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FCC TEST REPORT (PART 24)

REPORT NO.: RF121207C05A-3

MODEL NO.: PWS-770xxxxxxxxxxxxxxxxxxxx ("X" can be 0-9 or A-Z or blank or any alphanumeric character)

FCC ID: M82-PWS-770MC

RECEIVED: Mar. 25, 2013

TESTED: Apr. 04 ~ Apr. 09, 2013

ISSUED: Apr. 22, 2013

APPLICANT: ADVANTECH CO., LTD

ADDRESS: No. 1, Alley 20, Lane 26, Rueiguang Rd, Neihu District, Taipei, Taiwan 114

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.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF121207C05A-3	Original release	Apr. 22, 2013



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1 CERTIFICATION

PRODUCT: Computer

MODEL: PWS-770xxxxxxxxxxxxxxxxxxxx ("X" can be 0-9 or A-Z or blank or any alphanumeric character)

BRAND: 

APPLICANT: ADVANTECH CO., LTD

TESTED: Apr. 04 ~ Apr. 09, 2013

TEST SAMPLE: MASS-PRODUCTION

STANDARDS: **FCC Part 24, Subpart E**

FCC PART 2

ANSI/TIA/EIA-603-C 2004

The above equipment (model: PWS-770) 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 : Celine Chou , **DATE** : Apr. 22, 2013
Celine Chou / Specialist

APPROVED BY : Anderson Chiu , **DATE** : Apr. 22, 2013
Anderson Chiu / Senior Engineer



2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 24 & Part 2			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
2.1046 24.232	Equivalent isotropically radiated power	PASS	Meet the requirement of limit.
2.1055 24.235	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 24.238(b)	Occupied Bandwidth	PASS	Meet the requirement of limit.
24.238(b)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 24.238	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 24.238	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -18.05dB at 5553.60MHz.

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
Radiated emissions	30MHz ~ 200MHz	3.34 dB
	200MHz ~1000MHz	3.35 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.



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2.2 TEST SITE AND INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	Aug. 06, 2012	Aug. 05, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jan. 31, 2013	Jan. 30, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Mar. 20, 2013	Mar. 19, 2014
HORN Antenna SCHWARZBECK	9120D	209	Sep. 03, 2012	Sep. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 11, 2012	Jul. 10, 2013
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier Agilent	8447D	2944A10633	Oct. 25, 2012	Oct. 24, 2013
Preamplifier Agilent	8449B	3008A01964	Oct. 25, 2012	Oct. 24, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250723/4	Aug. 28, 2012	Aug. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 106	12738/6+309224/ 4	Aug. 28, 2012	Aug. 27, 2013
Software BV ADT	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Mini-Circuits Power Splitter	ZN2PD-9G	NA	May 25, 2013	May 24, 2014
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
Communications Tester-Wireless	E5515C	MY50266653	Sep. 28, 2012	Sep. 27, 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 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 3.
 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 988962.
 6. The IC Site Registration No. is IC 7450F-3.



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Computer
MODEL NO.	PWS-770xxxxxxxxxxxxxxxxxxx (Refer to note for more details)
POWER SUPPLY	19Vdc (Adapter) 11.1Vdc (Battery)
MODULATION TYPE	QPSK, OQPSK, HPSK
FREQUENCY RANGE	1851.25MHz ~ 1908.75MHz
MAX. EIRP POWER	0.121Watts (20.82dBm)
ANTENNA TYPE	PIFA antenna with -3.05dBi gain
ANTENNA CONNECTOR	IPEX
DATA CABLE	0.3m non-shielded USB cable without core
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Adapter, Touch Pen, Battery

NOTE:

1. The following models are identical to each other except their model designation due to marketing requirement.

Brand	Model
ADVANTECH	PWS-770xxxxxxxxxxxxxxxxxxx ("X" can be 0-9 or A-Z or blank or any alphanumeric character)

* The model of the PWS-770 was chosen for final test.

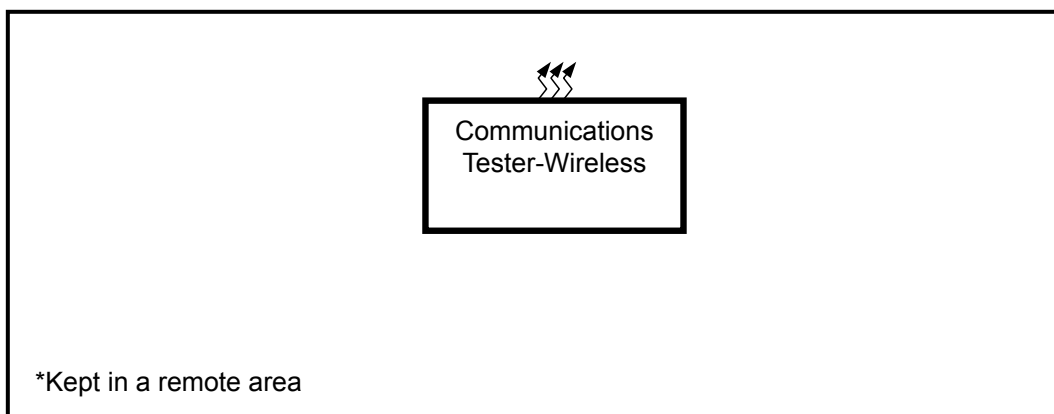
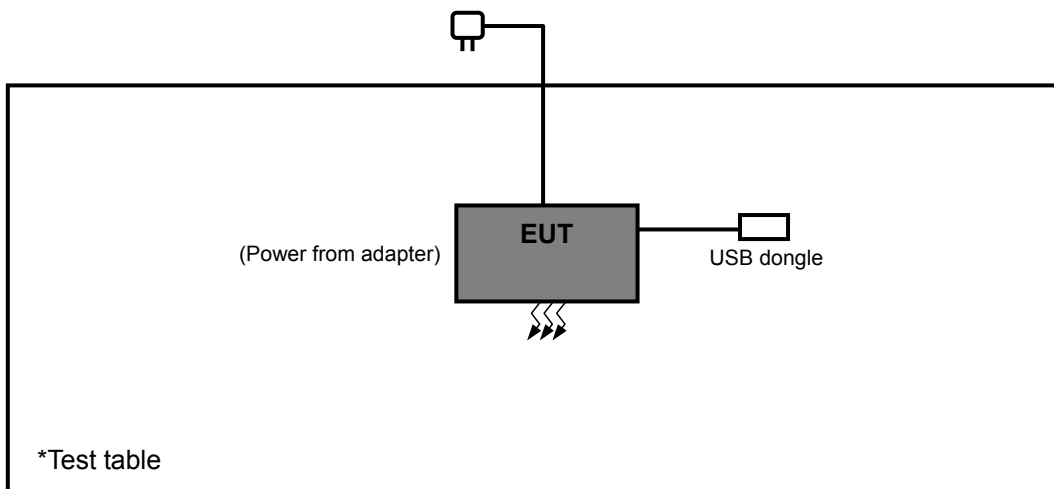
2. The EUT consumes power from the following adapter.

ADAPTER	
BRAND:	FSP GROUP INC.
MODEL:	FSP065-RAB
INPUT:	100-240Vac, 1.5 A, 50-60 Hz
OUTPUT:	19Vdc, 3.42 A
POWER LINE:	DC 1.5m cable with 1 core attached on adapter

BATTERY	
BRAND:	Advantech
MODEL:	46-12318-041
RATING:	11.1Vdc, 1880mAh, 20.87Wh

3. 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.

3.2 CONFIGURATION OF SYSTEM UNDER 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	USB Dongle	SANDISK	SDCZ6-1024	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

NOTE: All power cords of the above support units are non-shielded (1.8m).



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-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
-	EIRP	25 to 1175	25, 600, 1175	EVDO
-	FREQUENCY STABILITY	25 to 1175	600	EVDO
-	OCCUPIED BANDWIDTH	25 to 1175	25, 600, 1175	CDMA, EVDO
-	BAND EDGE	25 to 1175	25, 1175	CDMA, EVDO
-	CONDCUETED EMISSION	25 to 1175	25, 600, 1175	CDMA, EVDO
-	RADIATED EMISSION<1G	25 to 1175	25	EVDO
-	RADIATED EMISSION≥1G	25 to 1175	25, 600, 1175	EVDO

* Due to EVDO's conducted power is higher than CDMA, therefore the ERP, FREQUENCY STABILITY and RADIATED EMISSION tested with EVDO mode only

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	25deg. C, 68%RH	120Vac, 60Hz	Sun Lin
FREQUENCY STABILITY	25deg. C, 65%RH	11.1Vdc	Match Tsui
OCCUPIED BANDWIDTH	25deg. C, 68%RH	11.1Vdc	Match Tsui
BAND EDGE	25deg. C, 68%RH	11.1Vdc	Match Tsui
CONDCUETED EMISSION	25deg. C, 68%RH	11.1Vdc	Match Tsui
RADIATED EMISSION	25deg. C, 68%RH	120Vac, 60Hz	Sun Lin

3.5 EUT OPERATING CONDITIONS

The EUT makes a call to the Universal Radio Communication Tester. 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 24

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 and portable stations are limited to 2 watts EIRP

4.1.2 TEST PROCEDURES

EIRP MEASUREMENT:

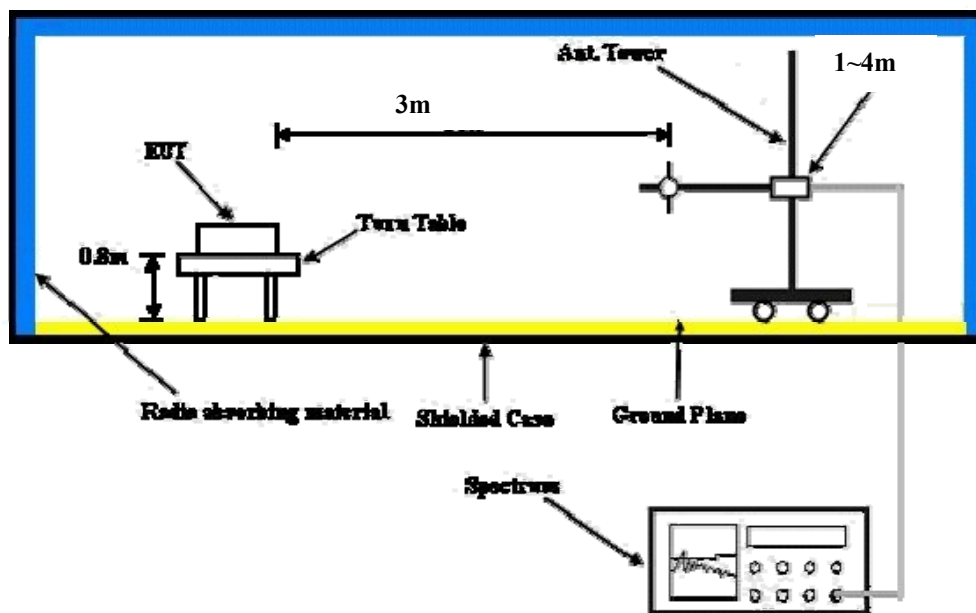
- a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 5MHz for CDMA mode.
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the 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. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn.}$

CONDUCTED POWER MEASUREMENT:

The EUT was set up for the maximum power with 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.

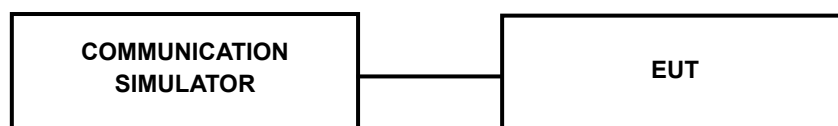
4.1.3 TEST SETUP

EIRP 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

CONDUCTED OUTPUT POWER (dBm)

Band	CDMA2000 BC1		
Channel	25	600	1175
Frequency (MHz)	1851.25	1880	1908.75
1xRTT RC1+SO55	24.09	23.97	23.88
1xRTT RC3+SO55	24.18	24.30	24.11
1xRTT RC3+SO32(+ F-SCH)	24.16	24.28	24.09
1xRTT RC3+SO32(+SCH)	24.19	24.31	24.12
1x EVDO Rev.0 RTAP 153.6	24.29	24.41	24.22
1x EVDO Rev.A RETAP 4096	24.10	24.13	24.11

EIRP POWER (dBm)

Channel	Freq. (MHz)	Antenna polarity	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
25	1851.25	H	-16.33	19.75	1.07	20.82	33.00	-12.18
25	1851.25	V	-17.20	17.75	1.07	18.82	33.00	-14.18
600	1880	H	-16.32	19.18	1.12	20.30	33.00	-12.70
600	1880	V	-15.82	18.55	1.12	19.67	33.00	-13.33
1175	1908.75	H	-16.61	18.81	1.11	19.92	33.00	-13.08
1175	1908.75	V	-15.96	19.35	1.11	20.46	33.00	-12.54

NOTE: Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

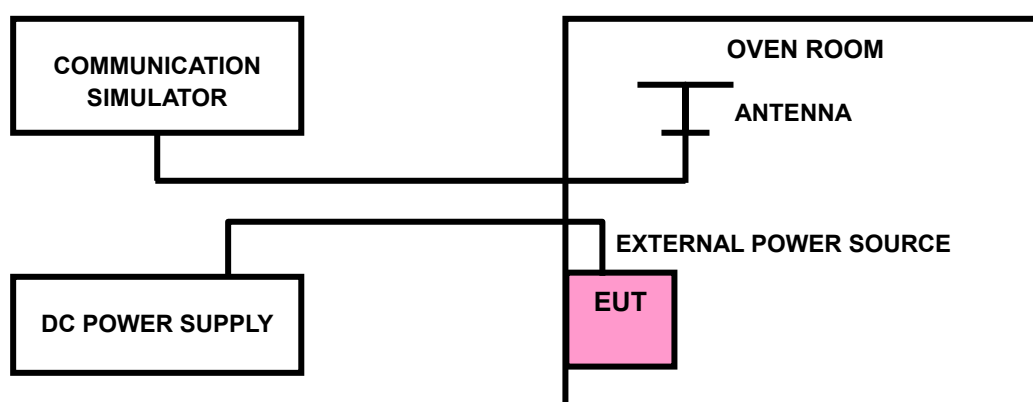
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

4.2.2 TEST PROCEDURE

- 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.
- 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.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ 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





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4.2.4 TEST RESULTS

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	FREQUENCY ERROR (ppm)	LIMIT (ppm)
12.76	-0.013	2.5
11.10	-0.011	2.5
9.43	-0.013	2.5

NOTE: The applicant defined the normal working voltage of the battery is from 9.43Vdc to 12.76Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

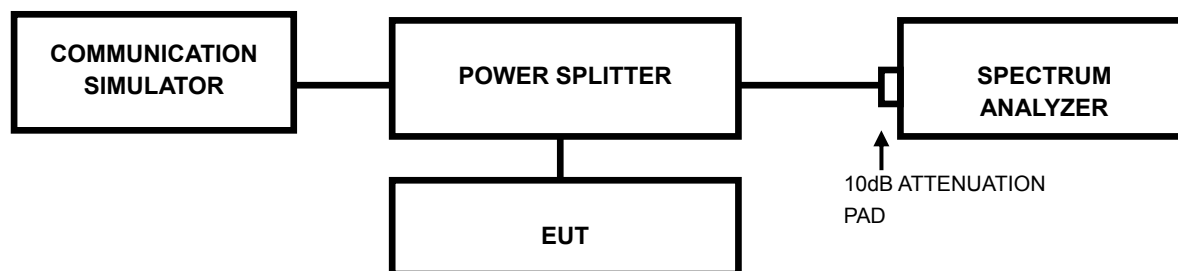
TEMP. (°C)	FREQUENCY ERROR (ppm)	LIMIT (ppm)
50	-0.020	2.5
40	-0.015	2.5
30	-0.013	2.5
20	-0.011	2.5
10	-0.014	2.5
0	-0.018	2.5
-10	-0.018	2.5
-20	-0.021	2.5
50	-0.020	2.5

4.3 OCCUPIED BANDWIDTH MEASUREMENT

4.3.1 TEST PROCEDURES

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.3.2 TEST SETUP

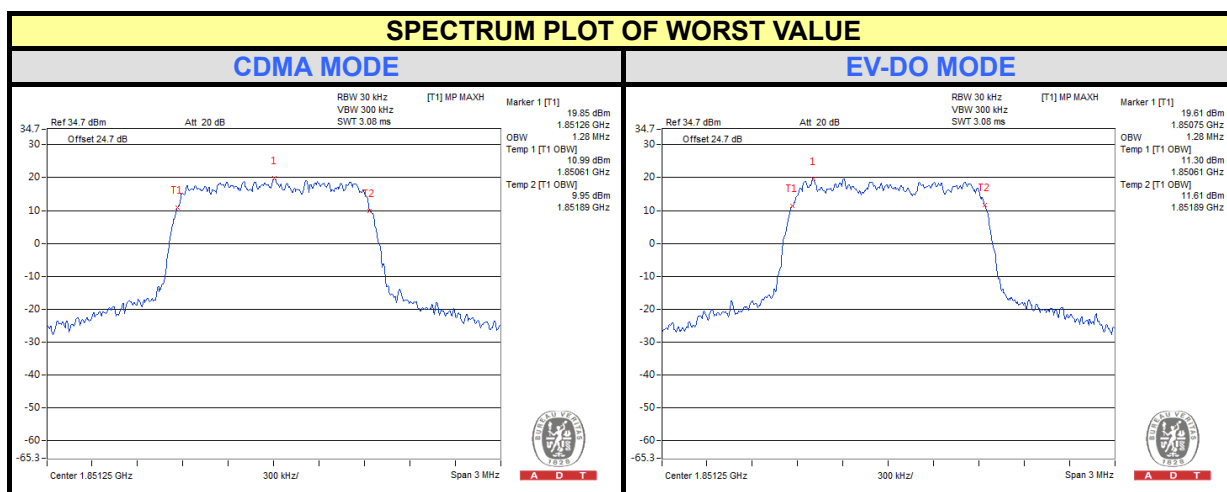




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4.3.3 TEST RESULTS

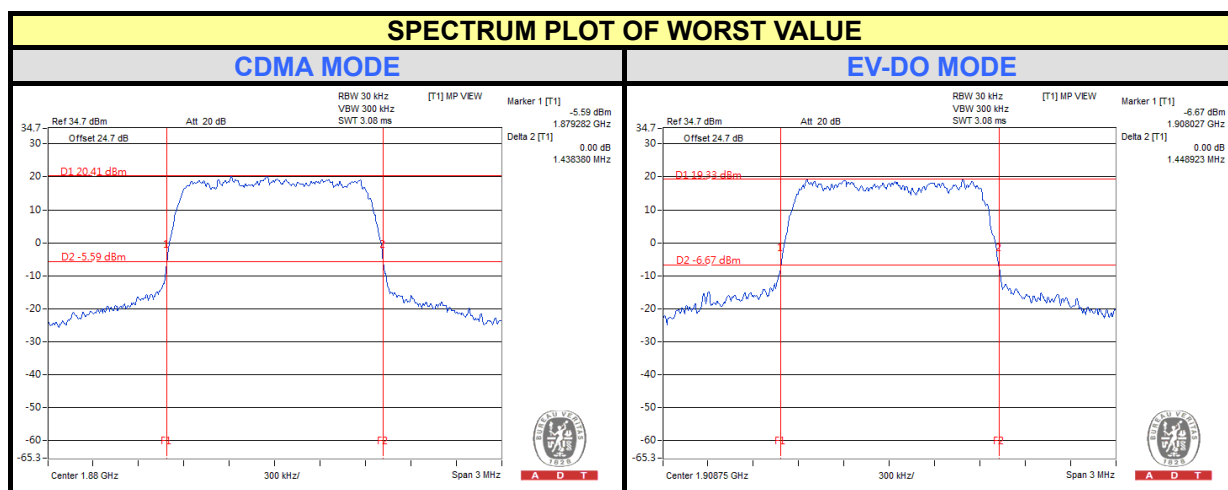
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		CDMA MODE	EV-DO MODE
25	1851.25	1.28	1.28
600	1880	1.28	1.28
1175	1908.75	1.28	1.28





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CHANNEL	FREQUENCY (MHz)	26dB BANDWIDTH (MHz)	
		CDMA MODE	EV-DO MODE
25	1851.25	1.43	1.43
600	1880	1.44	1.44
1175	1908.75	1.44	1.45

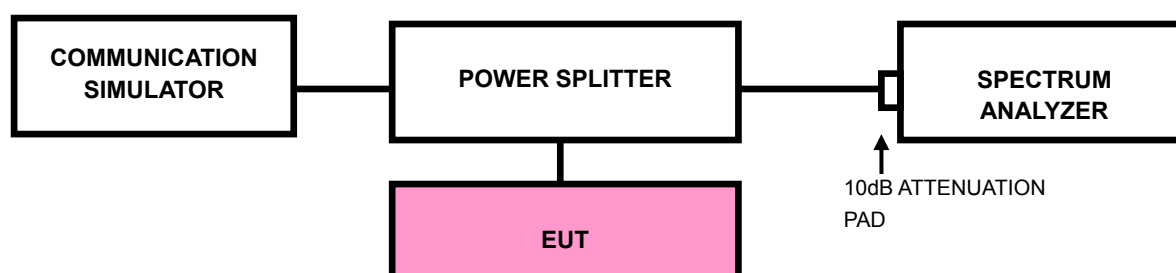


4.4 BAND EDGE MEASUREMENT

4.4.1 LIMITS OF BAND EDGE MEASUREMENT

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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

4.4.2 TEST SETUP



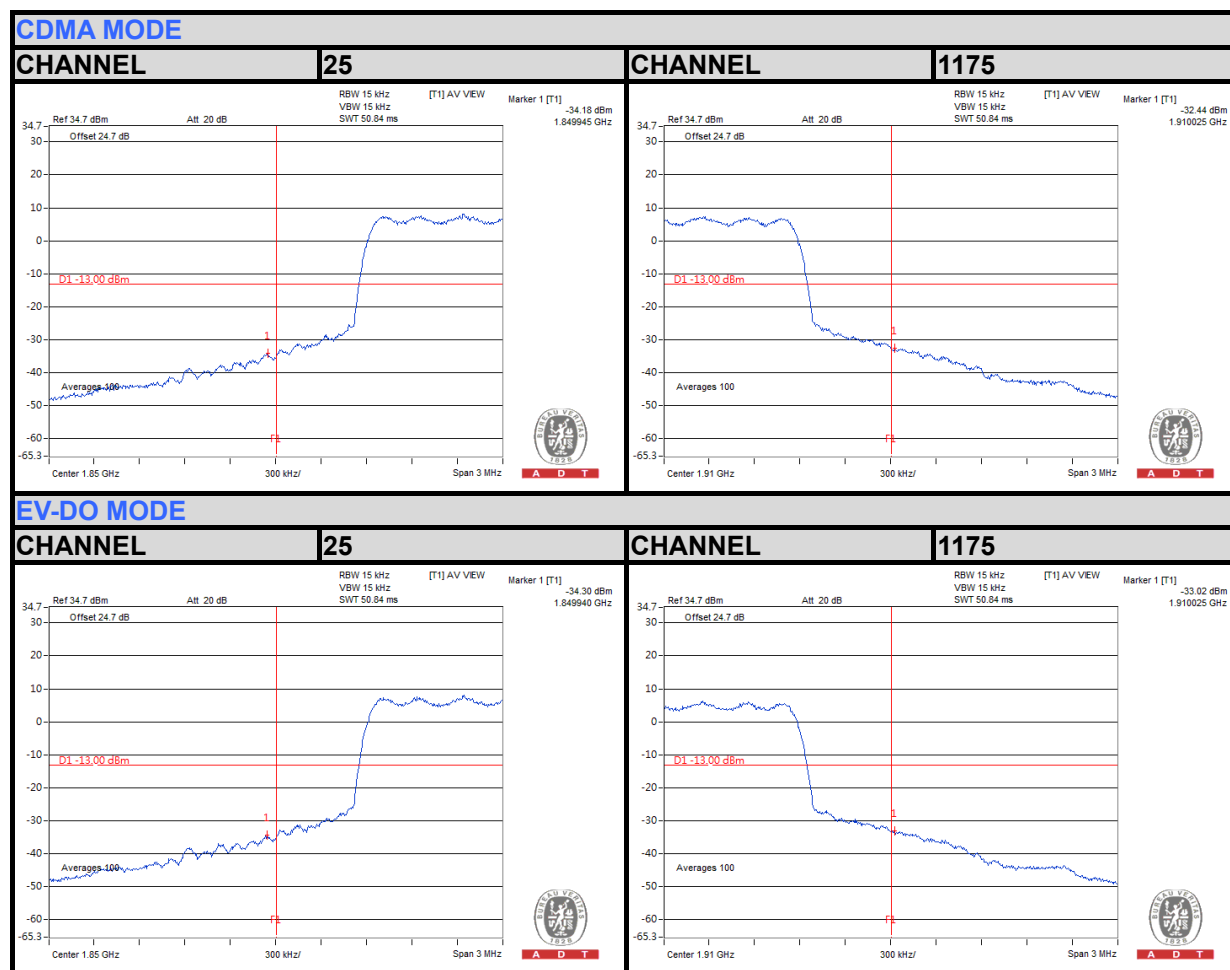
4.4.3 TEST PROCEDURES

- All measurements were done at low and high operational frequency range.
- The center frequency of spectrum is the band edge frequency and span is 2 MHz. RB of the spectrum is 15kHz and VB of the spectrum is 15kHz.
- Record the max trace plot into the test report.



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4.4.4 TEST RESULTS



4.5 CONDUCTED SPURIOUS EMISSIONS

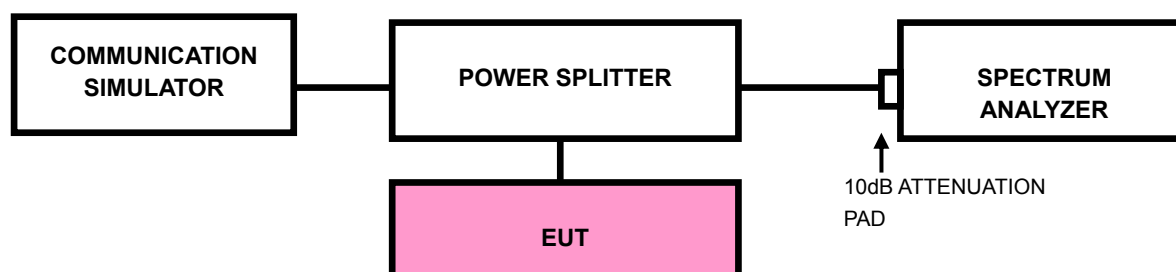
4.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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 .

4.5.2 TEST PROCEDURE

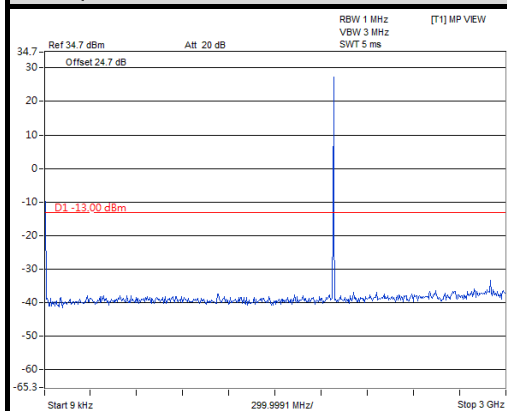
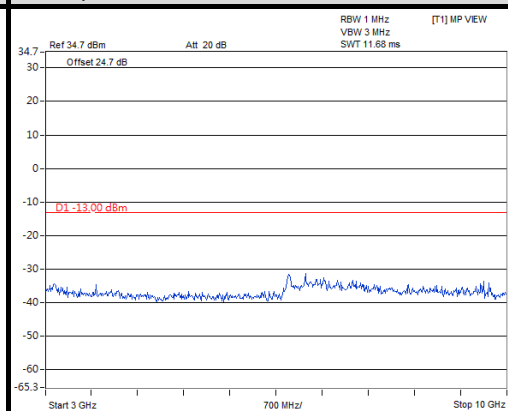
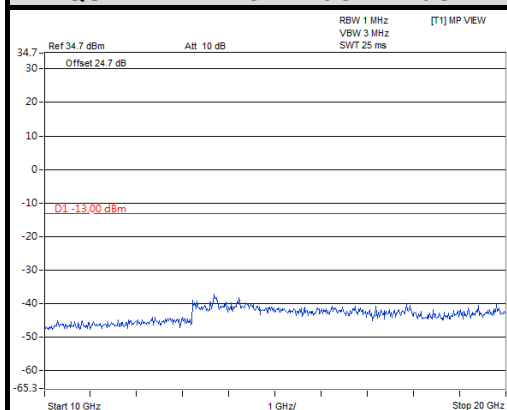
- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 9kHz to 20GHz. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

4.5.3 TEST SETUP



4.5.4 TEST RESULTS



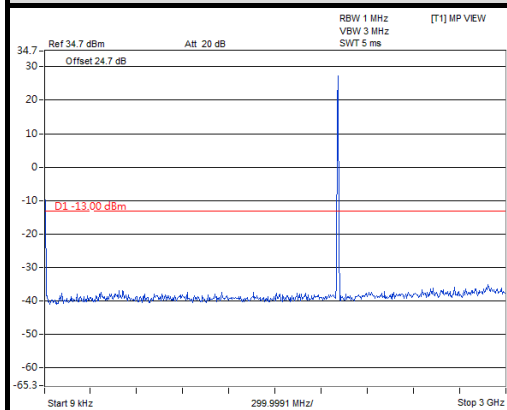
CHANNEL 600**FREQUENCY RANGE : 9kHz~3GHz****FREQUENCY RANGE : 3GHz~10GHz****FREQUENCY RANGE : 10GHz~20GHz**



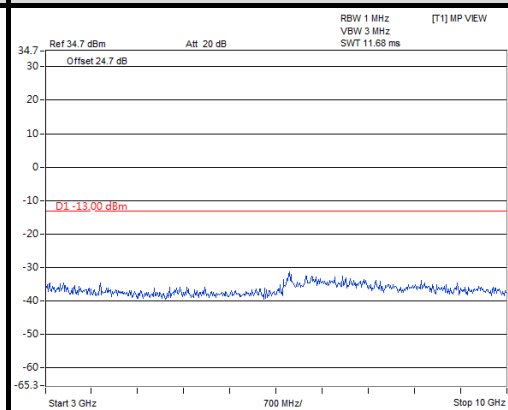
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CHANNEL 1175

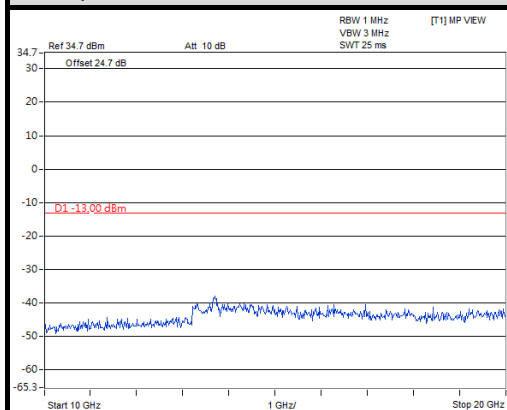
FREQUENCY RANGE : 9kHz~3GHz



FREQUENCY RANGE : 3GHz~10GHz



FREQUENCY RANGE : 10GHz~20GHz



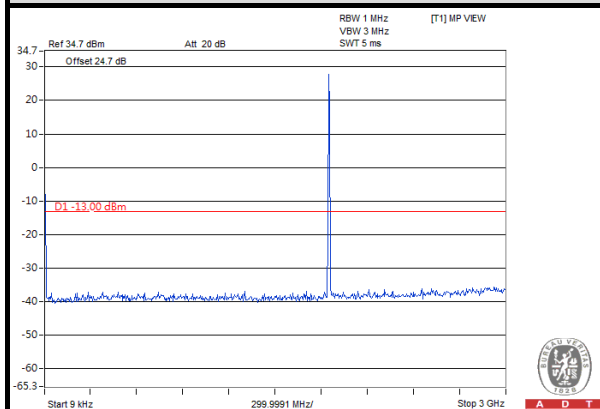


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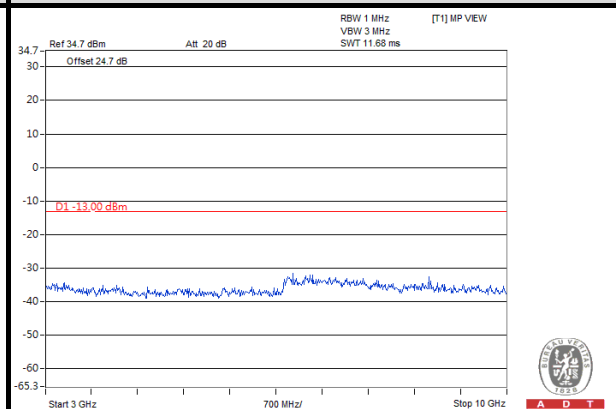
EV-DO MODE

CHANNEL 25

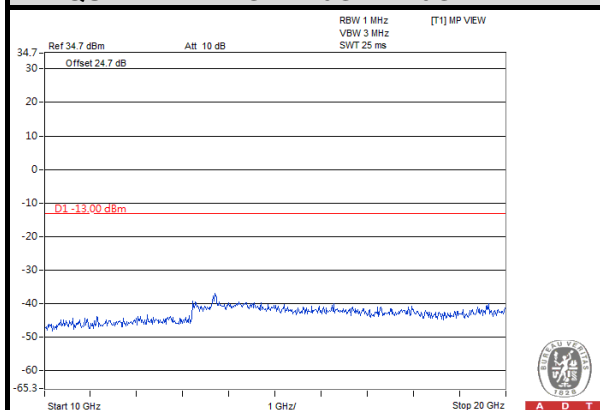
FREQUENCY RANGE : 9kHz~3GHz



FREQUENCY RANGE : 3GHz~10GHz

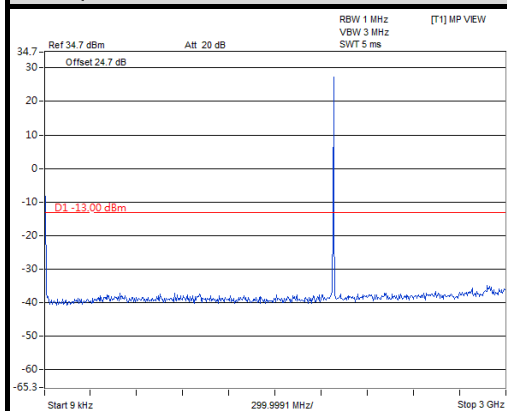


FREQUENCY RANGE : 10GHz~20GHz

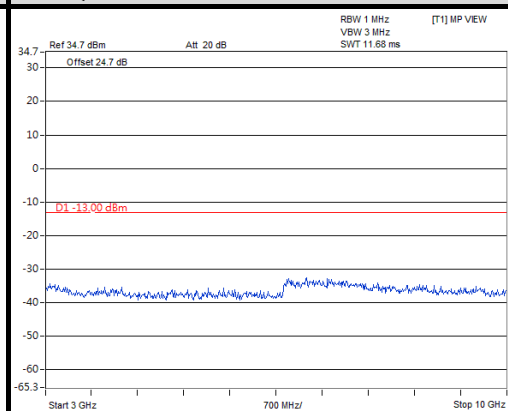


CHANNEL 600

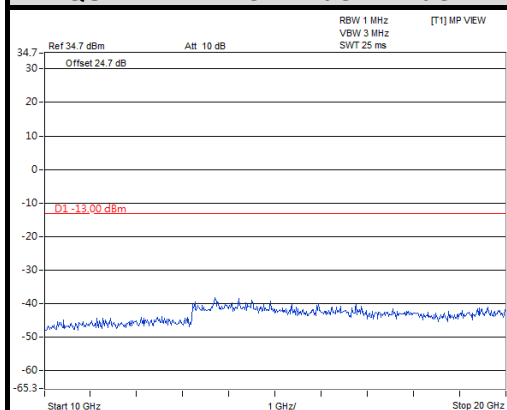
FREQUENCY RANGE : 9kHz~3GHz



FREQUENCY RANGE : 3GHz~10GHz



FREQUENCY RANGE : 10GHz~20GHz

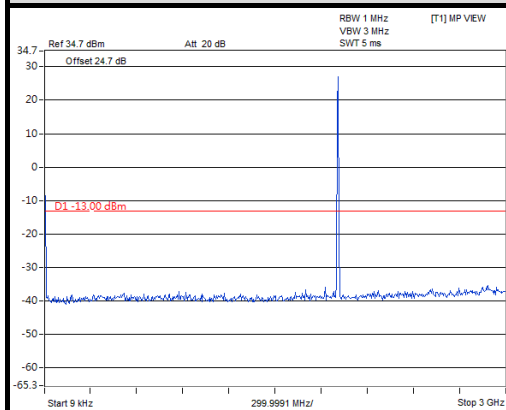




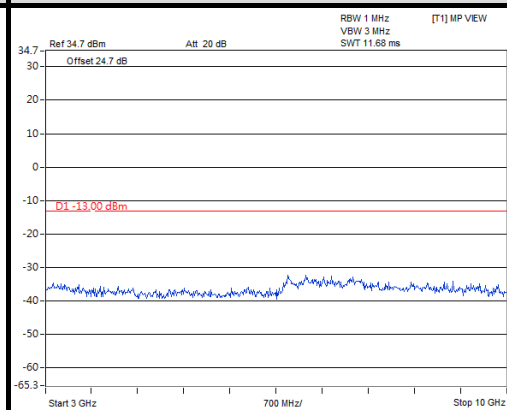
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CHANNEL 1175

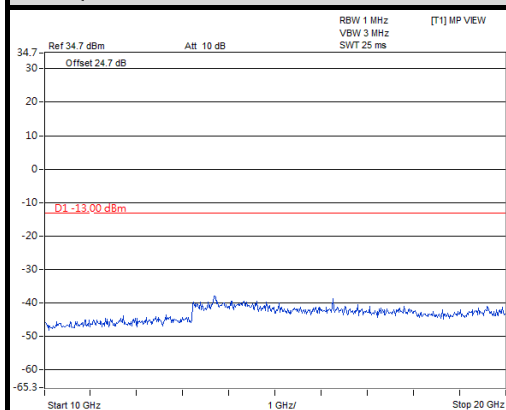
FREQUENCY RANGE : 9kHz~3GHz



FREQUENCY RANGE : 3GHz~10GHz



FREQUENCY RANGE : 10GHz~20GHz





4.6 RADIATED EMISSION MEASUREMENT

4.6.1 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 .

4.6.2 TEST PROCEDURES

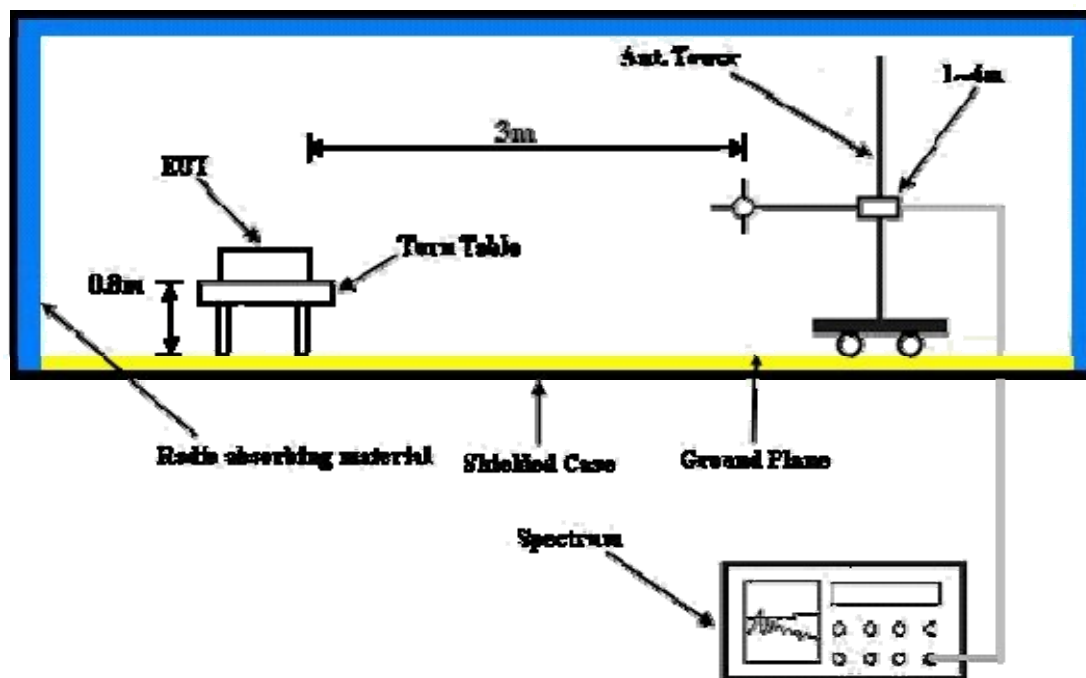
- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 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. $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,
 $\text{E.R.P power} = \text{E.I.R.P power} - 2.15\text{dBi}$.

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

4.6.3 DEVIATION FROM TEST STANDARD

No deviation

4.6.4 TEST SETUP



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



4.6.5 TEST RESULTS

FOR EVDO MODE:

Below 1GHz

MODE	TX channel 25	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	INPUT POWER	120Vac, 60 Hz
TESTED BY	Sun Lin		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	45.55	-56.57	-43.33	-10.47	-53.80	-13.00	-40.80
2	99.98	-47.26	-55.10	0.87	-54.23	-13.00	-41.23
3	171.90	-50.81	-57.31	1.89	-55.42	-13.00	-42.42
4	204.95	-55.85	-67.12	5.47	-61.65	-13.00	-48.65
5	389.62	-67.57	-72.80	5.24	-67.56	-13.00	-54.56
6	494.59	-59.97	-64.57	4.91	-59.66	-13.00	-46.66
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	41.66	-42.92	-37.62	-11.10	-48.72	-13.00	-35.72
2	55.27	-41.84	-39.39	-8.62	-48.01	-13.00	-35.01
3	125.25	-44.99	-49.23	-0.03	-49.26	-13.00	-36.26
4	171.90	-53.95	-55.40	1.89	-53.51	-13.00	-40.51
5	292.42	-64.60	-71.35	5.17	-66.18	-13.00	-53.18
6	451.82	-68.47	-71.90	5.07	-66.83	-13.00	-53.83

REMARKS:

1. Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



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Above 1GHz

MODE	Channel 25	FREQUENCY RANGE	Above 1000MHz
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH
TESTED BY	Sun Lin		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3702.40	-50.90	-46.80	7.16	-39.64	-13.00	-26.64
2	5553.60	-48.78	-37.83	6.78	-31.05	-13.00	-18.05

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3702.40	-50.30	-46.43	7.16	-39.27	-13.00	-26.27
2	5553.60	-51.20	-41.74	6.78	-34.96	-13.00	-21.96

REMARKS:

1. Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



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MODE	Channel 600	FREQUENCY RANGE	Above 1000MHz
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH
TESTED BY	Sun Lin		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3760.00	-50.10	-45.75	7.10	-38.65	-13.00	-25.65
2	5640.00	-54.82	-43.82	6.77	-37.05	-13.00	-24.05
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3760.00	-51.20	-47.19	7.10	-40.09	-13.00	-27.09
2	5640.00	-53.27	-43.50	6.77	-36.73	-13.00	-23.73

REMARKS:

1. Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



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MODE	Channel 1175	FREQUENCY RANGE	Above 1000MHz
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH
TESTED BY	Sun Lin		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3817.50	-47.00	-42.41	7.06	-35.35	-13.00	-22.35
2	5726.25	-55.50	-44.43	6.74	-37.69	-13.00	-24.69

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3817.50	-47.20	-43.07	7.06	-36.01	-13.00	-23.01
2	5726.25	-56.10	-45.99	6.74	-39.25	-13.00	-26.25

REMARKS:

1. Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



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5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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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.

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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.



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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.

---END---