PARTIAL FCC TEST REPORT

(PART 22)

REPORT NO.:	RF130412C18
MODEL NO.:	PXS8
FCC ID:	QYLPXS8
RECEIVED:	Apr. 12, 2013
TESTED:	May 02, 2013
ISSUED:	Jun. 17, 2013

APPLICANT:	Getac Technology Corporation
ADDRESS:	5F., Building A, No. 209, Sec.1, Nangang Rd.,Nangang Dist., Taipei City 11568, 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.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130412C18	Original release	Jun. 17, 2013

1 CERTIFICATION

PRODUCT:	Module
MODEL:	PXS8
BRAND:	Cinterion
APPLICANT:	Getac Technology Corporation
TESTED:	May 02, 2013
TEST SAMPLE:	Identical Prototype
STANDARDS:	**FCC PART 22, Subpart H**

The above equipment (model: PXS8) 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 : Evonne Liu , **DATE :** Jun. 17, 2013

Evonne Liu / Specialist

APPROVED BY : Sam Chen , **DATE :** Jun. 17, 2013

Sam Chen / Assistant Manager

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 22 & Part 2			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
2.1046 22.913 (a)	Effective radiated power	PASS	Meet the requirement of limit.
2.1055 22.355	Frequency Stability	NA	Refer to NOTE below
2.1049	Occupied Bandwidth	NA	Refer to NOTE below
22.917	Band Edge Measurements	NA	Refer to NOTE below
2.1051 22.917	Conducted Spurious Emissions	NA	Refer to NOTE below
2.1053 22.917	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -26.37dB at 33.24MHz.

NOTE: Test items for e.r.p. and radiated spurious emissions test were performed for this report. Other test data please refer to module report on (WWAN Module, model: PXS8, FCC ID: QIPPXS8) Report No.: MDE_CINTE_1203_FCC22a_V1/MDE_CINTE_1203_FCC22b_V1.

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
Radiated emissions	30MHz ~ 200MHz	2.93 dB
	200MHz ~1000MHz	2.95 dB
	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.

2.2 TEST SITE AND INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100744	Apr. 15, 2013	Apr. 14, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 17, 2012	Dec. 16, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Mar. 25, 2013	Mar. 24, 2014
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Jan. 07, 2013	Jan. 06, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 25, 2012	Dec. 24, 2013
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier EMCI	EMC 012645	980115	Dec. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 184045	980116	Dec. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2012	Dec. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 19, 2012	Oct. 18, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 19, 2012	Oct. 18, 2013
RF signal cable Worken	RG-213	NA	Dec. 29, 2012	Dec. 28, 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

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 calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 10.
4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
5. The FCC Site Registration No. is 690701.
6. The IC Site Registration No. is IC 7450F-10.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Module	
MODEL NO.	PXS8	
POWER SUPPLY	12.0Vdc (adapter or host equipment) 3.7Vdc (battery)	
MODULATION TYPE	**GSM/GPRS**	GMSK
	EDGE	8PSK
	WCDMA	BPSK
	CDMA	QPSK, OQPSK, HPSK
FREQUENCY RANGE	**GSM/GPRS/EDGE**	824.2MHz ~ 848.8MHz
	WCDMA	826.4MHz ~ 846.6MHz
	CDMA	824.7MHz ~ 848.31MHz
MAX. ERP POWER	**GPRS**	914.11mW
	EDGE	286.42mW
	WCDMA	142.89mW
	CDMA	108.39mW
ANTENNA TYPE	Fixed Internal antenna	
I/O PORTS	Refer to users' manual	
DATA CABLE	NA	
ACCESSORY DEVICES	NA	

NOTE:

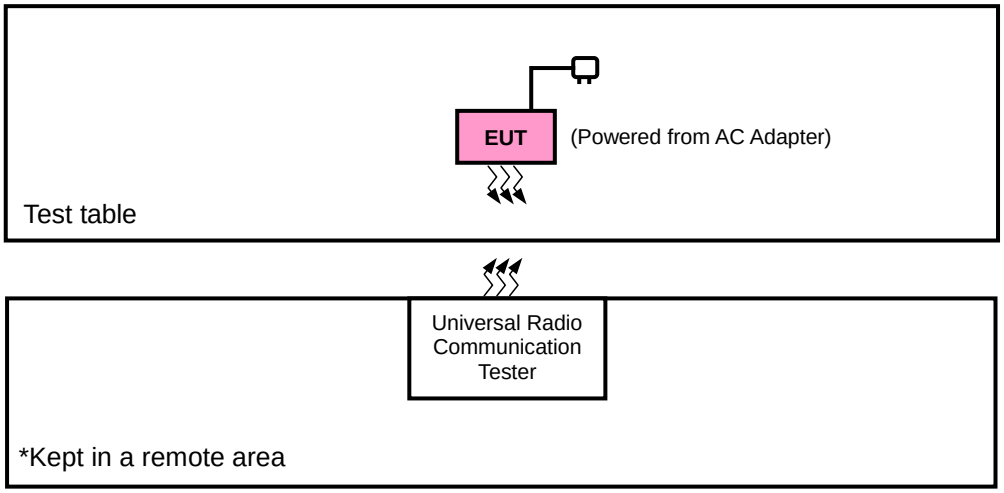
1. The transmitter module is authorized for use in specific End-product (Tablet PC, Brand: Getac, Model: Z710).
2. The Tablet PC contains following accessory devices.

No.	Product	Brand	MODEL	Description
1	AC Adapter	ADP (Asian Power Devices Inc.)	WA-24I12R	I/P: 100-240Vac, 0.7A O/P: 12Vdc, 2A
2	Li-ion Battery	Getac	BP1S2P3800-Y	Rating: 3.7Vdc, 7.6mAh
3	LCD Panel	BOE	HV070WSA-100	NA

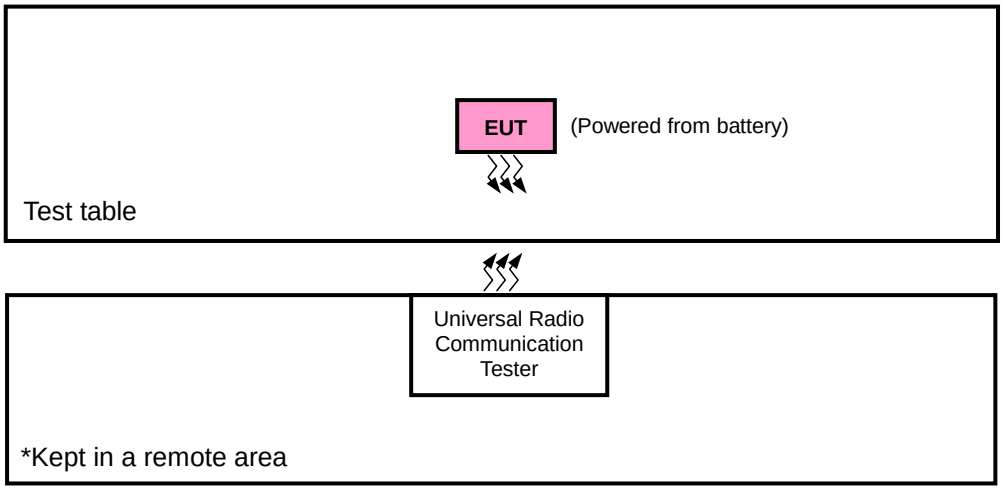
3. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST



FOR E.R.P. TEST



3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.4 TEST ITEM AND TEST CONFIGURATION

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 **X-axis** of ERP test and **X / Z-axis** for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

GSM MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
ERP	128 to 251	128, 189, 251	GPRS, EDGE
RADIATED EMISSION	128 to 251	189	GPRS, EDGE

WCDMA MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
ERP	4132 to 4233	4132, 4182, 4233	WCDMA
RADIATED EMISSION	4132 to 4233	4233	WCDMA

CDMA MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
ERP	1013 to 777	1013, 384, 777	1xRTT
RADIATED EMISSION	1013 to 777	384	1xRTT

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	25deg. C, 65%RH	3.7Vdc	Phoenix Chen
RADIATED EMISSION	25deg. C, 65%RH	120Vac, 60Hz	Johnson Liao

3.5 EUT OPERATING CONDITIONS

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

3.6 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 22

ANSI/TIA/EIA-603-C 2004

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

4 TEST TYPES AND RESULTS

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile / Portable station are limited to 7 watts e.r.p.

4.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 1MHz for GSM, GPRS & EDGE, 5MHz for WCDMA and CDMA mode.

b. 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.

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 b. Record the power level of S.G

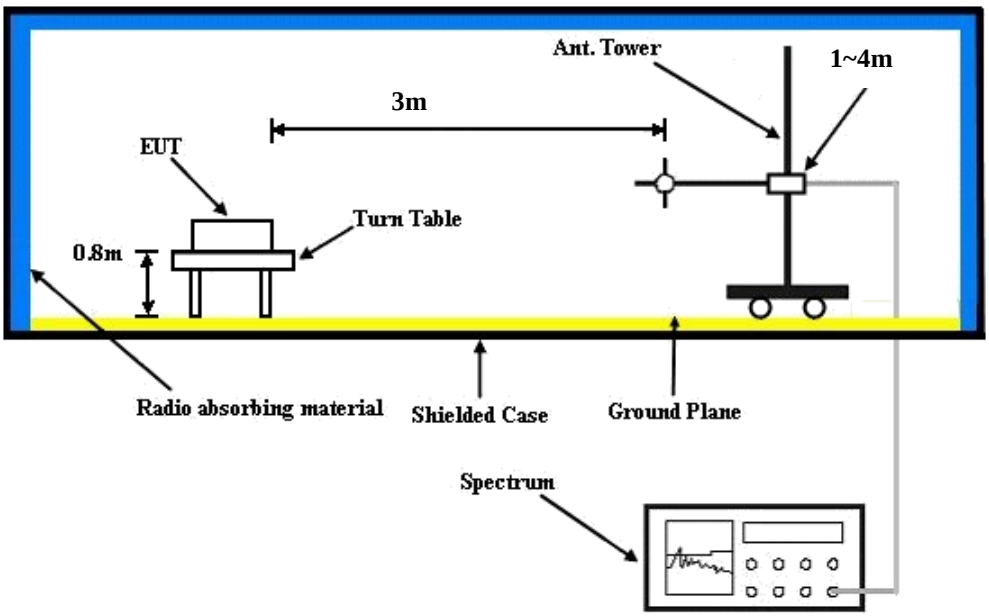
d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.

CONDUCTED POWER MEASUREMENT:

The EUT was set up for the maximum power with GSM, GPRS, EDGE, WCDMA & CDMA link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

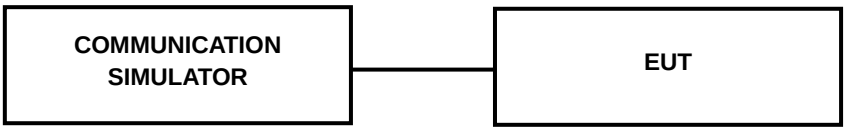
4.1.3 TEST SETUP

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).

4.1.4 TEST RESULTS

ERP POWER (dBm)

GPRS

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
X	128	824.2	-0.86	32.62	29.61	914.11	H
	189	836.4	-1.32	32.52	29.05	803.53	H
	251	848.8	-1.54	32.65	28.96	787.05	H
	128	824.2	-8.65	32.76	21.96	157.04	V
	189	836.4	-8.52	32.39	21.72	148.59	V
	251	848.8	-9.87	32.54	20.52	112.72	V

EDGE

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
X	128	824.2	-7.26	32.62	23.21	209.41	H
	189	836.4	-6.80	32.52	23.57	227.51	H
	251	848.8	-5.93	32.65	24.57	286.42	H
	128	824.2	-15.08	32.76	15.53	35.73	V
	189	836.4	-15.04	32.39	15.20	33.11	V
	251	848.8	-15.24	32.54	15.15	32.73	V

WCDMA (RMC 12.2K)

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
X	4132	826.4	-9.11	32.62	21.36	136.77	H
	4182	836.52	-8.82	32.52	21.55	142.89	H
	4233	846.6	-9.46	32.65	21.04	127.06	H
	4132	826.4	-16.77	32.76	13.84	24.21	V
	4182	836.4	-17.11	32.39	13.13	20.56	V
	4233	846.6	-16.63	32.54	13.76	23.77	V

CDMA

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
X	1013	824.7	-10.75	32.62	19.72	93.76	H
	384	836.52	-10.02	32.52	20.35	108.39	H
	777	848.31	-10.50	32.65	20.00	100.00	H
	1013	824.7	-18.67	32.76	11.94	15.63	V
	384	836.52	-18.34	32.39	11.90	15.49	V
	777	848.31	-17.81	32.54	12.58	18.11	V

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to –13dBm.

4.2.2 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.

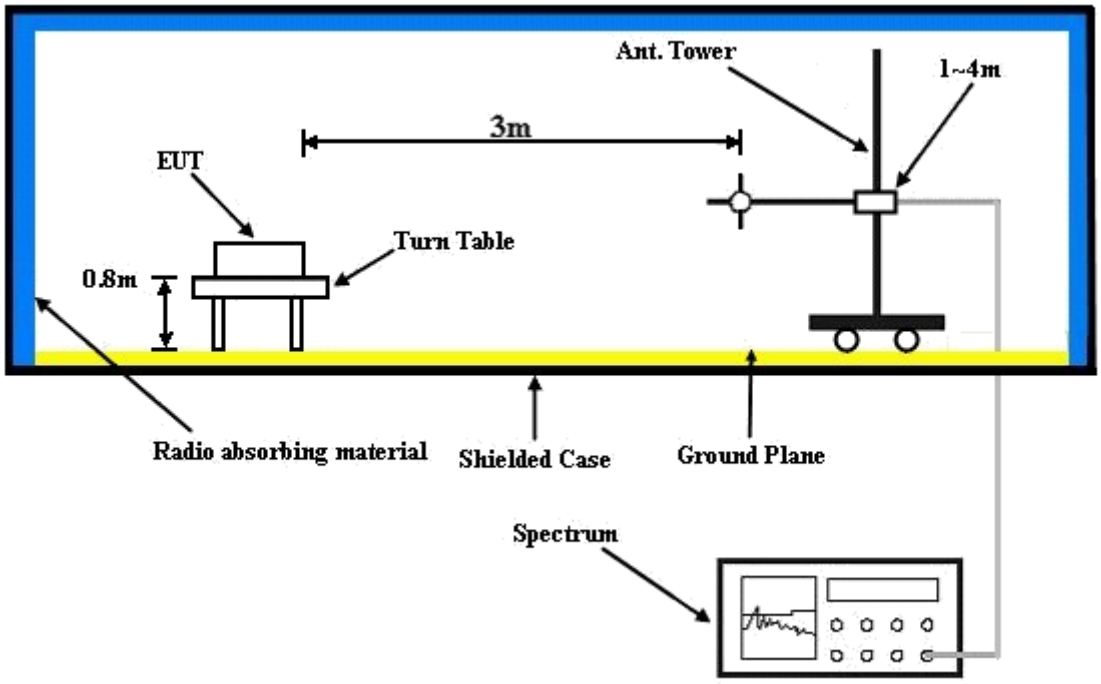
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.2.3 DEVIATION FROM TEST STANDARD

No deviation

4.2.4 TEST SETUP



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

4.2.5 TEST RESULTS

GPRS:

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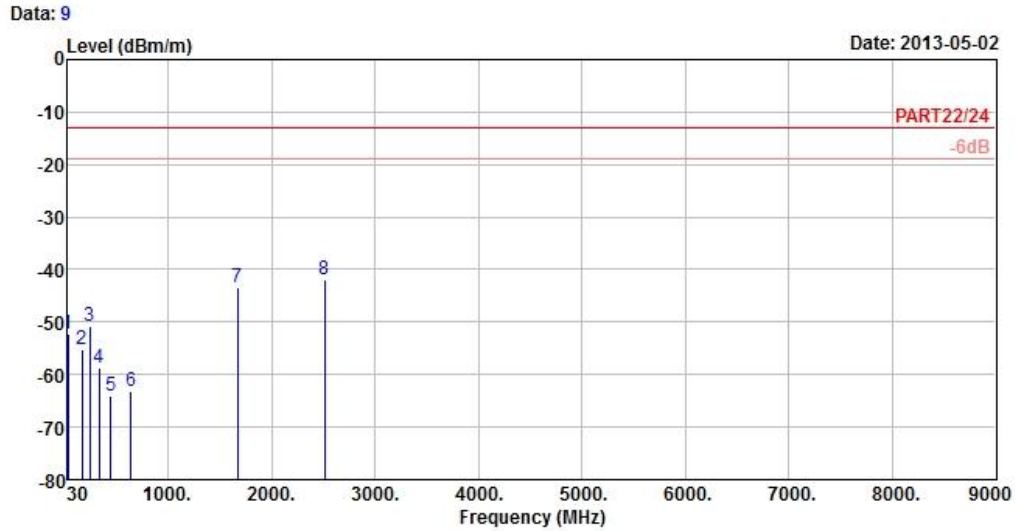
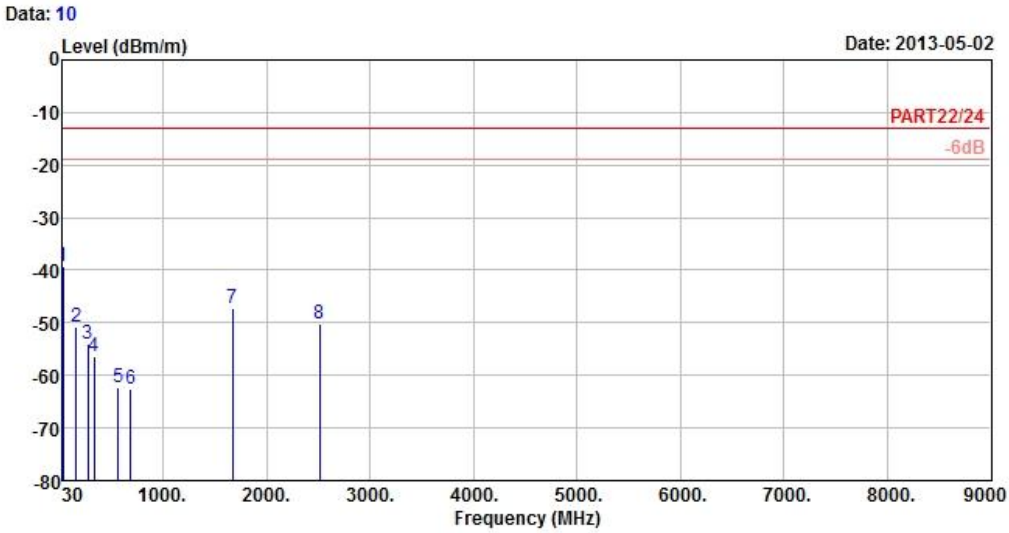


Site : 966 Chamber 5
Condition : PART22/24 3m HORIZONTAL
Brand/Model: Z710
Remark : GPRS850 Link
Tested by : Johnson Liao
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	33.78	-52.26	-50.42	-13.00	-39.26	-1.84	Peak
2	164.73	-55.33	-48.73	-13.00	-42.33	-6.60	Peak
3	242.49	-50.65	-44.62	-13.00	-37.65	-6.03	Peak
4	333.60	-58.79	-52.66	-13.00	-45.79	-6.13	Peak
5	446.30	-63.96	-59.50	-13.00	-50.96	-4.46	Peak
6	638.80	-63.11	-63.46	-13.00	-50.11	0.35	Peak
7	1672.80	-43.35	-30.53	-13.00	-30.35	-12.82	Peak
8 pp	2509.20	-41.98	-32.81	-13.00	-28.98	-9.17	Peak



Site : 966 Chamber 5
Condition : PART22/24 3m VERTICAL
Brand/Model: Z710
Remark : GPRS850 Link
Tested by : Johnson Liao
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	33.24	-39.37	-38.26	-13.00	-26.37	-1.11	Peak
2	159.87	-50.75	-44.24	-13.00	-37.75	-6.51	Peak
3	270.30	-54.11	-48.14	-13.00	-41.11	-5.97	Peak
4	336.40	-56.42	-50.31	-13.00	-43.42	-6.11	Peak
5	568.80	-62.38	-61.15	-13.00	-49.38	-1.23	Peak
6	682.90	-62.54	-63.68	-13.00	-49.54	1.14	Peak
7	1672.80	-47.32	-34.50	-13.00	-34.32	-12.82	Peak
8	2509.20	-50.10	-40.93	-13.00	-37.10	-9.17	Peak

EDGE:

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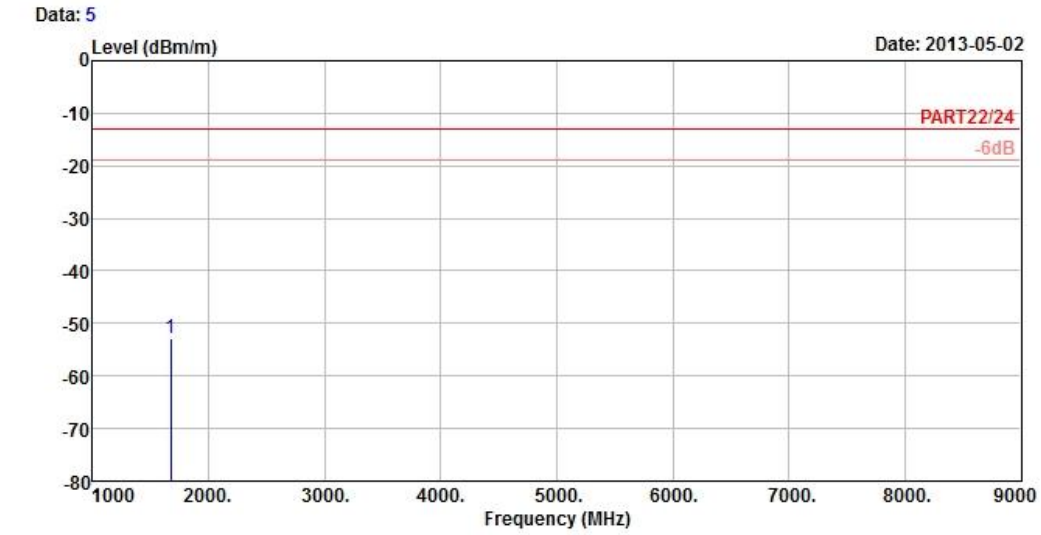
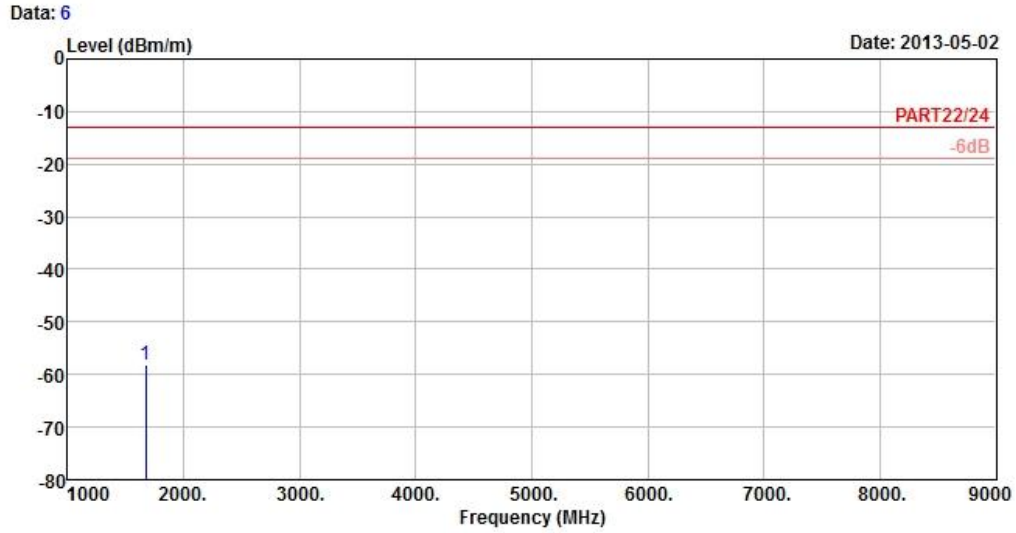


Site : 966 Chamber 5
Condition : PART22/24 3m HORIZONTAL
Brand/Model: Z710
Remark : EDGE850 Link
Tested by : Johnson Liao
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	1672.80	-52.88	-40.06	-13.00	-39.88	-12.82	Peak



Site : 966 Chamber 5
Condition : PART22/24 3m VERTICAL
Brand/Model: Z710
Remark : EDGE850 Link
Tested by : Johnson Liao
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	1672.80	-58.09	-45.27	-13.00	-45.09	-12.82	Peak

WCDMA:

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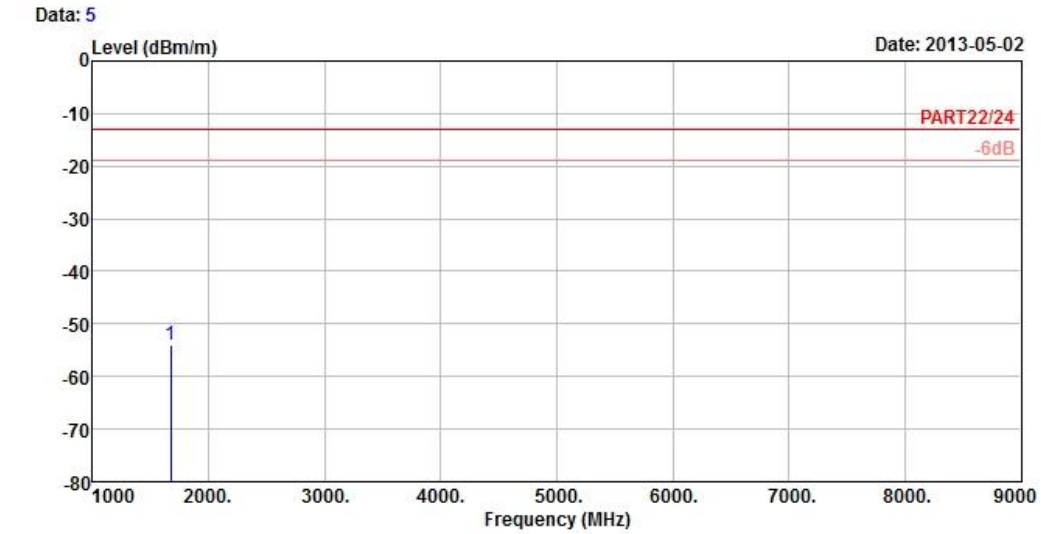

Site : 966 Chamber 5
Condition : PART22/24 3m HORIZONTAL
Brand/Model: Z710
Remark : Band V Link
Tested by : Johnson Liao
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
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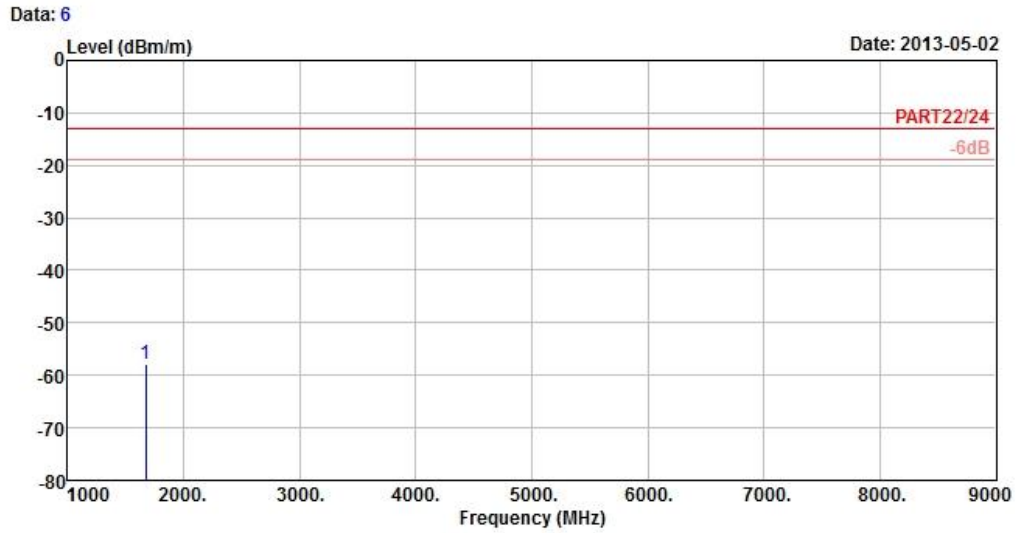
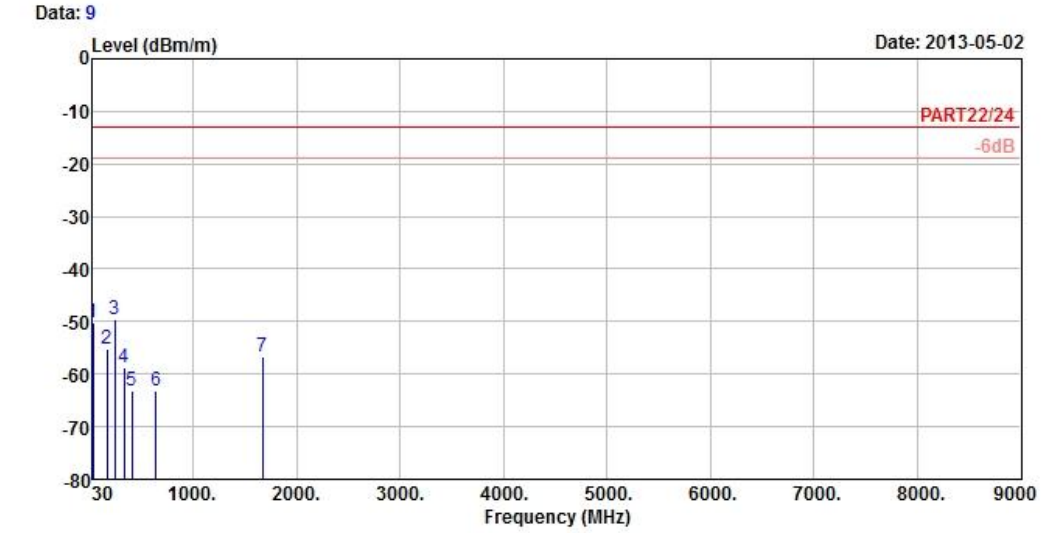


Site : 966 Chamber 5
Condition : PART22/24 3m VERTICAL
Brand/Model: Z710
Remark : Band V Link
Tested by : Johnson Liao
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	1672.80	-57.92	-45.10	-13.00	-44.92	-12.82	Peak

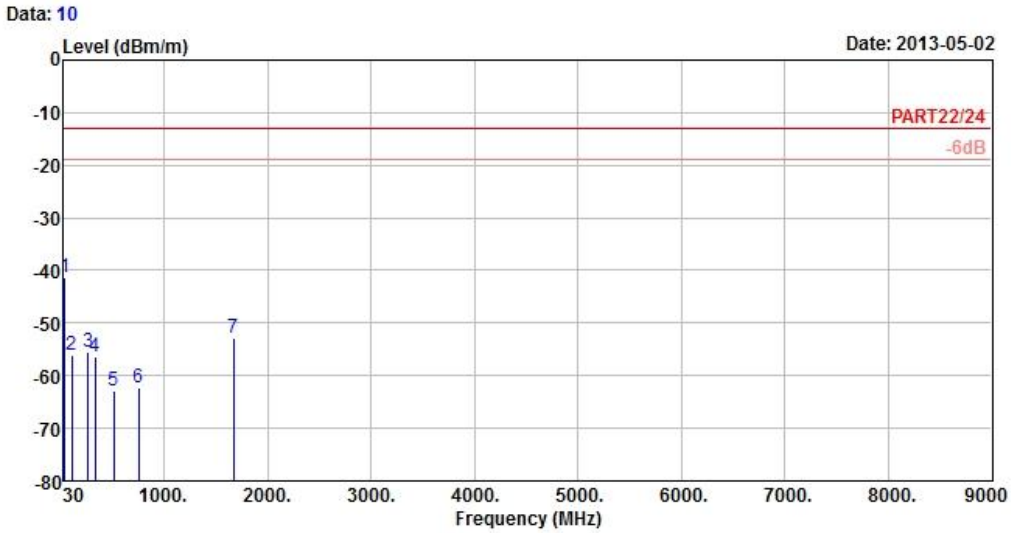
CDMA:

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 Chamber 5
Condition : PART22/24 3m HORIZONTAL
Brand/Model: Z710
Remark : 1XRTT850 Link
Tested by : Johnson Liao
Temprature : 25℃
Humidity : 65%
Plane : Z

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	33.78	-50.26	-48.42	-13.00	-37.26	-1.84	Peak
2	164.73	-55.33	-48.73	-13.00	-42.33	-6.60	Peak
3 pp	242.49	-49.65	-43.62	-13.00	-36.65	-6.03	Peak
4	333.60	-58.79	-52.66	-13.00	-45.79	-6.13	Peak
5	409.90	-63.24	-57.87	-13.00	-50.24	-5.37	Peak
6	638.80	-63.11	-63.46	-13.00	-50.11	0.35	Peak
7	1673.04	-56.66	-43.84	-13.00	-43.66	-12.82	Peak



Site : 966 Chamber 5
Condition : PART22/24 3m VERTICAL
Brand/Model: Z710
Remark : 1XRTT850 Link
Tested by : Johnson Liao
Temprature : 25℃
Humidity : 65%
Plane : Z

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	41.61	-41.20	-39.81	-13.00	-28.20	-1.39	Peak
2	104.52	-56.12	-45.62	-13.00	-43.12	-10.50	Peak
3	268.14	-55.42	-49.48	-13.00	-42.42	-5.94	Peak
4	336.40	-56.42	-50.31	-13.00	-43.42	-6.11	Peak
5	512.10	-62.84	-60.07	-13.00	-49.84	-2.77	Peak
6	755.70	-62.15	-63.98	-13.00	-49.15	1.83	Peak
7	1673.04	-52.79	-39.97	-13.00	-39.79	-12.82	Peak

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

6 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:

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Web Site: www.bureauveritas-adt.com

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

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

No any modifications were made to the EUT by the lab during the test.

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