

FCC TEST REPORT (PART 27)

REPORT NO.: RF120621C20-2 R1

MODEL NO.: PL83200

FCC ID: NM8PL83200

RECEIVED: Jun. 21, 2012

TESTED: Aug. 22 ~ Sep. 18, 2012

ISSUED: Sep. 18, 2012

APPLICANT: HTC Corporation

ADDRESS: 23, Xinghua Rd., Taoyuan 330, Taiwan, R.O.C.

ISSUED BY: Bureau Veritas Consumer Products Services

(H.K.) Ltd., Taoyuan Branch

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist.,

New Taipei City, Taiwan, R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei

Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.





This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

Report No.: RF120621C20-2 R1 1 of 52 Report Format Version 5.0.0



TABLE OF CONTENTS

RELEA	SE CONTROL RECORD	3
1	CERTIFICATION	
2	SUMMARY OF TEST RESULTS	
2.1	MEASUREMENT UNCERTAINTY	5
2.2	TEST SITE AND INSTRUMENTS	6
3	GENERAL INFORMATION	7
3.1	GENERAL DESCRIPTION OF EUT	
3.2	CONFIGURATION OF SYSTEM UNDER TEST	8
3.3	DESCRIPTION OF TEST MODES	10
3.4	GENERAL DESCRIPTION OF APPLIED STANDARDS	11
4	TEST TYPES AND RESULTS	12
4.1	OUTPUT POWER MEASUREMENT	12
4.1.1	LIMITS OF OUTPUT POWER MEASUREMENT	12
4.1.2	TEST PROCEDURES	
4.1.3	TEST SETUP	
4.1.4	TEST RESULTS	
4.2	FREQUENCY STABILITY MEASUREMENT	
4.2.1	LIMITS OF FREQUENCY STABILITY MEASUREMENT	
4.2.2	TEST PROCEDURE	
4.2.3	TEST SETUP	
4.2.4	TEST RESULTS	
4.3	OCCUPIED BANDWIDTH MEASUREMENT	
4.3.1	LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT	
4.3.2	TEST SETUP	
4.3.3	TEST PROCEDURES	
4.3.4	TEST RESULTS	
4.4	PEAK TO AVERAGE RATIO	
4.4.1	LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT	
4.4.1	TEST SETUP	
4.4.3	TEST PROCEDURES	
4.4.4	TEST RESULTS	
4.4.4	BAND EDGE MEASUREMENT	
4.5 4.5.1	LIMITS OF BAND EDGE MEASUREMENT	
4.5.1	TEST SETUP	
4.5.2 4.5.3	TEST SETUP	
4.5.4 4.6	TEST RESULTSCONDUCTED SPURIOUS EMISSIONS	23
4.6.1	LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT	
4.6.2	TEST PROCEDURE	
4.6.3	TEST SETUP	
4.6.4	TEST RESULTSRADIATED EMISSION MEASUREMENT	26
4.7		
4.7.1	LIMITS OF RADIATED EMISSION MEASUREMENT	
4.7.2	TEST PROCEDURES	
4.7.3	DEVIATION FROM TEST STANDARD	
4.7.4	TEST SETUP	
4.7.5	TEST RESULTS	
5	INFORMATION ON THE TESTING LABORATORIES	51
6	APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANG	ES
	TO THE EUT BY THE LAB	52



RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120621C20-2	Original release	Sep. 04, 2012
RF120621C20-2 R1	Add wireless charger mode	Sep. 18, 2012

Report No.: RF120621C20-2 R1 3 of 52 Report Format Version 5.0.0



1 CERTIFICATION

PRODUCT: Smartphone

MODEL NO.: PL83200

BRAND: HTC

APPLICANT: HTC Corporation

TESTED: Aug. 22 ~ Sep. 18, 2012

TEST SAMPLE: Production Unit

TEST STANDARDS: FCC Part 27

FCC Part 2

The above equipment (model: PL83200) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY: ______, **DATE**: Sep. 18, 2012

Ivonne Wu / Senior Specialist

APPROVED BY: Sep. 18, 2012

Gary Chang / Technical Manager

Report No.: RF120621C20-2 R1 4 of 52 Report Format Version 5.0.0



2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

OPERATING BAND: 776-788 MHz							
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK				
2.1046 27.50(b)(10)	Maximum Peak Output Power	PASS	Meet the requirement of limit.				
2.1055 27.54	Frequency Stability	PASS	Meet the requirement of limit.				
2.1049	Occupied Bandwidth	PASS	Meet the requirement of limit.				
27.50(d)(5)	Peak to average ratio	PASS	Meet the requirement of limit.				
27.53(c)(2)	Band Edge Measurements	PASS	Meet the requirement of limit.				
2.1051 27.53(c)(2)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.				
2.1051 27.53(c)(4)	Emission in the 763–775 MHz and 793–805 MHz band	PASS	Meet the requirement of limit.				
2.1053 27.53(c)(2)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -20.31dB at 2332.80MHz.				
2.1053 27.53(f)	Emissions in the band 1559–1610 MHz	PASS	Meet the requirement of limit. Minimum passing margin is -7.83dB at 32.43MHz.				

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	150kHz~30MHz	2.44 dB
	30MHz ~ 200MHz	2.93 dB
Dadiated emissions	200MHz ~1000MHz	2.95 dB
Radiated emissions	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Report No.: RF120621C20-2 R1 5 of 52 Report Format Version 5.0.0



2.2 TEST SITE AND INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver Agilent	N9038A	MY51210203	Dec. 22, 2011	Dec. 21, 2012
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 21, 2011	Dec. 20, 2012
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 20, 2011	Dec. 19, 2012
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Dec. 20, 2011	Dec. 19, 2012
ORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 20, 2011	Dec. 19, 2012
Preamplifier EMCI	EMC 012645	980115	Dec. 30, 2011	Dec. 29, 2012
Preamplifier EMCI	EMC 330H	980112	Dec. 30, 2011	Dec. 29, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 21, 2011	Oct. 20, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Jan. 02, 2012	Jan. 01, 2013
RF signal cable Worken	RG-213	NA	Jan. 02, 2012	Jan. 01, 2013
Software	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA
Mini-Circuits Power Splitter	ZN2PD-9G	NA	Mar. 23, 2012	Mar. 22, 2013
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
Communications Tester-Wireless	E5515C	MY50266653	Sep. 28, 2011	Sep. 27, 2012
Radio Communication Analyzer	MT8820C	6201127458	May 25, 2012	May 24, 2013

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

- 2. The test was performed in HwaYa Chamber 9.
- 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
- 4. The FCC Site Registration No. is 460141.
- 5. The IC Site Registration No. is IC 7450F-4.

Report No.: RF120621C20-2 R1 6 of 52 Report Format Version 5.0.0



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Smartphone			
MODEL NO.	PL83200			
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.8Vdc (battery)			
MODULATION TECHNOLOGY	LTE Band 13	QPSK, 16QAM		
FREQUENCY RANGE	LTE Band 13 Channel Bandwidth: 5MHz	779.5 ~ 784.5MHz		
TREQUENCTRANGE	LTE Band 13 Channel Bandwidth: 10MHz	782MHz		
	LTE Band 13	QPSK: 4M50G7D		
EMISSION	Channel Bandwidth: 5MHz	16QAM: 4M51W7D		
DESIGNATOR	LTE Band 13	QPSK: 8M93G7D		
	Channel Bandwidth: 10MHz	16QAM: 8M91W7D		
MAX. ERP POWER	LTE Band 13 Channel Bandwidth: 5MHz	90.36mW		
(mW)	LTE Band 13 Channel Bandwidth: 10MHz	99.77mW		
CATEGORY	LTE: 3			
ANTENNA TYPE LTE Band 13		Fixed Internal antenna with -3dBi gain		
DATA CABLE	Refer to Note as below			
I/O PORTS	Refer to users' manual			
ACCESSORY DEVICES	Refer to Note as below			

NOTE:

- 1. The EUT's accessories list refers to Ext Pho.pdf.
 - * Item 2, 3, 5, 6, 7, 8 were the worst for the final test.
- 2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

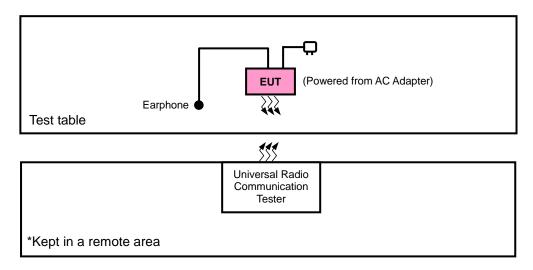
Report No.: RF120621C20-2 R1 7 of 52 Report Format Version 5.0.0



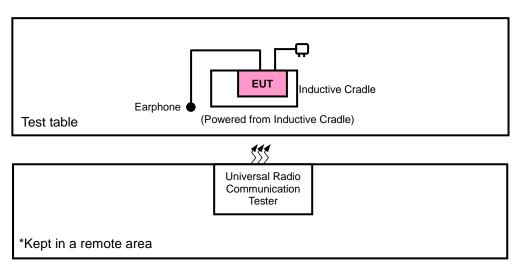
3.2 CONFIGURATION OF SYSTEM UNDER TEST

<For Radiated Emission Test>

Tset Mode A



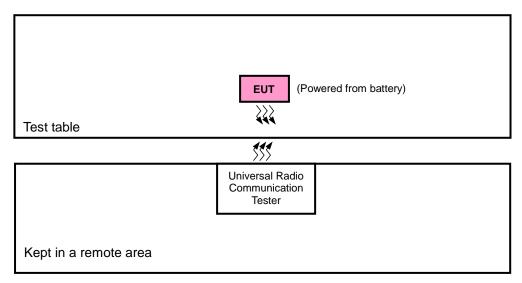
Tset Mode B



Report No.: RF120621C20-2 R1 8 of 52 Report Format Version 5.0.0



<For Output Power Test>



3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Earphone	Merry	HS S250	NA	NA
2	Inductive Cradle	Energizer	IC2B	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS					
1	1m non-shielded cable without core					
2	NA					

NOTE:

- 1. All power cords of the above support units are non shielded (1.8m).
- 2. Items 1-2 were provided by client.

Report No.: RF120621C20-2 R1 9 of 52 Report Format Version 5.0.0



3.4 DESCRIPTION OF TEST MODES

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on Y-plane for ERP and Z-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION		
А	Normal Link		
В	Wireless Charge		

LTE Band 13

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
^	ERP	23205 to 23255	23205, 23230, 23255	5MHz	QPSK	1 RB / 0 RB Offset
А	EKP	23230	23230	10MHz	QPSK	1 RB / 0 RB Offset
А	FREQUENCY	23205 to 23255	23230	5MHz	QPSK	1 RB / 0 RB Offset
A	STABILITY	23230	23230	10MHz	QPSK	1 RB / 0 RB Offset
А	OCCUPIED	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
A	BANDWIDTH	23230	23230	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
А	PEAK TO AVERAGE	23205 to 23255	23205, 23230, 23255	5MHz	QPSK	1 RB / 0 RB Offset
A	RATIO	23230	23230	10MHz	QPSK	1 RB / 0 RB Offset
	BAND EDGE	23205	5MHz	QPSK	1 RB / 0 RB Offset	
		23205 to 23255		SIVII IZ	QI SIX	25 RB / 0 RB Offset
		23255	23255	5MHz	QPSK	1 RB / 24 RB Offset
Α			20200	OIVII 12	QI OIX	25 RB / 0 RB Offset
				10MHz	QPSK	1 RB / 0 RB Offset
			23230			1 RB / 49 RB Offset
						50 RB / 0 RB Offset
Α	CONDCUDETED	23205 to 23255	23230	5MHz	QPSK	1 RB / 0 RB Offset
^	EMISSION	23230	23230	10MHz	QPSK	1 RB / 0 RB Offset
					QPSK	1 RB / 0 RB Offset
		23205 to 23255	23230	5MHz	QI OIX	25 RB / 0 RB Offset
		20200 10 20200	20200	JIVII IZ	16QAM	1 RB / 0 RB Offset
Α	RADIATED				TOQAW	25 RB / 0 RB Offset
	EMISSION				QPSK	1 RB / 0 RB Offset
		23230	23230	10MHz	QI OIX	50 RB / 0 RB Offset
		20200	23230	I OIVII IZ	16QAM	1 RB / 0 RB Offset
					IOQAW	50 RB / 0 RB Offset
В	RADIATED	23205 to 23255	23230	5MHz	16QAM	1 RB / 0 RB Offset
ь	EMISSION	23230	23230	10MHz	QPSK	1 RB / 0 RB Offset

Report No.: RF120621C20-2 R1 10 of 52 Report Format Version 5.0.0



TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	25deg. C, 65%RH	3.8Vdc	Phoenix Chen
FREQUENCY STABILITY	25deg. C, 65%RH	3.8Vdc	Phoenix Chen
OCCUPIED BANDWIDTH	25deg. C, 65%RH	3.8Vdc	Phoenix Chen
BAND EDGE	25deg. C, 65%RH	3.8Vdc	Phoenix Chen
CONDCUDETED EMISSION	25deg. C, 65%RH	3.8Vdc	Phoenix Chen
RADIATED EMISSION	25deg. C, 65%RH	120Vac, 60Hz	Kay Wu

3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2 FCC 47 CFR Part 27 ANSI/TIA/EIA-603-C 2004

NOTE: All test items have been performed and recorded as per the above standards.

Report No.: RF120621C20-2 R1 11 of 52 Report Format Version 5.0.0



4 TEST TYPES AND RESULTS

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Portable stations (hand-held devices) operating in the 777-787MHz band is limited to 3 watts ERP

4.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

- a. The EUT was set up for the maximum power with LTE link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range). RBW and VBW is 10MHz for LTE.
- b. E.I.R.P power measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G
- d. EIRP = Output power level of S.G TX cable loss + Antenna gain of substitution horn
- e. E.R.P = E.I.R.P 2.15 dB

CONDUCTED POWER MEASUREMENT:

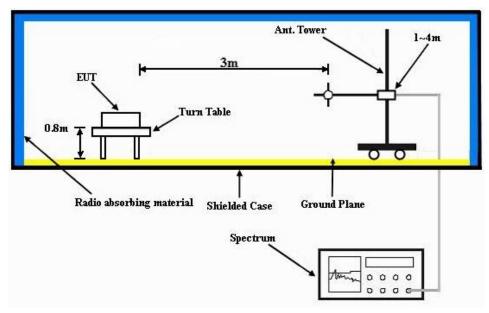
- a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
- b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

Report No.: RF120621C20-2 R1 12 of 52 Report Format Version 5.0.0



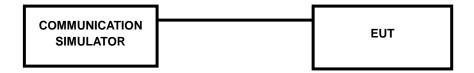
4.1.3 TEST SETUP

EIRP / ERP MEASUREMENT:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

CONDUCTED POWER MEASUREMENT:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

Report No.: RF120621C20-2 R1 Report Format Version 5.0.0



4.1.4 TEST RESULTS

AVERAGE CONDUCTED OUTPUT POWER (dBm)

	LTE Band 13							
BW	Modulation	СН	Frequency	RB	RB Offset	MPR	Target	Measured
BVV	Wodulation	Cli	(MHz)	KD	KB Oliset	IVIFIX	Power	Power
		23205	779.5	1	0	0	25.3	25.13
		23230	782	1	0	0	25.3	25.24
		23255	784.5	1	0	0	25.3	25.25
		23205	779.5	1	24	0	25.3	25.11
		23230	782	1	24	0	25.3	25.22
	QPSK	23255	784.5	1	24	0	25.3	25.23
	QFSK	23205	779.5	12	6	1	25.3	24.02
		23230	782	12	6	1	25.3	24.13
		23255	784.5	12	6	1	25.3	24.14
		23205	779.5	25	0	1	25.3	23.88
		23230	782	25	0	1	25.3	23.99
5 MII-		23255	784.5	25	0	1	25.3	24
5 MHz	16QAM	23205	779.5	1	0	1	25.3	24.14
		23230	782	1	0	1	25.3	24.25
		23255	784.5	1	0	1	25.3	24.26
		23205	779.5	1	24	1	25.3	24.07
		23230	782	1	24	1	25.3	24.18
		23255	784.5	1	24	1	25.3	24.19
		23205	779.5	12	6	2	25.3	22.95
		23230	782	12	6	2	25.3	23.06
		23255	784.5	12	6	2	25.3	23.07
		23205	779.5	25	0	2	25.3	22.78
		23230	782	25	0	2	25.3	22.89
		23255	784.5	25	0	2	25.3	22.9
		23230	782	1	0	0	25.3	25.28
	0.001/	23230	782	1	49	0	25.3	25.26
	QPSK	23230	782	25	12	1	25.3	24.17
405		23230	782	50	0	1	25.3	24.03
10MHz		23230	782	1	0	1	25.3	24.29
		23230	782	1	49	1	25.3	24.22
	16QAM	23230	782	25	12	2	25.3	23.1
		23230	782	50	0	2	25.3	22.93

Report Format Version 5.0.0 Cancels and replaces the report no.: RF120621C20-2 dated Sep. 04, 2012



ERP (dBm)

LTE BAND 13

CHANNEL BANDWIDTH: 5MHz QPSK (1 RB / 0 RB Offset)

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
	23205	779.5	-10.89	32.24	19.20	83.18	
	23230	782.0	-10.92	32.17	19.10	81.28	Н
V	23255	784.5	-10.40	32.11	19.56	90.36	
Ť	23205	779.5	-16.89	32.43	13.39	21.83	
	23230	782.0	-16.93	32.42	13.34	21.58	V
	23255	784.5	-17.17	32.46	13.14	20.61	

CHANNEL BANDWIDTH: 10MHz / QPSK (1 RB / 0 RB Offset)

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
V	23230	782.0	-10.03	32.17	19.99	99.77	Н
*	23230	782.0	-16.82	32.42	13.45	22.13	V

Report No.: RF120621C20-2 R1 15 of 52 Report Format Version 5.0.0



4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

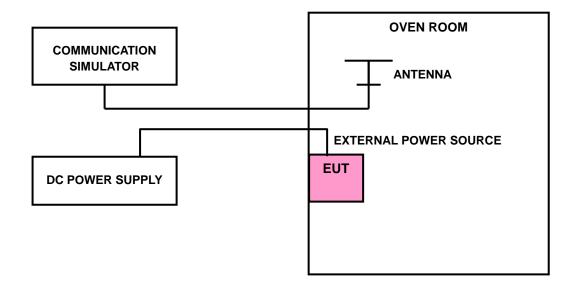
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

4.2.2 TEST PROCEDURE

- a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}$ C during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

4.2.3 TEST SETUP



Report No.: RF120621C20-2 R1 16 of 52 Report Format Version 5.0.0



4.2.4 TEST RESULTS

AFC FREQUENCY ERROR vs. VOLTAGE								
VOLTAGE (Volts)	FREQUENCY	LIBAIT (mmm)						
	5MHz	10MHz	LIMIT (ppm)					
4.35	-0.0047	-0.0004	2.5					
3.8	-0.0018	-0.0008	2.5					
3.6	0.0018	-0.0008	2.5					

NOTE: The applicant defined the normal working voltage of the battery is from 3.6Vdc to 4.35Vdc.

AFC FREQUENCY ERROR vs. TEMP.									
TEMP. (°C)	FREQUENCY	ERROR (ppm)	LIMIT (ppm)						
TEIMT: (C)	5MHz	10MHz	сиин (ррш)						
-30	-0.0027	0.0009	2.5						
-20	0.0024	0.0027	2.5						
-10	0.0004	0.0047	2.5						
0	-0.0004	-0.0012	2.5						
10	-0.0065	-0.0040	2.5						
20	0.0003	-0.0049	2.5						
30	-0.0013	0.0029	2.5						
40	-0.0055	0.0018	2.5						
50	-0.0026	-0.0008	2.5						
60	-0.0037	0.0027	2.5						

Report No.: RF120621C20-2 R1 17 of 52 Report Format Version 5.0.0

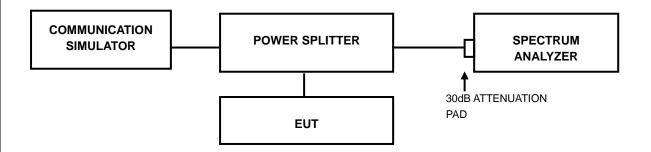


4.3 OCCUPIED BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.3.2 TEST SETUP



4.3.3 TEST PROCEDURES

- a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

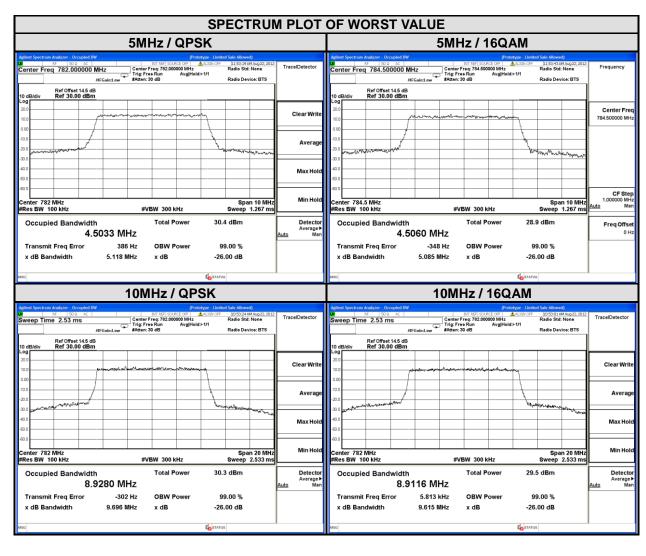
Report No.: RF120621C20-2 R1 18 of 52 Report Format Version 5.0.0



4.3.4 TEST RESULTS

LTE BAND 13

С	HANNEL BAND	WIDTH: 5MH	z	CHANNEL BANDWIDTH: 10MHz				
CHANNEL	FREQUENCY	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY	99% OCCUPIED BANDWIDTH (MHz)		
	(MHz)	QPSK	16QAM		(MHz)	QPSK	16QAM	
23205	779.5	4.50	4.50			8.93	8.91	
23230	782.0	4.50	4.50	23230	782.0			
23255	784.5	4.50	4.51					



Report No.: RF120621C20-2 R1 19 of 52 Report Format Version 5.0.0

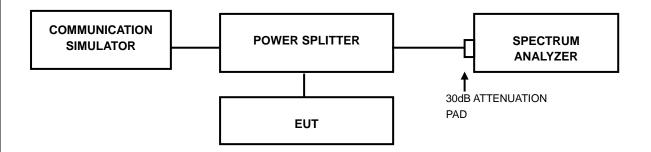


4.4 PEAK TO AVERAGE RATIO

4.4.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

4.4.2 TEST SETUP



4.4.3 TEST PROCEDURES

- 1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
- 2. Set the number of counts to a value that stabilizes the measured CCDF curve;
- 3. Record the maximum PAPR level associated with a probability of 0.1%.

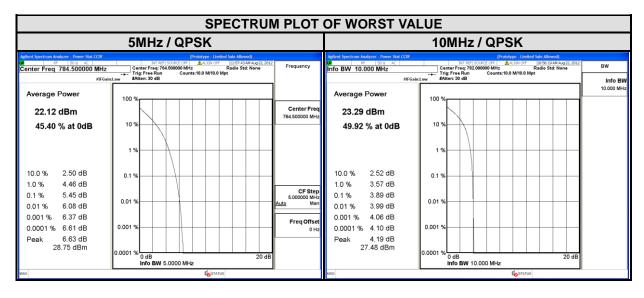
Report No.: RF120621C20-2 R1 20 of 52 Report Format Version 5.0.0



4.4.4 TEST RESULTS

LTE BAND 13

С	HANNEL BAND	WIDTH: 5MHz	CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY	PEAK TO AVERAGE RATIO (dB)	CHANNEL	FREQUENCY	PEAK TO AVERAGE RATIO (dB)	
	(MHz)	QPSK		(MHz)	QPSK	
23205	779.5	5.41				
23230	782.0	5.40	23230	782.0	3.89	
23255	784.5	5.45				



Report No.: RF120621C20-2 R1 21 of 52 Report Format Version 5.0.0

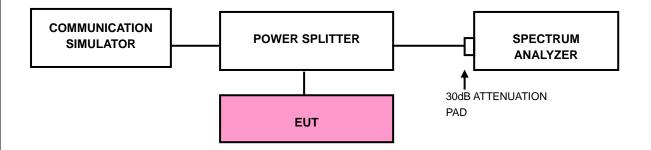


4.5 BAND EDGE MEASUREMENT

4.5.1 LIMITS OF BAND EDGE MEASUREMENT

For operations in the 777-787 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

4.5.2 TEST SETUP



4.5.3 TEST PROCEDURES

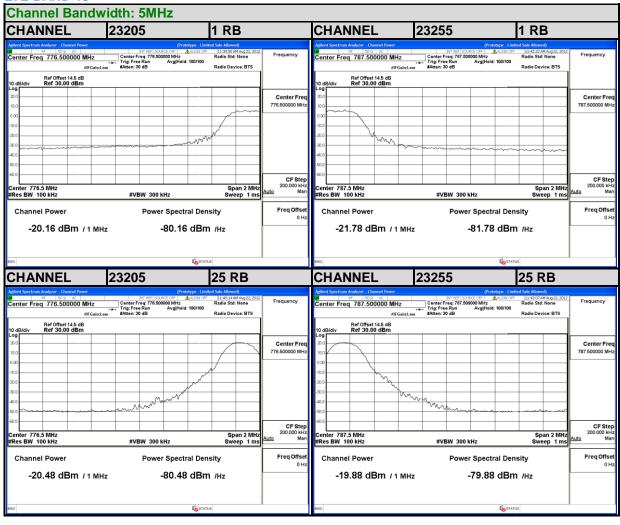
- a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 2 channels (low and high operational frequency range.).
- b. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- c. The center frequency of spectrum is the band edge frequency and span is 2 MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz.
- d. Record the max trace plot into the test report.

Report No.: RF120621C20-2 R1 22 of 52 Report Format Version 5.0.0



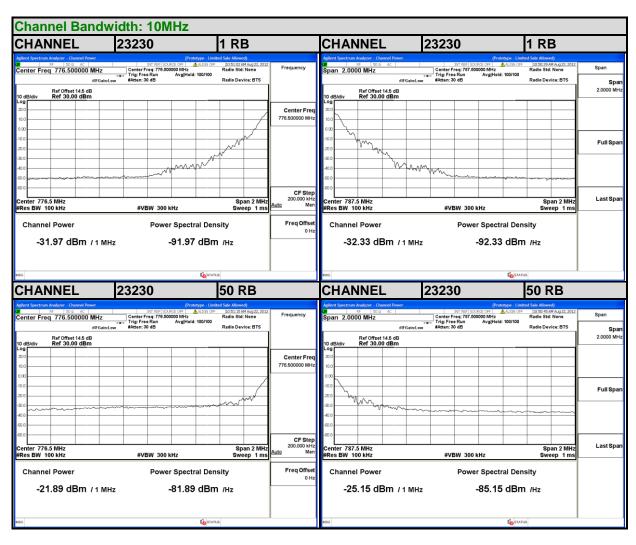
4.5.4 TEST RESULTS

LTE BAND 13



Report No.: RF120621C20-2 R1 23 of 52 Report Format Version 5.0.0







4.6 CONDUCTED SPURIOUS EMISSIONS

4.6.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

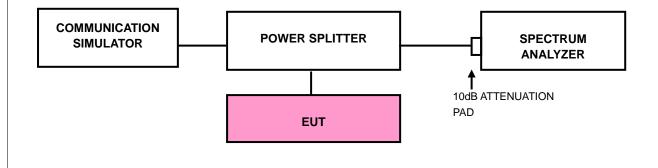
For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power(P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
- (2) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

4.6.2 TEST PROCEDURE

- a. The EUT makes a phone call to the communication simulator. All measurements were done at middle operational frequency range.
- b. Measuring frequency range is from 30 MHz to 8GHz for LTE Band 13. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz are used for conducted emission measurement.

4.6.3 TEST SETUP

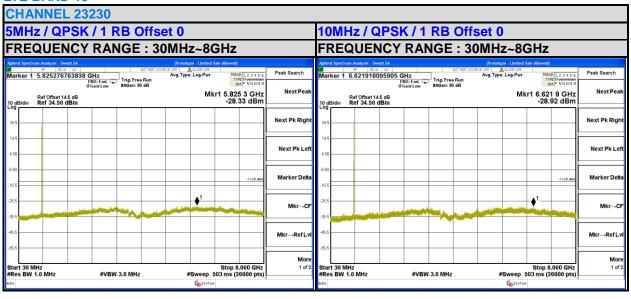


Report No.: RF120621C20-2 R1 25 of 52 Report Format Version 5.0.0



4.6.4 TEST RESULTS

LTE BAND 13



Report No.: RF120621C20-2 R1 26 of 52 Report Format Version 5.0.0



Emission in the 763-775 MHz and 793-805 MHz band



Report No.: RF120621C20-2 R1 27 of 52
Cancels and replaces the report no.: RF120621C20-2 dated Sep. 04, 2012







4.7 RADIATED EMISSION MEASUREMENT

4.7.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to -13dBm

4.7.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G
- c. EIRP = Output power level of S.G TX cable loss + Antenna gain of substitution horn.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power 2.15dBi.

NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

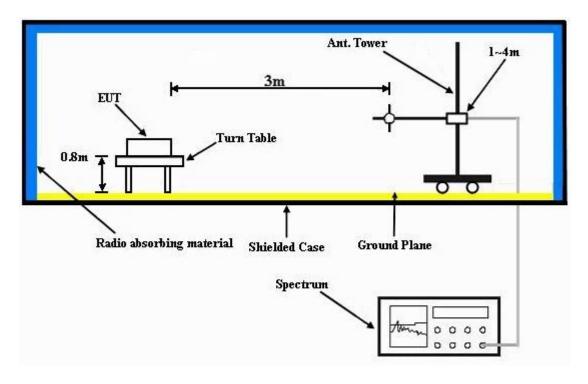
4.7.3 DEVIATION FROM TEST STANDARD

No deviation

Report No.: RF120621C20-2 R1 29 of 52 Report Format Version 5.0.0



4.7.4 TEST SETUP



For the actual test configuration, please refer to the attached file (Test Setup Photo).



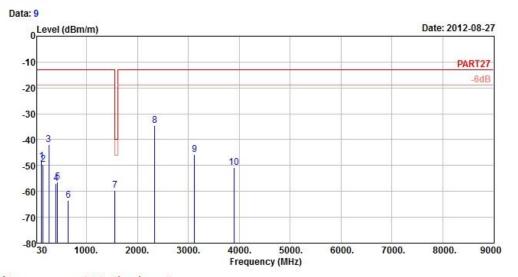
4.7.5 TEST RESULTS

TEST MODE A LTE BAND 13

CHANNEL BANDWIDTH: 5MHz/QPSK



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch



Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL

Brand/Model: PL83200

Remark : Band 13 5M QPSK(1,0)

Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

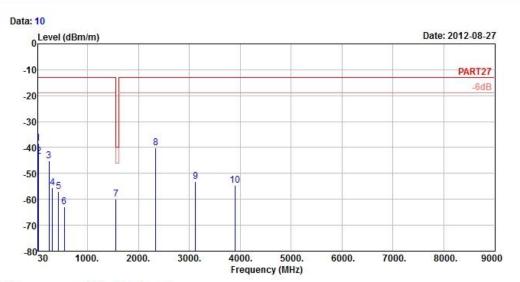
		-					
	Freq	Level	Read Level	Limit Line		Factor	Remark
<u> </u>	MHz	dBm/m	dBm	dBm/m	dB	dB/m	32
1	114.51	-48.41	-37.70	-13.00	-35.41	-10.71	Peak
2	143.94	-49.55	-43.63	-13.00	-36.55	-5.92	Peak
3	261.12	-41.91	-36.08	-13.00	-28.91	-5.83	Peak
4	402.90	-57.04	-51.47	-13.00	-44.04	-5.57	Peak
5	430.20	-56.30	-51.44	-13.00	-43.30	-4.86	Peak
6	639.50	-63.35	-63.70	-13.00	-50.35	0.35	Peak
7 pp	1559.60	-59.73	-46.46	-40.00	-19.73	-13.27	Peak
8	2339.40	-34.44	-25.05	-13.00	-21.44	-9.39	Peak
9	3119.20	-45.73	-38.22	-13.00	-32.73	-7.51	Peak
10	3899.00	-50.72	-44.91	-13.00	-37.72	-5.81	Peak

*Item 7 was for GPS band.

Report No.: RF120621C20-2 R1 31 of 52 Cancels and replaces the report no.: RF120621C20-2 dated Sep. 04, 2012







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL

Brand/Model: PL83200

Remark : Band 13 5M QPSK(1,0)

Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

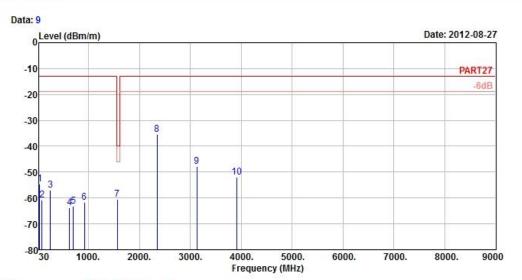
				Read	Limit	0ver		
		Freq	Level	Level	Line	Limit	Factor	Remark
		MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1		32.97	-38.29	-37.18	-13.00	-25.29	-1.11	Peak
2		39.99	-43.35	-41.82	-13.00	-30.35	-1.53	Peak
3		239.25	-45.16	-39.00	-13.00	-32.16	-6.16	Peak
4		308.40	-55.63	-49.31	-13.00	-42.63	-6.32	Peak
5		430.20	-56.90	-52.04	-13.00	-43.90	-4.86	Peak
6		540.10	-62.88	-60.88	-13.00	-49.88	-2.00	Peak
7	pp	1559.60	-59.93	-46.66	-40.00	-19.93	-13.27	Peak
8		2339.40	-40.18	-30.79	-13.00	-27.18	-9.39	Peak
9		3119.20	-53.20	-45.69	-13.00	-40.20	-7.51	Peak
10		3899.00	-54.55	-48.74	-13.00	-41.55	-5.81	Peak

^{*}Item 7 was for GPS band.

Report No.: RF120621C20-2 R1 32 of 52 Report Format Version 5.0.0 Cancels and replaces the report no.: RF120621C20-2 dated Sep. 04, 2012







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL

Brand/Model: PL83200

: Band 13 5M QPSK(25,0) Link Remark

Tested by : Kay Wu Temprature : 25℃ Humidity : 65% Plane : Z

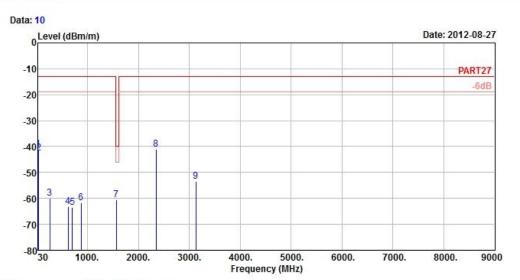
				Read	Limit	0ver		
		Freq	Level	Level	Line	Limit	Factor	Remark
		MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1		39.72	-54.49	-52.96	-13.00	-41.49	-1.53	Peak
2		81.57	-60.77	-50.47	-13.00	-47.77	-10.30	Peak
		252.75	-56.91	-51.19	-13.00	-43.91	-5.72	Peak
4		629.00	-63.69	-63.86	-13.00	-50.69	0.17	Peak
5		703.90	-63.04	-64.52	-13.00	-50.04	1.48	Peak
6		918.10	-61.70	-64.76	-13.00	-48.70	3.06	Peak
7	pp	1564.00	-60.57	-47.30	-40.00	-20.57	-13.27	Peak
8		2346.00	-35.28	-25.98	-13.00	-22.28	-9.30	Peak
9		3128.00	-47.92	-40.41	-13.00	-34.92	-7.51	Peak
10		3910.00	-51.97	-46.28	-13.00	-38.97	-5.69	Peak

^{*}Item 7 was for GPS band.

Report No.: RF120621C20-2 R1 Report Format Version 5.0.0







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL

Brand/Model: PL83200

Remark : Band 13 5M QPSK(25,0) Link

Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

			Read	Limit	0ver		
	Freq	Level	Level	Line	Limit	Factor	Remark
11	MHz	dBm/m	dBm	dBm/m	dB	dB/m	=
1	30.54	-40.89	-41.23	-13.00	-27.89	0.34	Peak
2	40.53	-42.55	-41.09	-13.00	-29.55	-1.46	Peak
3	254.64	-60.06	-54.31	-13.00	-47.06	-5.75	Peak
4	622.00	-63.23	-63.26	-13.00	-50.23	0.03	Peak
5	704.60	-63.39	-64.87	-13.00	-50.39	1.48	Peak
6	875.40	-61.64	-64.20	-13.00	-48.64	2.56	Peak
7 pp	1564.00	-60.48	-47.21	-40.00	-20.48	-13.27	Peak
8	2346.00	-41.11	-31.81	-13.00	-28.11	-9.30	Peak
9	3128.00	-53.30	-45.79	-13.00	-40.30	-7.51	Peak

^{*}Item 7 was for GPS band.

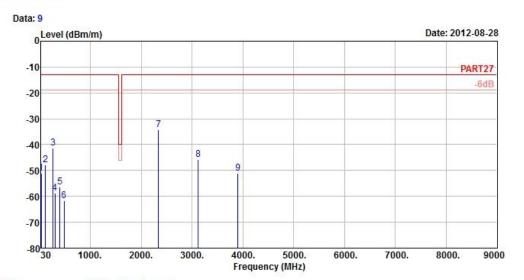
Report No.: RF120621C20-2 R1 34 of 52 Report Format Version 5.0.0 Cancels and replaces the report no.: RF120621C20-2 dated Sep. 04, 2012



CHANNEL BANDWIDTH: 5MHz / 16QAM



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch



Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL

Brand/Model: PL83200

Remark : Band 13 5M 16QAM(1,0) Link Tested by : Kay Wu

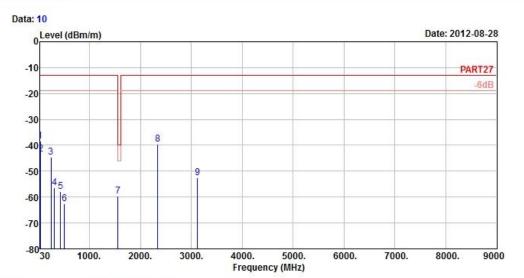
Temprature : 25℃ Humidity : 65% Plane : Z

	Freq	Level		Limit Line		Factor	Remark
<u> </u>	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	32.97	-51.13	-50.02	-13.00	-38.13	-1.11	Peak
2	113.43	-47.92	-37.23	-13.00	-34.92	-10.69	Peak
3	268.14	-41.27	-35.33	-13.00	-28.27	-5.94	Peak
4	300.00	-58.65	-52.27	-13.00	-45.65	-6.38	Peak
5	401.50	-56.27	-50.68	-13.00	-43.27	-5.59	Peak
6	481.30	-61.81	-58.23	-13.00	-48.81	-3.58	Peak
7 pp	2339.40	-34.24	-24.85	-13.00	-21.24	-9.39	Peak
8	3119.60	-45.90	-38.39	-13.00	-32.90	-7.51	Peak
9	3899.80	-51.03	-45.22	-13.00	-38.03	-5.81	Peak

Report No.: RF120621C20-2 R1 Report Format Version 5.0.0







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL

Brand/Model: PL83200

Remark : Band 13 5M 16QAM(1,0) Link

Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

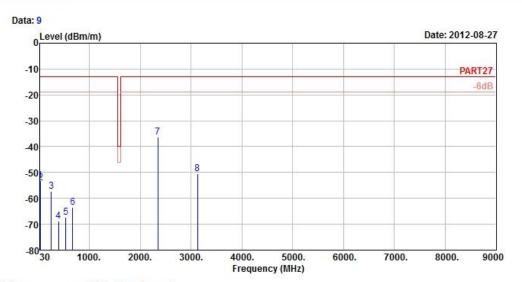
		Read	Limit	Over		
Freq	Level	Level	Line	Limit	Factor	Remark
MHz	dBm/m	dBm	dBm/m	dB	dB/m	
32.97	-38.31	-37.20	-13.00	-25.31	-1.11	Peak
39.72	-43.53	-42.00	-13.00	-30.53	-1.53	Peak
240.33	-44.67	-38.55	-13.00	-31.67	-6.12	Peak
310.50	-56.25	-49.95	-13.00	-43.25	-6.30	Peak
430.20	-57.91	-53.05	-13.00	-44.91	-4.86	Peak
508.60	-62.56	-59.68	-13.00	-49.56	-2.88	Peak
1559.20	-59.64	-46.37	-40.00	-19.64	-13.27	Peak
2339.40	-39.52	-30.13	-13.00	-26.52	-9.39	Peak
3119.60	-52.50	-44.99	-13.00	-39.50	-7.51	Peak
	32.97 39.72 240.33 310.50 430.20 508.60 1559.20 2339.40	MHz dBm/m 32.97 -38.31 39.72 -43.53 240.33 -44.67 310.50 -56.25 430.20 -57.91 508.60 -62.56 1559.20 -59.64 2339.40 -39.52	Freq Level Level MHz dBm/m dBm 32.97 -38.31 -37.20 39.72 -43.53 -42.00 240.33 -44.67 -38.55 310.50 -56.25 -49.95 430.20 -57.91 -53.05 508.60 -62.56 -59.68 1559.20 -59.64 -46.37 2339.40 -39.52 -30.13	Freq Level Level Line MHz dBm/m dBm dBm/m 32.97 -38.31 -37.20 -13.00 39.72 -43.53 -42.00 -13.00 240.33 -44.67 -38.55 -13.00 310.50 -56.25 -49.95 -13.00 430.20 -57.91 -53.05 -13.00 508.60 -62.56 -59.68 -13.00 1559.20 -59.64 -46.37 -40.00 2339.40 -39.52 -30.13 -13.00	Freq Level Level Line Limit MHz dBm/m dBm dBm/m dB 32.97 -38.31 -37.20 -13.00 -25.31 39.72 -43.53 -42.00 -13.00 -30.53 240.33 -44.67 -38.55 -13.00 -31.67 310.50 -56.25 -49.95 -13.00 -43.25 430.20 -57.91 -53.05 -13.00 -44.91 508.60 -62.56 -59.68 -13.00 -49.56 1559.20 -59.64 -46.37 -40.00 -19.64 2339.40 -39.52 -30.13 -13.00 -26.52	Freq Level Level Line Limit Factor MHz dBm/m dBm/m dB dBm/m dB dB/m 32.97 -38.31 -37.20 -13.00 -25.31 -1.11 39.72 -43.53 -42.00 -13.00 -30.53 -1.53 240.33 -44.67 -38.55 -13.00 -31.67 -6.12 310.50 -56.25 -49.95 -13.00 -43.25 -6.30 430.20 -57.91 -53.05 -13.00 -44.91 -4.86

^{*}Item 7 was for GPS band.

Report No.: RF120621C20-2 R1 36 of 52 Report Format Version 5.0.0 Cancels and replaces the report no.: RF120621C20-2 dated Sep. 04, 2012







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL

Brand/Model: PL83200

Remark : Band 13 5M 16QAM(25,0) Link

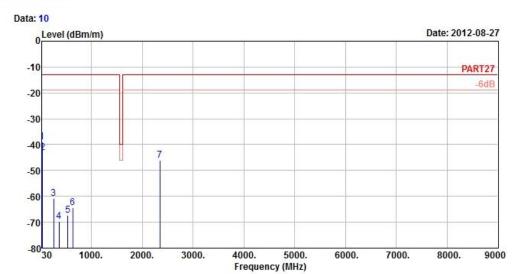
Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

	Freq	Level		Limit Line		Factor	Remark
-	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	30.00	-53.05	-54.12	-13.00	-40.05	1.07	Peak
2	38.64	-53.96	-52.22	-13.00	-40.96	-1.74	Peak
3	252.75	-57.36	-51.64	-13.00	-44.36	-5.72	Peak
4	391.00	-68.90	-63.20	-13.00	-55.90	-5.70	Peak
5	535.90	-67.18	-65.07	-13.00	-54.18	-2.11	Peak
6	673.10	-63.34	-64.30	-13.00	-50.34	0.96	Peak
7 pp	2346.00	-36.21	-26.91	-13.00	-23.21	-9.30	Peak
8	3128.00	-50.44	-42.93	-13.00	-37.44	-7.51	Peak

Report No.: RF120621C20-2 R1 37 of 52 Report Format Version 5.0.0







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL

Brand/Model: PL83200

Remark : Band 13 5M 16QAM(25,0) Link

Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

		Freq	Level	Level	Line	Limit	Factor	Kemark
		MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	pp	30.27	-38.91	-39.98	-13.00	-25.91	1.07	Peak
		38.64	-43.13	-41.39	-13.00	-30.13	-1.74	Peak
3		255.45	-60.93	-55.18	-13.00	-47.93	-5.75	Peak
4		360.90	-69.59	-63.66	-13.00	-56.59	-5.93	Peak
5		532.40	-67.16	-64.95	-13.00	-54.16	-2.21	Peak
6		636.00	-64.25	-64.55	-13.00	-51.25	0.30	Peak
7		2346.00	-46.04	-36.74	-13.00	-33.04	-9.30	Peak

Read Limit Over

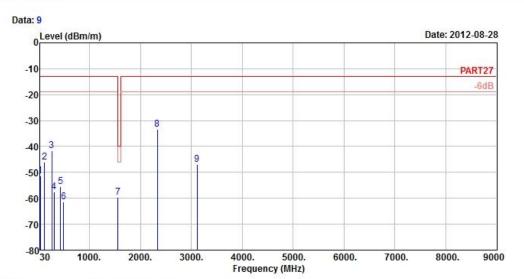
Report No.: RF120621C20-2 R1 38 of 52 Report Format Version 5.0.0



CHANNEL BANDWIDTH: 10MHz / QPSK



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch



Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL

Brand/Model: PL83200

Remark : Band 13 10M QPSK(1,0) Link

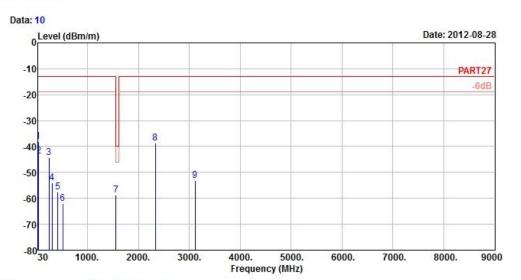
Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

			Read	Limit	0ver		
	Freq	Level	Level	Line	Limit	Factor	Remark
<u> </u>	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	32.70	-51.30	-50.19	-13.00	-38.30	-1.11	Peak
2	114.51	-46.02	-35.31	-13.00	-33.02	-10.71	Peak
3	257.07	-41.51	-35.73	-13.00	-28.51	-5.78	Peak
4	301.40	-57.43	-51.06	-13.00	-44.43	-6.37	Peak
5	430.20	-55.39	-50.53	-13.00	-42.39	-4.86	Peak
6	490.40	-61.43	-58.09	-13.00	-48.43	-3.34	Peak
7	1555.20	-59.73	-46.46	-13.00	-46.73	-13.27	Peak
8 pp	2332.80	-33.31	-23.92	-13.00	-20.31	-9.39	Peak
9	3110.40	-46.89	-39.24	-13.00	-33.89	-7.65	Peak

Report No.: RF120621C20-2 R1 39 of 52 Report Format Version 5.0.0







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL

Brand/Model: PL83200

Remark : Band 13 10M QPSK(1,0) Link

Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

	Freq	Level	Level	Line	Limit	Factor	Remark
<u> </u>	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	32.97	-38.20	-37.09	-13.00	-25.20	-1.11	Peak
2	39.72	-43.64	-42.11	-13.00	-30.64	-1.53	Peak
3	241.68	-44.38	-38.31	-13.00	-31.38	-6.07	Peak
4	301.40	-54.12	-47.75	-13.00	-41.12	-6.37	Peak
5	413.40	-57.69	-52.39	-13.00	-44.69	-5.30	Peak
6	516.30	-61.90	-59.24	-13.00	-48.90	-2.66	Peak
7	1555.20	-58.87	-45.60	-13.00	-45.87	-13.27	Peak
8	2332.80	-38.66	-29.27	-13.00	-25.66	-9.39	Peak
9	3110.40	-53.27	-45.62	-13.00	-40.27	-7.65	Peak

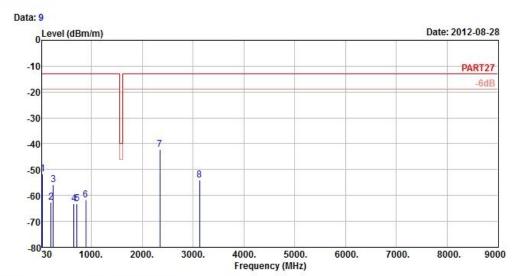
Read Limit

Over

Report No.: RF120621C20-2 R1 40 of 52 Report Format Version 5.0.0







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL

Brand/Model: PL83200

Remark : Band 13 10M QPSK(50,0) Link

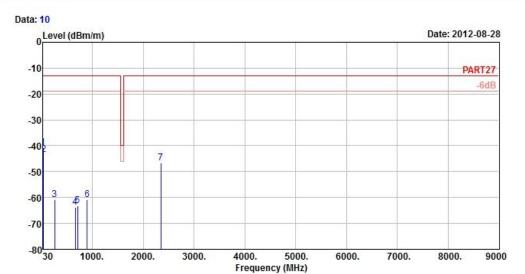
Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

	-			Limit		F	
	Freq	Level	Level	Line	Limit	Factor	Remark
_	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	39.18	-51.80	-50.06	-13.00	-38.80	-1.74	Peak
2	206.31	-62.56	-54.92	-13.00	-49.56	-7.64	Peak
3	253.29	-55.83	-50.11	-13.00	-42.83	-5.72	Peak
4	656.30	-63.03	-63.69	-13.00	-50.03	0.66	Peak
5	715.80	-63.11	-64.67	-13.00	-50.11	1.56	Peak
6	886.60	-61.79	-64.41	-13.00	-48.79	2.62	Peak
7 pp	2346.00	-42.26	-32.96	-13.00	-29.26	-9.30	Peak
8	3128.00	-54.02	-46.51	-13.00	-41.02	-7.51	Peak

Report No.: RF120621C20-2 R1 41 of 52 Report Format Version 5.0.0







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL

Brand/Model: PL83200

Remark : Band 13 10M QPSK(50,0) Link

Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

Freq Level Level Line Limit Factor Remark MHz dBm/m dBm dBm/m dB/m 1 pp 30.00 -40.73 -41.80 -13.00 -27.73 1.07 Peak 38.37 -43.41 -41.67 -13.00 -30.41 -1.74 Peak 254.37 -60.67 -54.94 -13.00 -47.67 -5.73 Peak 3 664.70 -63.65 -64.45 -13.00 -50.65 0.80 Peak 5 711.60 -63.26 -64.79 -13.00 -50.26 1.53 Peak 899.20 -60.77 -63.46 -13.00 -47.77 2.69 Peak 6 2346.00 -46.61 -37.31 -13.00 -33.61 -9.30 Peak

Read Limit

0ver

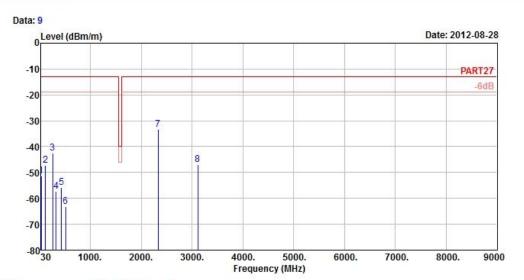
Report No.: RF120621C20-2 R1 42 of 52 Report Format Version 5.0.0



CHANNEL BANDWIDTH: 10MHz / 16QAM



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch



Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL

Brand/Model: PL83200

Remark : Band 13 10M 16QAM(1,0)) Link Tested by : Kay Wu

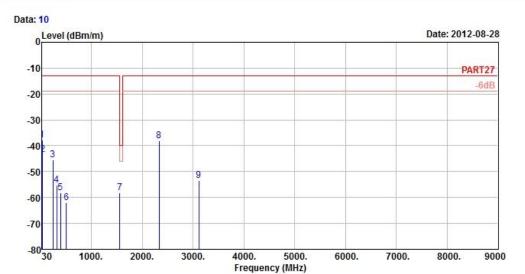
Temprature : 25℃ Humidity : 65% : Z Plane

			Read	Limit	0ver		
	Freq	Level	Level	Line	Limit	Factor	Remark
<u> </u>	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	33.24	-51.33	-50.22	-13.00	-38.33	-1.11	Peak
2	112.89	-47.34	-36.67	-13.00	-34.34	-10.67	Peak
3	260.58	-42.39	-36.56	-13.00	-29.39	-5.83	Peak
4	328.70	-57.36	-51.20	-13.00	-44.36	-6.16	Peak
5	430.20	-55.91	-51.05	-13.00	-42.91	-4.86	Peak
6	516.30	-63.20	-60.54	-13.00	-50.20	-2.66	Peak
7 pp	2332.80	-33.41	-24.02	-13.00	-20.41	-9.39	Peak
8	3110.40	-47.07	-39.42	-13.00	-34.07	-7.65	Peak

Report No.: RF120621C20-2 R1 Report Format Version 5.0.0







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL

Brand/Model: PL83200

Remark : Band 13 10M 16QAM(1,0)) Link

Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

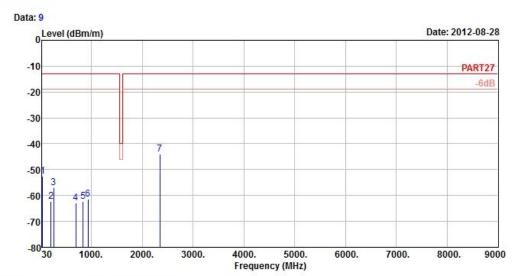
	Freq	Level	Level	Line	Limit	Factor	Remark
(S <u>=</u>	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	32.70	-37.81	-36.70	-13.00	-24.81	-1.11	Peak
2	39.72	-43.48	-41.95	-13.00	-30.48	-1.53	Peak
3	240.60	-45.55	-39.43	-13.00	-32.55	-6.12	Peak
4	316.80	-55.32	-49.07	-13.00	-42.32	-6.25	Peak
5	395.90	-58.05	-52.38	-13.00	-45.05	-5.67	Peak
6	502.30	-62.07	-59.03	-13.00	-49.07	-3.04	Peak
7	1555.20	-58.21	-44.94	-13.00	-45.21	-13.27	Peak
8	2332.80	-38.19	-28.80	-13.00	-25.19	-9.39	Peak
9	3110.40	-53.54	-45.89	-13.00	-40.54	-7.65	Peak

Read Limit Over

Report No.: RF120621C20-2 R1 44 of 52 Report Format Version 5.0.0







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL

Brand/Model: PL83200

Remark : Band 13 10M 16QAM(50,0) Link

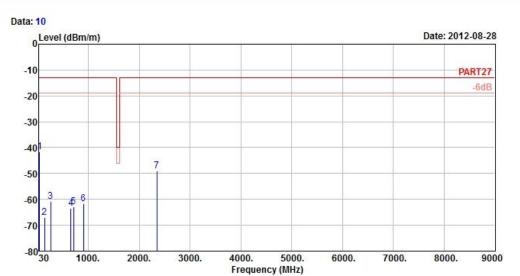
Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

	Freq	Level	Read Level		Over Limit	Factor	Remark
// <u>-</u>	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	38.10	-52.66	-50.71	-13.00	-39.66	-1.95	Peak
2	205.50	-62.36	-54.67	-13.00	-49.36	-7.69	Peak
3	254.91	-56.95	-51.20	-13.00	-43.95	-5.75	Peak
4	695.50	-62.75	-64.11	-13.00	-49.75	1.36	Peak
5	837.60	-62.39	-64.74	-13.00	-49.39	2.35	Peak
6	936.30	-61.34	-64.75	-13.00	-48.34	3.41	Peak
7 pp	2346.00	-44.00	-34.70	-13.00	-31.00	-9.30	Peak

Report No.: RF120621C20-2 R1 45 of 52 Report Format Version 5.0.0







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL

Brand/Model: PL83200

Remark : Band 13 10M 16QAM(50,0) Link

Tested by : Kay Wu Temprature : 25°C Humidity : 65% Plane : Z

	Freq	Level	Level	Line	Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	- 1
1 p	p 38.64	-41.74	-40.00	-13.00	-28.74	-1.74	Peak
2	138.54	-67.12	-61.19	-13.00	-54.12	-5.93	Peak
3	256.53	-60.75	-54.97	-13.00	-47.75	-5.78	Peak
4	654.20	-63.57	-64.20	-13.00	-50.57	0.63	Peak
5	711.60	-62.87	-64.40	-13.00	-49.87	1.53	Peak
6	904.10	-61.71	-64.49	-13.00	-48.71	2.78	Peak
7	2346.00	-48.86	-39.56	-13.00	-35.86	-9.30	Peak

Read Limit Over

Report No.: RF120621C20-2 R1 46 of 52 Report Format Version 5.0.0



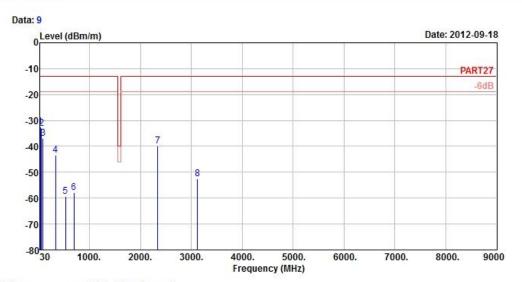
TEST MODE B

LTE BAND 13

CHANNEL BANDWIDTH: 5MHz / 16QAM



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch



Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL

Brand/Model: PL83200

Remark : Band 13 5M 16QAM(1,0) Link

Tested by : Kay Wu Temprature : 25℃ Humidity : 65% Plane : 無線充電

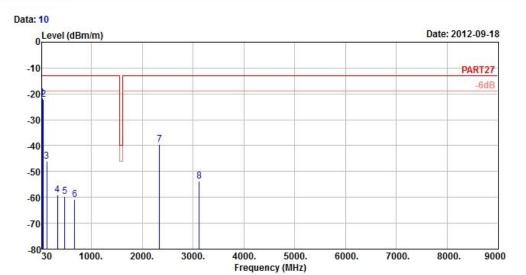
	Freq	Level		Limit Line		Factor	Remark	
(B)	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
n	32 97	-32 47	-31 36	-13 00	-19 47	-1 11	Peak	

1 pp	32.97	-32.47	-31.36	-13.00	-19.47	-1.11	Peak
2	56.73	-33.20	-27.55	-13.00	-20.20	-5.65	Peak
3	85.35	-36.82	-26.39	-13.00	-23.82	-10.43	Peak
4	335.70	-43.40	-37.29	-13.00	-30.40	-6.11	Peak
5	526.10	-59.23	-56.83	-13.00	-46.23	-2.40	Peak
6	693.40	-57.97	-59.30	-13.00	-44.97	1.33	Peak
7	2339.40	-39.98	-30.59	-13.00	-26.98	-9.39	Peak
8	3119.60	-52.67	-45.16	-13.00	-39.67	-7.51	Peak

Report No.: RF120621C20-2 R1 47 of 52 Report Format Version 5.0.0







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL

Brand/Model: PL83200

Remark : Band 13 5M 16QAM(1,0) Link

Tested by : Kay Wu Temprature : 25℃ Humidity : 65% Plane : 無線充電

	Freq	Level	Level	Line	Limit	Factor	Kemark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 p	32.70	-21.64	-20.53	-13.00	-8.64	-1.11	Peak
2	57.54	-22.05	-16.40	-13.00	-9.05	-5.65	Peak
3	125.31	-46.06	-36.51	-13.00	-33.06	-9.55	Peak
4	333.60	-58.92	-52.79	-13.00	-45.92	-6.13	Peak
5	475.00	-59.70	-55.97	-13.00	-46.70	-3.73	Peak
6	673.10	-60.86	-61.82	-13.00	-47.86	0.96	Peak
7	2339.40	-39.64	-30.25	-13.00	-26.64	-9.39	Peak
8	3119.60	-53.74	-46.23	-13.00	-40.74	-7.51	Peak

Read Limit Over

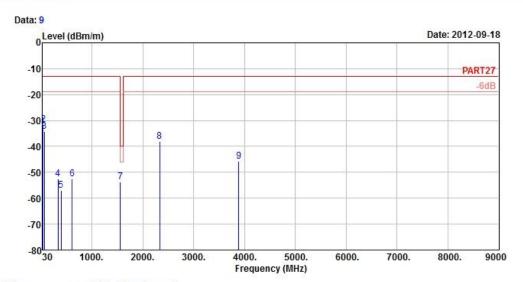
Report No.: RF120621C20-2 R1 48 of 52 Report Format Version 5.0.0



CHANNEL BANDWIDTH: 10MHz / QPSK



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch



Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL

Brand/Model: PL83200

: Band 13 10M QPSK(1,0) Link Remark

Tested by : Kay Wu Temprature : 25℃ Humidity : 65% Plane : 無線充電

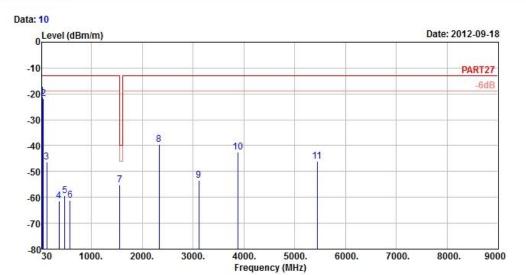
	Freq	Level	Level	Line	Limit	Factor	Remark
(<u>)</u>	MHz	dBm/m	dBm	dBm/m	dB	dB/m	T <u>.</u>
1	33.24	-32.42	-31.31	-13.00	-19.42	-1.11	Peak
2 pp	39.45	-31.55	-30.02	-13.00	-18.55	-1.53	Peak
3	63.48	-34.18	-26.78	-13.00	-21.18	-7.40	Peak
4	330.10	-52.69	-46.53	-13.00	-39.69	-6.16	Peak
5	393.10	-56.99	-51.30	-13.00	-43.99	-5.69	Peak
6	612.20	-52.58	-52.44	-13.00	-39.58	-0.14	Peak
7	1555.20	-53.83	-40.56	-13.00	-40.83	-13.27	Peak
8	2332.80	-37.94	-28.55	-13.00	-24.94	-9.39	Peak
9	3888.00	-45.70	-39.78	-13.00	-32.70	-5.92	Peak

Read Limit Over

Report No.: RF120621C20-2 R1 Report Format Version 5.0.0







Site : 966 Chamber 5

Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL

Brand/Model: PL83200

Remark : Band 13 10M QPSK(1,0) Link

Tested by : Kay Wu Temprature : 25℃ Humidity : 65% Plane : 無線充電

	Freq	Level	Level	Line	Limit	Factor	Remark
25 <u>-</u>	MHz	dBm/m	dBm	dBm/m	dB	dB/m	3
1 pp	32.43	-20.83	-19.72	-13.00	-7.83	-1.11	Peak
2	56.46	-21.89	-16.39	-13.00	-8.89	-5.50	Peak
3	126.12	-46.36	-37.07	-13.00	-33.36	-9.29	Peak
4	363.70	-61.32	-55.41	-13.00	-48.32	-5.91	Peak
5	474.30	-59.43	-55.68	-13.00	-46.43	-3.75	Peak
6	582.80	-61.03	-60.20	-13.00	-48.03	-0.83	Peak
7	1555.20	-55.25	-41.98	-13.00	-42.25	-13.27	Peak
8	2332.80	-39.59	-30.20	-13.00	-26.59	-9.39	Peak
9	3110.40	-53.52	-45.87	-13.00	-40.52	-7.65	Peak
10	3888.00	-42.51	-36.59	-13.00	-29.51	-5.92	Peak
11	5443.20	-46.05	-45.31	-13.00	-33.05	-0.74	Peak

Read Limit Over

Report No.: RF120621C20-2 R1 50 of 52 Report Format Version 5.0.0



5 INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab: Hsin Chu EMC/RF Lab:

Tel: 886-2-26052180 Tel: 886-3-5935343 Fax: 886-2-26051924 Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:

Tel: 886-3-3183232 Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

Report No.: RF120621C20-2 R1 51 of 52 Report Format Version 5.0.0



6 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

ENGINEERING CHANGES TO THE EUT BY THE LAB No modifications were made to the EUT by the lab during the test. ---END---

Report No.: RF120621C20-2 R1 52 of 52
Cancels and replaces the report no.: RF120621C20-2 dated Sep. 04, 2012