

Report No: JYTSZB-R12-2000032

# FCC REPORT (Bluetooth)

Applicant:	MAXWEST COMMUNICATION LIMITED
Address of Applicant:	ROOM 1802B FORTRESS TOWER 250 KING'S ROAD, NORTH POINT HONG KONG
Equipment Under Test (E	UT)
Product Name:	MOBILE PHONE
Model No.:	NEO FLIP LTE
Trade mark:	MAXWEST
FCC ID:	2ASP8NEOFLIPLTE
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	28 Dec., 2020
Date of Test:	29 Dec., 2020 to 15 Jan., 2021
Date of report issued:	18 Jan., 2021
Test Result:	PASS *

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

Authorized Signature:



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.

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# 2 Version

Version No.	Date	Description
00	18 Jan., 2021	Original

Tested by:

Mike.DU Test Engineer

Date: 18 Jan., 2021

Winner Mang

Reviewed by:

Project Engineer

Date: 18 Jan., 2021



# **3** Contents

	Page
1 COVER PAGE	1
2 VERSION	2
3 CONTENTS	3
4 TEST SUMMARY	4
5 GENERAL INFORMATION	
	-
5.1 CLIENT INFORMATION	5 F
5.2 GENERAL DESCRIPTION OF E.U.T.	
5.4 DESCRIPTION OF SUPPORT UNITS	-
5.5 Measurement Uncertainty	-
5.6 ADDITIONS TO, DEVIATIONS, OR EXCLUSIONS FROM THE METHOD	
5.7 LABORATORY FACILITY	
5.8 LABORATORY LOCATION	
5.9 TEST INSTRUMENTS LIST	
6 TEST RESULTS AND MEASUREMENT DATA	8
6.1 ANTENNA REQUIREMENT	8
6.2 CONDUCTED EMISSIONS	
6.3 Conducted Output Power	
6.4 20DB OCCUPY BANDWIDTH	
6.5 CARRIER FREQUENCIES SEPARATION	
6.6 HOPPING CHANNEL NUMBER	
6.8 PSEUDORANDOM FREQUENCY HOPPING SEQUENCE	
6.9 BAND EDGE	
6.9.1 Conducted Emission Method	-
6.9.2 Radiated Emission Method	
6.10 Spurious Emission	
6.10.1 Conducted Emission Method	
6.10.2 Radiated Emission Method	
7 TEST SETUP PHOTO	40
8 EUT CONSTRUCTIONAL DETAILS	
APPENDIX A - BT	43
TEST DATA	43



# **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
Conducted Peak Output Power	15.247 (b)(1)	Appendix A – BT	Pass
20dB Occupied Bandwidth	15.247 (a)(1)	Appendix A – BT	Pass
Carrier Frequencies Separation	15.247 (a)(1)	Appendix A – BT	Pass
Hopping Channel Number	15.247 (a)(1)	Appendix A – BT	Pass
Dwell Time	15.247 (a)(1)	Appendix A – BT	Pass
Conducted Band Edge	45 205 8 45 200	Appendix A – BT	Pass
Radiated Band Edge	15.205 & 15.209	See Section 6.9.2	Pass
Conducted Spurious Emission		Appendix A – BT	Pass
Radiated Spurious Emission	15.247(d)	See Section 6.10.2	Pass

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

2. N/A: Not Applicable.

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

Test Method:	ANSI C63.10-2013
rest wethod:	KDB 558074 D01 15.247 Meas Guidance v05r02



# **5** General Information

# **5.1 Client Information**

Applicant:	MAXWEST COMMUNICATION LIMITED
Address:	ROOM 1802B FORTRESS TOWER 250 KING'S ROAD, NORTH POINT HONG KONG
Manufacturer:	MAXWEST COMMUNICATION LIMITED
Address:	ROOM 1802B FORTRESS TOWER 250 KING'S ROAD, NORTH POINT HONG KONG

# 5.2 General Description of E.U.T.

Product Name:	MOBILE PHONE			
Model No.:	NEO FLIP LTE			
Operation Frequency:	2402MHz~2480MHz			
Transfer rate:	1/2/3 Mbits/s			
Number of channel:	79			
Modulation type:	GFSK, π/4-DQPSK, 8DPSK			
Modulation technology:	FHSS			
Antenna Type:	Internal Antenna			
Antenna gain:	0.37 dBi			
Power supply:	Rechargeable Li-ion Battery DC3.7V, 1000mAh			
AC adapter:	Adapter 1:			
	Model: TPA-97H050055UW01			
	Input: AC100-240V, 50/60Hz, 0.15A			
	Output: DC 5.0V, 0.55A			
	Adapter 2:			
	Model: NEO FLIP LTE			
	Input: AC100-240V, 50/60Hz, 0.15A			
	Output: DC 5.0V, 500mA			
Test Sample Condition:	The test samples were provided in good working order with no visible defects.			

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	20	2422MHz	40	2442MHz	60	2462MHz
1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz
2	2404MHz	22	2424MHz	42	2444MHz	62	2464MHz
3	2405MHz	23	2425MHz	43	2445MHz	63	2465MHz
4	2406MHz	24	2426MHz	44	2446MHz	64	2466MHz
5	2407MHz	25	2427MHz	45	2447MHz	65	2467MHz
15	2417MHz	35	2437MHz	55	2457MHz	75	2477MHz
16	2418MHz	36	2438MHz	56	2458MHz	76	2478MHz
17	2419MHz	37	2439MHz	57	2459MHz	77	2479MHz
18	2420MHz	38	2440MHz	58	2460MHz	78	2480MHz
19	2421MHz	39	2441MHz	59	2461MHz		



# 5.3 Test environment and mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test Modes:	
Non-hopping mode:	Keep the EUT in continuous transmitting mode with worst case data rate.
Hopping mode:	Keep the EUT in hopping mode.
Remark	GFSK (1 Mbps) is the worst case mode.
Radiated Emission: The same	e was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane

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.

# 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 Additions to, deviations, or exclusions from the method

No

# 5.7 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>

### 5.8 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd. Address: No.110~116, Building B, Jinyuan Business Building, Xixiang Road, Bao'an District, Shenzhen, Guangdong, China Tel: +86-755-23118282, Fax: +86-755-23116366 Email: info@ccis-cb.com, Website: <u>http://www.ccis-cb.com</u>



# **5.9 Test Instruments list**

Radiated Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	SAEMC	9m*6m*6m	966	07-21-2020	07-20-2021
Loop Antenna	SCHWARZBECK	FMZB1519B	044	03-07-2020	03-06-2021
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-07-2020	03-06-2021
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-07-2020	03-06-2021
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-20-2020	06-19-2021
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-18-2019	11-17-2020
Hom Antenna	SCHWARZDECK	DDNA 9170	DDNA9170062	11-18-2020	11-17-2021
EMI Test Software	AUDIX	E3	Version: 6.110919b		
Pre-amplifier	HP	8447D	2944A09358	03-07-2020	03-06-2021
Pre-amplifier	CD	PAP-1G18	11804	03-07-2020	03-06-2021
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-05-2020	03-04-2021
Spectrum analyzar	Rohde & Schwarz	FSP40	100363	11-18-2019	11-17-2020
Spectrum analyzer	Ronde & Schwarz	F3P40	100363	11-18-2020	11-17-2021
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-05-2020	03-04-2021
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-07-2020	03-06-2021
Cable	MICRO-COAX	MFR64639	K10742-5	03-07-2020	03-06-2021
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-07-2020	03-06-2021
RF Switch Unit	MWRFTEST	MW200	N/A	N/A	N/A
Test Software	MWRFTEST	MTS8200		Version: 2.0.0.0	

Conducted Emission:						
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	03-05-2020	03-04-2021	
Pulse Limiter	SCHWARZBECK	OSRAM 2306	9731	03-05-2020	03-04-2021	
LISN	CHASE	MN2050D	1447	03-05-2020	03-04-2021	
LISN	Rohde & Schwarz	ESH3-Z5	8438621/010	06-18-2020	07-17-2021	
Cable	HP	10503A	N/A	03-05-2020	03-04-2021	
EMI Test Software	AUDIX	E3	Version: 6.110919b			



# 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 anten 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 n be replaced by the user, but the use of a standard antenna jack or bited. wer limit specified in paragraph (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 nas of directional gain greater than 6 dBi are used, the conducted output adiator shall be reduced below the stated values in paragraphs (b)(1), ion, as appropriate, by the amount in dB that the directional gain of the
E.U.T Antenna:	
The Bluetooth antenna is an the antenna is 0.37 dBi.	Internal antenna which permanently attached, and the best case gain of



# **6.2 Conducted Emissions**

Test Requirement:	FCC Part 15 C Section 15.	207				
Test Frequency Range:	150 kHz to 30 MHz					
Class / Severity:	Class B					
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto					
Limit:	Frequency range (MHz)	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 logari	thm of the frequency.				
Test setup:	Reference Pl	ane				
Test and a	AUX         Equipment         E.U.T         Test table/Insulation plane         Remarkc         E.U.T: Equipment Under Test         LISN: Line Impedence Stabilization Networ         Test table height=0.8m					
Test procedure:	<ol> <li>50ohm/50uH coupling in</li> <li>The peripheral devices a LISN that provides a 500 termination. (Please reference)</li> <li>Both sides of A.C. line interference. In order the positions of equipment</li> </ol>	tion network (L.I.S.N.). Th npedance for the measuri	is provides a ng equipment. main power through a lance with 50ohm the test setup and n conducted sion, the relative ables must be changed			
Test Instruments:	Refer to section 5.9 for det	ails				
Test mode:	Hopping mode					
Test results:	Pass					



Product name:	MOE	MOBILE PHONE				Product model:			NEO FLIP LTE			
Test by:	Mike	Mike				est mode	:	BT Tx	mode			
Test frequency:	150	150 kHz ~ 30 MHz				nase:		Line				
Test voltage:	AC 1	AC 120 V/60 Hz				nvironme	ent:	Temp:	: <b>22.5</b> ℃	Huni: 559		
80 Level (dB	uV)											
80												
70										-		
60					-			F	CC PART 1	5.207 QP		
50 m B									FCC PART 1	5.207 AV		
MA	0				_							
40 21 19	WWW.aku	. Al	46	1		without						
30	EI TYYW	VT WWW	White Harden	Numperproduction	hi y what we	me the						
	Markens		and the second	in lu	lu .	way	mention and the	Manufacture	++++++++++++++++++++++++++++++++++++++	wanter the providence of		
20	1.444	A. ANA	WWW Base	- AND	Mummer	Ma J	4.			Y Y		
				1.			represent	Mensour	property and and			
10										MANY NO.		
10												
10 0.15 .2		.5		1	2		5	1	0	20 30		
		.5			2 quency (l	MHz)	5	1	0	20 30		
0.15 .2		.5			_	MHz)	5	10	D	20 30		
0.15 .2			LISN	Fre	_	MHz)	5 Limit	10 Over	0	20 30		
0.15 .2	Freq	Read		Fre	quency (I Cable	MHz) Level		Over	D Remark	20 30		
0.15 .2	Freq	Read	LISN Factor	Fre	quency (I Cable		Limit	Over Limit		20 30		
0.15 .2 Trace: 15	MHz 0.166	Read Level dBuV 40.82	LISN Factor 	Aux Factor 	Cable Loss dB 10.77	Level 	Limit Line dBuV 65.16	Over Limit  dB -14.24	Remark 	20 30		
0.15 .2 Trace: 15	MHz 0.166 0.166	Read Level dBuV 40.82 23.93	LISN Factor 	Aux Factor -0.09 -0.09	Cable Loss dB 10.77 10.77	Level dBuV 50.92 34.03	Limit Line dBuV 65.16 55.16	Over Limit  dB -14.24 -21.13	Remark  QP Average	20 30		
0.15 .2 Trace: 15	MHz 0.166 0.166 0.174	Read Level dBuV 40.82 23.93 40.78	LISN Factor 	Fre Aux Factor 	Cable Loss dB 10.77 10.77 10.77	Level dBuV 50.92 34.03 50.86	Limit Line 	Over Limit dB -14.24 -21.13 -13.91	Remark  QP Average QP	20 30		
0.15 .2 Trace: 15	MHz 0.166 0.166 0.174 0.178	Read Level dBuV 40.82 23.93	LISN Factor 	Aux Factor -0.09 -0.09 -0.11 -0.12	Cable Loss dB 10.77 10.77	Level dBuV 50.92 34.03	Limit Line dBuV 65.16 55.16 64.77 54.59	Over Limit 	Remark  QP Average QP Average	20 30		
0.15 .2 Trace: 15	MHz 0.166 0.166 0.174	Read Level dBuV 40.82 23.93 40.78 26.72	LISN Factor -0.58 -0.58 -0.58 -0.58 -0.58	Aux Factor -0.09 -0.09 -0.11 -0.12 -0.13	Cable Loss dB 10.77 10.77 10.77 10.77	Level dBuV 50.92 34.03 50.86 36.79	Limit Line dBuV 65.16 55.16 64.77 54.59 64.20 63.54	Over Limit -14.24 -21.13 -13.91 -17.80 -14.81 -16.17	Remark  Average QP Average QP QP QP	20 30		
0.15 .2 Trace: 15	MHz 0.166 0.166 0.174 0.178 0.186 0.202 0.202	Read Level dBuV 40.82 23.93 40.78 26.72 39.35 37.36 23.57	LISN Factor -0.58 -0.58 -0.58 -0.58 -0.58 -0.59 -0.59 -0.59 -0.59	Aux Factor -0.09 -0.09 -0.11 -0.12 -0.13 -0.16 -0.16	Cable Loss dB 10.77 10.77 10.77 10.77 10.76 10.76 10.76	Level dBuV 50.92 34.03 50.86 36.79 49.39 47.37 33.58	Limit Line dBuV 65.16 64.77 54.59 64.20 63.54 53.54	Over Limit 	Remark QP Average QP Average QP Average QP Average	20 30		
0.15 .2 Trace: 15	MHz 0.166 0.166 0.174 0.178 0.186 0.202 0.202 0.202 0.211	Read Level dBuV 40.82 23.93 40.78 26.72 39.35 37.36 23.57 38.24	LISN Factor -0.58 -0.58 -0.58 -0.58 -0.58 -0.59 -0.59 -0.59 -0.59 -0.59 -0.59 -0.59	Aux Factor -0.09 -0.11 -0.12 -0.13 -0.16 -0.16 -0.17	Cable Loss dB 10.77 10.77 10.77 10.76 10.76 10.76 10.76 10.76	Level dBuV 50.92 34.03 50.86 36.79 49.39 47.37 33.58 48.25	Limit Line dBuV 65.16 55.16 64.77 54.59 64.20 63.54 53.54 63.18	Over Limit -14.24 -21.13 -13.91 -17.80 -14.81 -16.17 -19.96 -14.93	Remark QP Average QP Average QP QP Average QP	20 30		
0.15 .2 Trace: 15	MHz 0.166 0.166 0.174 0.178 0.186 0.202 0.202	Read Level dBuV 40.82 23.93 40.78 26.72 39.35 37.36 23.57	LISN Factor -0.58 -0.58 -0.58 -0.58 -0.58 -0.59 -0.59 -0.59 -0.59 -0.59 -0.59 -0.59	Aux Factor -0.09 -0.09 -0.11 -0.12 -0.13 -0.16 -0.16 -0.17 -0.17	Cable Loss dB 10.77 10.77 10.77 10.77 10.76 10.76 10.76	Level dBuV 50.92 34.03 50.86 36.79 49.39 47.37 33.58	Limit Line dBuV 65.16 55.16 64.77 54.59 64.20 63.54 53.54 63.18 53.18	Over Limit -14.24 -21.13 -13.91 -17.80 -14.81 -16.17 -19.96 -14.93	Remark QP Average QP Average QP Average QP Average QP	20 30		

Notes:

11

12

0.246

0.739

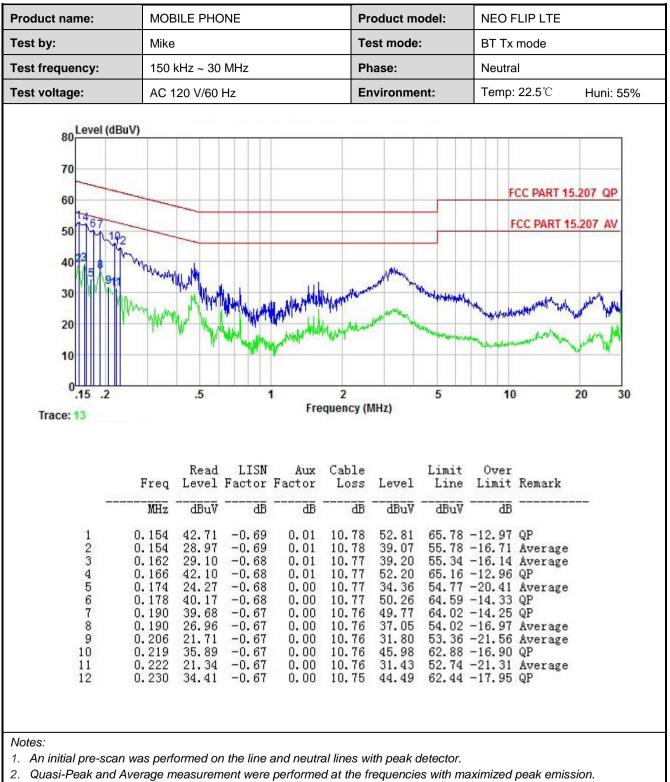
1. An initial pre-scan was performed on the line and neutral lines with peak detector.

2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.

20.86 -0.57 -0.21 10.75 30.83 51.91 -21.08 Average 22.79 -0.54 -0.28 10.79 32.76 46.00 -13.24 Average

З. Final Level = Receiver Read level + LISN Factor + Aux Factor + Cable Loss.





3. Final Level =Receiver Read level + LISN Factor + Aux Factor + Cable Loss.



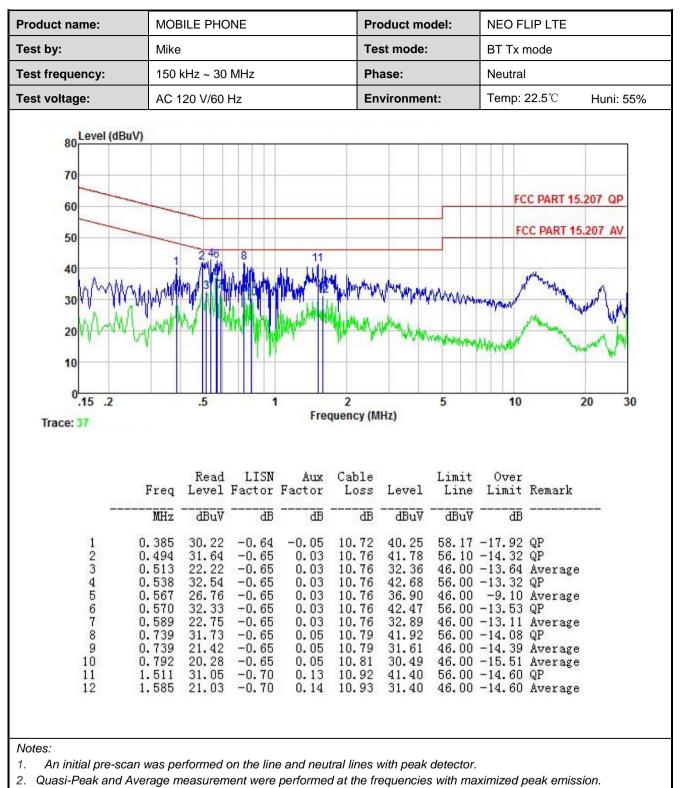
#### Adapter 2:

roduct name:	MOBILE PHONE	Product model:	NEO FLIP LTE BT Tx mode Line			
est by:	Mike	Test mode:				
est frequency:	150 kHz ~ 30 MHz	Phase:				
est voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5℃ Huni: 55%			
80 Level (dBuV) 70 60 50 40 30 20		Mym Mary Mary Mary Mary Mary Mary Mary Mary	FCC PART 15.207 QP FCC PART 15.207 AV			
10 0.15 .2	.5 1 2	5	10 20 30			
0		5 cy (MHz)	10 20 30			
0.15 .2	Frequen Read LISN Aux Cab	<b>cy (MHz)</b> ble Limit	0ver Limit Remark			

2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.

3. Final Level = Receiver Read level + LISN Factor + Aux Factor + Cable Loss.





3. Final Level =Receiver Read level + LISN Factor + Aux Factor + Cable Loss.



0.5 Conducted Out	
Test Requirement:	FCC Part 15 C Section 15.247 (b)(1)
Receiver setup:	RBW=1MHz, VBW=3MHz, Detector=Peak (If 20dB BW ≤1 MHz) RBW=2MHz, VBW=6MHz, Detector=Peak (If 20dB BW > 1 MHz and < 3MHz)
Limit:	For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode
Test results:	Pass
Measurement Data:	Refer to Appendix A - BT

# 6.3 Conducted Output Power

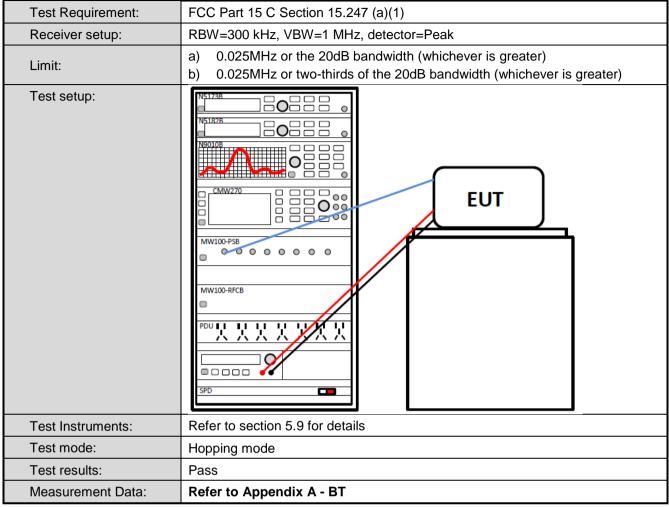


# 6.4 20dB Occupy Bandwidth

Test Requirement:	FCC Part 15 C Section 15.247 (a)(1)
Receiver setup:	DH1: RBW=15 kHz, VBW=47 kHz, detector=Peak 2DH1&3DH: RBW=20 kHz, VBW=62 kHz, detector=Peak
Limit:	N/A
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode
Test results:	Pass
Measurement Data:	Refer to Appendix A - BT



# 6.5 Carrier Frequencies Separation





# 6.6 Hopping Channel Number

Test Requirement:	FCC Part 15 C Section 15.247 (a)(1)
Receiver setup:	RBW=100 kHz, VBW=300 kHz, Center Frequency=2441MHz, Span= 100MHz, Detector=Peak
Limit:	15 channels
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Hopping mode
Test results:	Pass
Measurement Data:	Refer to Appendix A - BT



### 6.7 Dwell Time

Test Requirement:	FCC Part 15 C Section 15.247 (a)(1)
Receiver setup:	RBW=1 MHz, VBW=1 MHz, Span=0 Hz, Detector=Peak
Limit:	0.4 Second
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Hopping mode
Test results:	Pass
Measurement Data:	Refer to Appendix A - BT



# 6.8 Pseudorandom Frequency Hopping Sequence

Test Requirement:	FCC Part 15 C Section 15.247 (a)(1) requirement:
	shall have hopping channel carrier frequencies separated by a minimum of dth of the hopping channel, whichever is greater.
channel carrier frequencies the hopping channel, whichever than 125 mW. The system s rate from a Pseudorandom con on the average by each trans	pping systems operating in the 2400-2483.5 MHz band may have hopping that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the is greater, provided the systems operate with an output power no greater hall hop to channel frequencies that are selected at the system hopping ordered list of hopping frequencies. Each frequency must be used equally smitter. The system receivers shall have input bandwidths that match the s of their corresponding transmitters and shall shift frequencies in asmitted signals.
EUT Pseudorandom Frequ	ency Hopping Sequence
outputs are added in a modu	sequence: 2 <sup>9</sup> -1 = 511 bits
Linear Feedback Sl	hift Register for Generation of the PRBS sequence
-	om Frequency Hopping Sequence as follow:
	62 64 78 1 73 75 77
The system receivers have i	y on the average by each transmitter. nput bandwidths that match the hopping channel bandwidths of their and shift frequencies in synchronization with the transmitted signals.



# 6.9 Band Edge

### 6.9.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)
Receiver setup:	RBW=100 kHz, VBW=300 kHz, Detector=Peak
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.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode and hopping mode
Test results:	Pass
Measurement Data:	Refer to Appendix A - BT



### 6.9.2 Radiated Emission Method

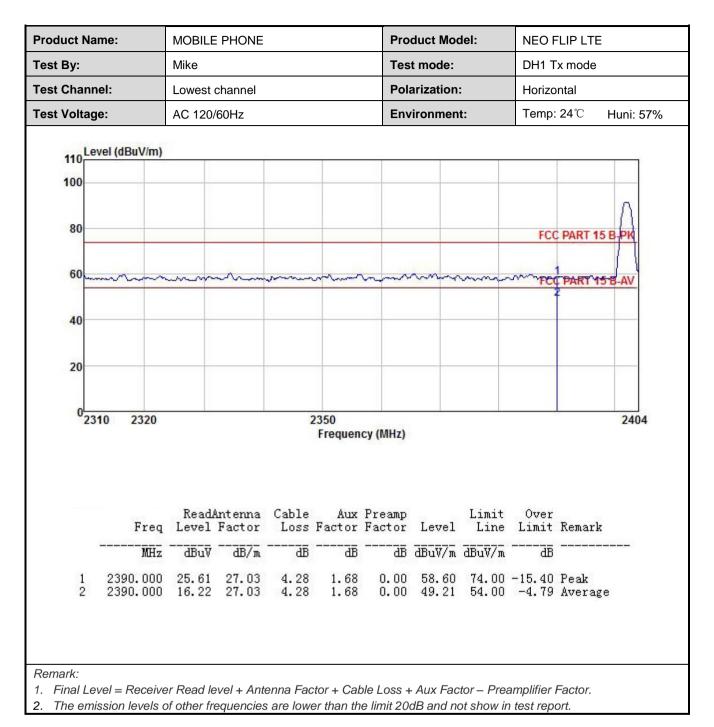
Test Requirement:	FCC Part 15 C	Section 15.20	09 a	nd 15.205				
Test Frequency Range:	2310 MHz to 23	90 MHz and	248	3.5 MHz to 2	500 M	Hz		
Test Distance:	3m							
Receiver setup:	Frequency	Detector		RBW	VBW		Remark	
	Above 1GHz	Peak		1MHz	31	MHz	Peak Value	
	Above IGHZ	RMS		1MHz	31	MHz	Average Value	
Limit:	Frequenc	cy I	Limit	t (dBuV/m @3	3m) Remark		Remark	
	Above 1G			54.00		Average Value		
		112		74.00	Peak Value		Peak Value	
Test setup:	AE unggi (Turn	EUT table) Ground Test Receiver	3m 1 Reference		tenna Towe			
Test Procedure:	<ul> <li>determine the</li> <li>2. The EUT was antenna, whi tower.</li> <li>3. The antenna ground to de horizontal an measurement</li> <li>4. For each sus and then the the rota table maximum reates</li> <li>5. The test-rece Bandwidth w</li> <li>6. If the emission limit specified EUT would b margin would</li> </ul>	B meter camb e position of t s set 3 meter ch was mour height is vari termine the n d vertical pol t. spected emiss antenna was was turned ading. eiver system ith Maximum on level of the d, then testing e reported. C	per. 1 the h rs aw nted ied f naxin ariza sion, s tun from was L Hol e EU g co Dthei d one	The table was highest radiative vay from the in on the top of from one meter mum value of ations of the a , the EUT was not to heights not degrees to set to Peak E d Mode. JT in peak mould be stoppe	ion. nterfe a vari er to fo the fi antenr s arran from 0 360 o Detect de wa dand ssions g peal	ed 360 of rence-re able-he our meta eld streina are s nged to 1 meter degrees Functions 10dB the pea s that dia k, quasi	degrees to eceiving ight antenna ers above the ngth. Both et to make the its worst case to 4 meters and to find the on and Specified lower than the ak values of the d not have 10dB -peak or	
Test Instruments:	Refer to section	5.9 for detai	ls					
Test mode:	Non-hopping m	ode						
Test results:	Passed							



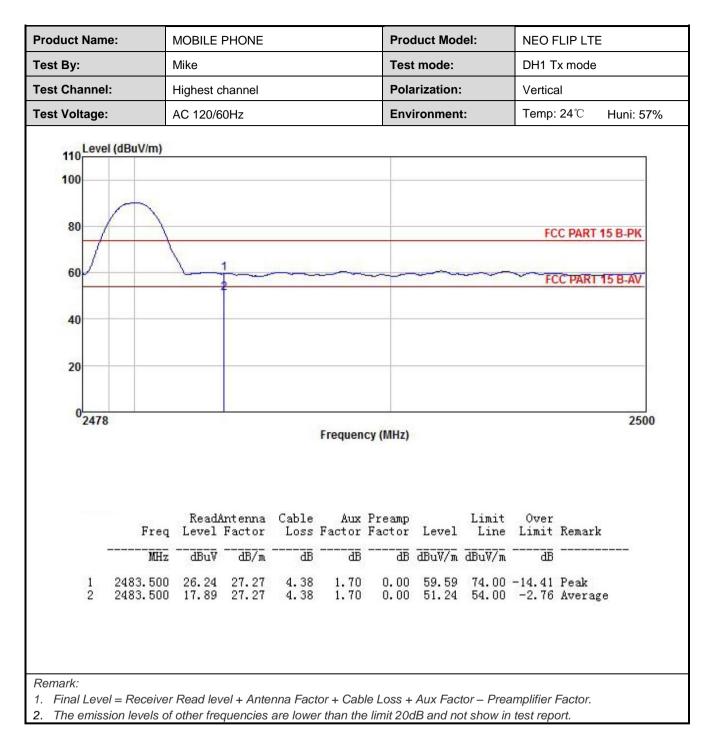
#### **GFSK Mode:**

Product Name:	MOBILE PHONE				Pro	Product Model:			NEO FLIP LTE		
est By:	Mike	Mike Lowest channel AC 120/60Hz			Tes	Test mode:		DH1 Tx mode			
Fest Channel:	Lowest o				Pola	arization		Vertica	Vertical		
Fest Voltage:	AC 120/				Env	vironmen	t:	Temp	: <b>24</b> ℃	Huni: 57%	
110 Level (dBuV	/m)			1					-		
100											
										Δ	
80								FCC	PART 15	B-PK	
										11	
60	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m	m	m	min	m		TE	PART 15	B-AV	
40									1		
40											
20											
20											
0 2240 22	20			350						2404	
2310 23	20		4	Frequen	cy (MHz)					2404	
F	Read/ reg Level	Intenna	Cable	Aux	Preamp	1	Limit	Over Linit	Descula		
									Kemark		
	MHz dBuV		dB	dB			dBuV/m				
1 2390. 2 2390.			4.28 4.28				74.00 54.00		Peak Average	•	

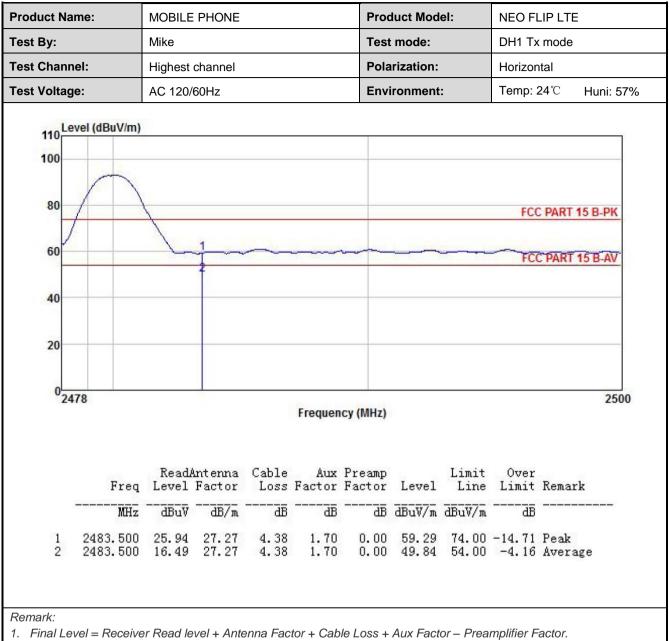










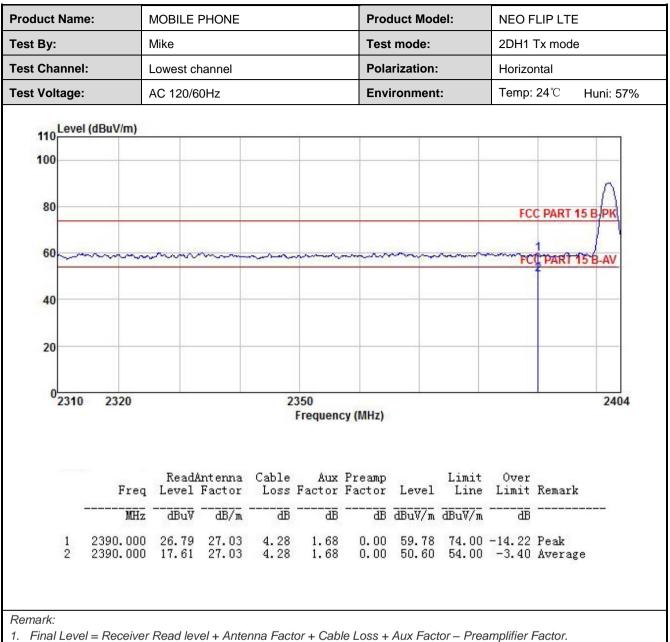




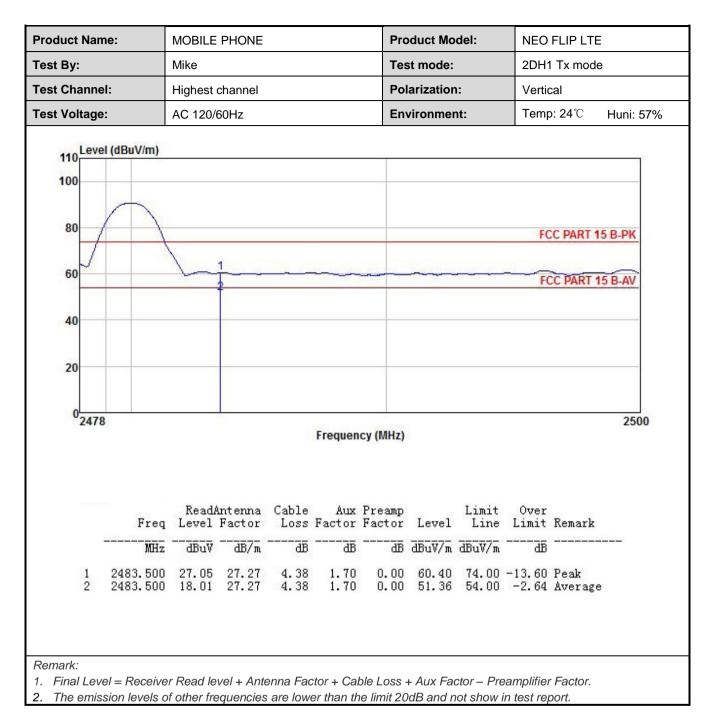
#### $\pi/4$ -DQPSK mode

roduct Name:	MOBIL	MOBILE PHONE					Product Model:			NEO FLIP LTE		
est By:	Mike				Test mode:			2DH1	2DH1 Tx mode Vertical			
est Channel:	Lowes	t channel			Pola	Polarization:						Vertical
est Voltage:	AC 12	0/60Hz			Env	ironmen	t:	Temp: 24℃ Huni:				
Level (4De)												
110 Level (dBu	v/m)											
100												
										Δ		
80								FCC	PART 15	BPK		
						20.00	and the state			11		
60	m		m	mm	m		m	~~~~ FCC	PART 15	B-AV		
40				_								
20												
02310 23	320			2350		_				2404		
2010 2.					cy (MHz)					2101		
F	Rea req Leve	dAntenna 1 Factor	Cable Loss	Aux Factor	Preamp Factor	Level	Limit Line	Over Limit	Remark			
	MHz dBu	V	āB	āB	āĒ	dBuV/m	dBuV/m	dB				
1 2390. 2 2390.		9 27.03 3 27.03	4.28 4.28	1.68 1.68		58.28 49.32	74.00 54.00	-15.72 -4.68	Peak Averag	е		

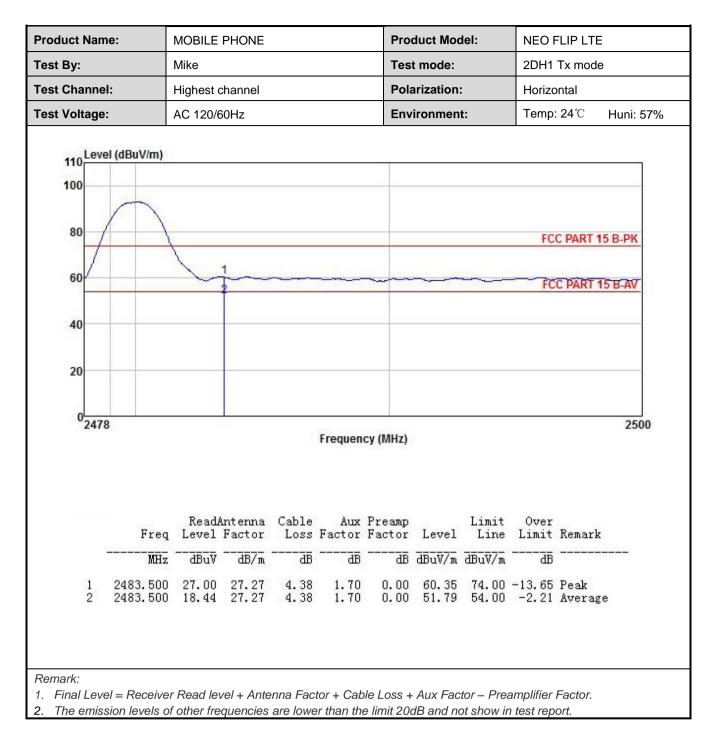










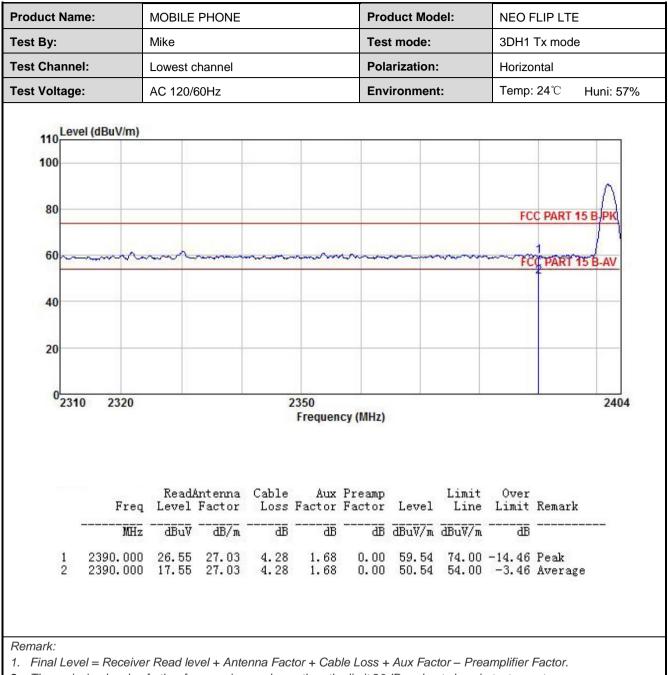




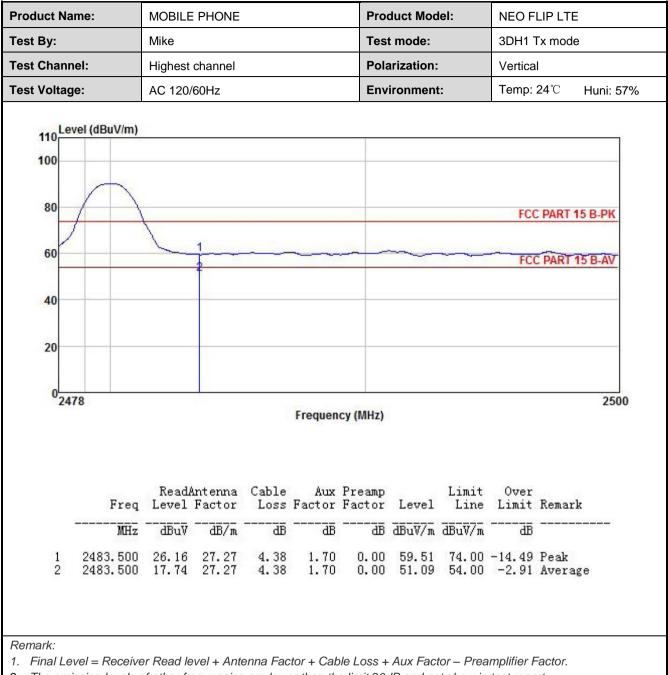
#### 8DPSK mode

roduct Name	e:	MOBILE PHONE				Pro	Product Model:			NEO FLIP LTE			
est By:		Mike				Tes	Test mode: Polarization:			3DH1 Tx mode			
est Channel:	:	Lowest ch	nannel			Pola				Vertical			Vertical
Fest Voltage:		AC 120/60Hz					Environment:			: <b>24</b> ℃	Huni: 57%		
	1												
110 Leve	l (dBuV/m)				1								
100													
											Δ		
80									F(	CC PART 1	5 B PK		
60~~~		m	m	er-	m		umm	knunn	FI		5 B-AV		
										1			
40				-									
20													
20													
0													
2310	2320			1	2350 Frequer	icy (MHz)					2404		
	Freq	ReadA Level	intenna Factor			Preamp Factor		Limit Line	Over Limit	Remark			
	MHz	dBuV		āB	ā	dB	dBuV/m	dBuV/m	āB				
1 2	2390.000 2390.000		27.03 27.03	4.28 4.28		0.00 0.00	58.93 49.43	74.00 54.00	-15.07 -4.57	Peak Average	,		
Remark:													
1. Final Level													
2. The emissi	ion levels of	f other free	quencies	are lowe	r than th	e limit 20	dB and n	ot show ii	n test rep	oort.			

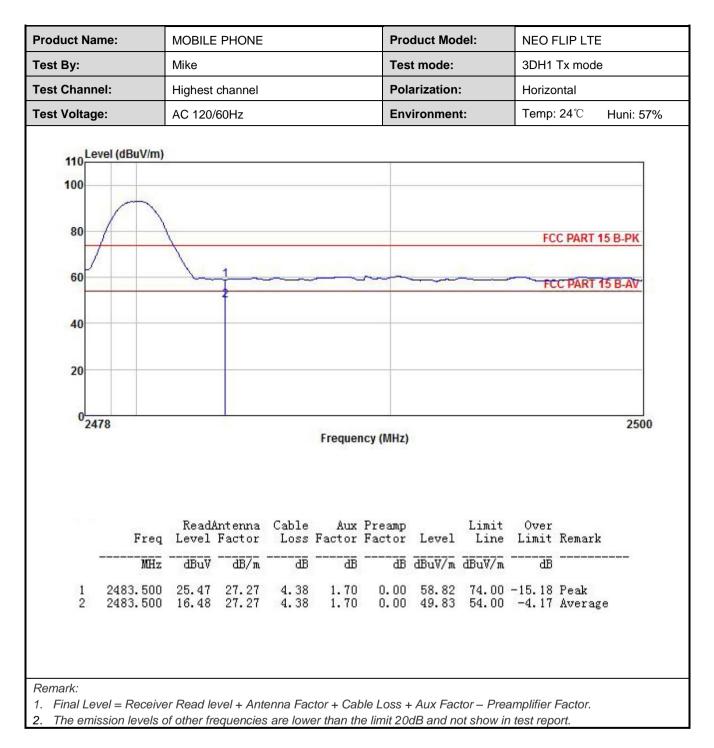














# 6.10 Spurious Emission

# 6.10.1 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.							
Test setup:								
Test Instruments:	Refer to section 5.9 for details							
Test mode:	Non-hopping mode							
Test results:	Pass							
Measurement Data:	Refer to Appendix A - BT							



### 6.10.2 Radiated Emission Method

Test Requirement:	FCC Part 15 C Section 15.209								
Test Frequency Range:	9 kHz to 25 GHz								
Test Distance:	3m								
Receiver setup:	Frequency	Detect	or	RBW VBW		Remark			
	30MHz-1GHz	Quasi-p	eak 120kHz		300kH	Iz Quasi-peak Value			
		Peak			3MHz	z Peak Value			
	Above 1GHz	RMS	6 1MHz 3MHz		3MHz	z Average Value			
Limit:	Frequency Limit (dBuV/m @3m)				Remark				
	30MHz-88N	/IHz		40.0		Quasi-peak Value			
	88MHz-216	MHz		43.5		Quasi-peak Value			
	216MHz-960	MHz		46.0		Quasi-peak Value			
	960MHz-10	GHz		54.0		Quasi-peak Value			
	41			54.0		Average Value			
	Above 1GI	HZ	74.0			Peak Value			
Test setup:	Ta ••••••• Groun	Jum 0.8m A ble A d Plane ───	4m			Antenna Tower Search Antenna RF Test Receiver			
	Above 1GHz	AE EU (Turntable)	Test R	3m Ground Reference Plane ecciver	Pre-				
Test Procedure:	<ul> <li>/1.5m(above - was rotated 3 radiation.</li> <li>2. The EUT was</li> </ul>	1GHz) abo 60 degree set 3 met	ove thes to other	ne ground at determine the way from the	a 3 mete e position e interfer	e 0.8m(below 1GHz) er chamber. The table n of the highest ence-receiving able-height antenna			

Project No.: JYTSZE2012039



	<ul><li>tower.</li><li>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li></ul>
	4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
	<ol><li>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li></ol>
	6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode
Test results:	Pass
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 30 MHz is noise floor and lower than the limit 20dB, so only shows the data of above 30MHz in this report.</li> </ol>

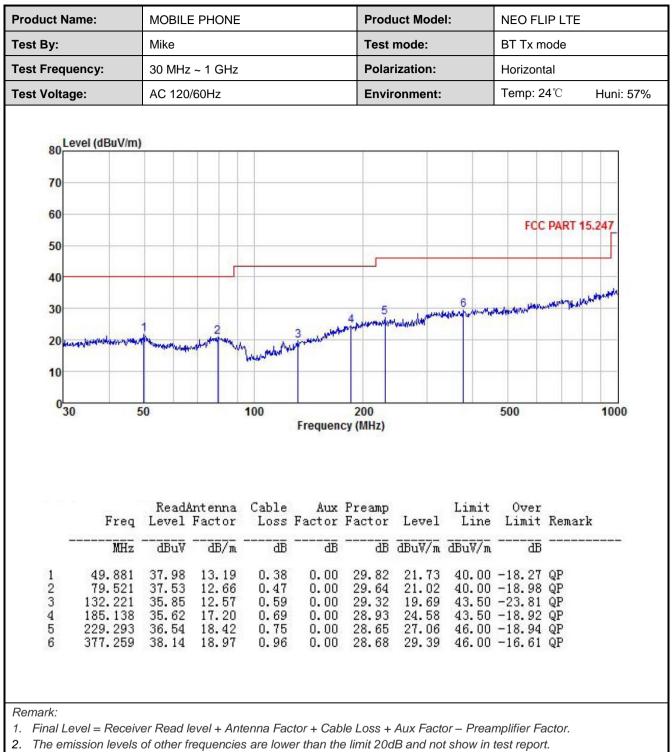


#### Measurement Data (worst case):

Below 1GHz:

	Name:	MOBILE PHONE				Product Model:			NEO FLIP LTE				
est By:		Mike				Test	Test mode:			BT Tx mode			
est Freq	uency:	30 MH:	30 MHz ~ 1 GHz			Polar	Polarization:			Vertical			
est Volta	age:	: AC 120/60Hz				Envir	onment:		Temp: 24	<b>1</b> ℃	Huni: 57%		
80 70 60 50	Level (dBuV/m	)							FCCI	PART 1	5.247		
40			T										
30					28	www.man	ipurnal make	wanter the	freedlatterhouse	6	-		
20	-happeness and make the	strate and the state of the sta	non-application	Luman	entre coloners								
10				HAL.						_			
0	30	50		100							1000		
					Frequen								
	Freq		Intenna Factor			Preamp		Limit Line		Rema	rk		
	Freq MHz	Level				Preamp Factor		Line		Rema:	rk		





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



#### Above 1GHz:

			Te		el: Lowest c					
	T	ſ		Detecto	or: Peak Val	Je		Γ	I	
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	
4804.00	50.19	30.78	6.80	2.44	41.81	48.40	74.00	-25.60	Vertical	
4804.00	50.86	30.78	6.80	2.44	41.81	49.07	74.00	-24.93	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	
4804.00	45.93	30.78	6.80	2.44	41.81	44.14	54.00	-9.86	Vertical	
4804.00	45.88	30.78	6.80	2.44	41.81	44.09	54.00	-9.91	Horizontal	
			Т	est chann	el: Middle cł	nannel				
					or: Peak Val					
_	Read	Antenna	Cable	Aux	Preamp		Limit	Over		
Frequency (MHz)	Level (dBuV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Factor (dB)	Level (dBuV/m)	Line (dBuV/m)	Limit (dB)	Polarization	
4882.00	50.25	30.96	6.86	2.47	41.84	48.70	74.00	-25.30	Vertical	
4882.00	50.91	30.96	6.86	2.47	41.84	49.36	74.00	-24.64	Horizontal	
	1	1		Detector:	Average Va	alue		r		
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	
4882.00	45.97	30.96	6.86	2.47	41.84	44.42	54.00	-9.58	Vertical	
4882.00	45.93	30.96	6.86	2.47	41.84	44.38	54.00	-9.62	Horizontal	
			Te		el: Highest c					
			<u> </u>		or: Peak Val	Je				
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	
4960.00	50.39	31.11	6.91	2.49	41.87	49.03	74.00	-24.97	Vertical	
4960.00	51.03	31.11	6.91	2.49	41.87	49.67	74.00	-24.33	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	
4960.00	46.06	31.11	6.91	2.49	41.87	44.70	54.00	-9.30	Vertical	
4960.00	46.02	31.11	6.91	2.49	41.87	44.66	54.00	-9.34	Horizontal	
						+ Aux Factor				

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