FCC Test Report
(Part 24)

Report No.:	RF181221C07
FCC ID:	VBNAHFB-01
Test Model:	AHFB
Received Date:	Dec. 21, 2018
Test Date:	Dec. 26, 2018 ~ Jan. 26, 2019 (Test Mode A ~ C) Aug. 01 ~ Aug. 12, 2019 (Test Mode D ~ F)
Issued Date:	Aug. 14, 2019
Applicant:	Nokia Solutions and Networks
Address:	6000 Connection Drive, Irving, TX 75039
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 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 Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RF181221C07	Original release	Aug. 14, 2019

1 Certificate of Conformity

Product:	AirScale Base Station RRH 1.9GHz
Brand:	Nokia
Test Model:	AHFB
Sample Status:	Production Unit
Applicant:	Nokia Solutions and Networks
Test Date:	Dec. 26, 2018 ~ Jan. 26, 2019 (Test Mode A ~ C) Aug. 01 ~ Aug. 12, 2019 (Test Mode D ~ F)
Standards:	FCC Part 24, Subpart E

The above equipment 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 RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen , **Date:** Aug. 14, 2019

Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Aug. 14, 2019

Bruce Chen / Senior Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 24 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 24.232	Effective radiated power	Pass	Meet the requirement of limit.
2.1046 24.232(d)	Peak To Average Ratio	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	Pass	Meet the requirement
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 -6.1dB at 34.85MHz.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.63 dB
	200MHz ~1000MHz	3.64 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Test Site and Instruments

Test Date: Dec. 26, 2018 ~ Jan. 26, 2019

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 29, 2018	May 28, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 25, 2018	Sep. 24, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Nov. 21, 2018	Nov. 20, 2019
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Aug. 08, 2018	Aug. 07, 2019
Preamplifier KEYSIGHT (Above 1GHz)	83017A	MY53270295	Jul. 02, 2018	Jul. 01, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 08, 2018	Aug. 07, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 08, 2018	Aug. 07, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 04, 2018	Jun. 03, 2019
JFW 20dB attenuation	50HF-020-SMA	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 test was performed in HwaYa Chamber 4.
3. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
4. The IC Site Registration No. is 7450F-4.

Test Date: Aug. 01 ~ Aug. 12, 2019

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 15, 2019	Apr. 14, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jun. 04, 2019	Jun. 03, 2020
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 21, 2018	Nov. 20, 2019
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jul. 11, 2019	Jul. 10, 2020
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 19, 2019	Feb. 18, 2020
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Jan. 19, 2019	Jan. 18, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jul. 11, 2019	Jul. 10, 2020
RF signal cable Woken	8D-FB	Cable-CH9-01	Jul. 30, 2019	Jul. 29, 2020
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 03, 2019	Jun. 02, 2020
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
True RMS Clamp Meter Fluke	325	31130711WS	May 21, 2019	May 20, 2020

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 9.

3 General Information

3.1 General Description of EUT

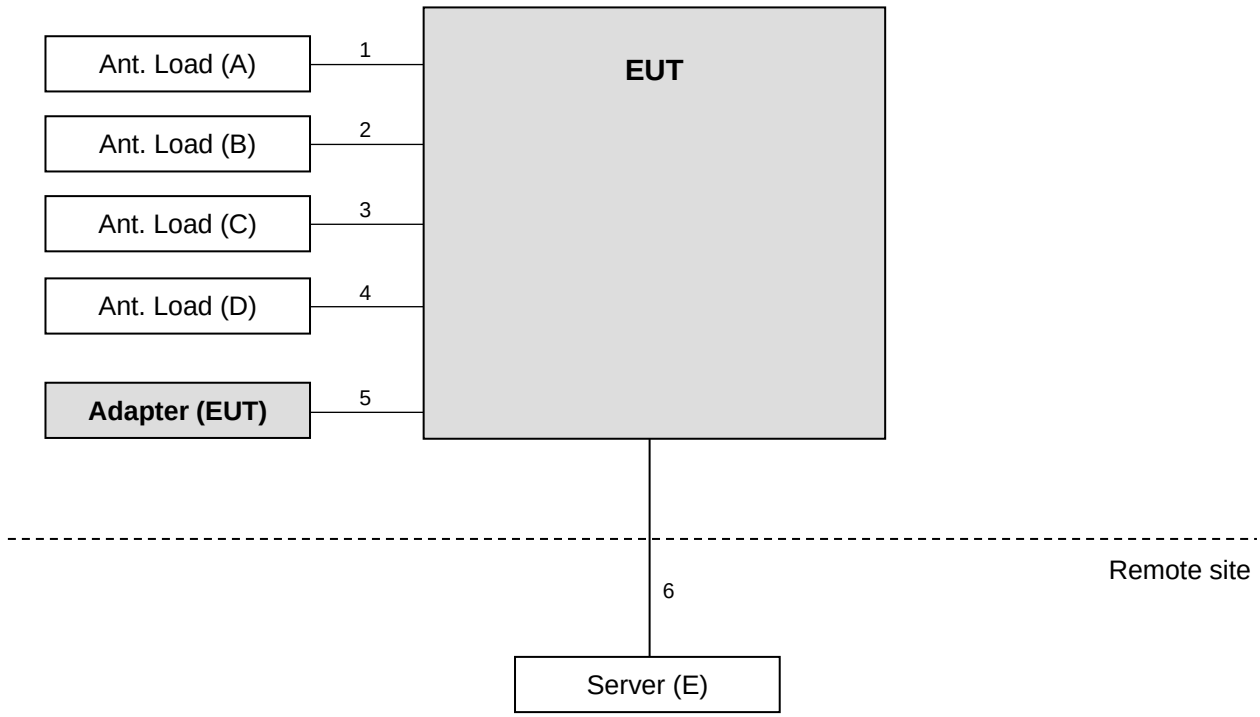
Product	AirScale Base Station RRH 1.9GHz	
Brand	Nokia	
Test Model	AHFB	
Sample Status	Production Unit	
Power Supply Rating	DC: -40.5V to -57VDC AC: 100-240VAC	
Modulation Type	WCDMA: QPSK, 16QAM, 64QAM LTE: QPSK, 16QAM, 64QAM, 256QAM	
Operating Frequency	WCDMA Band 25/ WCDMA+LTE Band 25	1932.4~1992.6MHz
Max. EIRP Power	WCDMA Band 25	Single Carrier: 901571.14mW (59.55dBm) Multi-Carrier(WCDMA): 364753.95mW (55.62dBm)
	WCDMA+LTE Band 25	Multi-Carrier (4*WCDMA(5M)+1*LTE(5M)+2*LTE(15M)): 59.84 dBm Multi-Carrier(WCDMA+LTE(TC3a)): 59.31 dBm Multi-Carrier(WCDMA+LTE(NTC3a)): 59.24 dBm
Emission Designator	WCDMA Band 25 (WCDMA)	Single Carrier: 3M96F9W Multi-Carrier: 19M0F9W
	Multi-Carrier(WCDMA+LTE)	55M3F9W
Bandwidth	WCDMA Band 25	Single Carrier: 5MHz Multi-Carrier: 20MHz
	WCDMA+LTE Band 25	Multi-Carrier(WCDMA+LTE): 55MHz
Antenna Type	Direction Panel antenna with 16.4dBi gain	
Antenna Connector	Nex10	
S/N	474036A.101	
HW Version	A101	
SW Version	SRAN 18A	
Accessory Device	Refer to Note as below	
Cable Supplied	NA	

Note:

1. This report is a supplementary report to the original TUV report no.: Document 75938943 Report 01 Issue 1. This report is prepared for FCC class II permissive change. The difference compared with original report is adding WCDMA Band 25 and WCDMA+LTE Band 25 concurrent support. Therefore, all test items had been tested in this report.
2. The EUT contains following accessory devices.

AC PSU (Optional)	
Brand	Nokia
Model	APAB
Sales Item	474130A.102
S/N	U7174800066
Remark	SUPLET/S818A16
Input Power	100-240Vac, 50-60Hz, 3A MAX
Output Power	-54Vdc, 3A MAX

3.2 Configuration of System under Test



3.2.1 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.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Ant. Load	NA	NA	NA	NA	Provided by manufacturer
B.	Ant. Load	NA	NA	NA	NA	Provided by manufacturer
C.	Ant. Load	NA	NA	NA	NA	Provided by manufacturer
D.	Ant. Load	NA	NA	NA	NA	Provided by manufacturer
E.	Server	NA	NA	NA	NA	Provided by manufacturer

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item E acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Ant. Cable	1	0.3	Y	0	-
2.	Ant. Cable	1	0.3	Y	0	-
3.	Ant. Cable	1	0.3	Y	0	-
4.	Ant. Cable	1	0.3	Y	0	-
5.	DC Cable	1	0.55	N	0	Provided by manufacturer
6.	Fiber Cable	1	2	N	0	-

3.3 Test Mode Applicability and Tested Channel Detail

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:

For WCDMA only:

Test results are presented in the report as below.

Test Mode	Test Condition
A	Single Carrier: Module Model: WNCEL-30905 (Chain 1, Chain 2)
B	Single Carrier: Module Model: WNCEL-30906 (Chain 3, Chain 4)
C	Multi Carrier: Chain 1, Chain 2, Chain 3, Chain 4 (Note)

Note: The worst case is two modules transmit simultaneously.

WCDMA Band 25

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
A	EIRP	5112 to 5413	5112 (1932.4MHz), 5263 (1962.6MHz), 5413 (1992.6MHz)	WCDMA
A	Modulation Characteristics	5112 to 5413	5263 (1962.6MHz)	WCDMA
A	Frequency Stability	5112 to 5413	5263 (1962.6MHz)	WCDMA
A, B	Occupied Bandwidth	5112 to 5413	5112 (1932.4MHz), 5263 (1962.6MHz), 5413 (1992.6MHz)	WCDMA
C		5112 to 5413	1939.9 MHz (CH 5112: 1932.4MHz+ CH 5137: 1937.4MHz+ CH 5162: 1942.4MHz+ CH 5187: 1947.4MHz) 1962.7 MHz (CH 5226: 1955.2MHz+ CH 5251: 1960.2MHz+ CH 5276: 1965.2MHz+ CH 5301: 1970.2MHz) 1985.1 MHz (CH 5338: 1977.6MHz+ CH 5363: 1982.6MHz+ CH 5388: 1987.6MHz+ CH 5413: 1992.6MHz)	WCDMA

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
A, B	Band Edge	5112 to 5413	5112 (1932.4MHz), 5413 (1992.6MHz)	WCDMA
C		5112 to 5413	1939.9 MHz (CH 5112: 1932.4MHz+ CH 5137: 1937.4MHz+ CH 5162: 1942.4MHz+ CH 5187: 1947.4MHz) 1985.1 MHz (CH 5338: 1977.6MHz+ CH 5363: 1982.6MHz+ CH 5388: 1987.6MHz+ CH 5413: 1992.6MHz)	WCDMA
A, B	Peak To Average Ratio	5112 to 5413	5112 (1932.4MHz), 5263 (1962.6MHz), 5413 (1992.6MHz)	WCDMA
C		5112 to 5413	1939.9 MHz (CH 5112: 1932.4MHz+ CH 5137: 1937.4MHz+ CH 5162: 1942.4MHz+ CH 5187: 1947.4MHz) 1962.7 MHz (CH 5226: 1955.2MHz+ CH 5251: 1960.2MHz+ CH 5276: 1965.2MHz+ CH 5301: 1970.2MHz) 1985.1 MHz (CH 5338: 1977.6MHz+ CH 5363: 1982.6MHz+ CH 5388: 1987.6MHz+ CH 5413: 1992.6MHz)	WCDMA
A, B	Conducted Emission	5112 to 5413	5112 (1932.4MHz), 5263 (1962.6MHz), 5413 (1992.6MHz)	WCDMA
C		5112 to 5413	1939.9 MHz (CH 5112: 1932.4MHz+ CH 5137: 1937.4MHz+ CH 5162: 1942.4MHz+ CH 5187: 1947.4MHz) 1962.7 MHz (CH 5226: 1955.2MHz+ CH 5251: 1960.2MHz+ CH 5276: 1965.2MHz+ CH 5301: 1970.2MHz) 1985.1 MHz (CH 5338: 1977.6MHz+ CH 5363: 1982.6MHz+ CH 5388: 1987.6MHz+ CH 5413: 1992.6MHz)	WCDMA

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
A, B	Radiated Emission Below 1GHz	5112 to 5413	5112 (1932.4MHz)	WCDMA
C		5112 to 5413	1939.9 MHz (CH 5112: 1932.4MHz+ CH 5137: 1937.4MHz+ CH 5162: 1942.4MHz+ CH 5187: 1947.4MHz) 1962.7 MHz (CH 5226: 1955.2MHz+ CH 5251: 1960.2MHz+ CH 5276: 1965.2MHz+ CH 5301: 1970.2MHz) 1985.1 MHz (CH 5338: 1977.6MHz+ CH 5363: 1982.6MHz+ CH 5388: 1987.6MHz+ CH 5413: 1992.6MHz)	WCDMA
A, B	Radiated Emission Above 1GHz	5112 to 5413	5112 (1932.4MHz), 5263 (1962.6MHz), 5413 (1992.6MHz)	WCDMA
C		5112 to 5413	1939.9 MHz (CH 5112: 1932.4MHz+ CH 5137: 1937.4MHz+ CH 5162: 1942.4MHz+ CH 5187: 1947.4MHz) 1962.7 MHz (CH 5226: 1955.2MHz+ CH 5251: 1960.2MHz+ CH 5276: 1965.2MHz+ CH 5301: 1970.2MHz) 1985.1 MHz (CH 5338: 1977.6MHz+ CH 5363: 1982.6MHz+ CH 5388: 1987.6MHz+ CH 5413: 1992.6MHz)	WCDMA

For LTE + WCDMA:

The EUT has been pre-tested under power and bandwidth configurations, and the worst modes was chosen for final tests.

<table>
<tr><td>Band</td><td colspan="7">Maximum multi carriers support bandwidth: 55MHz (WCDMA+LTE)</td></tr>
<tr><td rowspan="11">B25</td><td colspan="3">WCDMA</td><td colspan="2">LTE</td><td rowspan="3">Note</td><td rowspan="3">Final test mode</td></tr>
<tr><td colspan="2">Maximum multi carriers support BW: 20MHz</td><td>Single carrier BW: 5MHz</td><td>Maximum multi carriers support BW: 35MHz</td><td>Single carrier BW: 5/10/15/20MHz</td></tr>
<tr><td colspan="3">Number of support carriers: 1/2/3/4 CC</td><td colspan="2">Number of support carriers: 1/2/3 CC</td></tr>
<tr><td></td><td>CC</td><td>Bandwidth</td><td>CC</td><td>Bandwidth</td><td></td><td></td></tr>
<tr><td>Mode 1</td><td>5MHz x 4</td><td>20MHz</td><td>5MHz x 1
10MHz x 1
20MHz x 1</td><td>35MHz</td><td></td><td></td></tr>
<tr><td>Mode 2</td><td>5MHz x 4</td><td>20MHz</td><td>5MHz x 1
15MHz x 2</td><td>35MHz</td><td>Maximum RF output power</td><td>○</td></tr>
<tr><td>Mode 3</td><td>5MHz x 4</td><td>20MHz</td><td>10MHz x 2
15MHz x 1</td><td>35MHz</td><td></td><td></td></tr>
<tr><td>Mode 4</td><td>5MHz x 4</td><td>20MHz</td><td>15MHz x 1
20MHz x 1</td><td>35MHz</td><td></td><td></td></tr>
<tr><td>Mode 5</td><td>5MHz x 4</td><td>20MHz</td><td colspan="2" rowspan="5">LTE can transmit simultaneously with WCDMA in any number of carriers and bandwidth, but will not exceed 55MHz of combined bandwidth</td><td>Follow Worse Power Bandwidth(16QAM)</td><td></td></tr>
<tr><td>Mode 6</td><td>5MHz x 4</td><td>20MHz</td><td>Follow Worse Power Bandwidth(64QAM)</td><td></td></tr>
<tr><td>Mode 7</td><td>5MHz x 4</td><td>20MHz</td><td>Follow Worse Power Bandwidth(256QAM)</td><td></td></tr>
<tr><td>Mode 8</td><td>5MHz x 4</td><td>20MHz</td><td>3GPP 37.141 TC3a Note2</td><td>○</td></tr>
<tr><td>Mode 9</td><td>5MHz x 1</td><td>5MHz</td><td>3GPP 37.141 NTC3a Note3</td><td>○</td></tr>
</table>

Note 1 WCDMA & LTE can transmit simultaneously with any number of carriers but will not exceed 55MHz of combined bandwidth.

Note 2 Place a 5 MHz E-UTRA carrier at the high RF bandwidth edge. If that is not possible use the narrowest E-UTRA carrier supported by the BS. The specified $F_{Offset-RAT}$ shall apply. For transmitter tests, alternately add FDD UTRA carriers at the low end and 5 MHz E-UTRA carriers at the high end adjacent to the already placed carriers until the RF bandwidth is filled or the total number of supported carriers is reached.

Note 3 For transmitter tests, place an UTRA carrier at the lower RF Bandwidth edge and a 5 MHz E-UTRA carrier at the upper RF bandwidth edge. The specified $F_{Offset-RAT}$ shall apply. If 5 MHz E-UTRA carriers are not supported by the BS, the narrowest supported channel BW shall be selected instead. The UTRA FDD may be shifted maximum 100 kHz towards lower frequencies to align with the channel raster.

Note 4 After pretesting, Mode 2, 8, 9 were chosen for the final tests. For the final tests, Mode 2 is Test Mode D, Mode 8 is Test Mode E, Mode 9 is Test Mode F.

Test results are presented in the report as below.

Test Mode	Test Condition
D	WCDMA Band 25 QPSK + LTE Band 25 QPSK (4*WCDMA(5M)+1*LTE(5M)+2*LTE(15M))
E	WCDMA Band 25 QPSK(4CA) + LTE Band 25 QPSK(3CA) (TC3a)
F	WCDMA Band 25 QPSK(1CA) + LTE Band 25 QPSK(1CA) (NTC3a)

Note: The worst case is two modules transmit simultaneously.

WCDMA+LTE Band 25

EUT Configure Mode	Test item	Channel	Test Frequency		Mode
D	EIRP	5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8265(1952.5 MHz)+ CH 8365(1962.5 MHz)+ CH 8515(1977.5 MHz)	4*WCDMA(5M)+ 1*LTE(5M)+2*LTE(15M)
			1962.5MHz	CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz) CH 8315(1957.5 MHz)+ CH 8415(1967.5 MHz)+ CH 8565(1982.5 MHz)	
			1967.5MHz	CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz)+ CH 5237(1957.4 MHz) CH 8365(1962.5 MHz)+ CH 8465(1972.5 MHz)+ CH 8615(1987.5 MHz)	
E		5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8465(1972.5 MHz)+ CH 8515(1977.5 MHz)+ CH 8565(1982.5 MHz)	TC3a
			1962.5MHz	CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz) CH 8515(1977.5 MHz)+ CH 8565(1982.5 MHz)+ CH 8615(1987.5 MHz)	
			1967.5MHz	CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz)+ CH 5237(1957.4 MHz) CH 8565(1982.5 MHz)+ CH 8615(1987.5 MHz)+ CH 8665(1992.5 MHz)	
F		5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 8565(1982.5 MHz)	NTC3a
			1962.5MHz	CH 5137(1937.4 MHz)+ CH 8615(1987.5 MHz)	
			1967.5MHz	CH 5162(1942.4 MHz)+ CH 8665(1992.5 MHz)	

EUT Configure Mode	Test item	Channel	Test Frequency		Mode
D	Modulation Characteristics	5112 to 5187 8265 to 8515	1932.4MHz	CH 5112(1932.4MHz)	4*WCDMA(5M)+ 1*LTE(5M)+2*LTE(15M)
			1962.5MHz	CH 8365(1962.5MHz)	
D	Frequency Stability	5112 to 5187 8265 to 8515	1962.5MHz	CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz) CH 8315(1957.5 MHz)+ CH 8415(1967.5 MHz)+ CH 8565(1982.5 MHz)	4*WCDMA(5M)+ 1*LTE(5M)+2*LTE(15M)
D	Occupied Bandwidth	5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8265(1952.5 MHz)+ CH 8365(1962.5 MHz)+ CH 8515(1977.5 MHz)	4*WCDMA(5M)+ 1*LTE(5M)+2*LTE(15M)
			1962.5MHz	CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz) CH 8315(1957.5 MHz)+ CH 8415(1967.5 MHz)+ CH 8565(1982.5 MHz)	
			1967.5MHz	CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz)+ CH 5237(1957.4 MHz) CH 8365(1962.5 MHz)+ CH 8465(1972.5 MHz)+ CH 8615(1987.5 MHz)	
E		5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8465(1972.5 MHz)+ CH 8515(1977.5 MHz)+ CH 8565(1982.5 MHz)	TC3a
			1962.5MHz	CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz) CH 8515(1977.5 MHz)+ CH 8565(1982.5 MHz)+ CH 8615(1987.5 MHz)	
			1967.5MHz	CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz)+ CH 5237(1957.4 MHz) CH 8565(1982.5 MHz)+ CH 8615(1987.5 MHz)+ CH 8665(1992.5 MHz)	
F		5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 8565(1982.5 MHz)	NTC3a
			1962.5MHz	CH 5137(1937.4 MHz)+ CH 8615(1987.5 MHz)	
			1967.5MHz	CH 5162(1942.4 MHz)+ CH 8665(1992.5 MHz)	

EUT Configure Mode	Test item	Channel	Test Frequency		Mode
D	Band Edge	5112 to 5187 8265 to 8515	1930MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8265(1952.5 MHz)+ CH 8365(1962.5 MHz)+ CH 8515(1977.5 MHz)	4*WCDMA(5M)+ 1*LTE(5M)+2*LTE(15M)
			1995MHz	CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz)+ CH 5237(1957.4 MHz) CH 8365(1962.5 MHz)+ CH 8465(1972.5 MHz)+ CH 8615(1987.5 MHz)	
E		5112 to 5187 8265 to 8515	1930MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8465(1972.5 MHz)+ CH 8515(1977.5 MHz)+ CH 8565(1982.5 MHz)	TC3a
			1995MHz	CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz)+ CH 5237(1957.4 MHz) CH 8565(1982.5 MHz)+ CH 8615(1987.5 MHz)+ CH 8665(1992.5 MHz)	
F		5112 to 5187 8265 to 8515	1930MHz	CH 5112(1932.4 MHz)+ CH 8565(1982.5 MHz)	NTC3a
			1995MHz	CH 5137(1937.4 MHz)+ CH 8615(1987.5 MHz)	

EUT Configure Mode	Test item	Channel	Test Frequency		Mode
D	Peak to Average Ratio	5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8265(1952.5 MHz)+ CH 8365(1962.5 MHz)+ CH 8515(1977.5 MHz)	4*WCDMA(5M)+ 1*LTE(5M)+2*LTE(15M)
			1962.5MHz	CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz) CH 8315(1957.5 MHz)+ CH 8415(1967.5 MHz)+ CH 8565(1982.5 MHz)	
			1967.5MHz	CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz)+ CH 5237(1957.4 MHz) CH 8365(1962.5 MHz)+ CH 8465(1972.5 MHz)+ CH 8615(1987.5 MHz)	
E		5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8465(1972.5 MHz)+ CH 8515(1977.5 MHz)+ CH 8565(1982.5 MHz)	TC3a
			1962.5MHz	CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz) CH 8515(1977.5 MHz)+ CH 8565(1982.5 MHz)+ CH 8615(1987.5 MHz)	
			1967.5MHz	CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz)+ CH 5237(1957.4 MHz) CH 8565(1982.5 MHz)+ CH 8615(1987.5 MHz)+ CH 8665(1992.5 MHz)	
F		5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 8565(1982.5 MHz)	NTC3a
			1962.5MHz	CH 5137(1937.4 MHz)+ CH 8615(1987.5 MHz)	
			1967.5MHz	CH 5162(1942.4 MHz)+ CH 8665(1992.5 MHz)	

EUT Configure Mode	Test item	Channel	Test Frequency		Mode
D	Conducted Emission	5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8265(1952.5 MHz)+ CH 8365(1962.5 MHz)+ CH 8515(1977.5 MHz)	4*WCDMA(5M)+ 1*LTE(5M)+2*LTE(15M)
			1962.5MHz	CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz) CH 8315(1957.5 MHz)+ CH 8415(1967.5 MHz)+ CH 8565(1982.5 MHz)	
			1967.5MHz	CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz)+ CH 5237(1957.4 MHz) CH 8365(1962.5 MHz)+ CH 8465(1972.5 MHz)+ CH 8615(1987.5 MHz)	
E		5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8465(1972.5 MHz)+ CH 8515(1977.5 MHz)+ CH 8565(1982.5 MHz)	TC3a
			1962.5MHz	CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz) CH 8515(1977.5 MHz)+ CH 8565(1982.5 MHz)+ CH 8615(1987.5 MHz)	
			1967.5MHz	CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz)+ CH 5212(1952.4 MHz)+ CH 5237(1957.4 MHz) CH 8565(1982.5 MHz)+ CH 8615(1987.5 MHz)+ CH 8665(1992.5 MHz)	
F		5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 8565(1982.5 MHz)	NTC3a
			1962.5MHz	CH 5137(1937.4 MHz)+ CH 8615(1987.5 MHz)	
			1967.5MHz	CH 5162(1942.4 MHz)+ CH 8665(1992.5 MHz)	

EUT Configure Mode	Test item	Channel	Test Center Frequency		Mode
D	Radiated Emission Below 1GHz	5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8265(1952.5 MHz)+ CH 8365(1962.5 MHz)+ CH 8515(1977.5 MHz)	4*WCDMA(5M)+ 1*LTE(5M)+2*LTE(15M)
E		5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8465(1972.5 MHz)+ CH 8515(1977.5 MHz)+ CH 8565(1982.5 MHz)	TC3a
F		5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 8565(1982.5 MHz)	NTC3a
D	Radiated Emission Above 1GHz	5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8265(1952.5 MHz)+ CH 8365(1962.5 MHz)+ CH 8515(1977.5 MHz)	4*WCDMA(5M)+ 1*LTE(5M)+2*LTE(15M)
E		5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 5137(1937.4 MHz)+ CH 5162(1942.4 MHz)+ CH 5187(1947.4 MHz) CH 8465(1972.5 MHz)+ CH 8515(1977.5 MHz)+ CH 8565(1982.5 MHz)	TC3a
F		5112 to 5187 8265 to 8515	1957.5MHz	CH 5112(1932.4 MHz)+ CH 8565(1982.5 MHz)	NTC3a

Test Condition:

Test Item	Environmental Conditions	Input Power (system)	Tested By
EIRP	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Modulation Characteristics	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Frequency Stability	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Occupied Bandwidth	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Band Edge	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Peak To Average Ratio	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Conducted Emission	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Radiated Emission	25deg. C, 70%RH 25deg. C, 68%RH	120Vac, 60Hz	Luis Lee Greg Lin

3.4 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

3.5 General Description of Applied Standards

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

FCC 47 CFR Part 2
FCC 47 CFR Part 24
KDB 971168 D01 Power Meas License Digital Systems v03r01
ANSI/TIA/EIA-603-E 2016
ANSI 63.26-2015

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

Para. No.24.232(a)(2) Base stations with an emission bandwidth greater than 1 MHz are limited to 1640 watts/MHz equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters

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 5MHz for WCDMA mode.
b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) 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.

Where:

$ERP/EIRP = P_{Meas} + G_T - L_C$

P_{Meas} : Measure transmitter output power.
G_T : Gain of the transmitting antenna.
L_C : signal attenuation in the connecting cable between the transmitter and antenna.

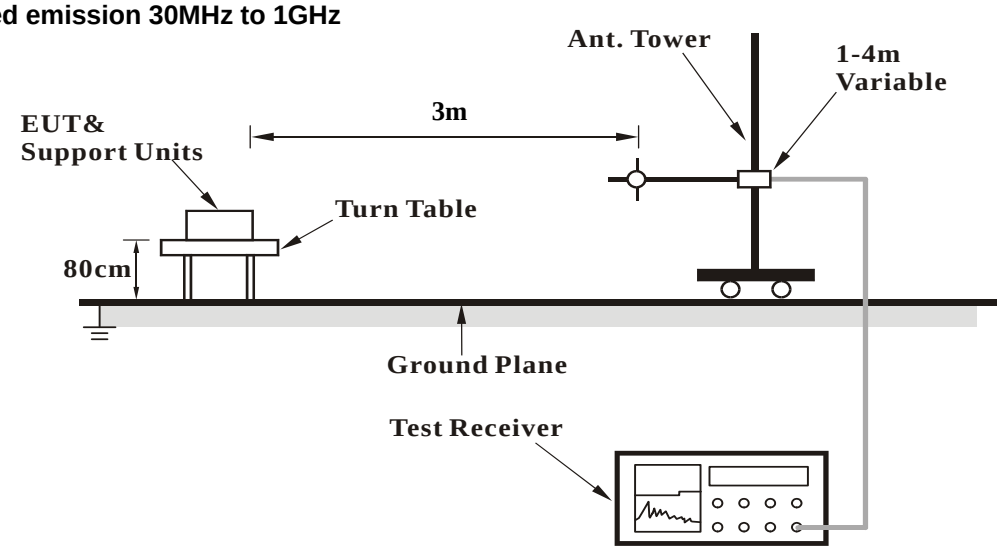
Conducted Power Measurement:

The EUT was set up for the maximum power with WCDMA 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.

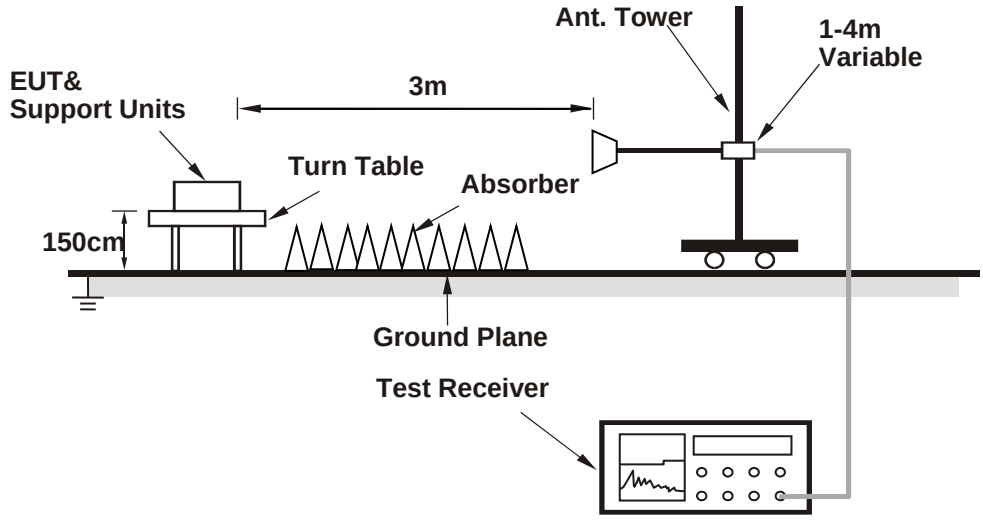
4.1.3 Test Setup

EIRP / ERP Measurement:

For radiated emission 30MHz to 1GHz

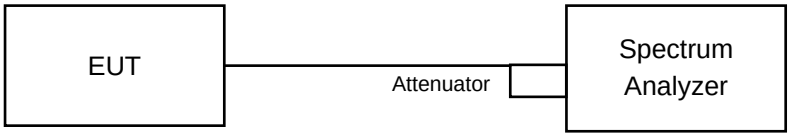


For radiated emission above 1GHz



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)

For WCDMA only:

Single Carrier: (Test Mode A, B)

1TX

Band / BW	Antenna	Low CH 5112	Mid CH 5263	High CH 5413
		1932.4 MHz	1962.6 MHz	1992.6 MHz
25	Chain 1	37.14	37.00	36.92
	Chain 2	37.05	37.08	36.97
	Chain 3	36.99	37.01	37.00
	Chain 4	37.11	36.97	36.88

2TX

Band / BW	Antenna	Low CH 5112	Mid CH 5263	High CH 5413	Antenna	Low CH 5112	Mid CH 5263	High CH 5413
		1932.4 MHz	1962.6 MHz	1992.6 MHz		1932.4 MHz	1962.6 MHz	1992.6 MHz
25	Chain 1	37.14	36.99	36.92	Chain 3	36.99	37.01	37.00
	Chain 2	37.05	37.11	36.97	Chain 4	37.11	36.97	36.88
	Total	40.11	40.05	39.96	Total	40.06	40.00	39.95

Multi-Carrier: (Test Mode C)

1TX

Band / BW	Antenna	Low CH	Mid CH	High CH
		1939.9 MHz	1962.7 MHz	1985.1 MHz
		5112: 1932.4MHz+ 5137: 1937.4MHz+ 5162: 1942.4MHz+ 5187: 1947.4MHz	5226: 1955.2MHz+ 5251: 1960.2MHz+ 5276: 1965.2MHz+ 5301: 1970.2MHz	5338: 1977.6MHz+ 5363: 1982.6MHz+ 5388: 1987.6MHz+ 5413: 1992.6MHz
25	Chain 1	36.16	36.15	36.25
	Chain 2	36.11	36.09	36.16
	Chain 3	36.13	36.14	36.18
	Chain 4	36.10	36.13	36.21

2TX

Band / BW	Antenna	Low CH	Mid CH	High CH
		1939.9 MHz	1962.7 MHz	1985.1 MHz
		5112: 1932.4MHz+ 5137: 1937.4MHz+ 5162: 1942.4MHz+ 5187: 1947.4MHz	5226: 1955.2MHz+ 5251: 1960.2MHz+ 5276: 1965.2MHz+ 5301: 1970.2MHz	5338: 1977.6MHz+ 5363: 1982.6MHz+ 5388: 1987.6MHz+ 5413: 1992.6MHz
25	Chain 1	39.15	39.13	39.22
	Chain 2			
	Chain 3	39.13	39.15	39.21
	Chain 4			

For LTE + WCDMA:

Mode	Chain	Low CH 1957.5 MHz	Mid CH 1962.5 MHz	High CH 1967.5 MHz
D	0	37.40	37.44	37.39
	1	37.33	37.39	37.38
	2	**37.46**	37.40	37.42
	3	37.34	37.43	37.35

Mode	Chain	Low CH 1957.5 MHz	Mid CH 1962.5 MHz	High CH 1967.5 MHz
E	0	36.79	36.92	36.82
	1	36.81	**36.93**	36.83
	2	36.87	36.89	36.86
	3	36.85	36.83	36.81

Mode	Chain	Low CH 1957.5 MHz	Mid CH 1962.5 MHz	High CH 1967.5 MHz
F	0	36.75	36.80	36.84
	1	36.66	36.77	36.80
	2	36.83	36.85	36.78
	3	**36.89**	36.86	36.82

EIRP Power

For WCDMA only:

Single Carrier:

1TX

Band / BW	Antenna	Low CH 5112	Mid CH 5263	High CH 5413
		1932.4 MHz	1962.6 MHz	1992.6 MHz
25	Chain 1	37.14	37.00	36.92
	Chain 2	37.05	37.08	36.97
	Chain 3	36.99	37.01	37.00
	Chain 4	37.11	36.97	36.88
	Antenna gain	16.4	16.4	16.4
	EIRP Chain 0	**53.54**	53.40	53.32
	EIRP Chain 1	53.45	53.48	53.37
	EIRP Chain 2	53.39	53.41	53.40
	EIRP Chain 3	53.51	53.37	53.28

2TX

Band / BW	Antenna	Low CH 5112	Mid CH 5263	High CH 5413	Antenna	Low CH 5112	Mid CH 5263	High CH 5413
		1932.4 MHz	1962.6 MHz	1992.6 MHz		1932.4 MHz	1962.6 MHz	1992.6 MHz
25	Chain 1	37.14	36.99	36.92	Chain 3	36.99	37.01	37.00
	Chain 2	37.05	37.11	36.97	Chain 4	37.11	36.97	36.88
	Total	40.11	40.05	39.96	Total	40.06	40.00	39.95
	Directional gain	16.4	16.4	16.4	Directional gain	16.4	16.4	16.4
	EIRP	56.51	56.45	56.36	EIRP	56.46	56.40	56.35

Note: EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)

Multi-Carrier:

1TX

Band / BW	Antenna	Low CH	Mid CH	High CH
		1939.9 MHz	1962.7 MHz	1985.1 MHz
		5112: 1932.4MHz+ 5137: 1937.4MHz+ 5162: 1942.4MHz+ 5187: 1947.4MHz	5226: 1955.2MHz+ 5251: 1960.2MHz+ 5276: 1965.2MHz+ 5301: 1970.2MHz	5338: 1977.6MHz+ 5363: 1982.6MHz+ 5388: 1987.6MHz+ 5413: 1992.6MHz
25	Chain 1	52.56	52.55	52.65
	Chain 2	52.51	52.49	52.56
	Chain 3	52.53	52.54	52.58
	Chain 4	52.50	52.53	52.61

2TX

Band / BW	Antenna	Low CH	Mid CH	High CH
		1939.9 MHz	1962.7 MHz	1985.1 MHz
		5112: 1932.4MHz+ 5137: 1937.4MHz+ 5162: 1942.4MHz+ 5187: 1947.4MHz	5226: 1955.2MHz+ 5251: 1960.2MHz+ 5276: 1965.2MHz+ 5301: 1970.2MHz	5338: 1977.6MHz+ 5363: 1982.6MHz+ 5388: 1987.6MHz+ 5413: 1992.6MHz
25	Chain 1	55.55	55.53	**55.62**
	Chain 2			
	Chain 3	55.53	55.55	55.61
	Chain 4			

For LTE + WCDMA:

Mode	Chain	Low CH	Mid CH	High CH
		1957.5 MHz	1962.5 MHz	1967.5 MHz
D	4TX	59.80	**59.84**	59.81

Mode	Chain	Low CH	Mid CH	High CH
		1957.5 MHz	1962.5 MHz	1967.5 MHz
E	4TX	59.25	**59.31**	59.25

Mode	Chain	Low CH	Mid CH	High CH
		1957.5 MHz	1962.5 MHz	1967.5 MHz
F	4TX	59.20	**59.24**	59.23

Note: EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)

4.2 Modulation Characteristics Measurement

4.2.1 Limits of Modulation Characteristics

N/A

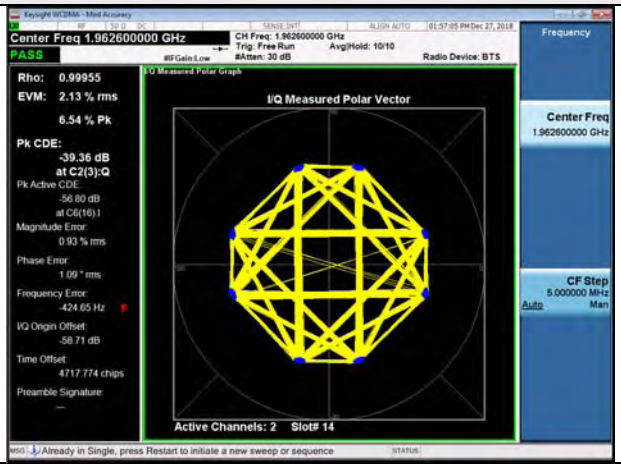
4.2.2 Test Procedure

Connect the EUT to Communication Simulator via the antenna connector, The frequency band is set as EUT supported Modulation and Channels, the EUT output is matched with 50 ohm load, the waveform quality and constellation of the EUT was tested.

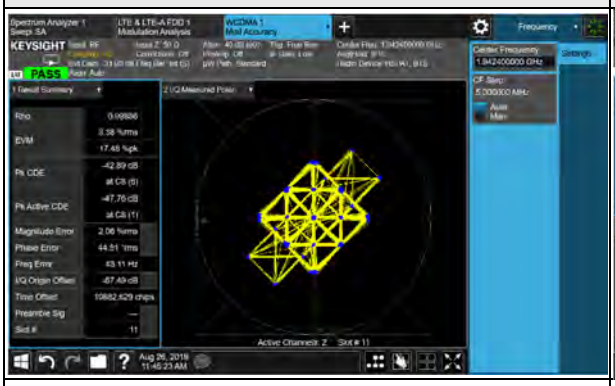
4.2.3 Test Setup

4.2.4 Test Results

For WCDMA only:

WCDMA Band 25
Spectrum Plot of Measurement Value
Channel: 5263 / Frequency (MHz): 1962.6MHz


For LTE + WCDMA:

<table>
<tr><td colspan="2">WCDMA+LTE Band 25</td></tr>
<tr><td colspan="2">Spectrum Plot of Measurement Value</td></tr>
<tr><td>WCDMA: 1932.4MHz</td><td>LTE, QPSK: 1962.5MHz</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>LTE, 16QAM: 1962.5MHz</td><td>LTE, 64QAM: 1962.5MHz</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>LTE, 256QAM: 1962.5MHz</td><td></td></tr>
<tr><td>  </td><td></td></tr>
</table>

4.3 Frequency Stability Measurement

4.3.1 Limits of Frequency Stabiliity Measurement

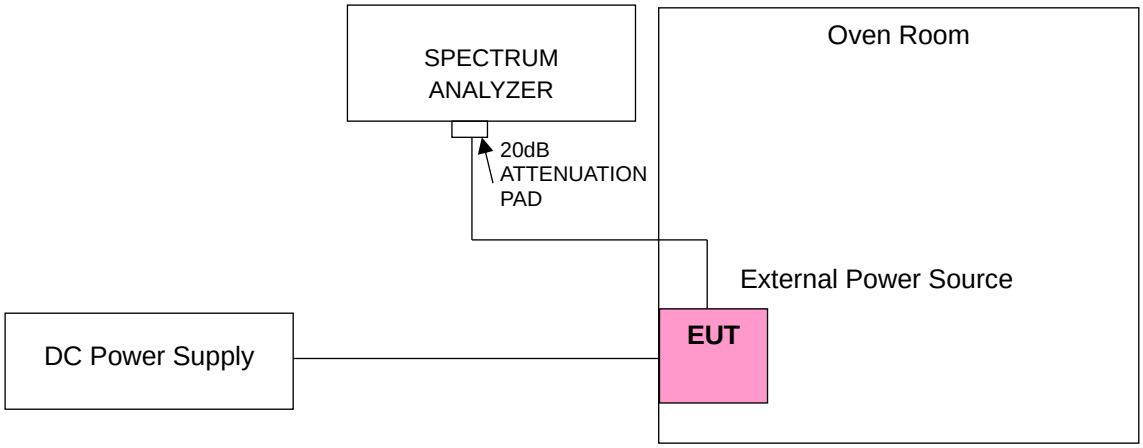
According to the FCC part 2.1055 shall be tested the frequency stability. The rule is defined that" The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block." The test extreme voltage is according to the 2.1055(d)(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment and the extreme temperature rule is comply with -30℃ ~ 50℃.

4.3.2 Test Procedure

a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±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.

4.3.3 Conducted Setup



4.3.4 Test Results

For WCDMA only:

Frequemcy Stability Versus Temp (QPSK Full RB)						
Test Frequency		1962.6MHz	Limit	±0.19626	Pass / Fail	Pass
Temperature (°C)	Power Supply (Vdc)	Frequency over time of reading tolerance				
		0 minutes	2 minutes	5 minutes	10 minutes	
		Drift (ppm)	Drift (ppm)	Drift (ppm)	Drift (ppm)	
50	-48	0.08897	0.05389	0.02687	0.11821	
40	-48	0.00327	0.05718	0.07934	0.09320	
30	-48	0.11656	0.09084	0.07524	0.11634	
20	-48	0.07716	0.06402	0.04863	0.00652	
10	-48	0.04694	0.06988	0.08783	0.07551	
0	-48	0.07315	0.11753	0.04810	0.11052	
-10	-48	0.02462	0.04346	0.01626	0.00935	
-20	-48	0.10179	0.10159	0.11772	0.10869	
-30	-48	0.00457	0.00352	0.00533	0.00656	
Max Reading Frequency			0.11821			
Min Reading Frequency			0.00327			

Frequemcy Stability Versus Voltage						
Test Frequency		1962.6MHz	Limit	±0.19626	Pass / Fail	Pass
Temperature (°C)	Power Supply (Vdc)	Frequency over time of reading tolerance				
		0 minutes	2 minutes	5 minutes	10 minutes	
		Drift (ppm)	Drift (ppm)	Drift (ppm)	Drift (ppm)	
20	-55.2	0.02059	0.02400	0.01607	0.03465	
	-48	0.07716	0.06402	0.04863	0.00652	
	-40.8	0.09085	0.10553	0.00136	0.06006	
Max Reading Frequency			0.10553			
Min Reading Frequency			0.00136			

For LTE + WCDMA:

Frequemcy Stability Versus Temp						
Test Frequency		1962.5MHz	Limit	±0.19625	Pass / Fail	Pass
Temperature (°C)	Power Supply (Vdc)	Frequency over time of reading tolerance				
		0 minutes	2 minutes	5 minutes	10 minutes	
		Drift (ppm)	Drift (ppm)	Drift (ppm)	Drift (ppm)	
50	-48	0.10815	0.03914	0.03542	0.06361	
40	-48	0.05633	0.03554	0.02795	0.10899	
30	-48	0.10159	0.09652	0.03759	0.00090	
20	-48	0.10852	0.12139	0.06425	0.02601	
10	-48	0.05606	0.09755	0.10861	0.05849	
0	-48	0.03974	0.05648	0.12171	0.04497	
-10	-48	0.11034	0.09816	0.06904	0.00454	
-20	-48	0.01803	0.04588	0.08734	0.11562	
-30	-48	0.05066	0.08055	0.06797	0.04566	
Max Reading Frequency			0.12171			
Min Reading Frequency			0.00090			

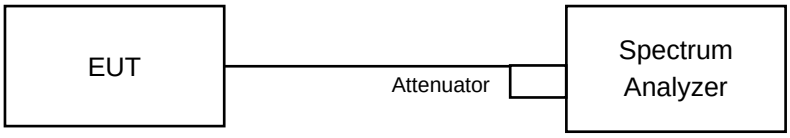
Frequemcy Stability Versus Voltage						
Test Frequency		1962.5MHz	Limit	±0.19625	Pass / Fail	Pass
Temperature (°C)	Power Supply (Vdc)	Frequency over time of reading tolerance				
		0 minutes	2 minutes	5 minutes	10 minutes	
		Drift (ppm)	Drift (ppm)	Drift (ppm)	Drift (ppm)	
20	-55.2	0.11514	0.05096	0.09345	0.07791	
	-48	0.12012	0.09415	0.06851	0.04624	
	-40.8	0.07626	0.09633	0.10114	0.11705	
Max Reading Frequency			0.12012			
Min Reading Frequency			0.04624			

4.4 Occupied Bandwidth Measurement

4.4.1 Test Procedure

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.

4.4.2 Test Setup



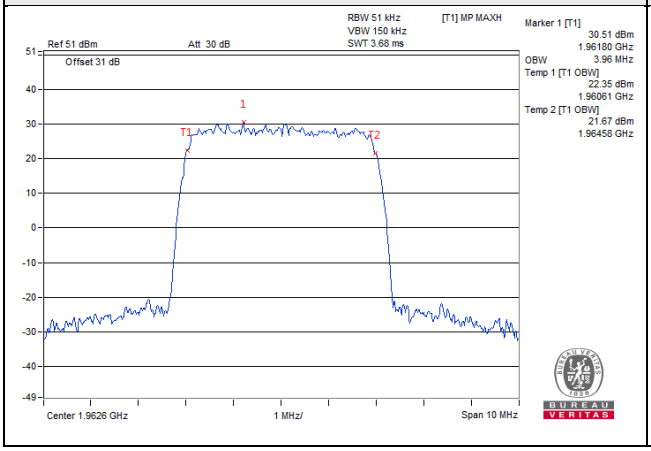
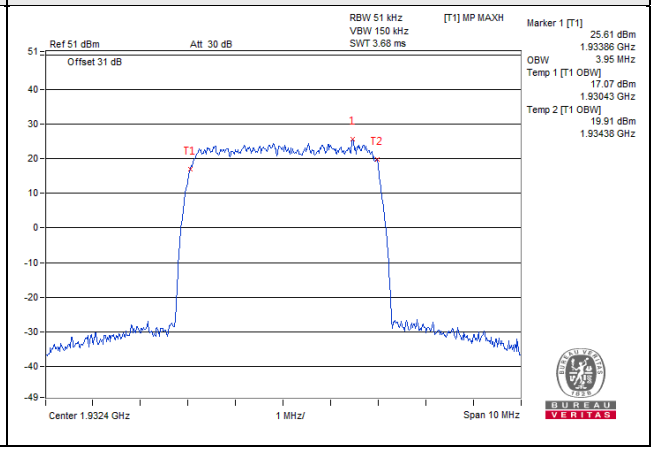
4.4.3 Test Result

Occupied Bandwidth

For WCDMA only:

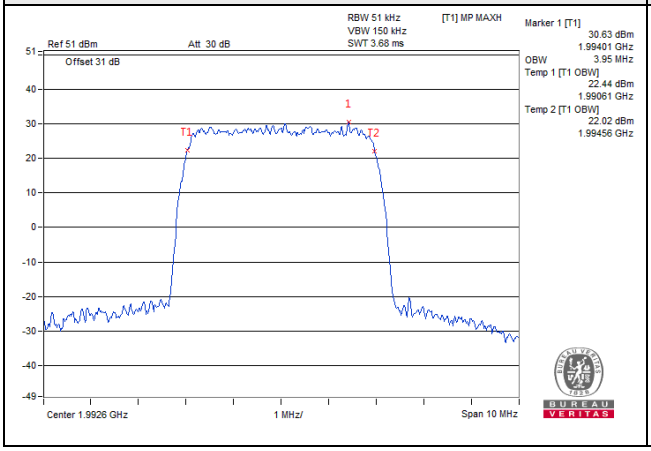
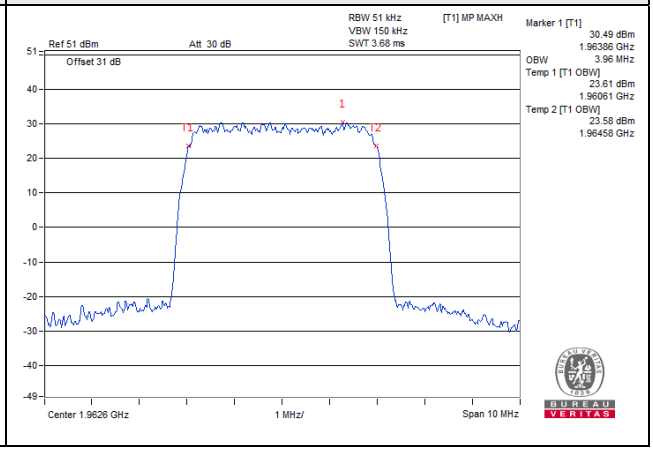
Test Mode A

WCDMA Band 25			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		Chain 1	Chain 2
5112	1932.4	3.93	3.95
5263	1962.6	3.96	3.93
5413	1992.6	3.95	3.95

Spectrum Plot of Worst Value	
Chain 1	Chain 2
	

Test Mode B

WCDMA Band 25			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		Chain 3	Chain 4
5112	1932.4	3.91	3.91
5263	1962.6	3.95	3.96
5413	1992.6	3.95	3.95

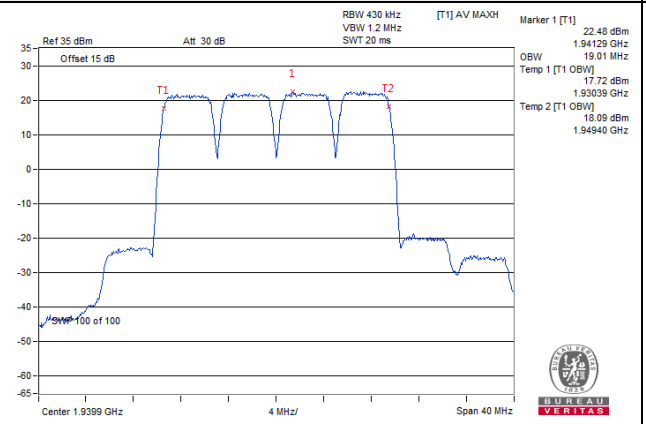
Spectrum Plot of Worst Value	
Chain 3	Chain 4
	

Test Mode C

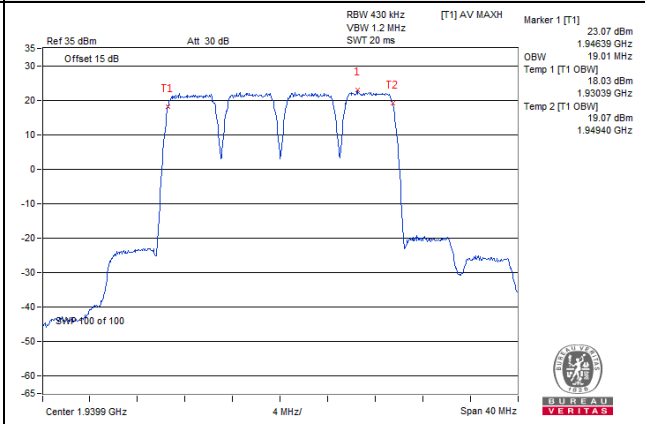
WCDMA Band 25				
Frequency (MHz)	99% Occupied Bandwidth (MHz)			
	Chain 1	Chain 2	Chain 3	Chain 4
1939.9	19.01	19.01	18.95	19.01
1962.7	19.01	19.01	19.01	19.01
1985.1	19.01	19.01	19.01	18.95

Spectrum Plot of Worst Value

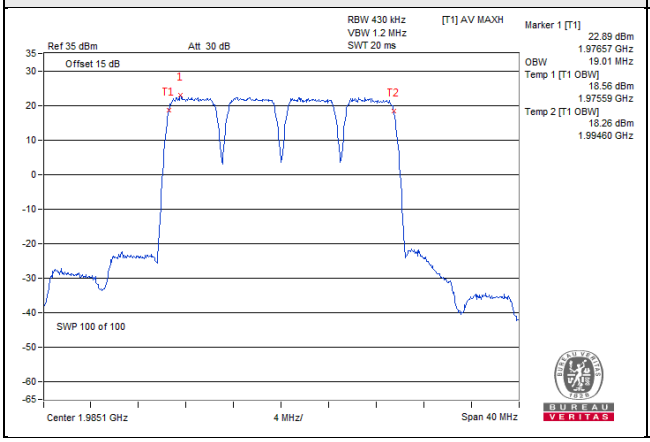
Chain 1



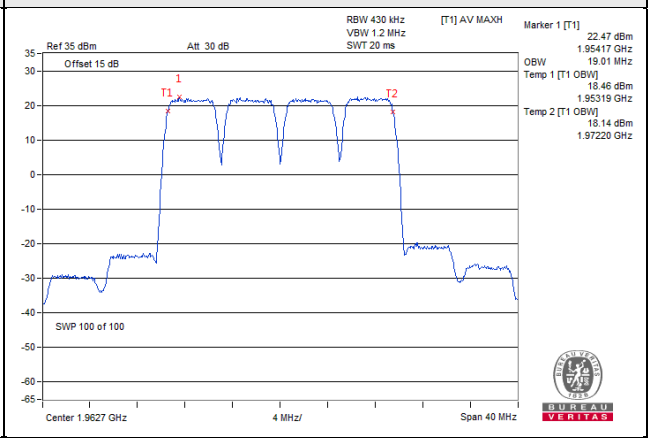
Chain 2



Chain 3



Chain 4



For LTE + WCDMA:

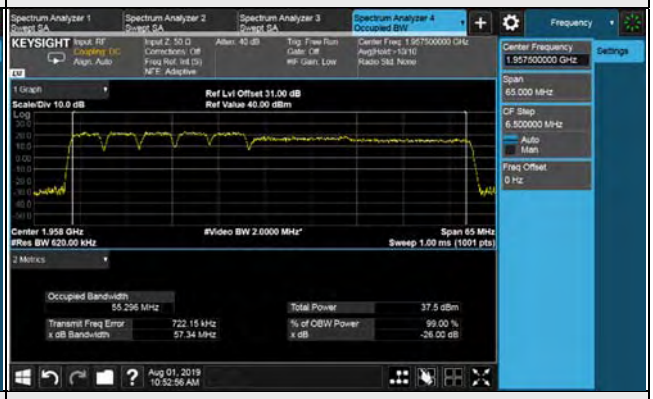
Test Mode D

WCDMA Band 25+LTE Band 25				
Frequency (MHz)	99% Occupied Bandwidth (MHz)			
	Chain 0	Chain 1	Chain 2	Chain 3
1957.5	55.330	55.296	55.353	55.377
1962.5	55.329	55.270	55.311	55.308
1967.5	53.169	53.165	53.130	53.296

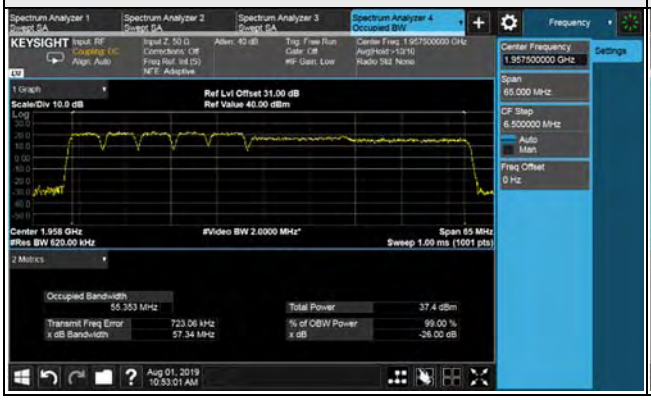
Spectrum Plot of Worst Value

Chain 0

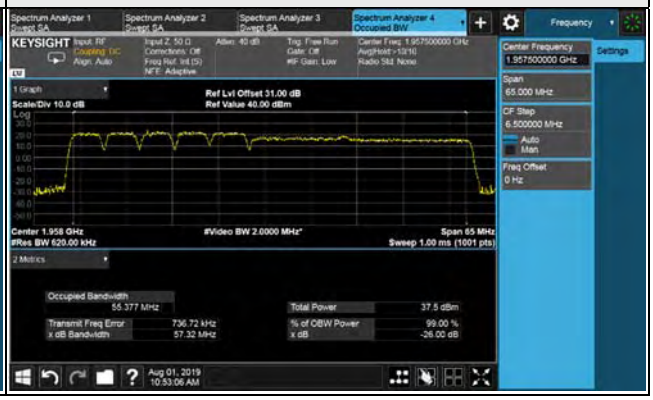
Chain 1



Chain 2



Chain 3

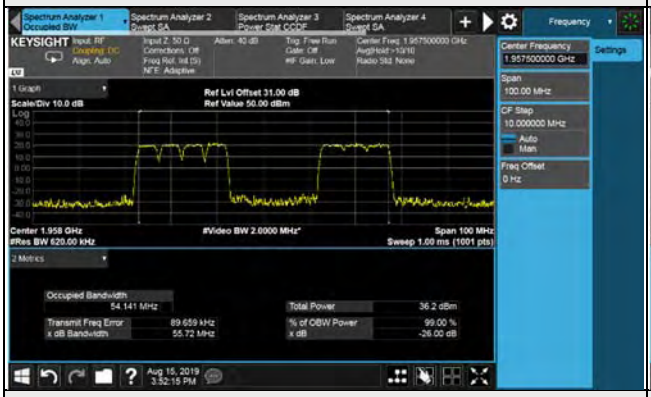


Test Mode E

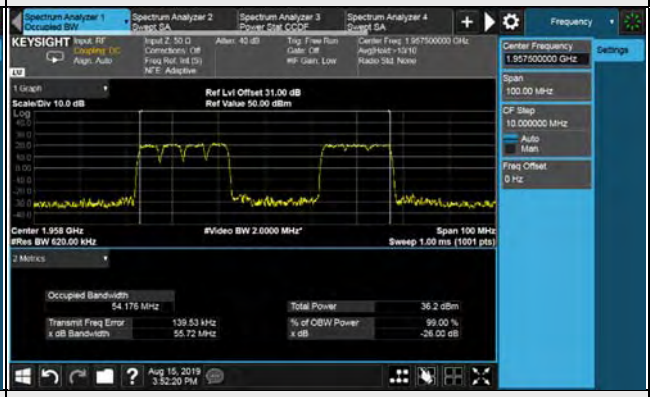
WCDMA Band 25+LTE Band 25				
Frequency (MHz)	99% Occupied Bandwidth (MHz)			
	Chain 0	Chain 1	Chain 2	Chain 3
1957.5	54.141	54.176	54.144	54.209
1962.5	54.048	54.124	54.093	54.063
1967.5	54.085	54.076	54.171	54.216

Spectrum Plot of Worst Value

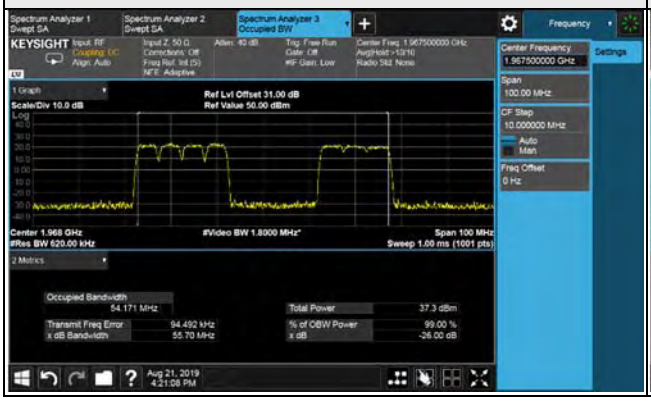
Chain 0



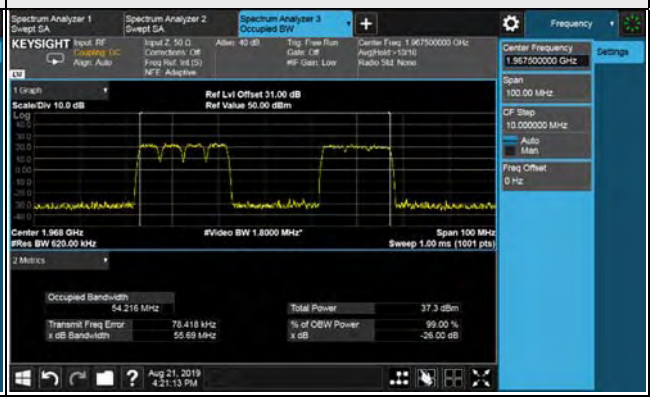
Chain 1



Chain 2



Chain 3



Test Mode F

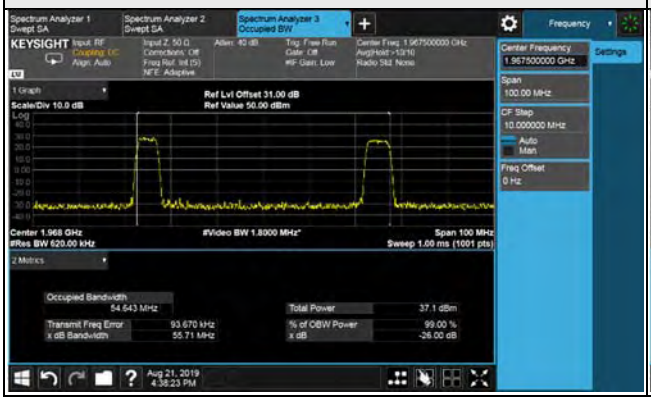
WCDMA Band 25+LTE Band 25				
Frequency (MHz)	99% Occupied Bandwidth (MHz)			
	Chain 0	Chain 1	Chain 2	Chain 3
1957.5	54.617	54.584	54.627	54.561
1962.5	54.592	54.609	54.641	54.570
1967.5	54.645	54.569	54.643	54.659

Spectrum Plot of Worst Value

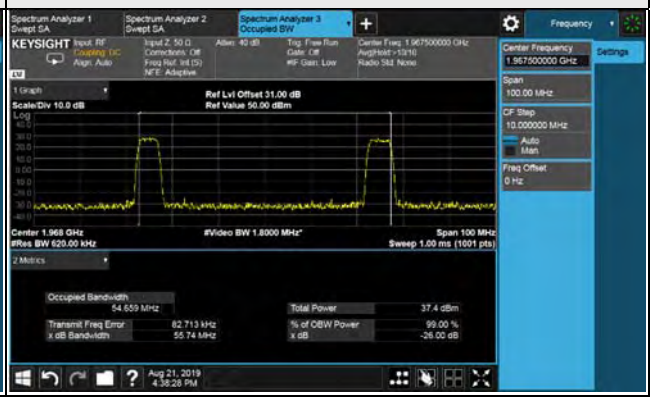
Chain 0

Chain 1

Chain 2



Chain 3

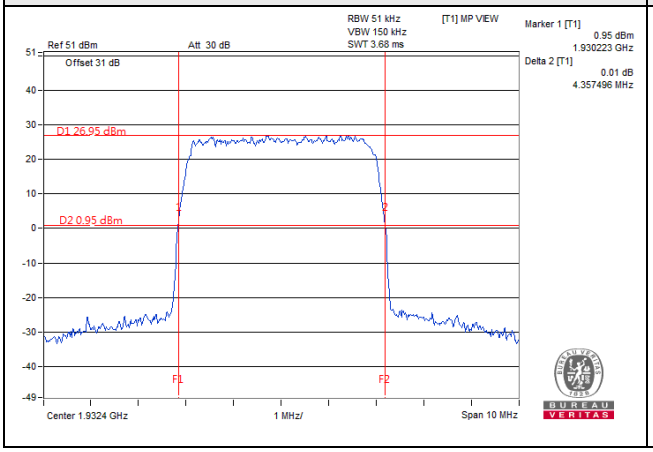
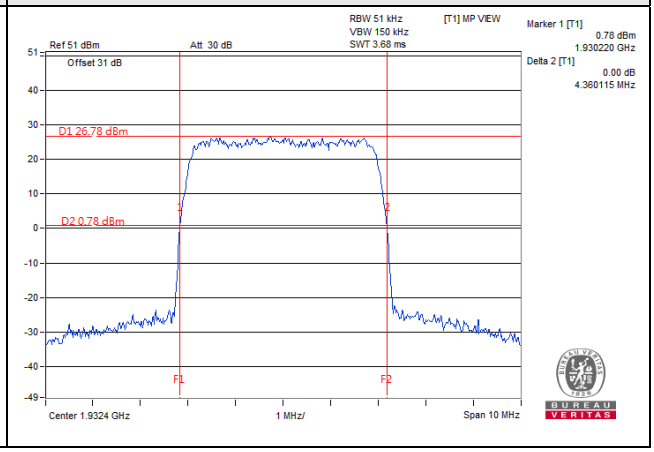


26dB Bandwidth

For WCDMA only:

Test Mode A

WCDMA Band 25			
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 1	Chain 2
5112	1932.4	4.357	4.360
5263	1962.6	4.349	4.350
5413	1992.6	4.354	4.352

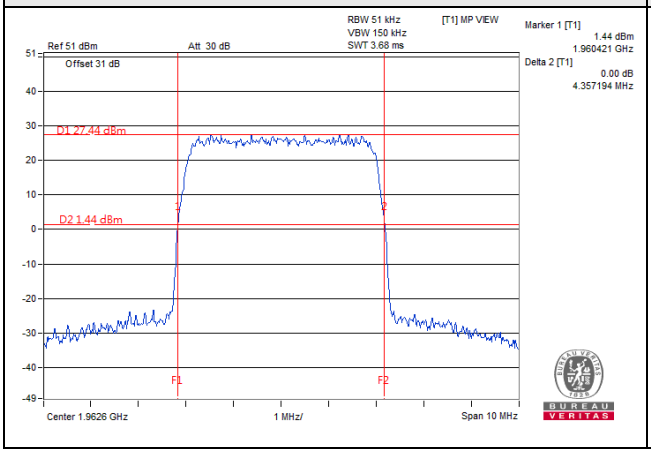
Spectrum Plot of Worst Value	
Chain 1	Chain 2
	

Test Mode B

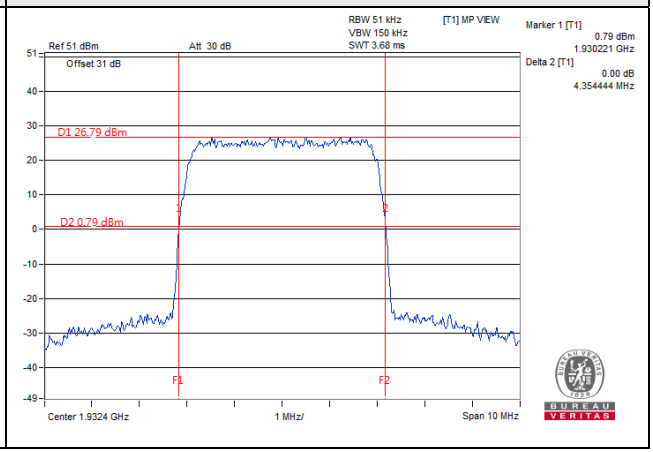
WCDMA Band 25			
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 3	Chain 4
5112	1932.4	4.344	4.354
5263	1962.6	4.357	4.348
5413	1992.6	4.348	4.351

Spectrum Plot of Worst Value

Chain 3



Chain 4

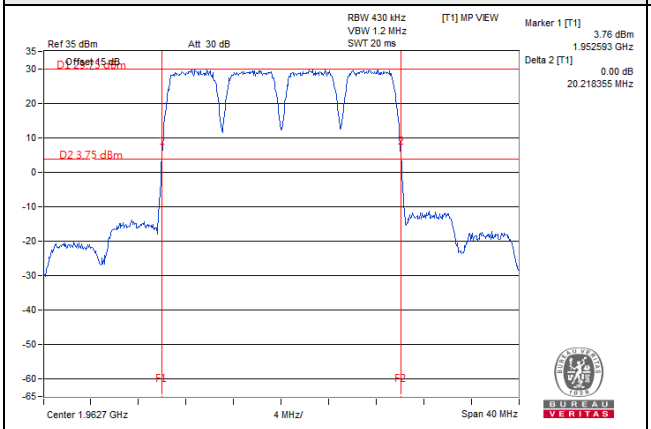


Test Mode C

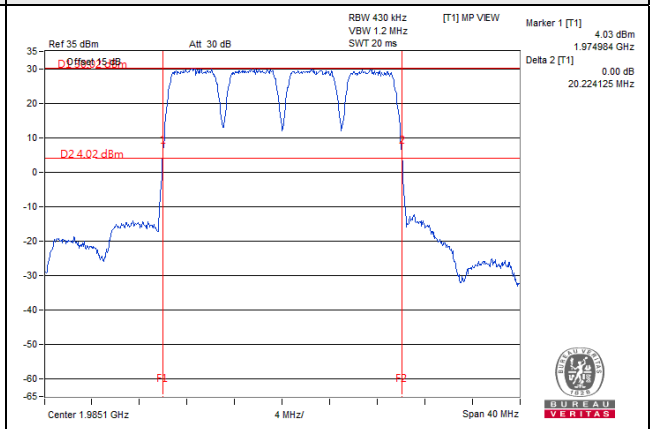
WCDMA Band 25				
Frequency (MHz)	26dBc Bandwidth (MHz)			
	Chain 1	Chain 2	Chain 3	Chain 4
1939.9	20.209	20.190	20.207	20.186
1962.7	20.218	20.205	20.138	20.208
1985.1	20.202	20.224	20.199	20.224

Spectrum Plot of Worst Value

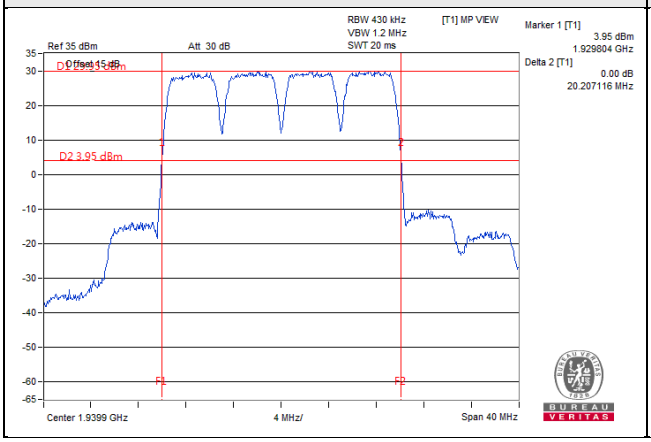
Chain 1



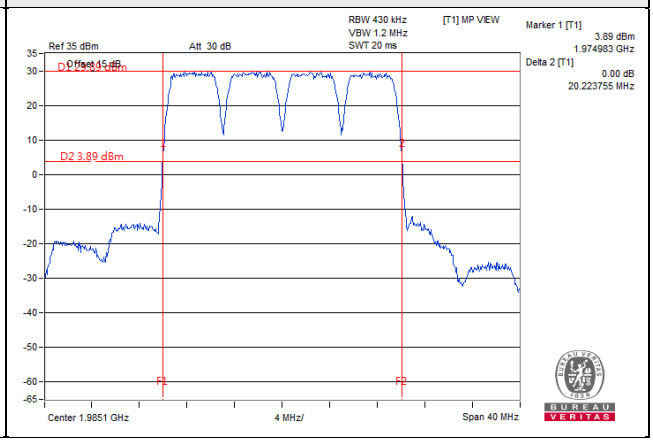
Chain 2



Chain 3



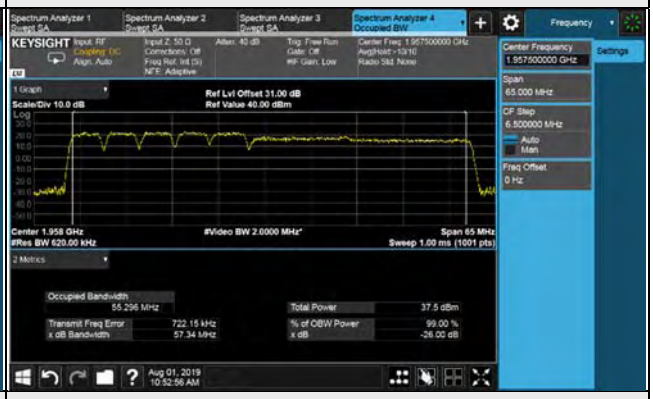
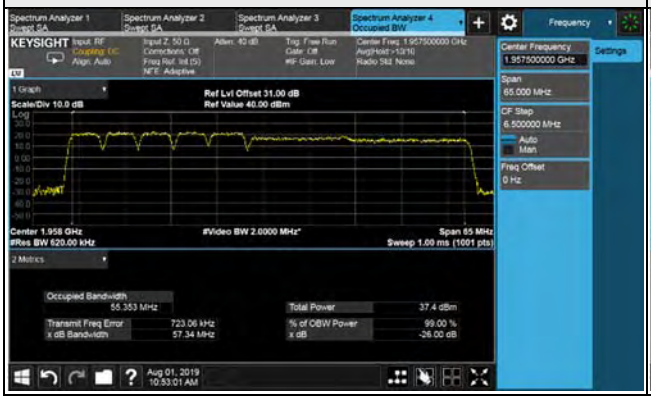
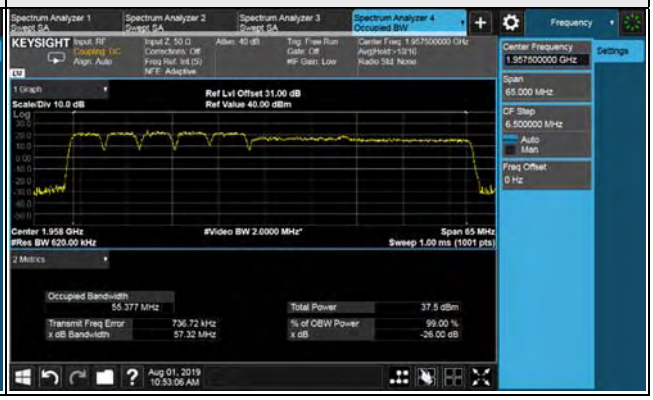
Chain 4



For LTE + WCDMA:

Test Mode D

WCDMA Band 25+LTE Band 25				
Frequency (MHz)	26dBc Bandwidth (MHz)			
	Chain 0	Chain 1	Chain 2	Chain 3
1957.5	57.32	57.34	57.34	57.32
1962.5	57.32	57.30	57.28	57.27
1967.5	55.11	55.14	55.10	55.11

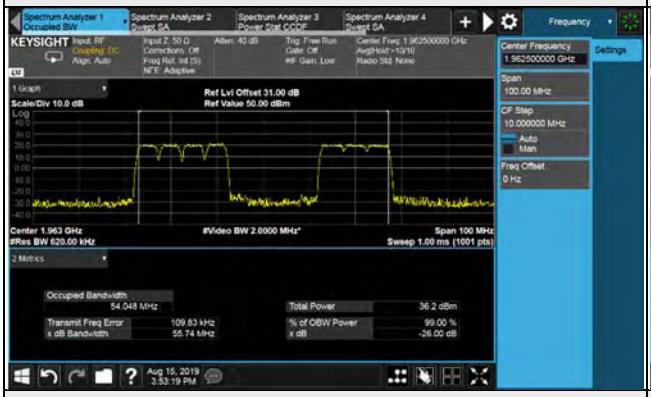
Spectrum Plot of Worst Value	
Chain 0	Chain 1
	
Chain 2	Chain 3
	

Test Mode E

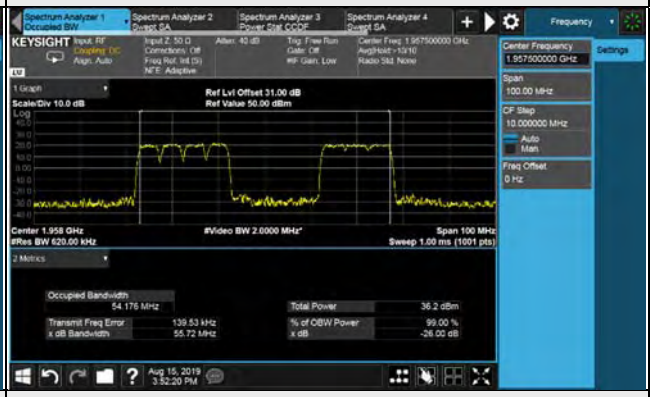
WCDMA Band 25+LTE Band 25				
Frequency (MHz)	26dBc Bandwidth (MHz)			
	Chain 0	Chain 1	Chain 2	Chain 3
1957.5	55.72	55.72	55.72	55.72
1962.5	55.74	55.72	55.72	55.73
1967.5	55.71	55.67	55.70	55.69

Spectrum Plot of Worst Value

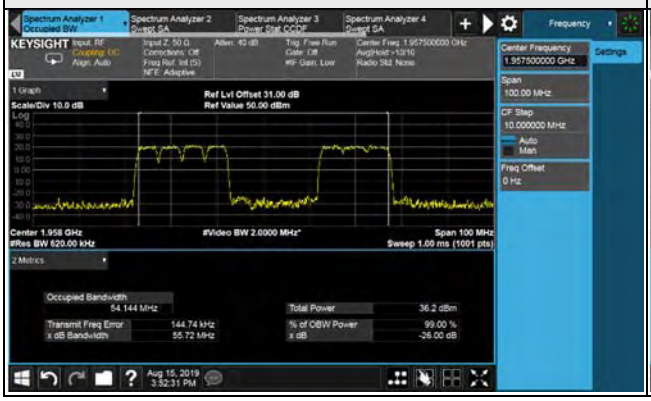
Chain 0



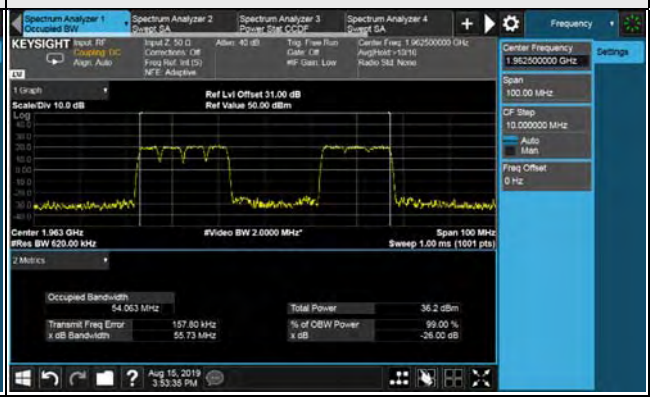
Chain 1



Chain 2

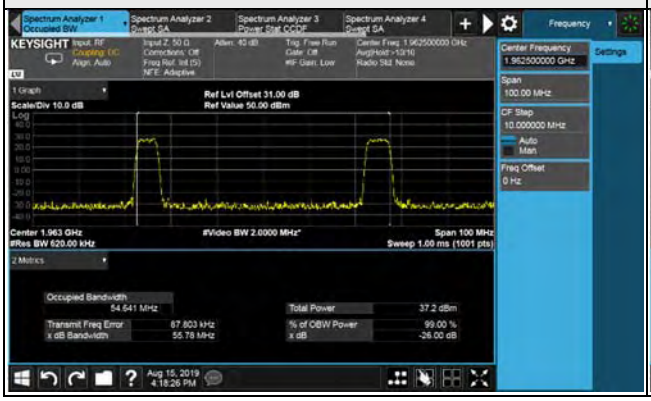
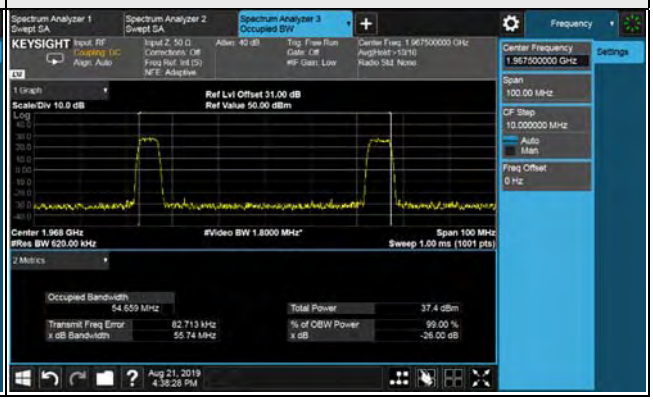


Chain 3



Test Mode F

WCDMA Band 25+LTE Band 25				
Frequency (MHz)	26dBc Bandwidth (MHz)			
	Chain 0	Chain 1	Chain 2	Chain 3
1957.5	55.73	55.74	55.68	55.70
1962.5	55.73	55.76	55.78	55.65
1967.5	55.73	55.71	55.71	55.74

Spectrum Plot of Worst Value	
Chain 0	Chain 1
	
Chain 2	Chain 3
	

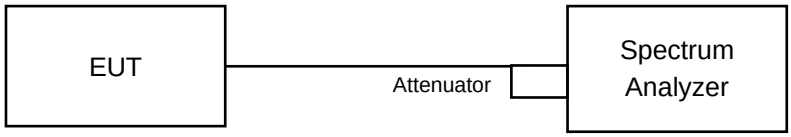
4.5 Band Edge Measurement

4.5.1 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.

Note:
This device can be impelement MIMO function, so the limit of spurious emissions needs to be reduced by 10log(NumbersAnt) according to FCC KDB 662911 D01 guidance.

4.5.2 Test Setup



4.5.3 Test Procedures

a. All measurements were done at low and high operational frequency range.

b. The center frequency of spectrum is the band edge frequency and span is 10MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz.

c. For WCDMA only:
The Device has 2x2 MIMO function, so the limit of spurious emissions needs to be reduced by 10log($Numbers_{Ant}$) according to FCC KDB 662911 D01 quidance.

{The limits is adjusted to -13dBm – 10*log(2) = -16.01dBm}

For WCDMA+LTE:
The Device has 4x4 MIMO function, so the limit of spurious emissions needs to be reduced by 10log($Numbers_{Ant}$) according to FCC KDB 662911 D01 quidance.

{The limits is adjusted to -13dBm – 10*log(4) = -19.02dBm}

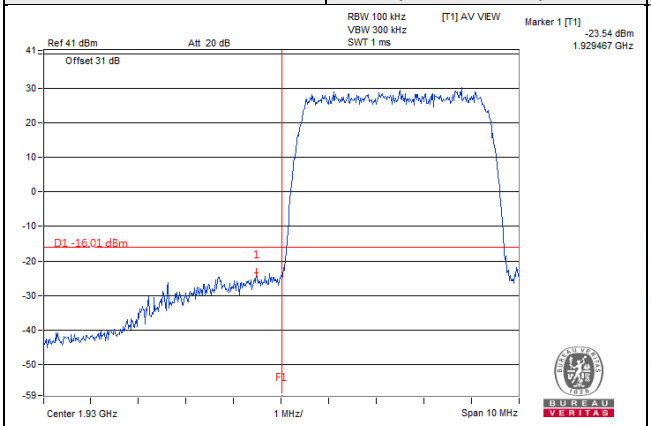
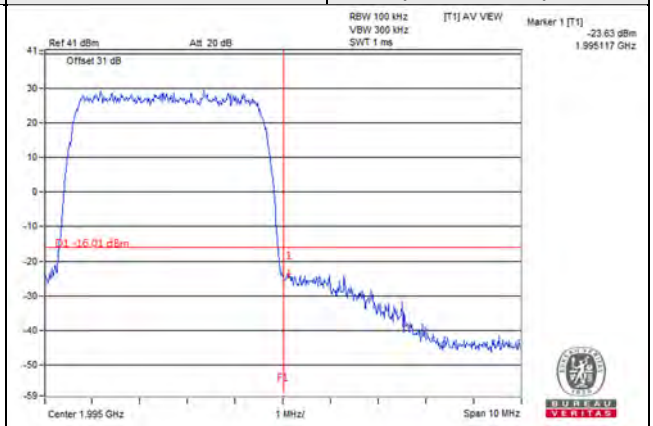
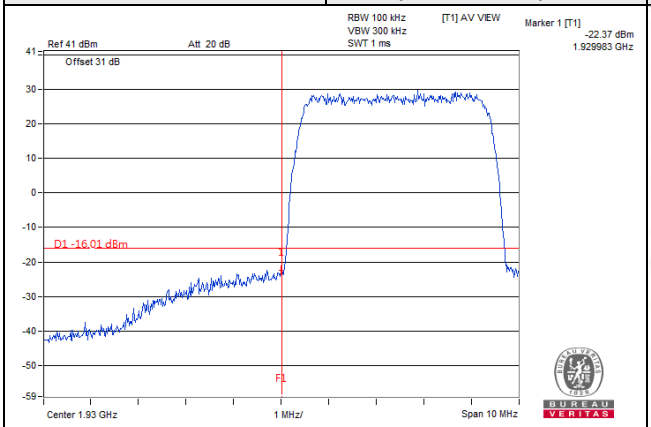
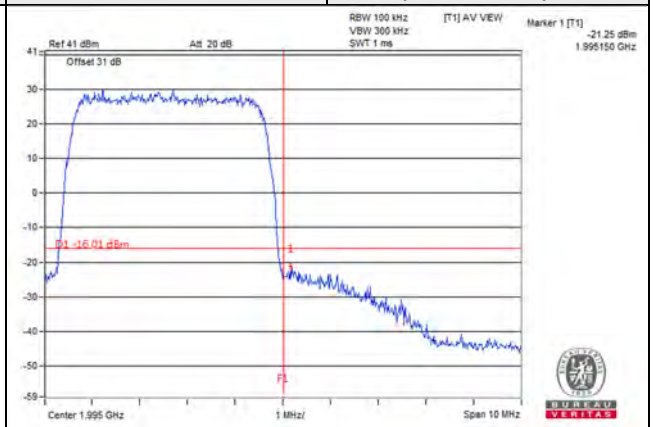
d. For 55MHz Multi-Carrier BW, extend the 1% range from 550kHz above and below the channel edge and then reduce the limit further by 10 log (100/550)= -7.40dB (i.e. total -19.02+(-7.40)=-26.42dBm) to compensate for the integration from 100kHz.

e. Record the max trace plot into the test report.

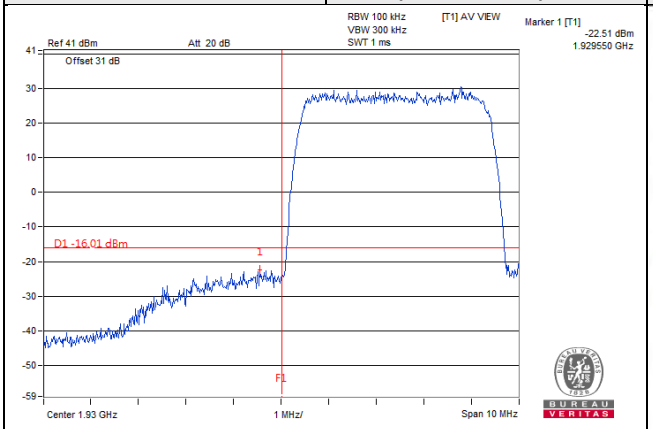
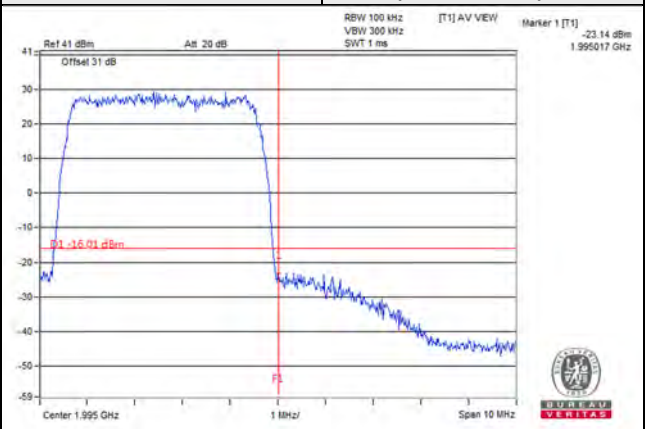
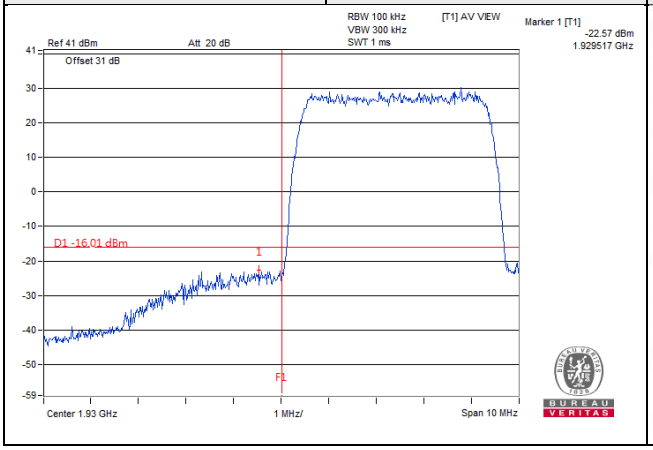
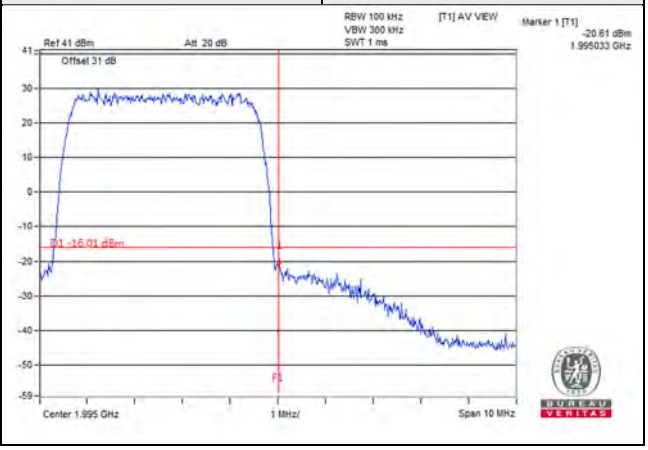
4.5.4 Test Results

For WCDMA only:

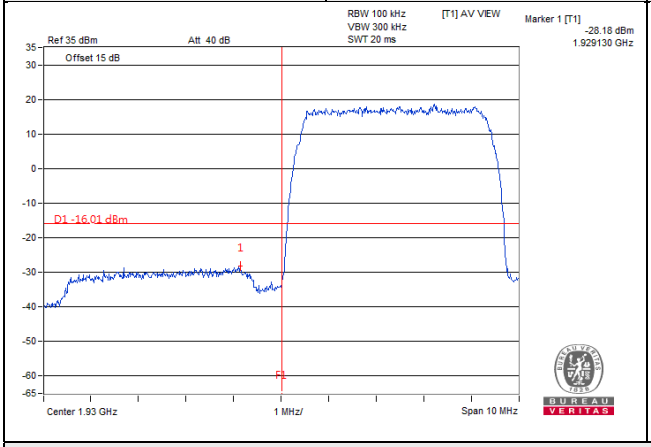
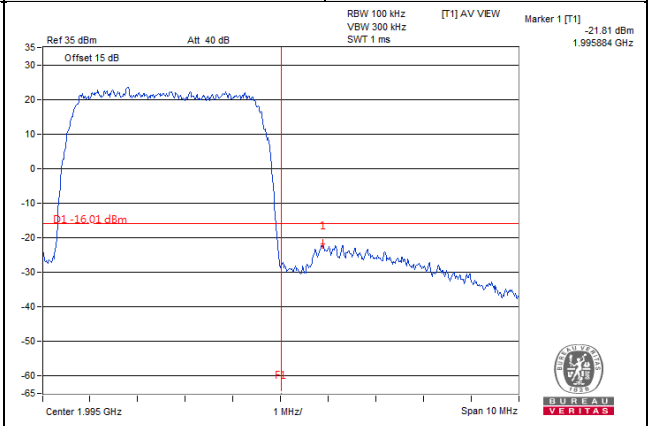
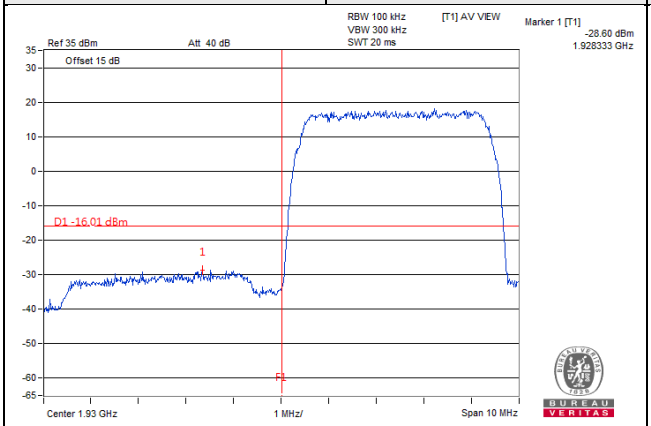
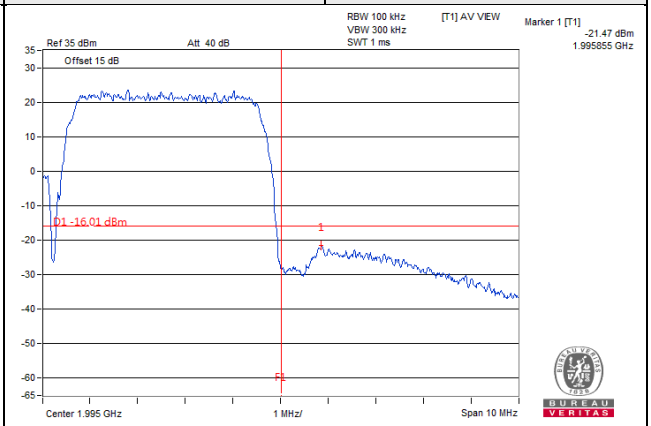
Test Mode A

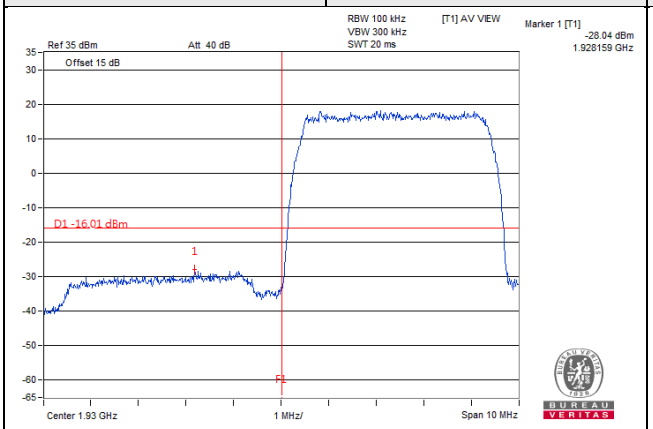
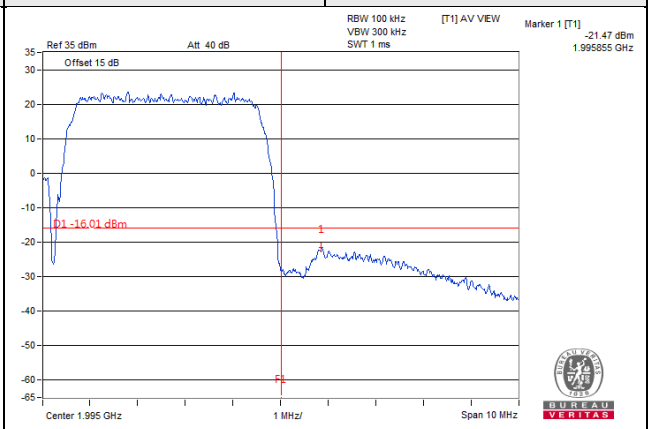
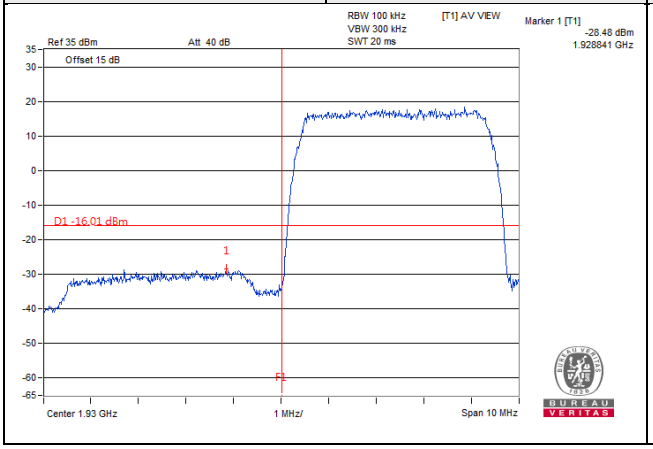
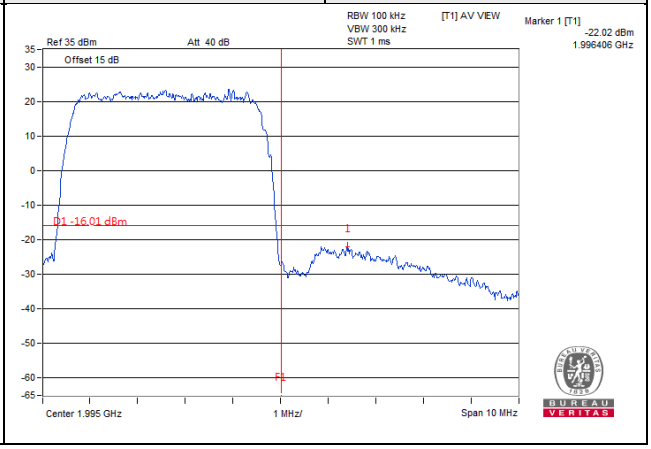
WCDMA			
Chain 1			
Channel	5112 (1932.4MHz)	Channel	5413 (1992.6MHz)
			
Chain 2			
Channel	5112 (1932.4MHz)	Channel	5413 (1992.6MHz)
			

Test Mode B

WCDMA			
Chain 3			
Channel	5112 (1932.4MHz)	Channel	5413 (1992.6MHz)
			
Chain 4			
Channel	5112 (1932.4MHz)	Channel	5413 (1992.6MHz)
			

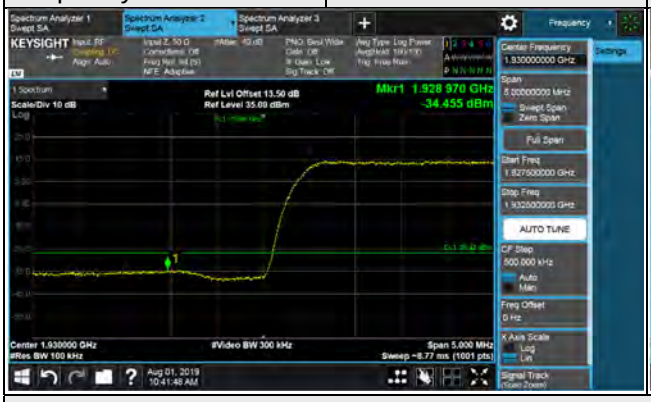
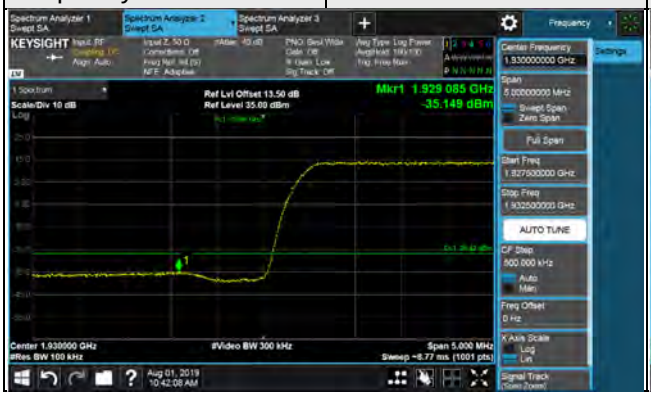
Test Mode C

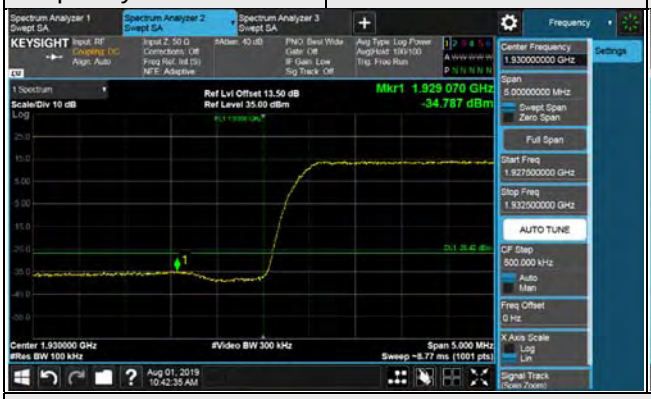
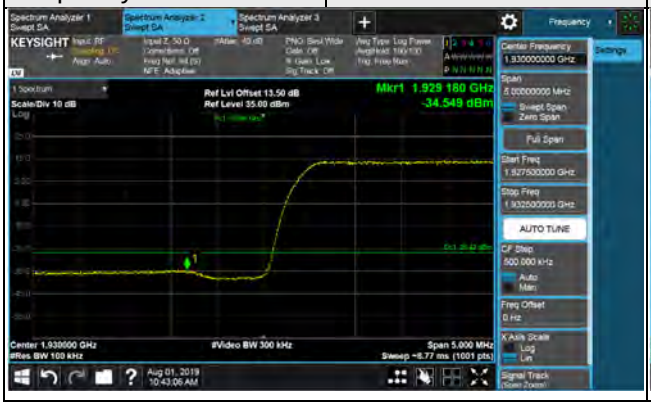
WCDMA			
Chain 1			
Channel	1939.9MHz	Channel	1985.1MHz
			
Chain 2			
Channel	1939.9MHz	Channel	1985.1MHz
			

Chain 3			
Channel	1939.9MHz	Channel	1985.1MHz
			
Chain 4			
Channel	1939.9MHz	Channel	1985.1MHz
			

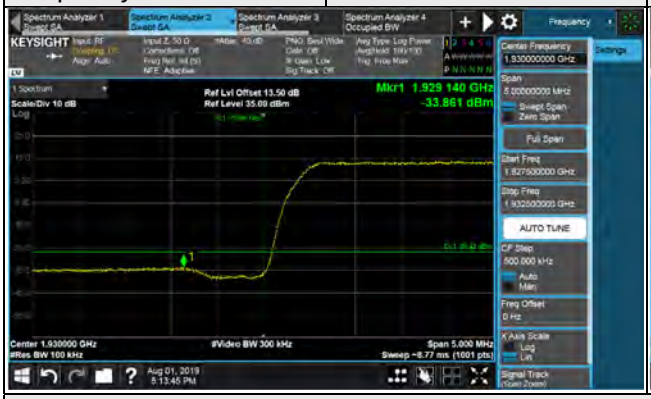
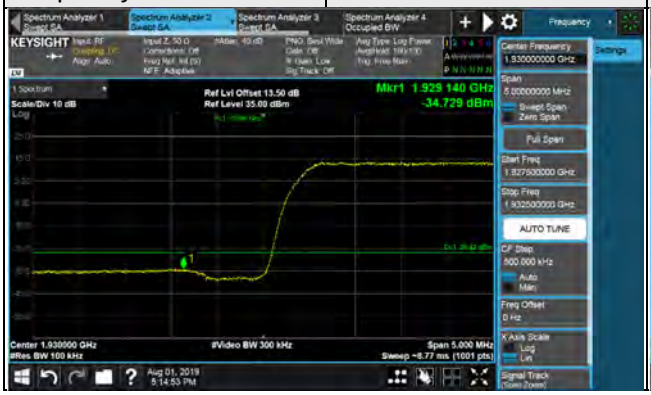
For LTE + WCDMA:

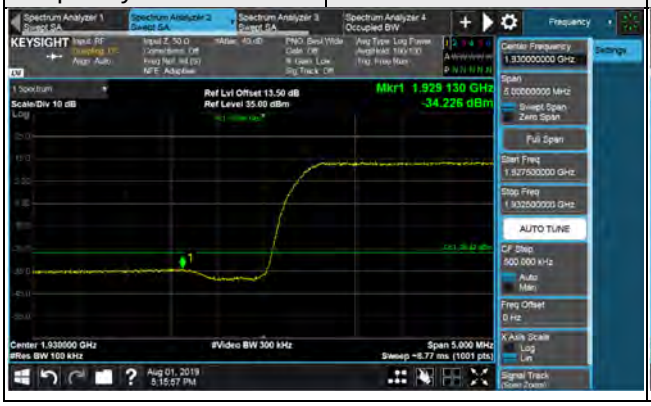
Test Mode D

WCDMA Band 25+LTE Band 25			
Chain 0			
Frequency	1930MHz	Frequency	1995MHz
			
Chain 1			
Frequency	1930MHz	Frequency	1995MHz
			

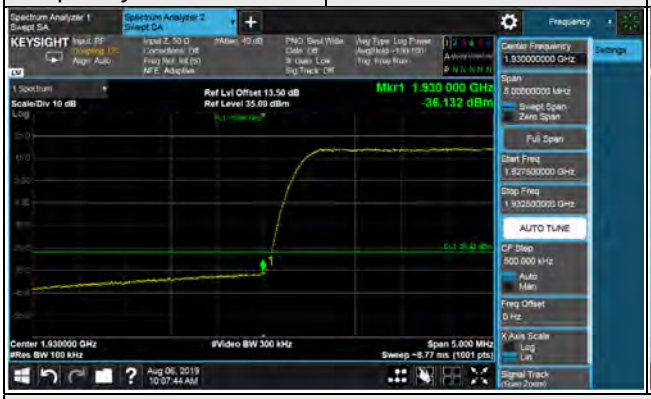
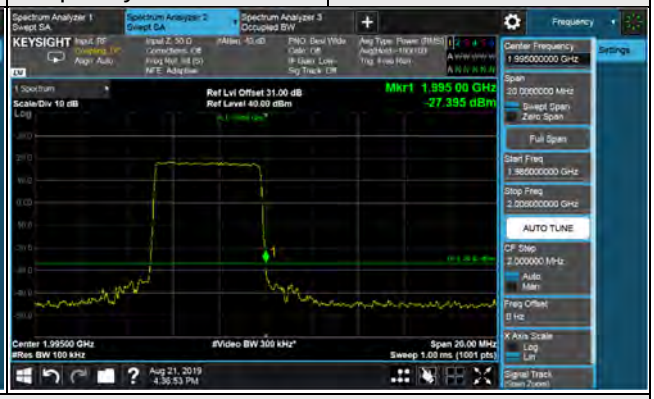
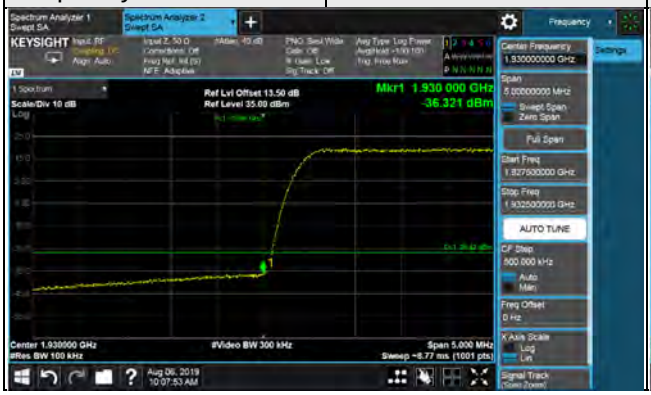
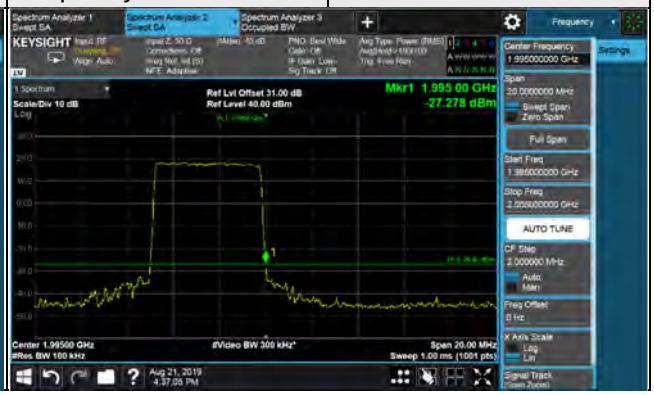
Chain 2			
Frequency	1930MHz	Frequency	1995MHz
			
Chain 3			
Frequency	1930MHz	Frequency	1995MHz
			

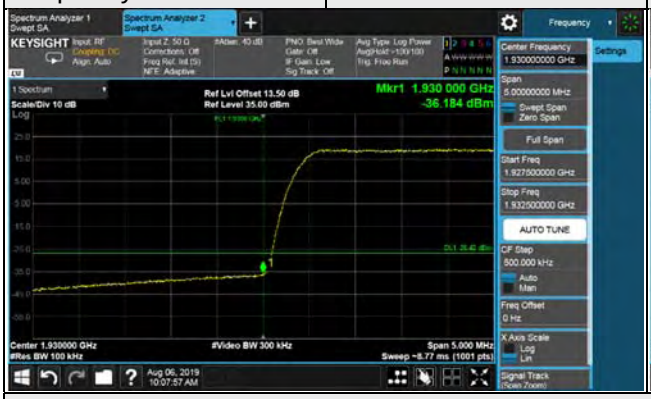
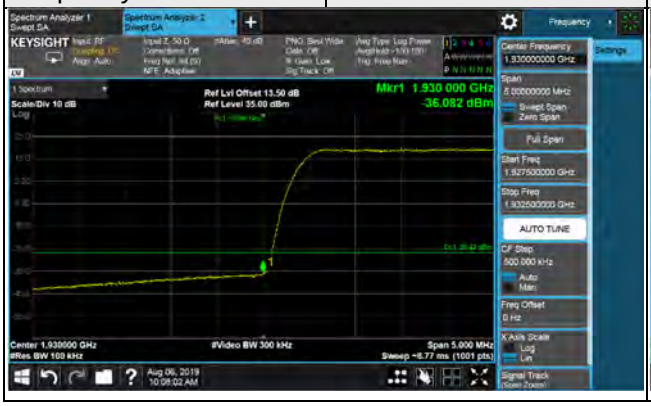
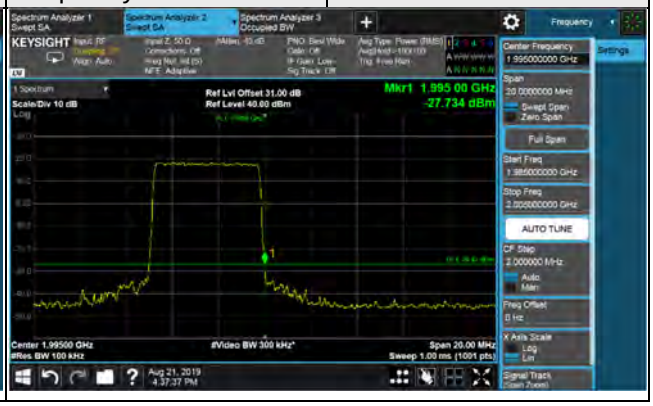
Test Mode E

WCDMA Band 25+LTE Band 25			
Chain 0			
Frequency	1930MHz	Frequency	1995MHz
			
Chain 1			
Frequency	1930MHz	Frequency	1995MHz
			

Chain 2			
Frequency	1930MHz	Frequency	1995MHz
			
Chain 3			
Frequency	1930MHz	Frequency	1995MHz
			

Test Mode F

WCDMA Band 25+LTE Band 25			
Chain 0			
Frequency	1930MHz	Frequency	1995MHz
			
Chain 1			
Frequency	1930MHz	Frequency	1995MHz
			

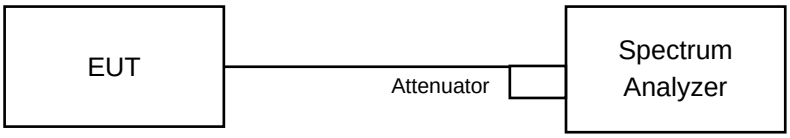
Chain 2			
Frequency	1930MHz	Frequency	1995MHz
			
Chain 3			
Frequency	1930MHz	Frequency	1995MHz
			

4.6 Peak to Average Ratio

4.6.1 Limits of Peak to Average Ratio Measurement

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

4.6.2 Test Setup



4.6.3 Test Procedures

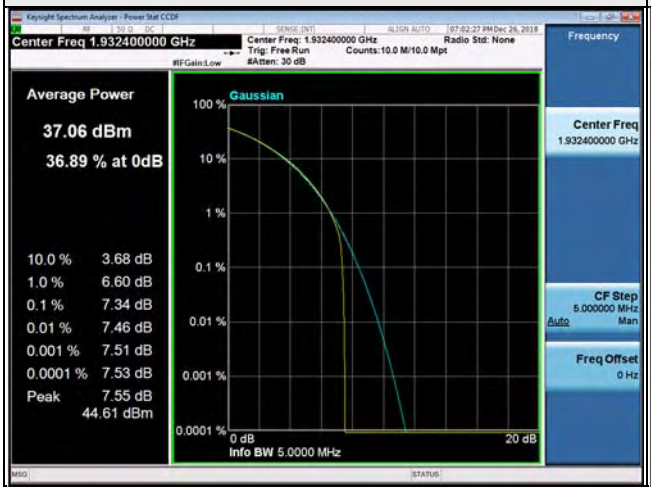
a. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
b. Set the number of counts to a value that stabilizes the measured CCDF curve;
c. Record the maximum PAPR level associated with a probability of 0.1%.

4.6.4 Test Results

For WCDMA only:

Test Mode A

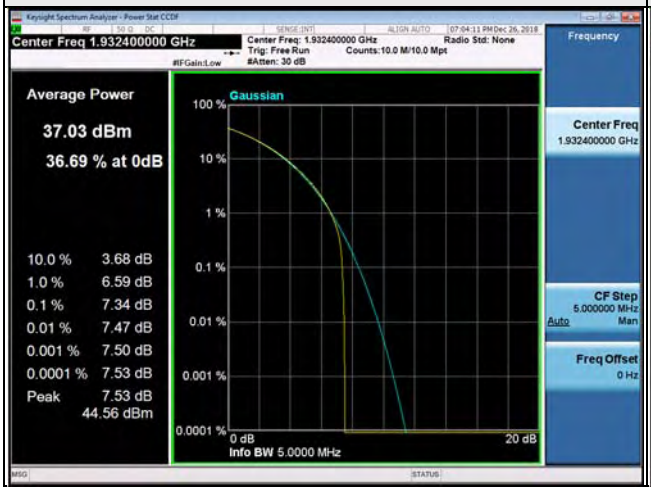
WCDMA Band 25			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		Chain 1	Chain 2
5112	1932.4	7.34	7.34
5263	1962.6	7.33	7.33
5413	1992.6	7.33	7.34

Spectrum Plot of Worst Value	
Chain 1	Chain 2
	

Test Mode B

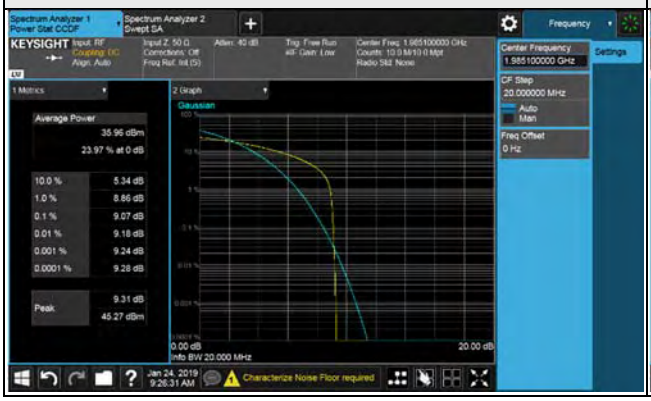
WCDMA Band 25			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		Chain 3	Chain 4
5112	1932.4	7.34	7.35
5263	1962.6	7.34	7.33
5413	1992.6	7.33	7.34

Spectrum Plot of Worst Value	
Chain 3	Chain 4



Test Mode C

WCDMA Band 25				
Frequency (MHz)	Peak To Average Ratio (dB)			
	Chain 1	Chain 2	Chain 3	Chain 4
1939.9	8.77	8.76	9.01	9.02
1962.7	8.82	8.63	8.89	8.90
1985.1	8.82	8.80	9.07	9.08

Spectrum Plot of Worst Value	
Chain 1	Chain 2
	
Chain 3	Chain 4
	

For LTE + WCDMA:

Test Mode D

WCDMA Band 25+LTE Band 25				
Frequency (MHz)	Peak To Average Ratio (dB)			
	Chain 0	Chain 1	Chain 2	Chain 3
1957.5	8.64	8.65	8.64	8.65
1962.5	8.27	8.26	8.25	8.26
1967.5	8.14	8.13	8.14	8.14

Spectrum Plot of Worst Value	
Chain 0	Chain 1
	
Chain 2	Chain 3
	

Test Mode E

WCDMA Band 25+LTE Band 25				
Frequency (MHz)	Peak To Average Ratio (dB)			
	Chain 0	Chain 1	Chain 2	Chain 3
1957.5	9.03	9.03	9.01	9.02
1962.5	8.62	8.61	8.62	8.63
1967.5	8.74	8.73	8.74	8.74

Spectrum Plot of Worst Value

Chain 0

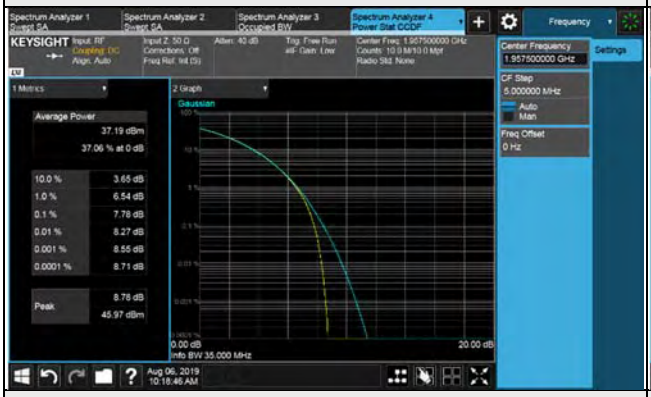
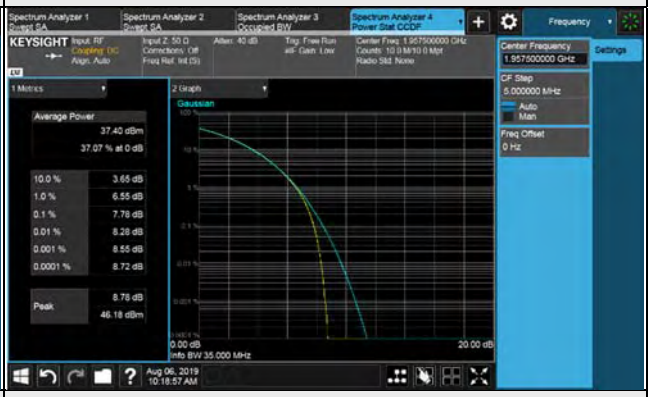
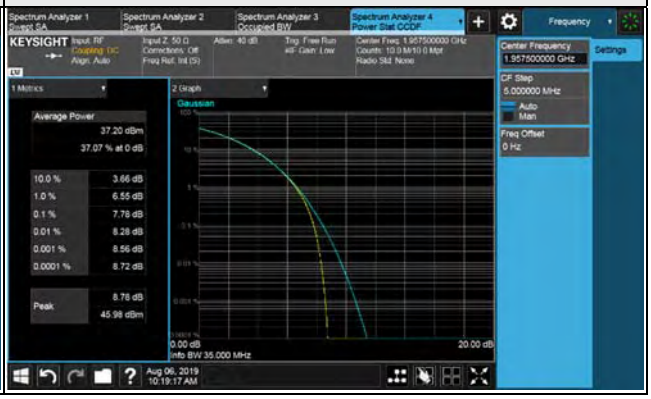
Chain 1

Chain 2

Chain 3

Test Mode F

WCDMA Band 25+LTE Band 25				
Frequency (MHz)	Peak To Average Ratio (dB)			
	Chain 0	Chain 1	Chain 2	Chain 3
1957.5	7.78	7.78	7.78	7.78
1962.5	7.75	7.74	7.75	7.74
1967.5	7.75	7.75	7.75	7.75

Spectrum Plot of Worst Value	
Chain 0	Chain 1
	
Chain 2	Chain 3
	

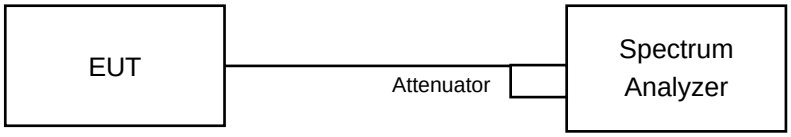
4.7 Conducted Spurious Emissions

4.7.1 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.

Note:
This device can be impelement MIMO function, so the limit of spurious emissions needs to be reduced by 10log(NumbersAnt) according to FCC KDB 662911 D01 guidance.

4.7.2 Test Setup



4.7.3 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 9 kHz to 1GHz. 20dB attenuation pad is connected with spectrum. RBW=100kHz and VBW=300kHz is used for conducted emission measurement.

c. Measuring frequency range is from 1GHz to 26.5GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

d. For WCDMA only:

   The Device has 2x2 MIMO function, so the limit of spurious emissions needs to be reduced by 10log($Numbers_{Ant}$) according to FCC KDB 662911 D01 quidance.

   {The limits is adjusted to -13dBm – 10*log(2) = -16.01dBm}

   For WCDMA+LTE:

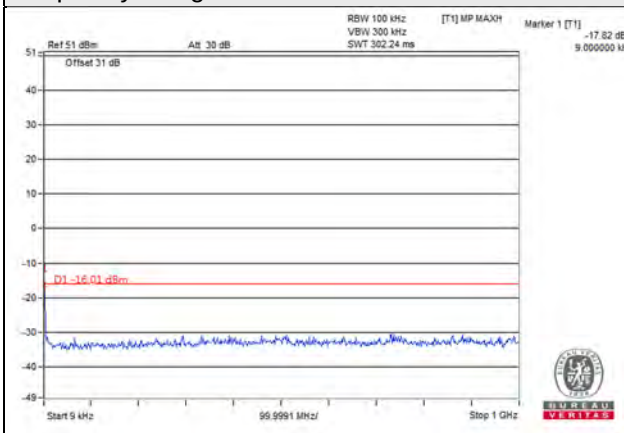
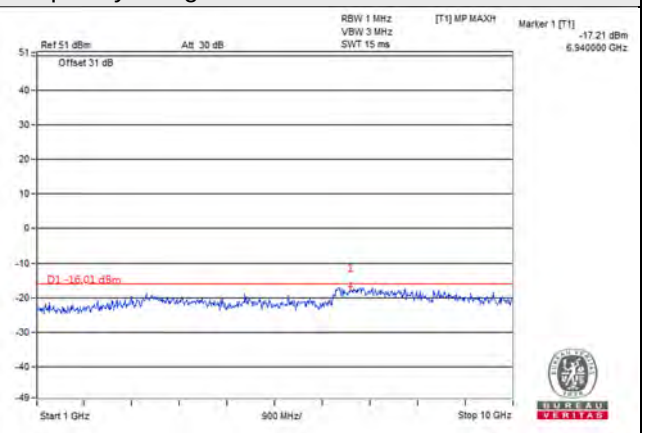
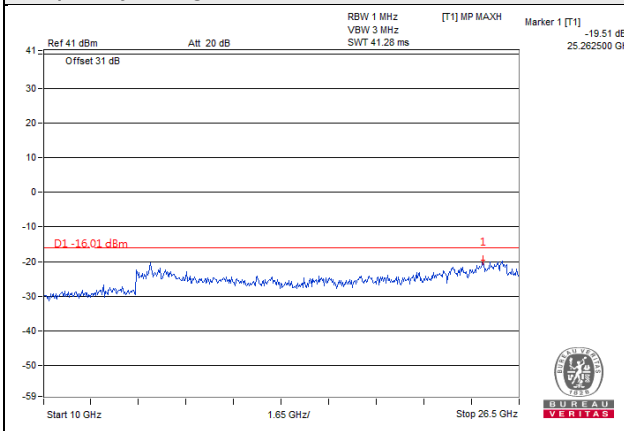
   The Device has 4x4 MIMO function, so the limit of spurious emissions needs to be reduced by 10log($Numbers_{Ant}$) according to FCC KDB 662911 D01 quidance.

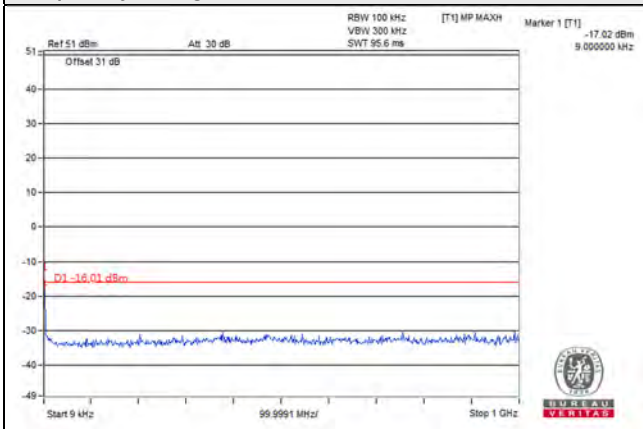
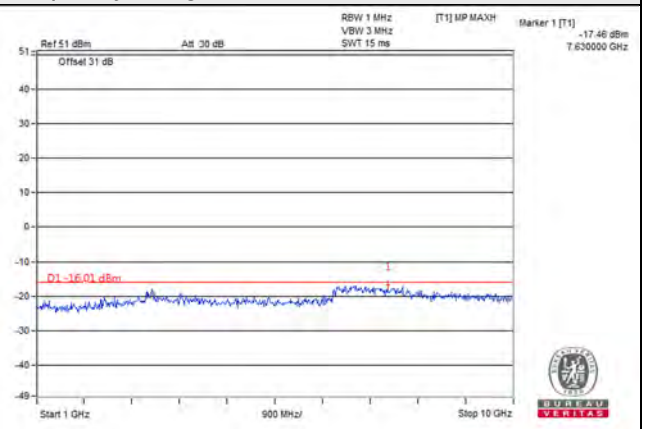
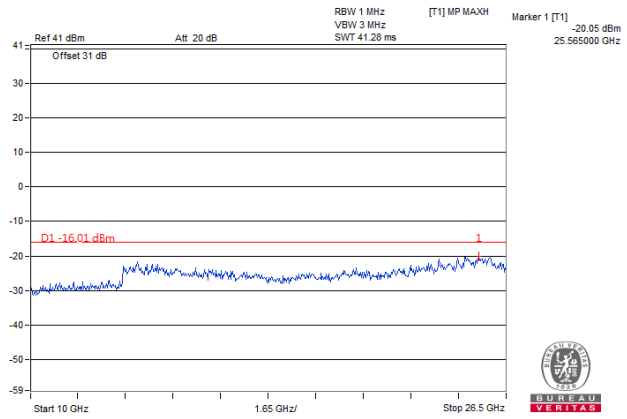
   {The limits is adjusted to -13dBm – 10*log(4) = -19.02dBm}

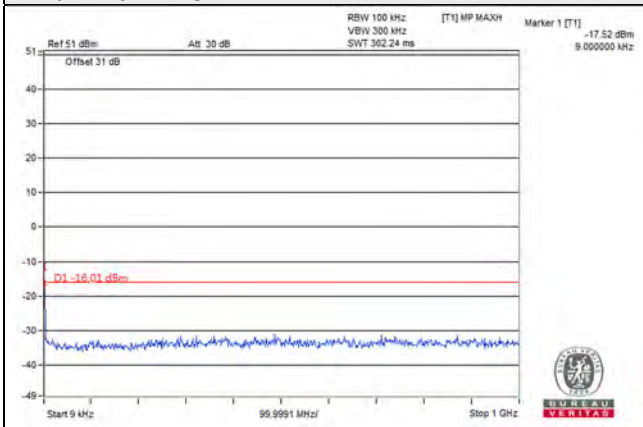
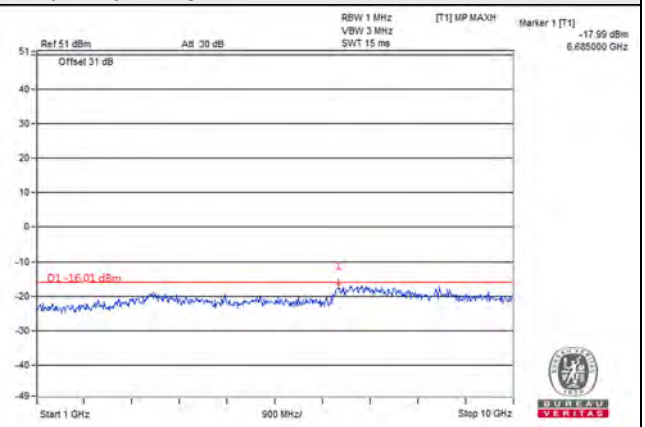
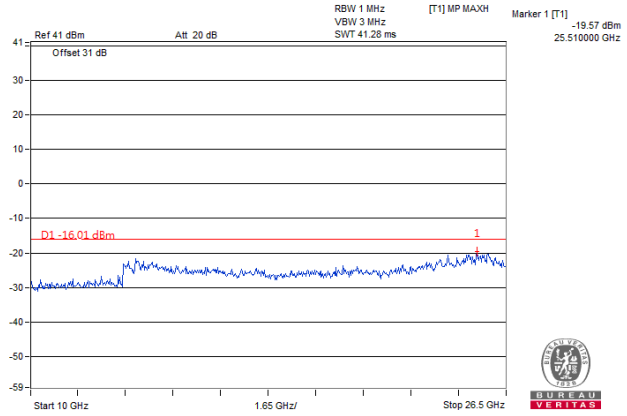
4.7.4 Test Results

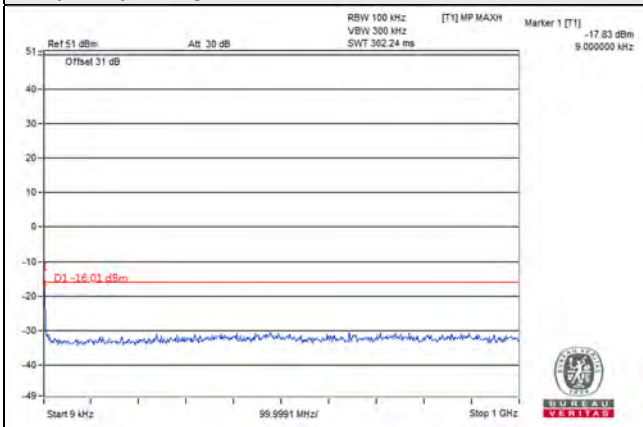
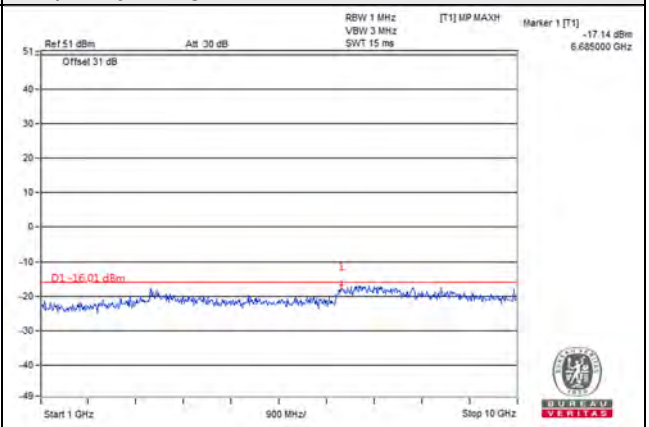
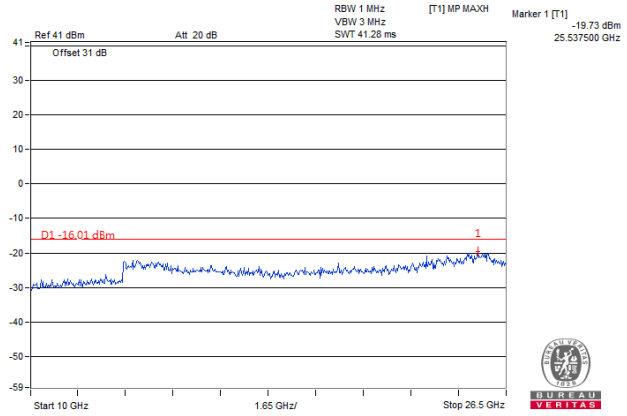
For WCDMA only:

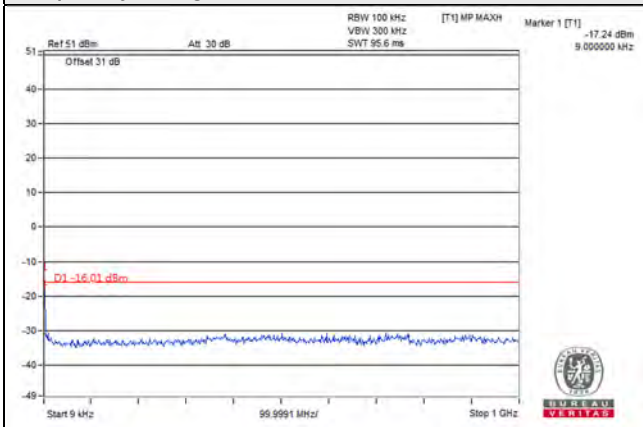
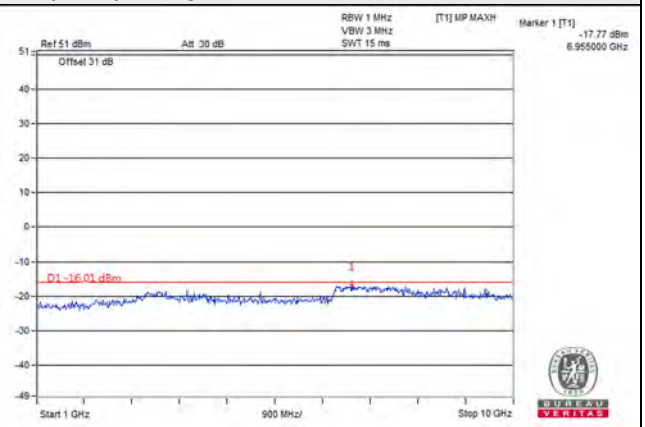
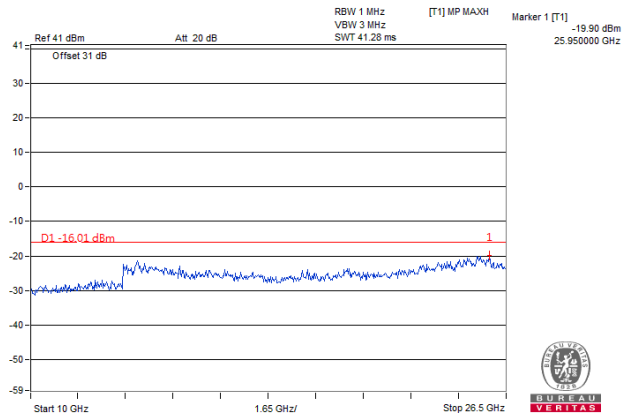
Test Mode A

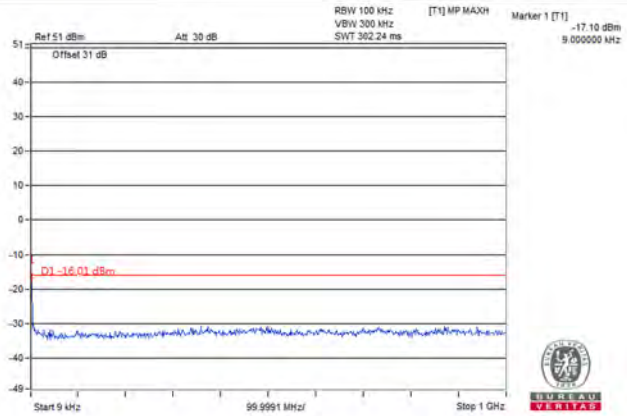
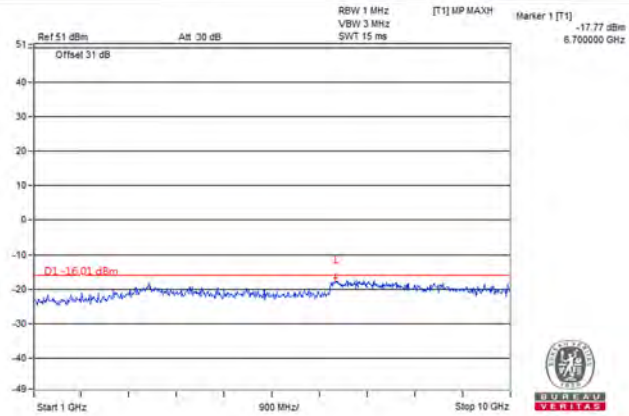
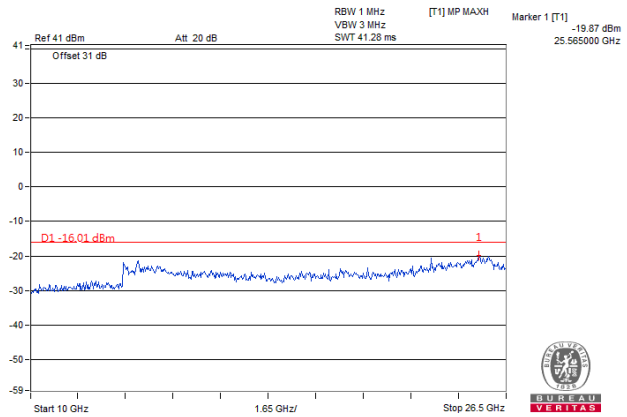
Chain 1	
Channel 5112 (1932.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 1	
Channel 5263 (1962.6MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

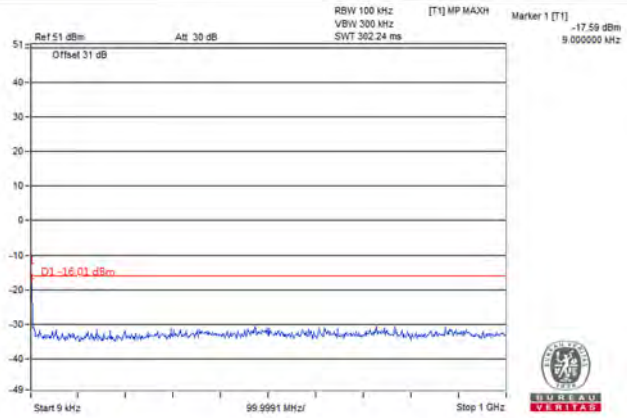
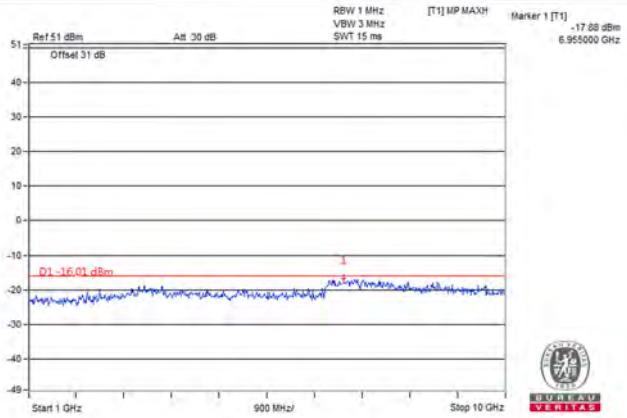
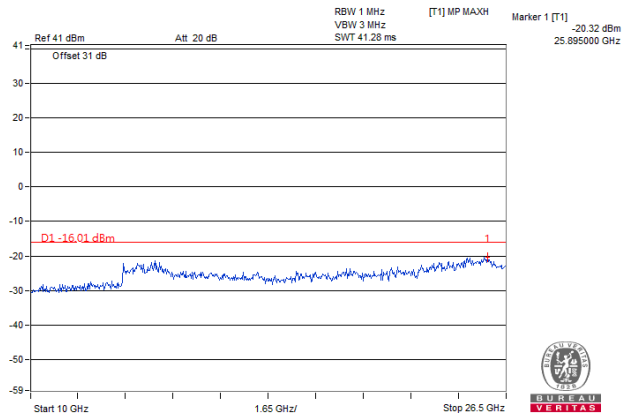
Chain 1	
Channel 5413 (1992.6MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

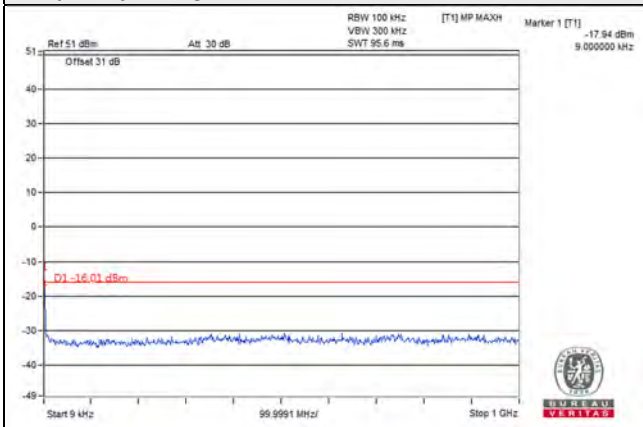
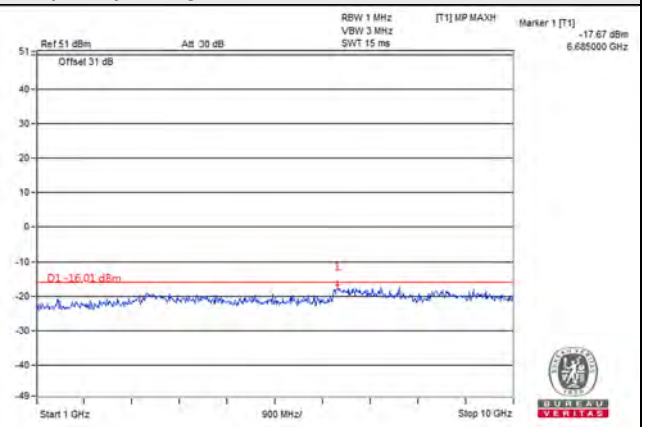
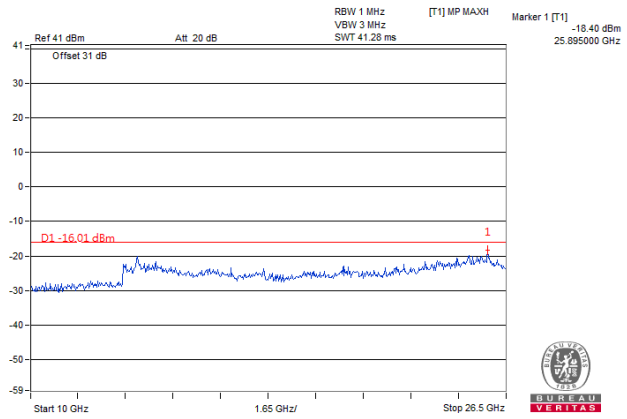
Chain 2	
Channel 5112 (1932.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

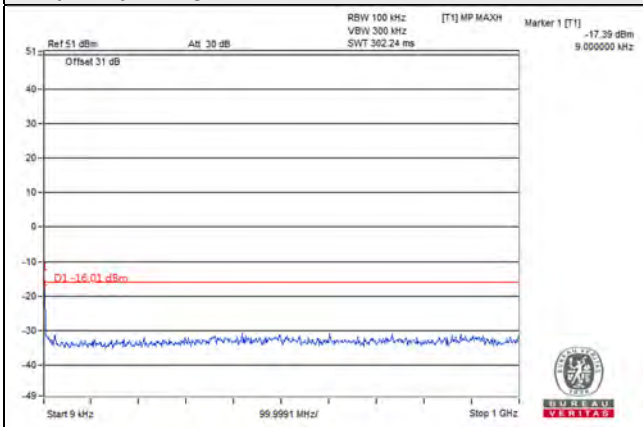
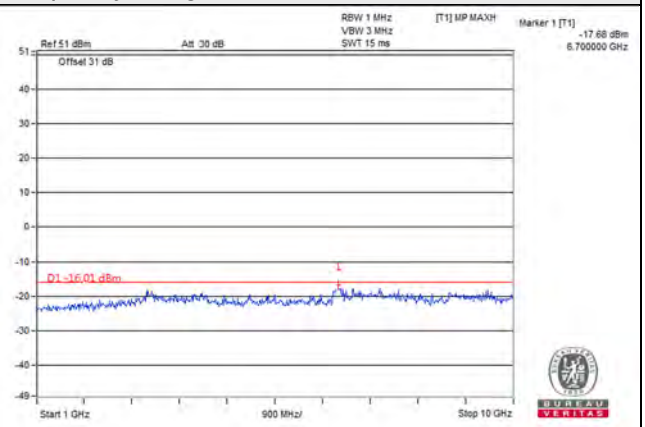
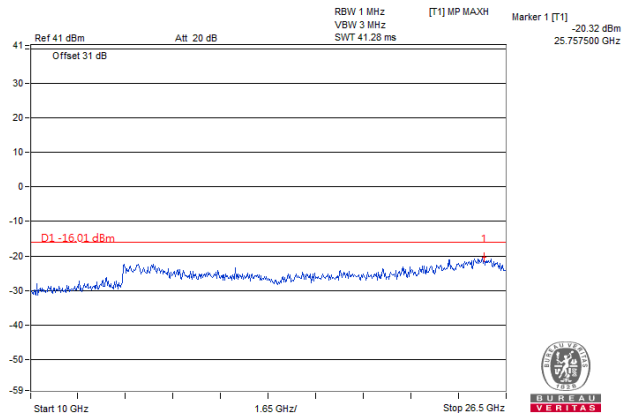
Chain 2	
Channel 5263 (1962.6MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

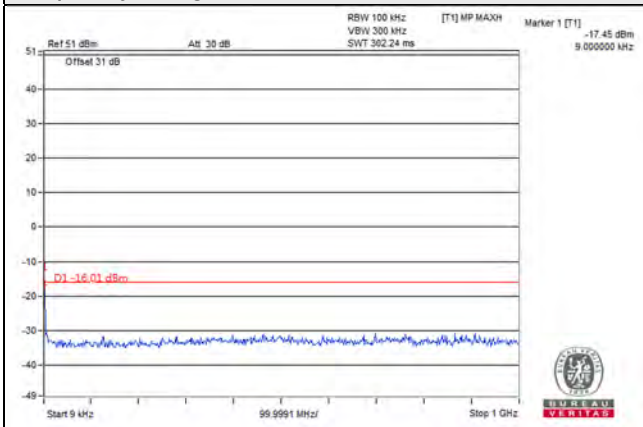
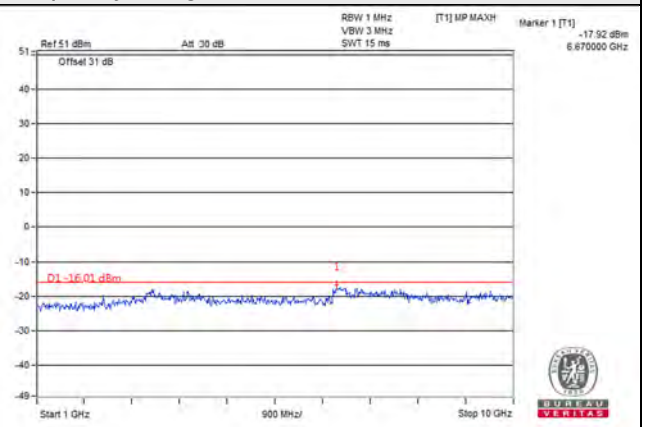
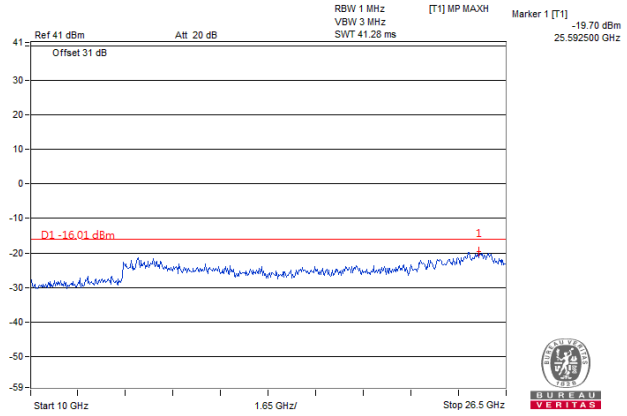
Chain 2	
Channel 5413 (1992.6MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

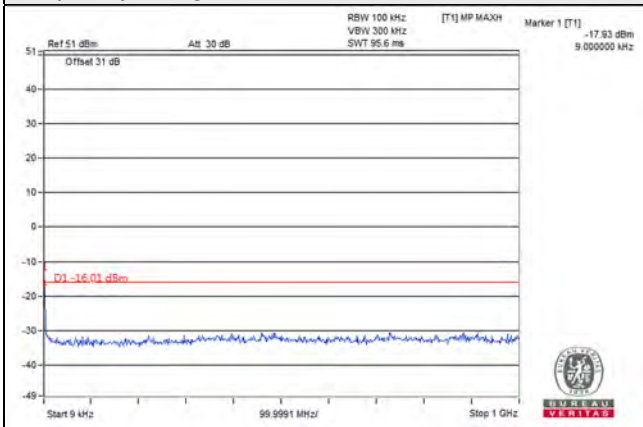
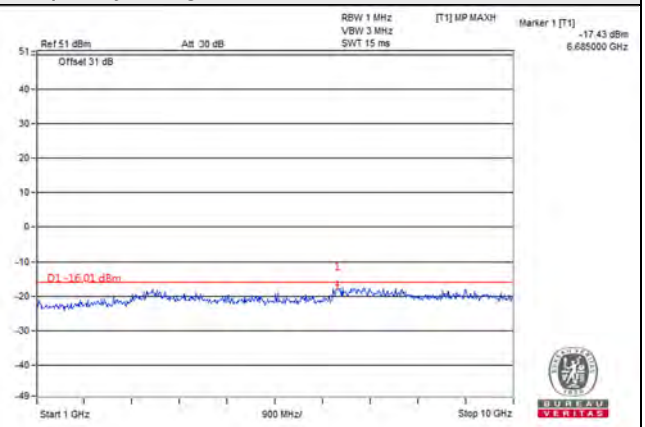
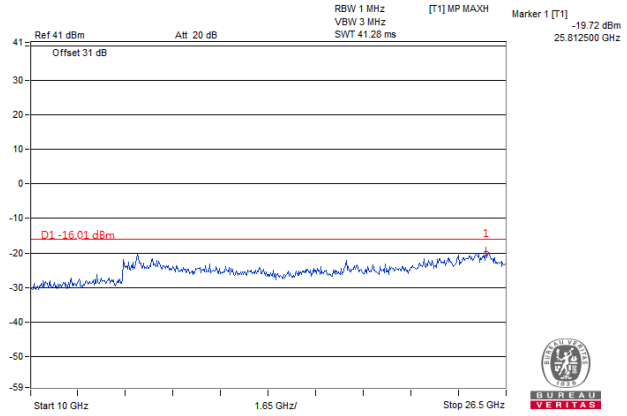
Test Mode B

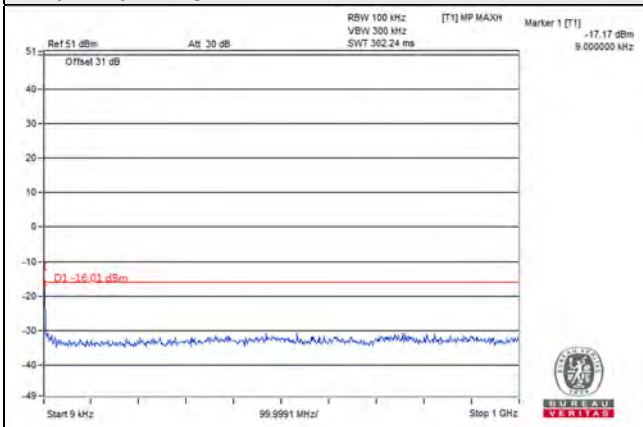
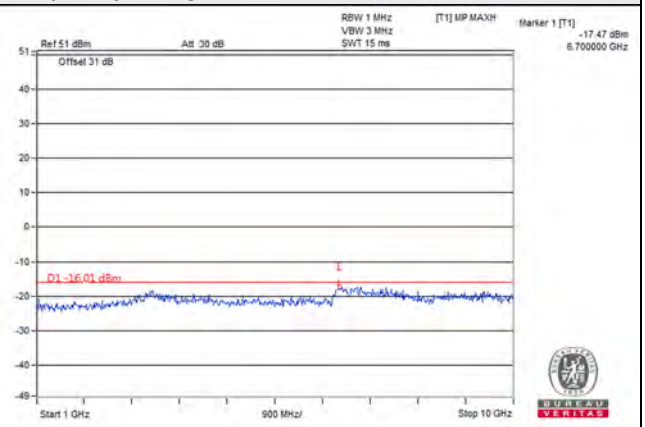
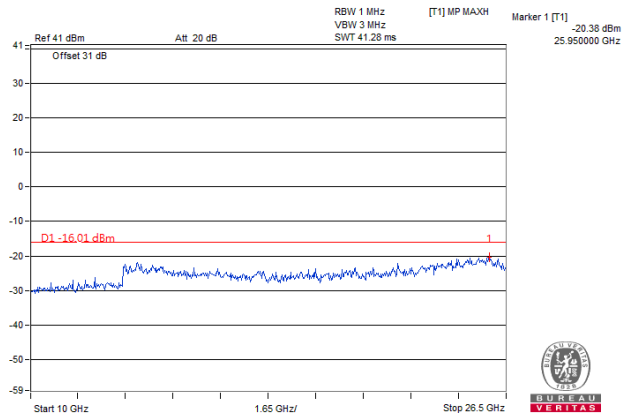
Chain 3	
Channel 5112 (1932.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 3	
Channel 5263 (1962.6MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

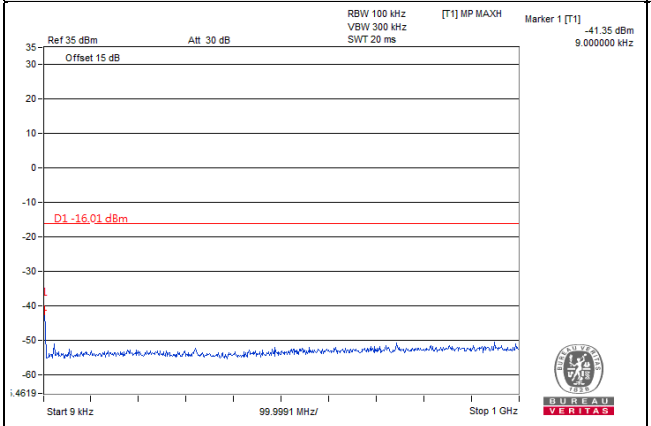
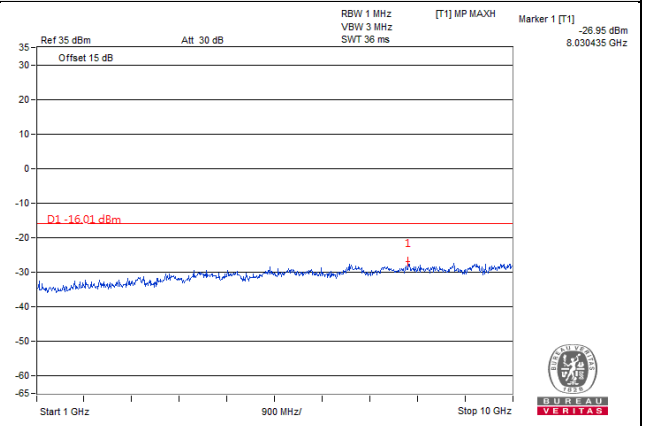
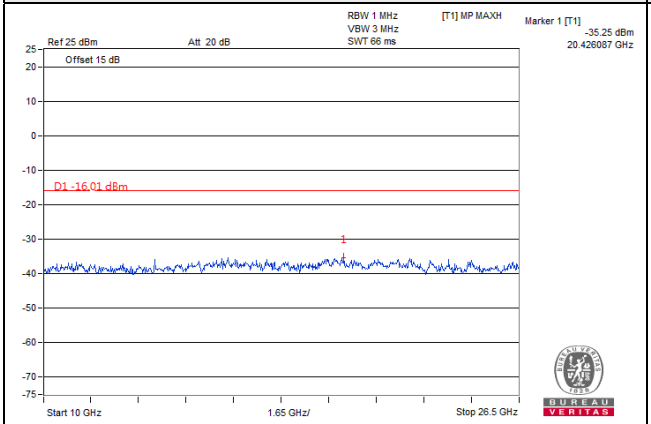
Chain 3	
Channel 5413 (1992.6MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

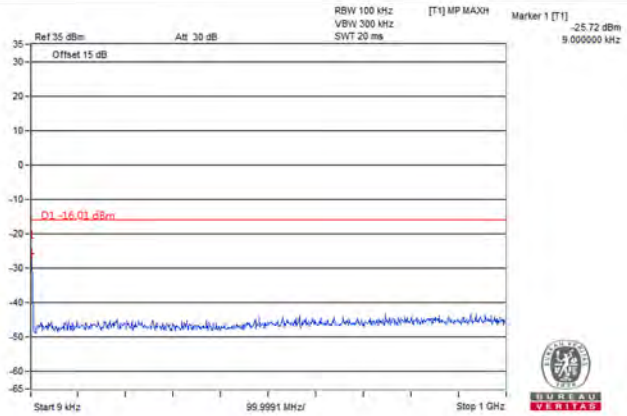
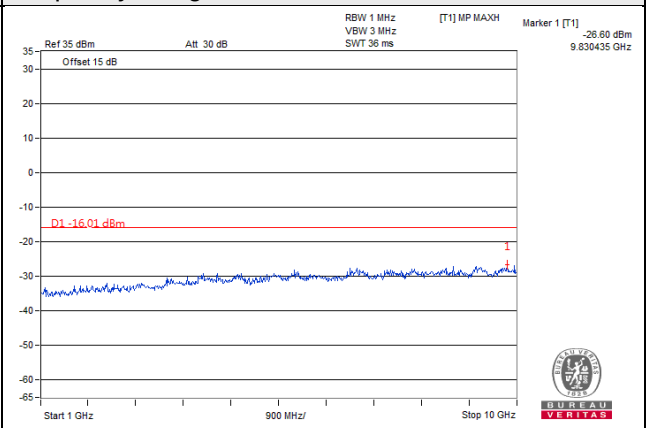
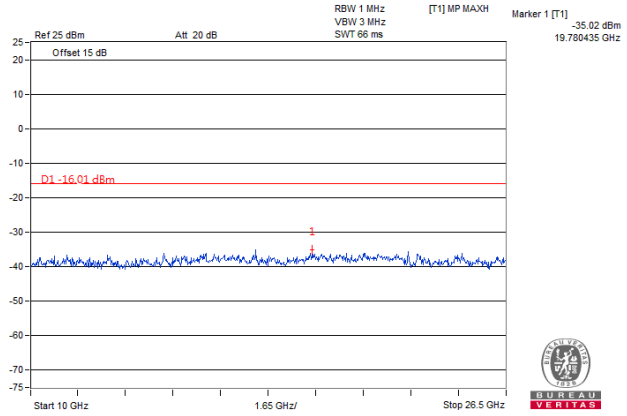
Chain 4	
Channel 5112 (1932.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

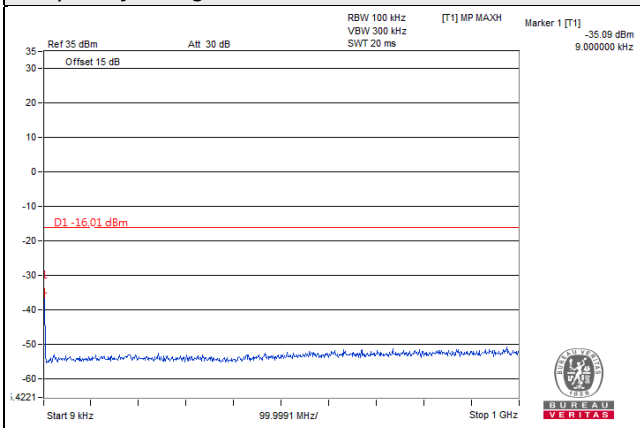
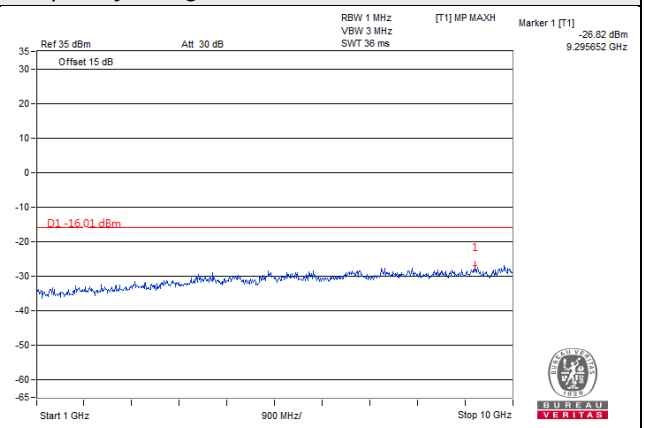
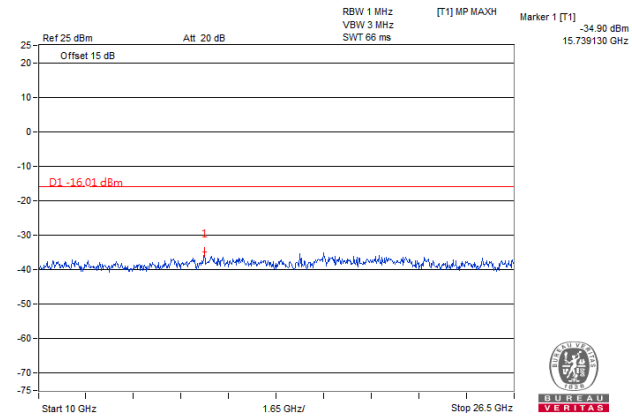
Chain 4	
Channel 5263 (1962.6MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

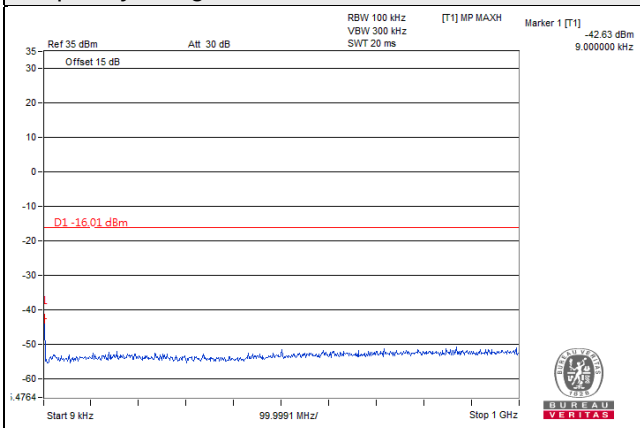
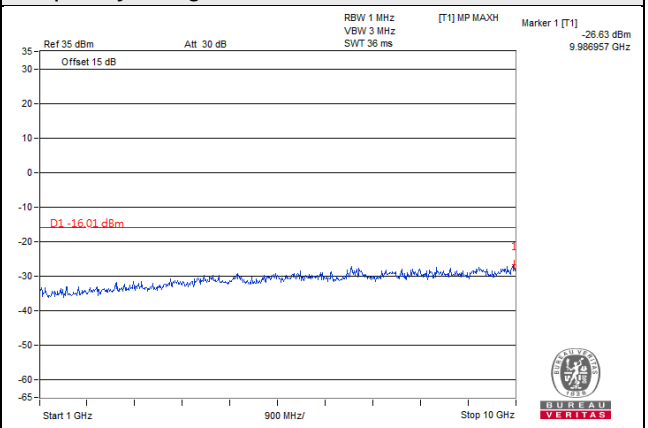
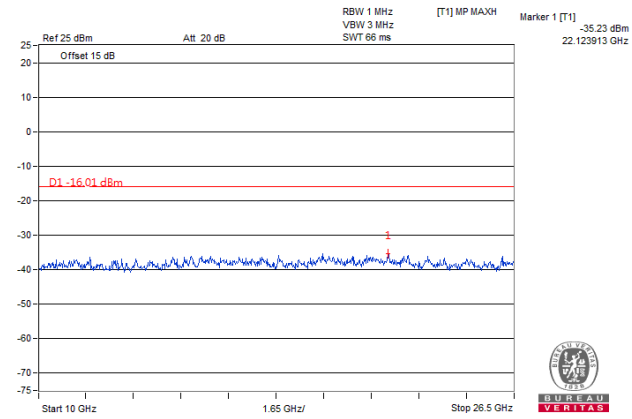
Chain 4	
Channel 5413 (1992.6MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

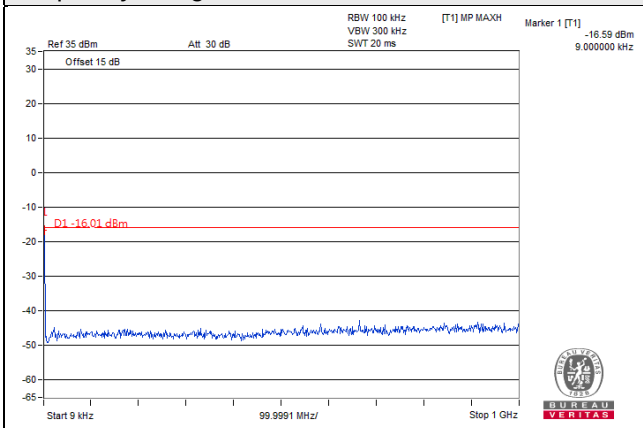
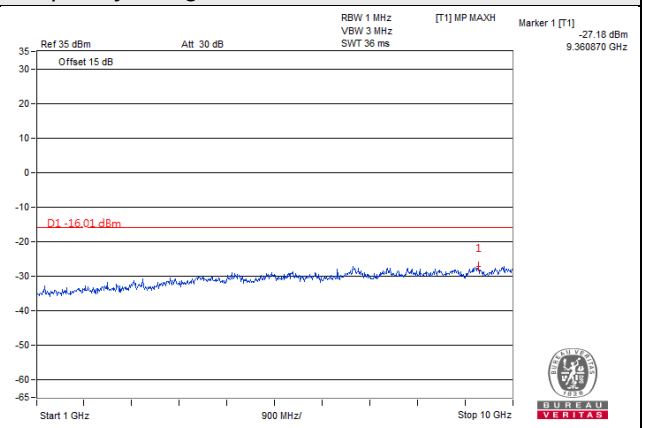
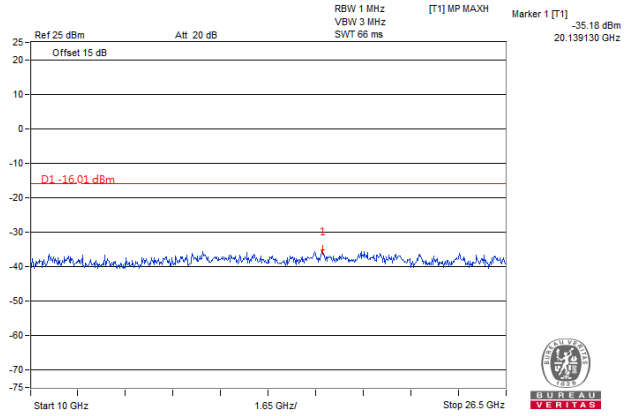
Test Mode C

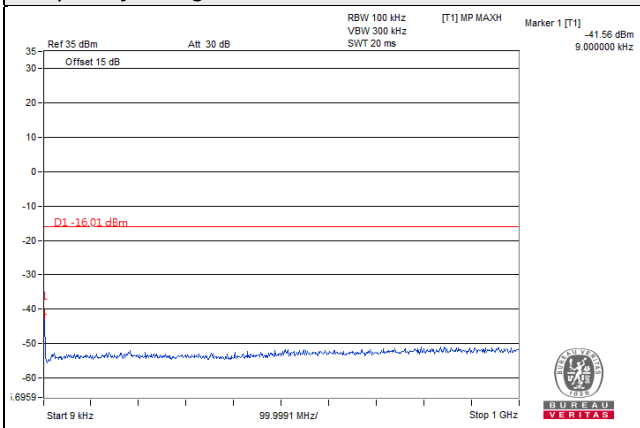
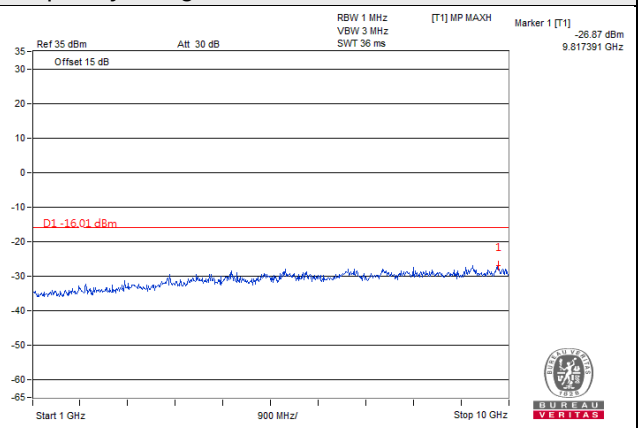
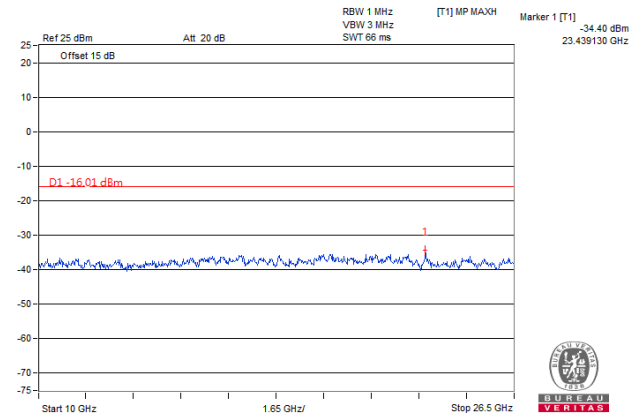
Chain 1	
1939.9MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

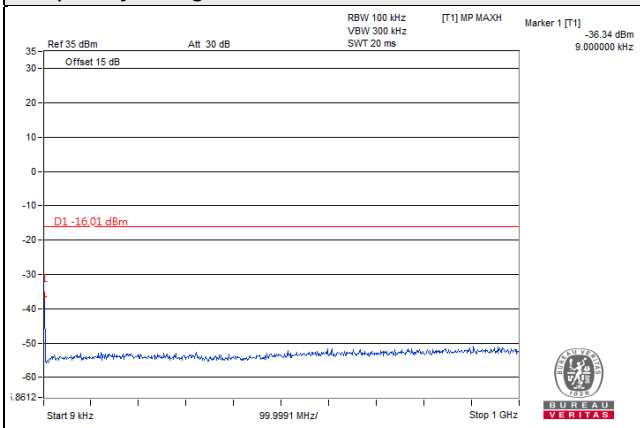
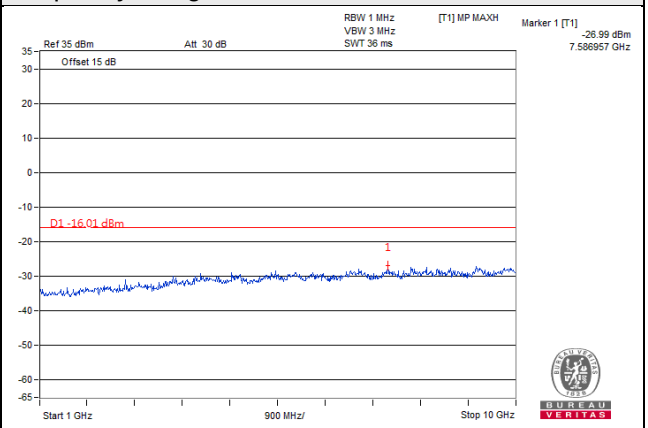
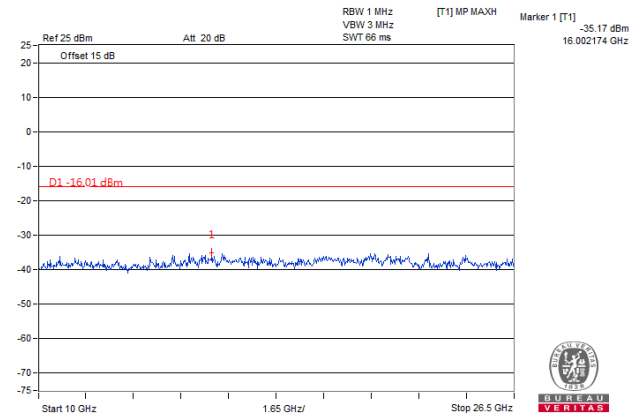
Chain 1	
1962.7MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

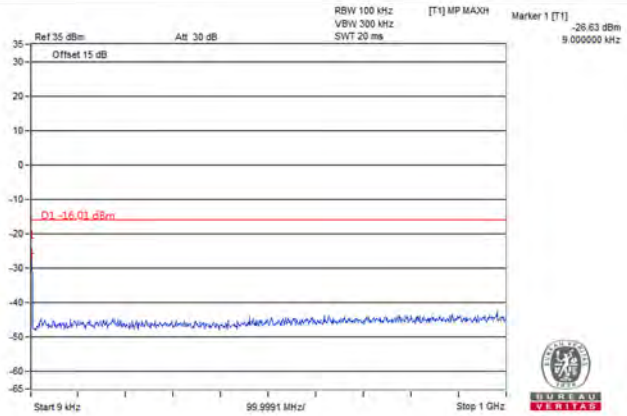
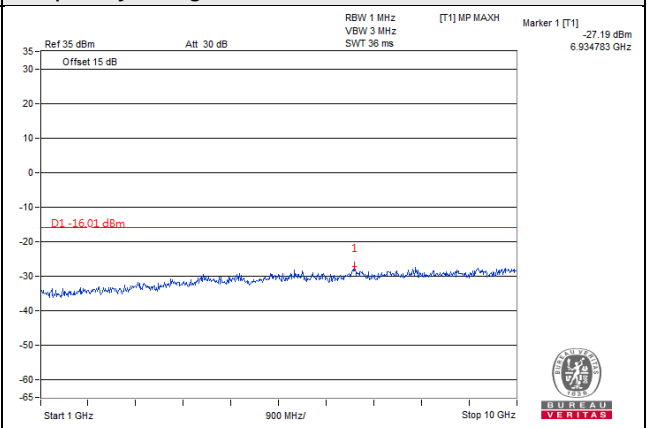
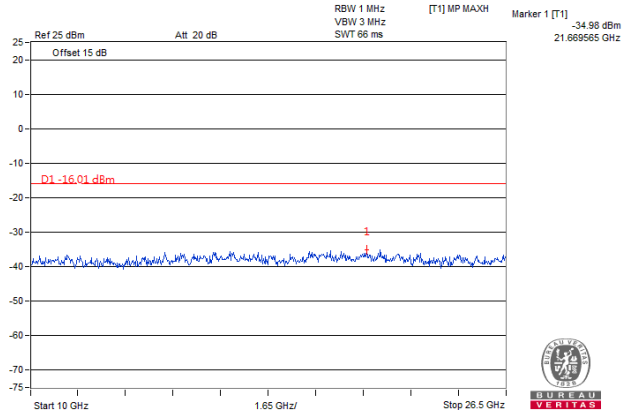
Chain 1	
1985.1MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

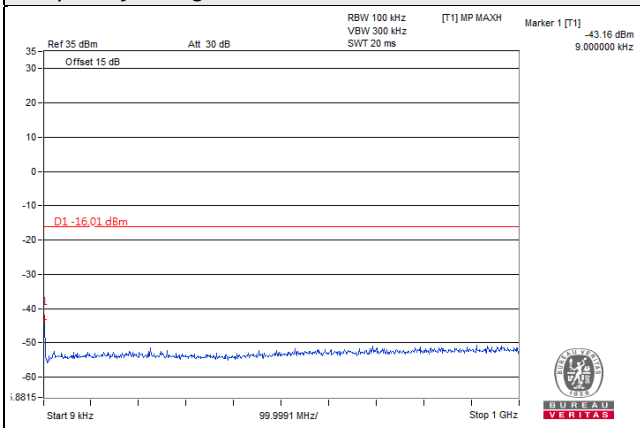
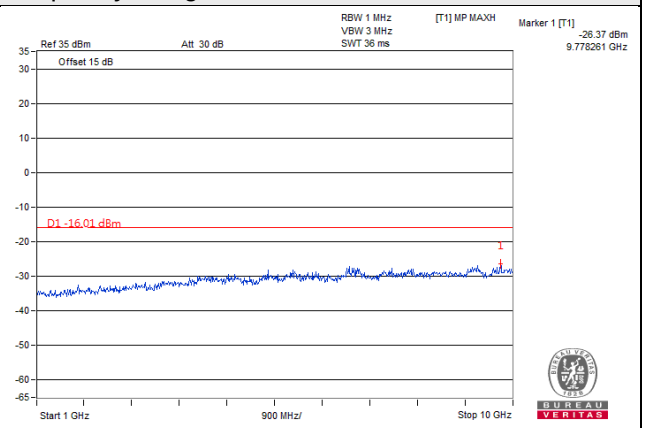
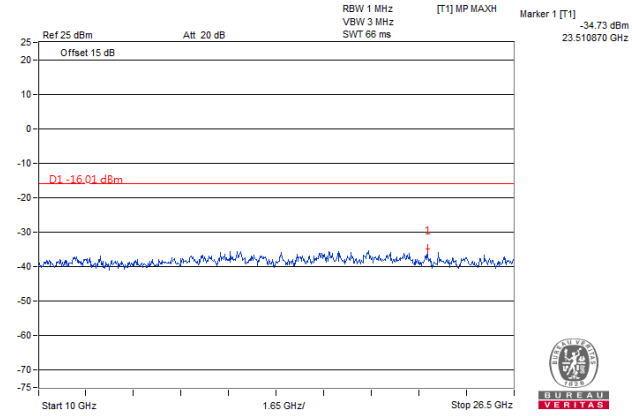
Chain 2	
1939.9MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

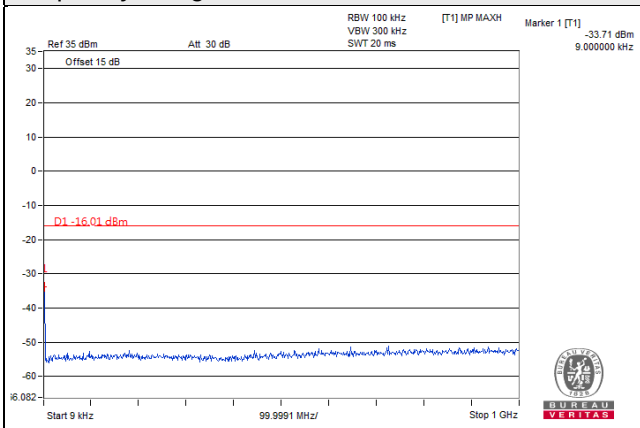
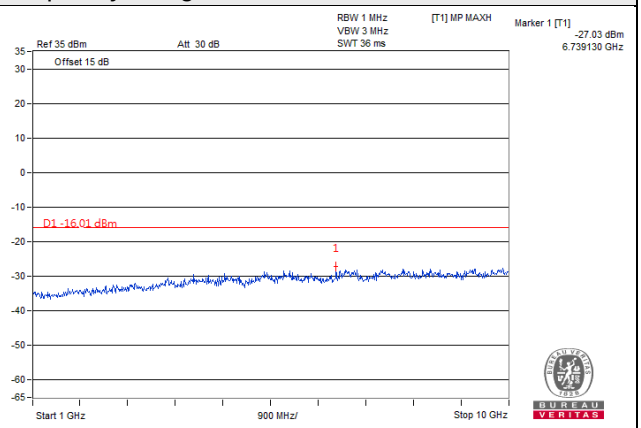
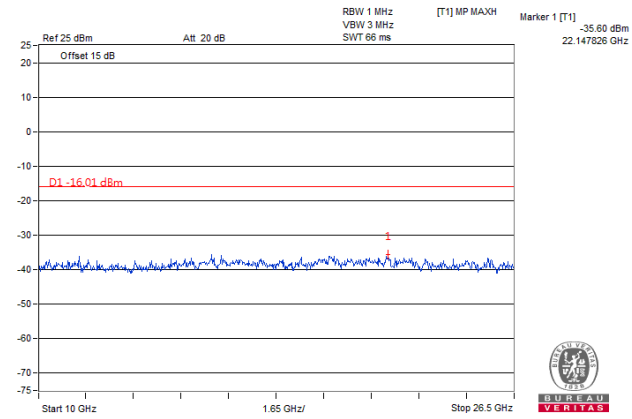
Chain 2	
1962.7MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

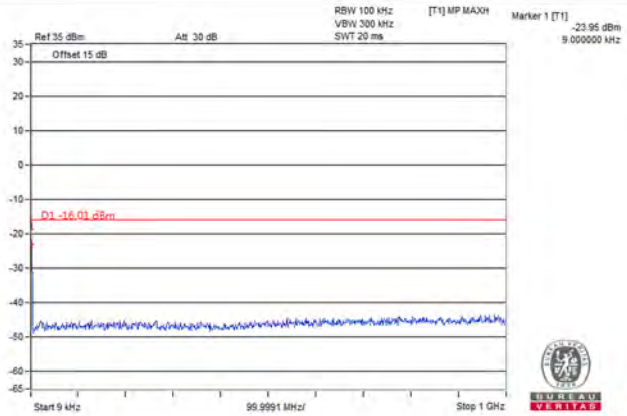
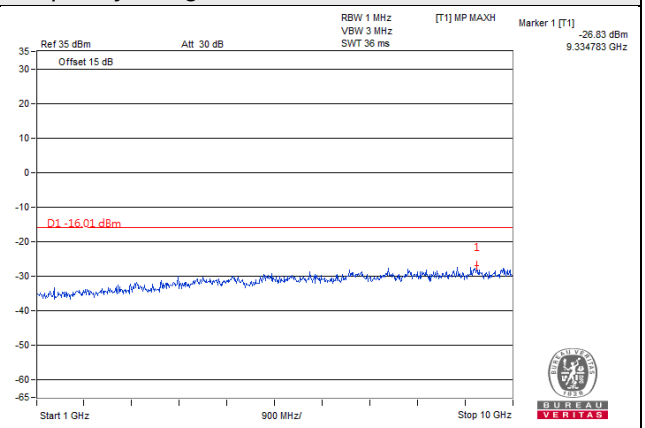
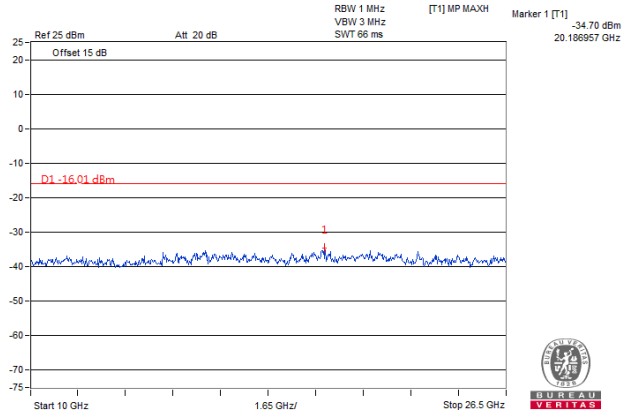
Chain 2	
1985.1MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

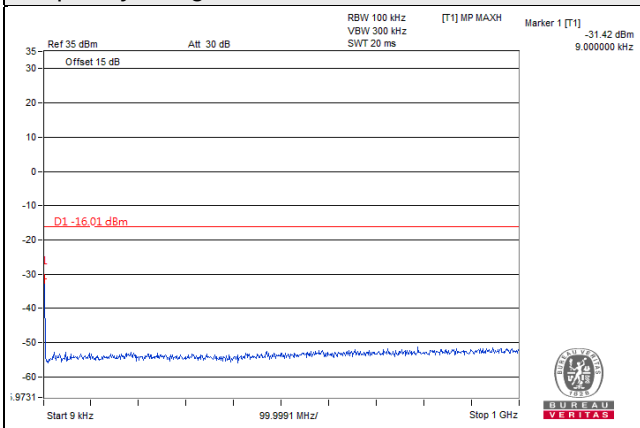
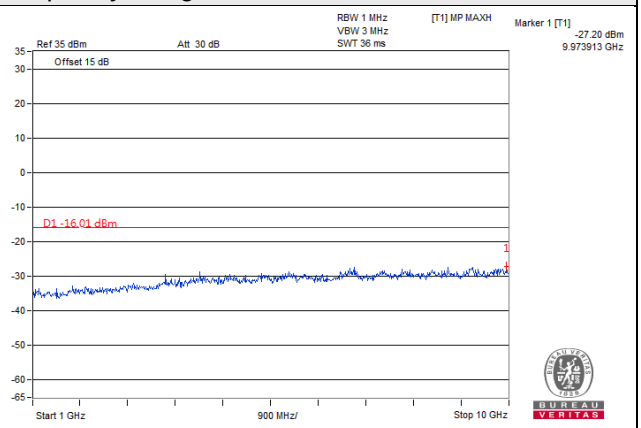
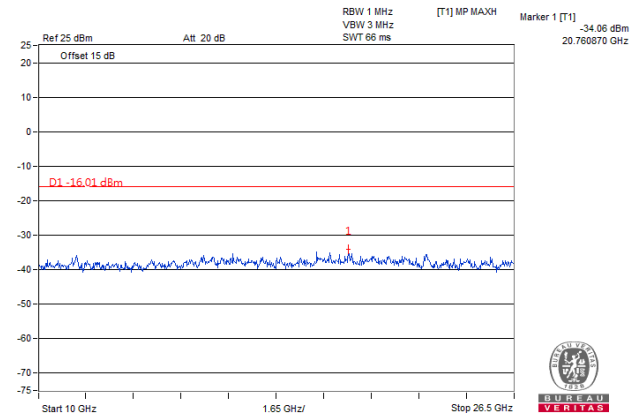
Chain 3	
1939.9MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 3	
1962.7MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 3	
1985.1MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

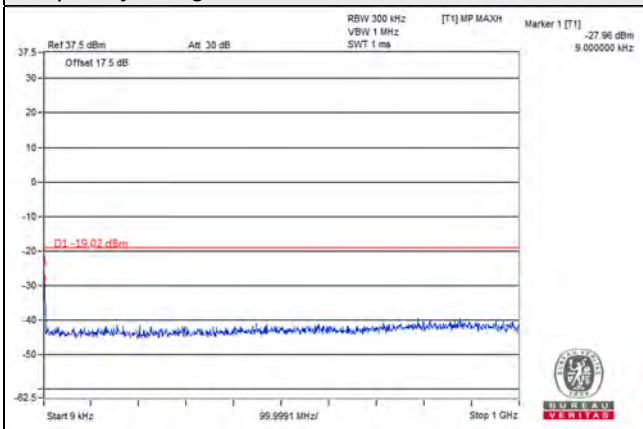
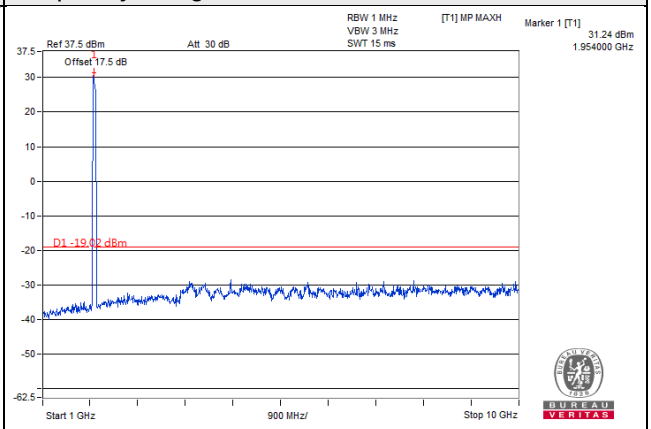
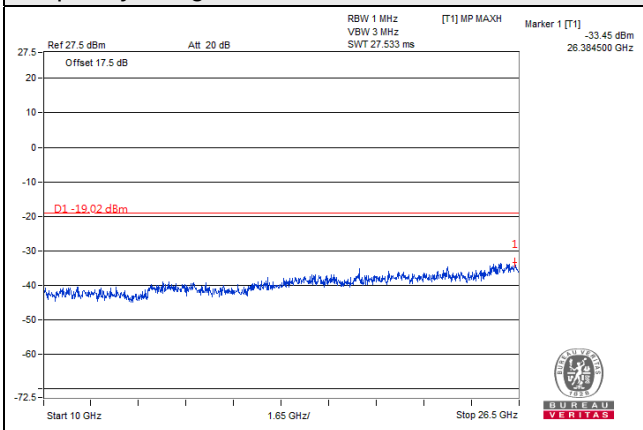
Chain 4	
1939.9MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

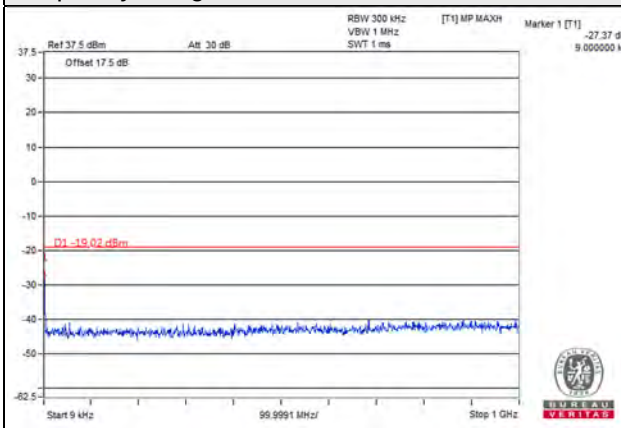
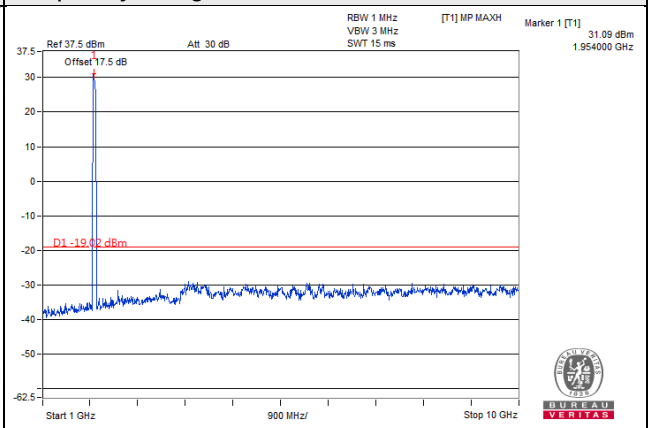
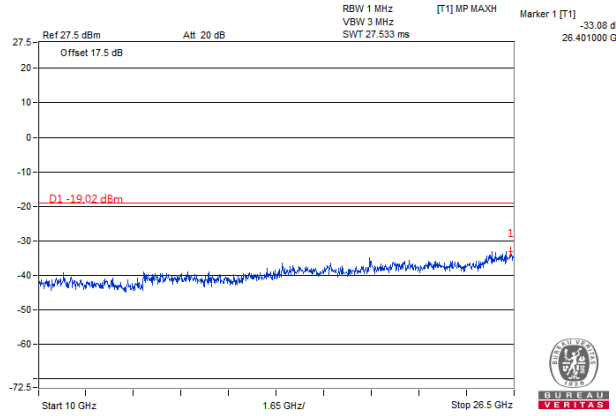
Chain 4	
1962.7MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

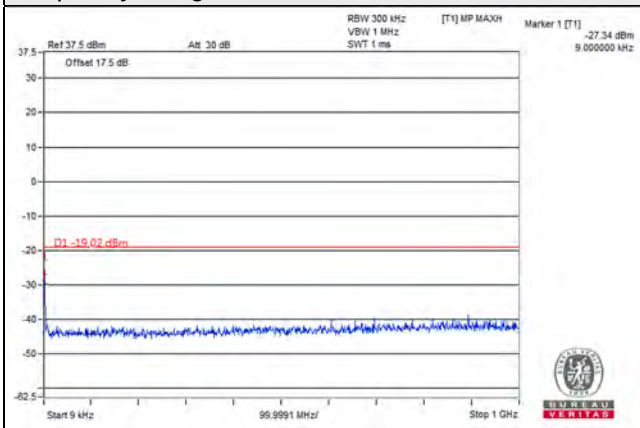
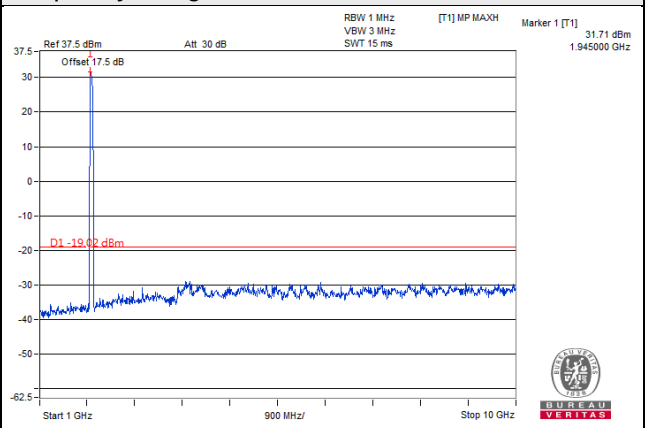
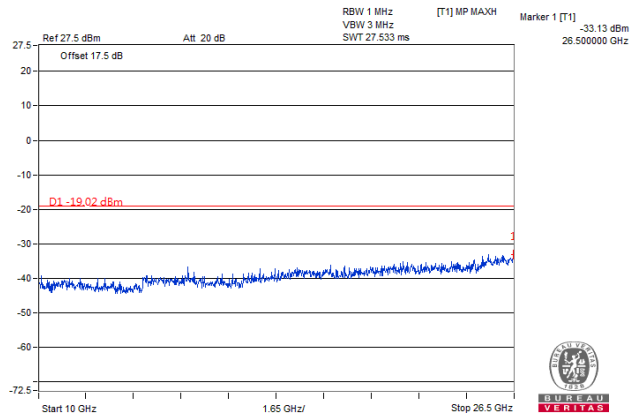
Chain 4	
1985.1MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

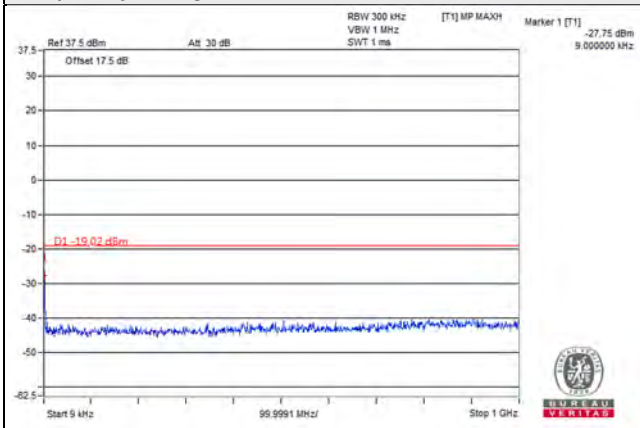
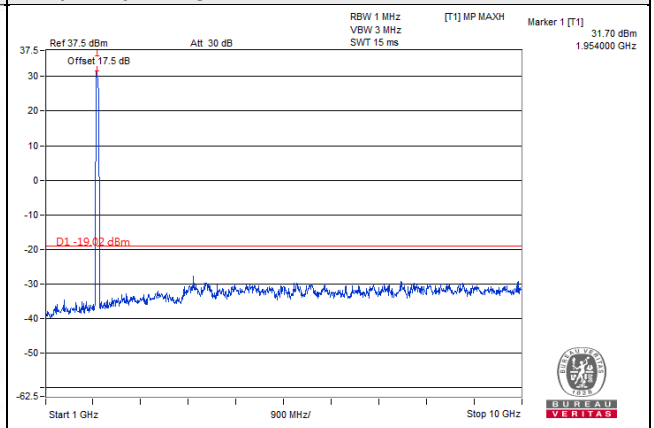
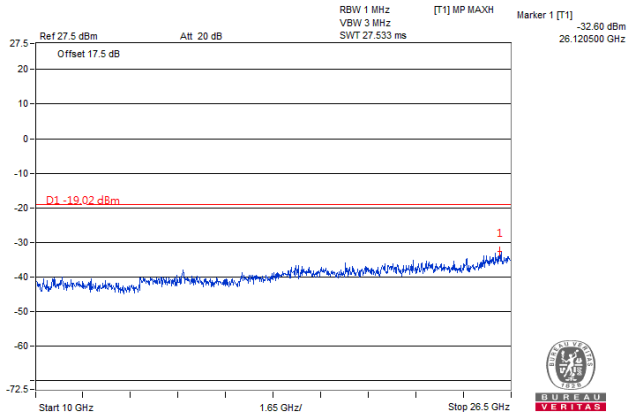
For LTE + WCDMA:

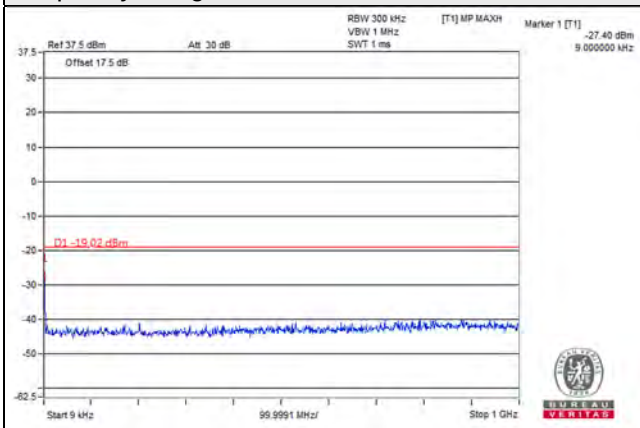
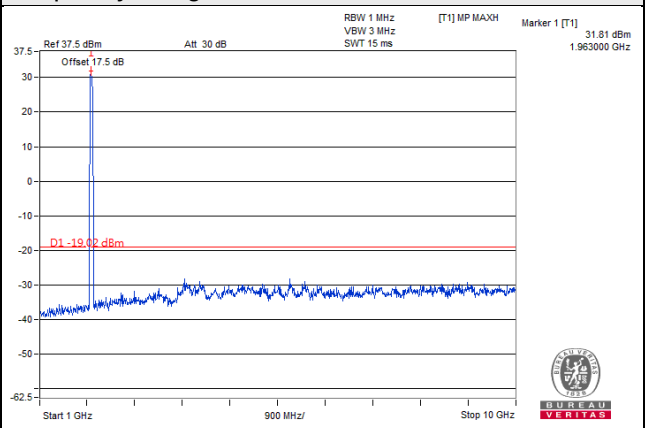
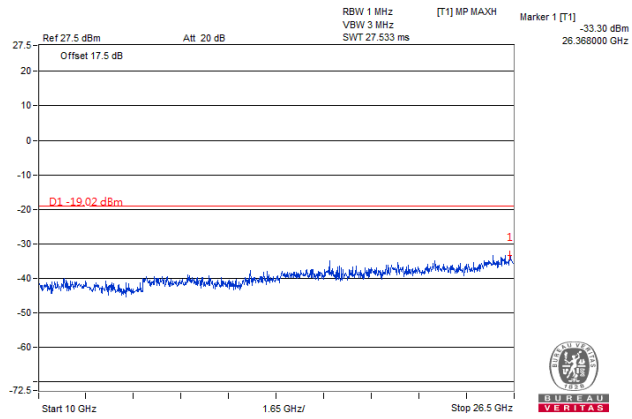
Test Mode D

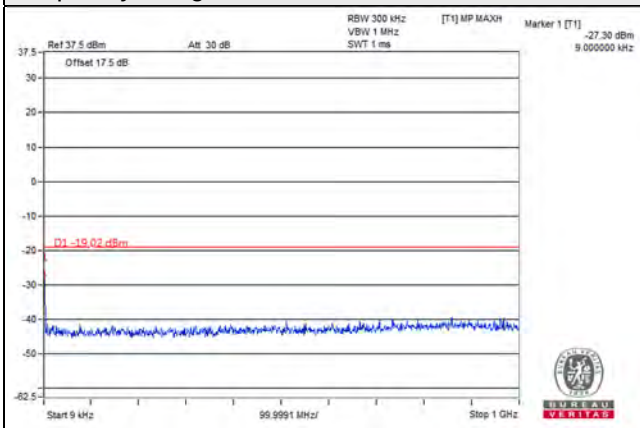
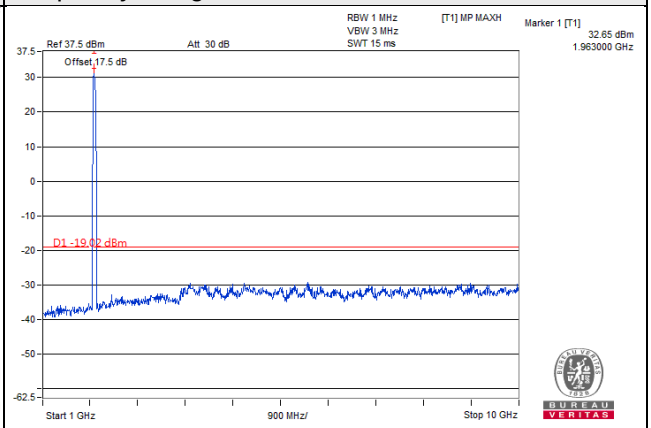
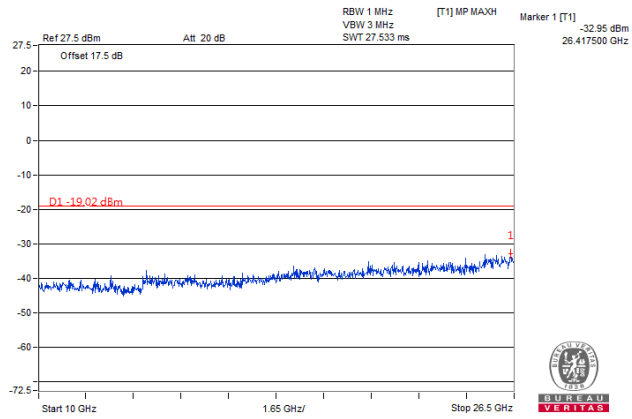
Chain 0	
1957.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

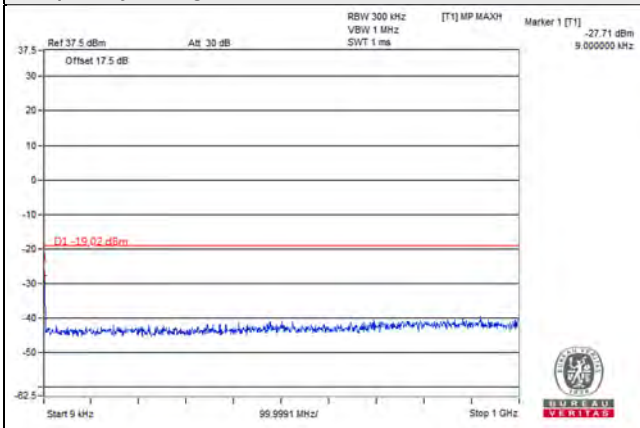
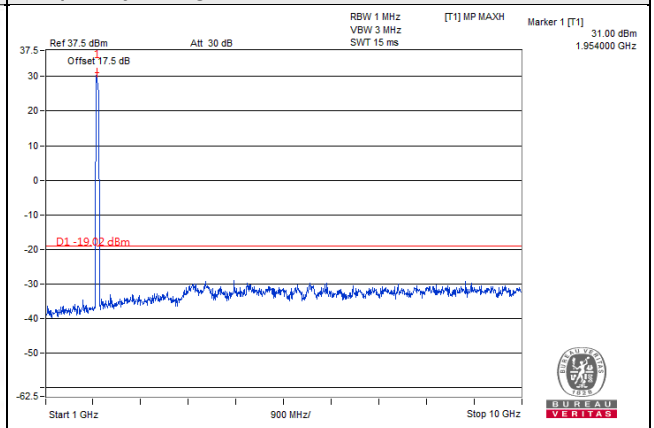
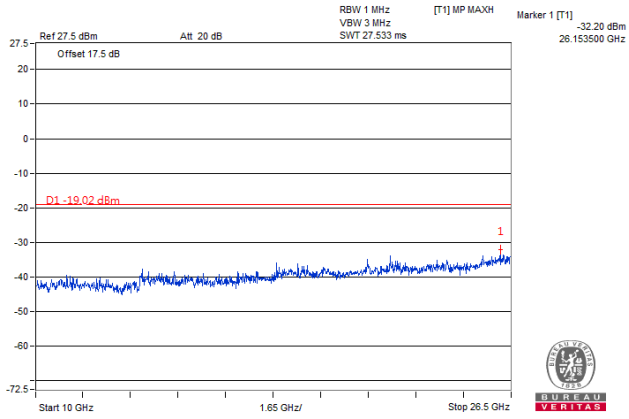
Chain 0	
1962.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

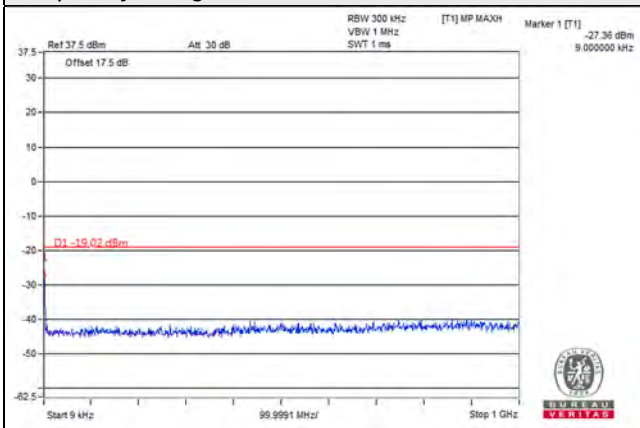
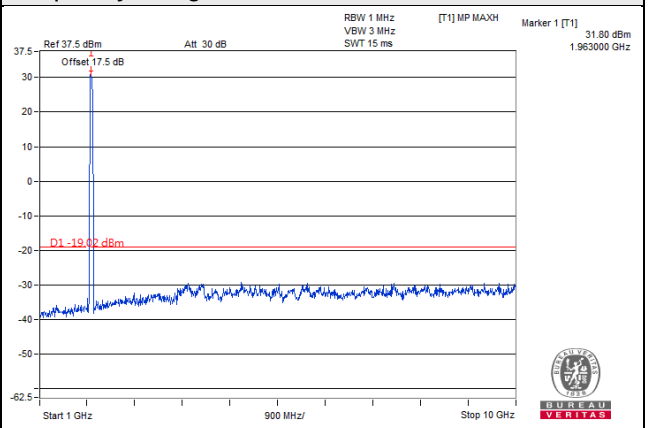
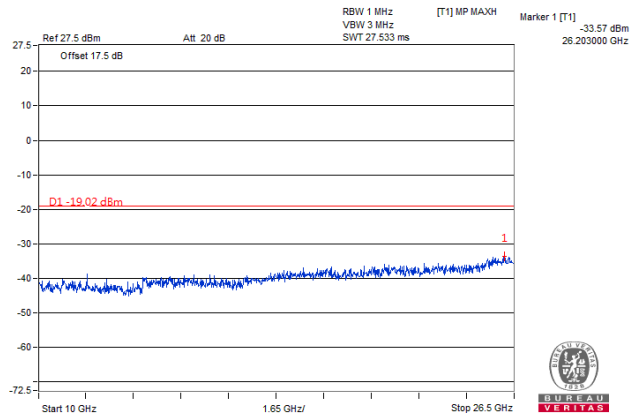
Chain 0	
1967.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

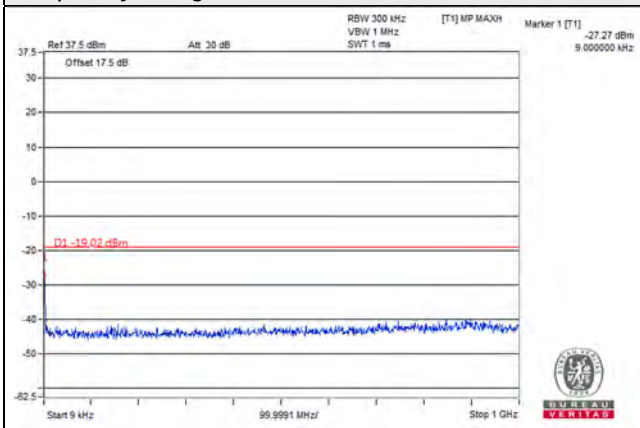
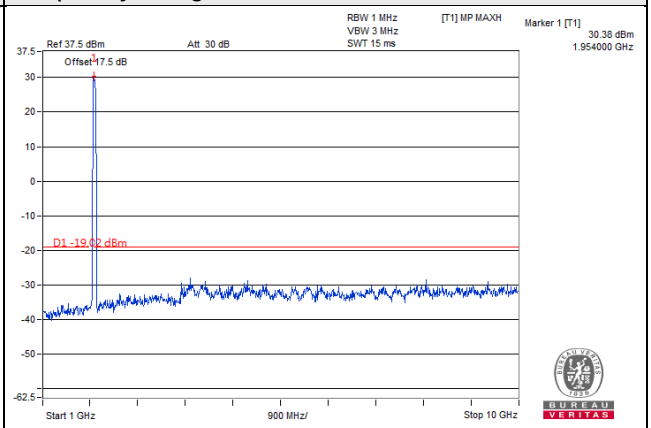
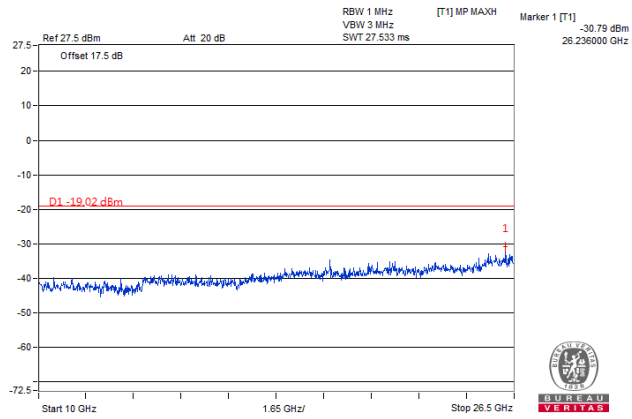
Chain 1	
1957.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

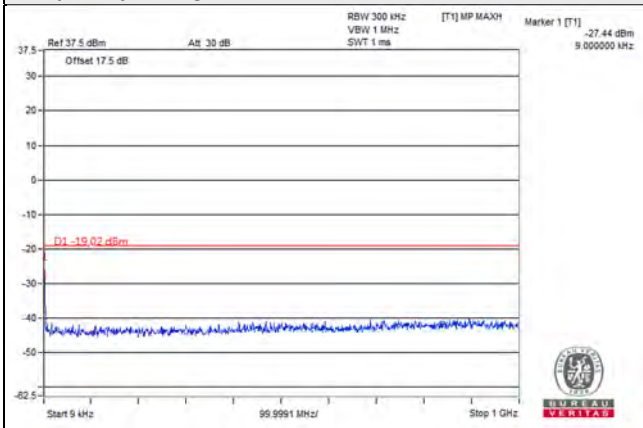
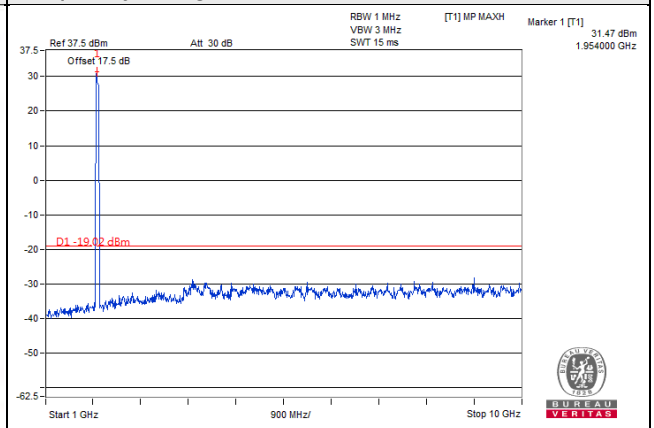
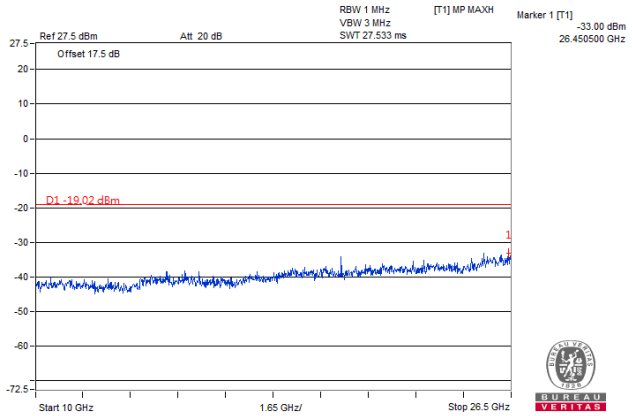
Chain 1	
1962.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

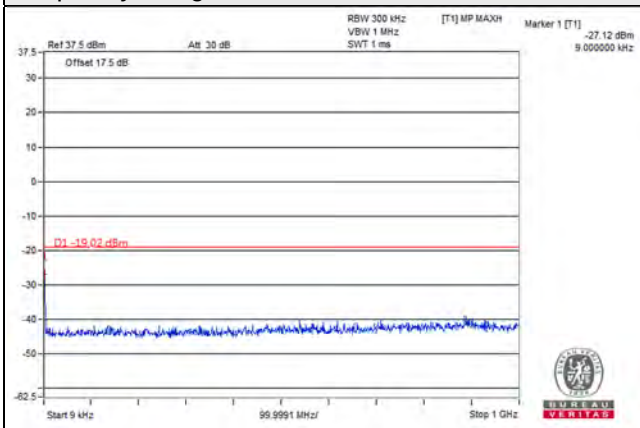
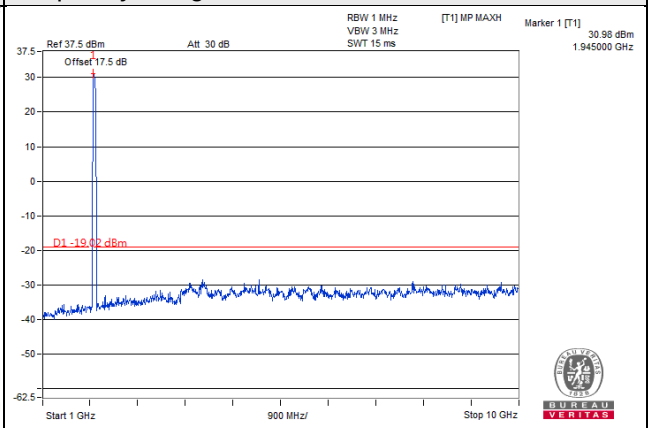
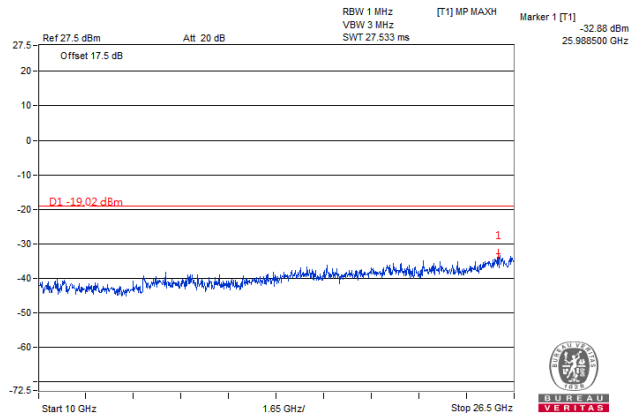
Chain 1	
1967.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

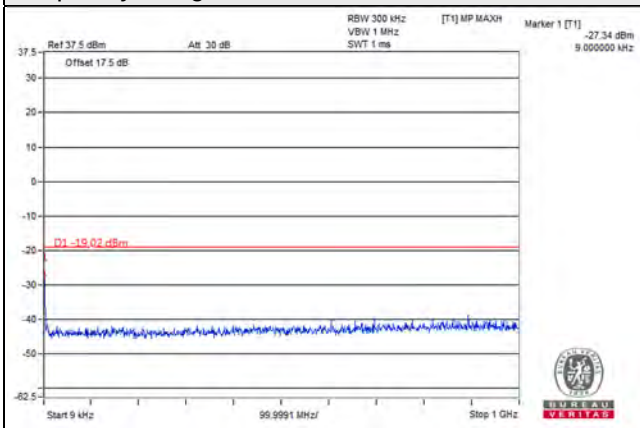
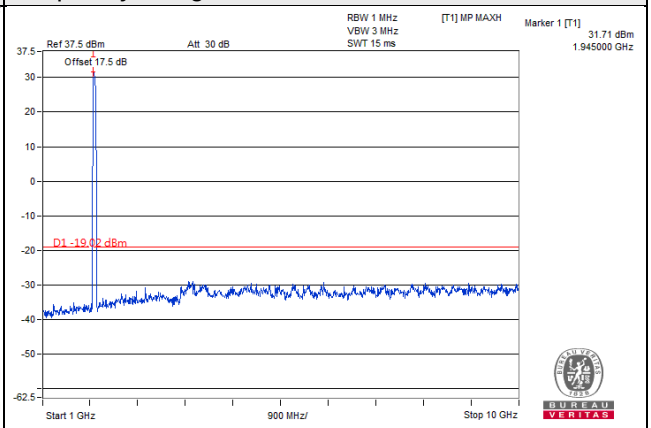
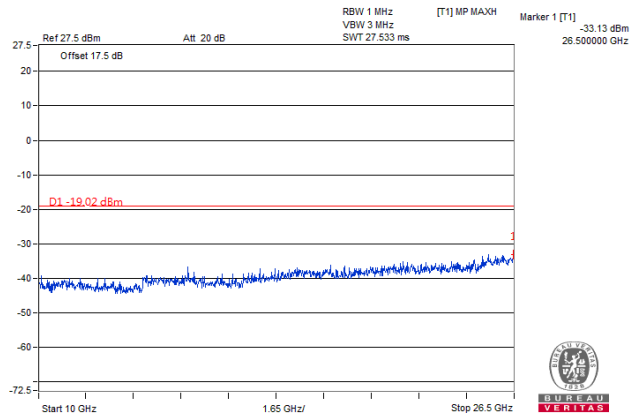
Chain 2	
1957.2MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 2	
1962.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

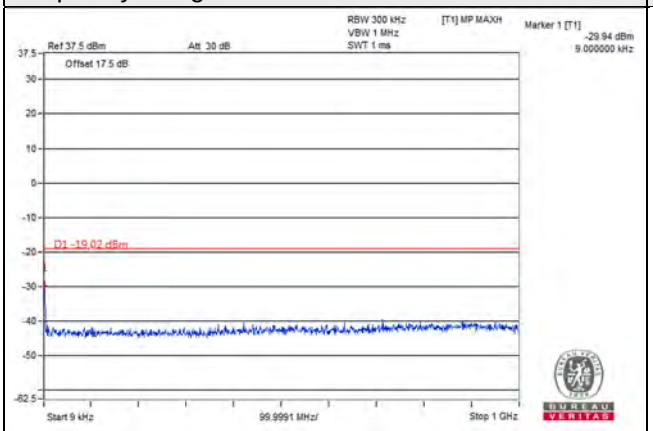
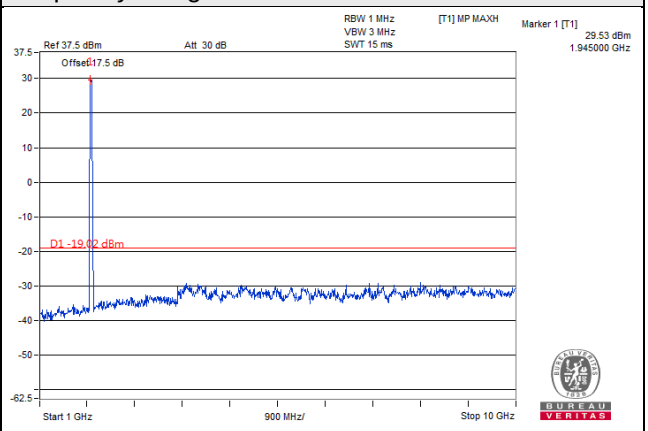
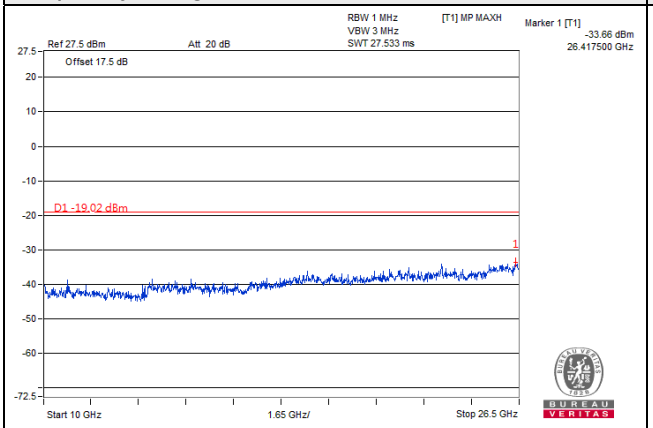
Chain 2	
1967.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

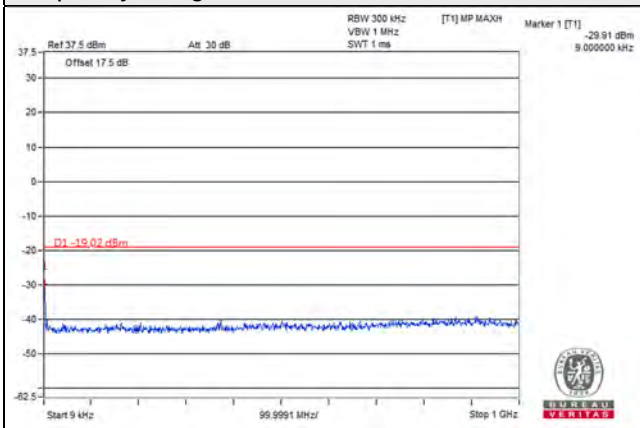
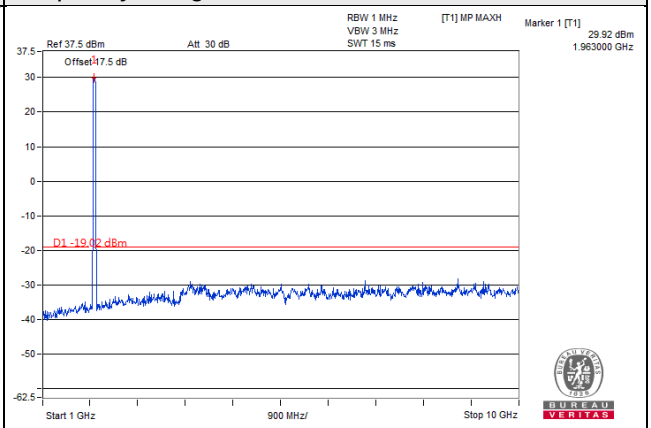
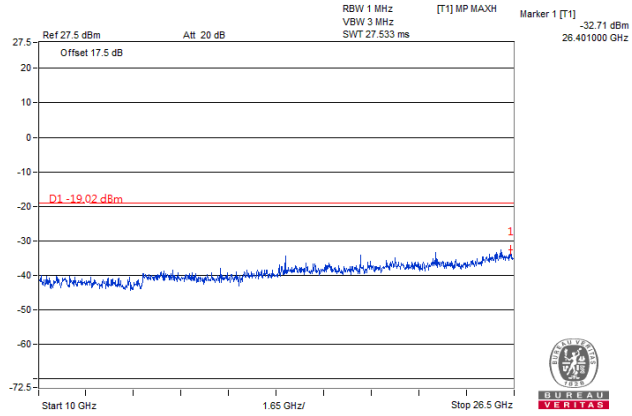
Chain 3	
1957.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

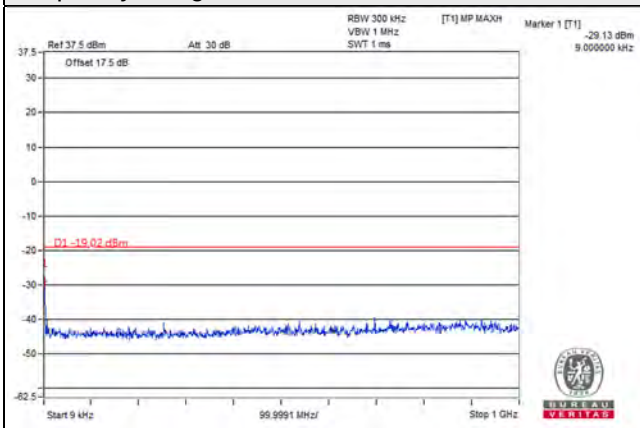
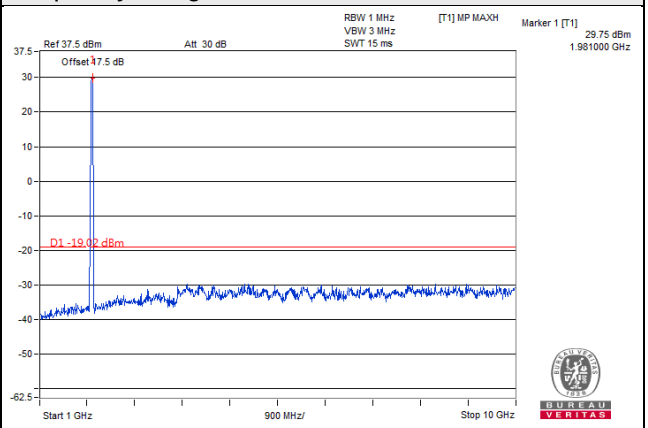
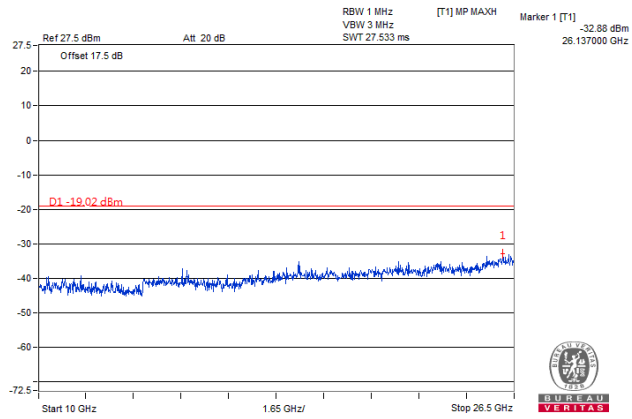
Chain 3	
1962.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

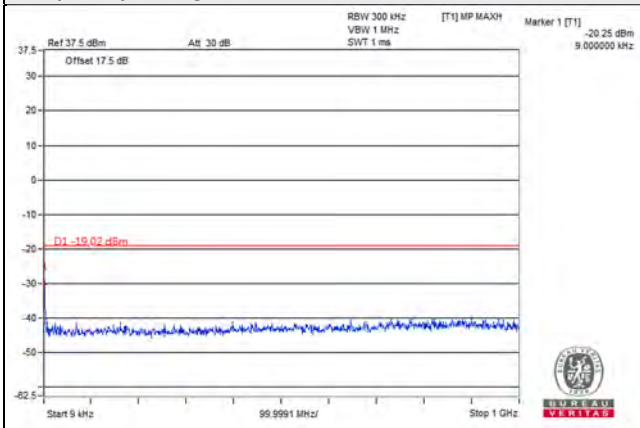
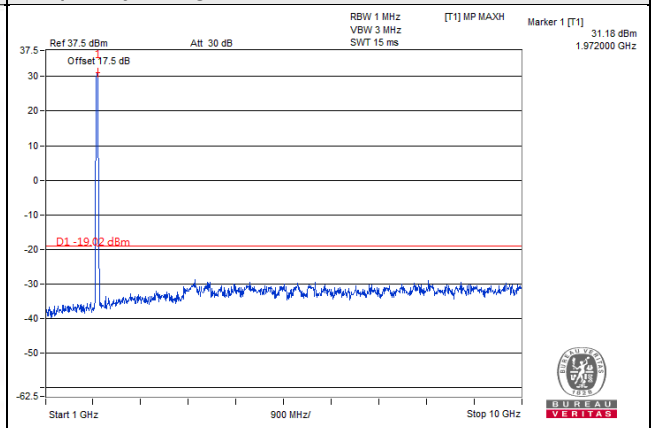
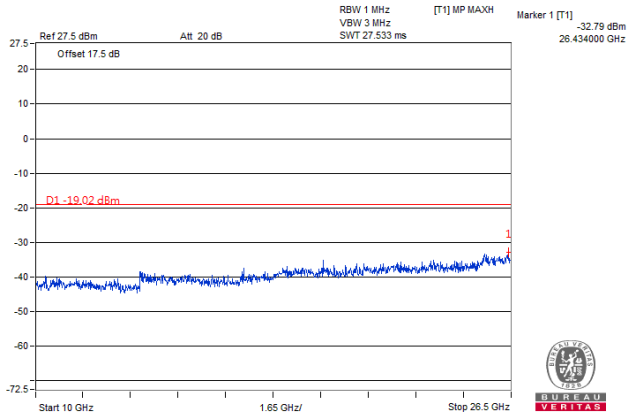
Chain 3	
1967.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

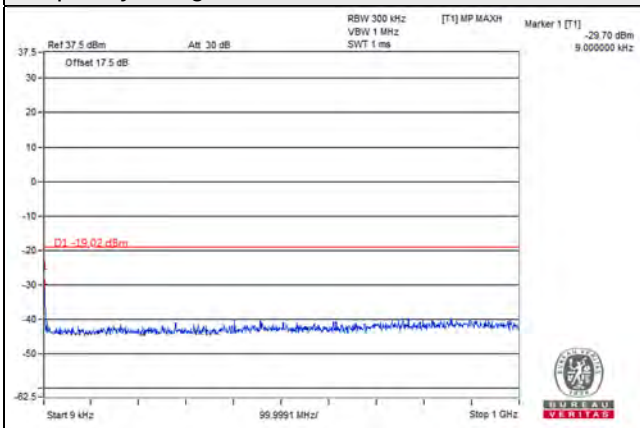
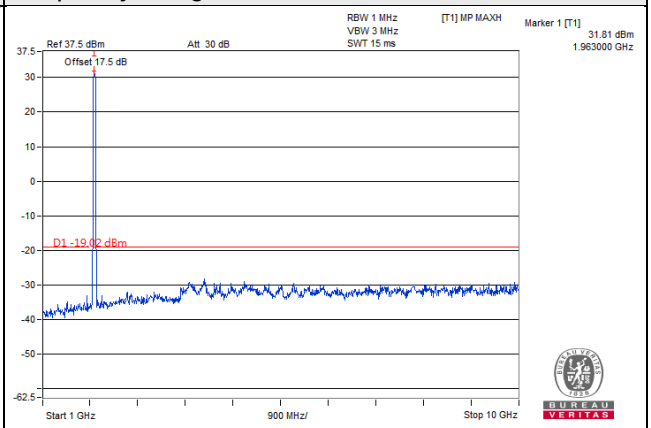
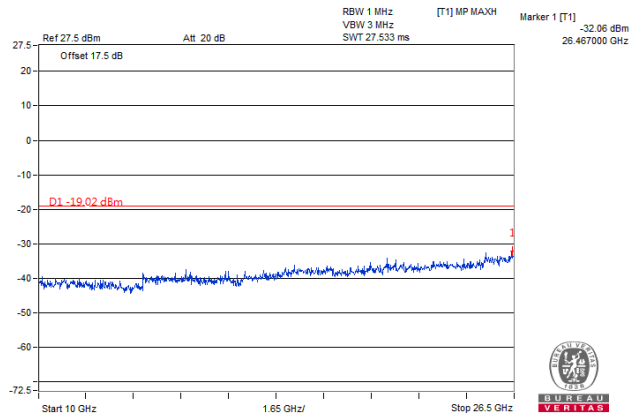
Test Mode E

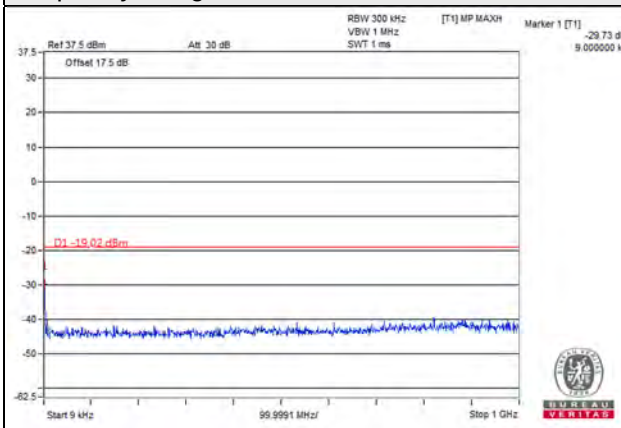
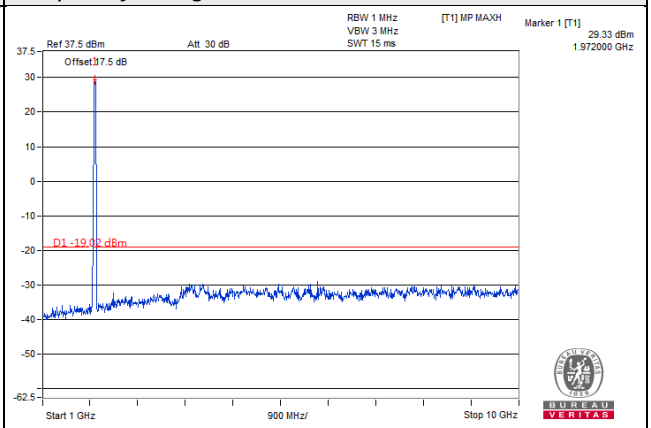
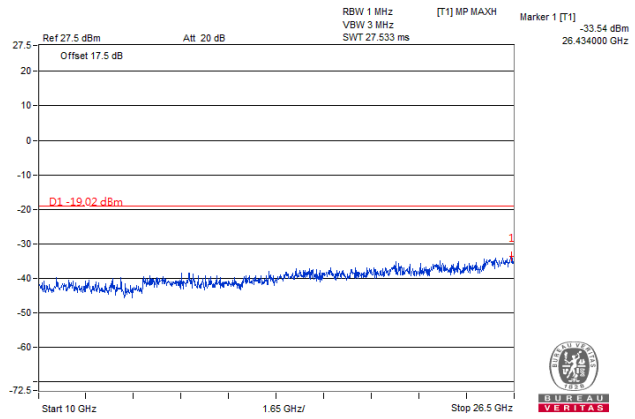
Chain 0	
1957.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

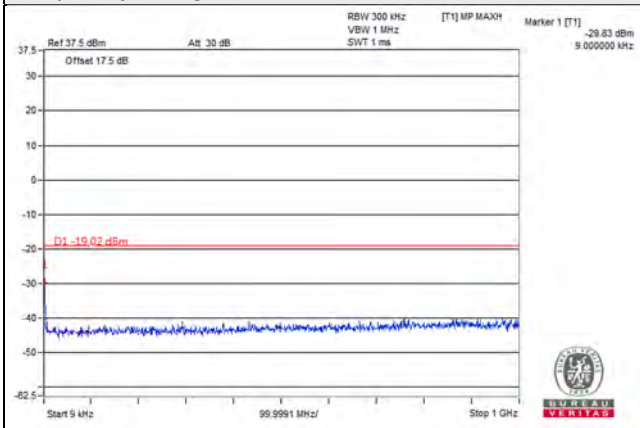
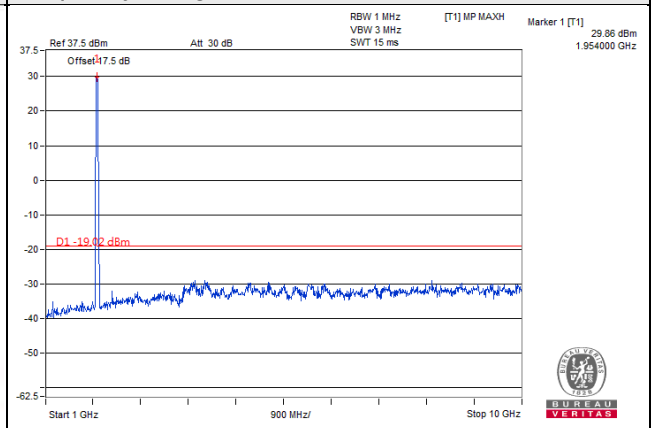
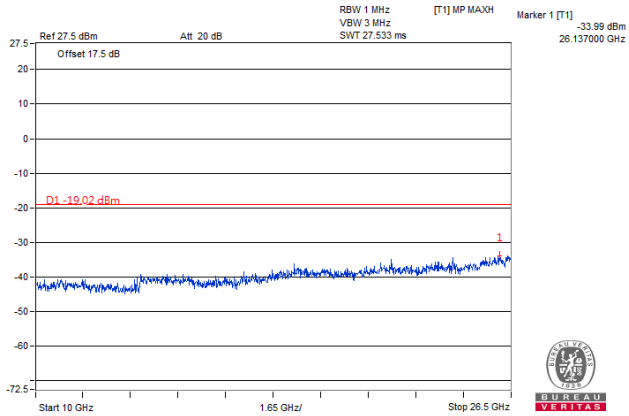
Chain 0	
1962.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

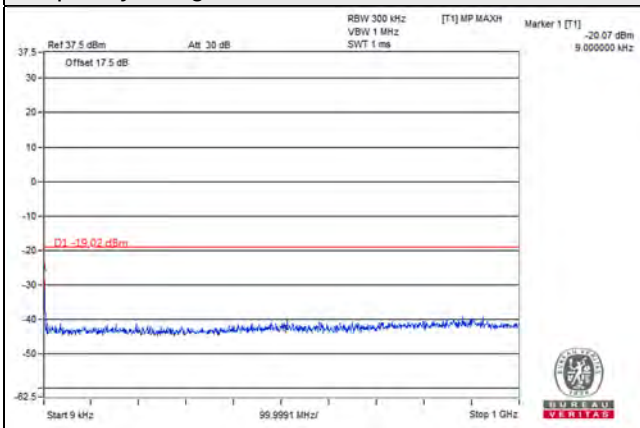
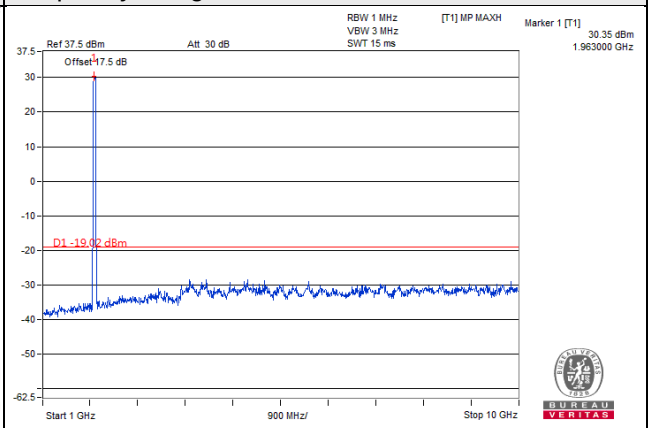
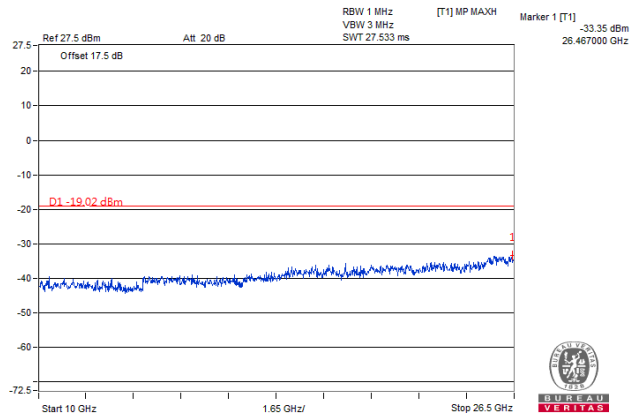
Chain 0	
1967.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

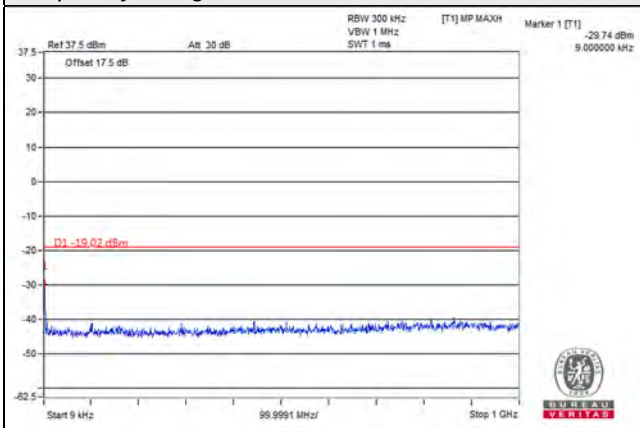
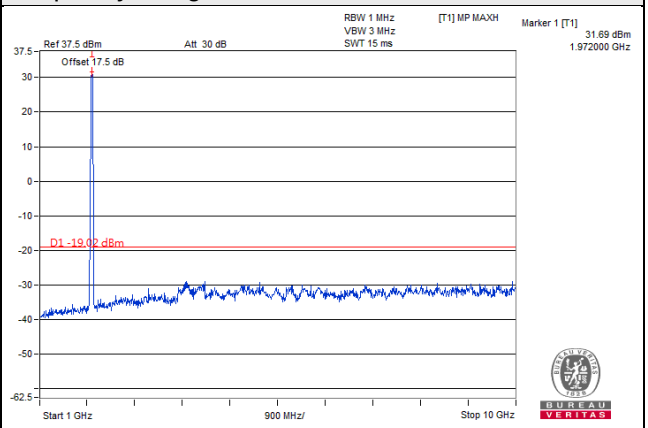
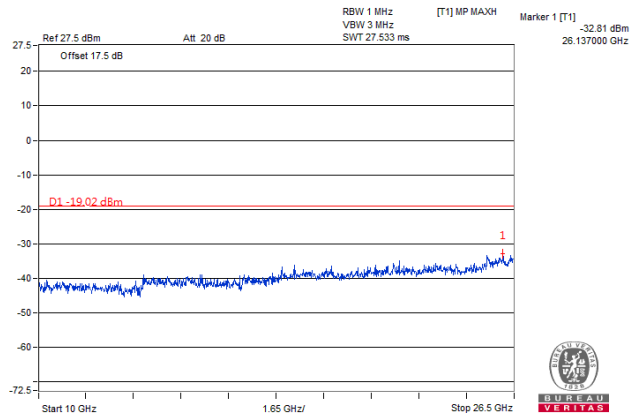
Chain 1	
1957.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

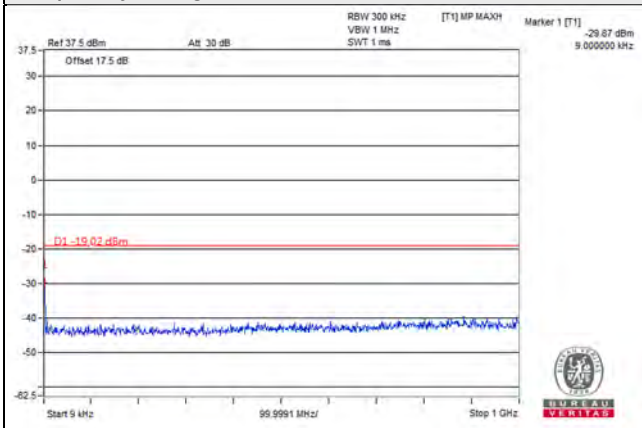
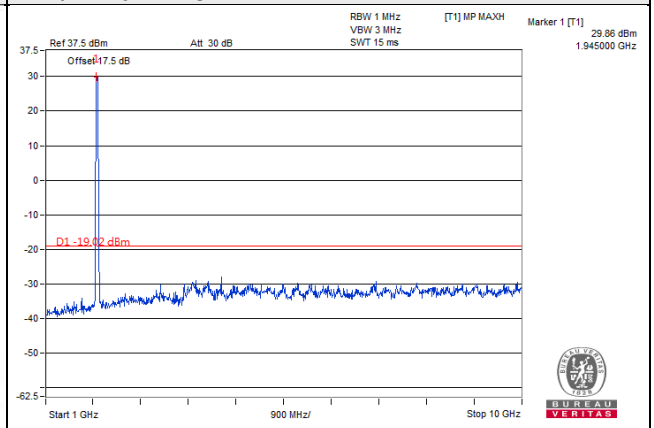
Chain 1	
1962.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 1	
1967.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 2	
1957.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 2	
1962.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 2	
1967.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 3	
1957.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
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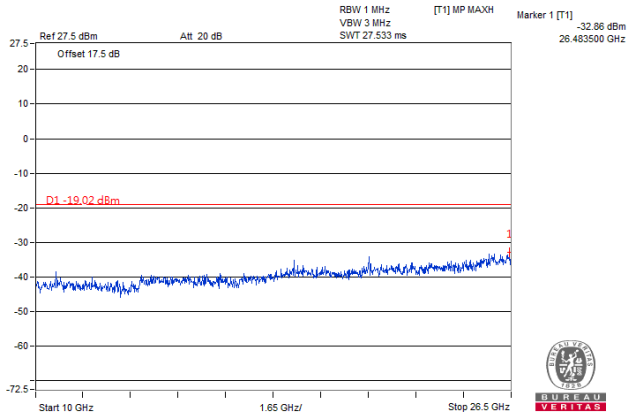
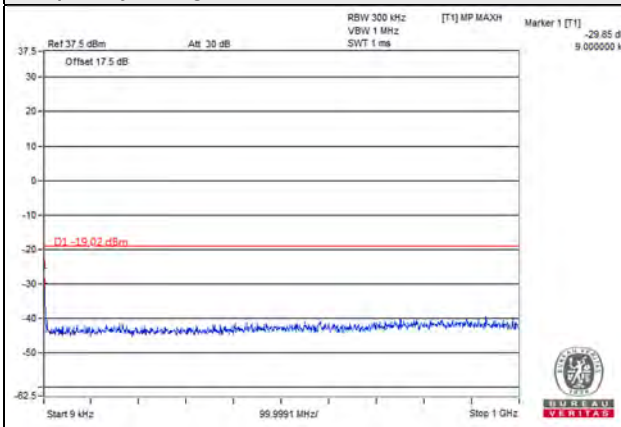
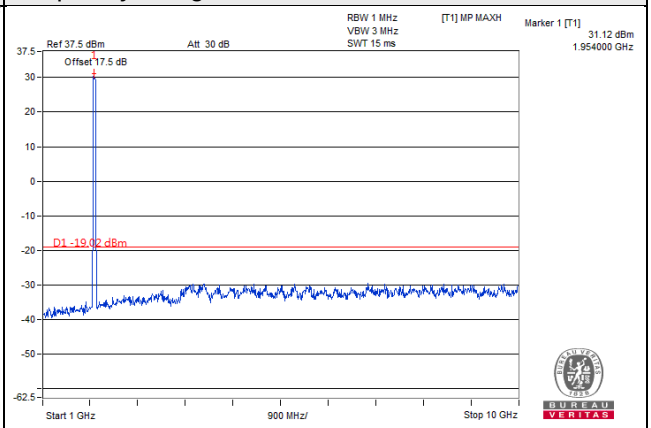
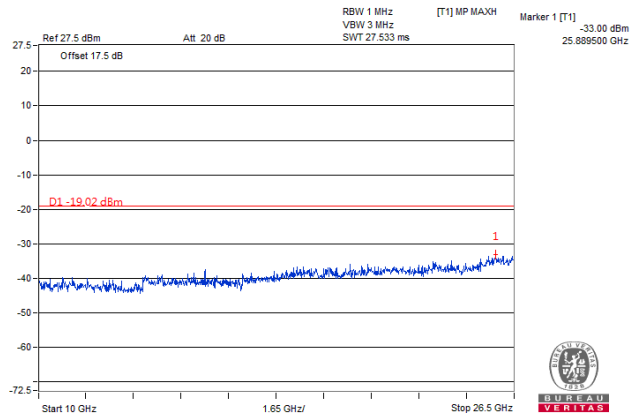
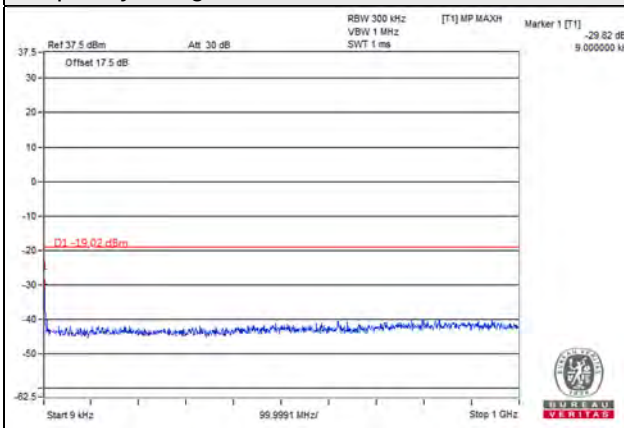
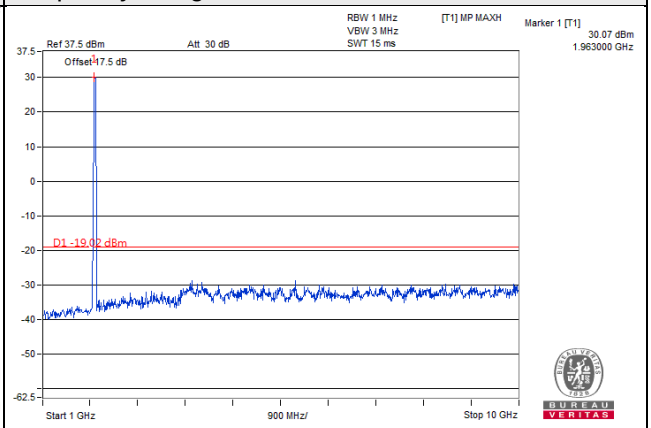
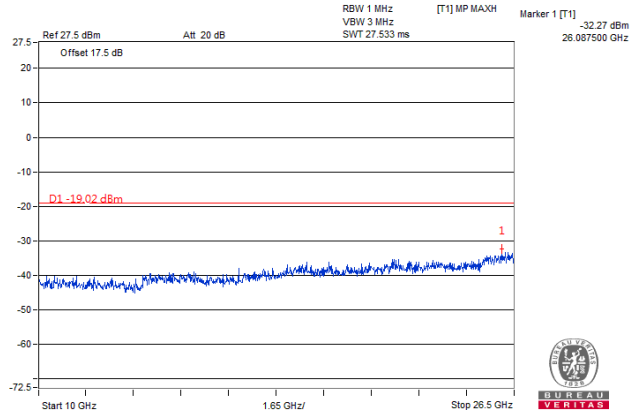
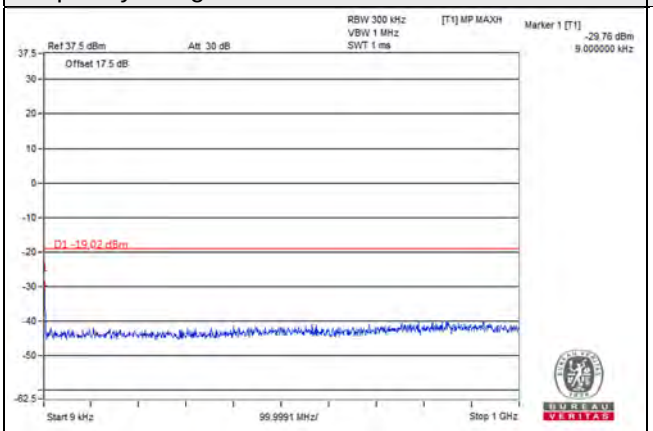
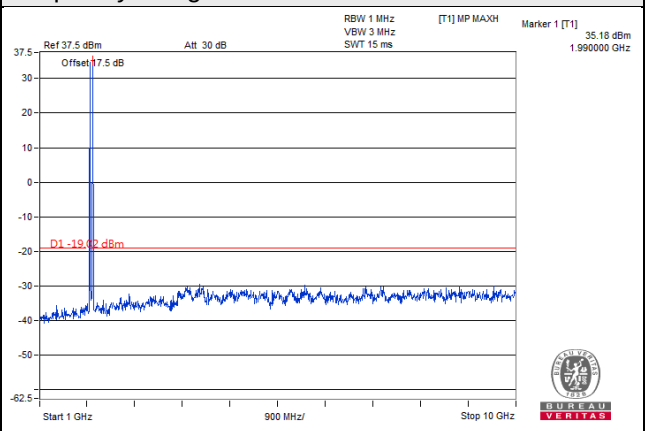
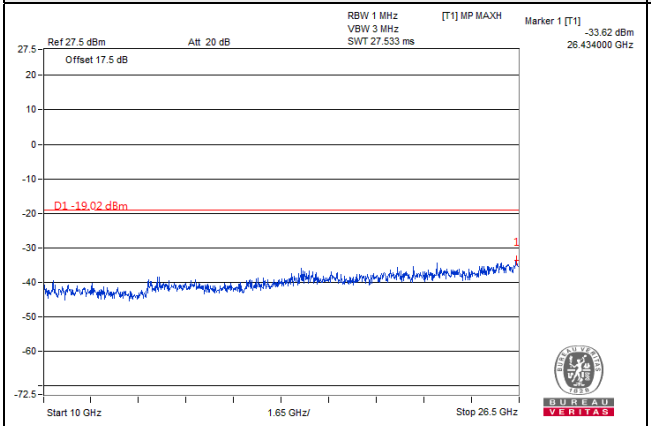
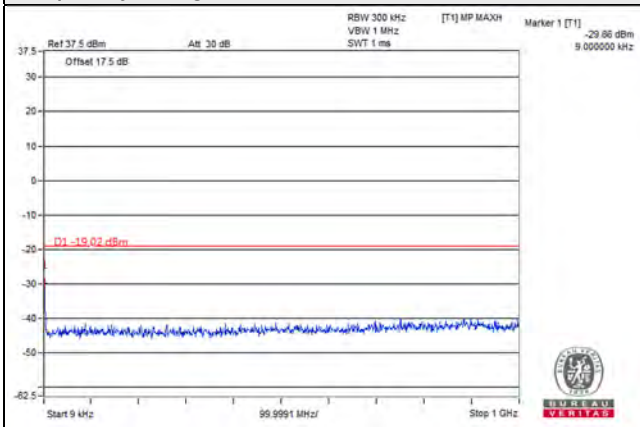
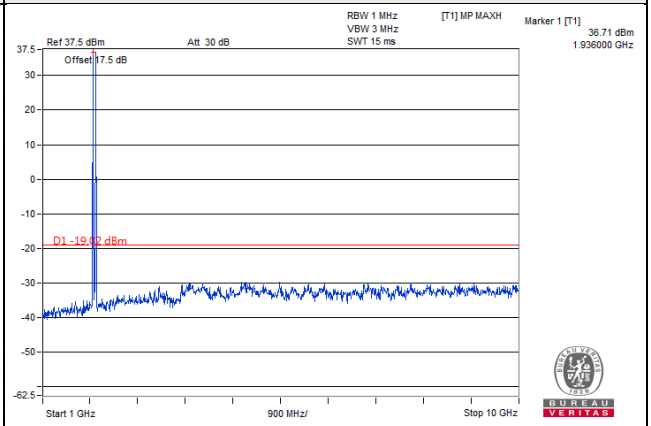
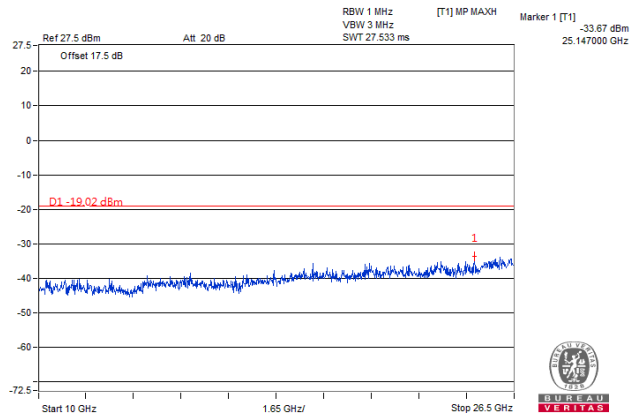
	

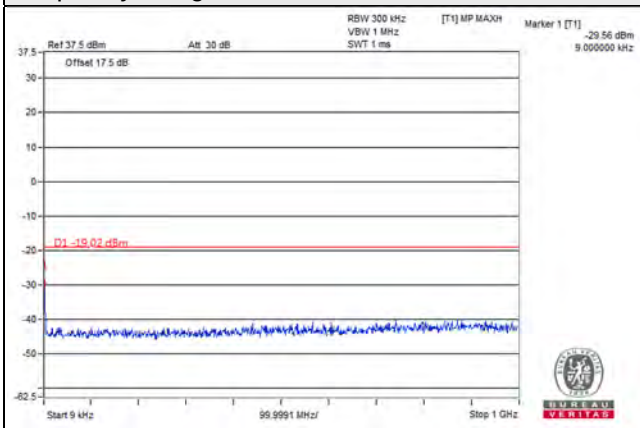
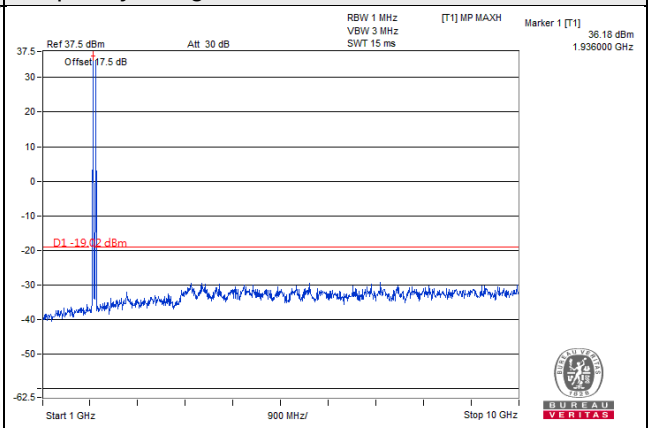
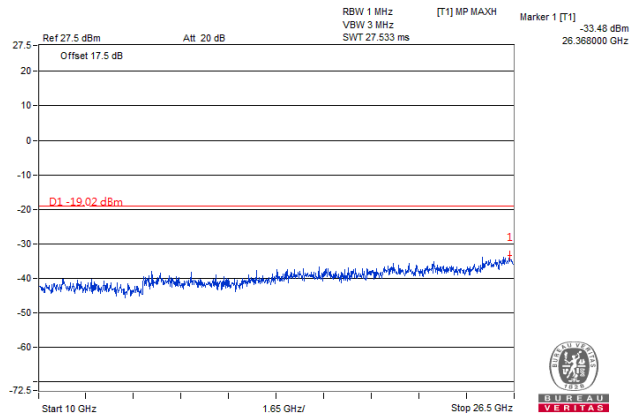
Chain 3	
1962.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

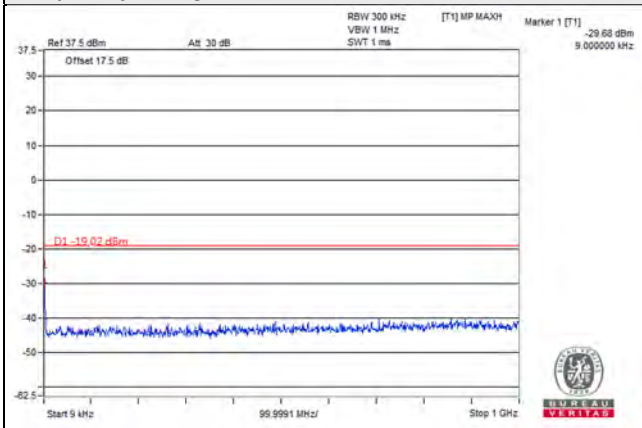
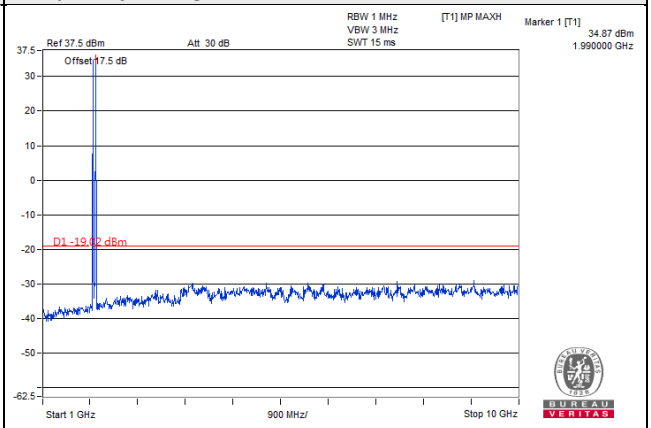
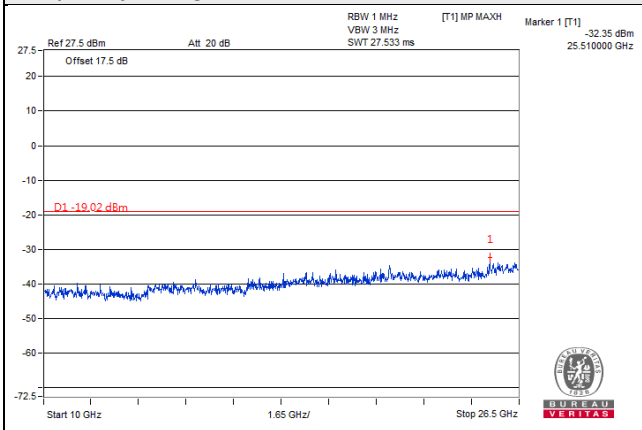
Chain 3	
1967.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

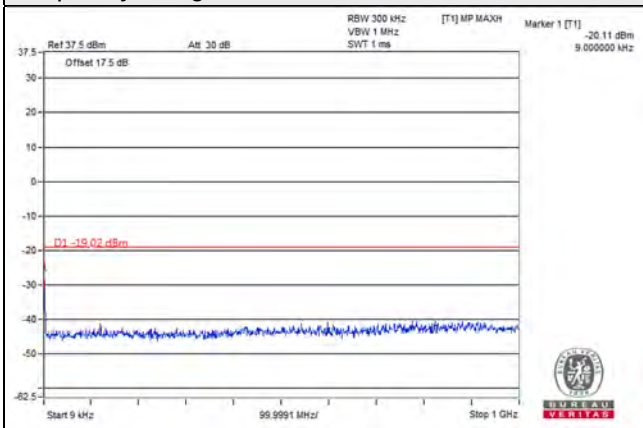
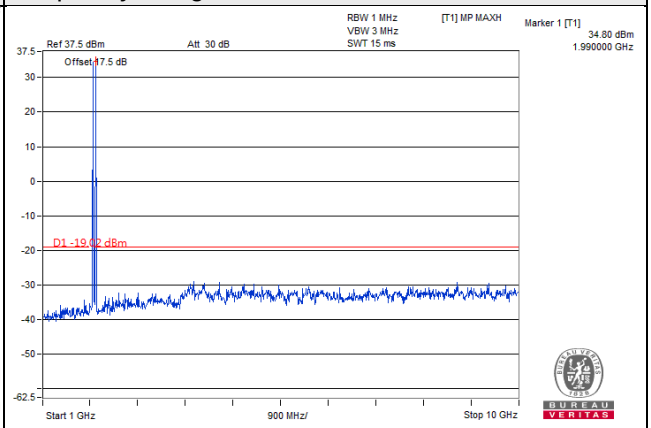
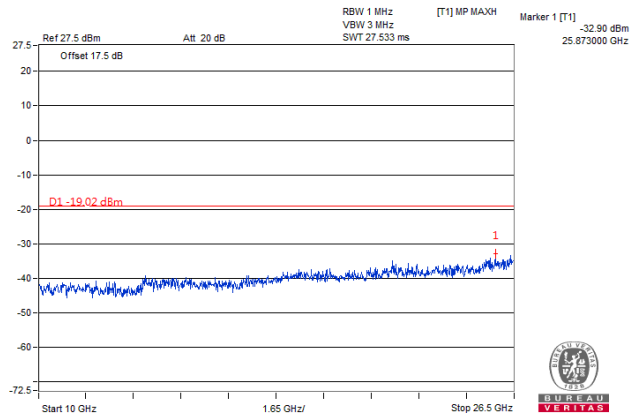
Test Mode F

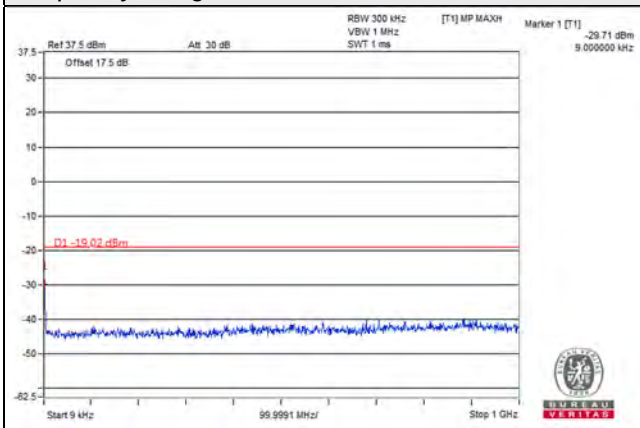
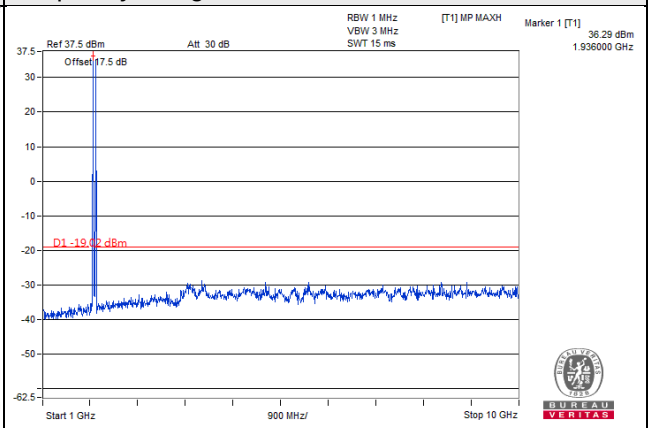
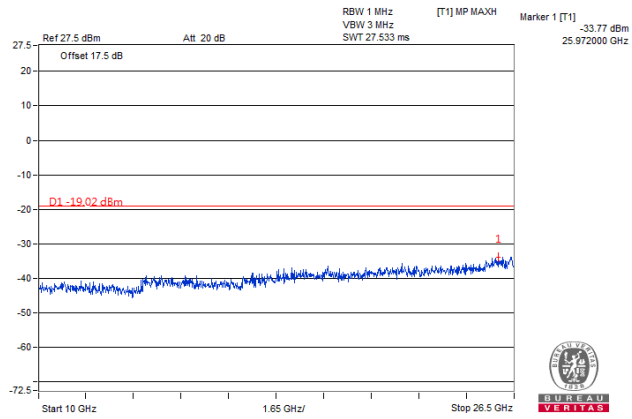
Chain 0	
1957.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

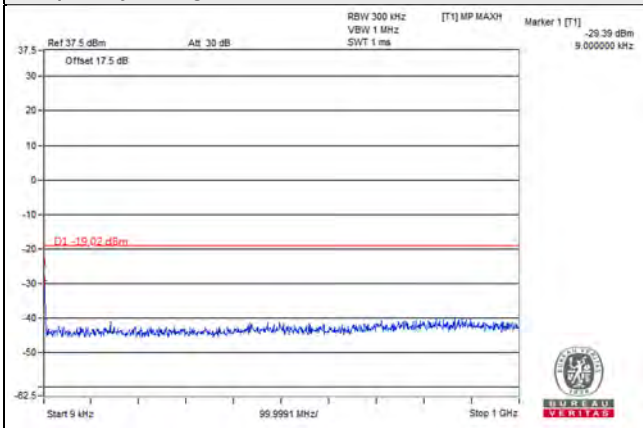
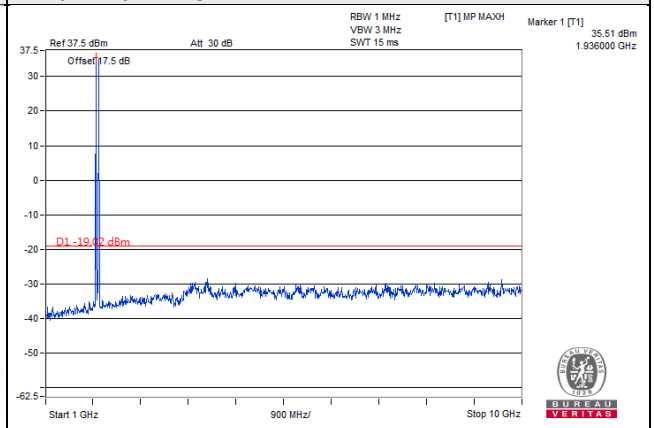
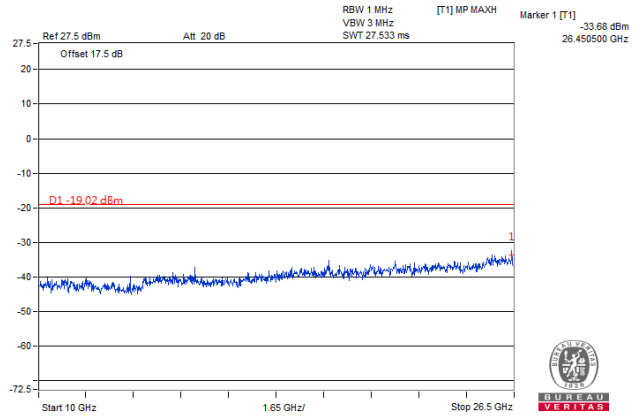
Chain 0	
1962.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

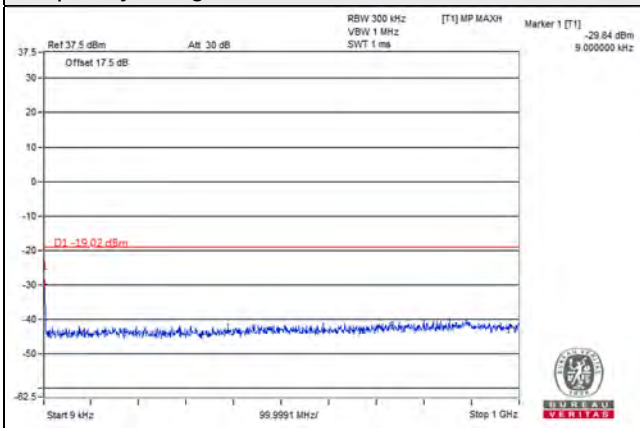
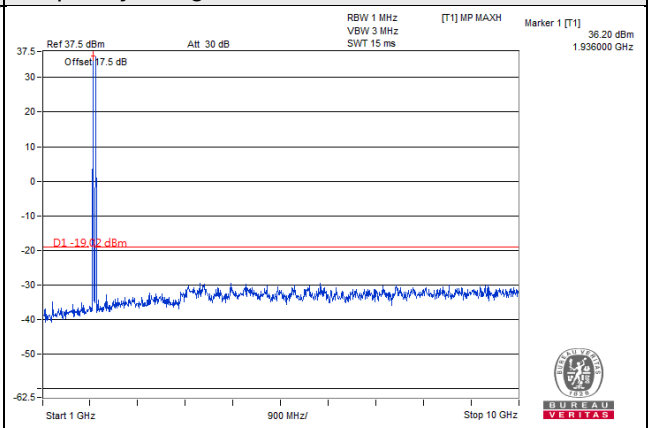
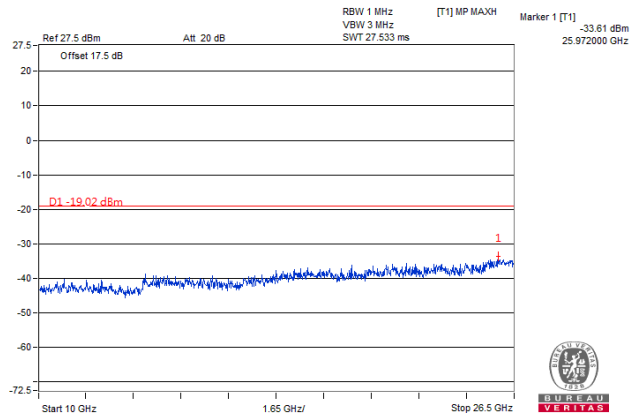
Chain 0	
1967.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

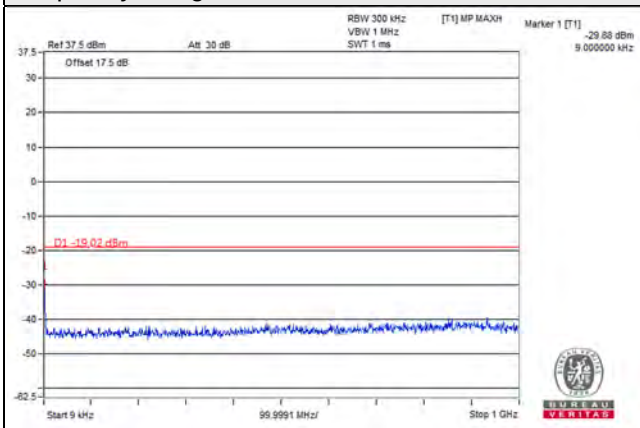
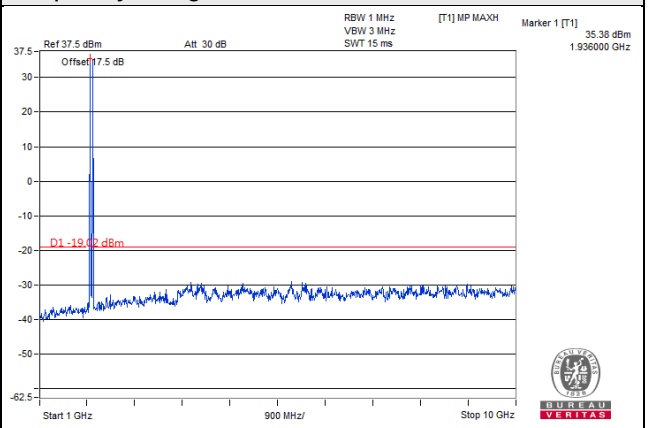
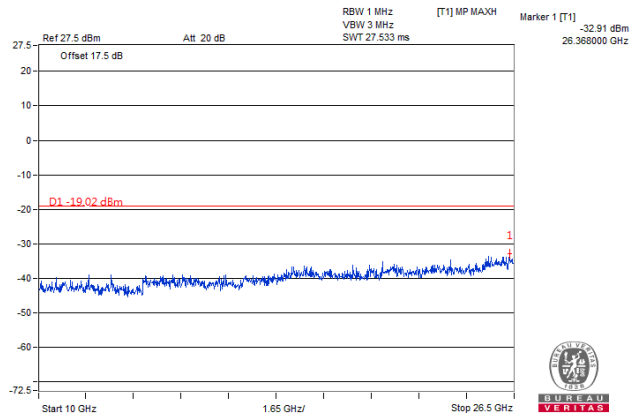
Chain 1	
1957.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

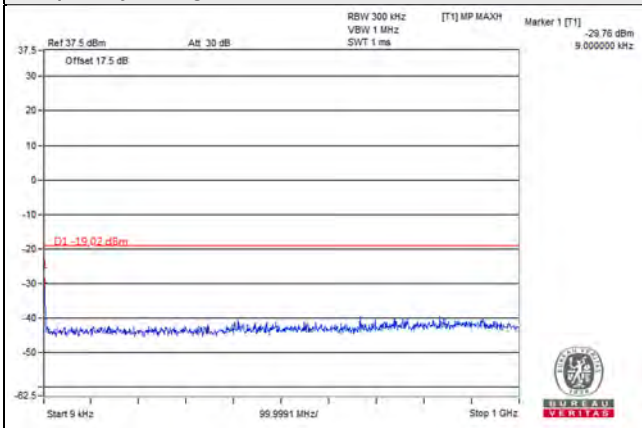
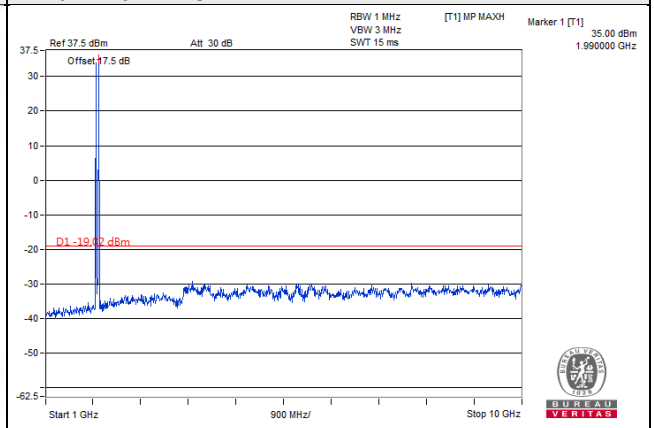
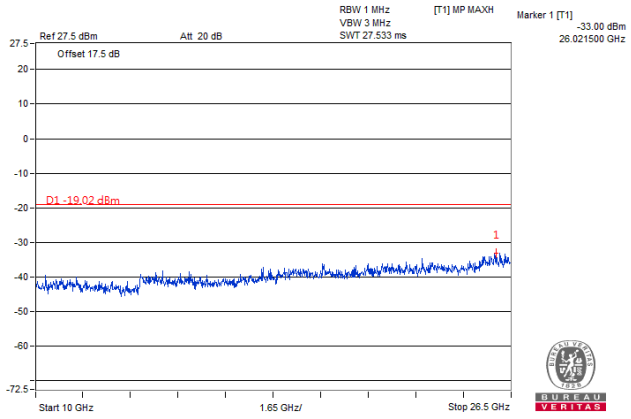
Chain 1	
1962.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

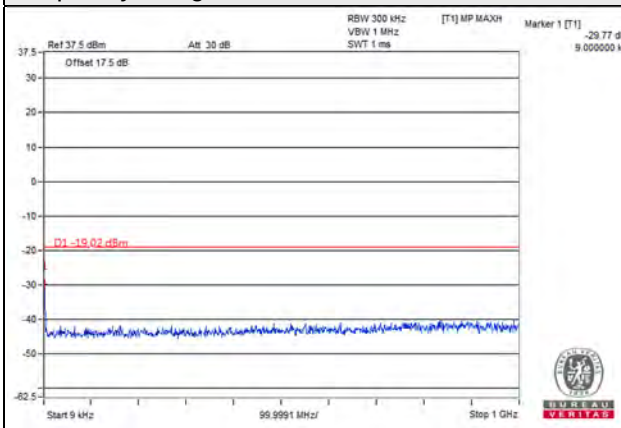
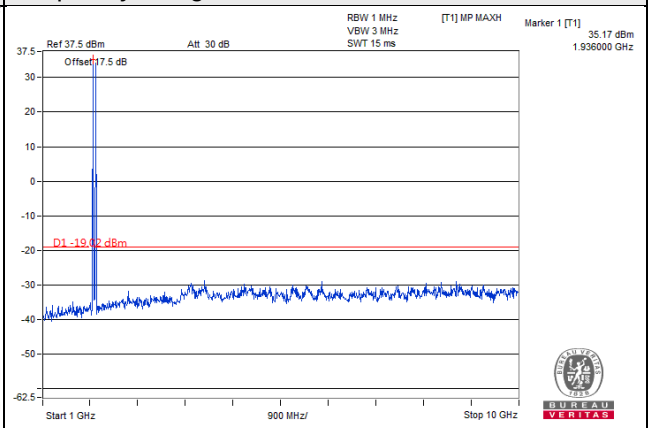
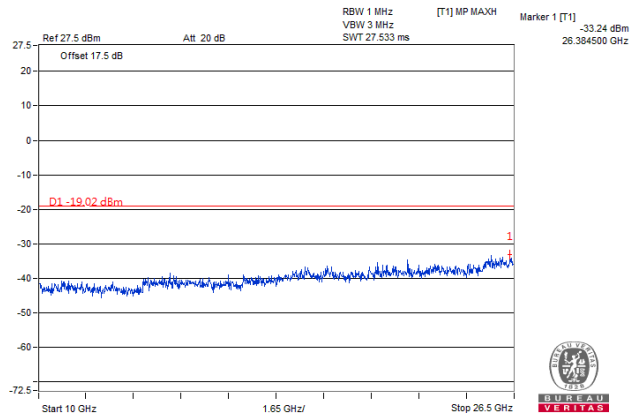
Chain 1	
1967.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

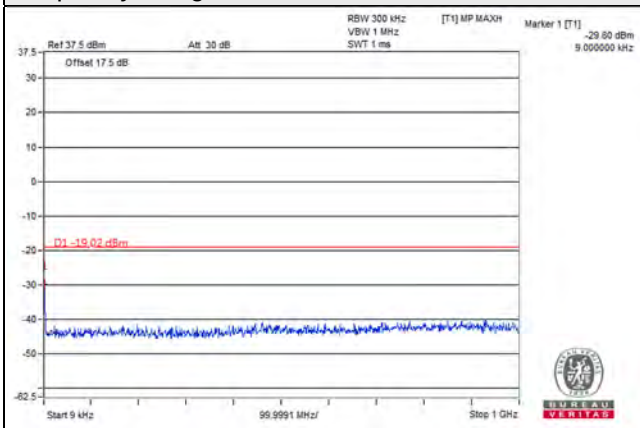
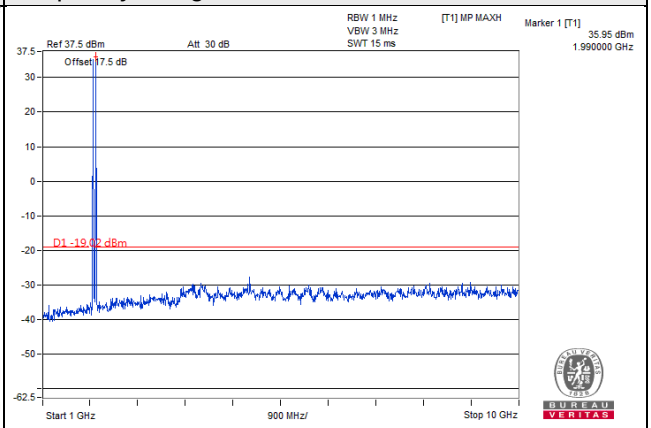
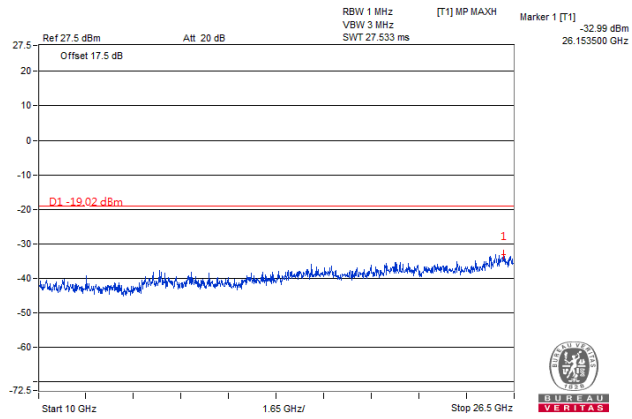
Chain 2	
1957.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 2	
1962.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 2	
1967.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 3	
1957.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 3	
1962.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

Chain 3	
1967.5MHz	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

4.8 Radiated Emission Measurement

4.8.1 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.

4.8.2 Test Procedure

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.R.P power - 2.15dBi.

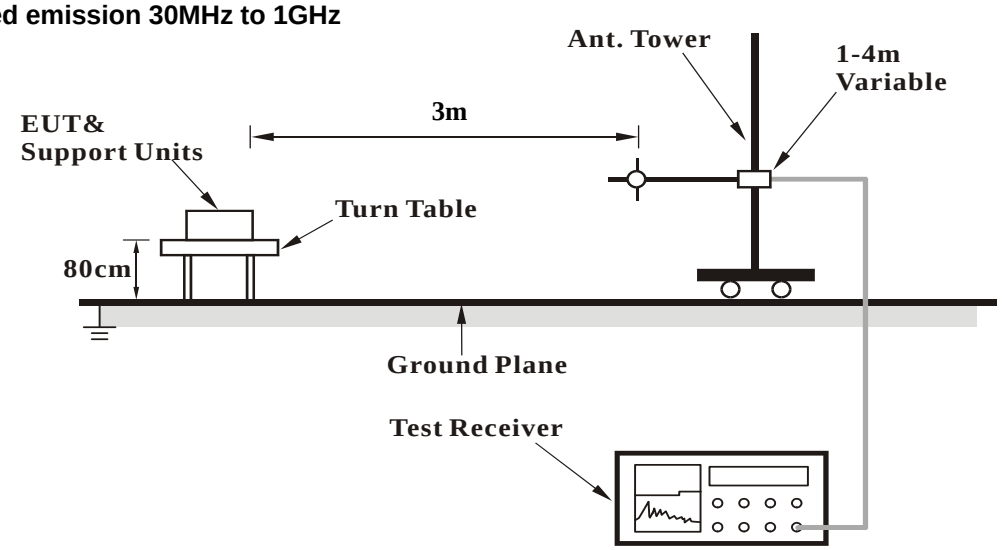
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.8.3 Deviation from Test Standard

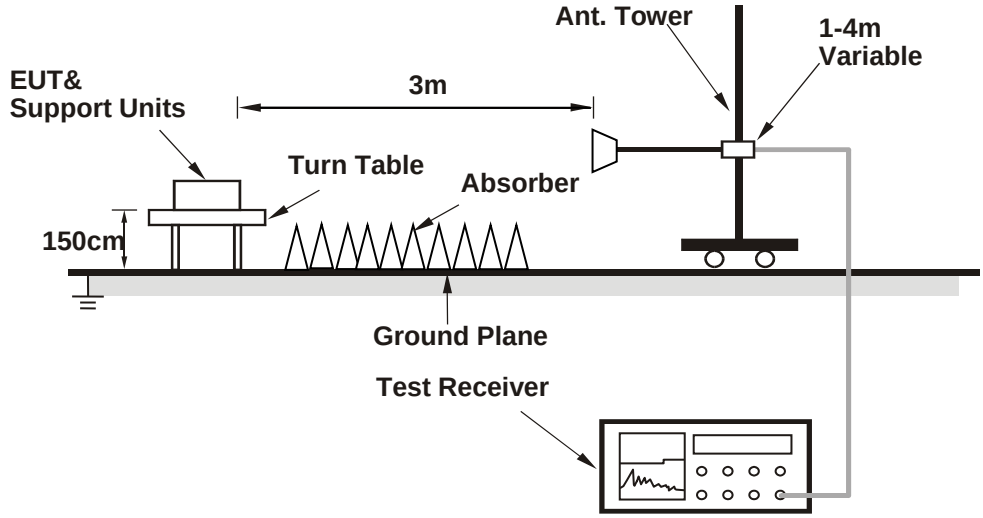
No deviation.

4.8.4 Test Setup

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



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

4.8.5 Test Results

Below 1GHz

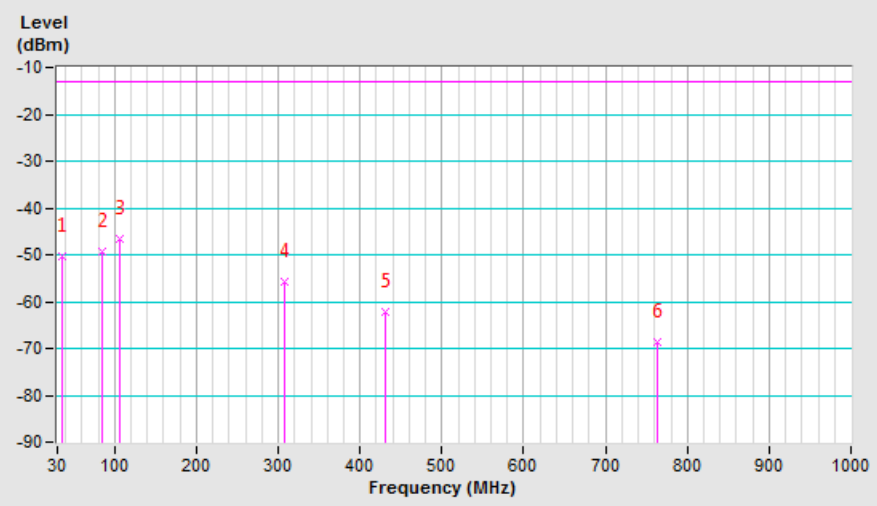
For WCDMA only:

WCDMA Band 25

Mode	TX channel 5112 (1932.4MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang	Test Mode	A

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	35.82	-53.5	-38.8	-11.4	-50.2	-13.0	-37.2
2	84.32	-42.8	-48.7	-0.5	-49.2	-13.0	-36.2
3	105.66	-38.8	-47.1	0.6	-46.5	-13.0	-33.5
4	307.42	-50.9	-60.7	5.1	-55.6	-13.0	-42.6
5	431.58	-60.8	-67.4	5.2	-62.2	-13.0	-49.2
6	763.32	-72.9	-73.1	4.5	-68.6	-13.0	-55.6

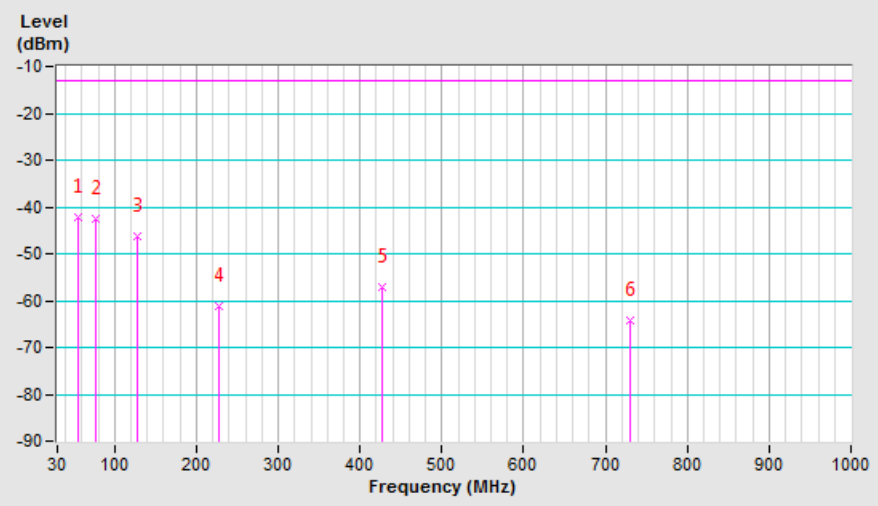
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 5112 (1932.4MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang	Test Mode	A

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	55.22	-35.5	-33.4	-8.7	-42.1	-13.0	-29.1
2	76.56	-38.0	-39.6	-2.8	-42.4	-13.0	-29.4
3	127.00	-40.6	-46.2	0.0	-46.2	-13.0	-33.2
4	227.88	-60.1	-66.5	5.4	-61.1	-13.0	-48.1
5	427.70	-55.7	-62.4	5.2	-57.2	-13.0	-44.2
6	730.34	-70.0	-69.2	4.9	-64.3	-13.0	-51.3

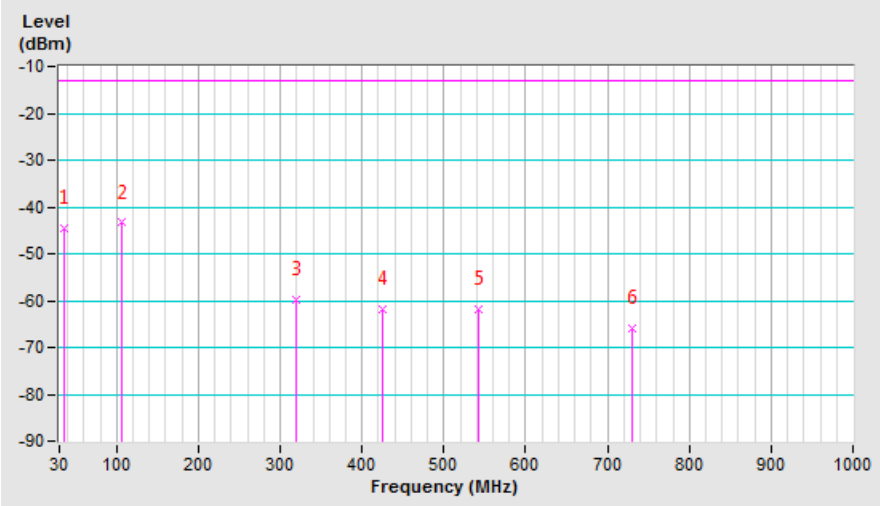
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 5112 (1932.4MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang	Test Mode	B

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	35.82	-48.0	-33.3	-11.4	-44.7	-13.0	-31.7
2	105.66	-35.7	-44.0	0.6	-43.4	-13.0	-30.4
3	319.06	-55.4	-64.9	5.2	-59.7	-13.0	-46.7
4	425.76	-60.5	-67.2	5.2	-62.0	-13.0	-49.0
5	542.16	-61.2	-66.6	4.7	-61.9	-13.0	-48.9
6	730.34	-69.3	-70.9	4.9	-66.0	-13.0	-53.0

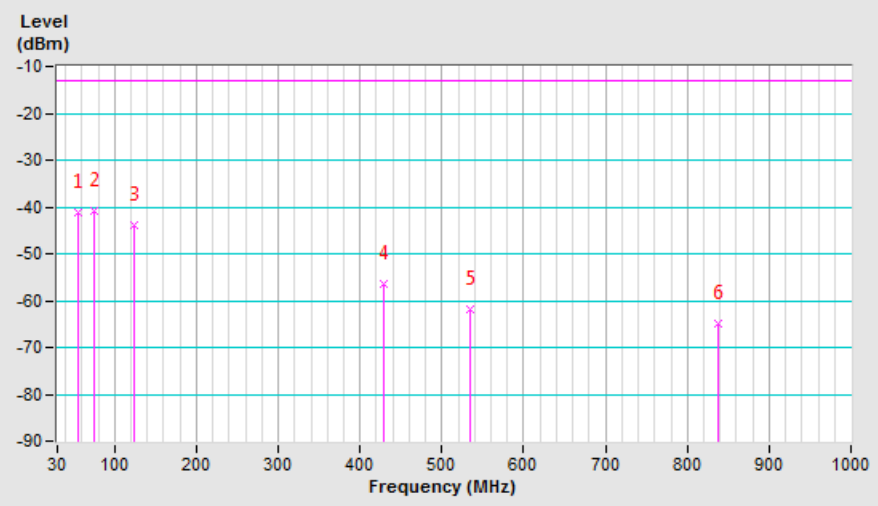
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 5112 (1932.4MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang	Test Mode	B

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	55.22	-34.5	-32.4	-8.7	-41.1	-13.0	-28.1
2	74.62	-36.2	-37.3	-3.4	-40.7	-13.0	-27.7
3	123.12	-38.1	-43.9	0.0	-43.9	-13.0	-30.9
4	429.64	-55.0	-61.7	5.2	-56.5	-13.0	-43.5
5	534.40	-62.4	-66.6	4.7	-61.9	-13.0	-48.9
6	837.04	-71.5	-69.0	4.0	-65.0	-13.0	-52.0

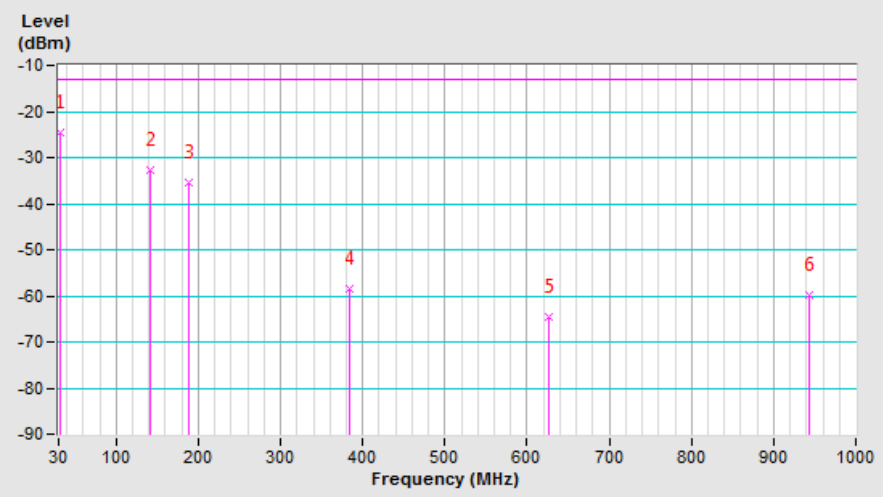
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX 1939.9MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	C

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	32.91	-27.6	-6.8	-17.7	-24.5	-13.0	-11.5
2	141.55	-27.2	-29.6	-3.0	-32.6	-13.0	-19.6
3	188.11	-27.3	-32.8	-2.7	-35.5	-13.0	-22.5
4	383.08	-57.4	-62.0	3.5	-58.5	-13.0	-45.5
5	625.58	-66.6	-68.3	3.7	-64.6	-13.0	-51.6
6	942.77	-68.3	-63.7	3.8	-59.9	-13.0	-46.9

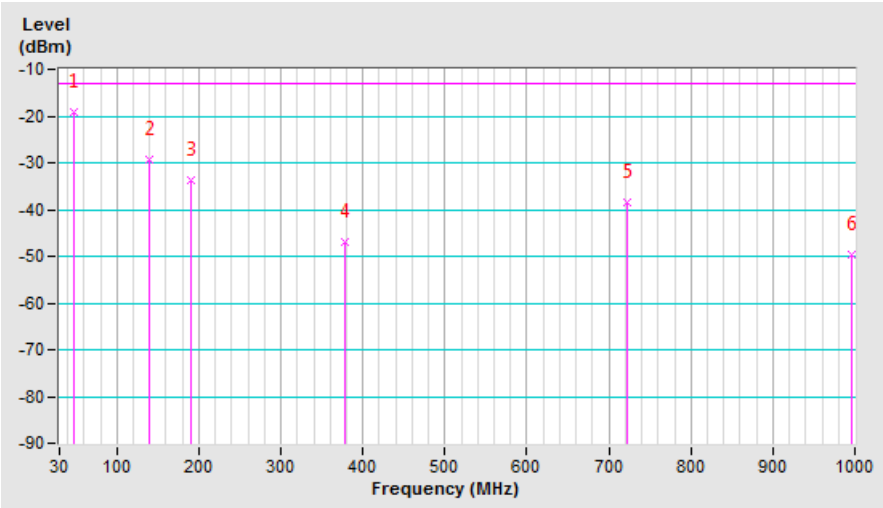
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX 1939.9MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	C

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	47.46	-11.4	-10.1	-9.2	-19.3	-13.0	-6.3
2	139.61	-26.6	-26.3	-3.1	-29.4	-13.0	-16.4
3	190.05	-31.6	-30.9	-2.8	-33.7	-13.0	-20.7
4	377.26	-46.6	-50.6	3.6	-47.0	-13.0	-34.0
5	722.58	-44.8	-42.1	3.6	-38.5	-13.0	-25.5
6	996.12	-59.7	-52.9	3.3	-49.6	-13.0	-36.6

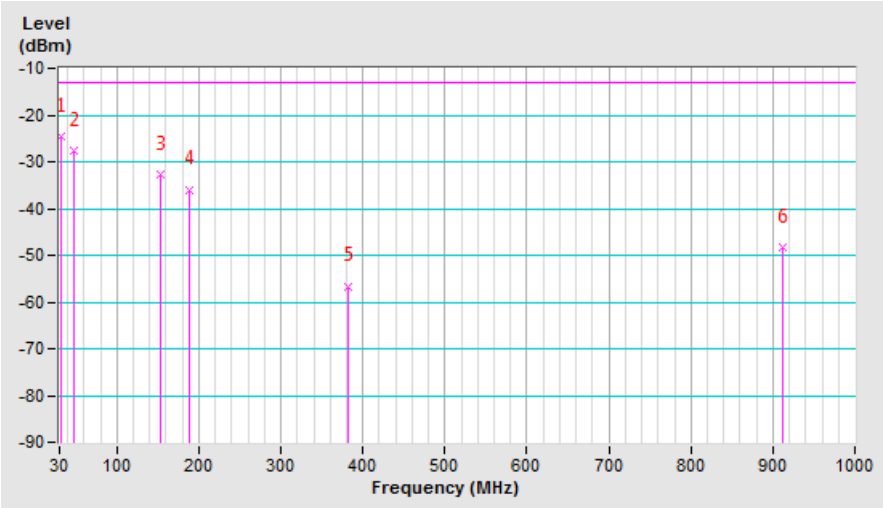
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX 1962.7MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	C

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	32.91	-27.6	-6.8	-17.7	-24.5	-13.0	-11.5
2	48.43	-27.6	-18.9	-8.7	-27.6	-13.0	-14.6
3	154.16	-28.4	-29.8	-2.9	-32.7	-13.0	-19.7
4	188.11	-27.7	-33.2	-2.7	-35.9	-13.0	-22.9
5	382.11	-55.3	-60.1	3.5	-56.6	-13.0	-43.6
6	911.73	-55.8	-51.8	3.6	-48.2	-13.0	-35.2

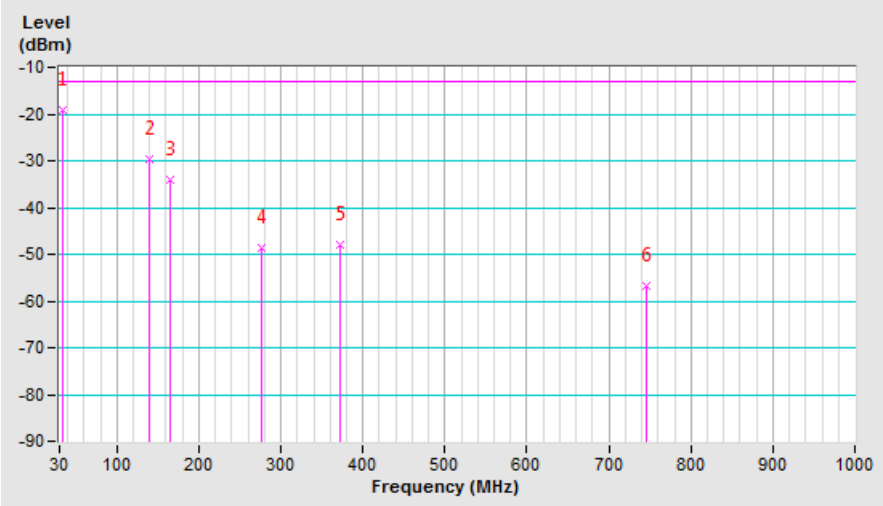
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX 1962.7MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	C

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	**34.85**	**-8.9**	**-2.6**	**-16.5**	**-19.1**	**-13.0**	**-6.1**
2	139.61	-26.7	-26.4	-3.1	-29.5	-13.0	-16.5
3	165.80	-30.6	-31.0	-3.0	-34.0	-13.0	-21.0
4	276.38	-52.0	-47.1	-1.6	-48.7	-13.0	-35.7
5	371.44	-47.7	-51.9	3.9	-48.0	-13.0	-35.0
6	745.86	-63.9	-60.7	3.8	-56.9	-13.0	-43.9

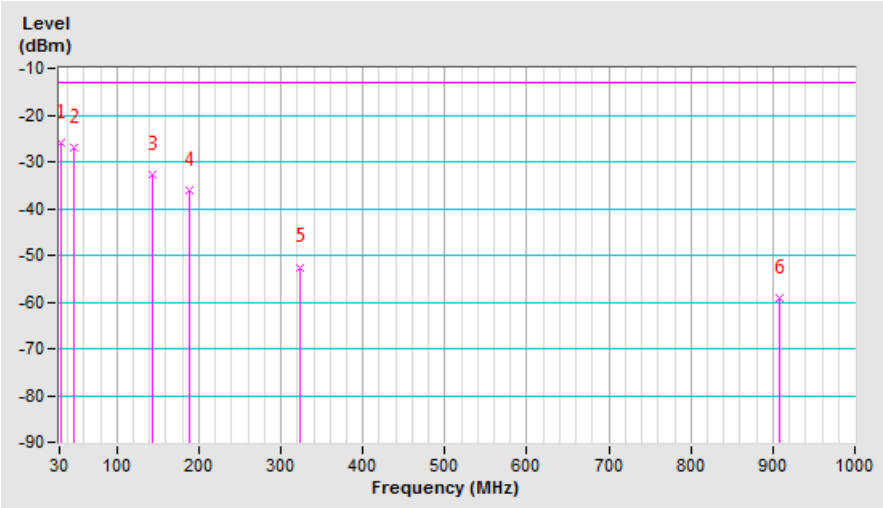
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX 1985.1MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	C

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	32.91	-29.0	-8.2	-17.7	-25.9	-13.0	-12.9
2	48.43	-26.9	-18.2	-8.7	-26.9	-13.0	-13.9
3	142.52	-27.5	-29.6	-3.1	-32.7	-13.0	-19.7
4	189.08	-27.6	-33.2	-2.8	-36.0	-13.0	-23.0
5	323.91	-48.6	-56.6	4.1	-52.5	-13.0	-39.5
6	908.82	-66.7	-62.8	3.6	-59.2	-13.0	-46.2

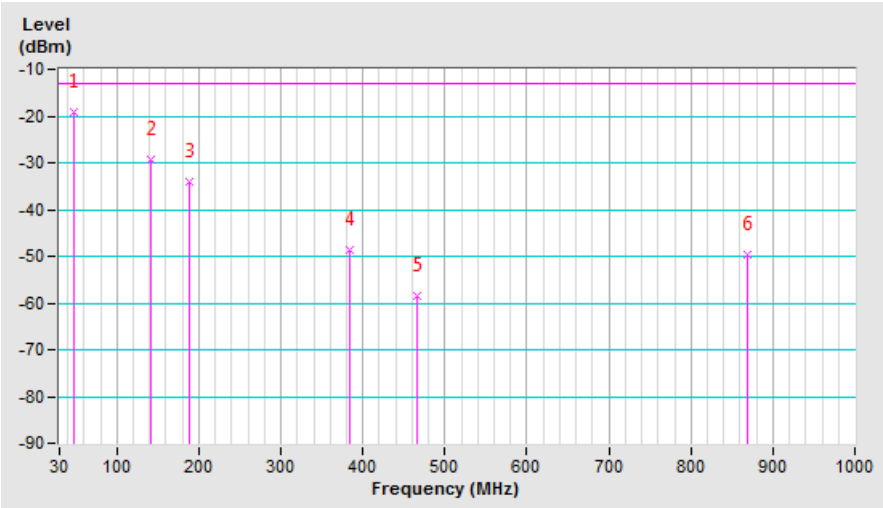
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX 1985.1MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	C

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	48.43	-11.6	-10.6	-8.7	-19.3	-13.0	-6.3
2	141.55	-27.0	-26.4	-3.0	-29.4	-13.0	-16.4
3	189.08	-31.9	-31.3	-2.8	-34.1	-13.0	-21.1
4	383.08	-48.2	-52.2	3.5	-48.7	-13.0	-35.7
5	466.50	-58.4	-62.1	3.6	-58.5	-13.0	-45.5
6	869.05	-56.9	-52.9	3.3	-49.6	-13.0	-36.6

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

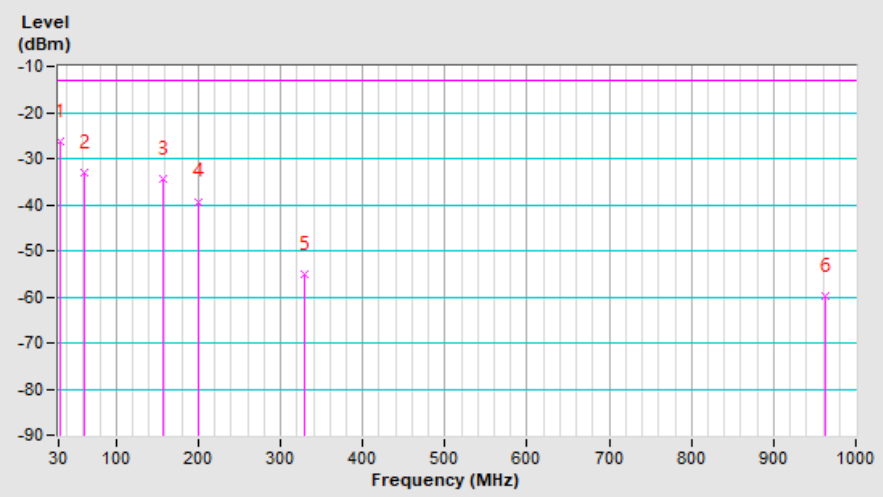


For LTE + WCDMA:

Mode	TX 1957.5MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	D

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	31.94	-29.6	-7.9	-18.3	-26.2	-13.0	-13.2
2	62.01	-27.4	-30.1	-3.0	-33.1	-13.0	-20.1
3	158.04	-29.4	-31.6	-2.7	-34.3	-13.0	-21.3
4	200.72	-31.0	-37.0	-2.3	-39.3	-13.0	-26.3
5	329.73	-51.2	-59.2	4.1	-55.1	-13.0	-42.1
6	963.14	-68.2	-63.5	3.7	-59.8	-13.0	-46.8

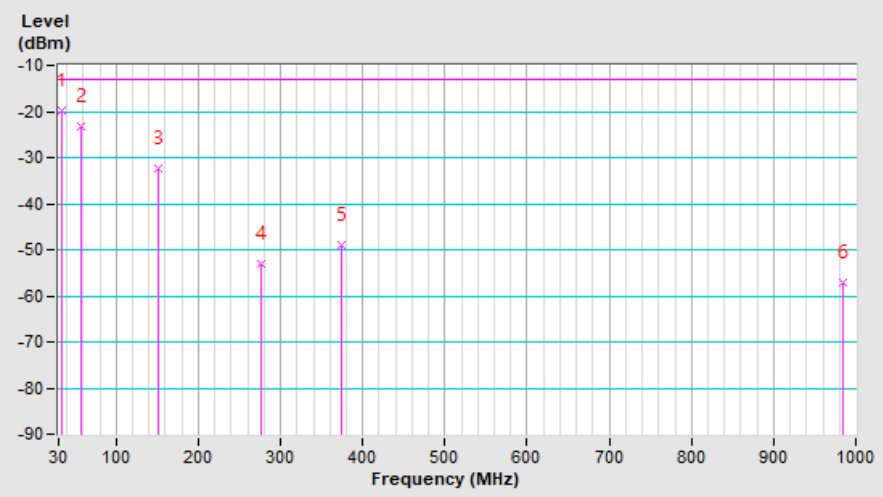
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX 1957.5MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	D

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	34.85	-9.6	-3.3	-16.5	-19.8	-13.0	-6.8
2	58.13	-16.3	-19.0	-4.2	-23.2	-13.0	-10.2
3	152.22	-30.5	-29.6	-2.8	-32.4	-13.0	-19.4
4	276.38	-56.3	-51.4	-1.6	-53.0	-13.0	-40.0
5	373.38	-48.7	-52.7	3.7	-49.0	-13.0	-36.0
6	983.51	-66.5	-60.6	3.5	-57.1	-13.0	-44.1

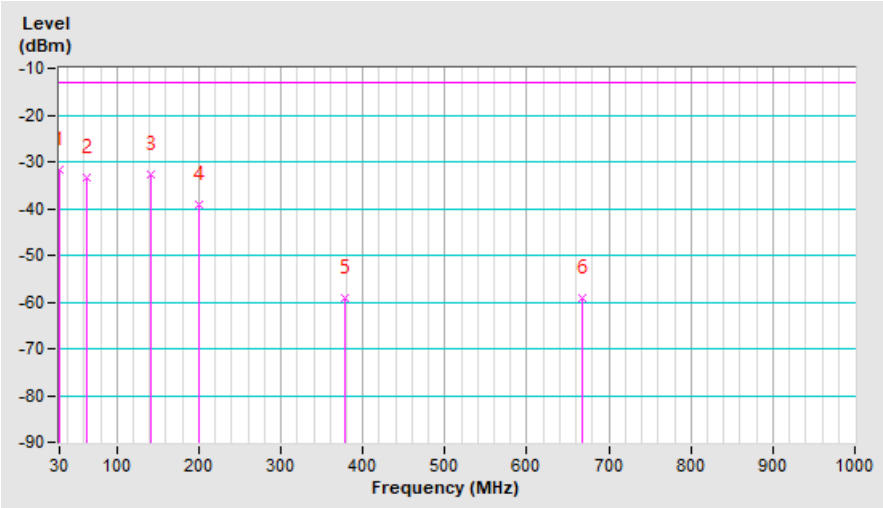
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX 1957.5MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	E

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	30.00	-35.7	-12.3	-19.4	-31.7	-13.0	-18.7
2	62.98	-27.5	-31.0	-2.4	-33.4	-13.0	-20.4
3	140.58	-27.1	-29.7	-3.0	-32.7	-13.0	-19.7
4	199.75	-30.7	-36.7	-2.4	-39.1	-13.0	-26.1
5	378.23	-57.7	-62.9	3.6	-59.3	-13.0	-46.3
6	667.29	-61.7	-62.8	3.6	-59.2	-13.0	-46.2

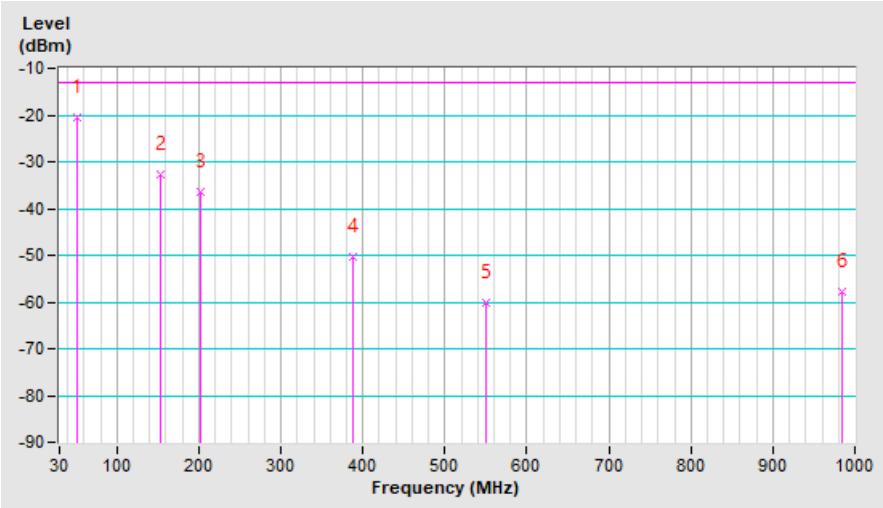
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX 1957.5MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	E

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	52.31	-13.5	-13.7	-6.8	-20.5	-13.0	-7.5
2	153.19	-30.5	-29.7	-2.9	-32.6	-13.0	-19.6
3	202.66	-35.0	-34.4	-2.1	-36.5	-13.0	-23.5
4	386.96	-49.8	-53.9	3.5	-50.4	-13.0	-37.4
5	549.92	-61.8	-63.9	3.8	-60.1	-13.0	-47.1
6	983.51	-67.1	-61.2	3.5	-57.7	-13.0	-44.7

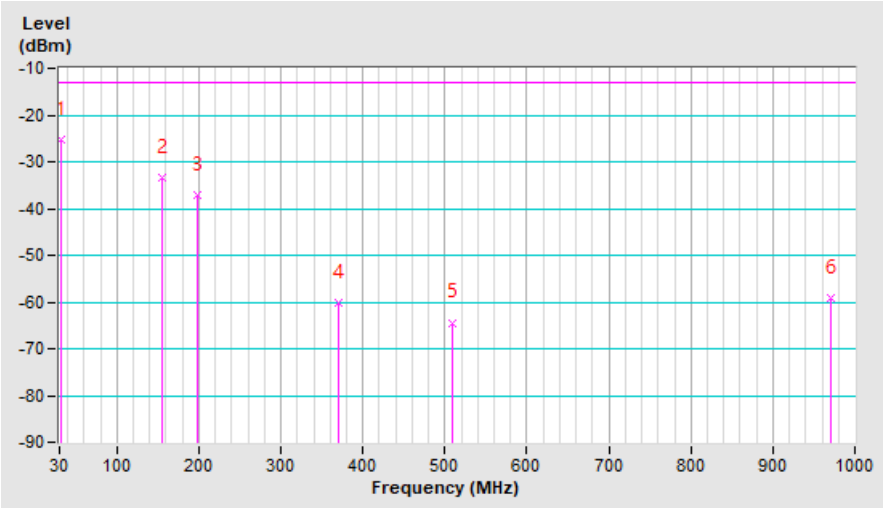
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX 1957.5MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	F

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	31.94	-28.8	-7.1	-18.3	-25.4	-13.0	-12.4
2	156.10	-28.8	-30.6	-2.9	-33.5	-13.0	-20.5
3	197.81	-28.7	-34.7	-2.4	-37.1	-13.0	-24.1
4	370.47	-58.0	-64.1	3.9	-60.2	-13.0	-47.2
5	508.21	-64.4	-68.3	3.9	-64.4	-13.0	-51.4
6	970.90	-67.6	-62.7	3.7	-59.0	-13.0	-46.0

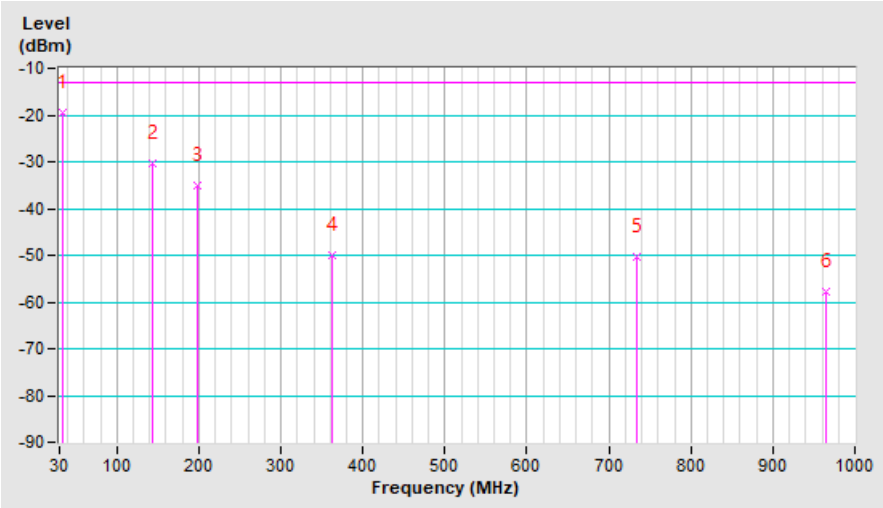
Remarks:
1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX 1957.5MHz	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	F

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	**34.85**	**-9.3**	**-3.0**	**-16.5**	**-19.5**	**-13.0**	**-6.5**
2	143.49	-28.0	-27.1	-3.1	-30.2	-13.0	-17.2
3	197.81	-34.3	-32.7	-2.4	-35.1	-13.0	-22.1
4	362.71	-49.6	-53.9	3.9	-50.0	-13.0	-37.0
5	733.25	-57.0	-53.9	3.6	-50.3	-13.0	-37.3
6	965.08	-66.8	-61.4	3.6	-57.8	-13.0	-44.8

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



Above 1GHz

For WCDMA only:

WCDMA Band 25

Mode	TX channel 5112 (1932.4MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Luis Lee	Test Mode	A

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	3864.80	-72.98	-66.70	7.05	-59.65	-13.00	-46.65
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	3864.80	-69.56	-61.70	7.05	-54.65	-13.00	-41.65

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

Mode	TX channel 5263 (1962.6MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Luis Lee	Test Mode	A

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	3925.20	-72.65	-66.47	7.05	-59.42	-13.00	-46.42
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	3925.20	-69.74	-61.80	7.05	-54.75	-13.00	-41.75

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

Mode	TX channel 5413 (1992.6MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Luis Lee	Test Mode	A

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	3985.20	-69.69	-62.81	7.04	-55.77	-13.00	-42.77
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	3985.20	-60.46	-52.48	7.04	-45.44	-13.00	-32.44

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

Mode	TX channel 5112 (1932.4MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Luis Lee	Test Mode	B

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	3864.80	-73.48	-67.20	7.05	-60.15	-13.00	-47.15
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	3864.80	-73.36	-65.50	7.05	-58.45	-13.00	-45.45

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

Mode	TX channel 5263 (1962.6MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Luis Lee	Test Mode	B

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	3925.20	-72.29	-66.11	7.05	-59.06	-13.00	-46.06
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	3925.20	-71.42	-63.48	7.05	-56.43	-13.00	-43.43

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

Mode	TX channel 5413 (1992.6MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Luis Lee	Test Mode	B

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	3985.20	-73.60	-66.72	7.04	-59.68	-13.00	-46.68
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	3985.20	-66.50	-58.52	7.04	-51.48	-13.00	-38.48

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

Mode	TX 1939.9MHz	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	C

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	3879.80	-61.7	-53.3	1.3	-52.0	-13.0	-39.0
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	3879.80	-60.5	-51.8	1.3	-50.5	-13.0	-37.5

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

Mode	TX 1962.7MHz	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	C

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	3925.40	-61.4	-52.9	1.3	-51.6	-13.0	-38.6
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	3925.40	-60.3	-51.6	1.3	-50.3	-13.0	-37.3

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

Mode	TX 1985.1MHz	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	C

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	3970.20	-62.1	-53.6	1.3	-52.3	-13.0	-39.3
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	3970.20	-60.9	-52.3	1.3	-51.0	-13.0	-38.0

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

For LTE + WCDMA:

Mode	TX 1957.5MHz	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	D

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	3915.00	-62.4	-53.9	1.3	-52.6	-13.0	-39.6
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	3915.00	-60.3	-51.6	1.3	-50.3	-13.0	-37.3

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

Mode	TX 1962.5MHz	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	D

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	3925.00	-62.9	-54.4	1.3	-53.1	-13.0	-40.1
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	3925.00	-60.6	-51.9	1.3	-50.6	-13.0	-37.6

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

Mode	TX 1967.5MHz	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	D

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	3934.40	-63.1	-54.6	1.3	-53.3	-13.0	-40.3
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	3934.40	-60.8	-52.1	1.3	-50.8	-13.0	-37.8

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

Mode	TX 1957.5MHz	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	E

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	3915.00	-61.7	-53.2	1.3	-51.9	-13.0	-38.9
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	3915.00	-59.5	-50.8	1.3	-49.5	-13.0	-36.5

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

Mode	TX 1962.5MHz	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	E

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	3925.00	-62.3	-53.8	1.3	-52.5	-13.0	-39.5
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	3925.00	-59.8	-51.1	1.3	-49.8	-13.0	-36.8

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

Mode	TX 1967.5MHz	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	E

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	3935.00	-61.8	-53.3	1.3	-52.0	-13.0	-39.0
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	3935.00	-60.2	-51.5	1.3	-50.2	-13.0	-37.2

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

Mode	TX 1957.5MHz	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	F

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	3915.00	-63.0	-54.5	1.3	-53.2	-13.0	-40.2
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	3915.00	-60.5	-51.8	1.3	-50.5	-13.0	-37.5

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

Mode	TX 1962.5MHz	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	F

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	3925.00	-62.9	-54.4	1.3	-53.1	-13.0	-40.1
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	3925.00	-60.7	-52.0	1.3	-50.7	-13.0	-37.7

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

Mode	TX 1967.5MHz	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin	Test Mode	F

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	3935.00	-63.1	-54.6	1.3	-53.3	-13.0	-40.3
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	3935.00	-61.1	-52.4	1.3	-51.1	-13.0	-38.1

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

5 Pictures of Test Arrangements

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

Appendix – Information of 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 FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

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

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