FCC TEST REPORT

(PART 90S)

REPORT NO.:	RF141218E07-4
MODEL NO.:	T77W595
FCC ID:	MCLT77W595
RECEIVED:	Dec. 18, 2014
TESTED:	Jan. 08 to 15, 2015
ISSUED:	Jan. 27, 2015

APPLICANT:	HON HAI PRECISION IND. CO., LTD.
ADDRESS:	5F-1,5 Hsin-An Road Hsinchu, Science-Based Industrial Park Taiwan, R.O.C.

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
LAB ADDRESS:	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.
TEST LOCATION (1):	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.
TEST LOCATION (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

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

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF141218E07-4	Original release	Jan. 27, 2015

1 CERTIFICATION

PRODUCT:	LTE Cat4 PCI Express M.2 Module
MODEL:	T77W595
BRAND:	FOXCONN
APPLICANT:	HON HAI PRECISION IND. CO., LTD.
TESTED:	Jan. 08 to 15, 2015
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC PART 90, Subpart S**
	FCC Part 2

The above equipment (model: T77W595) 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 : Phoenix Huang , **Date:** Jan. 27, 2015

(Phoenix Huang, Specialist)

Approved by : , **Date:** Jan. 27, 2015

(May Chen, Manager)

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 90 & Part 2			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
2.1046 90.635 (b)	Effective Radiated Power	PASS	Meet the requirement of limit.
2.1055 90.213	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 90.209	Occupied Bandwidth	PASS	Meet the requirement of limit.
2.1051 90.209	Emission Masks	PASS	Meet the requirement of limit.
2.1051 90.691	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 90.691	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -9.95dB at 1638MHz.

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 ~ 1GHz - Chamber G	5.37 dB
	30MHz ~ 1GHz - Chamber H	5.43 dB
	1GHz ~6GHz - Chamber G	3.65 dB
	1GHz ~6GHz - Chamber H	3.72 dB
	6GHz ~ 18GHz - Chamber G	3.88 dB
	6GHz ~ 18GHz - Chamber H	4.00 dB
	18GHz ~ 40GHz	4.11 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

For radiated spurious emissions test: (CDMA2000 mode)

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	July 21,2014	July 20,2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 26, 2014	Feb. 25, 2015
RF Cable	NA	CHGCAB_001	Oct. 04, 2014	Oct. 03, 2015
Horn_Antenna AISI	AIH.8018	0000320091110	Aug. 27, 2014	Aug. 26, 2015
Pre-Amplifier Agilent	8449B	3008A02578	June 24, 2014	June 23, 2015
RF Cable	NA	131205 131214 SNMY23684/4	Jan. 17, 2014	Jan. 16, 2015
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier EMCI	EMC184045	980143	Jan. 17, 2014	Jan. 16, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Aug. 26, 2014	Aug. 25, 2015
RF Cable	NA	RF104-121 RF104-204	Dec. 11, 2014	Dec. 10, 2015
Antenna Tower & Turn Table CT	NA	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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5 The VCCI Site Registration No. is G-137.
6 The CANADA Site Registration No. is IC 7450H-2.
7 Tested Date: Jan. 08, 2015

For radiated spurious emissions test: (LTE mode)

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY50010156	Aug. 11, 2014	Aug. 10, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Feb. 27, 2014	Feb. 26, 2015
RF Cable	NA	CHHCAB_001	Oct. 05, 2014	Oct. 04, 2015
Horn_Antenna AISI	AIH.8018	0000220091110	Aug. 26, 2014	Aug. 25, 2015
Pre-Amplifier Agilent	8449B	300801923	Oct. 28, 2014	Oct. 27, 2015
RF Cable	NA	131206 131215 SNMY23685/4	Jan. 17, 2014	Jan. 16, 2015
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier EMCI	EMC184045	980143	Jan. 17, 2014	Jan. 16, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Aug. 26, 2014	Aug. 25, 2015
RF Cable	NA	RF104-121 RF104-204	Dec. 11, 2014	Dec. 10, 2015
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
5 The CANADA Site Registration No. is IC 7450H-3.
6 Tested Date: Jan. 08 to 15, 2015

For other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100037	Oct. 30, 2014	Oct. 29, 2015
Spectrum Analyzer Agilent	E4446A	MY48250253	Dec. 18, 2014	Dec. 17, 2015
AC Power Source EXTECH Electronics	6502	1140503	NA	NA
Temperature & Humidity Chamber TERCHY	MHU-225AU	911033	Dec. 08, 2014	Dec. 07, 2015
DC Power Supply GOOD WILL INSTRUMENT CO., LTD.	GPC - 3030D	7700087	NA	NA
ESG Vector signal generator Agilent	E4438C	MY47271330 506 602 UNJ	Apr. 28, 2014	Apr. 27, 2015
Upgrade the software license on current E4438C ESG Agilent	E4438CK-403	ESG E4_010004	NA	NA
ESG Vector signal generator Agilent	E4438C	MY45094468/ 005 506 602 UK6 UNJ	Dec. 05, 2014	Dec. 04, 2015
Upgrade the software license on current E4438C ESG Agilent	E4438CK-403	ESG E4_010001	NA	NA
Power meter Anritsu	ML2495A	0824006	May 22, 2014	May 21, 2015
Power sensor Anritsu	MA2411B	0738172	May 22, 2014	May 21, 2015
Software	ADT_RF Test Software V6.6.5.3	NA	NA	NA
Universal Radio Communication Tester R&S	CMU200	121040	Dec. 16, 2014	Dec. 15, 2015
Radio Communication Analyzer Anritsu	MT8820C	6201127458	Mar. 05, 2014	Mar. 04, 2015

NOTE: 1. The test was performed in Oven room A.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. Tested Date: Jan. 13, 2015

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	LTE Cat4 PCI Express M.2 Module	
MODEL NO.	T77W595	
POWER SUPPLY	3.3Vdc from host equipment	
MODULATION TYPE	**CDMA2000 & EVDO**	QPSK
	LTE Band 26	QPSK, 16QAM
FREQUENCY RANGE	**CDMA2000 & EVDO**	817.9MHz ~ 823.1MHz
	LTE Band 26 Channel Bandwidth: 1.4MHz	814.7MHz ~ 823.3MHz
	LTE Band 26 Channel Bandwidth: 3MHz	815.5MHz ~ 822.5MHz
	LTE Band 26 Channel Bandwidth: 5MHz	816.5MHz ~ 821.5MHz
	LTE Band 26 Channel Bandwidth: 10MHz	819MHz
EMISSION DESIGNATOR	**CDMA2000 & EVDO**	1M28F9W
	LTE Band 26 Channel Bandwidth: 1.4MHz	QPSK: 1M09G7D
		16QAM: 1M09W7D
	LTE Band 26 Channel Bandwidth: 3MHz	QPSK: 2M73G7D
		16QAM: 2M73W7D
	LTE Band 26 Channel Bandwidth: 5MHz	QPSK: 4M50G7D
		16QAM: 4M50W7D
	LTE Band 26 Channel Bandwidth: 10MHz	QPSK: 9M03G7D
		16QAM: 8M97W7D
MAX. ERP POWER	**CDMA2000 & EVDO**	312.892mW
	LTE Band 26 Channel Bandwidth: 1.4MHz	367.3mW
	LTE Band 26 Channel Bandwidth: 3MHz	343.6mW
	LTE Band 26 Channel Bandwidth: 5MHz	364.8mW
	LTE Band 26 Channel Bandwidth: 10MHz	381.9mW
ANTENNA TYPE	Refer to NOTE	
I/O PORTS	NA	
DATA CABLE	Refer to users' manual	
ACCESSORY DEVICES	NA	

Note:

1. The antennas provided to the EUT, please refer to the following table:

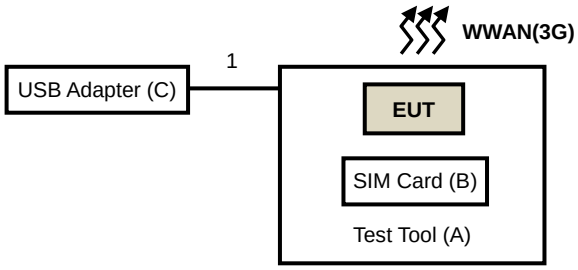
Ant. Set	Transmitter Circuit	Brand	Model	Operation Band	Ant. Gain(dBi) <including cable loss>	Frequency range (MHz ~ MHz)	Ant. Type	Connecter Type
LTE 1	Main	NA	NA	LTE(4G) B12 / B17	5.19	699 ~ 716	PIFA	I-PEX MHF IV
				LTE(4G) B28	5.2	703 ~ 748		
	Aux			LTE(4G) B12 / B17	5.19	699 ~ 716		
				LTE(4G) B28	5.2	703 ~ 748		
LTE 2	Main	NA	NA	LTE(4G) B13	6.14	777 ~ 787	PIFA	I-PEX MHF IV
				LTE(4G) B20	3.77	832 ~ 862		
				CDMA(3G) BC10	3.22	816 ~ 824		
				LTE(4G) B26	3.4	814 ~ 849		
				WCDMA(3G) B5 / GSM850(2G) / LTE(4G) B5 / CDMA(3G) BC0	3.4	824 ~ 849		
				WCDMA(3G) B8 / E-GSM900(2G) / LTE(4G) B8	4.39	880 ~ 915		
	Aux			LTE(4G) B13	6.14	777 ~ 787		
				LTE(4G) B20	3.77	832 ~ 862		
				CDMA(3G) BC10	3.22	816 ~ 824		
				LTE(4G) B26	3.4	814 ~ 849		
				WCDMA(3G) B5 / GSM850(2G) / LTE(4G) B5 / CDMA(3G) BC0	3.4	824 ~ 849		
				WCDMA(3G) B8 / E-GSM900(2G) / LTE(4G) B8	4.39	880 ~ 915		

Ant. Set	Transmitter Circuit	Brand	Model	Operation Band	Ant. Gain(dBi) <including cable loss>	Frequency range (MHz ~ MHz)	Ant. Type	Connecter Type
LTE 3	Main	NA	NA	WCDMA(3G) B2 / LTE(4G) B2 / B25 / PCS1900(2G) / CDMA(3G) BC1	3.62	1850 to 1915	PIFA	I-PEX MHF IV
				WCDMA(3G) B4 / DCS1800(2G) / LTE(4G) B3 / B4	4.25	1710 to 1785		
				LTE(4G) B7	4.37	2500 to 2570		
				WCDMA(3G) B1/ LTE(4G) B1	3.82	1920 to 1980		
				GPS	2.19	1575.42 ~ 1602		
	Aux			WCDMA(3G) B2 / LTE(4G) B2 / B25 / PCS1900(2G) / CDMA(3G) BC1	3.62	1850 to 1915		
				WCDMA(3G) B4 / DCS1800(2G) / LTE(4G) B3 / B4	4.25	1710 to 1785		
				LTE(4G) B7	4.37	2500 to 2570		
				WCDMA(3G) B1/ LTE(4G) B1	3.82	1920 to 1980		
				GPS	2.19	1575.42 ~ 1602		

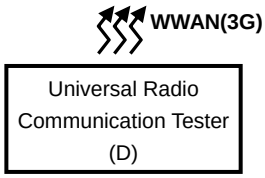
2. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 CONFIGURATION OF SYSTEM UNDER TEST

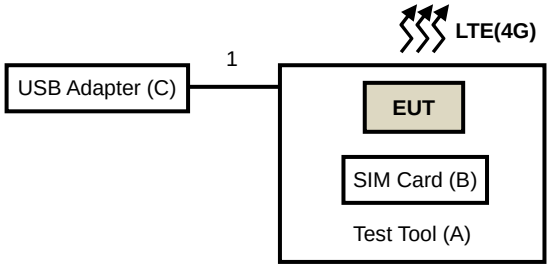
For CDMA2000 mode:



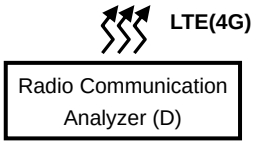
Remote site



For LTE mode:



Remote site



3.3 DESCRIPTION OF SUPPORT UNITS

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

No.	Product	Brand	Model No.	Serial No.	FCC ID	Remark
A	Test Tool	FOXCONN	NA	NA	NA	Supplied by Client
B	SIM Card	NA	NA	NA	NA	Provided by Lab
C	USB Adapter	NICELINK	US-T128	NA	NA	Provided by Lab
D	Universal Radio Communication Tester (For CDMA2000 mode)	R&S	CMU200	121040	NA	Provided by Lab
	Radio Communication Analyzer (For LTE mode)	Anritsu	MT8820C	6201127458	NA	Provided by Lab

NOTE:

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

No.	Cable	Qty.	Length (m)	Shielded (Yes/ No)	Cores (Number)	Remark
1	DC	1	1	No	0	Provided by Lab

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. Following channel(s) was (were) selected for the final test as listed below:

CDMA2000 (BC10) & EVDO MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
ERP	476 to 684	476, 580, 684	CDMA2000
FREQUENCY STABILITY	476 to 684	580	CDMA2000
OCCUPIED BANDWIDTH	476 to 684	476, 580, 684	CDMA2000
EMISSION MASK (BAND EDGE)	476 to 684	476, 684	CDMA2000
CONDCUDETED EMISSION	476 to 684	580	CDMA2000
RADIATED EMISSION	476 to 684	580	CDMA2000

Note: This device was tested under EVDO mode and CDMA2000 mode. The worst case was found in CDMA2000 mode.

LTE BAND 26 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK	1 RB / 0 RB Offset
	26705 to 26775	26705, 26740, 26775	3MHz	QPSK	1 RB / 0 RB Offset
	26715 to 26765	26715, 26740, 26765	5MHz	QPSK	1 RB / 0 RB Offset
	26740	26740	10MHz	QPSK	1 RB / 0 RB Offset
FREQUENCY STABILITY	26697 to 26783	26740	1.4MHz	QPSK	1 RB / 0 RB Offset
	26705 to 26775	26740	3MHz	QPSK	1 RB / 0 RB Offset
	26715 to 26765	26740	5MHz	QPSK	1 RB / 0 RB Offset
	26740	26740	10MHZ	QPSK	1 RB / 0 RB Offset
OCCUPIED BANDWIDTH	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM	6 RB / 0 RB Offset
	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM	15 RB / 0 RB Offset
	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	26740	26740	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
EMISSION MASK (BAND EDGE)	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM	6 RB / 0 RB Offset
	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM	15 RB / 0 RB Offset
	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	26740	26740	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
CONDCUDETED EMISSION	26697 to 26783	26740	1.4MHz	QPSK	1 RB / 0 RB Offset
	26705 to 26775	26740	3MHz	QPSK	1 RB / 0 RB Offset
	26715 to 26765	26740	5MHz	QPSK	1 RB / 0 RB Offset
	26740	26740	10MHZ	QPSK	1 RB / 0 RB Offset
RADIATED EMISSION	26697 to 26783	26740	1.4M	QPSK	1 RB / 0 RB Offset
	26705 to 26775	26740	3M	QPSK	1 RB / 0 RB Offset
	26715 to 26765	26740	5MHz	QPSK	1 RB / 0 RB Offset
	26740	26740	10MHz	QPSK	1 RB / 0 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
ERP	25deg. C, 63%RH	120Vac, 60Hz	James Chan
FREQUENCY STABILITY	25deg. C, 63%RH	120Vac, 60Hz	James Chan
OCCUPIED BANDWIDTH	25deg. C, 63%RH	120Vac, 60Hz	James Chan
BAND EDGE	25deg. C, 63%RH	120Vac, 60Hz	James Chan
CONDCUDETED EMISSION	25deg. C, 63%RH	120Vac, 60Hz	James Chan
RADIATED EMISSION	25deg. C, 63%RH	120Vac, 60Hz	Gary Cheng

3.5 EUT OPERATING CONDITIONS

The EUT links 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 90
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 100 watts e.r.p.

4.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

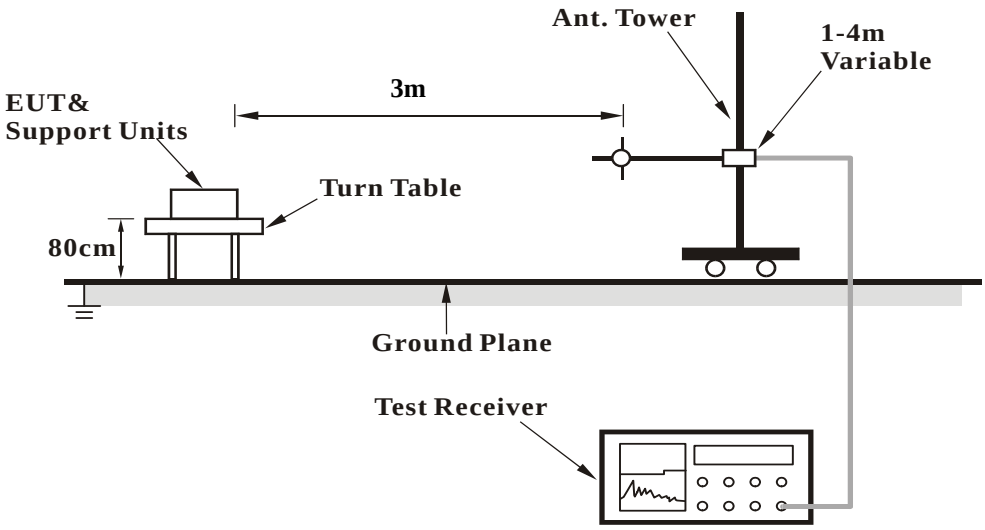
a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 10MHz for LTE mode.
b. Substitution method is used for EIRP measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum 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. ERP = EIRP- 2.15 dB

CONDUCTED POWER MEASUREMENT:

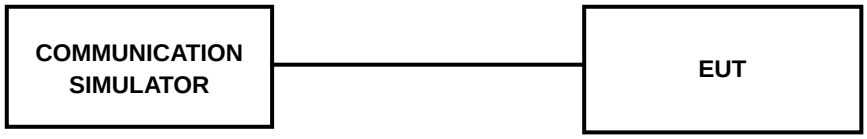
a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

4.1.3 TEST SETUP

EIRP / ERP MEASUREMENT:



CONDUCTED POWER MEASUREMENT:



4.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

Band	CDMA2000		
Channel	476	580	684
Frequency (MHz)	817.9	820.5	823.1
RC1+SO55	24.63	24.59	24.47
RC3+SO55	**24.68**	24.54	24.42
RC3+SO32(+ F-SCH)	24.60	24.51	24.39
RC3+SO32(+SCH)	24.61	24.52	24.40
RTAP 153.6	24.61	24.52	24.40
RETAP 4096	24.65	24.56	24.44

LTE Band / BW (MHz)	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26697 814.7 MHz	Mid CH 26740 819.0 MHz	High CH 26783 823.3 MHz		Low CH 26697 814.7 MHz	Mid CH 26740 819.0 MHz	High CH 26783 823.3 MHz	
26 / 1.4M	1	0	23.19	23.17	23.16	0	22.22	22.20	22.19	1
	1	2	**23.36**	23.34	23.33	0	**22.39**	22.37	22.36	1
	1	5	23.21	23.19	23.18	0	22.24	22.22	22.21	1
	3	0	23.34	23.32	23.31	0	22.37	22.35	22.34	1
	3	1	23.24	23.22	23.21	0	22.27	22.25	22.24	1
	3	3	23.35	23.33	23.32	0	22.38	22.36	22.35	1
	6	0	22.36	22.34	22.33	1	21.39	21.37	21.36	2

LTE Band / BW (MHz)	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26705 815.5 MHz	Mid CH 26740 819.0 MHz	High CH 26775 822.5 MHz		Low CH 26705 815.5 MHz	Mid CH 26740 819.0 MHz	High CH 26775 822.5 MHz	
26 / 3M	1	0	23.25	23.23	23.22	0	22.26	22.24	22.23	1
	1	7	**23.41**	23.39	23.38	0	**22.42**	22.40	22.39	1
	1	14	23.27	23.25	23.24	0	22.28	22.26	22.25	1
	8	0	22.40	22.38	22.37	1	21.41	21.39	21.38	2
	8	3	22.30	22.28	22.27	1	21.31	21.29	21.28	2
	8	7	22.32	22.30	22.29	1	21.33	21.31	21.30	2
	15	0	22.42	22.40	22.39	1	21.43	21.41	21.40	2

LTE Band / BW (MHz)	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26715 816.5 MHz	Mid CH 26740 819.0 MHz	High CH 26765 821.5 MHz		Low CH 26715 816.5 MHz	Mid CH 26740 819.0 MHz	High CH 26765 821.5 MHz	
26 / 5M	1	0	23.33	23.31	23.30	0	22.31	22.29	22.28	1
	1	12	**23.49**	23.47	23.46	0	**22.47**	22.45	22.44	1
	1	24	23.35	23.33	23.32	0	22.33	22.31	22.30	1
	12	0	22.48	22.46	22.45	1	21.46	21.44	21.43	2
	12	6	22.38	22.36	22.35	1	21.36	21.34	21.33	2
	12	13	22.40	22.38	22.37	1	21.38	21.36	21.35	2
	25	0	22.50	22.48	22.47	1	21.48	21.46	21.45	2

LTE Band / BW (MHz)	RB Size	RB Offset	QPSK Mid CH 26740 819.0 MHz	3GPP MPR (dB)	16QAM Mid CH 26740 819.0 MHz	3GPP MPR (dB)
26 / 10M	1	0	23.42	0	22.36	1
	1	24	**23.58**	0	**22.52**	1
	1	49	23.44	0	22.38	1
	25	0	22.57	1	21.51	2
	25	12	22.47	1	21.41	2
	25	25	22.49	1	21.43	2
	50	0	22.59	1	21.53	2

ERP POWER (dBm)

CDMA2000					
Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)
476	817.9	22.2	2.8	25.0	312.892
580	820.5	21.8	2.8	24.6	289.331
684	823.1	21.8	2.7	24.6	286.019

LTE Band 26					
Channel Bandwidth: 1.4MHz / QPSK					
Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)
26697	814.7	22.9	2.6	25.6	358.9
26740	819	23.0	2.7	25.7	367.3
26783	823.3	22.8	2.6	25.4	348.3

LTE Band 26					
Channel Bandwidth: 3MHz / QPSK					
Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)
26705	815.5	22.7	2.6	25.3	340.4
26740	819	22.6	2.7	25.3	338.8
26775	822.5	22.8	2.6	25.4	343.6

LTE Band 26					
Channel Bandwidth: 5MHz / QPSK					
Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)
26715	816.5	22.9	2.6	25.5	356.5
26740	819	22.7	2.7	25.4	346.7
26765	821.5	23.0	2.6	25.6	364.8

LTE Band 26					
Channel Bandwidth: 10MHz / QPSK					
Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)
26740	819	23.1	2.7	25.8	381.9

4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

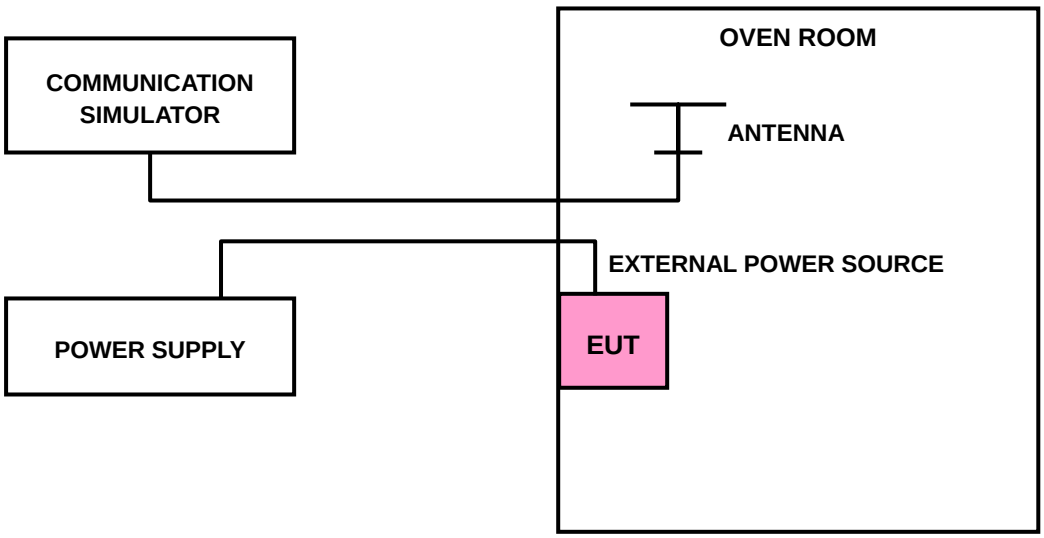
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

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 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 ±0.5℃ 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



4.2.4 TEST RESULTS

VOLTAGE (Volts)	FREQUENCY ERROR (ppm)					LIMIT (ppm)
	CDMA2000	LTE Band 26				
		1.4MHz	3MHz	5MHz	10MHz	
102	-0.020	0.055	0.046	0.048	0.042	2.5
138	-0.017	0.043	0.053	0.056	0.053	2.5

NOTE: The applicant defined the normal working voltage of the host equipment is from 102Vac to 138Vac.

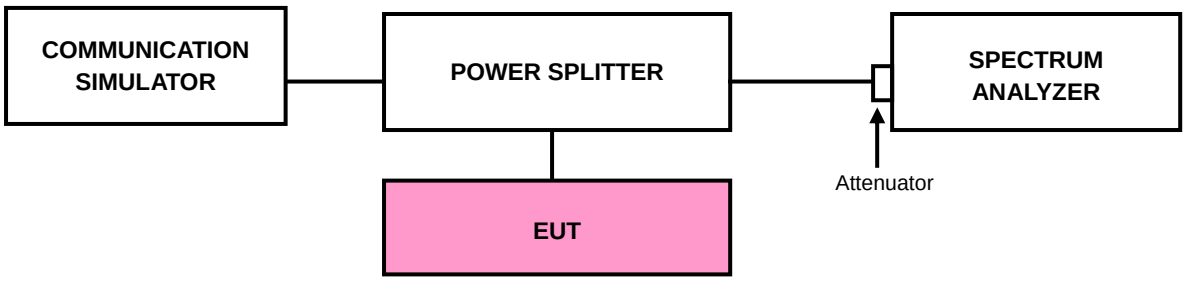
TEMP. (℃)	FREQUENCY ERROR (ppm)					LIMIT (ppm)
	CDMA2000	LTE Band 26				
		1.4MHz	3MHz	5MHz	10MHz	
75	-0.029	0.034	0.044	0.042	0.049	2.5
70	-0.027	0.054	0.043	0.037	0.048	2.5
60	-0.027	0.045	0.053	0.034	0.055	2.5
50	-0.026	0.054	0.037	0.051	0.053	2.5
40	-0.023	0.034	0.042	0.045	0.051	2.5
30	-0.018	0.033	0.051	0.039	0.037	2.5
20	-0.017	0.032	0.045	0.051	0.029	2.5
10	-0.018	0.051	0.044	0.053	0.045	2.5
0	-0.023	0.038	0.055	0.042	0.045	2.5
-10	-0.021	0.050	0.050	0.039	0.045	2.5
-20	-0.026	0.049	0.043	0.039	0.028	2.5
-30	-0.028	0.049	0.044	0.038	0.042	2.5

4.3 OCCUPIED BANDWIDTH MEASUREMENT

4.3.1 TEST PROCEDURES

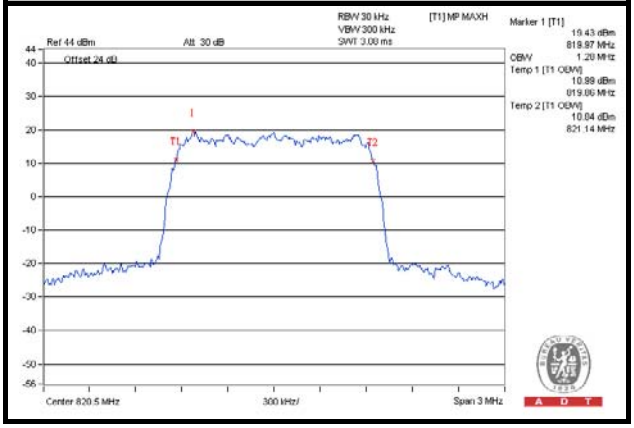
The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function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

4.3.2 TEST SETUP

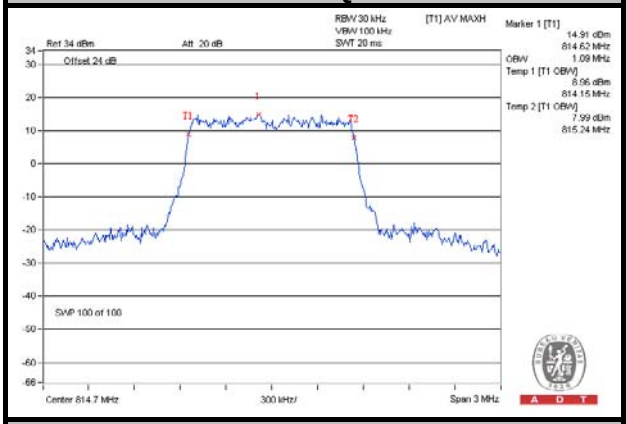
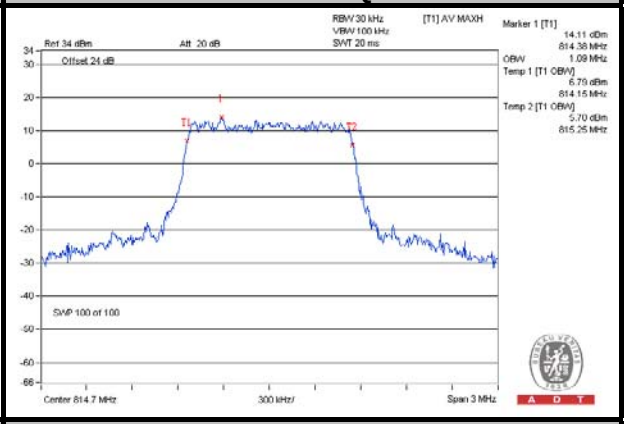
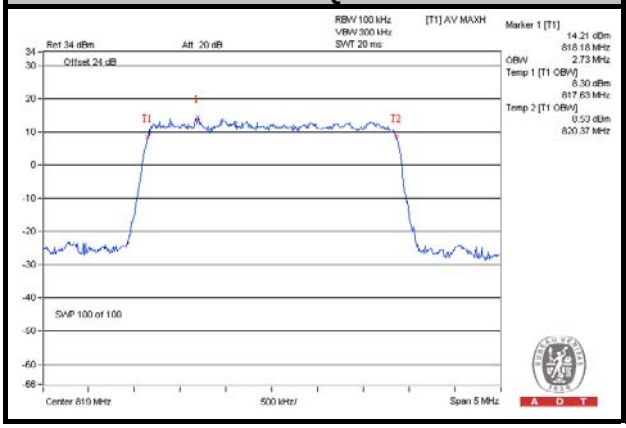
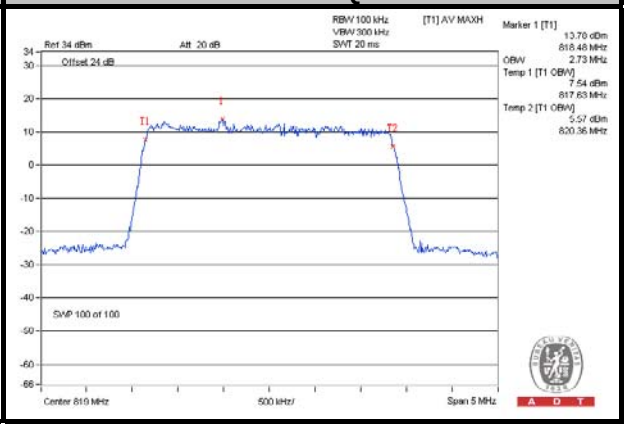


4.3.3 TEST RESULTS

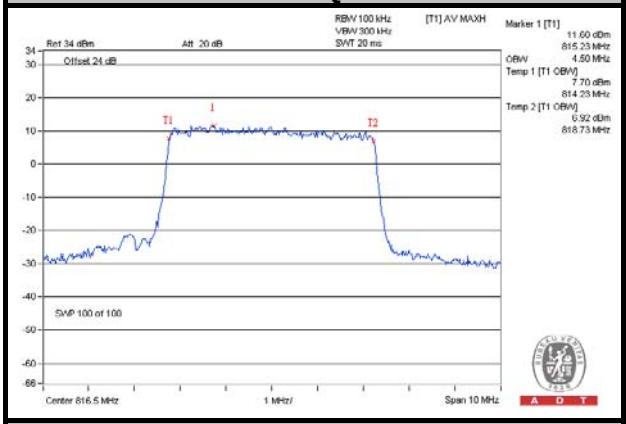
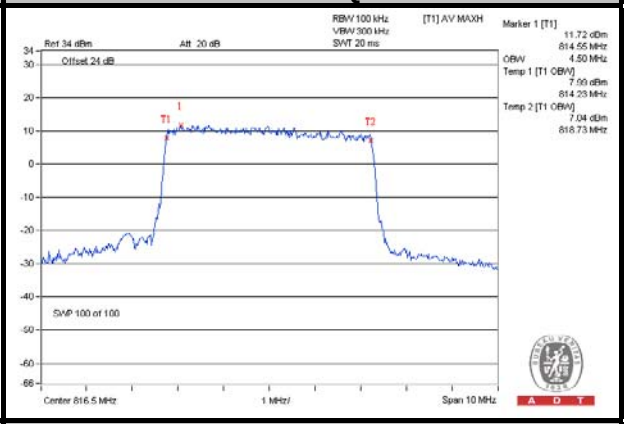
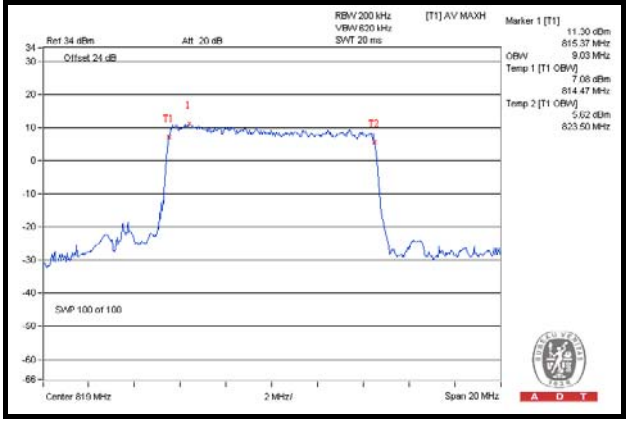
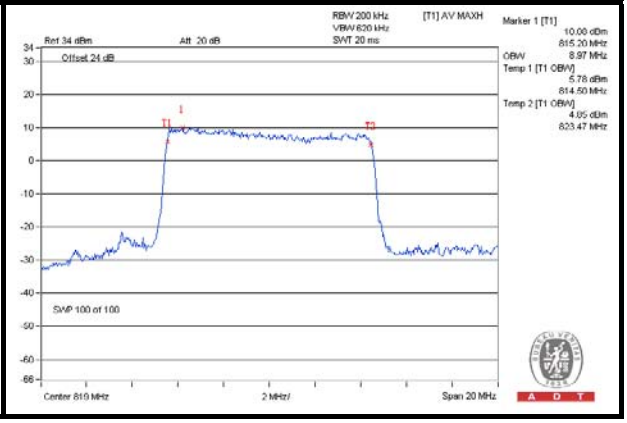
CDMA2000		
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)
476	817.9	1.27
580	820.5	1.28
684	823.1	1.28

SPECTRUM PLOT OF WORST VALUE


LTE BAND 26							
CHANNEL BANDWIDTH: 1.4MHz				CHANNEL BANDWIDTH: 3MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
26697	814.7	1.09	1.09	26705	815.5	2.73	2.73
26740	819.0	1.09	1.09	26740	819.0	2.73	2.73
26783	823.3	1.09	1.09	26775	822.5	2.73	2.73

SPECTRUM PLOT OF WORST VALUE	
1.4MHz / QPSK	1.4MHz / 16QAM
	
3MHz / QPSK	3MHz / 16QAM
	

LTE BAND 26							
CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
26715	816.5	4.50	4.50	26740	819.0	9.03	8.97
26740	819.0	4.48	4.48				
26765	821.5	4.50	4.50				

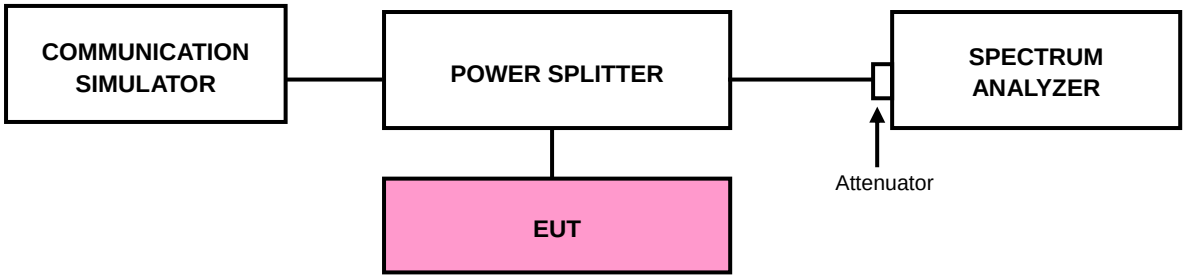
SPECTRUM PLOT OF WORST VALUE	
5MHz / QPSK	5MHz / 16QAM
	
10MHz / QPSK	10MHz / 16QAM
	

4.4 EMISSION MASK MEASUREMENT

4.4.1 LIMITS OF BAND EDGE MEASUREMENT

According to FCC part 90.691 shall be tested the emission mask. For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50+10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

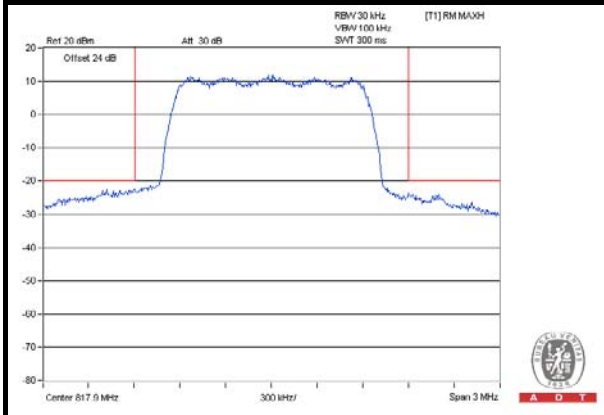
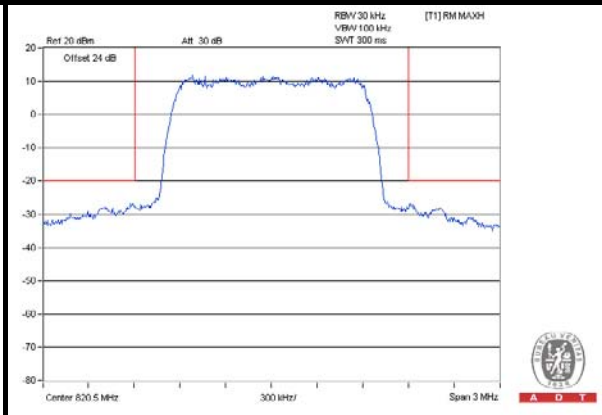
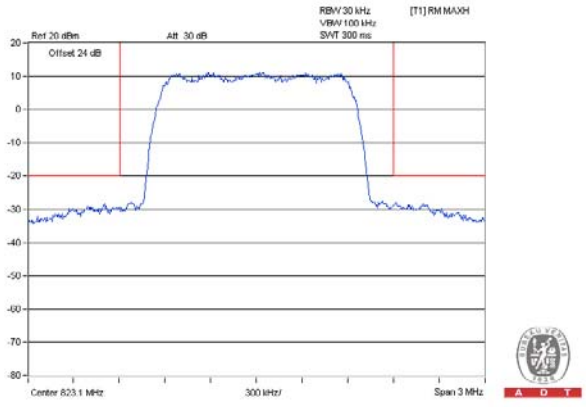
4.4.2 TEST SETUP

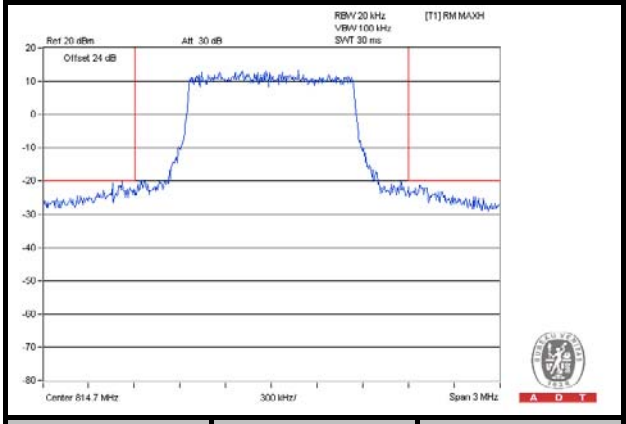
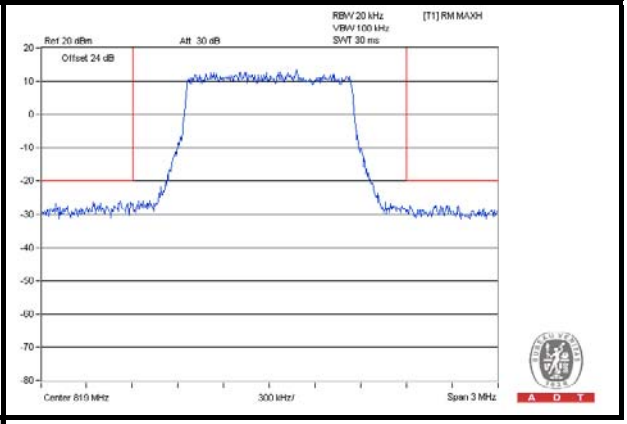
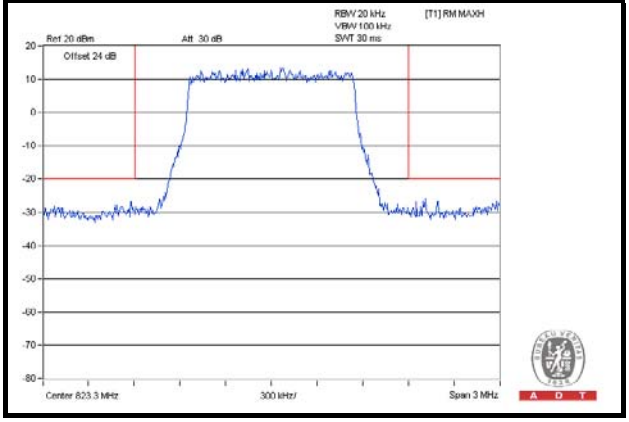


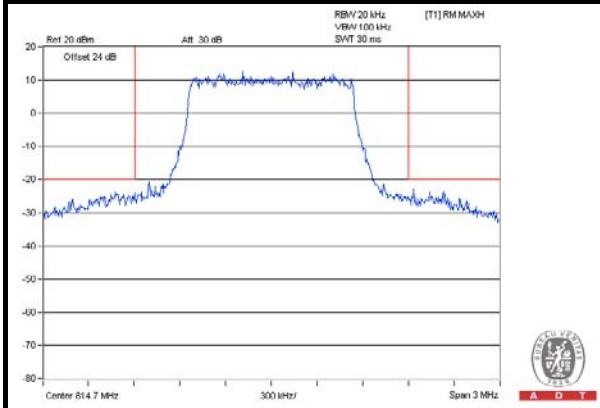
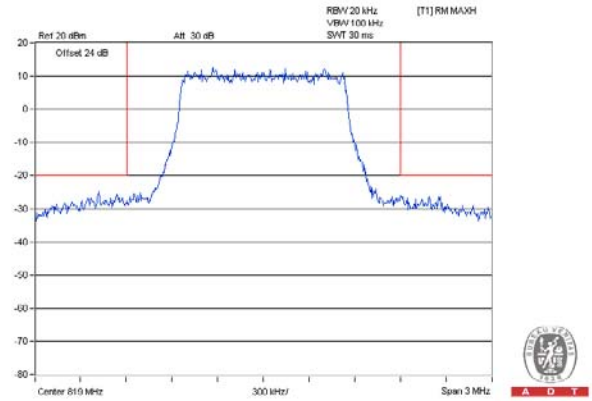
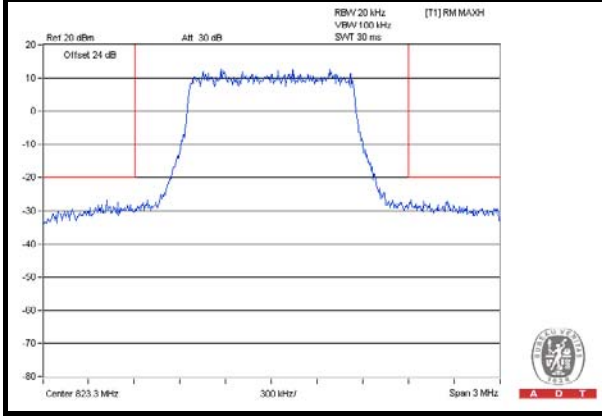
4.4.3 TEST PROCEDURES

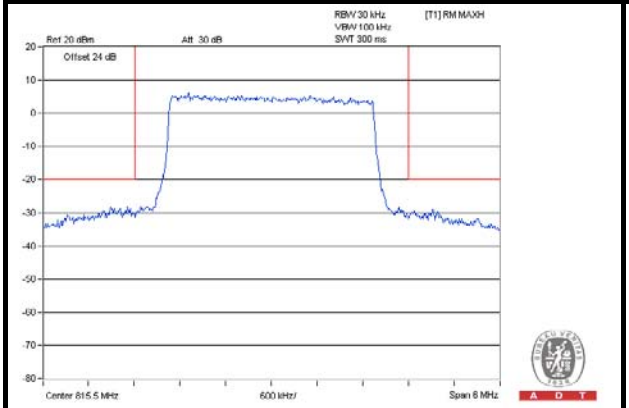
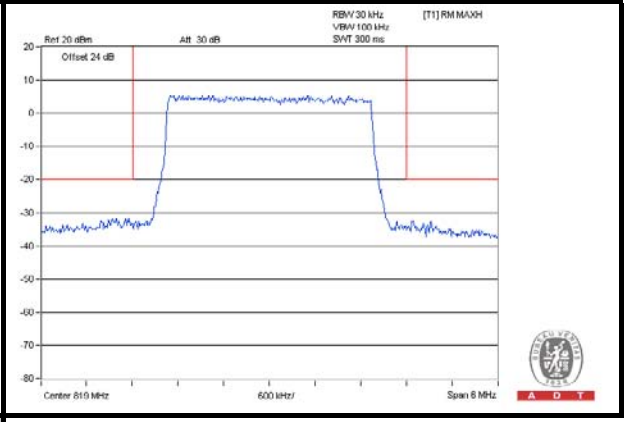
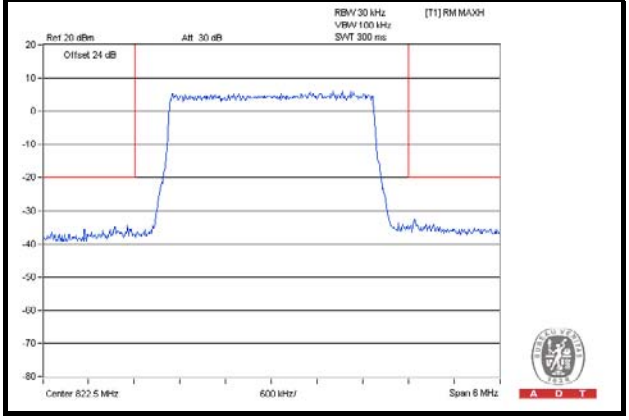
a. The measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
b. Record the test plot.

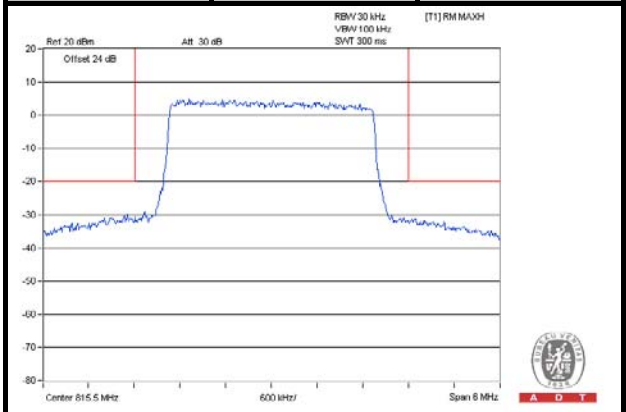
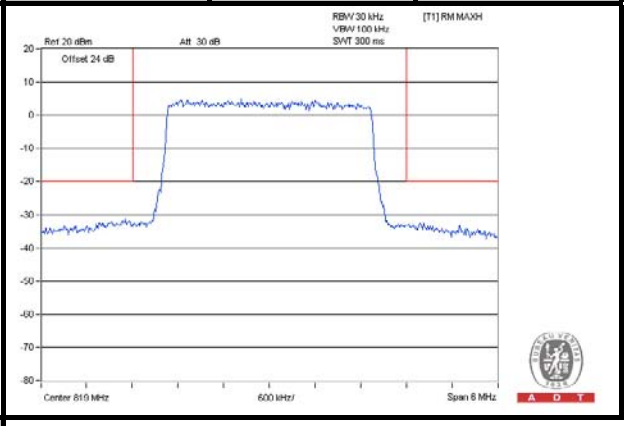
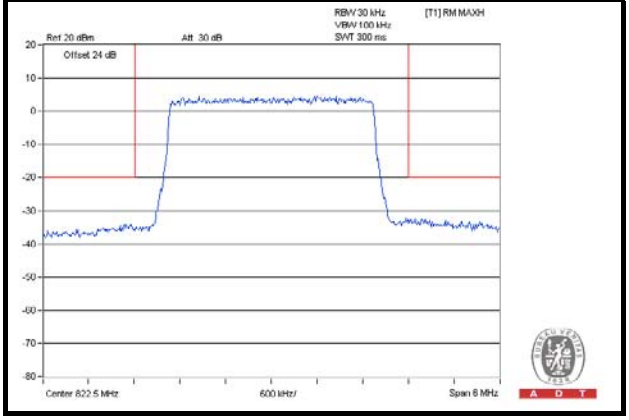
4.4.4 TEST RESULTS

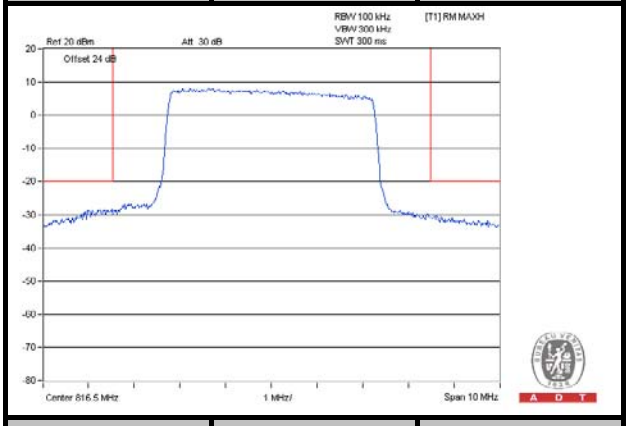
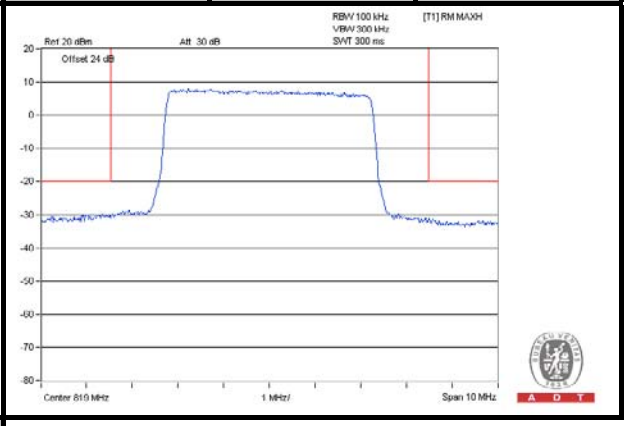
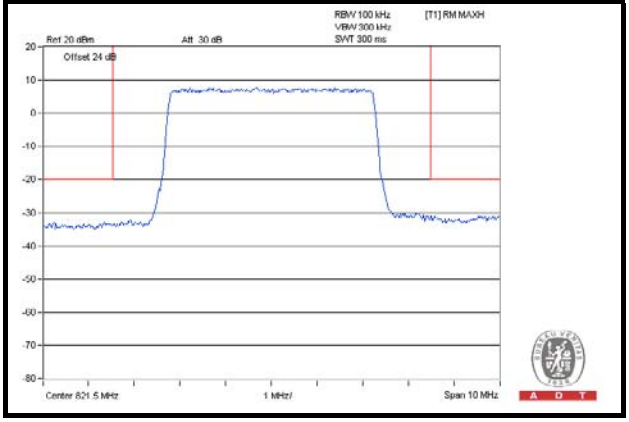
CDMA2000			
CHANNEL	476	CHANNEL	580
			
CHANNEL	684		
			

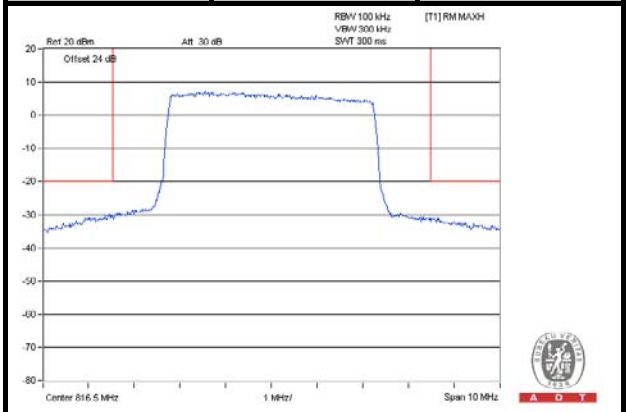
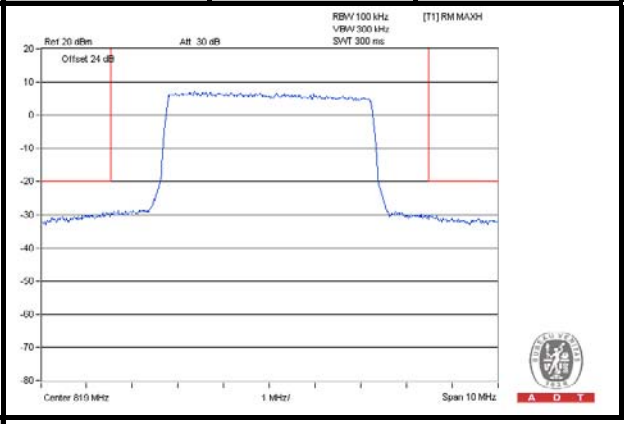
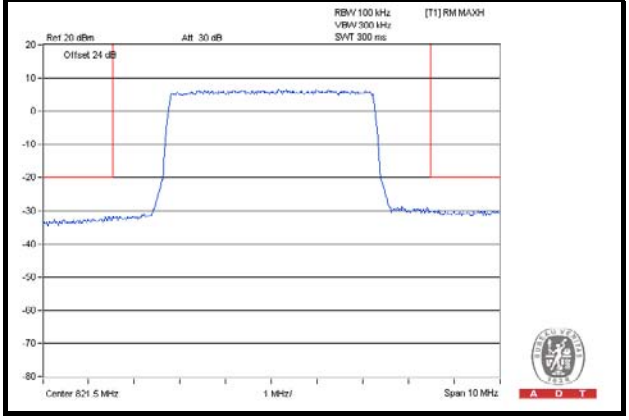
LTE Band 26					
Channel Bandwidth: 1.4MHz / QPSK					
CHANNEL	26697	6 RB	CHANNEL	26740	6 RB
					
CHANNEL	26783	6 RB			
					

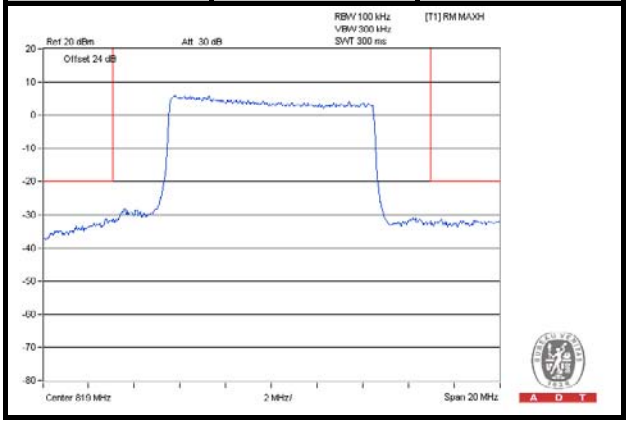
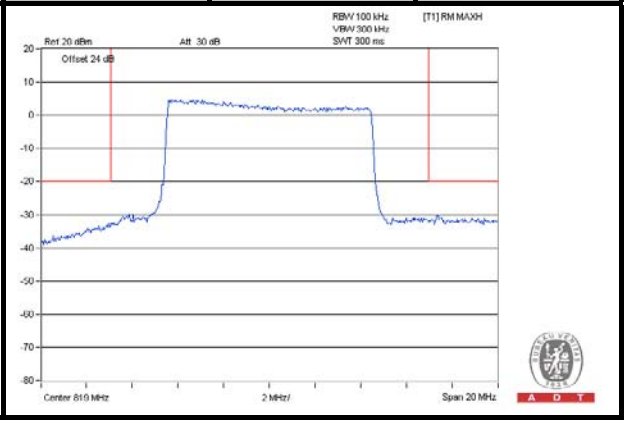
LTE Band 26					
Channel Bandwidth: 1.4MHz / 16QAM					
CHANNEL	26697	6 RB	CHANNEL	26740	6 RB
					
CHANNEL	26783	6 RB			
					

LTE Band 26					
Channel Bandwidth: 3MHz / QPSK					
CHANNEL	26705	15 RB	CHANNEL	26740	15 RB
					
CHANNEL	26775	15 RB			
					

LTE Band 26					
Channel Bandwidth: 3MHz / 16QAM					
CHANNEL	26705	15 RB	CHANNEL	26740	15 RB
					
CHANNEL	26775	15 RB			
					

LTE Band 26					
Channel Bandwidth: 5MHz / QPSK					
CHANNEL	26715	25 RB	CHANNEL	26740	25 RB
					
CHANNEL	26765	25 RB			
					

LTE Band 26					
Channel Bandwidth: 5MHz / 16QAM					
CHANNEL	26715	25 RB	CHANNEL	26740	25 RB
					
CHANNEL	26765	25 RB			
					

LTE Band 26					
Channel Bandwidth: 10MHz / QPSK			Channel Bandwidth: 10MHz / 16QAM		
CHANNEL	26740	50 RB	CHANNEL	26740	50 RB
					

4.5 CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

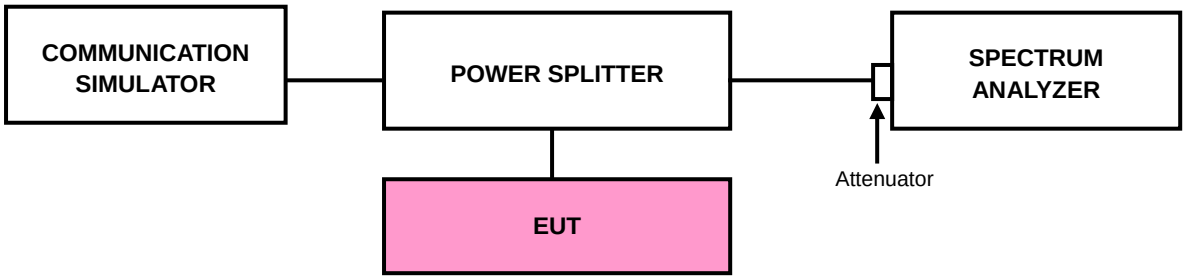
4.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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 is equal to -13dBm.

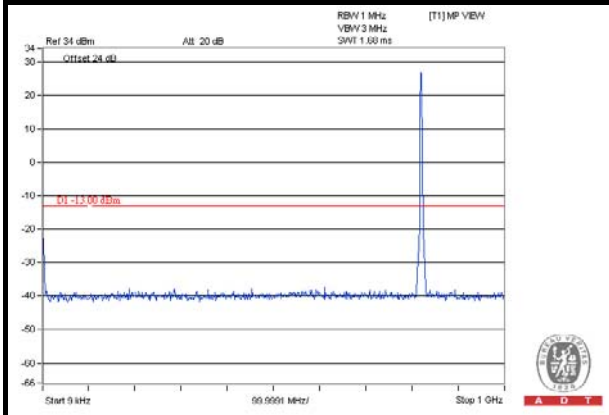
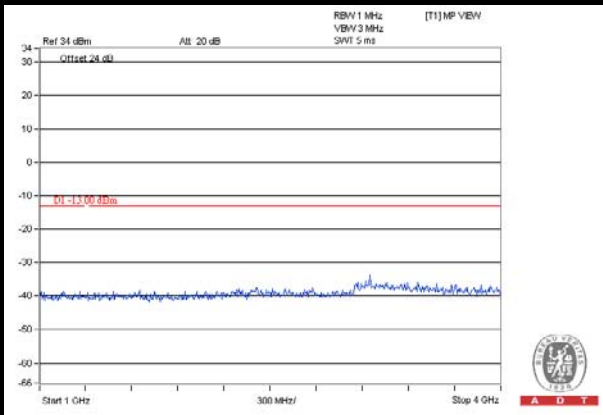
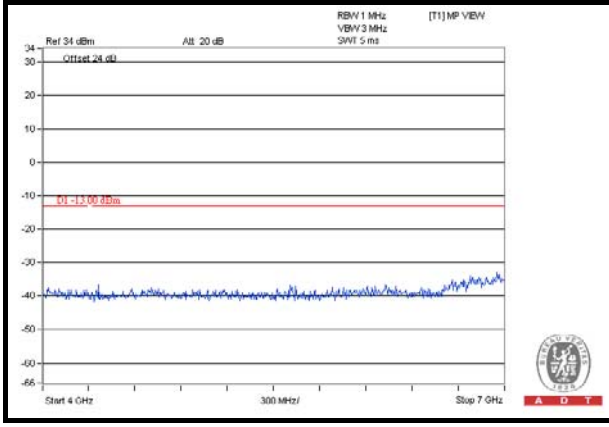
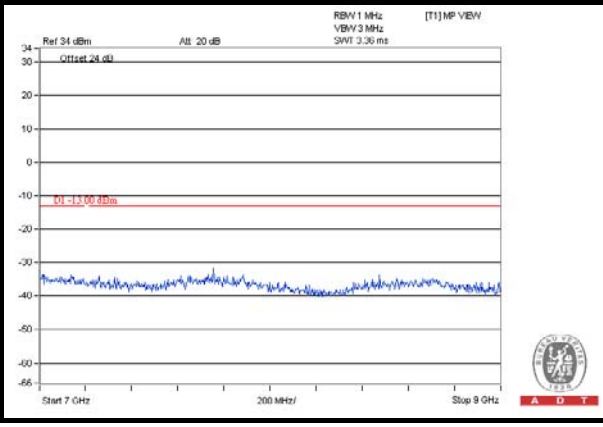
4.5.2 TEST PROCEDURE

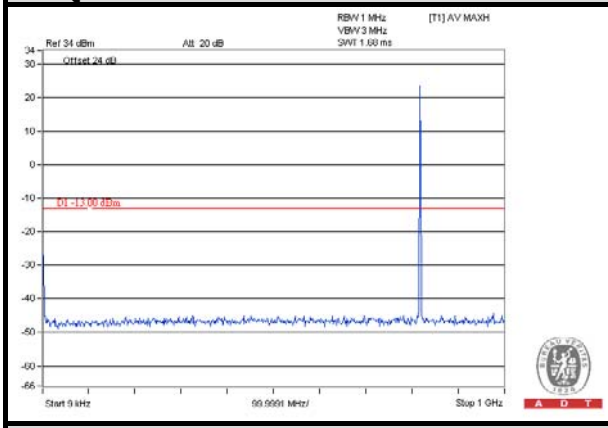
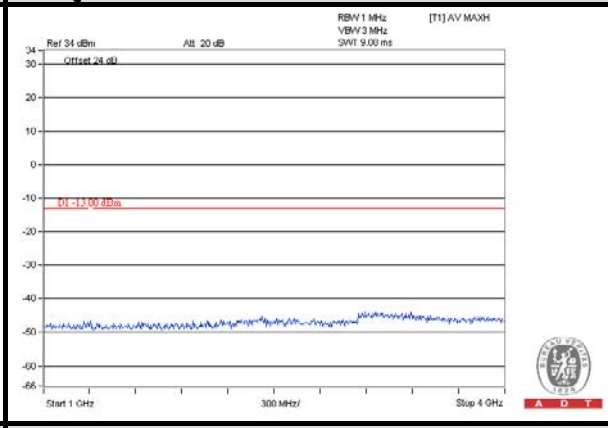
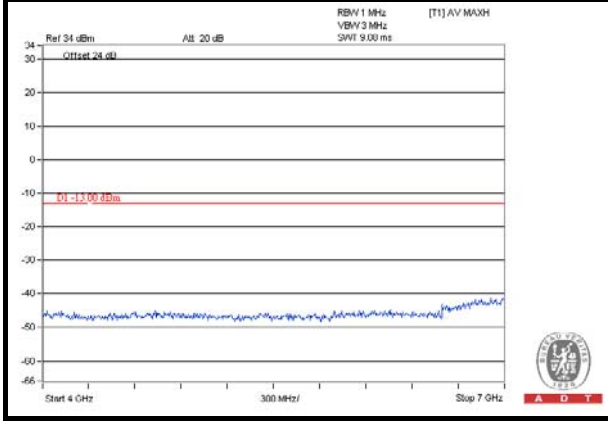
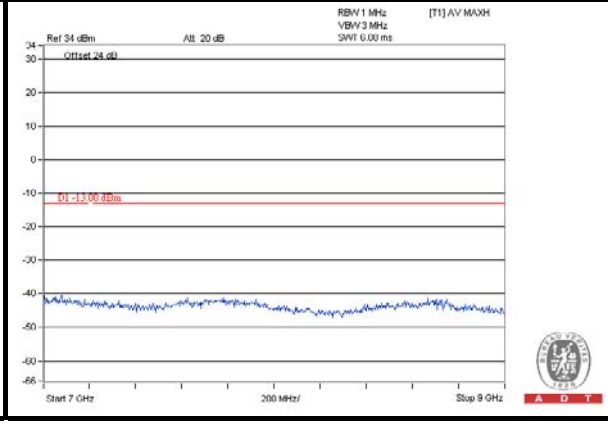
a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
b. Measuring frequency range is from 9kHz to 9GHz. Attenuator is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

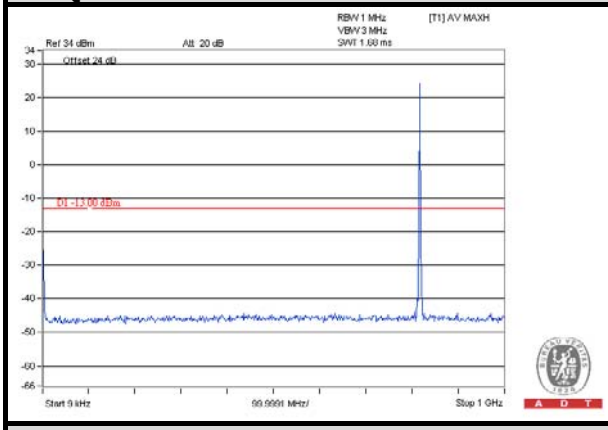
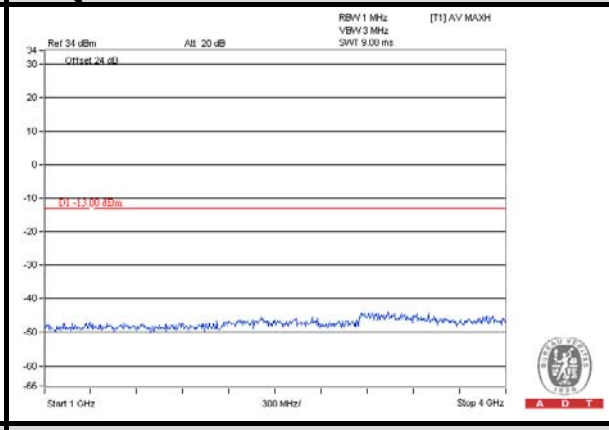
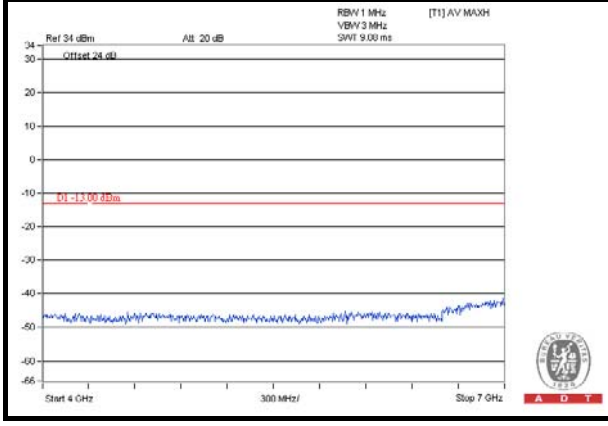
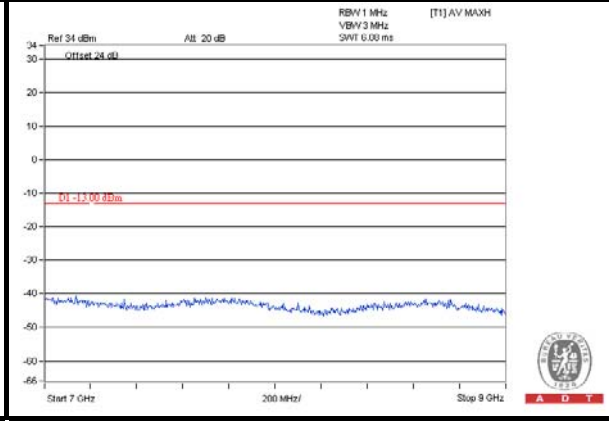
4.5.3 TEST SETUP

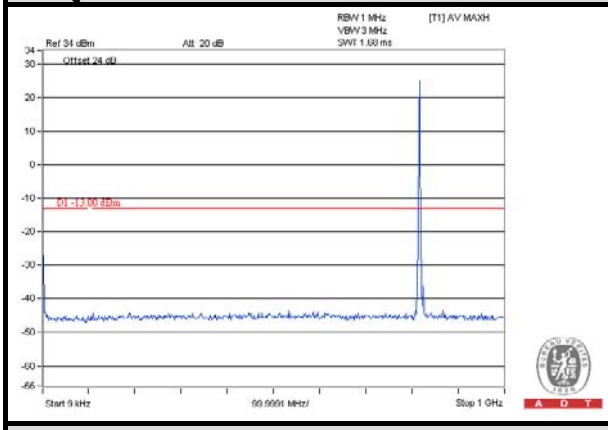
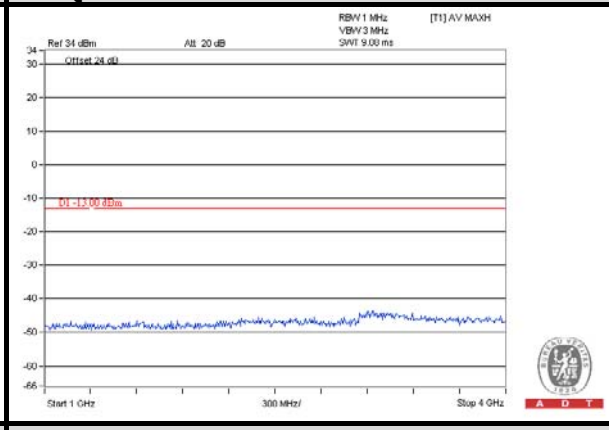
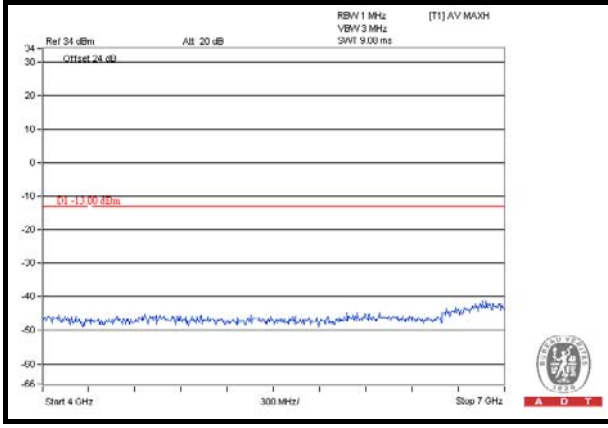
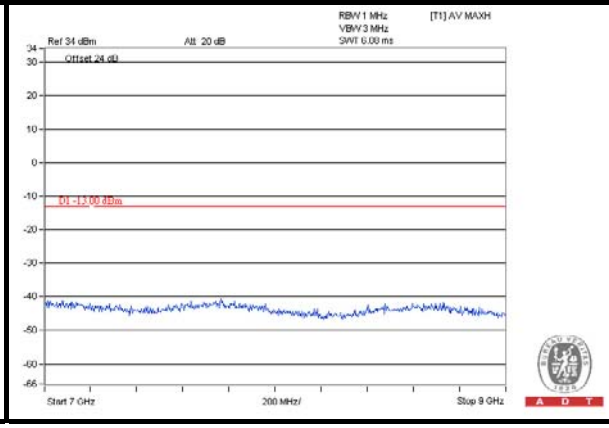


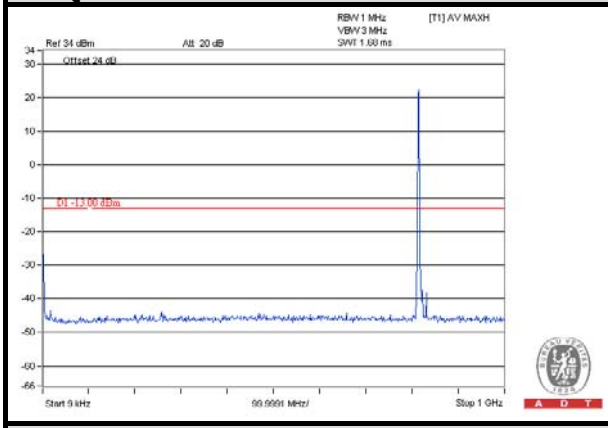
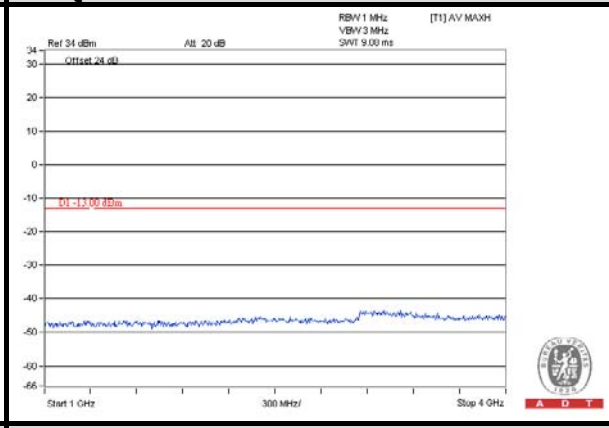
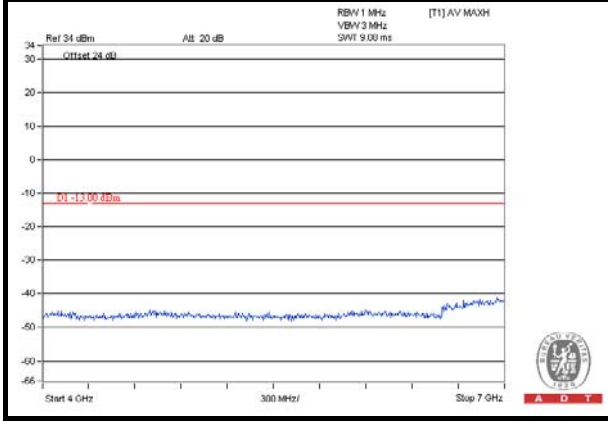
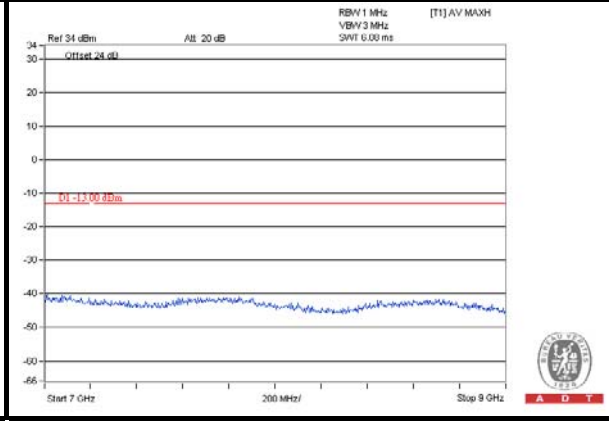
4.5.4 TEST RESULTS

CDMA2000	
CHANNEL 580	
FREQUENCY RANGE : 9kHz~1GHz	FREQUENCY RANGE : 1GHz~4GHz
	
FREQUENCY RANGE : 4GHz~7GHz	FREQUENCY RANGE : 7GHz~9GHz
	

LTE Band 26 (Channel Bandwidth: 1.4MHz)	
CHANNEL 26740	
FREQUENCY RANGE : 9kHz~1GHz	FREQUENCY RANGE : 1GHz~4GHz
	
FREQUENCY RANGE : 4GHz~7GHz	FREQUENCY RANGE : 7GHz~9GHz
	

LTE Band 26 (Channel Bandwidth: 3MHz)	
CHANNEL 26740	
FREQUENCY RANGE : 9kHz~1GHz	FREQUENCY RANGE : 1GHz~4GHz
	
FREQUENCY RANGE : 4GHz~7GHz	FREQUENCY RANGE : 7GHz~9GHz
	

LTE Band 26 (Channel Bandwidth: 5MHz)	
CHANNEL 26740	
FREQUENCY RANGE : 9kHz~1GHz	FREQUENCY RANGE : 1GHz~4GHz
	
FREQUENCY RANGE : 4GHz~7GHz	FREQUENCY RANGE : 7GHz~9GHz
	

LTE Band 26 (Channel Bandwidth: 10MHz)	
CHANNEL 26740	
FREQUENCY RANGE : 9kHz~1GHz	FREQUENCY RANGE : 1GHz~4GHz
	
FREQUENCY RANGE : 4GHz~7GHz	FREQUENCY RANGE : 7GHz~9GHz
	

4.6 RADIATED SPURIOUS EMISSION MEASUREMENT

4.6.1 LIMITS OF RADIATED SPURIOUS 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 is equal to -13dBm.

4.6.2 TEST PROCEDURES

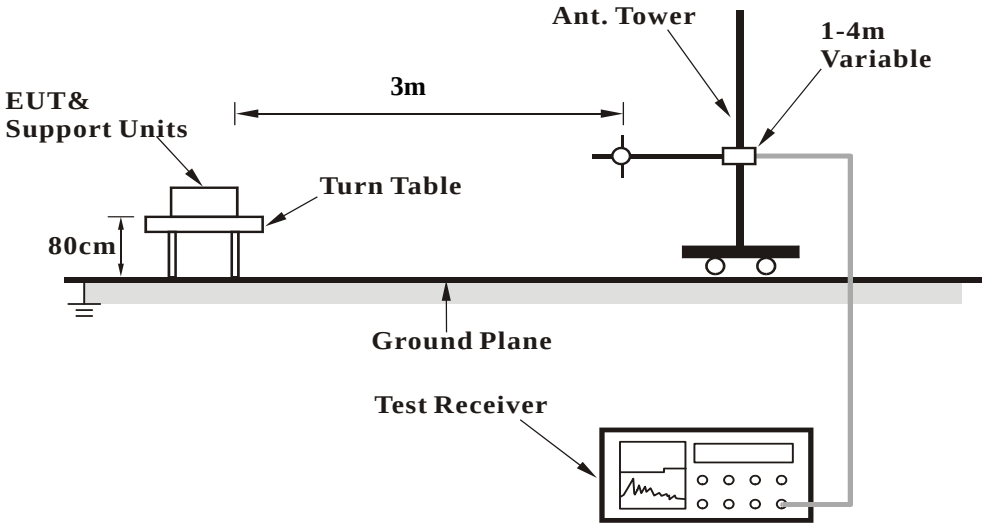
a. Substitution method is used for EIRP measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m 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. ERP power can be calculated form EIRP power by subtracting the gain of dipole, ERP power = EIRP power - 2.15dBi.

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

CDMA2000

MODE	TX channel 580	FREQUENCY RANGE	Below 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	52.721	28.89	-13	-50.68	-9.30	-59.98	-46.98
2	137.49	29.12	-13	-58.92	-0.78	-59.70	-46.70
3	244.75	31.24	-13	-63.99	3.84	-60.15	-47.15
4	245.51	28.42	-13	-66.65	3.87	-62.77	-49.77
5	484.24	27.34	-13	-69.04	2.86	-66.17	-53.17
6	710.421	30.21	-13	-66.14	1.45	-64.68	-51.68
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	61.21	34.35	-13	-48.08	-7.43	-55.51	-42.51
2	145.89	27.02	-13	-65.65	-1.17	-66.83	-53.83
3	273.21	26.31	-13	-68.70	3.88	-64.82	-51.82
4	303.76	29.69	-13	-65.90	3.72	-62.18	-49.18
5	306.241	28.24	-13	-67.72	3.70	-64.02	-51.02
6	772.64	29.01	-13	-68.36	1.13	-67.23	-54.23

REMARKS:

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

MODE	TX channel 580	FREQUENCY RANGE	Above 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	1641	40.89	-13	-61.90	6.25	-55.65	-42.65
2	2461.5	41.05	-13	-57.07	6.61	-50.46	-37.46
3	3282	42.95	-13	-59.98	7.54	-52.45	-39.45
4	4102.5	47.98	-13	-56.95	7.48	-49.47	-36.47
5	4923	47.79	-13	-56.48	7.05	-49.43	-36.43
6	5743.5	48.41	-13	-56.16	6.95	-49.21	-36.21
7	6564	49.49	-13	-54.38	5.81	-48.57	-35.57
8	7384.5	51.29	-13	-51.19	4.64	-46.55	-33.55
9	8205	51.25	-13	-51.37	4.15	-47.22	-34.22
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	1641	38.94	-13	-63.85	6.25	-57.60	-44.60
2	2461.5	41.79	-13	-56.33	6.61	-49.72	-36.72
3	3282	44.55	-13	-58.38	7.54	-50.85	-37.85
4	4102.5	49.59	-13	-55.34	7.48	-47.86	-34.86
5	4923	51.07	-13	-53.20	7.05	-46.15	-33.15
6	5743.5	48.95	-13	-55.62	6.95	-48.67	-35.67
7	6564	51.67	-13	-52.20	5.81	-46.39	-33.39
8	7384.5	51.36	-13	-51.12	4.64	-46.48	-33.48
9	8205	49.23	-13	-53.39	4.15	-49.24	-36.24

REMARKS:

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

LTE BAND 26

CHANNEL BANDWIDTH: 1.4MHz / QPSK

MODE	TX channel 26740	FREQUENCY RANGE	Below 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	30.658	27.26	-13	-44.24	-14.74	-58.98	-45.98
2	74.836	20.67	-13	-74.33	-2.08	-76.40	-63.40
3	134.919	22.52	-13	-72.88	-1.47	-74.34	-61.34
4	158.228	23.54	-13	-64.17	-0.95	-65.12	-52.12
5	206.314	25.18	-13	-70.29	4.26	-66.03	-53.03
6	240.775	27.27	-13	-68.05	3.82	-64.23	-51.23
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	31.58	40.43	-13	-31.40	-14.51	-45.92	-32.92
2	126.017	27.29	-13	-63.61	-1.22	-64.84	-51.84
3	158.848	24.55	-13	-63.33	-0.86	-64.19	-51.19
4	169.341	28.75	-13	-62.06	0.65	-61.42	-48.42
5	207.684	27.33	-13	-68.14	4.24	-63.89	-50.89
6	956.921	34.38	-13	-63.56	0.38	-63.18	-50.18

REMARKS:

1. Level (dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

MODE	TX channel 26740	FREQUENCY RANGE	Above 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	**1638**	**73.61**	**-13**	**-29.19**	**6.24**	**-22.95**	**-9.95**
2	2457	57.14	-13	-40.94	6.61	-34.34	-21.34
3	3276	59.26	-13	-43.67	7.53	-36.14	-23.14
4	4095	48.7	-13	-56.23	7.48	-48.75	-35.75
5	4914	47.15	-13	-56.95	6.99	-49.96	-36.96
6	5733	48.24	-13	-55.90	7.22	-48.68	-35.68
7	6552	48.53	-13	-55.39	5.83	-49.56	-36.56
8	7371	50.26	-13	-52.36	4.66	-47.70	-34.70
9	8190	49.96	-13	-52.49	4.16	-48.33	-35.33
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	1638	73.28	-13	-29.52	6.24	-23.28	-10.28
2	2457	58.25	-13	-39.83	6.61	-33.23	-20.23
3	3276	63.15	-13	-39.78	7.53	-32.25	-19.25
4	4095	49.88	-13	-55.05	7.48	-47.57	-34.57
5	4914	50.99	-13	-53.11	6.99	-46.12	-33.12
6	5733	48.64	-13	-55.50	7.22	-48.28	-35.28
7	6552	49.85	-13	-54.07	5.83	-48.24	-35.24
8	7371	50.15	-13	-52.47	4.66	-47.81	-34.81
9	8190	49.21	-13	-53.24	4.16	-49.08	-36.08

REMARKS:

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

CHANNEL BANDWIDTH: 3MHz / QPSK

MODE	TX channel 26740	FREQUENCY RANGE	Below 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	31.108	27.34	-13	-44.32	-14.63	-58.95	-45.95
2	76.116	21.55	-13	-70.24	-2.90	-73.14	-60.14
3	134.219	22.70	-13	-72.90	-1.49	-74.39	-61.39
4	157.218	21.50	-13	-65.93	-1.10	-67.02	-54.02
5	207.164	23.66	-13	-71.81	4.25	-67.56	-54.56
6	240.505	24.05	-13	-71.29	3.82	-67.47	-54.47
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	32.46	41.35	-13	-30.80	-14.30	-45.10	-32.10
2	126.217	28.34	-13	-62.61	-1.22	-63.83	-50.83
3	159.658	24.82	-13	-63.29	-0.75	-64.03	-51.03
4	168.721	29.11	-13	-61.53	0.56	-60.97	-47.97
5	208.564	27.57	-13	-67.89	4.23	-63.66	-50.66
6	958.041	34.28	-13	-63.62	0.38	-63.24	-50.24

REMARKS:

1. Level (dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

MODE	TX channel 26740	FREQUENCY RANGE	Above 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	1638	73.16	-13	-29.64	6.24	-23.40	-10.40
2	2457	56.64	-13	-41.44	6.61	-34.84	-21.84
3	3276	59.55	-13	-43.38	7.53	-35.85	-22.85
4	4095	49.35	-13	-55.58	7.48	-48.10	-35.10
5	4914	47.54	-13	-56.56	6.99	-49.57	-36.57
6	5733	47.62	-13	-56.52	7.22	-49.30	-36.30
7	6552	47.83	-13	-56.09	5.83	-50.26	-37.26
8	7371	50.44	-13	-52.18	4.66	-47.52	-34.52
9	8190	49.98	-13	-52.47	4.16	-48.31	-35.31
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	1638	73.01	-13	-29.79	6.24	-23.55	-10.55
2	2457	58.08	-13	-40.00	6.61	-33.40	-20.40
3	3276	63.54	-13	-39.39	7.53	-31.86	-18.86
4	4095	50.46	-13	-54.47	7.48	-46.99	-33.99
5	4914	50.33	-13	-53.77	6.99	-46.78	-33.78
6	5733	49.11	-13	-55.03	7.22	-47.81	-34.81
7	6552	50.75	-13	-53.17	5.83	-47.34	-34.34
8	7371	49.61	-13	-53.01	4.66	-48.35	-35.35
9	8190	48.45	-13	-54.00	4.16	-49.84	-36.84

REMARKS:

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

CHANNEL BANDWIDTH: 5MHz / QPSK

MODE	TX channel 26740	FREQUENCY RANGE	Below 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	31.048	26.22	-13	-45.42	-14.64	-60.06	-47.06
2	73.736	20.50	-13	-74.69	-2.14	-76.83	-63.83
3	134.749	23.82	-13	-71.63	-1.47	-73.10	-60.10
4	158.848	23.20	-13	-64.68	-0.86	-65.54	-52.54
5	206.704	24.73	-13	-70.74	4.25	-66.49	-53.49
6	239.675	26.88	-13	-68.49	3.81	-64.68	-51.68
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	31.8	40.95	-13	-30.96	-14.46	-45.42	-32.42
2	126.807	29.16	-13	-61.92	-1.23	-63.14	-50.14
3	159.388	24.72	-13	-63.31	-0.78	-64.10	-51.10
4	166.851	27.81	-13	-62.31	0.29	-62.02	-49.02
5	205.804	27.10	-13	-68.37	4.27	-64.11	-51.11
6	956.261	34.90	-13	-63.06	0.37	-62.69	-49.69

REMARKS:

1. Level (dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

MODE	TX channel 26740	FREQUENCY RANGE	Above 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	1638	72.57	-13	-30.23	6.24	-23.99	-10.99
2	2457	57.63	-13	-40.45	6.61	-33.85	-20.85
3	3276	58.73	-13	-44.20	7.53	-36.67	-23.67
4	4095	50.1	-13	-54.83	7.48	-47.35	-34.35
5	4914	48.29	-13	-55.81	6.99	-48.82	-35.82
6	5733	48.36	-13	-55.78	7.22	-48.56	-35.56
7	6552	48.38	-13	-55.54	5.83	-49.71	-36.71
8	7371	51.26	-13	-51.36	4.66	-46.70	-33.70
9	8190	49.04	-13	-53.41	4.16	-49.25	-36.25
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	1638	72.22	-13	-30.58	6.24	-24.34	-11.34
2	2457	57.34	-13	-40.74	6.61	-34.14	-21.14
3	3276	63.21	-13	-39.72	7.53	-32.19	-19.19
4	4095	50.3	-13	-54.63	7.48	-47.15	-34.15
5	4914	50.46	-13	-53.64	6.99	-46.65	-33.65
6	5733	48.3	-13	-55.84	7.22	-48.62	-35.62
7	6552	49.95	-13	-53.97	5.83	-48.14	-35.14
8	7371	48.7	-13	-53.92	4.66	-49.26	-36.26
9	8190	48.18	-13	-54.27	4.16	-50.11	-37.11

REMARKS:

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

CHANNEL BANDWIDTH: 10MHz / QPSK

MODE	TX channel 26740	FREQUENCY RANGE	Below 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	33	26.38	-13	-45.97	-14.17	-60.13	-47.13
2	74.906	20.63	-13	-74.36	-2.07	-76.43	-63.43
3	134.489	24.19	-13	-71.33	-1.48	-72.81	-59.81
4	158.088	22.56	-13	-65.11	-0.97	-66.08	-53.08
5	207.474	24.63	-13	-70.84	4.24	-66.59	-53.59
6	240.025	24.09	-13	-71.26	3.82	-67.45	-54.45
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	30.8	40.64	-13	-30.91	-14.70	-45.61	-32.61
2	127.197	27.57	-13	-63.59	-1.23	-64.82	-51.82
3	158.728	25.02	-13	-62.83	-0.88	-63.71	-50.71
4	167.451	28.67	-13	-61.62	0.38	-61.24	-48.24
5	207.044	27.72	-13	-67.75	4.25	-63.50	-50.50
6	957.951	35.20	-13	-62.70	0.38	-62.32	-49.32

REMARKS:

1. Level (dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

MODE	TX channel 26740	FREQUENCY RANGE	Above 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	1638	73.26	-13	-29.54	6.24	-23.30	-10.30
2	2457	56.73	-13	-41.35	6.61	-34.75	-21.75
3	3276	59.01	-13	-43.92	7.53	-36.39	-23.39
4	4095	49.92	-13	-55.01	7.48	-47.53	-34.53
5	4914	48.33	-13	-55.77	6.99	-48.78	-35.78
6	5733	48.69	-13	-55.45	7.22	-48.23	-35.23
7	6552	49.03	-13	-54.89	5.83	-49.06	-36.06
8	7371	52.03	-13	-50.59	4.66	-45.93	-32.93
9	8190	49.25	-13	-53.20	4.16	-49.04	-36.04
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBuV/m)	Limit (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Level (dBm)	Margin (dB)
1	1638	71.78	-13	-31.02	6.24	-24.78	-11.78
2	2457	56.49	-13	-41.59	6.61	-34.99	-21.99
3	3276	62.72	-13	-40.21	7.53	-32.68	-19.68
4	4095	50.81	-13	-54.12	7.48	-46.64	-33.64
5	4914	51.01	-13	-53.09	6.99	-46.10	-33.10
6	5733	47.51	-13	-56.63	7.22	-49.41	-36.41
7	6552	49.2	-13	-54.72	5.83	-48.89	-35.89
8	7371	49.02	-13	-53.60	4.66	-48.94	-35.94
9	8190	48.32	-13	-54.13	4.16	-49.97	-36.97

REMARKS:

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

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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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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