV/m] 34.63 25.45 35.20	Factor [dB] -17.96 -19.59 -18.83	[dBµV/m] 40.00 43.50 43.50	[dB] 5.37 18.05 8.30	QF QF QF		

Factor = Antenna Factor + Cable Loss – Preamplifier Factor.

2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

3. The Aux Factor is a notch filter switch box loss, this item is not used.





3. The Aux Factor is a notch filter switch box loss, this item is not used.



### Above 1GHz

					02.11b				
			Te		I: Lowest c				
				Detecto	r: Peak Val	ue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	56.17	30.81	6.81	2.46	41.82	54.43	74.00	-19.57	Vertical
4824.00	56.12	30.81	6.81	2.46	41.82	54.38	74.00	-19.62	Horizontal
				Detector:	Average V	alue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	49.56	30.81	6.81	2.46	41.82	47.82	54.00	-6.18	Vertical
4824.00	49.41	30.81	6.81	2.46	41.82	47.67	54.00	-6.33	Horizontal
			Т	est channe	l: Middle cl	nannel			
					: Peak Val				
	Read	Antenna	Cable	Aux	Preamp	ue	Limit	Over	[
Frequency (MHz)	Level (dBuV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Factor (dB)	Level (dBuV/m)	Line (dBuV/m)	Limit (dB)	Polarization
4874.00	55.81	30.93	6.85	2.47	41.84	54.22	74.00	-19.78	Vertical
4874.00	55.68	30.93	6.85	2.47	41.84	54.09	74.00	-19.91	Horizontal
				Detector:	Average V	alue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	49.12	30.93	6.85	2.47	41.84	47.53	54.00	-6.47	Vertical
4874.00	49.68	30.93	6.85	2.47	41.84	48.09	54.00	-5.91	Horizontal
			Те	est channe	l: Highest c	hannel			
				Detector	: Peak Val	ue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	55.77	31.05	6.89	2.48	41.86	54.33	74.00	-19.67	Vertical
4924.00	55.28	31.05	6.89	2.48	41.86	53.84	74.00	-20.16	Horizontal
				Detector:	Average Va	alue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	49.30	31.05	6.89	2.48	41.86	47.86	54.00	-6.14	Vertical
4924.00	49.58	31.05	6.89	2.48	41.86	48.14	54.00	-5.86	Horizontal
						– Preamplifie 0dB and not s		eport.	



				01	02.11a				
			Τc		02.11g I: Lowest c	hannel			
					r: Peak Val				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	55.51	30.81	6.81	2.46	41.82	53.77	74.00	-20.23	Vertical
4824.00	55.65	30.81	6.81	2.46	41.82	53.91	74.00	-20.09	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	48.87	30.81	6.81	2.46	41.82	47.13	54.00	-6.87	Vertical
4824.00	49.10	30.81	6.81	2.46	41.82	47.36	54.00	-6.64	Horizontal
			Τe	est channe	l: Middle cl	hannel			
					r: Peak Val				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	55.14	30.93	6.85	2.47	41.84	53.55	74.00	-20.45	Vertical
4874.00	55.21	30.93	6.85	2.47	41.84	53.62	74.00	-20.38	Horizontal
				Detector:	Average V	alue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	49.26	30.93	6.85	2.47	41.84	47.67	54.00	-6.33	Vertical
4874.00	49.52	30.93	6.85	2.47	41.84	47.93	54.00	-6.07	Horizontal
			Ta		l: Highest c	hannol			
			10		r: Peak Val				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	54.68	31.05	6.89	2.48	41.86	53.24	74.00	-20.76	Vertical
4924.00	54.74	31.05	6.89	2.48	41.86	53.30	74.00	-20.70	Horizontal
				Detector:	Average V	alue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	49.18	31.05	6.89	2.48	41.86	47.74	54.00	-6.26	Vertical
4924.00	49.23	31.05	6.89	2.48	41.86	47.79	54.00	-6.21	Horizontal
Remark: 1. Final Lev	vel = Rece	iver Read le	/el + Anten	na Factor +	Cable Loss	– Preamplifie	er Factor.		

2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.



			т		11n(HT20) I: Lowest c	honnal			
			16		r: Peak Val				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	55.10	30.81	6.81	2.46	41.82	53.36	74.00	-20.64	Vertical
4824.00	54.63	30.81	6.81	2.46	41.82	52.89	74.00	-21.11	Horizontal
				Detector:	Average V	alue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarizatior
4824.00	49.59	30.81	6.81	2.46	41.82	47.85	54.00	-6.15	Vertical
4824.00	49.52	30.81	6.81	2.46	41.82	47.78	54.00	-6.22	Horizontal
			Te		el: Middle cl				
				1	r: Peak Val	ue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	55.39	30.93	6.85	2.47	41.84	53.80	74.00	-20.20	Vertical
4874.00	54.44	30.93	6.85	2.47	41.84	52.85	74.00	-21.15	Horizontal
	I	1		Detector:	Average V	alue			ſ
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	49.33	30.93	6.85	2.47	41.84	47.74	54.00	-6.26	Vertical
4874.00	49.42	30.93	6.85	2.47	41.84	47.83	54.00	-6.17	Horizontal
			Te	est channe	l: Highest c	hannel			
	T			Detector	r: Peak Val	ue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	55.25	31.05	6.89	2.48	41.86	53.81	74.00	-20.19	Vertical
4924.00	54.64	31.05	6.89	2.48	41.86	53.20	74.00	-20.80	Horizontal
	T			Detector:	Average V	alue			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
(11112)		31.05	6.89	2.48	41.86	47.93	54.00	-6.07	Vertical
4924.00	49.37	31.05	0.00	2110					

2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.