FCC TEST REPORT

(PART 27)

REPORT NO.:	RF111215C07-2
MODEL NO.:	C525
FCC ID:	UZI-C525
RECEIVED:	Dec. 15, 2011
TESTED:	Dec. 17, 2011 ~ Jan. 04, 2012
ISSUED:	Jan. 11, 2012

APPLICANT: BandRich Inc.

ADDRESS: 6F., No. 71, Zhouzi St., Neihu Dist., Taipei City 11493, Taiwan (R.O.C.)

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	N/A	Jan. 11, 2012

1 CERTIFICATION

PRODUCT :	LTE/EVDO Rev. A USB Modem
MODEL NO. :	C525
BRAND :	BandLuxe
APPLICANT :	BandRich Inc.
TESTED :	Dec. 17, 2011 ~ Jan. 04, 2012
TEST SAMPLE :	ENGINEERING SAMPLE
TEST STANDARDS :	**FCC Part 27, Subpart C, L**
	FCC Part 2
	ANSI C63.4-2003

The above equipment (model: C525) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : , DATE: Jan. 11, 2012

Pettie Chen / Specialist

APPROVED BY : , DATE: Jan. 11, 2012

Gary Chang / Technical Manager

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

OPERATING BAND: 698–746 MHz			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
2.1046 27.50(C)(10)	Maximum Peak Output Power Limit: max. 3 watts e.r.p peak power	PASS	Meet the requirement of limit. Minimum passing margin is 27.4dBm at 707.5 & 711.0MHz.
2.1055 27.54	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 27.53(g)	Occupied Bandwidth	PASS	Meet the requirement of limit.
27.50(d)(5)	Peak to average ratio	PASS	Meet the requirement of limit.
27.53(g)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(g)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 27.53(g)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -30.2dB at 2434.50MHz.

OPERATING BAND: 776-788 MHz			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
2.1046 27.50(b)(10)	Maximum Peak Output Power Limit: max. 3 watts e.r.p peak power	PASS	Meet the requirement of limit. Minimum passing margin is 24.2dBm at 779.5MHz.
2.1055 27.54	Frequency Stability	PASS	Meet the requirement of limit.
2.1049	Occupied Bandwidth	PASS	Meet the requirement of limit.
27.50(d)(5)	Peak to average ratio	PASS	Meet the requirement of limit.
27.53(c)(2)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(c)(2)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1051 27.53(c)(4)	Emission in the 736–775 MHz and 793–805 MHz band	PASS	Meet the requirement of limit.
2.1053 27.53(c)(2)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -35.1dB at 1554.6MHz.
2.1053 27.53(f)	Emissions in the band 1559–1610 MHz	PASS	Meet the requirement of limit. Minimum passing margin is -13.0dB at 1564.0MHz.

OPERATING BAND: 1710~1755 MHz			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
2.1046 27.50(d)(4)	Maximum Peak Output Power Limit: max. 1 watts e.i.r.p peak power	PASS	Meet the requirement of limit. Minimum passing margin is 25.4dBm at 1732.5MHz.
2.1055 27.54	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 27.53(h)	Occupied Bandwidth	PASS	Meet the requirement of limit.
27.50(d)(5)	Peak to average ratio	PASS	Meet the requirement of limit.
27.53(h)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(h)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 27.53(h)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is –21.9dB at 6845.0MHz.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	2.93 dB
	200MHz ~1000MHz	2.95 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	LTE/EVDO Rev. A USB Modem	
MODEL NO.	C525	
FCC ID	UZI-C525	
POWER SUPPLY	5.0Vdc (host equipment)	
OPERATION TEMPERATURE RANGE	-20°C ~ 55°C	
MODULATION TECHNOLOGY	LTE Band 12	QPSK, 16QAM, 64QAM
	LTE Band 13	QPSK, 16QAM, 64QAM
	LTE Band 4	QPSK, 16QAM, 64QAM
	CDMA BC 15 Band	BPSK
FREQUENCY RANGE	LTE Band 12 Channel Bandwidth: 5MHz	701.5MHz ~ 713.5MHz
	LTE Band 12 Channel Bandwidth: 10MHz	704MHz ~ 711MHz
	LTE Band 13 Channel Bandwidth: 5MHz	779.5MHz ~ 784.5MHz
	LTE Band 13 Channel Bandwidth: 10MHz	782MHz
	LTE Band 4 Channel Bandwidth: 5MHz	1712.5MHz ~1752.5MHz
	LTE Band 4 Channel Bandwidth: 10MHz	1715.0MHz ~1750.0MHz
	CDMA BC 15 Band	1711.25MHz ~1753.75MHz
MAX. ERP POWER (W)	LTE Band 12 Channel Bandwidth: 5MHz	0.5495W
	LTE Band 12 Channel Bandwidth: 10MHz	0.5495W
	LTE Band 13 Channel Bandwidth: 5MHz	0.2630W
	LTE Band 13 Channel Bandwidth: 10MHz	0.2455W
MAX. EIRP POWER (W)	LTE Band 4 Channel Bandwidth: 5MHz	0.1995W
	LTE Band 4 Channel Bandwidth: 10MHz	0.3467W
	CDMA BC 15 Band	0.3020W

CATEGORY	LTE: 3
ANTENNA TYPE	LTE Band 12: Internal monopole antenna with -3dBi gain LTE Band 13: Internal monopole antenna with -3dBi gain LTE Band 4: Internal monopole antenna with -2.5dBi gain CDMA BC 15 Band: Internal monopole antenna with -2.5dBi gain
DATA CABLE	0.5m non-shielded USB cable without core
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	NA

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

3.2 DESCRIPTION OF TEST MODES

LTE Band 12:

Three channels had been tested for each channel bandwidth.

CHANNEL BANDWIDTH	5MHz		10MHz	
	Channel	Frequency(MHz)	Channel	Frequency(MHz)
Low channel (L)	23035	701.5	23060	704.0
Middle channel (M)	23095	707.5	23095	707.5
High channel (H)	23155	713.5	23130	711.0

LTE Band 13:

Three channels had been tested for each channel bandwidth.

CHANNEL BANDWIDTH	5MHz	
	Channel	Frequency(MHz)
Low channel (L)	23205	779.5
Middle channel (M)	23230	782.0
High channel (H)	23255	784.5

CHANNEL BANDWIDTH	10MHz	
	Channel	Frequency(MHz)
-	23230	782.0

LTE Band 4:

Three channels had been tested for each channel bandwidth.

CHANNEL BANDWIDTH	5MHz		10MHz	
	Channel	Frequency(MHz)	Channel	Frequency(MHz)
Low channel (L)	19975	1712.5	20000	1715.0
Middle channel (M)	20175	1732.5	20175	1732.5
High channel (H)	20375	1752.5	20350	1750.0

CDMA BC 15 Band

Three channels had been tested for each channel bandwidth.

	Channel	Frequency(MHz)
Low channel (L)	25	1711.25
Middle channel (M)	425	1731.25
High channel (H)	875	1753.75

NOTE:

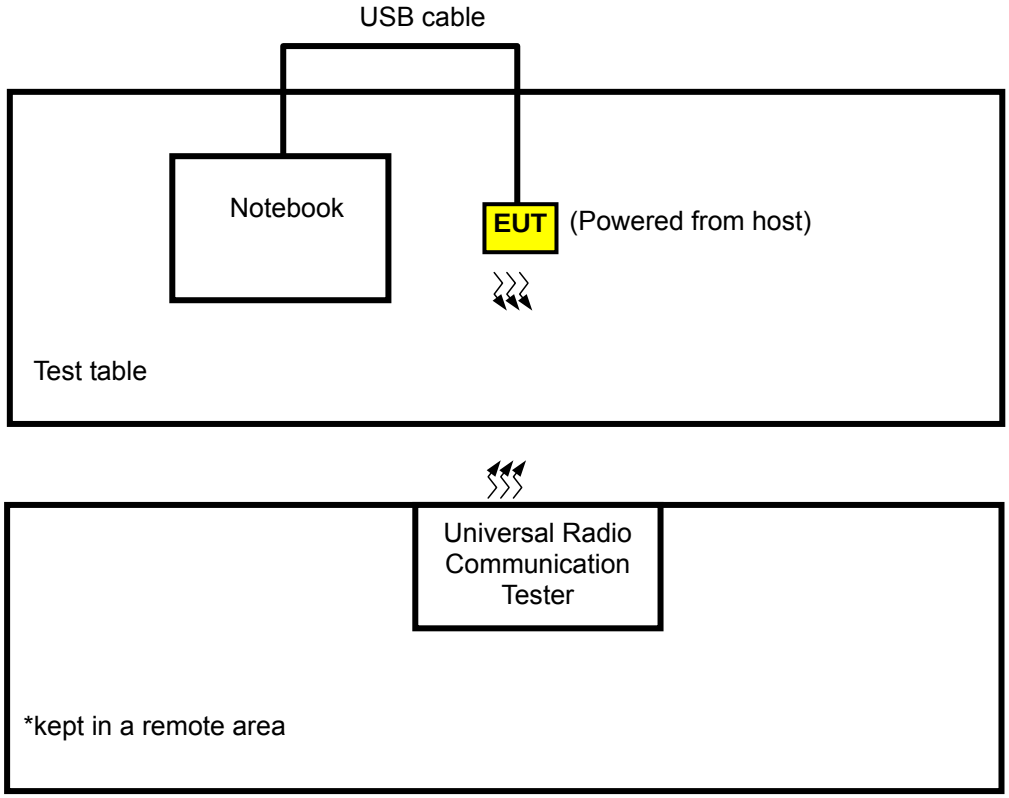
The EUT was pre-tested under following configurations for output power and spurious emission.

MODULATION	RB SETTING
QPSK	1 RB allocated at the upper edge
QPSK	1 RB allocated at the lower edge
QPSK	50% RB allocation centered
QPSK	100% RB allocation
16QAM	1 RB allocated at the upper edge
16QAM	1 RB allocated at the lower edge
16QAM	50% RB allocation centered
16QAM	100% RB allocation

Following configurations were found to be worst case and was selected for the final test.

BAND	MODULATION	RB SETTING
LTE Band 12	QPSK	1 RB allocated at the upper edge
LTE Band 13	QPSK	1 RB allocated at the lower edge
LTE Band 4	QPSK	1 RB allocated at the upper edge

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO								DESCRIPTION
	OP	FS	OB	PA	BE	CE	RE<1G	RE≥1G	
-	V	V	V	V	V	V	V	V	-

Where **OP:** Output power **FS:** Frequency stability

OB: Occupied bandwidth **PA:** Peak to Average Ratio

BE: Band edge **CE**: Conducted spurious emissions

RE<1G: Radiated emission below 1GHz **RE≥1G:** Radiated emission above 1GHz

OUTPUT POWER MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

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

EUT CONFIGURE MODE	OPERATING BAND	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	AXIS
-	LTE Band 12	23035 to 23155	23035, 23095, 23155	QPSK, 16QAM	Y
-		23030 to 23130	23060, 23095, 23130	QPSK, 16QAM	Y
-	LTE Band 13	23205 to 23255	23205, 23230, 23255	QPSK, 16QAM	Y
-		23230	23230	QPSK, 16QAM	Y
-	LTE Band 4	19975 to 20375	19975, 20175, 20375	QPSK, 16QAM	Y
-		20000 to 20350	20000, 20175, 20350	QPSK, 16QAM	Y
-	CDMA BC 15 Band	25 to 875	25, 425, 875	QPSK, 16QAM	Y

FREQUENCY STABILITY MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	OPERATING BAND	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY
-	LTE Band 12	23035 to 23155	23095	QPSK
-		23030 to 23130	23095	QPSK
-	LTE Band 13	23205 to 23255	23230	QPSK
-		23230	23230	QPSK
-	LTE Band 4	19975 to 20375	20175	QPSK
-		20000 to 20350	20175	QPSK
-	CDMA BC 15 Band	25 to 875	425	BPSK

OCCUPIED BANDWIDTH MEASUREMENT:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	OPERATING BAND	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY
-	LTE Band 12	23035 to 23155	23035, 23095, 23155	QPSK, 16QAM
-		23030 to 23130	23060, 23095, 23130	QPSK, 16QAM
-	LTE Band 13	23205 to 23255	23205, 23230, 23255	QPSK, 16QAM
-		23230	23230	QPSK, 16QAM
-	LTE Band 4	19975 to 20375	19975, 20175, 20375	QPSK, 16QAM
-		20000 to 20350	20000, 20175, 20350	QPSK, 16QAM
-	CDMA BC 15 Band	25 to 875	25, 425, 875	BPSK

PEAK TO AVERAGE RATIO:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	OPERATING BAND	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY
-	LTE Band 12	23035 to 23155	23035, 23095, 23155	QPSK, 16QAM
-		23030 to 23130	23060, 23095, 23130	QPSK, 16QAM
-	LTE Band 13	23205 to 23255	23205, 23230, 23255	QPSK, 16QAM
-		23230	23230	QPSK, 16QAM
-	LTE Band 4	19975 to 20375	19975, 20175, 20375	QPSK, 16QAM
-		20000 to 20350	20000, 20175, 20350	QPSK, 16QAM
-	CDMA BC 15 Band	25 to 875	25, 425, 875	BPSK

BAND EDGE MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	OPERATING BAND	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY
-	LTE Band 12	23035 to 23155	23035, 23095, 23155	QPSK
-		23030 to 23130	23060, 23095, 23130	QPSK
-	LTE Band 13	23205 to 23255	23205, 23230, 23255	QPSK
-		23230	23230	QPSK
-	LTE Band 4	19975 to 20375	19975, 20175, 20375	QPSK
-		20000 to 20350	20000, 20175, 20350	QPSK
-	CDMA BC 15 Band	25 to 875	25, 875	BPSK

CONDUCTED SPURIOUS EMISSIONS MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).

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

EUT CONFIGURE MODE	OPERATING BAND	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY
-	LTE Band 12	23035 to 23155	23035, 23095, 23155	QPSK
-		23030 to 23130	23060, 23095, 23130	QPSK
-	LTE Band 13	23205 to 23255	23205, 23230, 23255	QPSK
-		23230	23230	QPSK
-	LTE Band 4	19975 to 20375	19975, 20175, 20375	QPSK
-		20000 to 20350	20000, 20175, 20350	QPSK
-	CDMA BC 15 Band	25 to 875	25, 425, 875	BPSK

RADIATED EMISSION MEASUREMENT (BELOW 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

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

EUT CONFIGURE MODE	OPERATING BAND	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	AXIS
-	LTE Band 12	23035 to 23155	23095	QPSK	Y
-		23030 to 23130	23130	QPSK	Y
-	LTE Band 13	23205 to 23255	23205	QPSK	Y
-		23230	23230	QPSK	Y
-	LTE Band 4	19975 to 20375	20175	QPSK	Y
-		20000 to 20350	20175	QPSK	Y
-	CDMA BC 15 Band	25 to 875	25	BPSK	Y

RADIATED EMISSION MEASUREMENT (ABOVE 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

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

EUT CONFIGURE MODE	OPERATING BAND	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	AXIS
-	LTE Band 12	23035 to 23155	23035, 23095, 23155	QPSK	Y
-		23030 to 23130	23060, 23095, 23130	QPSK	Y
-	LTE Band 13	23205 to 23255	23205, 23230, 23255	QPSK	Y
-		23230	23230	QPSK	Y
-	LTE Band 4	19975 to 20375	19975, 20175, 20375	QPSK	Y
-		20000 to 20350	20000, 20175, 20350	QPSK	Y
-	CDMA BC 15 Band	25 to 875	25, 425, 875	BPSK	Y

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
OP	25deg. C, 65%RH	120Vac, 60Hz	Mark Liao
FS	25deg. C, 65%RH	120Vac, 60Hz	Mark Liao
OB	25deg. C, 65%RH	120Vac, 60Hz	Mark Liao
PA	25deg. C, 65%RH	120Vac, 60Hz	Mark Liao
BE	25deg. C, 65%RH	120Vac, 60Hz	Mark Liao
CE	25deg. C, 65%RH	120Vac, 60Hz	Mark Liao
RE < 1G	25deg. C, 65%RH	120Vac, 60Hz	Kay Wu
RE ≥ 1G	25deg. C, 65%RH	120Vac, 60Hz	Kay Wu

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 27

ANSI C63.4-2003

ANSI/TIA/EIA-603-C 2004

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

3.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	E5410	1HC2XM1	FCC DoC Approved
2	Universal Radio Communication Tester	R&S	CMU200	104484	NA
3	Universal Radio Communication Tester	Anritsu	MT8820C	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.8m USB cable
2	NA
3	NA

NOTE:

1. All power cords of the above support units are non shielded (1.8m).
2. Item 2, 3 acted as a communication partners to transfer data.
3. Item 2 was for CDMA BC 15 Band test only.
4. Item 3 was for LTE Band 12, Band 13 & Band 4 test only.

4 TEST TYPES AND RESULTS

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.
Portable stations (hand-held devices) operating in the 698–746 MHz, 779-793 MHz band are limited to 3 watts ERP

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100744	Apr. 19, 2011	Apr. 18, 2012
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jan. 06, 2011	Jan. 05, 2012
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 12, 2011	Apr. 11, 2012
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Sep. 06, 2011	Sep. 05, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 20, 2011	Jul. 19, 2012
Preamplifier Agilent	8449B	3008A01911	Oct. 29, 2011	Oct. 28, 2012
Preamplifier Agilent	8447D	2944A10638	Oct. 29, 2011	Oct. 28, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295013/4 283403/4	Aug. 19, 2011	Aug. 18, 2012
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 13, 2011	Aug. 12, 2012
Software	ADT_Radiated_ V7.6.15.9.2	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 Table Controller EMCO	2090	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 9.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 460141.
5. The IC Site Registration No. is IC 7450F-4.

4.1.3 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

a. The EUT was set up for the maximum power with LTE/CDMA link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range). RWB and VBW is 10MHz for LTE and 5MHz for CDMA mode.

b. E.I.R.P power measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G

d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn

e. E.R.P = E.I.R.P- 2.15 dB

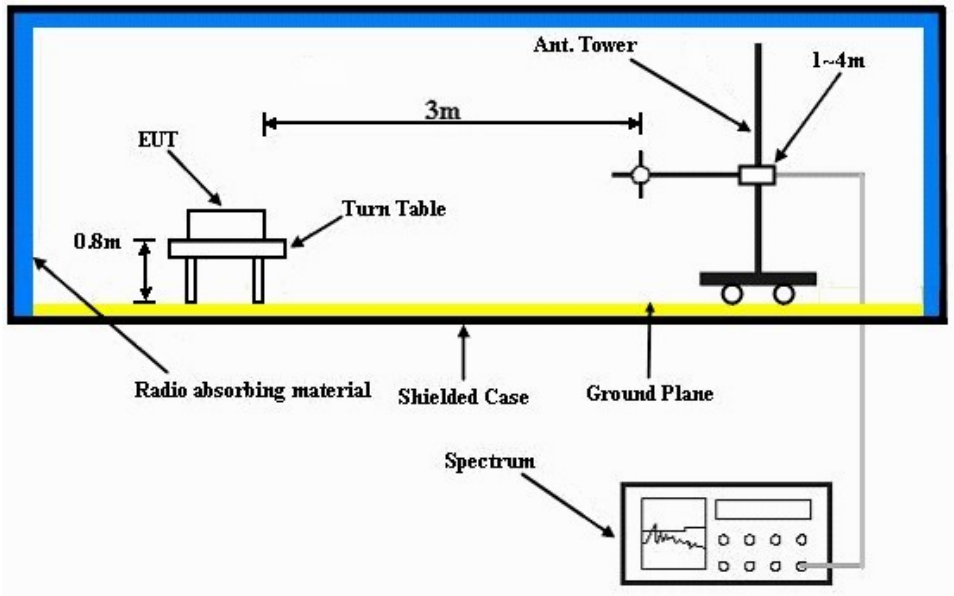
CONDUCTED POWER MEASUREMENT:

a. The EUT was set up for the maximum power with LTE/CDMA link data modulation and link up with simulator.

b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

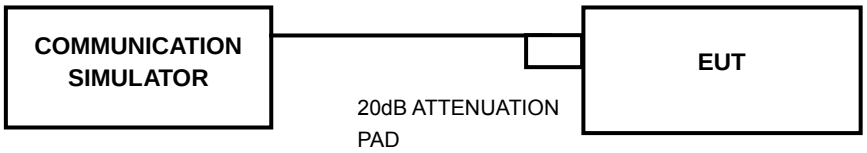
4.1.4 TEST SETUP

EIRP / ERP MEASUREMENT:



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

CONDUCTED POWER MEASUREMENT:



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

4.1.5 EUT OPERATING CONDITIONS

a. The EUT makes a call to the communication simulator.

b. The communication simulator station system controlled an EUT to export maximum output power under transmission mode and specific channel frequency.

4.1.6 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

LTE Band 12								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
5 MHz	QPSK	23035	701.5	1	0	0	23.5	22.83
		23095	707.5	1	0	0	23.5	22.92
		23155	713.5	1	0	0	23.5	22.69
		23035	701.5	1	24	0	23.5	22.90
		23095	707.5	1	24	0	23.5	22.92
		23155	713.5	1	24	0	23.5	22.84
		23035	701.5	12	6	1	23.5	22.28
		23095	707.5	12	6	1	23.5	22.20
		23155	713.5	12	6	1	23.5	22.04
		23035	701.5	25	0	1	23.5	22.21
		23095	707.5	25	0	1	23.5	22.29
		23155	713.5	25	0	1	23.5	22.10
	16QAM	23035	701.5	1	0	1	23.5	22.62
		23095	707.5	1	0	1	23.5	22.75
		23155	713.5	1	0	1	23.5	22.47
		23035	701.5	1	24	1	23.5	22.72
		23095	707.5	1	24	1	23.5	22.80
		23155	713.5	1	24	1	23.5	22.57
		23035	701.5	12	6	2	23.5	21.14
		23095	707.5	12	6	2	23.5	21.22
		23155	713.5	12	6	2	23.5	21.02
		23035	701.5	25	0	2	23.5	21.67
		23095	707.5	25	0	2	23.5	21.70
		23155	713.5	25	0	2	23.5	21.48

LTE Band 12								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
10 MHz	QPSK	23060	704.0	1	0	0	23.5	22.82
		23095	707.5	1	0	0	23.5	22.75
		23130	711.0	1	0	0	23.5	**22.97**
		23060	704.0	1	49	0	23.5	22.92
		23095	707.5	1	49	0	23.5	22.80
		23130	711.0	1	49	0	23.5	22.95
		23060	704.0	25	12	1	23.5	22.21
		23095	707.5	25	12	1	23.5	22.23
		23130	711.0	25	12	1	23.5	22.27
		23060	704.0	50	0	1	23.5	22.22
		23095	707.5	50	0	1	23.5	22.17
		23130	711.0	50	0	1	23.5	22.26
	16QAM	23060	704.0	1	0	1	23.5	22.60
		23095	707.5	1	0	1	23.5	22.54
		23130	711.0	1	0	1	23.5	22.75
		23060	704.0	1	49	1	23.5	22.82
		23095	707.5	1	49	1	23.5	22.58
		23130	711.0	1	49	1	23.5	22.72
		23060	704.0	25	12	2	23.5	21.62
		23095	707.5	25	12	2	23.5	21.64
		23130	711.0	25	12	2	23.5	21.46
		23060	704.0	50	0	2	23.5	21.38
		23095	707.5	50	0	2	23.5	21.34
		23130	711.0	50	0	2	23.5	21.22

LTE Band 13								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
5 MHz	QPSK	23205	779.5	1	0	0	23.5	22.90
		23230	782.0	1	0	0	23.5	23.11
		23255	784.5	1	0	0	23.5	22.88
		23205	779.5	1	24	0	23.5	22.61
		23230	782.0	1	24	0	23.5	22.78
		23255	784.5	1	24	0	23.5	22.58
		23205	779.5	12	6	1	23.5	22.29
		23230	782.0	12	6	1	23.5	22.31
		23255	784.5	12	6	1	23.5	22.27
		23205	779.5	25	0	1	23.5	22.15
		23230	782.0	25	0	1	23.5	22.26
		23255	784.5	25	0	1	23.5	22.12
	16QAM	23205	779.5	1	0	1	23.5	22.59
		23230	782.0	1	0	1	23.5	22.76
		23255	784.5	1	0	1	23.5	22.54
		23205	779.5	1	24	1	23.5	22.40
		23230	782.0	1	24	1	23.5	22.55
		23255	784.5	1	24	1	23.5	22.37
		23205	779.5	12	6	2	23.5	21.18
		23230	782.0	12	6	2	23.5	21.23
		23255	784.5	12	6	2	23.5	21.15
		23205	779.5	25	0	2	23.5	21.55
		23230	782.0	25	0	2	23.5	21.64
		23255	784.5	25	0	2	23.5	21.54
10 MHz	QPSK	23230	782.0	1	0	0	23.5	**23.15**
		23230	782.0	1	49	0	23.5	22.81
		23230	782.0	25	12	1	23.5	22.30
		23230	782.0	50	0	1	23.5	22.14
	16QAM	23230	782.0	1	0	1	23.5	22.89
		23230	782.0	1	49	1	23.5	22.47
		23230	782.0	25	12	2	23.5	21.60
		23230	782.0	50	0	2	23.5	21.37

LTE Band 4								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
5 MHz	QPSK	19975	1712.5	1	0	0	23.5	23.35
		20175	1732.5	1	0	0	23.5	23.01
		20375	1752.5	1	0	0	23.5	23.05
		19975	1712.5	1	24	0	23.5	23.43
		20175	1732.5	1	24	0	23.5	23.08
		20375	1752.5	1	24	0	23.5	23.23
		19975	1712.5	12	6	1	23.5	22.65
		20175	1732.5	12	6	1	23.5	22.35
		20375	1752.5	12	6	1	23.5	22.61
		19975	1712.5	25	0	1	23.5	22.65
		20175	1732.5	25	0	1	23.5	22.44
		20375	1752.5	25	0	1	23.5	22.67
	16QAM	19975	1712.5	1	0	1	23.5	22.75
		20175	1732.5	1	0	1	23.5	22.86
		20375	1752.5	1	0	1	23.5	22.74
		19975	1712.5	1	24	1	23.5	23.01
		20175	1732.5	1	24	1	23.5	22.76
		20375	1752.5	1	24	1	23.5	22.93
		19975	1712.5	12	6	2	23.5	21.57
		20175	1732.5	12	6	2	23.5	21.39
		20375	1752.5	12	6	2	23.5	21.72
		19975	1712.5	25	0	2	23.5	21.91
		20175	1732.5	25	0	2	23.5	21.48
		20375	1752.5	25	0	2	23.5	21.81

LTE Band 4								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
10 MHz	QPSK	20000	1715.0	1	0	0	23.5	23.40
		20175	1732.5	1	0	0	23.5	23.05
		20350	1750.0	1	0	0	23.5	23.08
		20000	1715.0	1	49	0	23.5	**23.50**
		20175	1732.5	1	49	0	23.5	22.78
		20350	1750.0	1	49	0	23.5	23.17
		20000	1715.0	25	12	1	23.5	22.90
		20175	1732.5	25	12	1	23.5	22.33
		20350	1750.0	25	12	1	23.5	22.88
		20000	1715.0	50	0	1	23.5	22.76
		20175	1732.5	50	0	1	23.5	22.54
		20350	1750.0	50	0	1	23.5	22.52
	16QAM	20000	1715.0	1	0	1	23.5	22.25
		20175	1732.5	1	0	1	23.5	22.04
		20350	1750.0	1	0	1	23.5	22.13
		20000	1715.0	1	49	1	23.5	22.24
		20175	1732.5	1	49	1	23.5	22.03
		20350	1750.0	1	49	1	23.5	21.93
		20000	1715.0	25	12	2	23.5	22.02
		20175	1732.5	25	12	2	23.5	21.74
		20350	1750.0	25	12	2	23.5	21.71
		20000	1715.0	50	0	2	23.5	21.85
		20175	1732.5	50	0	2	23.5	21.70
		20350	1750.0	50	0	2	23.5	21.48

Band	CDMA BC 15 Band		
Channel	25	425	875
Frequency (MHz)	1711.25	1731.25	1753.75
RC1+SO55	23.66	23.40	23.58
RC3+SO55	23.69	23.42	23.59
RC3+SO32(+F-SCH)	23.67	23.48	23.50
RC3+SO32(+SCH)	23.69	23.37	23.59
1x EV-DO Rev. 0	23.86	23.63	23.72
1x EV-DO Rev. A	23.75	23.53	23.67

FOR LTE BAND 12:

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB

MODE		TX channel 23035					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	701.5	-3.9	29.7	-1.1	26.5	34.8	-8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	701.5	-11.3	20	-1.1	16.8	34.8	-18.0

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

MODE		TX channel 23095					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.5	-3.0	30.6	-1.1	27.4	34.8	-7.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.5	-10.2	21.1	-1.1	17.9	34.8	-16.9

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

MODE		TX channel 23155					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	713.5	-3.4	30.2	-1.1	27.0	34.8	-7.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	713.5	-10.7	20.6	-1.1	17.4	34.8	-17.4

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

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB

MODE		TX channel 23060					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	704.0	-3.2	30.4	-1.1	27.2	34.8	-7.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	704.0	-10.5	20.8	-1.1	17.6	34.8	-17.2

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

MODE		TX channel 23095					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.5	-3.9	29.7	-1.1	26.5	34.8	-8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.5	-10.8	20.5	-1.1	17.2	34.8	-17.6

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

MODE		TX channel 23130					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	711.0	-3.0	30.6	-1.1	27.4	34.8	-7.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	711.0	-10.1	21.2	-1.1	18.0	34.8	-16.8

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

FOR LTE BAND 13:

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB

MODE	TX channel 23205						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	779.5	-6.2	27.4	-1.1	24.2	34.8	-10.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	779.5	-12.1	19.2	-1.1	16.0	34.8	-18.8

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

MODE	TX channel 23230						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	782.0	-7.3	26.3	-1.1	23.1	34.8	-11.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	782.0	-13.0	18.4	-1.1	15.2	34.8	-19.6

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

MODE	TX channel 23255						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	784.5	-7.9	25.6	-1.0	22.5	34.8	-12.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	784.5	-14.1	17.7	-1.0	14.5	34.8	-20.3

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

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB

MODE		TX channel 23230					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	782.0	-6.5	27.1	-1.1	23.9	34.8	-10.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	782.0	-12.4	18.9	-1.1	15.7	34.8	-19.1

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

FOR LTE BAND 4:

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB

MODE	TX channel 19975						
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	1712.5	-15.3	20.3	1.0	21.3	30.0	-8.7
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	1712.5	-18.4	16.3	1.0	17.3	30.0	-12.7

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

MODE	TX channel 20175						
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	1732.5	-13.7	22.0	1.0	23.0	30.0	-7.0
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	1732.5	-17.7	17.0	1.0	18.0	30.0	-12.0

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

MODE	TX channel 20375						
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	1752.5	-15.7	20.1	1.0	21.1	30.0	-8.9
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	1752.5	-18.2	16.6	1.0	17.6	30.0	-12.4

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

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB

MODE		TX channel 20000					
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	1715.0	21.5	22.3	1.0	23.3	30.0	-6.7
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	1715.0	-15.2	19.5	1.0	20.5	30.0	-9.5

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

MODE		TX channel 20175					
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	1732.5	-11.3	24.4	1.0	25.4	30.0	-4.6
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	1732.5	-14.6	20.1	1.0	21.1	30.0	-8.9

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

MODE		TX channel 20350					
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	1750.0	-14.4	21.4	1	22.4	30.0	-7.6
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	1750.0	-15.9	18.9	1	19.9	30.0	-10.1

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

FOR CDMA BC 15 BAND

MODE		TX channel 25					
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	1711.25	-14.2	23.3	1.0	24.3	30.0	-5.7
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	1711.25	-13.8	22.1	1.0	23.1	30.0	-6.9

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

MODE		TX channel 425					
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	1731.25	-15.0	22.7	1.0	23.7	30.0	-6.3
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	1731.25	-14.4	21.6	1.0	22.6	30.0	-7.4

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

MODE		TX channel 875					
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	1753.75	-14.7	23.1	1.0	24.1	30.0	-5.9
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	1753.75	-15.3	20.9	1.0	21.9	30.0	-8.1

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

FOR 1xEVDO Rev. A MODE

MODE		TX channel 25					
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	1711.25	-13.7	23.8	1.0	24.8	30.0	-5.2
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	1711.25	-13.4	22.5	1.0	23.5	30.0	-6.5

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

MODE		TX channel 425					
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	1731.25	-14.5	23.2	1.0	24.2	30.0	-5.8
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	1731.25	-14.1	21.9	1.0	22.9	30.0	-7.1

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

MODE		TX channel 875					
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	1753.75	-14.4	23.4	1.0	24.4	30.0	-5.6
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	1753.75	-14.2	22.0	1.0	23.0	30.0	-7.0

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

FOR 1xEVDO Rev. 0 MODE

MODE		TX channel 25					
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	1711.25	-14	23.5	1.0	24.5	30.0	-5.5
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	1711.25	-13.6	22.3	1.0	23.3	30.0	-6.7

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

MODE		TX channel 425					
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	1731.25	-14.7	23.0	1.0	24.0	30.0	-6.0
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	1731.25	-14.2	21.8	1.0	22.8	30.0	-7.2

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

MODE		TX channel 875					
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	1753.75	-14.6	23.2	1.0	24.2	30.0	-5.8
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	1753.75	-14.2	22.0	1.0	23.0	30.0	-7.0

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

4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

According to the FCC part 27.54 shall be tested the frequency stability. The rule is defined that" The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation. 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 the 2.1055(a)(1) –30℃~50℃.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
* Hewlett Packard RF cable	8120-6192	01428251	NA	NA
* Suhner RF cable	Sucoflex104	257029	Sep. 11, 2011	Sep. 10, 2012
* WIT Standard Temperature & Humidity Chamber	MHU-225AU	920842	Jun. 15, 2011	Jun. 14, 2012

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. "*" = These equipments are used for the final measurement.

3. The test was performed in ADT RF OVEN room.

4.2.3 TEST PROCEDURE

a. Because of the measure the carrier frequency under the condition of the AFC lock, it shall be used the mobile station in the LTE/CDMA link mode. This is accomplished with the use of the communication simulator station. The oven room could control the temperatures and humidity.

b. Power must be removed when changing from one temperature to another or one voltage to another voltage. Power warm up is at least 15 min and power applied should perform before recording frequency error.

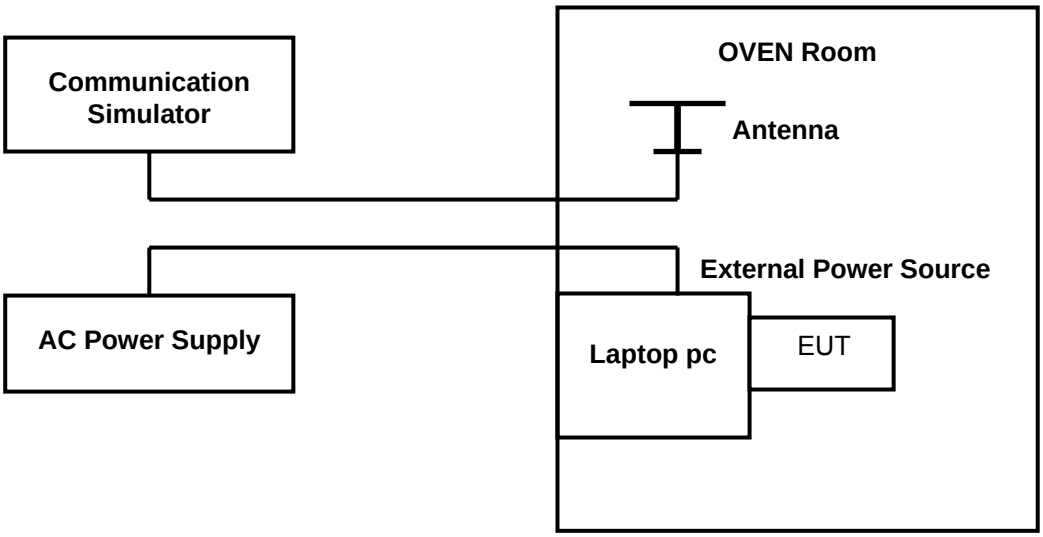
c. Laptop pc is connected the external power supply to control the AC input power. The various Volts from the minimum 126.5 Volts to 93.5 Volts. Each step shall be record the frequency error rate.

d. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5℃ during the measurement testing.

e. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

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

4.2.4 TEST SETUP



4.2.5 TEST RESULTS

FOR LTE BAND 12:

CHANNEL BANDWIDTH: 5MHz

AFC FREQUENCY ERROR vs. VOLTAGE			
VOLTAGE (Volts)	**FREQUENCY ERROR (Hz)**	**FREQUENCY ERROR (ppm)**	**LIMIT (ppm)**
126.5	-6	-0.008	2.5
93.5	-4	-0.006	2.5

NOTE: The applicant defined the normal working voltage of the host equipment is from 93.5Vac to 126.5Vac.

AFC FREQUENCY ERROR vs. TEMP.			
TEMP. (℃)	**FREQUENCY ERROR (Hz)**	**FREQUENCY ERROR (ppm)**	**LIMIT (ppm)**
55	-9	-0.013	2.5
50	-7	-0.010	2.5
40	-5	-0.007	2.5
30	-4	-0.006	2.5
20	-2	-0.003	2.5
10	-5	-0.007	2.5
0	-2	-0.003	2.5
-10	-3	-0.004	2.5
-20	-4	-0.006	2.5
-30	-6	-0.008	2.5

CHANNEL BANDWIDTH: 10MHz

AFC FREQUENCY ERROR vs. VOLTAGE			
VOLTAGE (Volts)	**FREQUENCY ERROR (Hz)**	**FREQUENCY ERROR (ppm)**	**LIMIT (ppm)**
126.5	-8	-0.011	2.5
93.5	-4	-0.006	2.5

NOTE: The applicant defined the normal working voltage of the host equipment is from 93.5Vac to 126.5Vac.

AFC FREQUENCY ERROR vs. TEMP.			
TEMP. (℃)	**FREQUENCY ERROR (Hz)**	**FREQUENCY ERROR (ppm)**	**LIMIT (ppm)**
55	-9	-0.013	2.5
50	-7	-0.010	2.5
40	-5	-0.007	2.5
30	-2	-0.003	2.5
20	-1	-0.001	2.5
10	-2	-0.003	2.5
0	-3	-0.004	2.5
-10	-4	-0.006	2.5
-20	-5	-0.007	2.5
-30	-6	-0.008	2.5

FOR LTE BAND 13:

CHANNEL BANDWIDTH: 5MHz

AFC FREQUENCY ERROR vs. VOLTAGE			
VOLTAGE (Volts)	**FREQUENCY ERROR (Hz)**	**FREQUENCY ERROR (ppm)**	**LIMIT (ppm)**
126.5	-8	-0.010	2.5
93.5	-4	-0.005	2.5

NOTE: The applicant defined the normal working voltage of the host equipment is from 93.5Vac to 126.5Vac.

AFC FREQUENCY ERROR vs. TEMP.			
TEMP. (℃)	**FREQUENCY ERROR (Hz)**	**FREQUENCY ERROR (ppm)**	**LIMIT (ppm)**
55	-11	-0.014	2.5
50	-9	-0.012	2.5
40	-6	-0.008	2.5
30	-4	-0.005	2.5
20	-3	-0.004	2.5
10	-2	-0.003	2.5
0	-5	-0.006	2.5
-10	-6	-0.008	2.5
-20	-5	-0.006	2.5
-30	-7	-0.009	2.5

CHANNEL BANDWIDTH: 10MHz

AFC FREQUENCY ERROR vs. VOLTAGE			
VOLTAGE (Volts)	FREQUENCY ERROR (Hz)	FREQUENCY ERROR (ppm)	LIMIT (ppm)
126.5	-9	-0.012	2.5
93.5	-6	-0.008	2.5

NOTE: The applicant defined the normal working voltage of the host equipment is from 93.5Vac to 126.5Vac.

AFC FREQUENCY ERROR vs. TEMP.			
TEMP. (℃)	FREQUENCY ERROR (Hz)	FREQUENCY ERROR (ppm)	LIMIT (ppm)
55	-14	-0.018	2.5
50	-12	-0.015	2.5
40	-10	-0.013	2.5
30	-8	-0.010	2.5
20	-7	-0.009	2.5
10	-8	-0.010	2.5
0	-5	-0.006	2.5
-10	-4	-0.005	2.5
-20	-6	-0.008	2.5
-30	-8	-0.010	2.5

FOR LTE BAND 4:

CHANNEL BANDWIDTH: 5MHz

AFC FREQUENCY ERROR vs. VOLTAGE			
VOLTAGE (Volts)	**FREQUENCY ERROR (Hz)**	**FREQUENCY ERROR (ppm)**	**LIMIT (ppm)**
126.5	-4	-0.002	2.5
93.5	-2	-0.001	2.5

NOTE: The applicant defined the normal working voltage of the host equipment is from 93.5Vac to 126.5Vac.

AFC FREQUENCY ERROR vs. TEMP.			
TEMP. (℃)	**FREQUENCY ERROR (Hz)**	**FREQUENCY ERROR (ppm)**	**LIMIT (ppm)**
55	-6	-0.003	2.5
50	-5	-0.003	2.5
40	-3	-0.002	2.5
30	-1	-0.001	2.5
20	-2	-0.001	2.5
10	-1	-0.001	2.5
0	-3	-0.002	2.5
-10	-4	-0.002	2.5
-20	-5	-0.003	2.5
-30	-6	-0.003	2.5

CHANNEL BANDWIDTH: 10MHz

AFC FREQUENCY ERROR vs. VOLTAGE			
VOLTAGE (Volts)	FREQUENCY ERROR (Hz)	FREQUENCY ERROR (ppm)	LIMIT (ppm)
126.5	-6	-0.003	2.5
93.5	-3	-0.002	2.5

NOTE: The applicant defined the normal working voltage of the host equipment is from 93.5Vac to 126.5Vac.

AFC FREQUENCY ERROR vs. TEMP.			
TEMP. (℃)	FREQUENCY ERROR (Hz)	FREQUENCY ERROR (ppm)	LIMIT (ppm)
55	-9	-0.005	2.5
50	-7	-0.004	2.5
40	-5	-0.003	2.5
30	-3	-0.002	2.5
20	-2	-0.001	2.5
10	-3	-0.002	2.5
0	-1	-0.001	2.5
-10	-2	-0.001	2.5
-20	-4	-0.002	2.5
-30	-6	-0.003	2.5

FOR CDMA BC 15 BAND

AFC FREQUENCY ERROR vs. VOLTAGE			
VOLTAGE (Volts)	FREQUENCY ERROR (Hz)	FREQUENCY ERROR (ppm)	LIMIT (ppm)
126.5	-10	-0.006	2.5
93.5	-6	-0.003	2.5

NOTE: The applicant defined the normal working voltage of the host equipment is from 93.5Vac to 126.5Vac.

AFC FREQUENCY ERROR vs. TEMP.			
TEMP. (℃)	FREQUENCY ERROR (Hz)	FREQUENCY ERROR (ppm)	LIMIT (ppm)
55	-12	-0.007	2.5
50	-11	-0.006	2.5
40	-9	-0.005	2.5
30	-7	-0.004	2.5
20	-8	-0.005	2.5
10	-6	-0.003	2.5
0	-7	-0.004	2.5
-10	-5	-0.003	2.5
-20	-8	-0.005	2.5
-30	-10	-0.006	2.5

4.3 OCCUPIED BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

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

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
* Mini-Circuits Power Splitter	ZAPD-4	NA	Mar. 24, 2011	Mar. 23, 2012
* Hewlett Packard RF cable	8120-6192	274388	Oct. 22, 2011	Oct. 21, 2012
* JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
* Suhner RF cable	Sucoflex104	274403/4	Aug. 20, 2011	Aug. 19, 2012
* ROHDE & SCHWARZ Spectrum Analyzer	E4446A	MY44360128	Feb. 22, 2011	Feb. 21, 2012

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. "*" = These equipments are used for the final measurement.

4.3.3 TEST SETUP

Same as Item 4.1.4 (Conducted Power Setup)

4.3.4 TEST PROCEDURES

a. The EUT makes a phone call to the communication simulator. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels. (low, middle and high operational frequency range.)

b. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

c. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

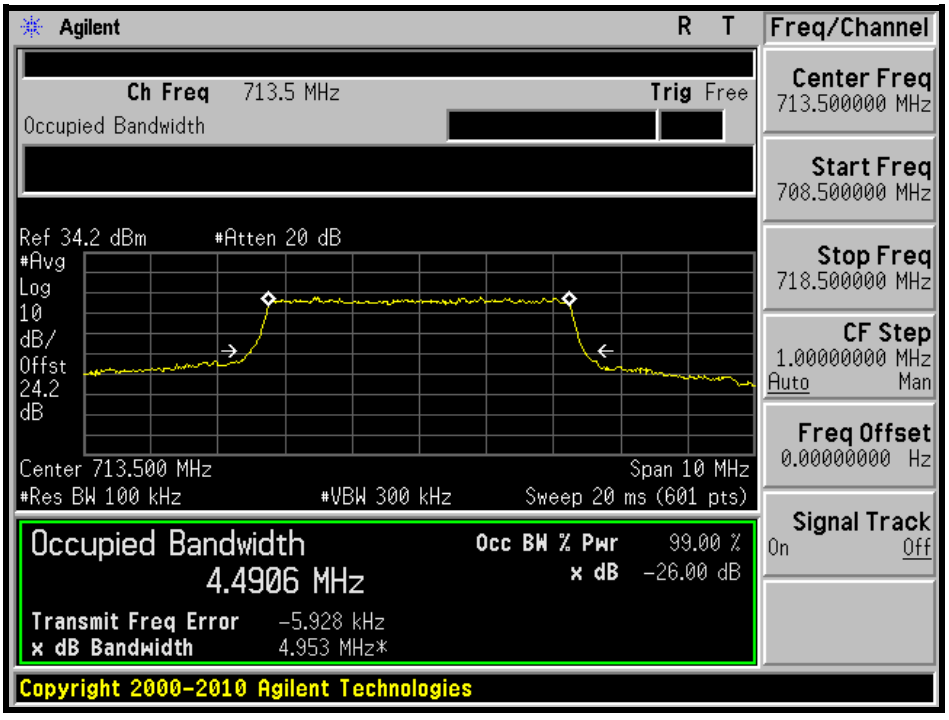
4.3.5 TEST RESULTS

LTE Band 12

CHANNEL BANDWIDTH: 5MHz / QPSK

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
701.5	4.4821
707.5	4.4904
713.5	4.4906

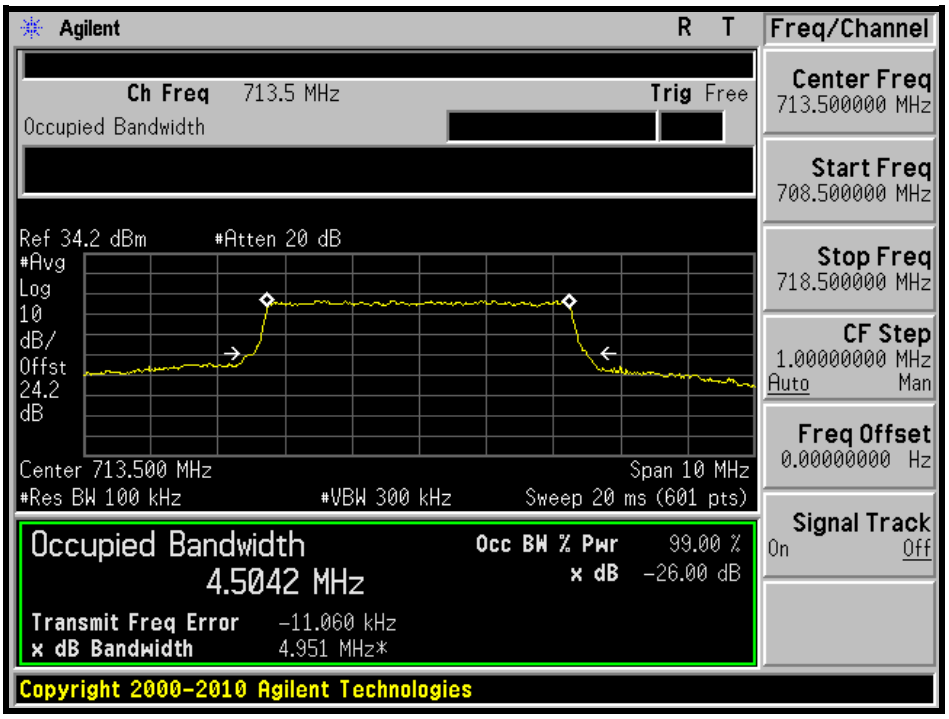
CH 23155



LTE Band 12
CHANNEL BANDWIDTH: 5MHz / 16QAM

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
701.5	4.4909
707.5	4.4927
713.5	4.5042

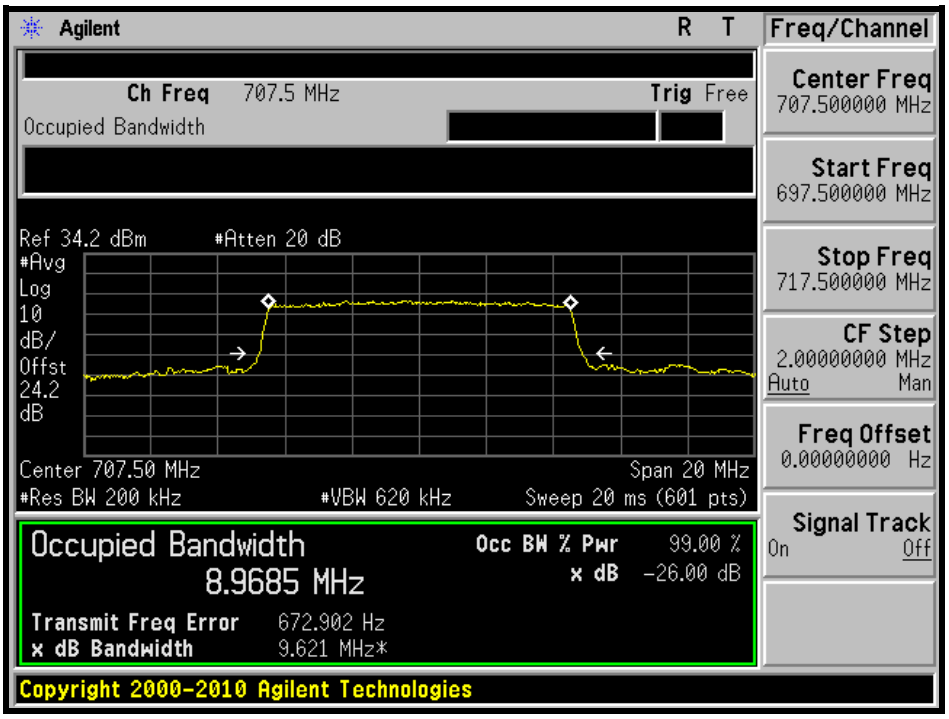
CH 23155



LTE Band 12
CHANNEL BANDWIDTH: 10MHz / QPSK

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
704.0	8.9681
707.5	8.9685
711.0	8.9673

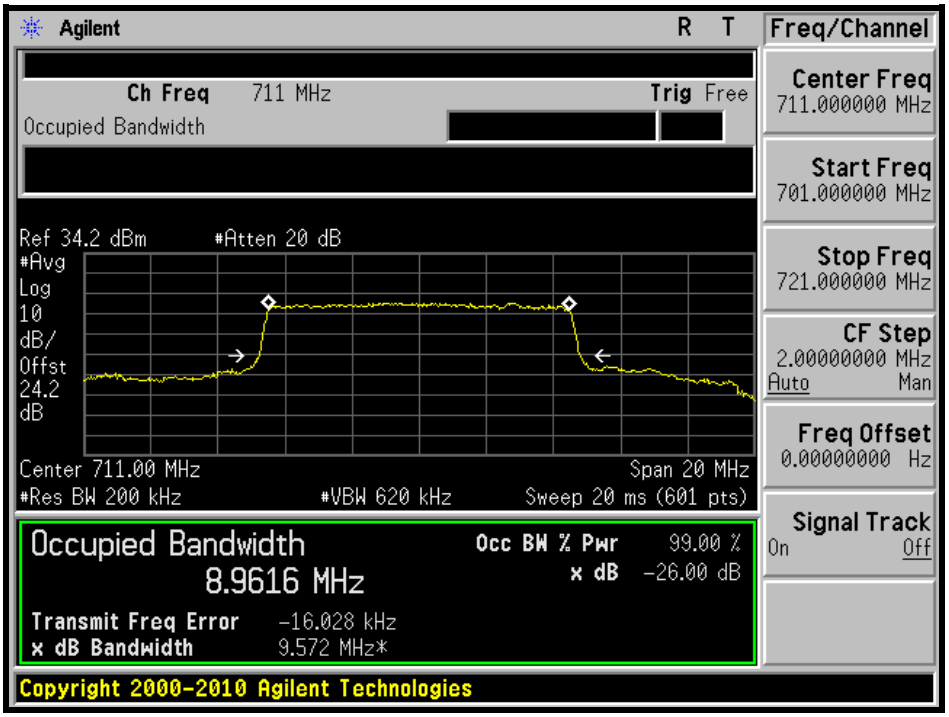
CH 23095



LTE Band 12
CHANNEL BANDWIDTH: 10MHz / 16QAM

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
704.0	8.9569
707.5	8.9596
711.0	8.9616

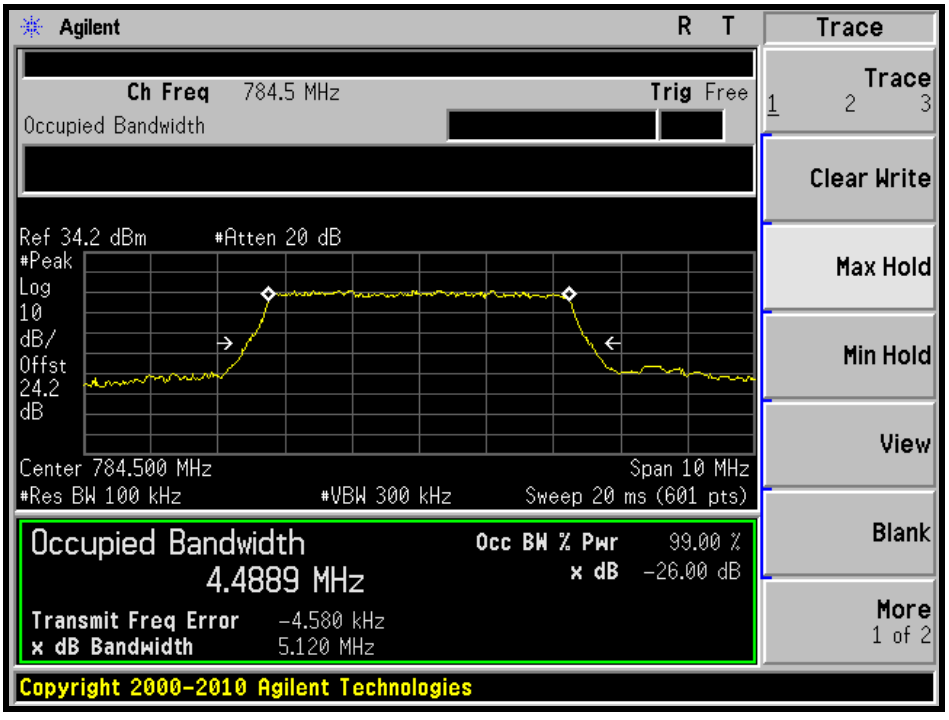
CH 23130



LTE Band 13
CHANNEL BANDWIDTH: 5MHz / QPSK

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
779.5	4.4840
782.0	4.4791
784.5	4.4889

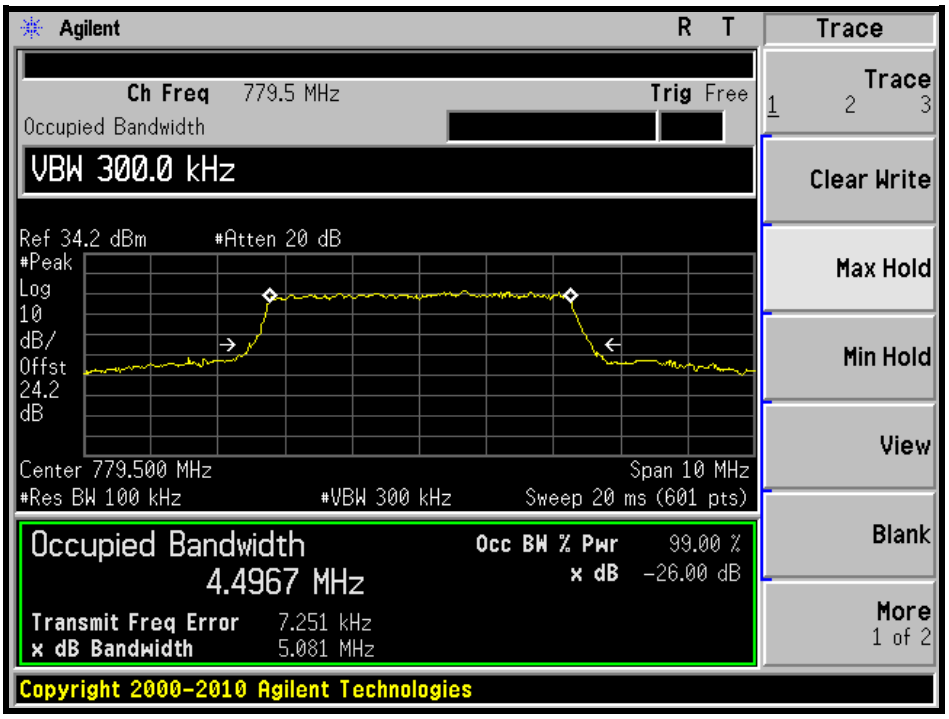
CH 23255



LTE Band 13
CHANNEL BANDWIDTH: 5MHz / 16QAM

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
779.5	4.4967
782.0	4.4623
784.5	4.4896

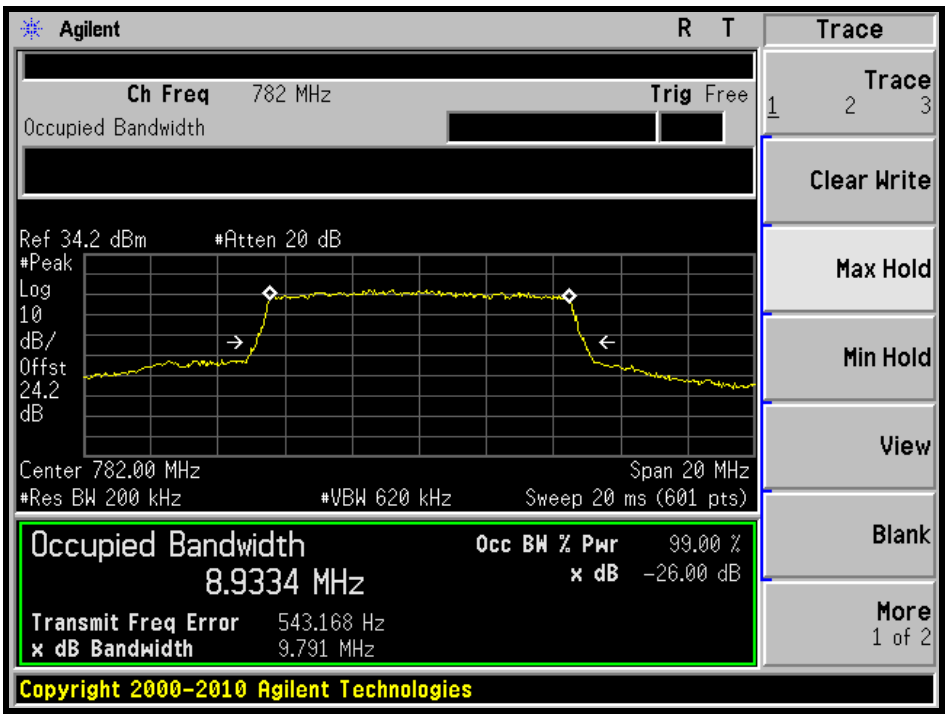
CH 23205



LTE Band 13
CHANNEL BANDWIDTH: 10MHz / QPSK

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
782.0	8.9334

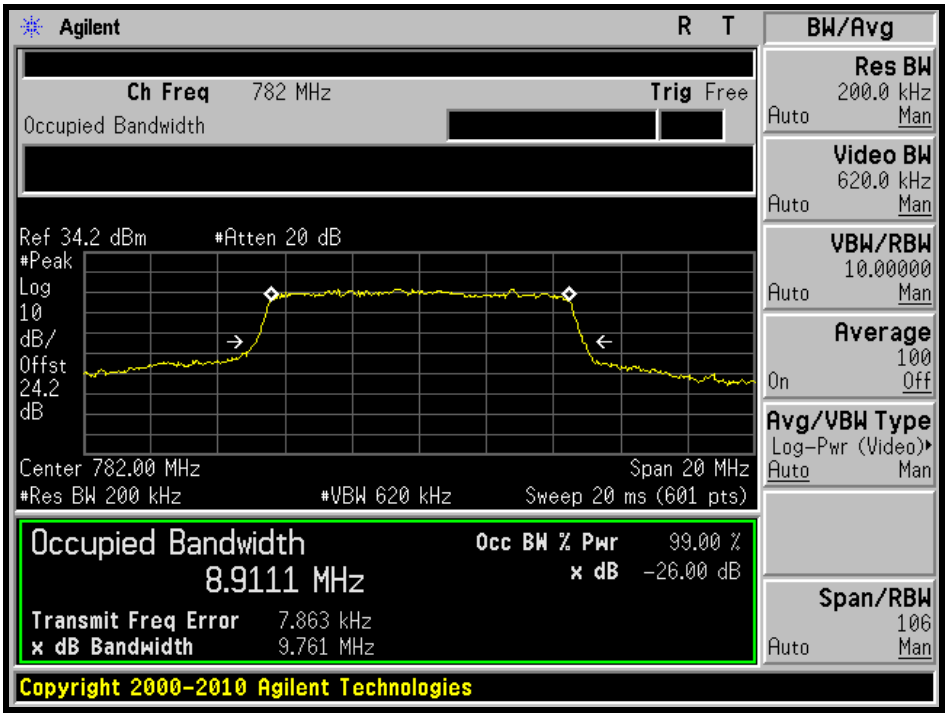
CH 23230



LTE Band 13
CHANNEL BANDWIDTH: 10MHz / 16QAM

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
782	8.9111

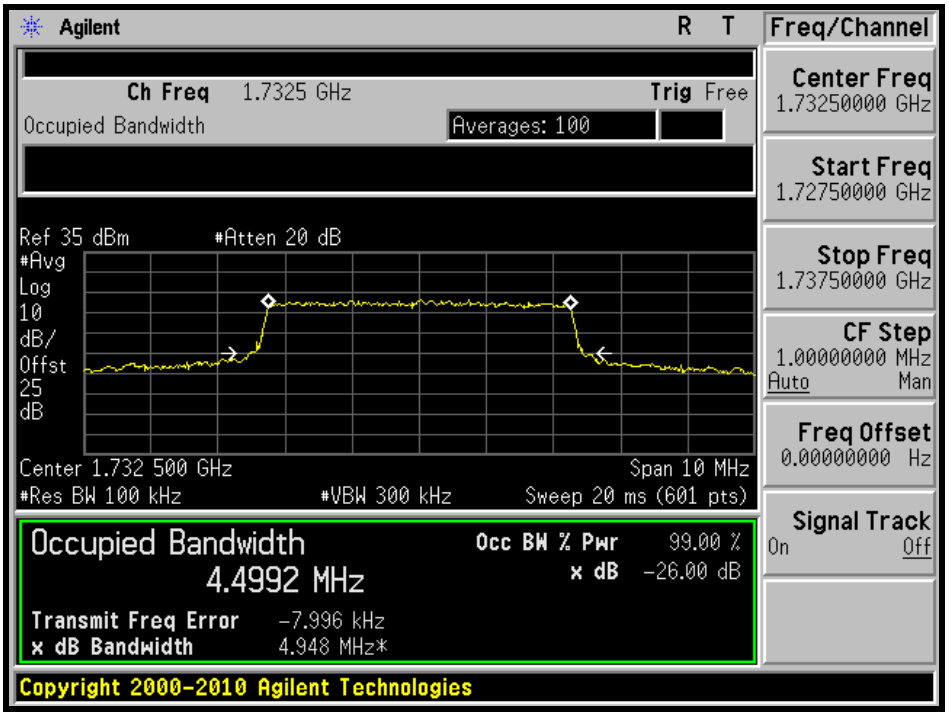
CH 23230



LTE Band 4
CHANNEL BANDWIDTH: 5MHz / QPSK

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
1712.5	4.4892
1732.5	4.4992
1752.5	4.4918

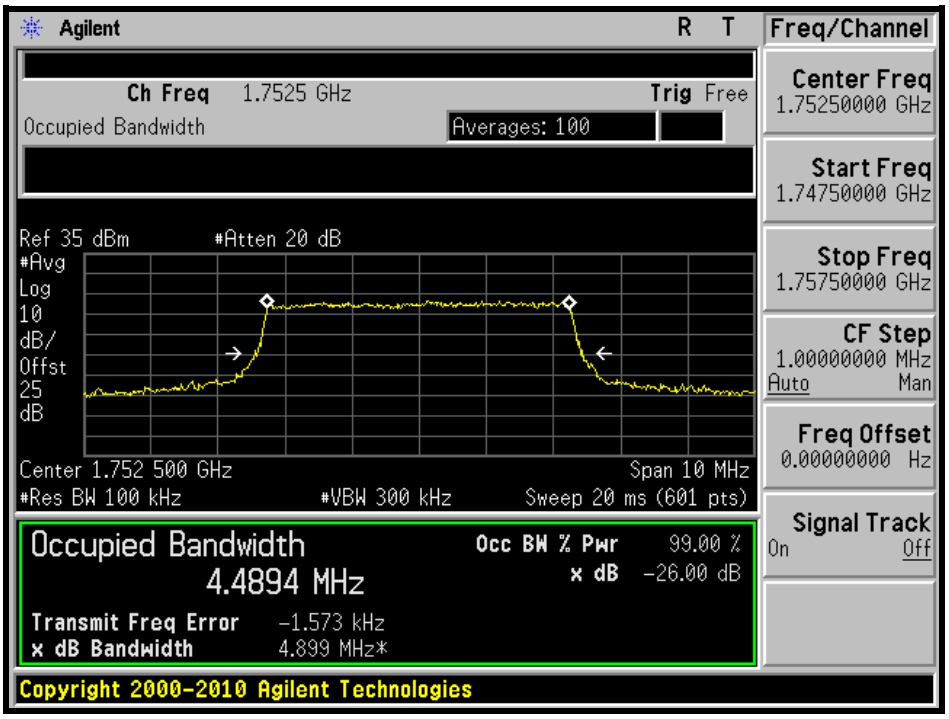
CH 20175



LTE Band 4
CHANNEL BANDWIDTH: 5MHz / 16QAM

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
1712.5	4.4675
1732.5	4.4862
1752.5	4.4894

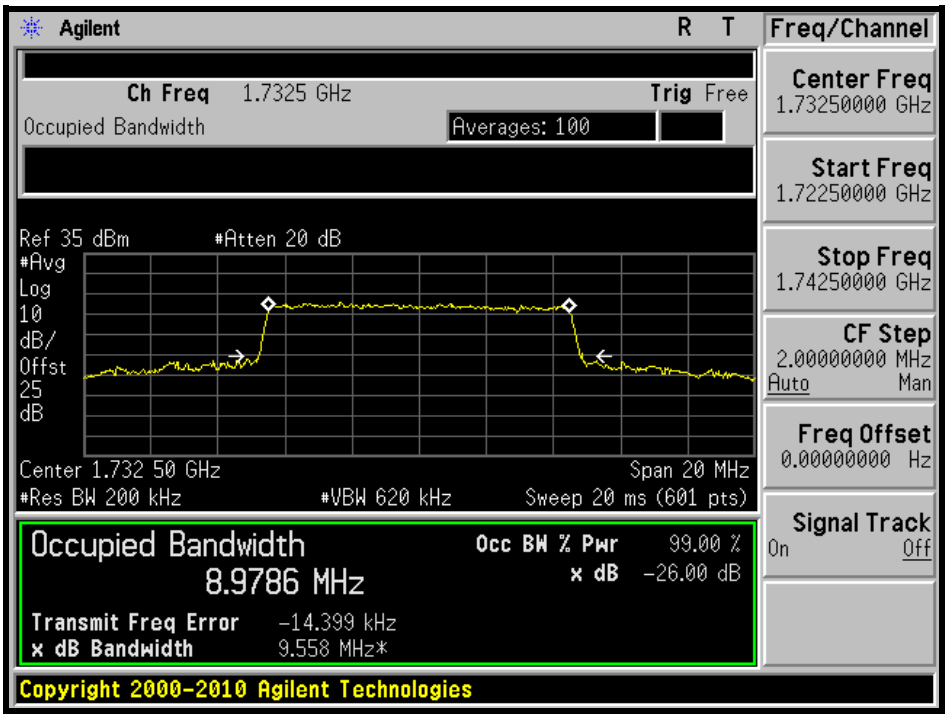
CH 20350



LTE Band 4
CHANNEL BANDWIDTH: 10MHz / QPSK

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
1715.0	8.9558
1732.5	8.9786
1750.0	8.9759

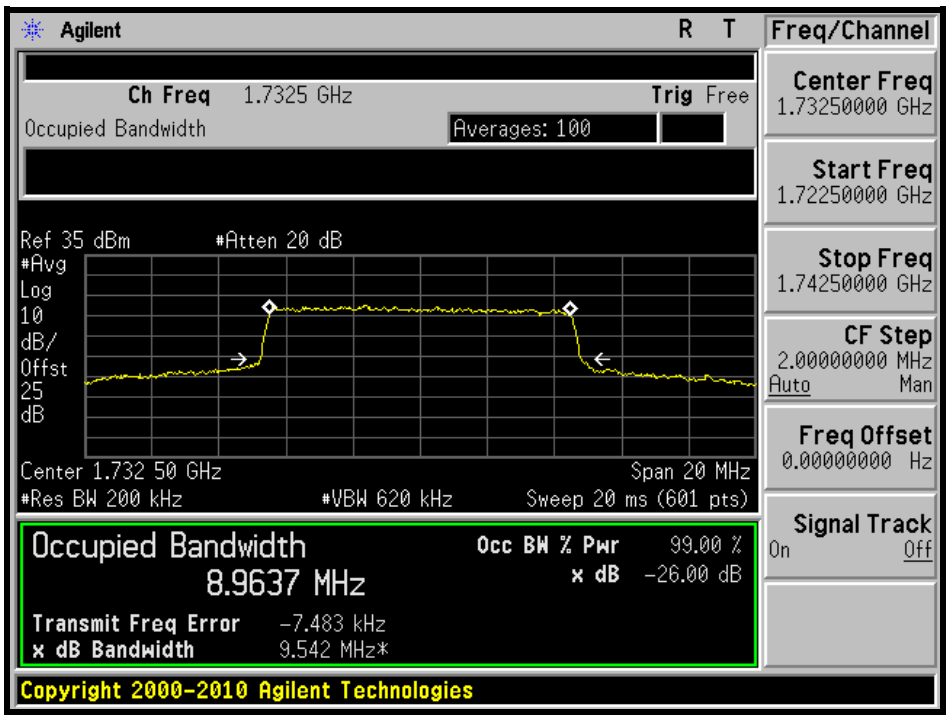
CH 20175



LTE Band 4
CHANNEL BANDWIDTH: 10MHz / 16QAM

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
1715.0	8.9484
1732.5	8.9637
1750.0	8.9587

CH 20175

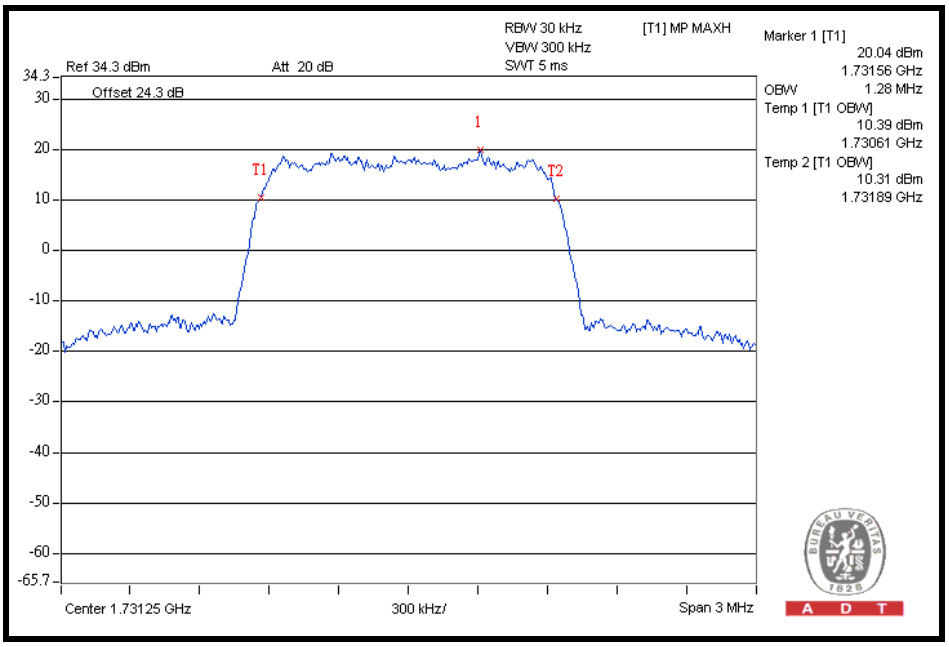


CDMA BC 15 Band

CDMA MODE

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
1711.25	1.27
1731.25	1.28
1753.75	1.27

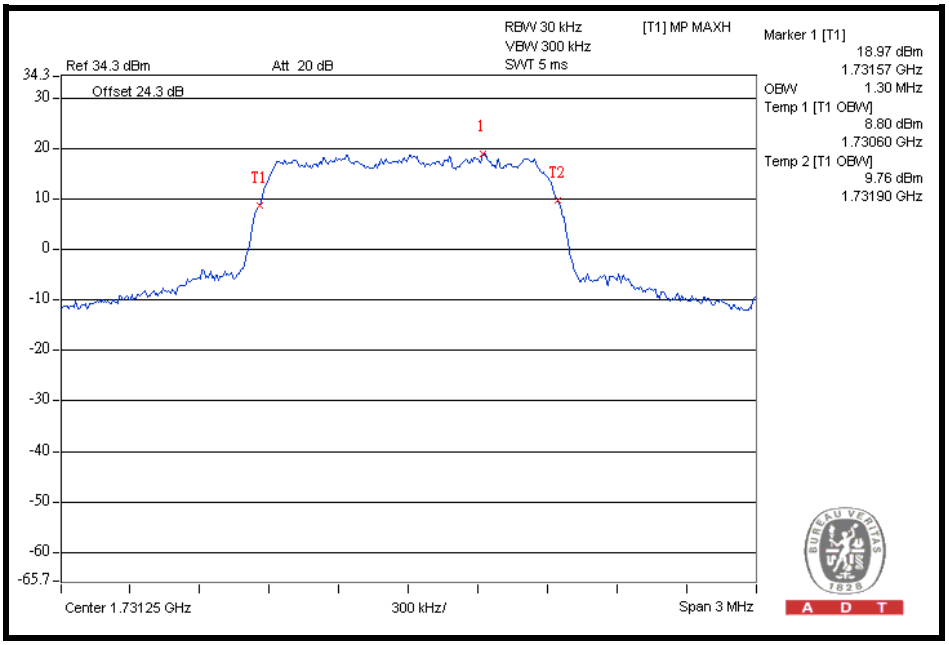
CH 425



1xEVDO Rev. A MODE

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
1711.25	1.28
1731.25	1.30
1753.75	1.27

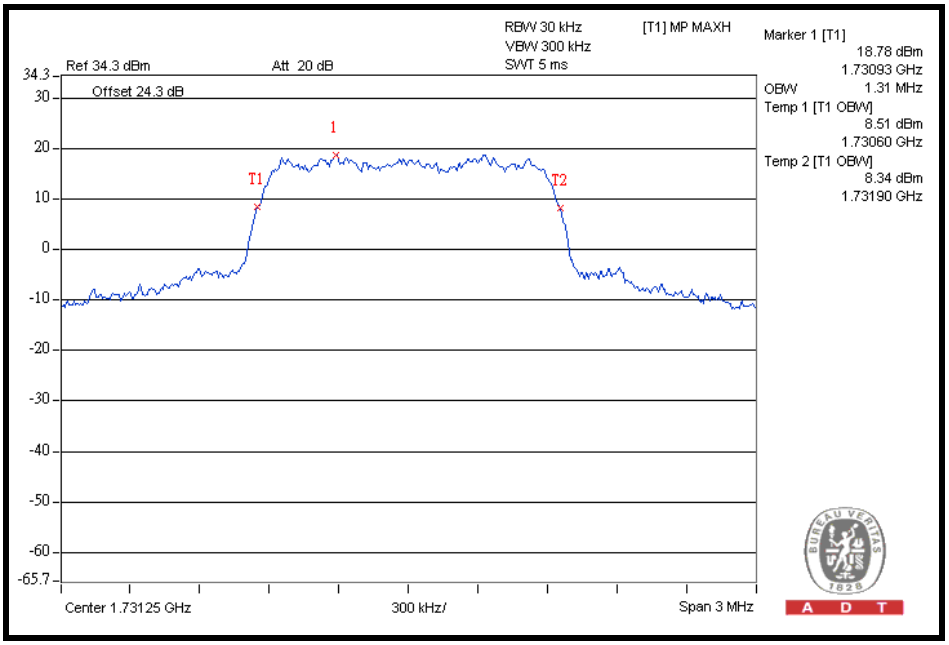
CH 425



1xEVDO Rev. 0 MODE

FREQUENCY (MHz)	MAX. OUTPUT POWER -26 dBc BANDWIDTH (MHz)
1711.25	1.28
1731.25	1.31
1753.75	1.27

CH 425



4.4 PEAK TO AVERAGE RATIO

4.4.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

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

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
* ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100039	Jan. 11, 2011	Jan. 10, 2012
* Agilent Spectrum Analyzer	E4446A	MY43360128	Feb. 22, 2011	Feb. 21, 2012
* Mini-Circuits Power Splitter	ZN2PD-9G	NA	May 25, 2011	May 24, 2012
* Hewlett Packard RF cable	8120-6192	274388	Oct. 22, 2011	Oct. 21, 2012
* JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
* Suhner RF cable	Sucoflex104	274403/4	Aug. 20, 2011	Aug. 19, 2012

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. "*" = These equipments are used for the final measurement.

4.4.3 TEST SETUP

Same as Item 4.2.4 (Conducted Power Setup)

4.4.4 TEST PROCEDURES

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

4.4.5 EUT OPERATING CONDITION

Same as Item 4.1.5

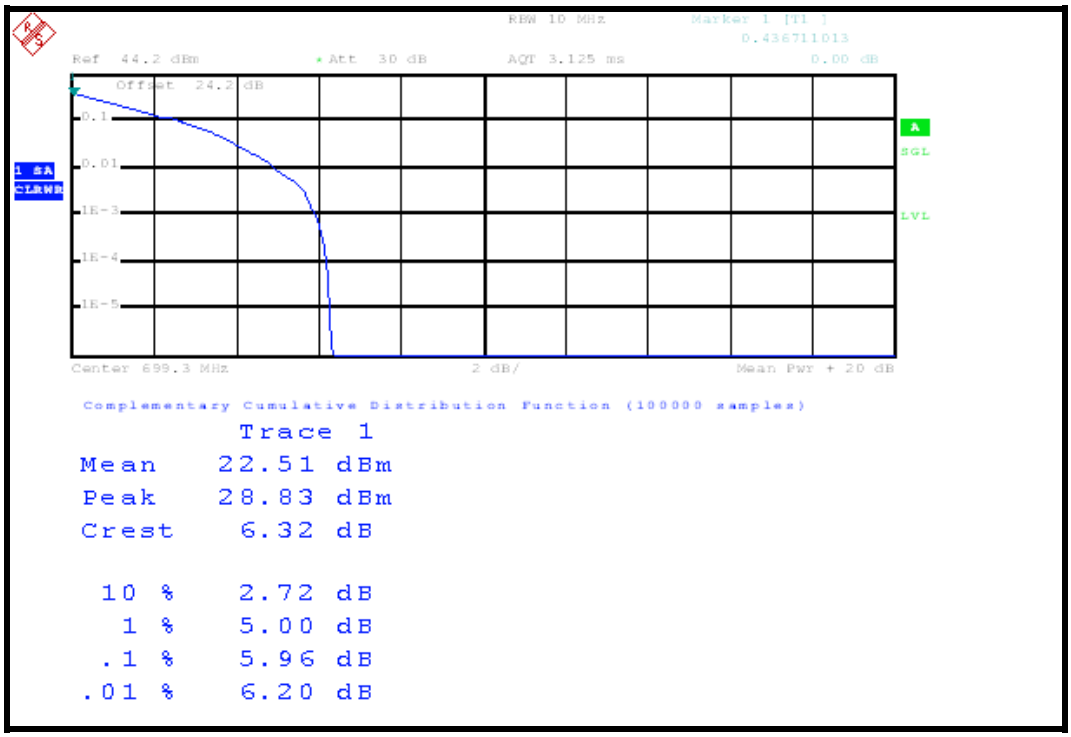
4.4.6 TEST RESULTS

LTE Band 12

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB AT THE LOWER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
701.5	5.96
707.5	5.36
713.5	5.76

CH 23035

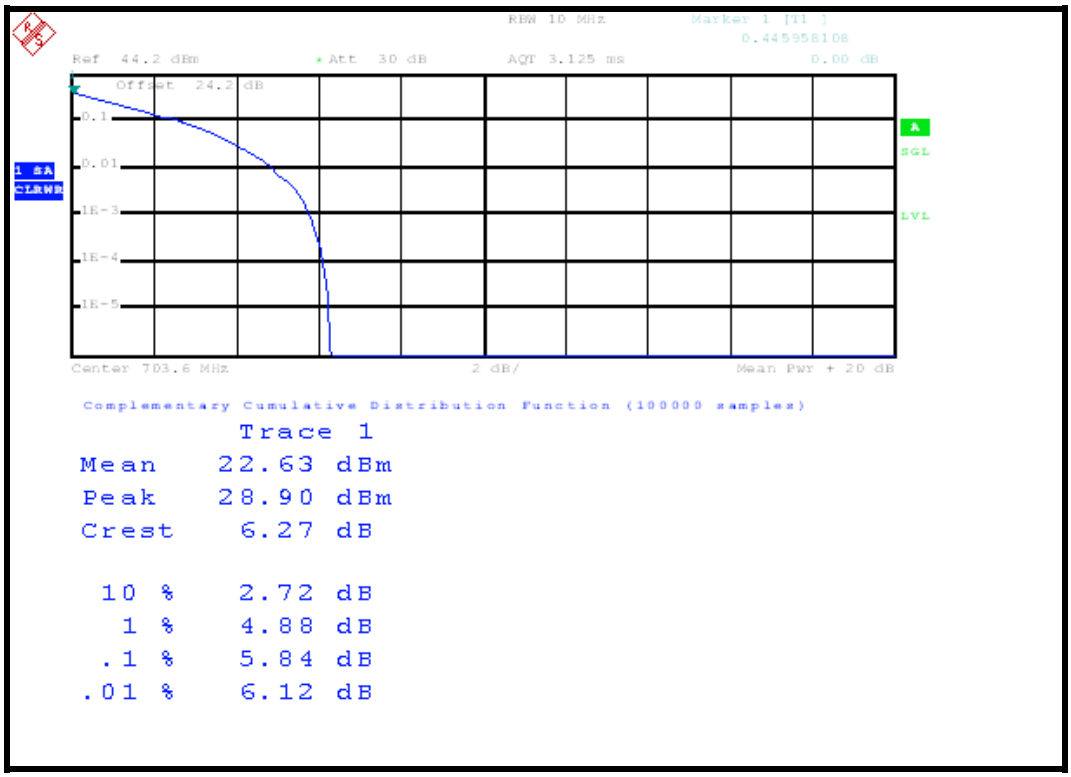


LTE Band 12

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB AT THE UPPER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
701.5	5.84
707.5	5.52
713.5	5.40

CH 23035

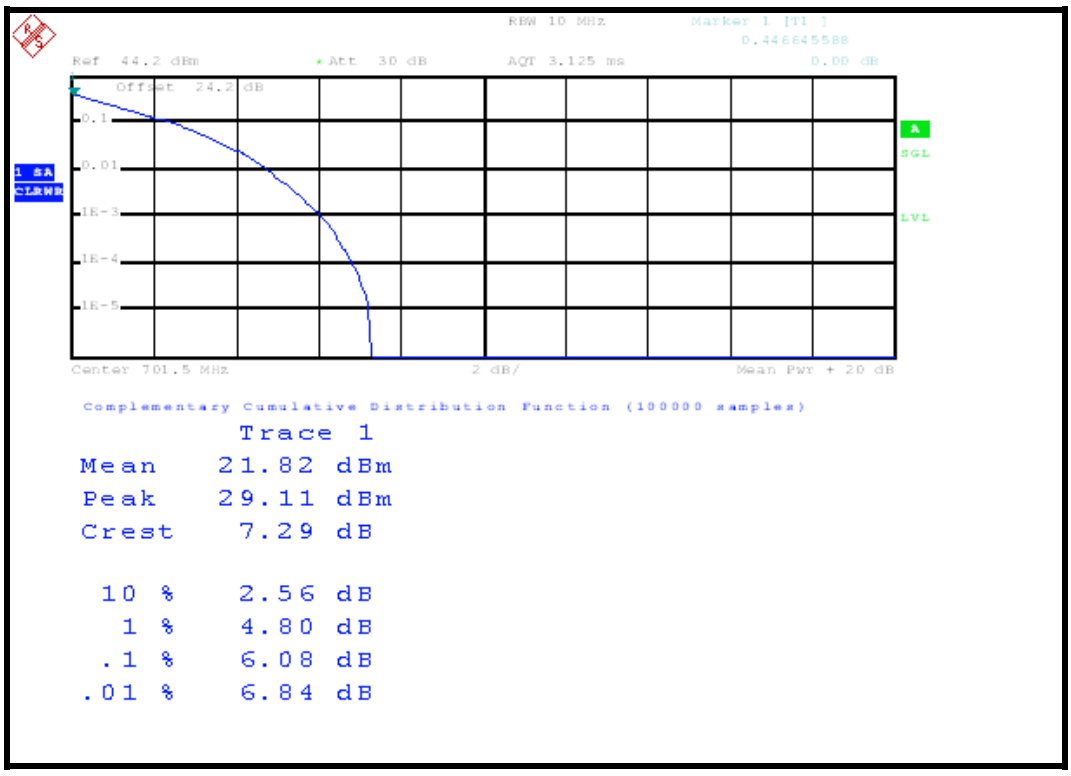


LTE Band 12

CHANNEL BANDWIDTH: 5MHz / QPSK / 100% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
701.5	6.08
707.5	6.04
713.5	6.04

CH 23035

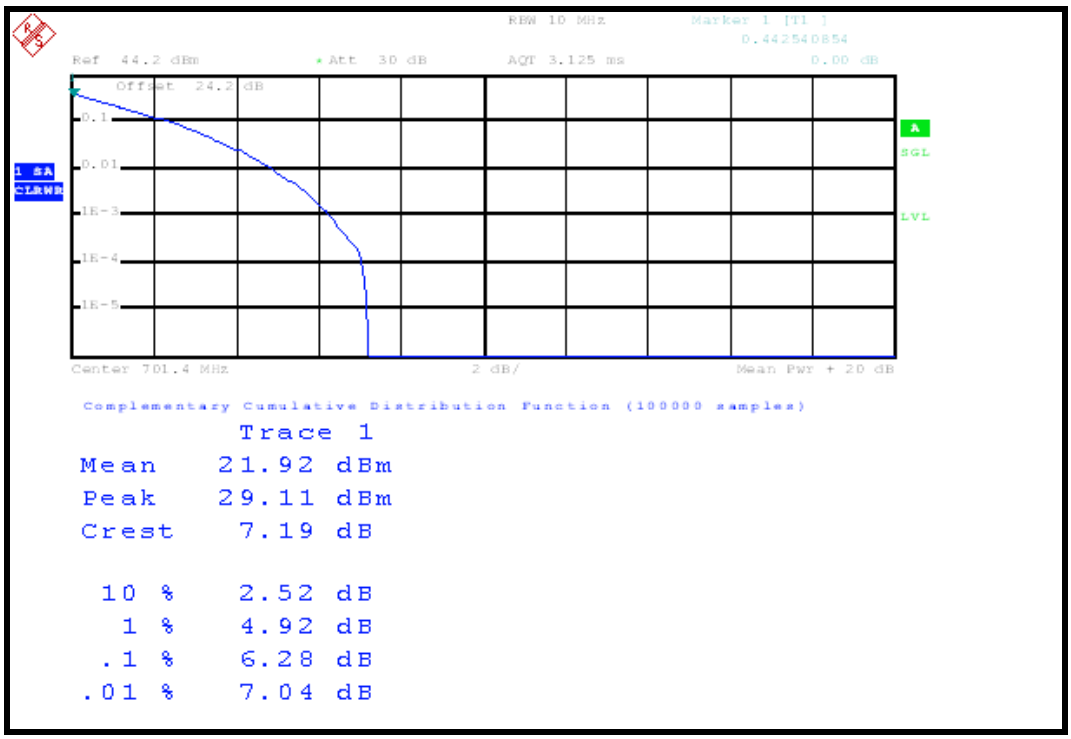


LTE Band 12

CHANNEL BANDWIDTH: 5MHz / QPSK / 50% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
701.5	6.28
707.5	6.00
713.5	5.88

CH 23035

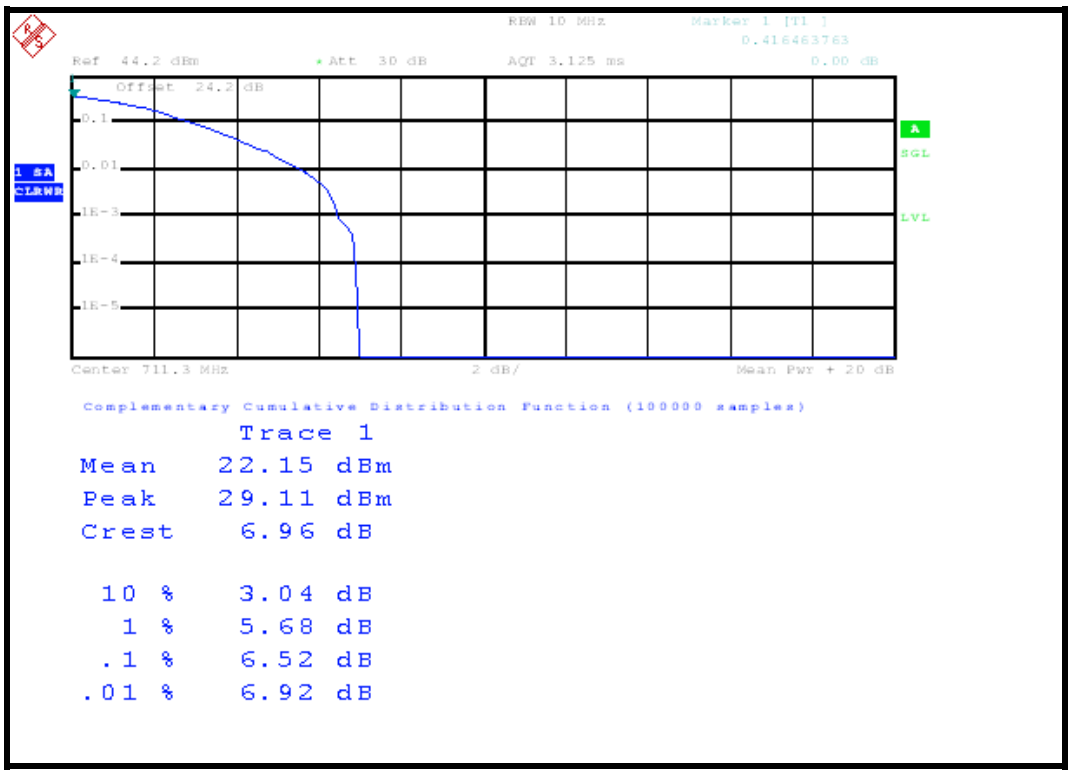


LTE Band 12

CHANNEL BANDWIDTH: 5MHz / 16QAM / 1 RB AT THE LOWER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
701.5	6.44
707.5	6.00
713.5	6.52

CH 23155

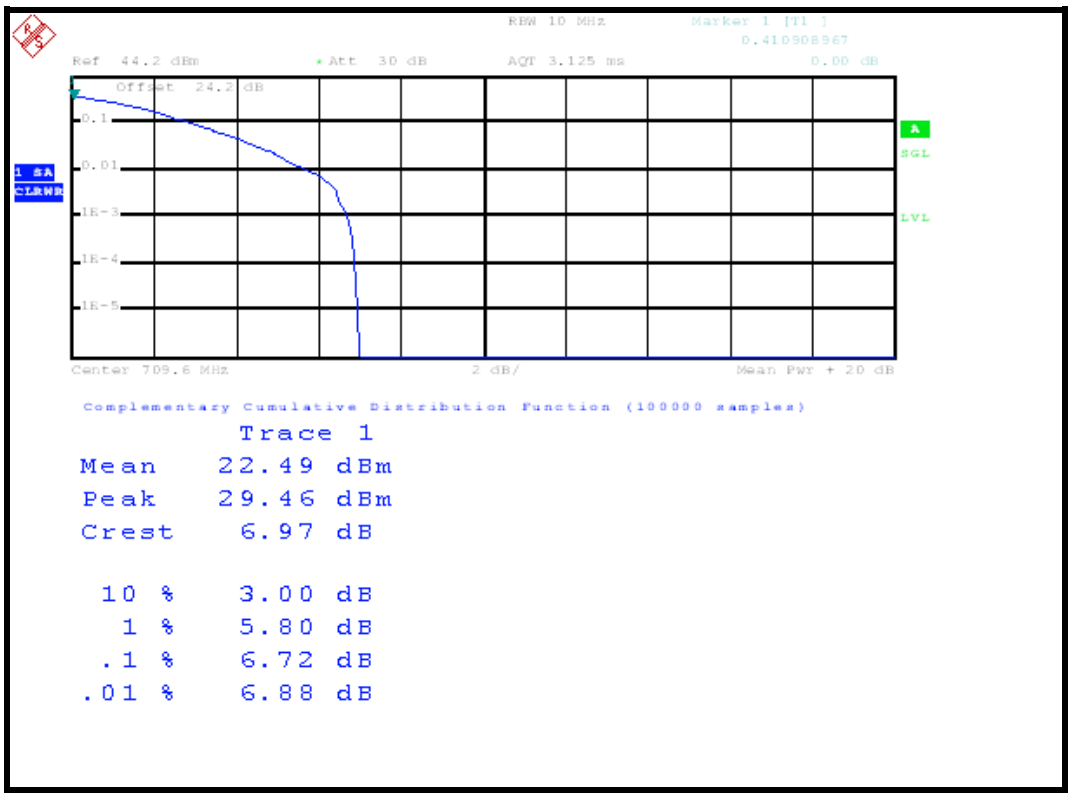


LTE Band 12

CHANNEL BANDWIDTH: 5MHz / 16QAM / 1 RB AT THE UPPER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
701.5	6.32
707.5	6.72
713.5	6.00

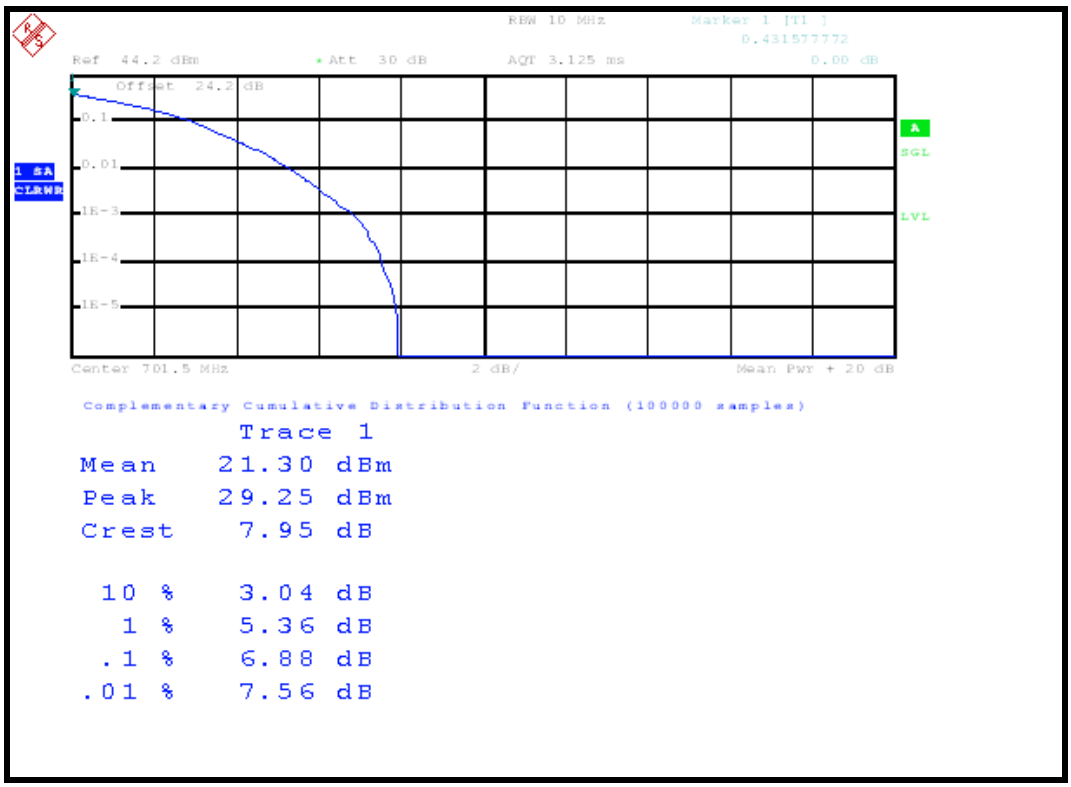
CH 23095



LTE Band 12
CHANNEL BANDWIDTH: 5MHz / 16QAM / 100% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
701.5	6.88
707.5	6.68
713.5	6.60

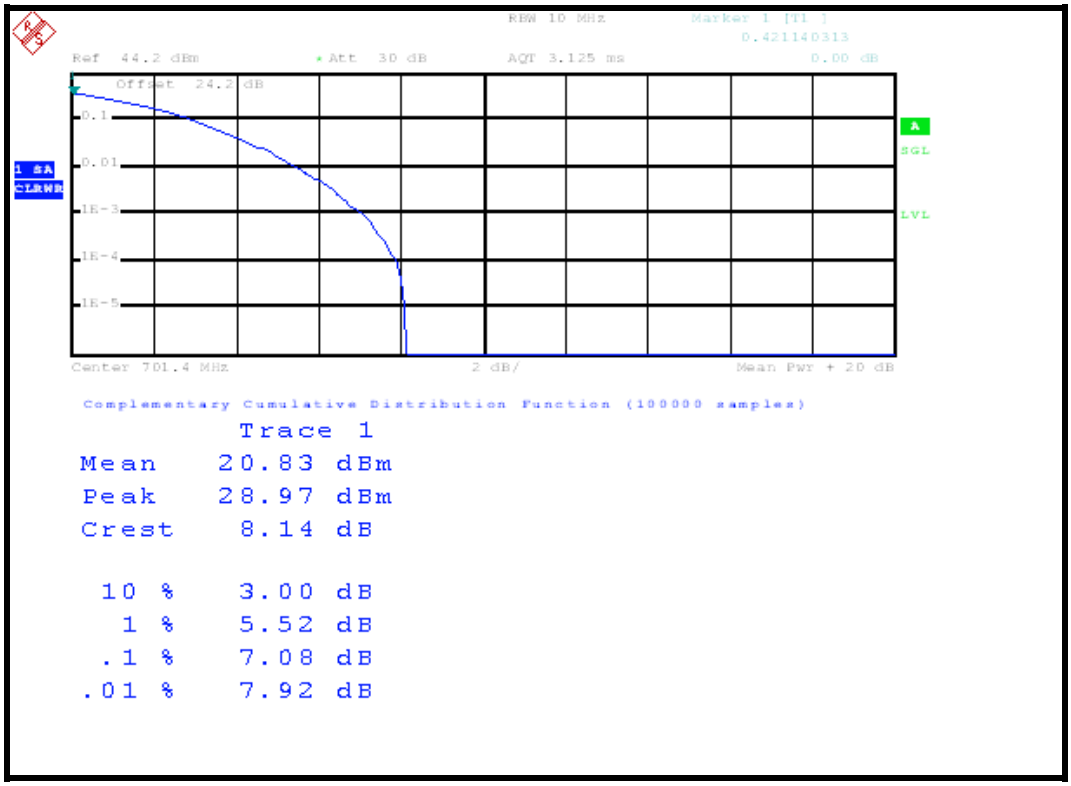
CH 23035



LTE Band 12
CHANNEL BANDWIDTH: 5MHz / 16QAM / 50% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
701.5	7.08
707.5	6.72
713.5	6.80

CH 23035

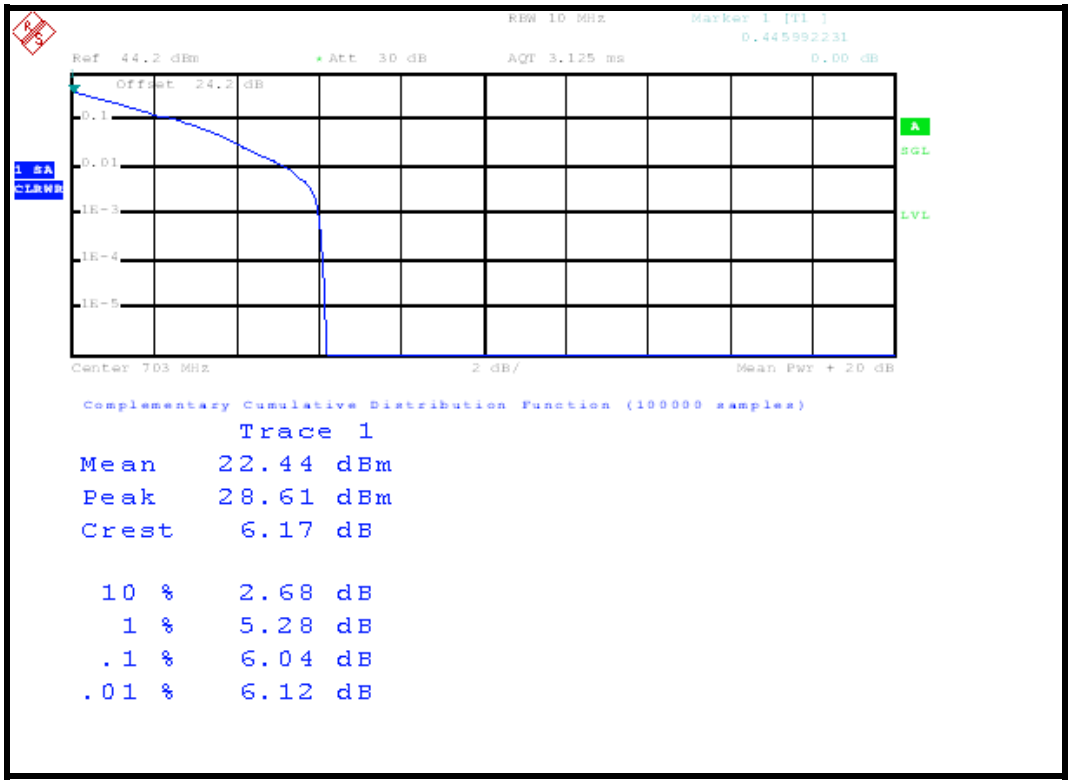


LTE Band 12

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB AT THE LOWER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
704.0	5.80
707.5	6.04
711.0	5.52

CH 23095

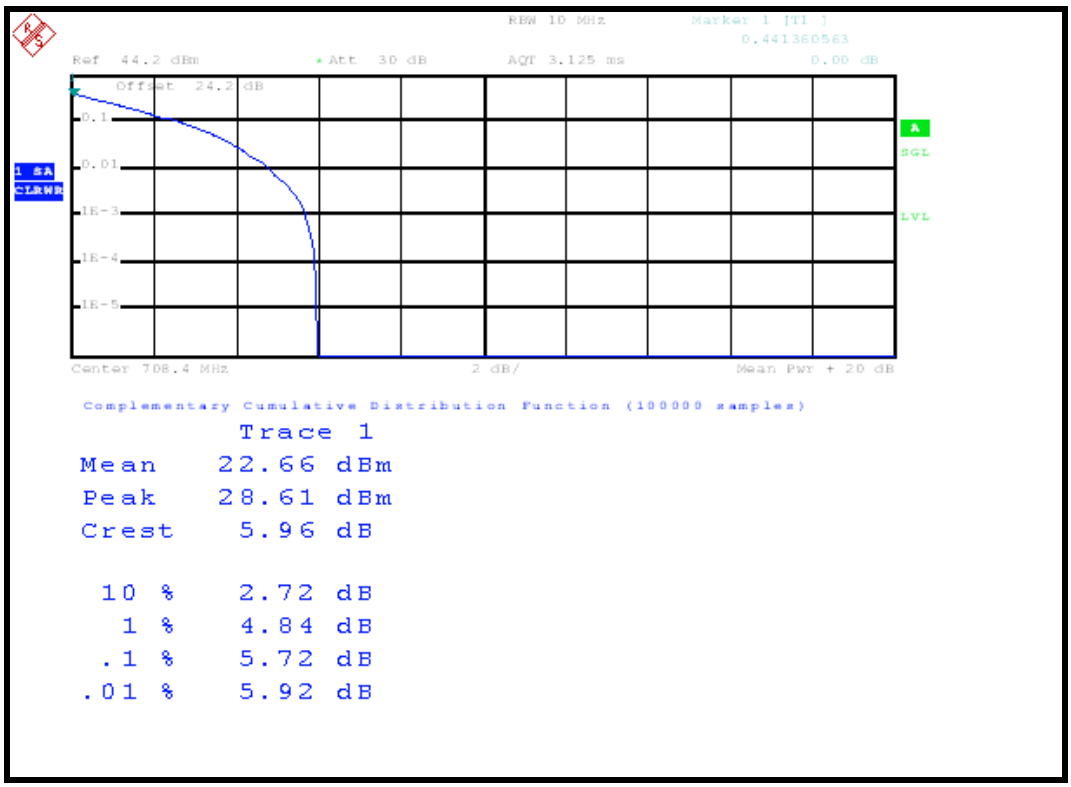


LTE Band 12

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB AT THE UPPER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
704.0	5.72
707.5	5.56
711.0	5.40

CH 23060

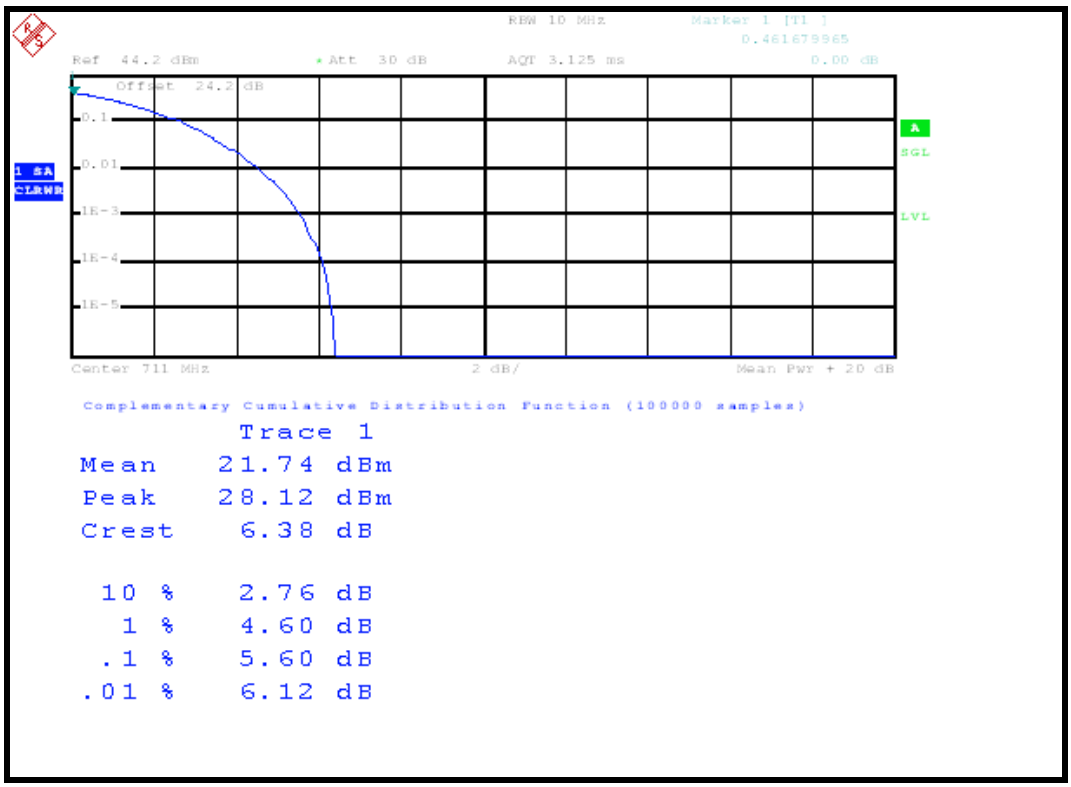


LTE Band 12

CHANNEL BANDWIDTH: 10MHz / QPSK / 100% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
704.0	5.60
707.5	5.60
711.0	5.60

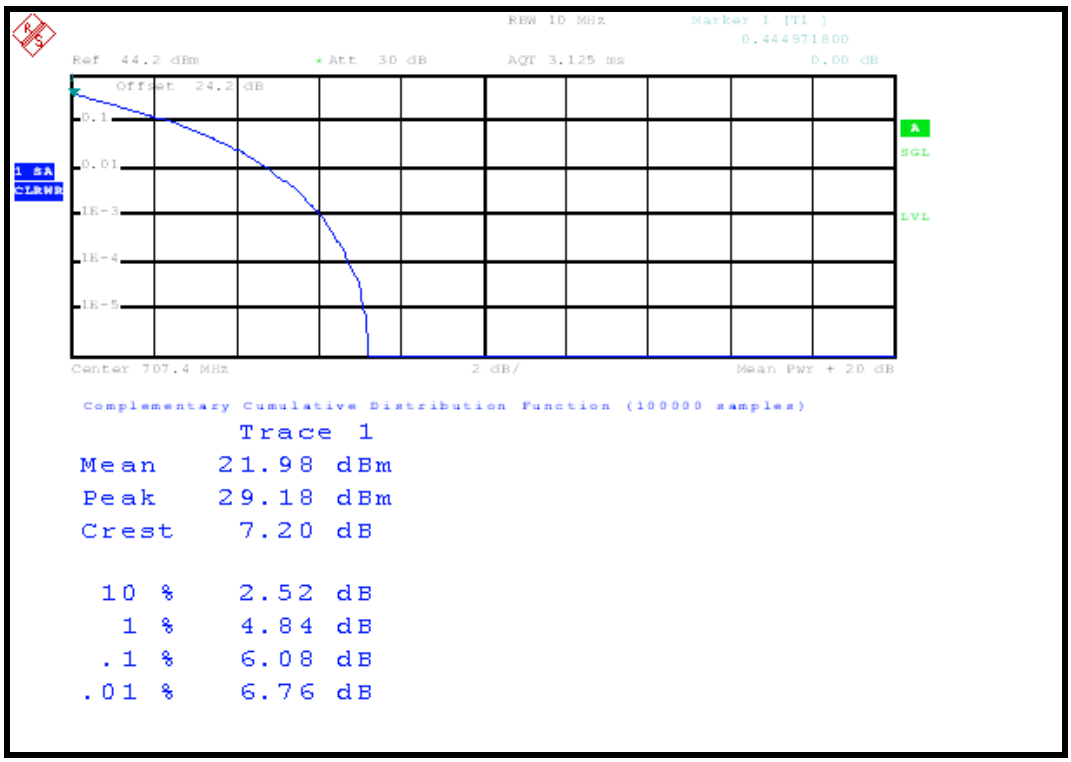
CH 23130



LTE Band 12
CHANNEL BANDWIDTH: 10MHz / QPSK / 50% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
704.0	6.04
707.5	6.08
711.0	6.04

CH 23095

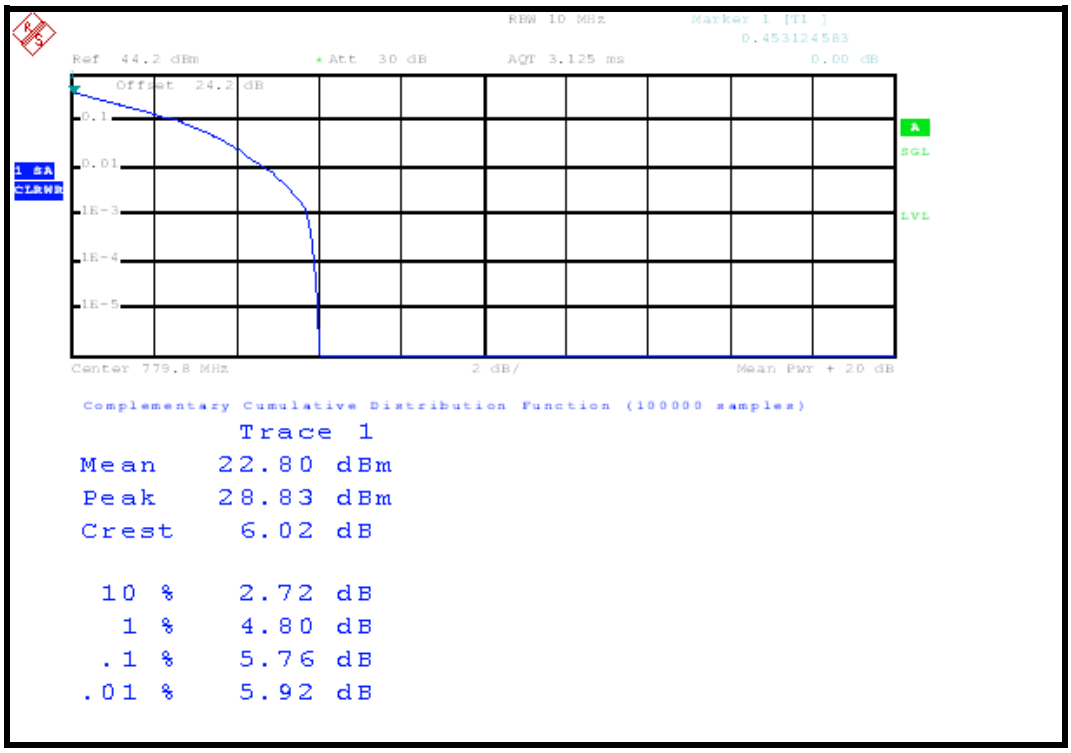


LTE Band 13

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB AT THE LOWER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
779.5	5.16
782.0	5.76
784.5	5.16

CH 23230

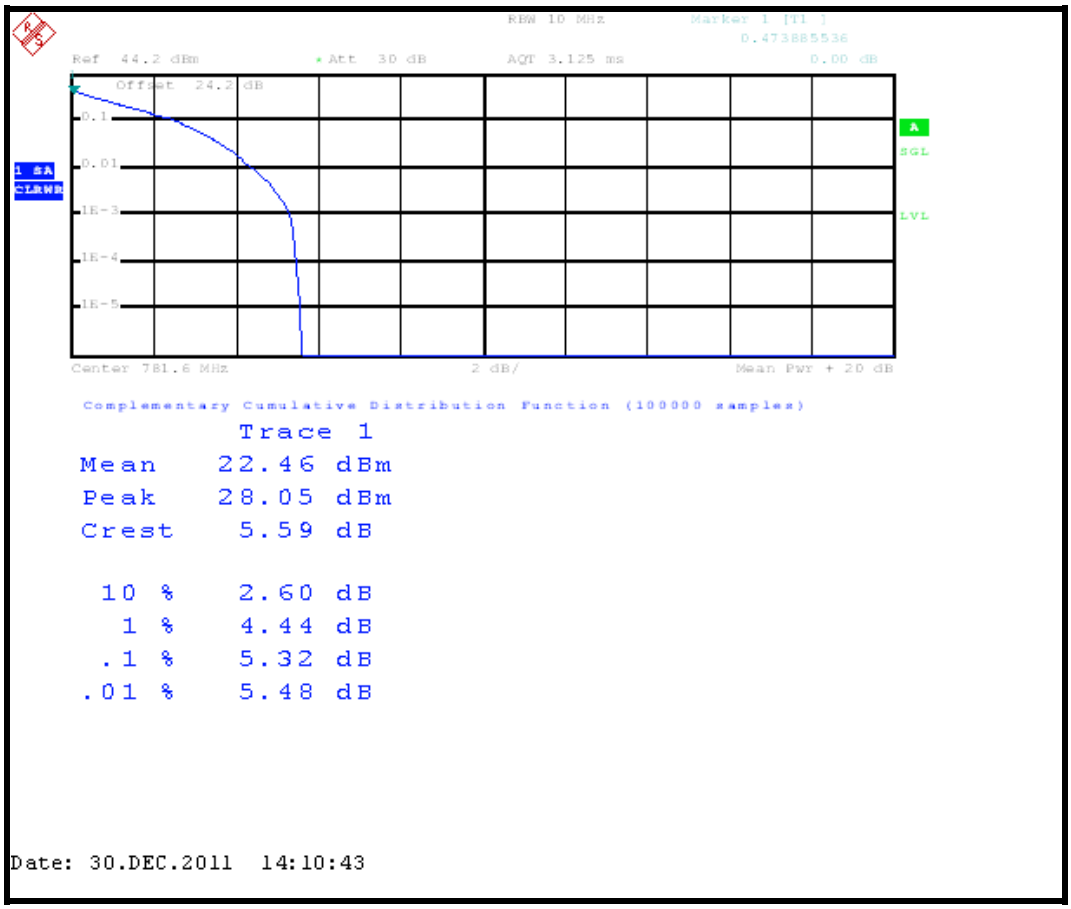


LTE Band 13

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB AT THE UPPER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
779.5	5.32
782.0	5.08
784.5	5.00

CH 23205

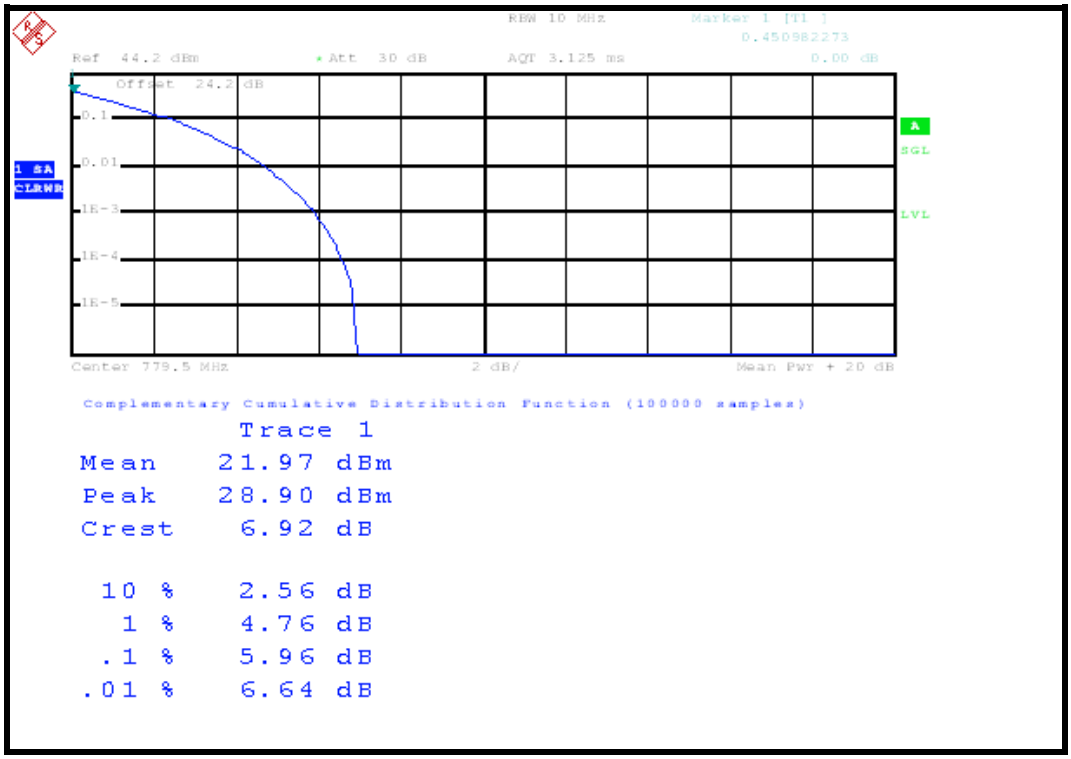


LTE Band 13

CHANNEL BANDWIDTH: 5MHz / QPSK / 100% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
779.5	5.96
782.0	5.64
784.5	5.64

CH 23205

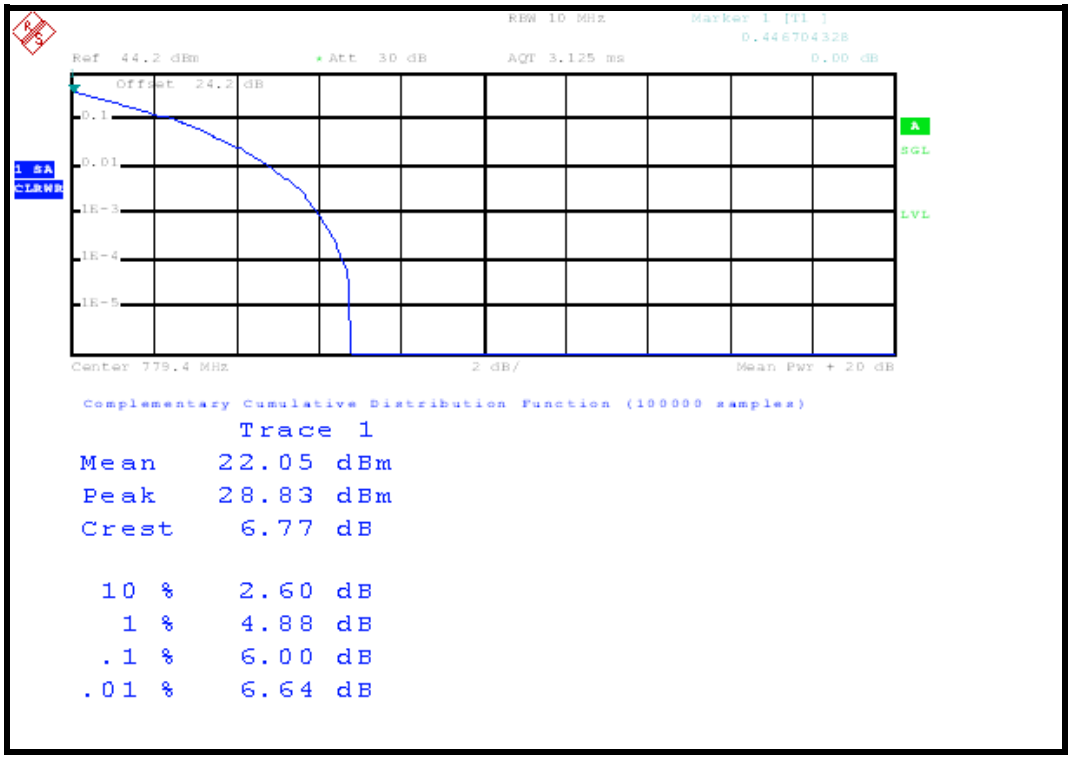


LTE Band 13

CHANNEL BANDWIDTH: 5MHz / QPSK / 50% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
779.5	6.00
782.0	5.72
784.5	5.48

CH 23205

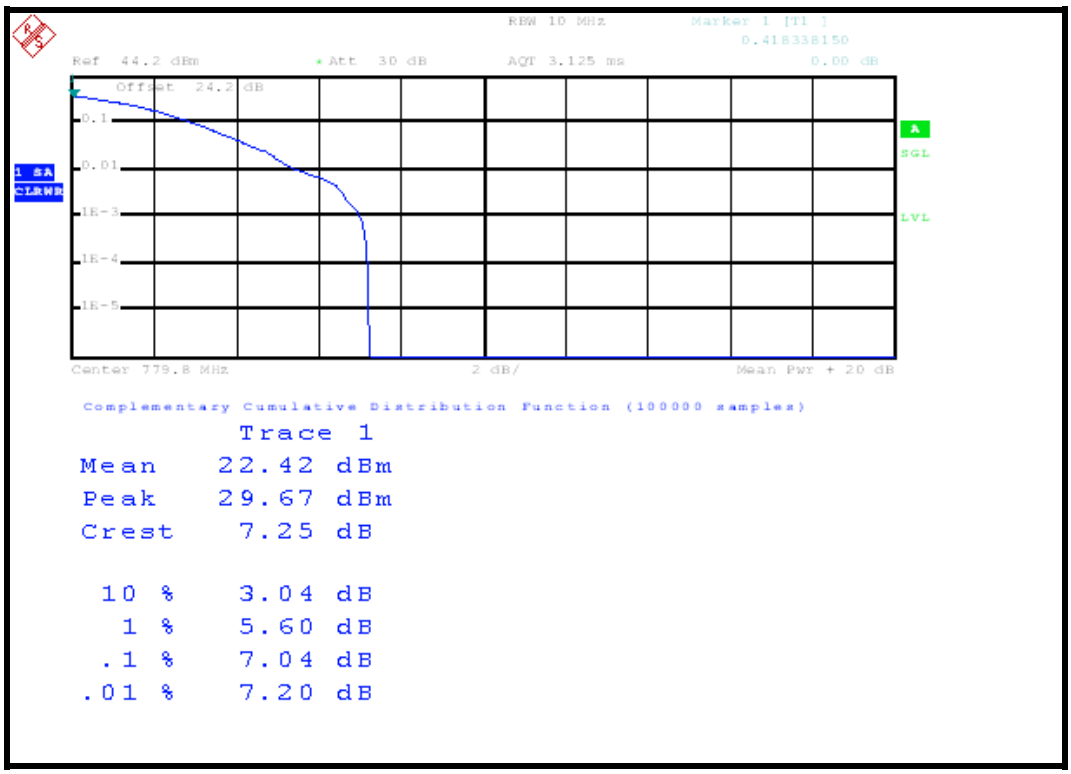


LTE Band 13

CHANNEL BANDWIDTH: 5MHz / 16QAM / 1 RB AT THE LOWER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
779.5	6.00
782.0	7.04
784.5	6.16

CH 23230

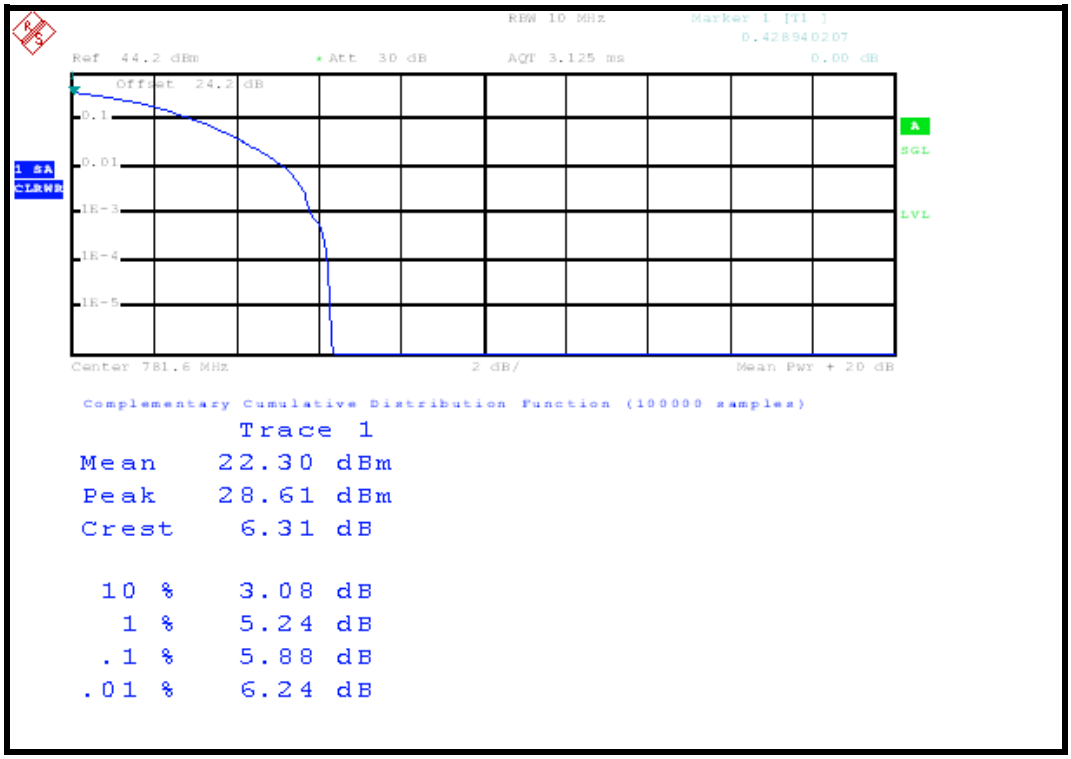


LTE Band 13

CHANNEL BANDWIDTH: 5MHz / 16QAM / 1 RB AT THE UPPER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
779.5	5.88
782.0	5.72
784.5	5.56

CH 23205

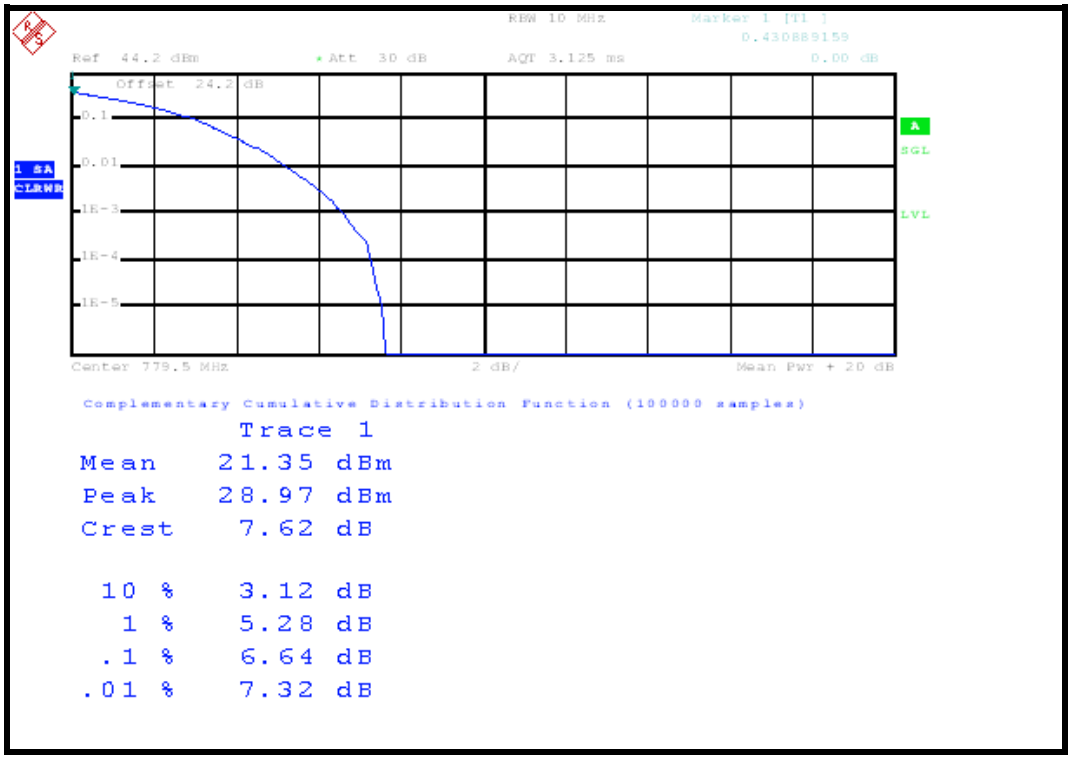


LTE Band 13

CHANNEL BANDWIDTH: 5MHz / 16QAM / 100% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
779.5	6.64
782.0	6.36
784.5	6.28

CH 23205

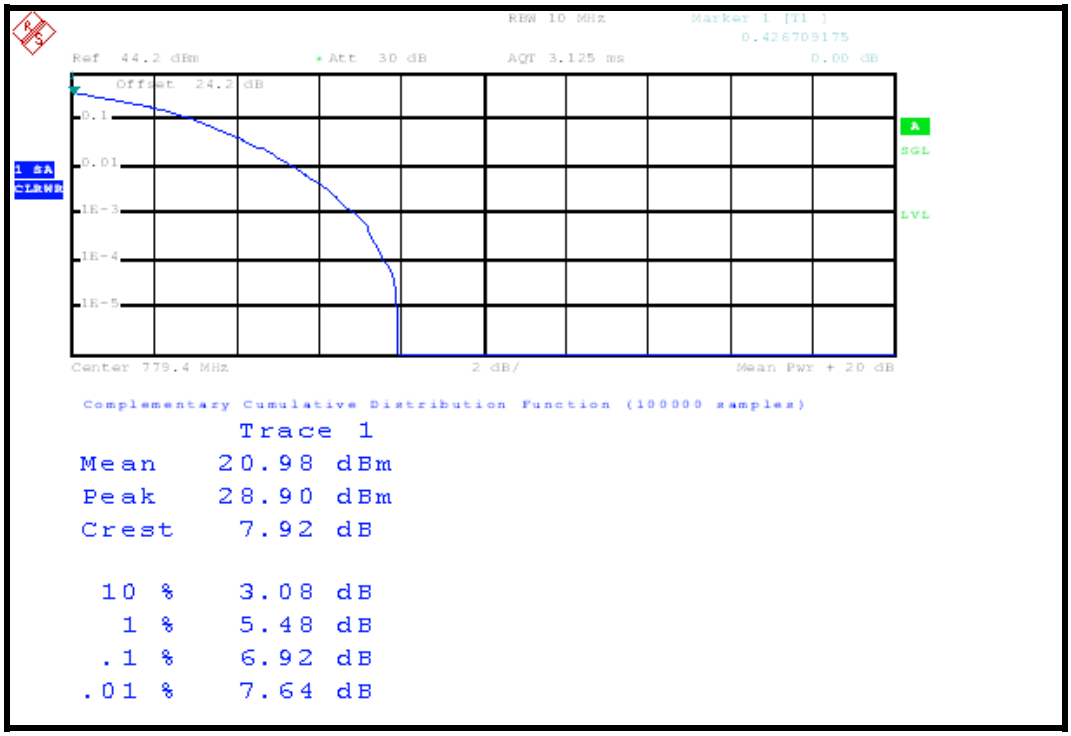


LTE Band 13

CHANNEL BANDWIDTH: 5MHz / 16QAM / 50% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
779.5	6.92
782.0	6.56
784.5	6.36

CH 23205

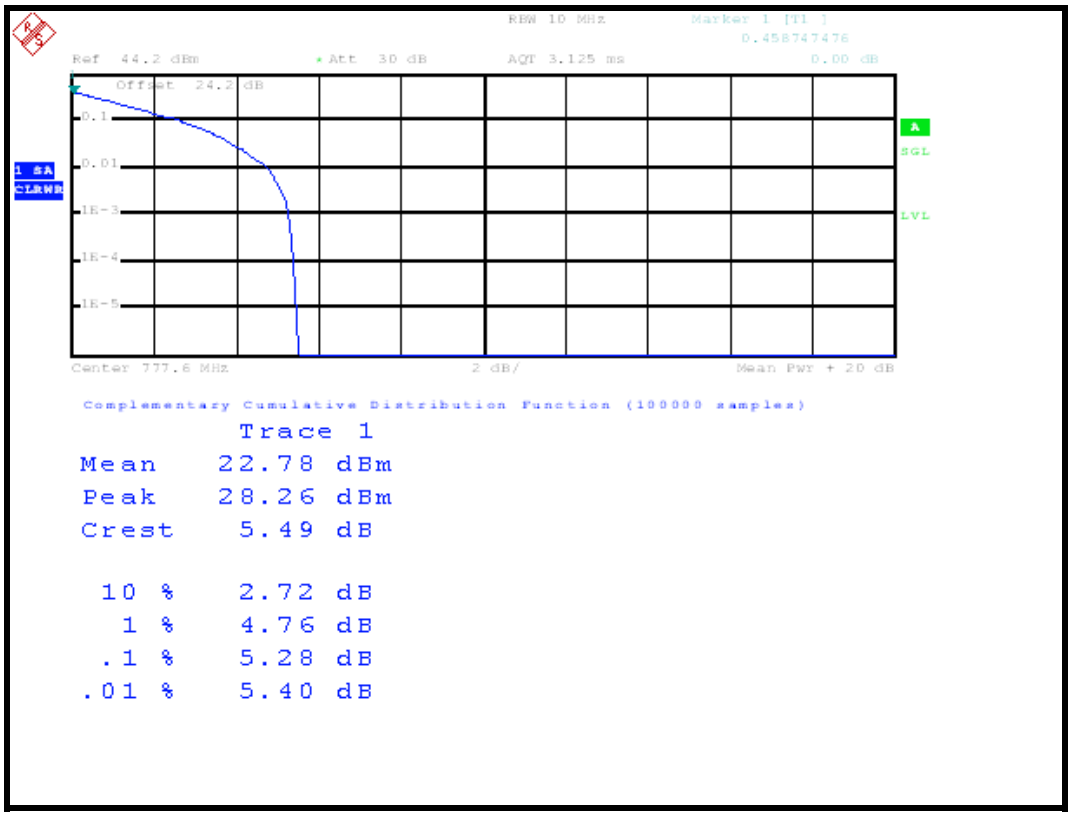


LTE Band 13

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB AT THE LOWER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
782.0	5.28

CH 23230

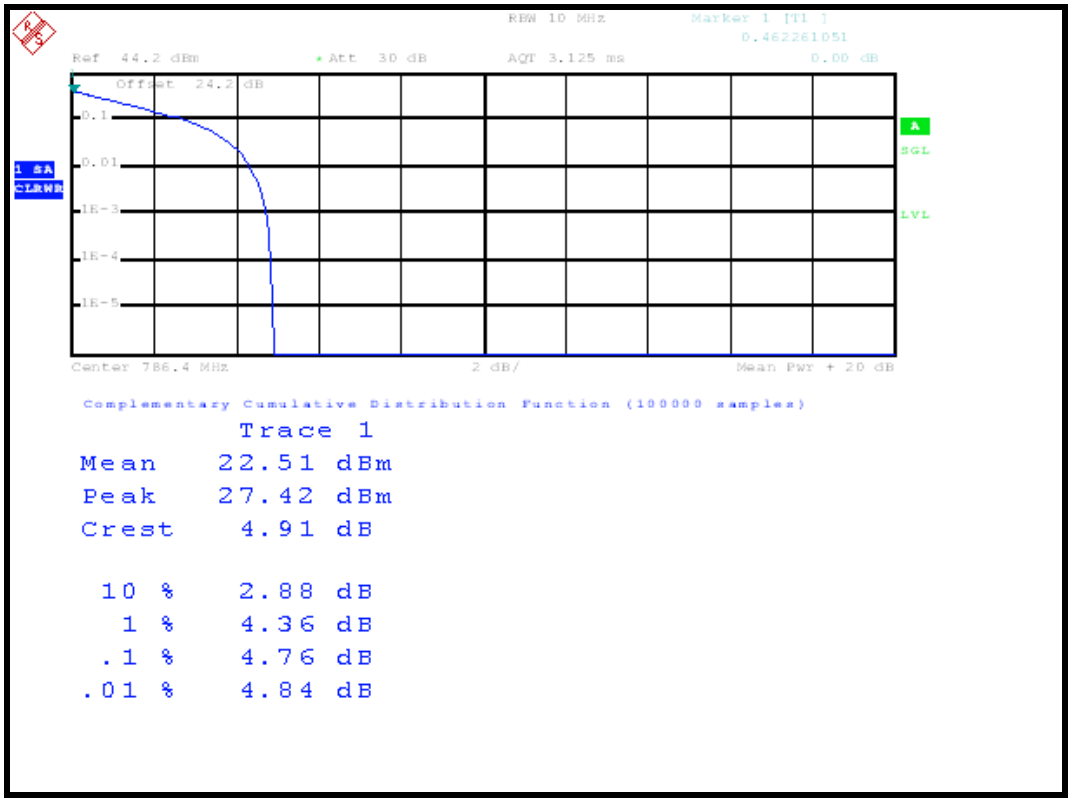


LTE Band 13

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB AT THE UPPER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
782.0	4.76

CH 23230

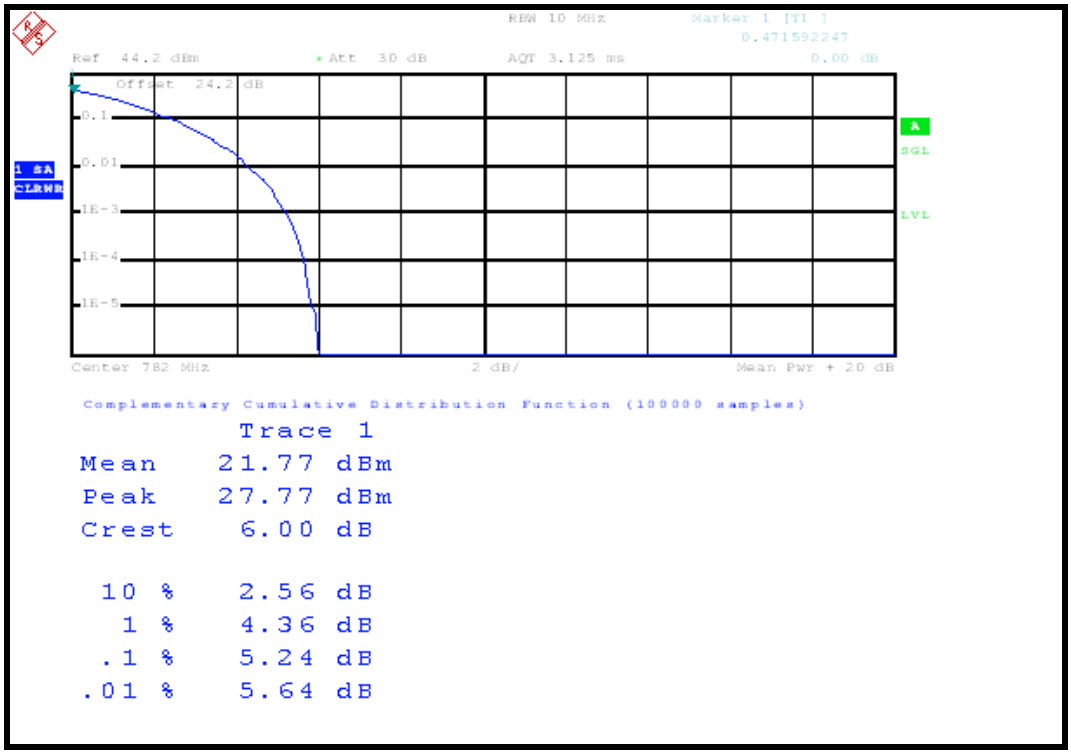


LTE Band 13

CHANNEL BANDWIDTH: 10MHz / QPSK / 100% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
782.0	5.24

CH 23230

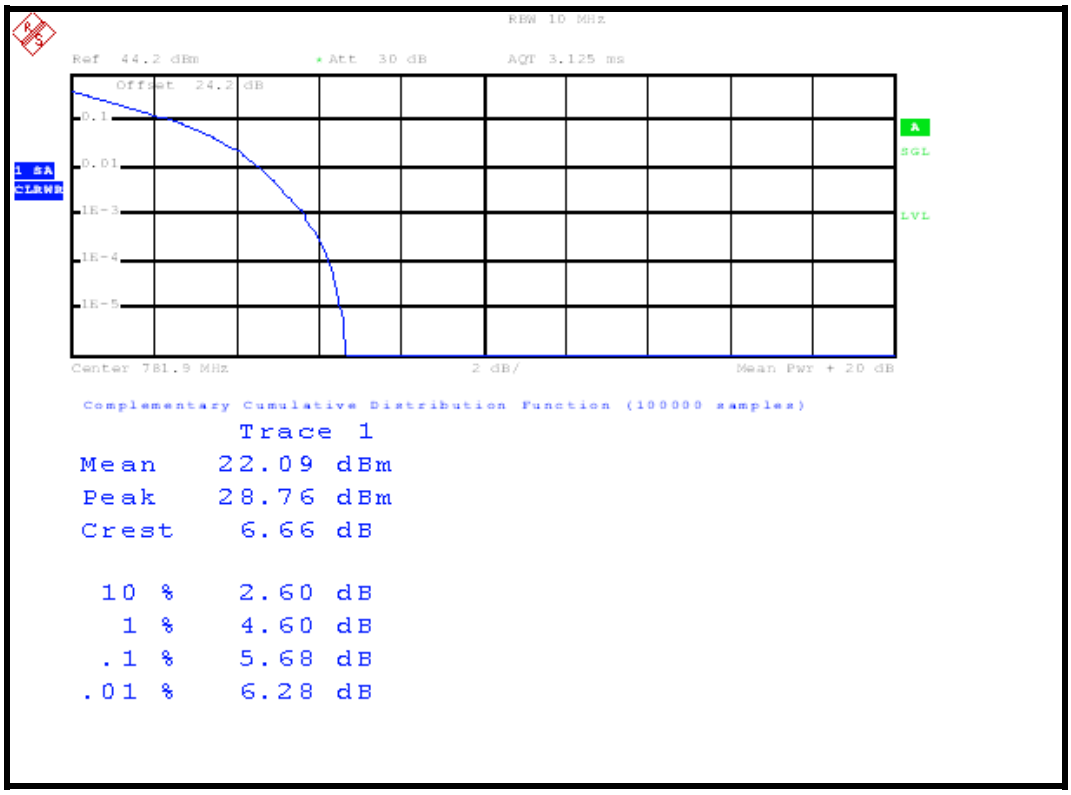


LTE Band 13

CHANNEL BANDWIDTH: 10MHz / QPSK / 50% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
782.0	5.68

CH 23230

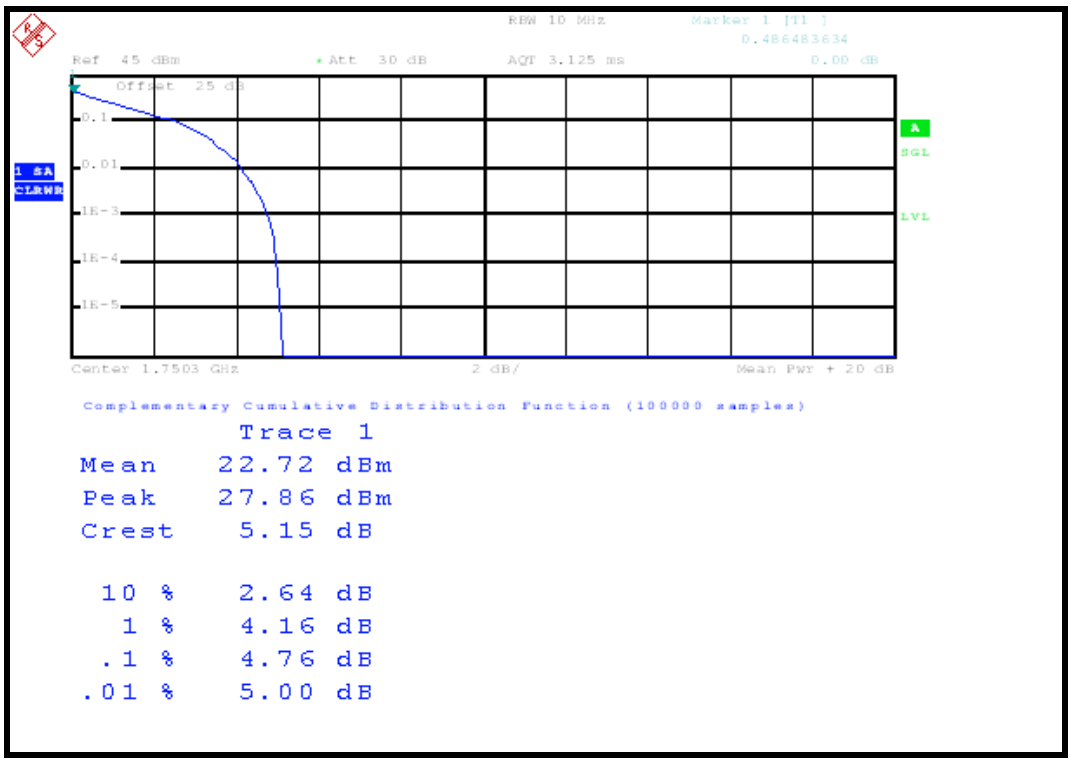


LTE Band 4

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB AT THE LOWER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1712.5	4.28
1732.5	3.36
1752.5	4.76

CH 20375

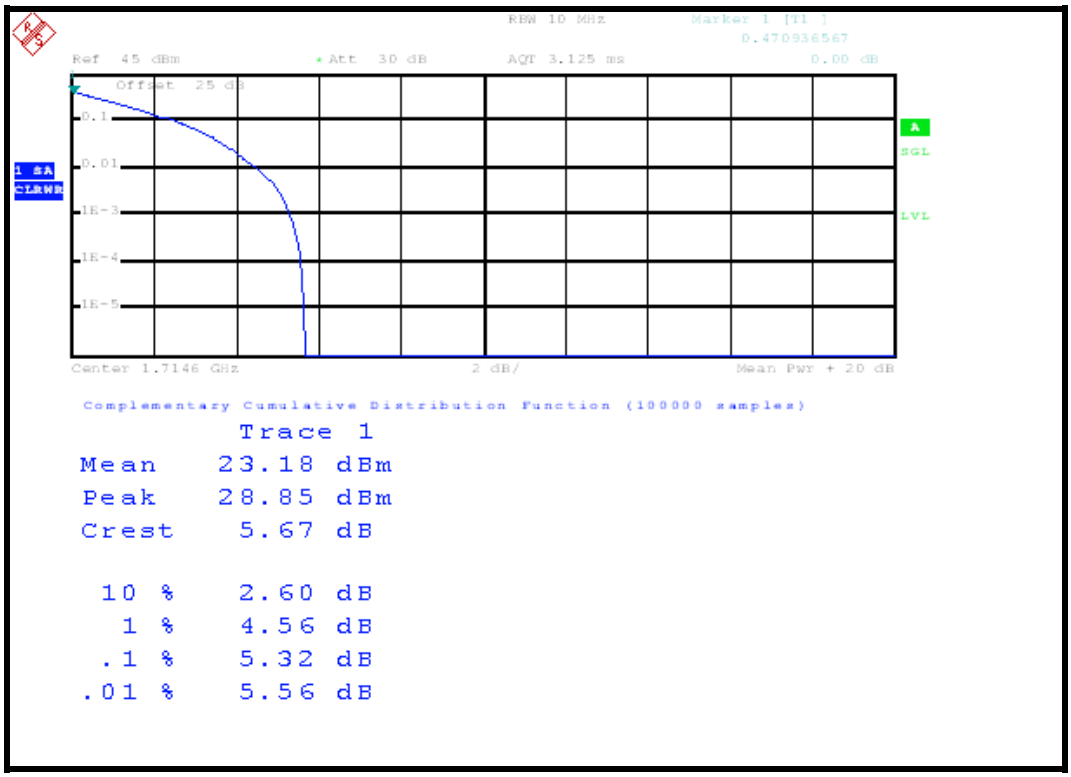


LTE Band 4

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB AT THE UPPER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1712.5	5.32
1732.5	3.44
1752.5	4.68

CH 19975

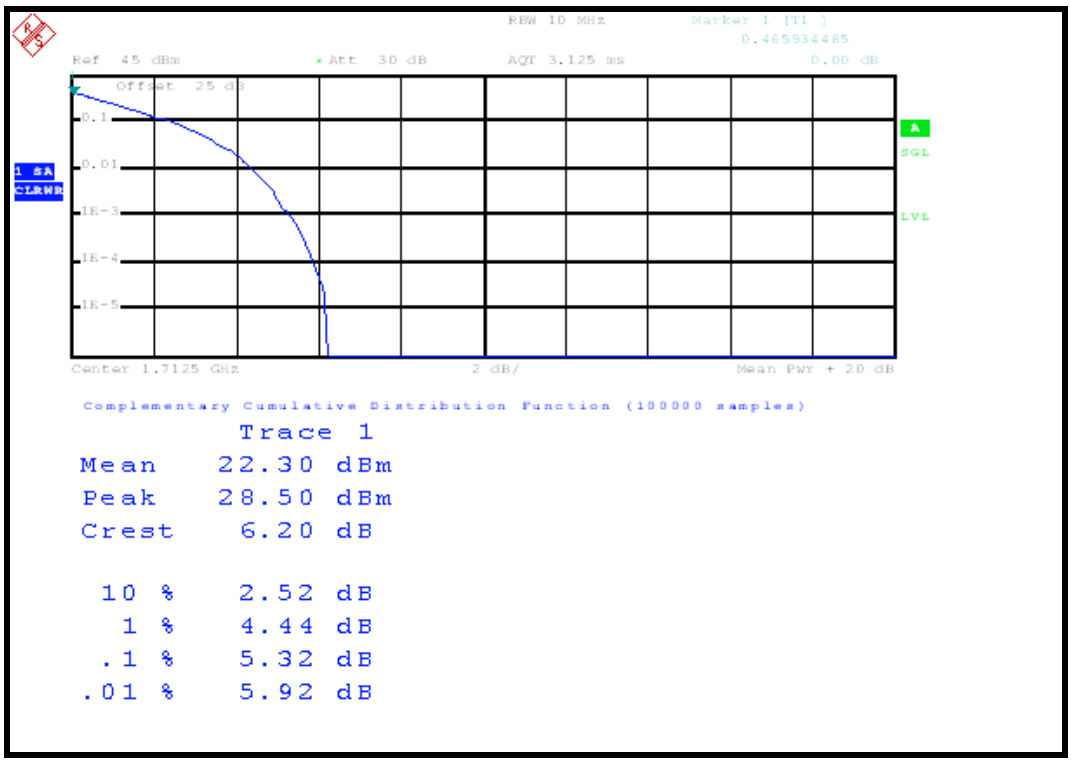


LTE Band 4

CHANNEL BANDWIDTH: 5MHz / QPSK / 100% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1712.5	5.32
1732.5	4.48
1752.5	5.16

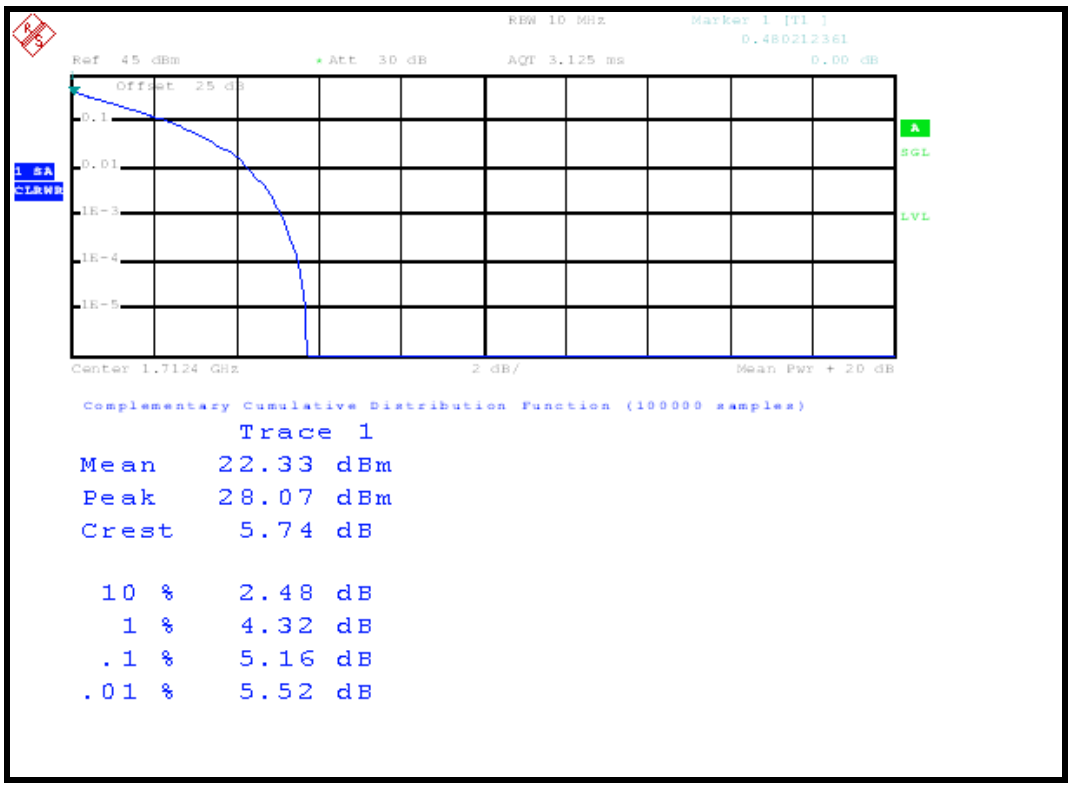
CH 19975



LTE Band 4
CHANNEL BANDWIDTH: 5MHz / QPSK / 50% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1712.5	5.16
1732.5	4.00
1752.5	5.08

CH 19975

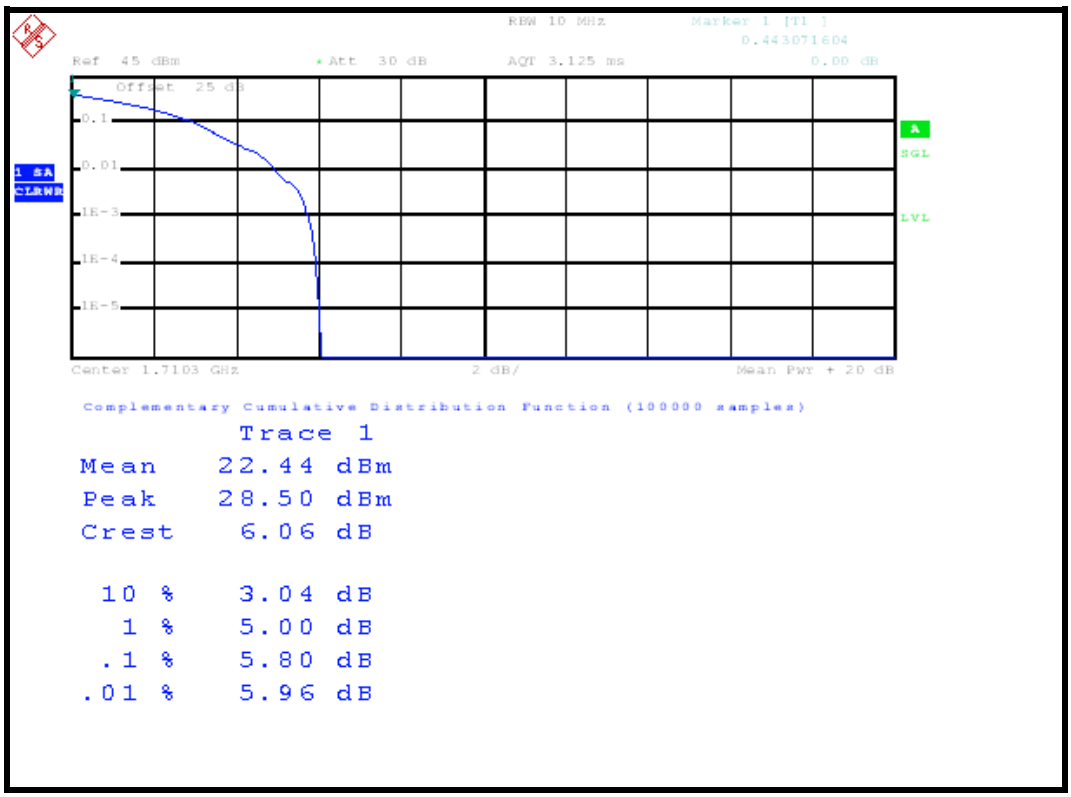


LTE Band 4

CHANNEL BANDWIDTH: 5MHz / 16QAM / 1 RB AT THE LOWER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1712.5	5.80
1732.5	3.96
1752.5	5.32

CH 19975

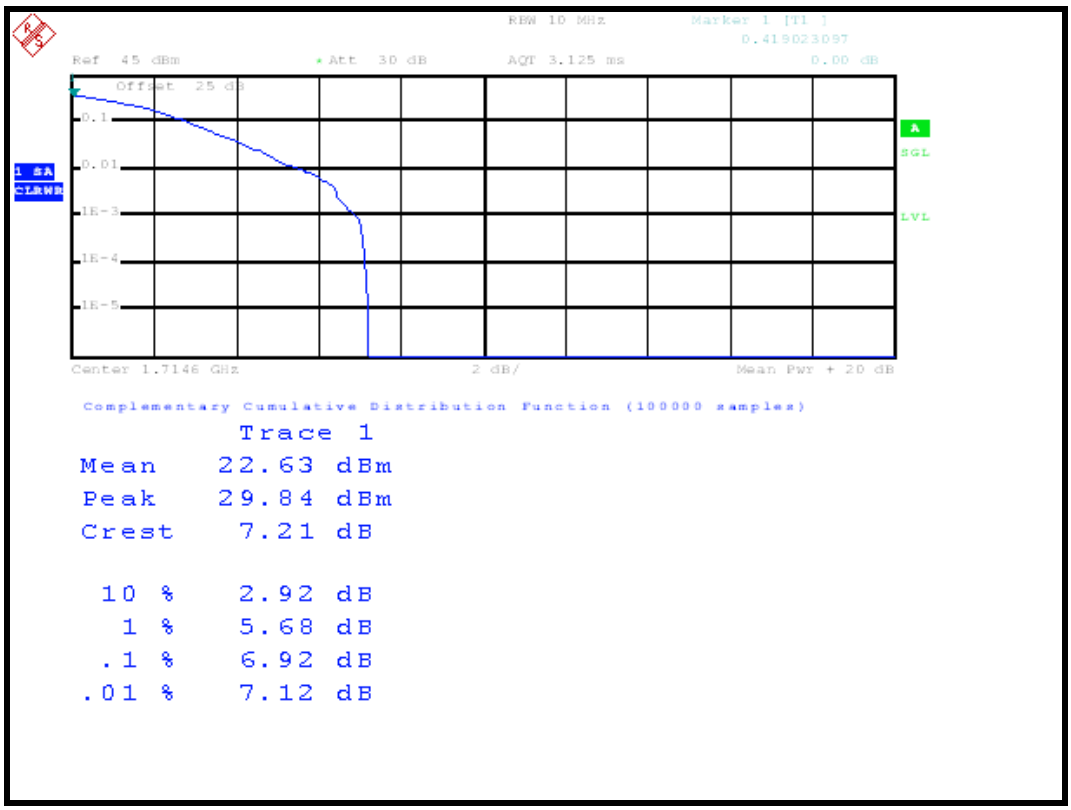


LTE Band 4

CHANNEL BANDWIDTH: 5MHz / 16QAM / 1 RB AT THE UPPER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1712.5	6.92
1732.5	3.88
1752.5	5.16

CH 19975

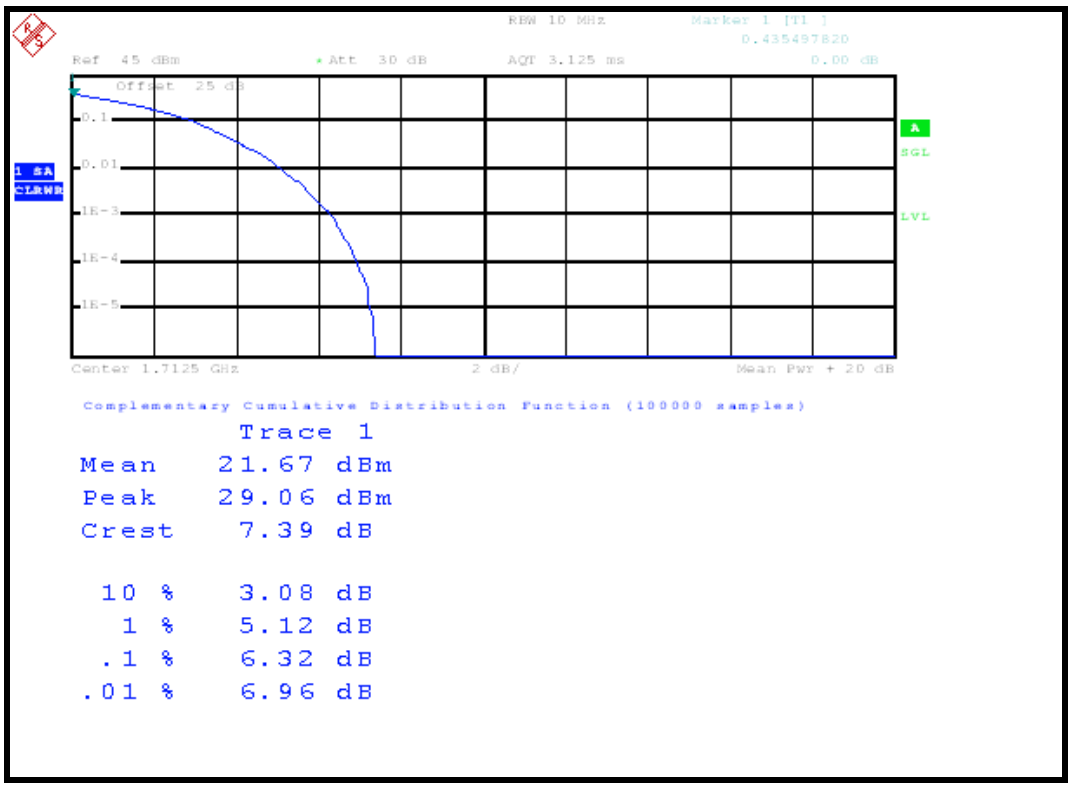


LTE Band 4

CHANNEL BANDWIDTH: 5MHz / 16QAM / 100% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1712.5	6.32
1732.5	4.92
1752.5	5.80

CH 19975

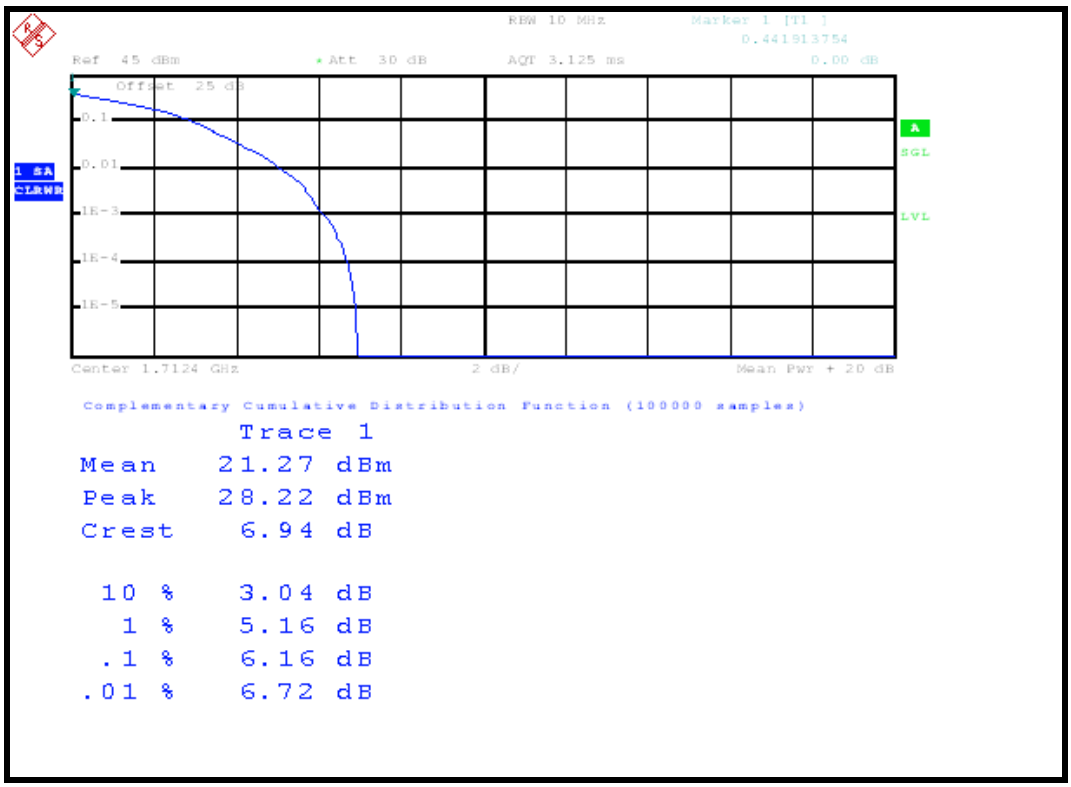


LTE Band 4

CHANNEL BANDWIDTH: 5MHz / 16QAM / 50% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1712.5	6.16
1732.5	4.92
1752.5	5.84

CH 19975

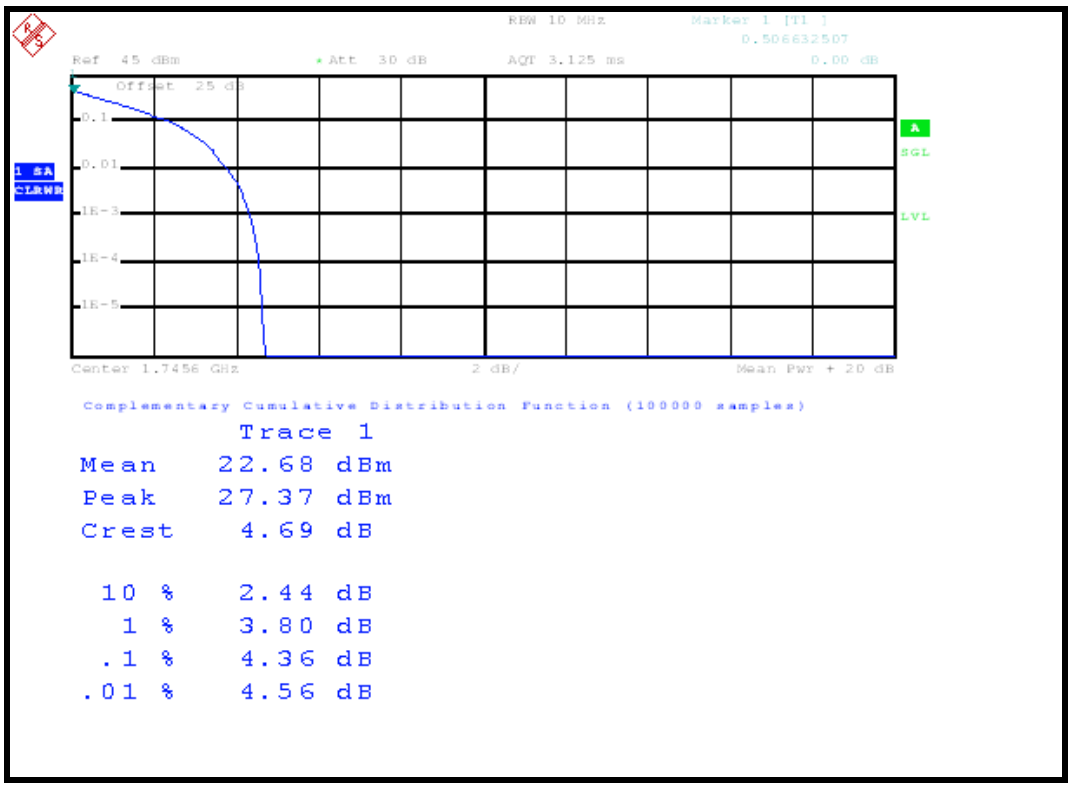


LTE Band 4

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB AT THE LOWER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1715.0	4.32
1732.5	3.64
1750.0	4.36

CH 20350

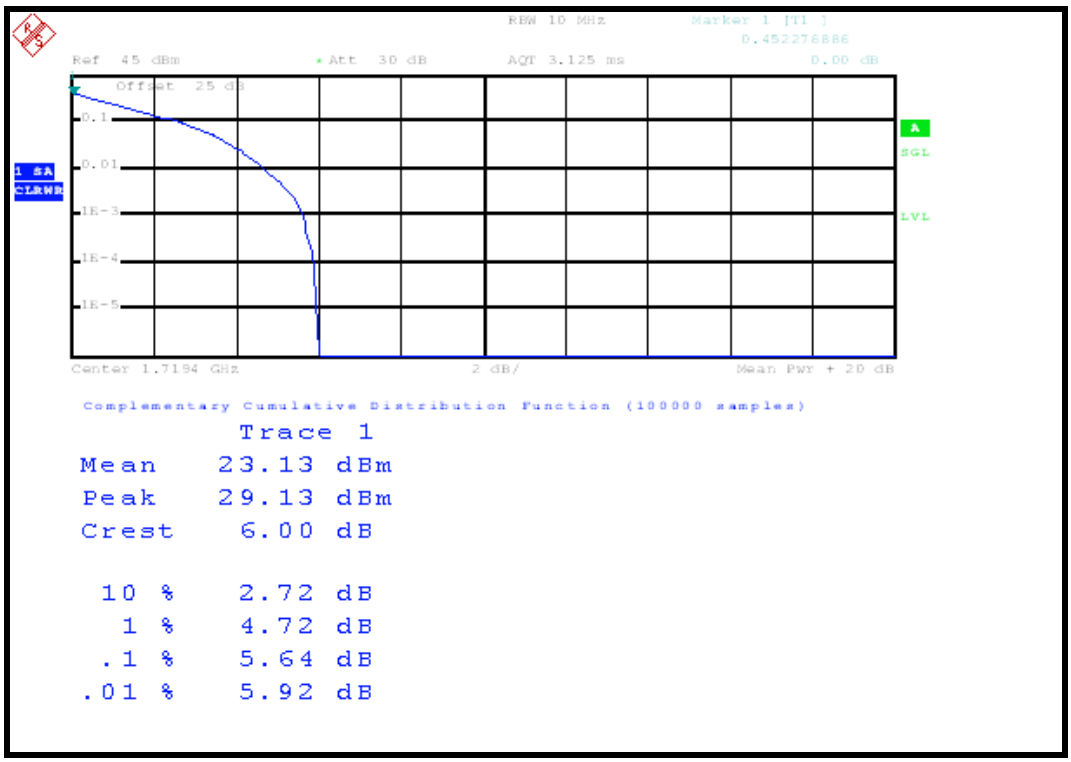


LTE Band 4

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB AT THE UPPER EDGE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1715.0	5.64
1732.5	3.44
1750.0	4.56

CH 20000

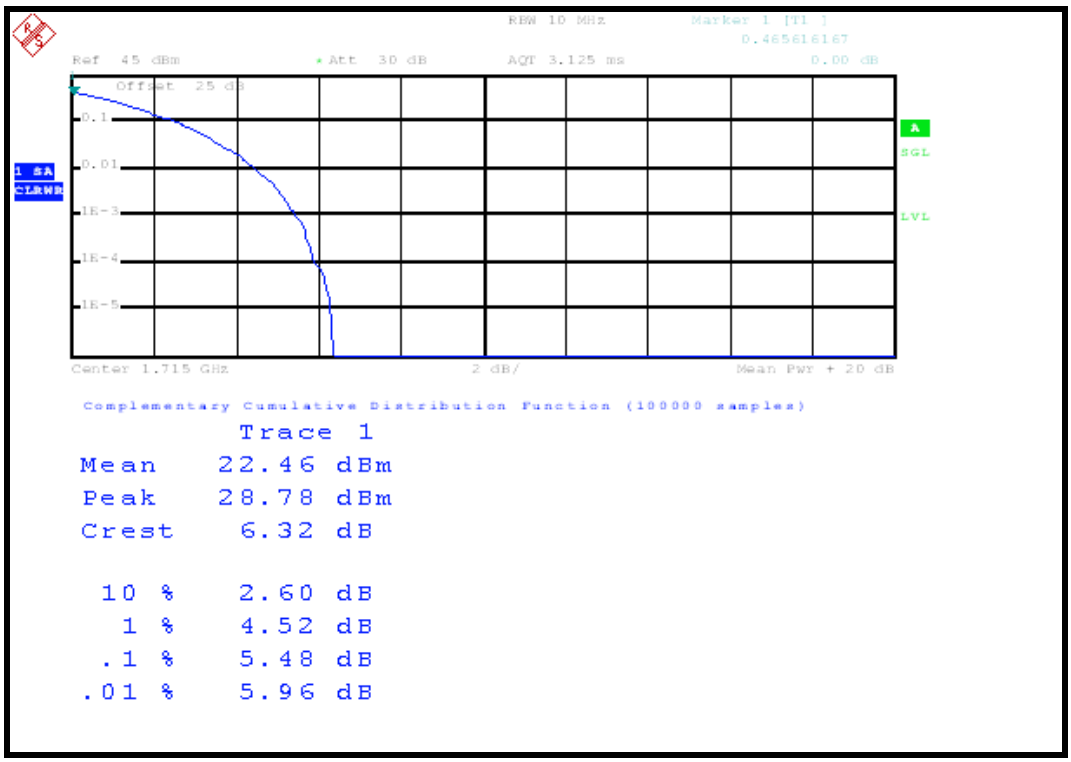


LTE Band 4

CHANNEL BANDWIDTH: 10MHz / QPSK / 100% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1715.0	5.48
1732.5	4.80
1750.0	5.28

CH 20000

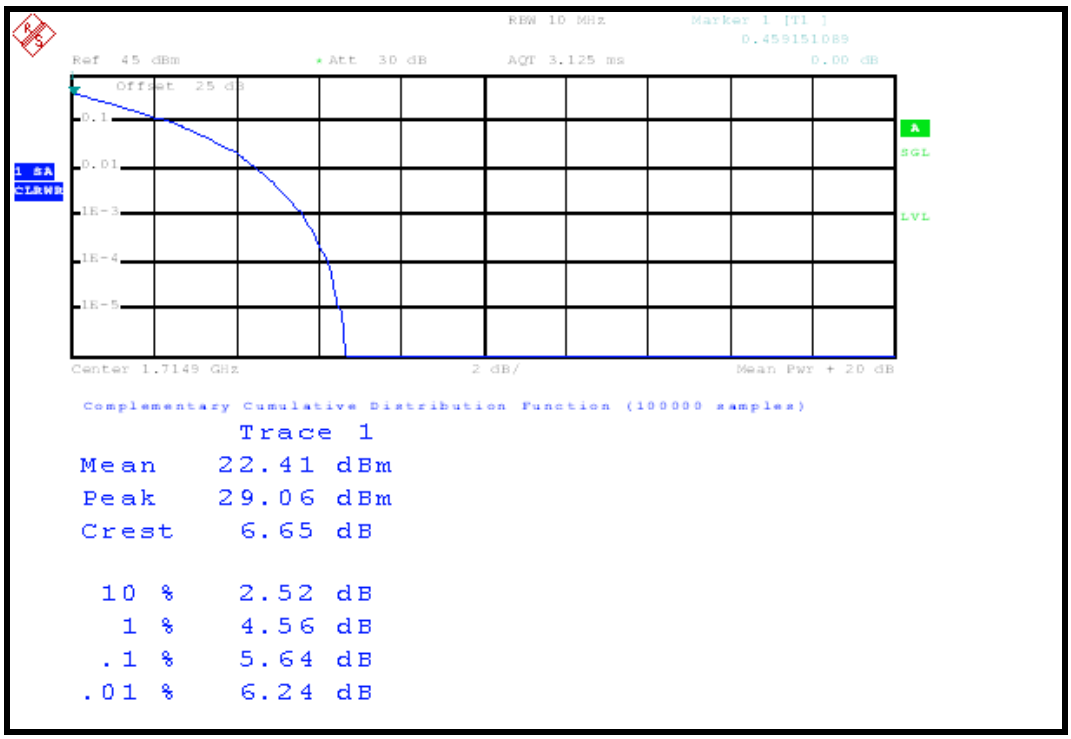


LTE Band 4

CHANNEL BANDWIDTH: 10MHz / QPSK / 50% RB

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1715.0	5.64
1732.5	4.32
1750.0	5.00

CH 20000

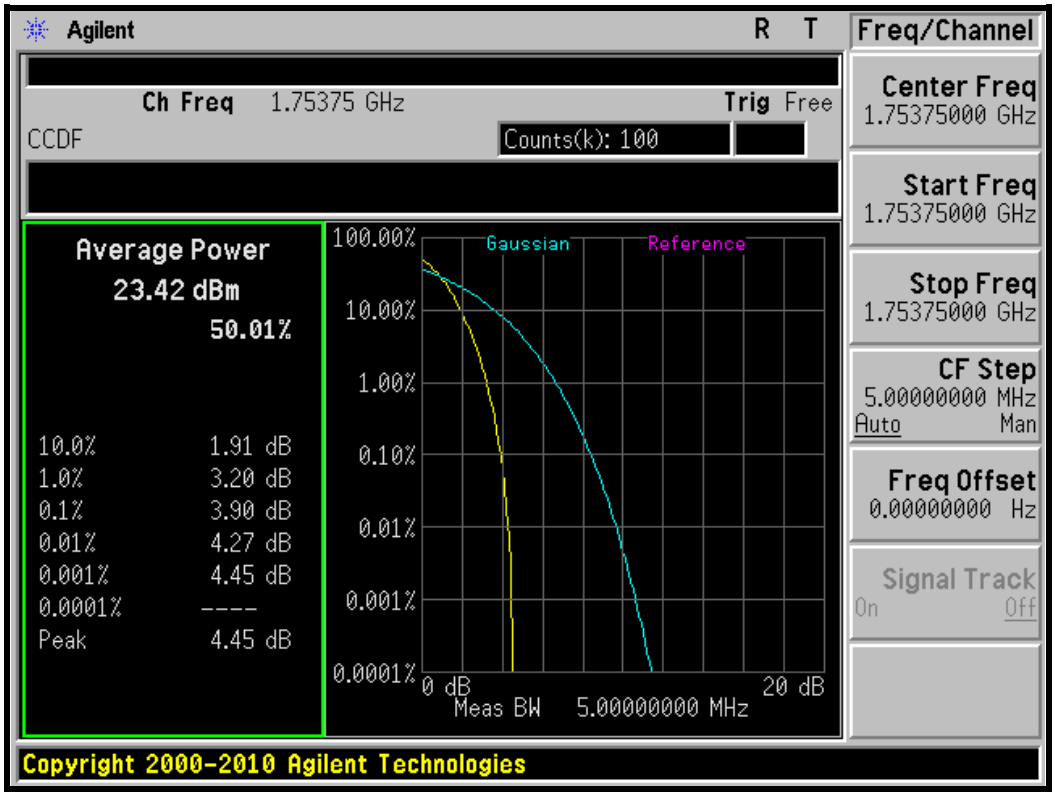


CDMA BC 15 Band

CDMA

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1711.25	3.77
1731.25	2.44
1753.75	3.90

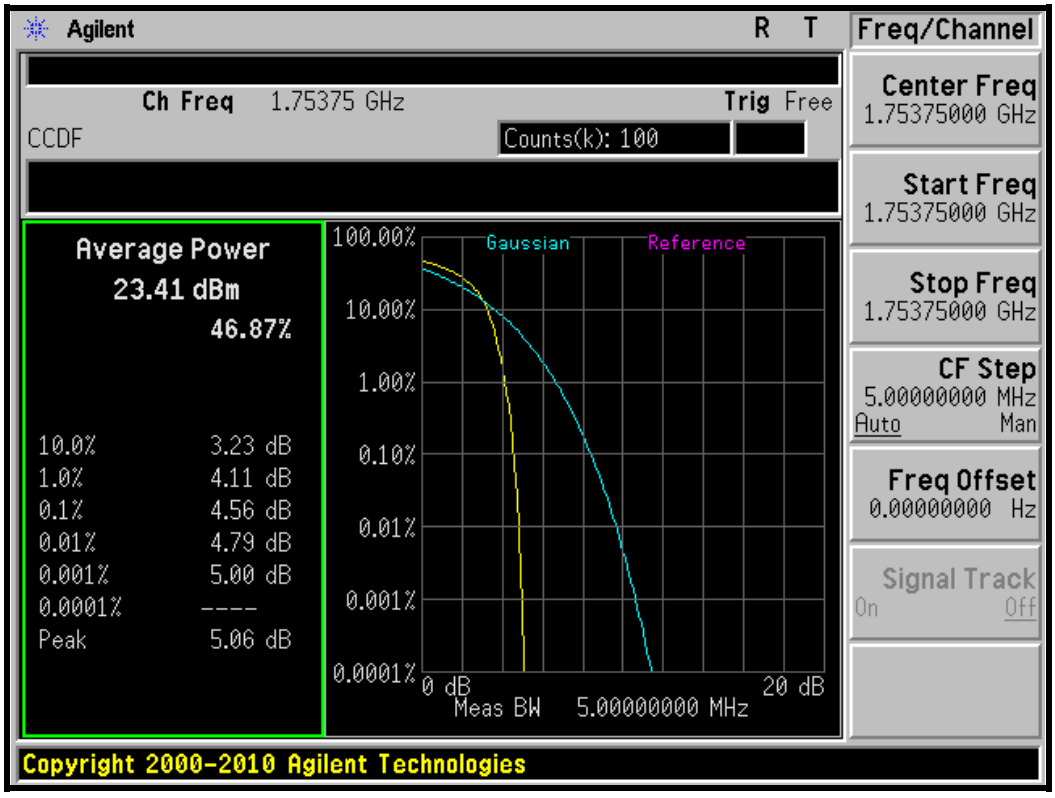
CH 875



1xEVDO Rev. A MODE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1711.25	4.37
1731.25	2.68
1753.75	4.56

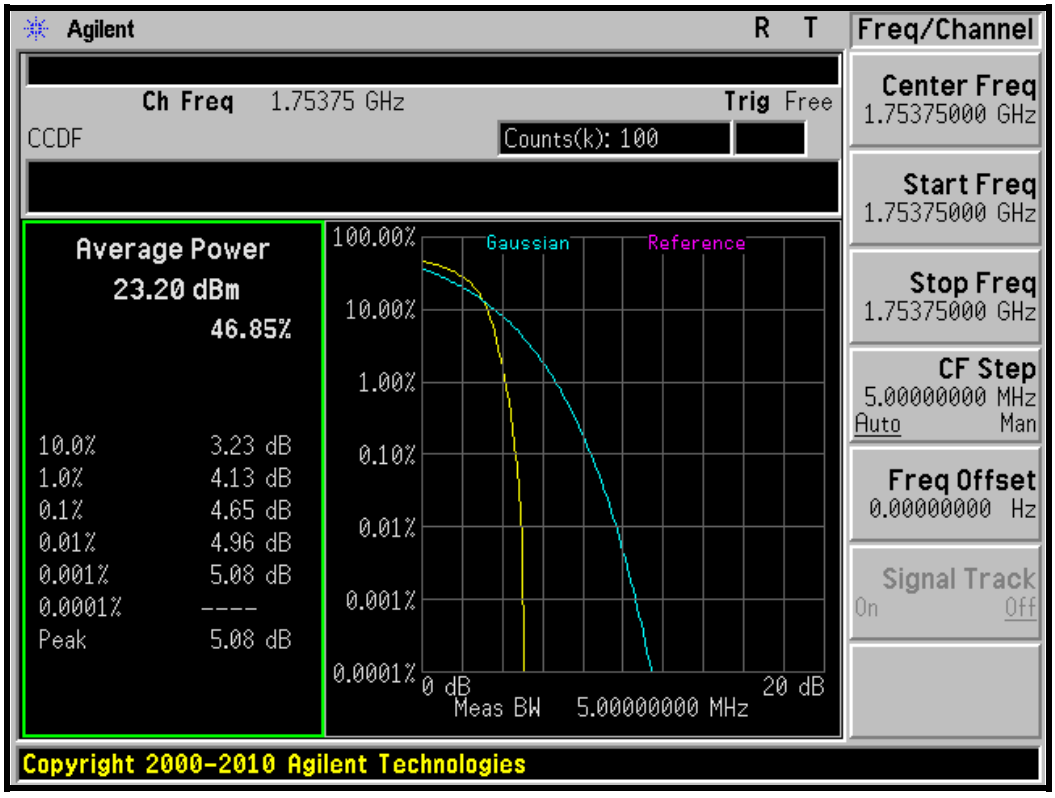
CH 875



1xEVDO Rev. 0 MODE

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1711.25	4.46
1731.25	2.89
1753.75	4.65

CH 875



4.5 BAND EDGE MEASUREMENT

4.5.1 LIMITS OF BAND EDGE MEASUREMENT

For operations in the 698–786 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

For operations in the 1710–1755 MHz band, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm.In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
* ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100039	Jan. 11, 2011	Jan. 10, 2012
* Mini-Circuits Power Splitter	ZN2PD-9G	NA	May 25, 2011	May 24, 2012
* Hewlett Packard RF cable	8120-6192	274388	Oct. 22, 2011	Oct. 21, 2012
* JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
* Suhner RF cable	Sucoflex104	274403/4	Aug. 20, 2011	Aug. 19, 2012

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. "*" = These equipments are used for the final measurement.

4.5.3 TEST SETUP

Same as Item 4.1.4 (Conducted Power Setup)

4.5.4 TEST PROCEDURES

a. The EUT was set up for the maximum peak power with LTE/CDMA link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range.).

b. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

c. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 50kHz and VB of the spectrum is 200kHz.

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

4.5.5 EUT OPERATING CONDITION

a. The EUT makes a call to the communication simulator.

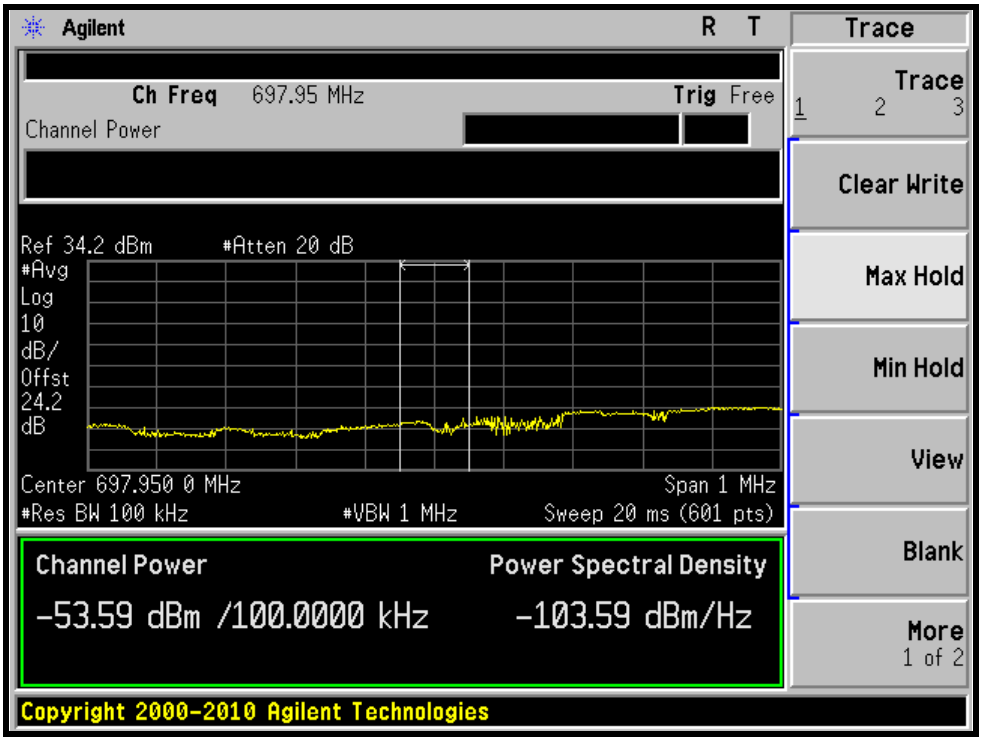
b. The communication simulator station system controlled an EUT to export maximum output power under transmission mode and specific channel frequency.

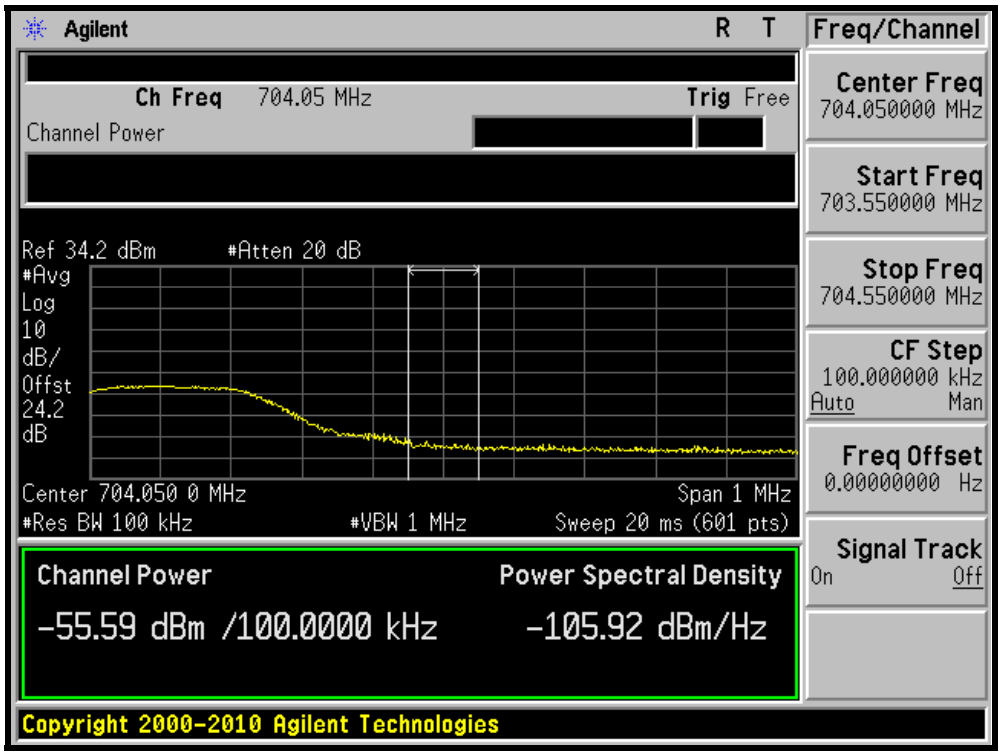
4.5.6 TEST RESULTS

LTE Band 12

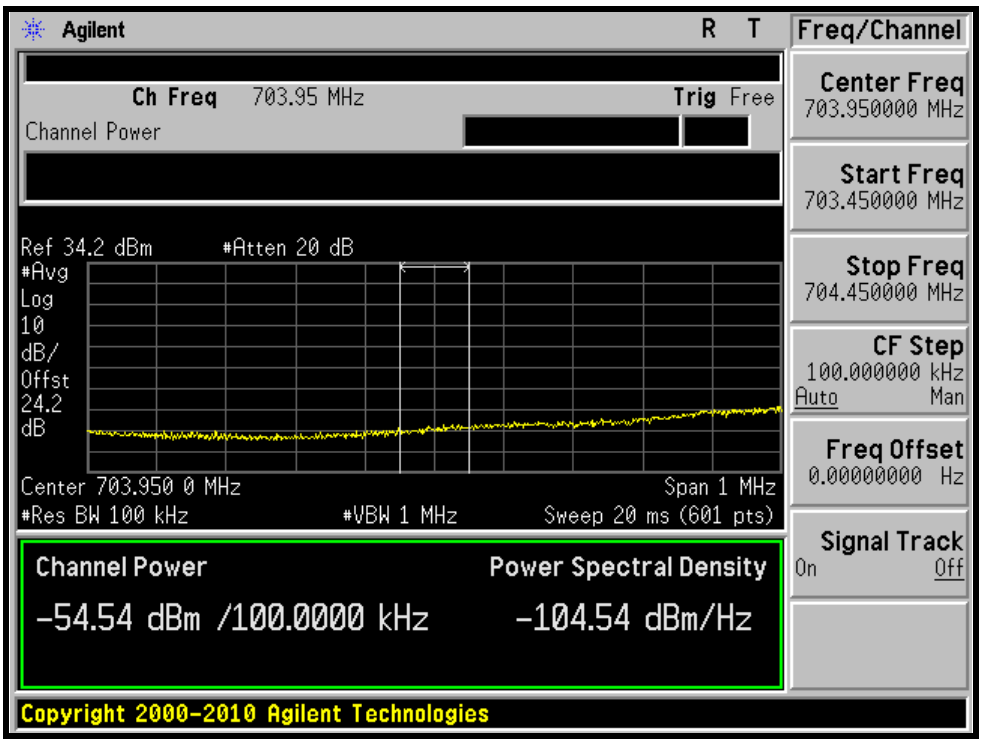
CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB ALLOCATED AT THE LOWER EDGE

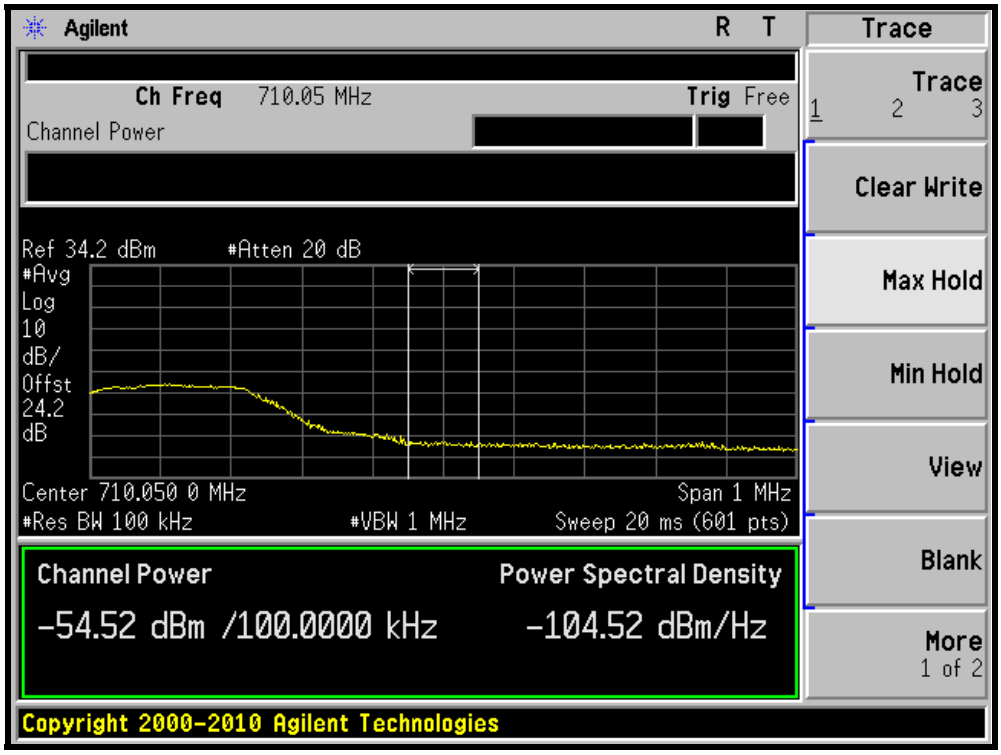
701.5MHz



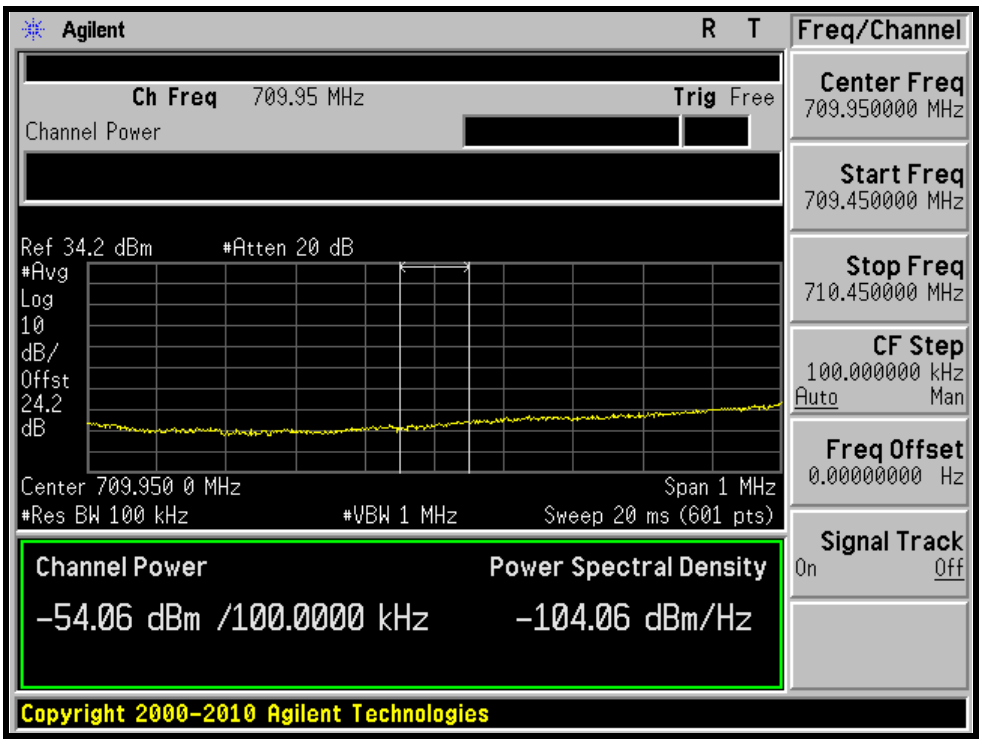


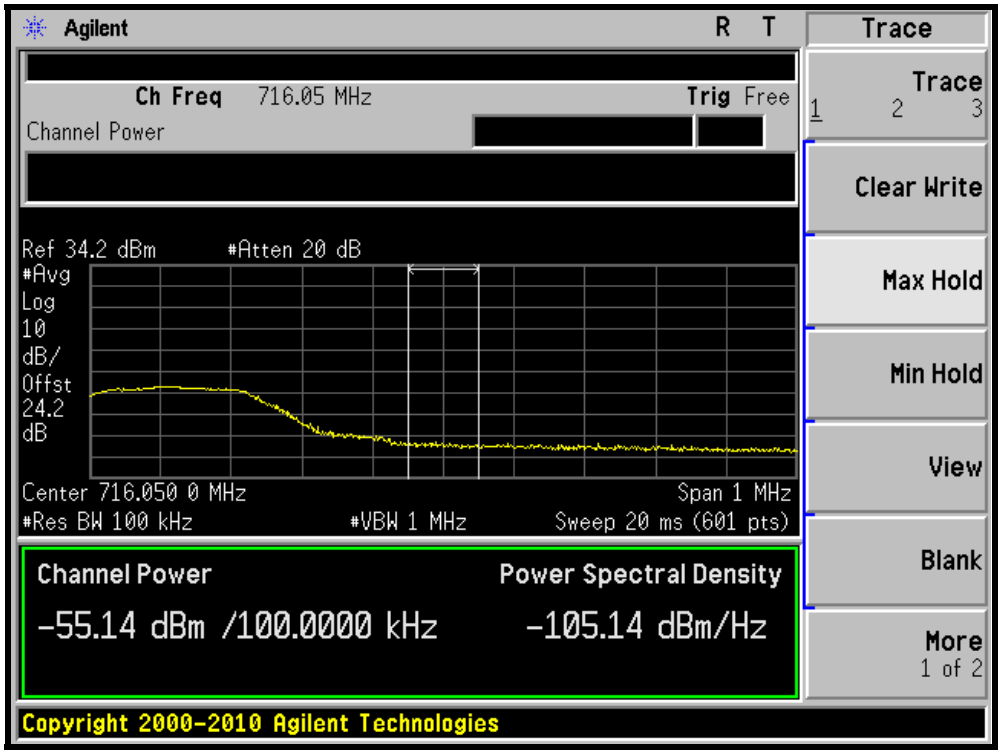
707.5MHz


Agilent
R T
Freq/Channel
Ch Freq 703.95 MHz
Trig Free
Channel Power
Center Freq
703.950000 MHz
Start Freq
703.450000 MHz
Stop Freq
704.450000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 703.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-54.54 dBm /100.0000 kHz
Power Spectral Density
-104.54 dBm/Hz
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Trace
Ch Freq 710.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 710.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-54.52 dBm /100.0000 kHz
Power Spectral Density
-104.52 dBm/Hz
Copyright 2000-2010 Agilent Technologies

713.5MHz

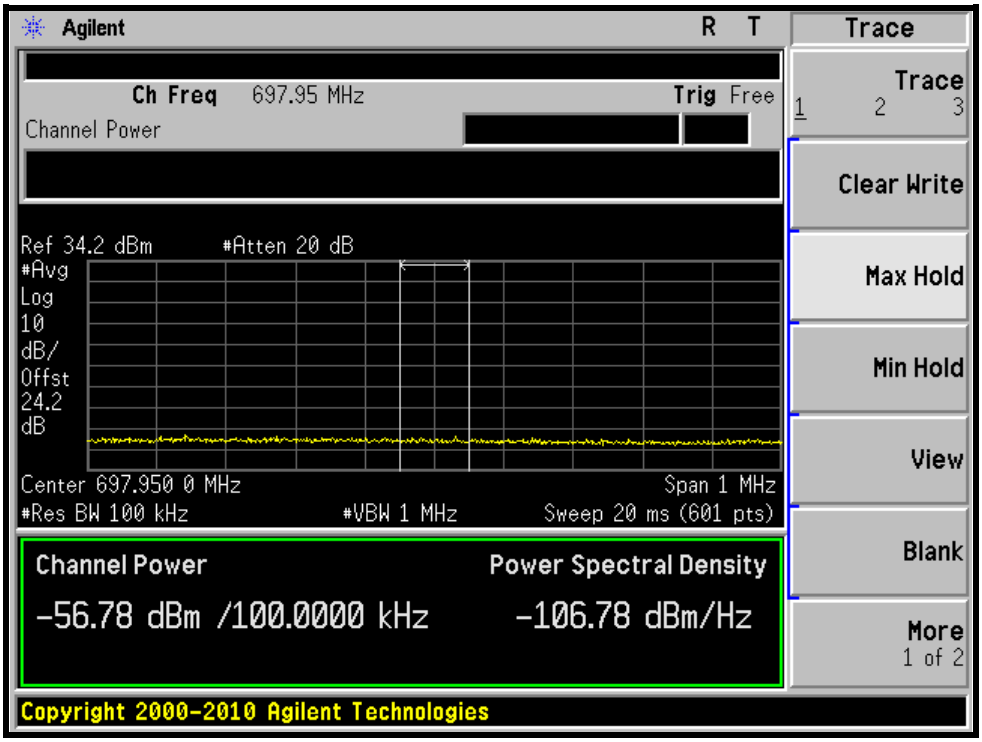

Agilent
R T
Freq/Channel
Ch Freq 709.95 MHz
Trig Free
Channel Power
Center Freq
709.950000 MHz
Start Freq
709.450000 MHz
Stop Freq
710.450000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 709.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-54.06 dBm /100.0000 kHz
Power Spectral Density
-104.06 dBm/Hz
Copyright 2000-2010 Agilent Technologies

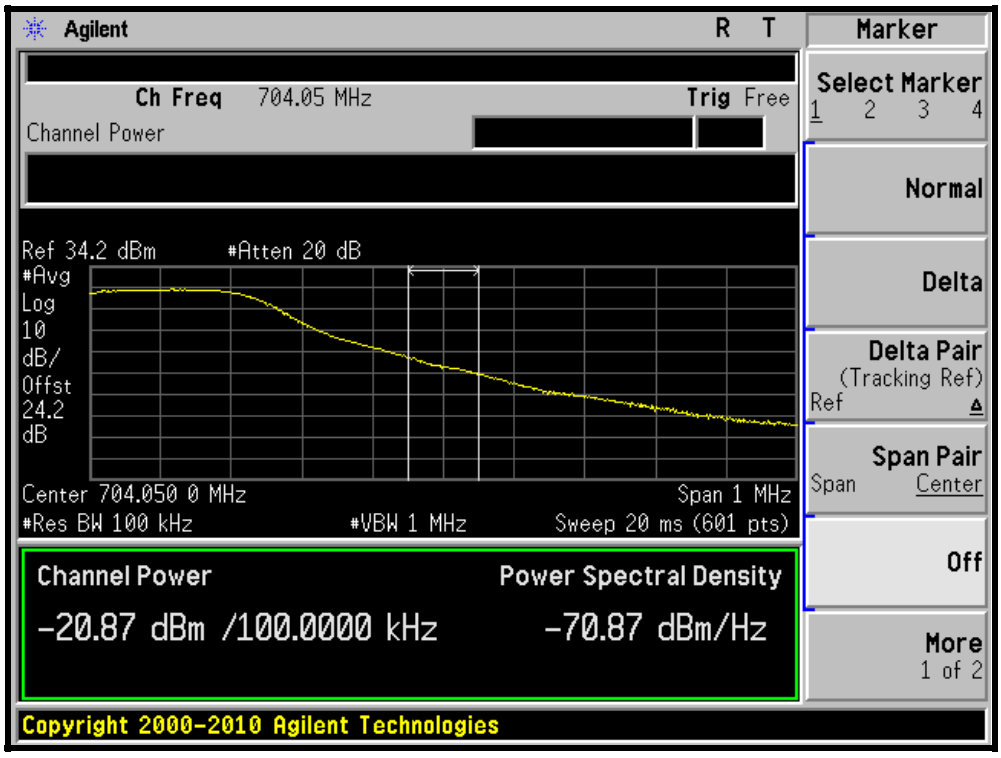

Agilent
R T
Trace
Ch Freq 716.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-55.14 dBm /100.0000 kHz
Power Spectral Density
-105.14 dBm/Hz
Copyright 2000-2010 Agilent Technologies

LTE Band 12

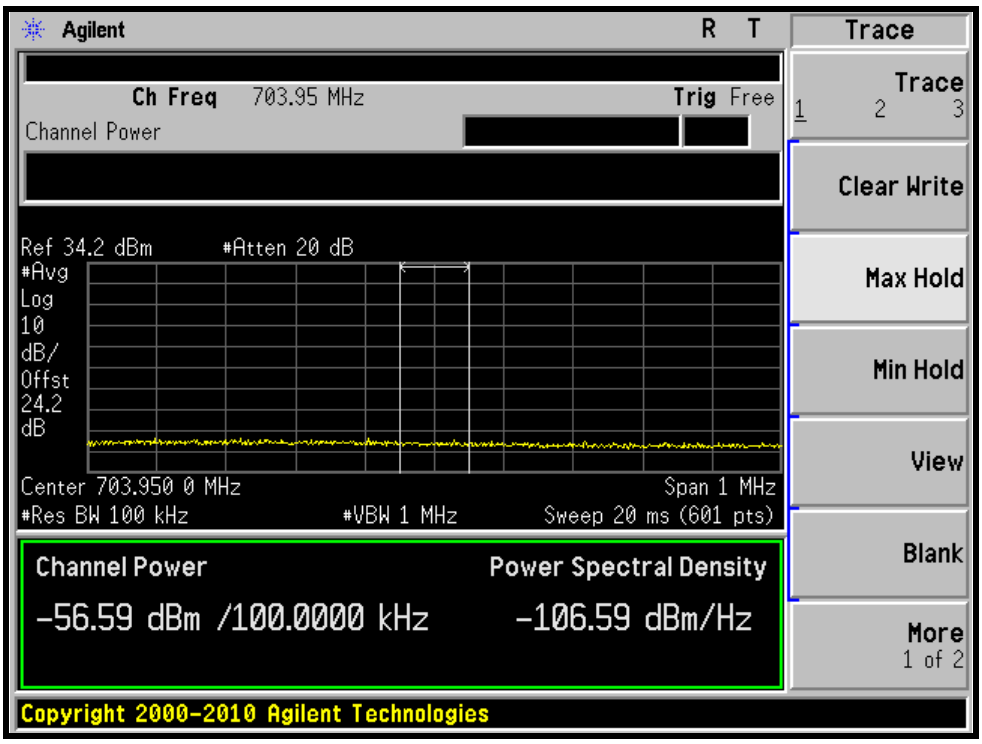
CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB ALLOCATED AT THE UPPER EDGE

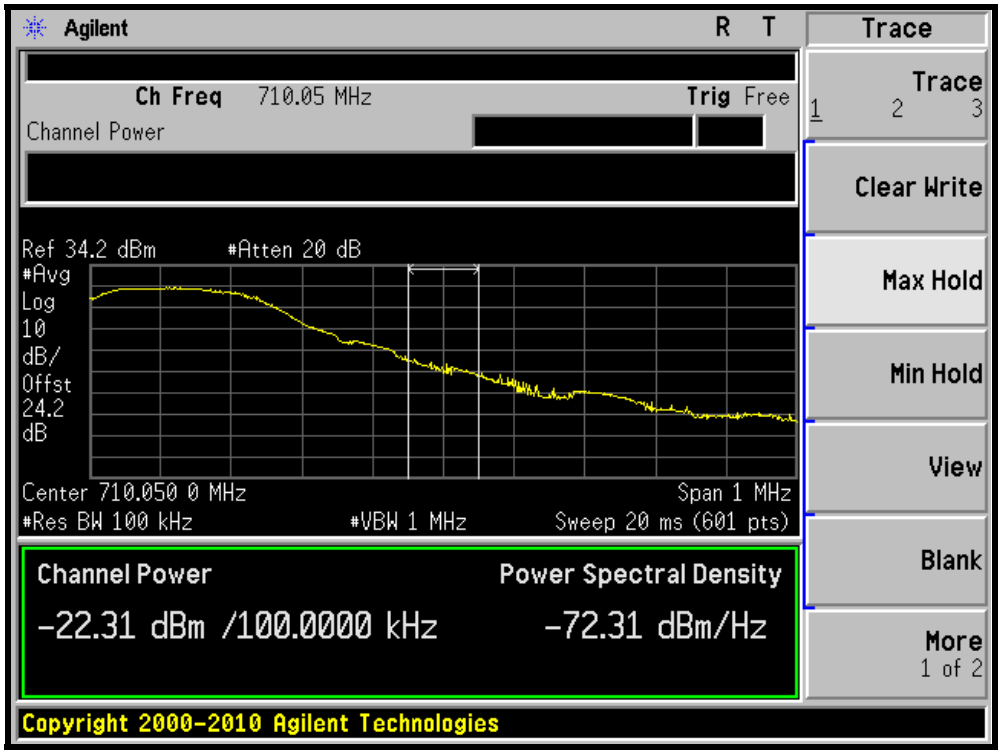
701.5MHz



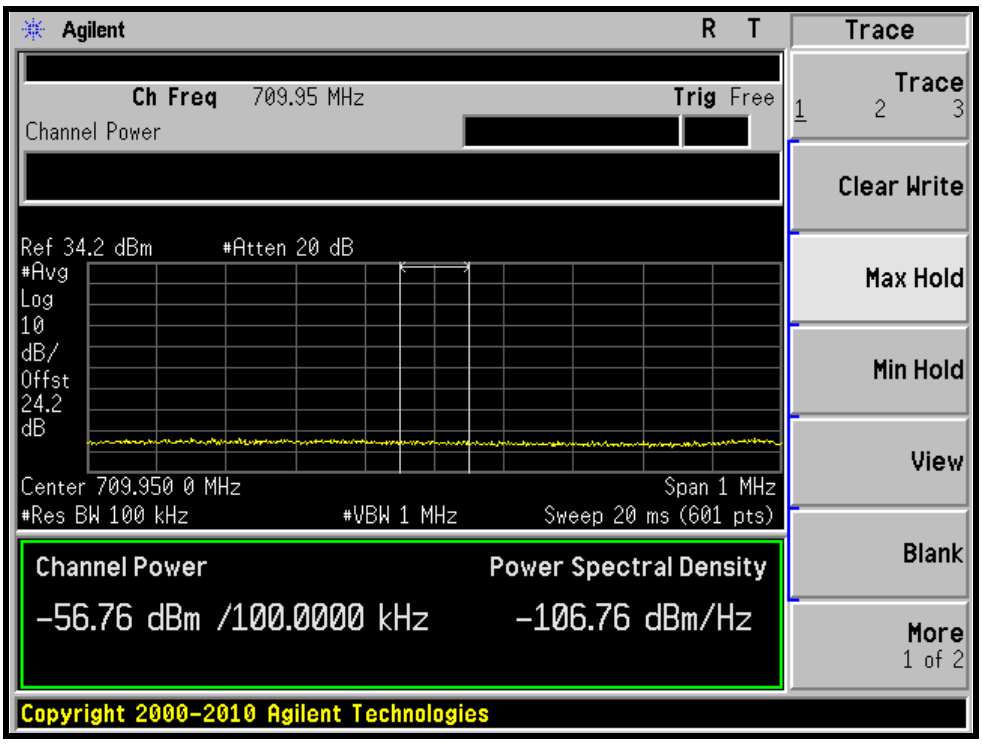


707.5MHz


Agilent
R T
Trace
Ch Freq 703.95 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 703.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-56.59 dBm /100.0000 kHz
Power Spectral Density
-106.59 dBm/Hz
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Trace
Ch Freq 710.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 710.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-22.31 dBm /100.0000 kHz
Power Spectral Density
-72.31 dBm/Hz
Copyright 2000-2010 Agilent Technologies

713.5MHz


Agilent
R T
Trace
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Trig Free
Channel Power
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Clear Write
Max Hold
Min Hold
View
Blank
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Ref 34.2 dBm
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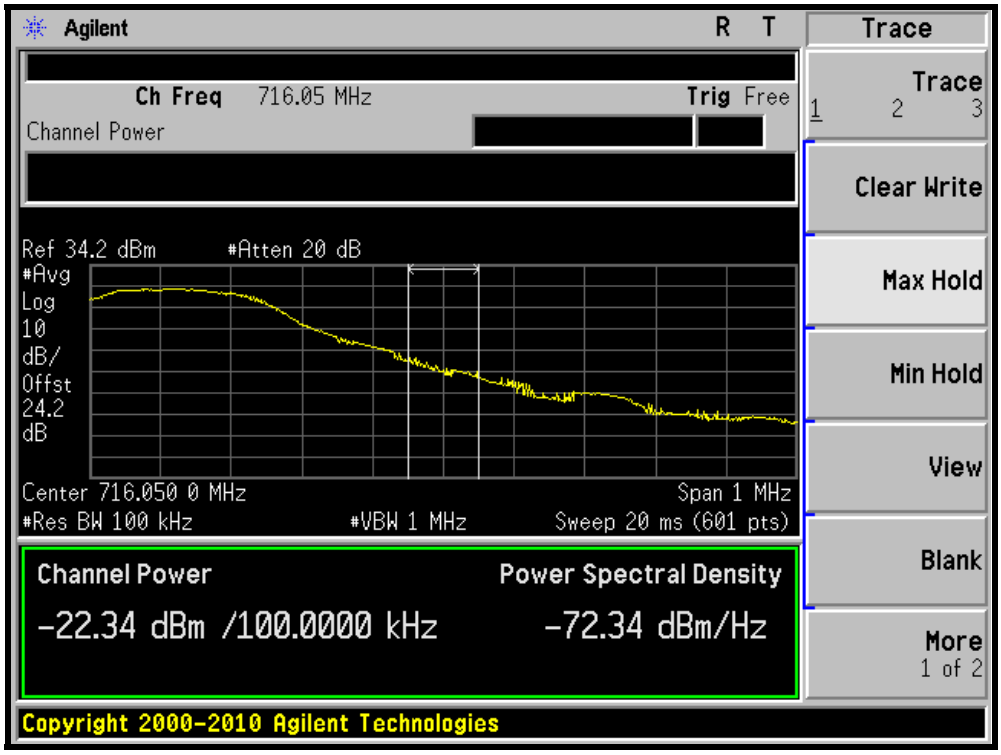
#Avg
Log
10
dB/
Offst
24.2
dB
Center 709.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-56.76 dBm /100.0000 kHz
Power Spectral Density
-106.76 dBm/Hz
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Trace
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Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
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Ref 34.2 dBm
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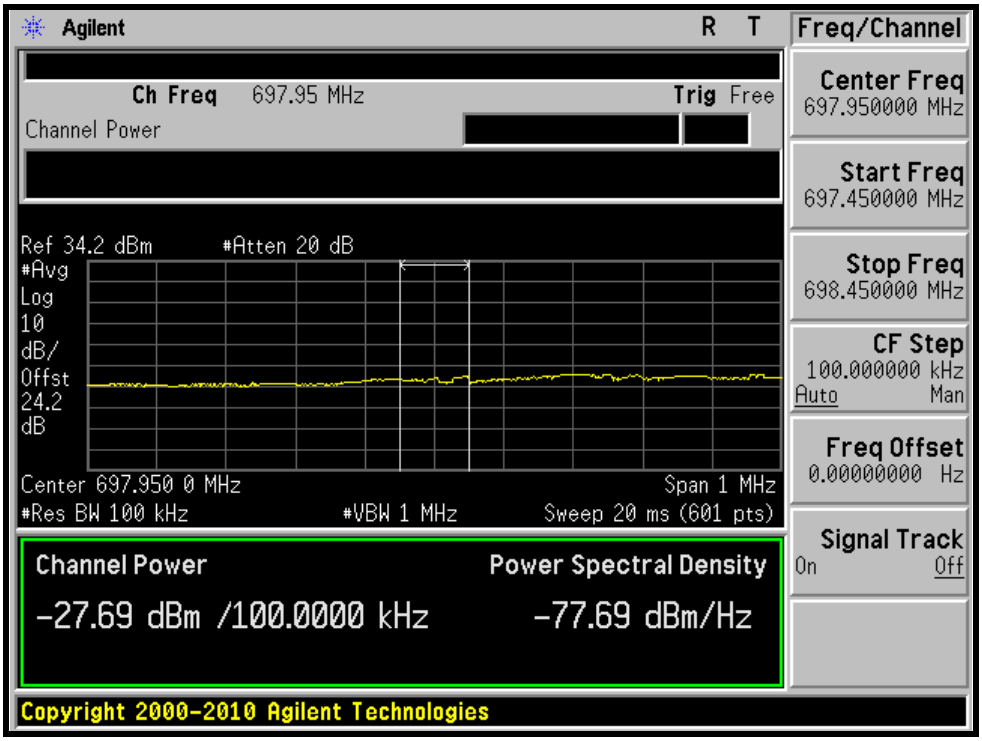
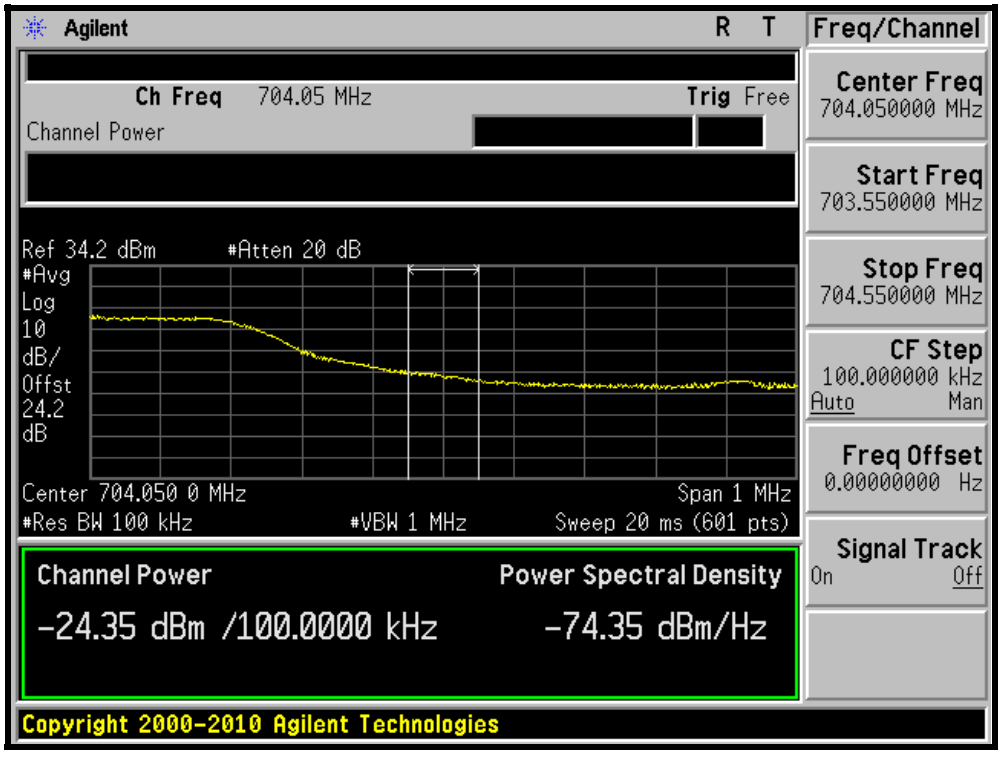
Log
10
dB/
Offst
24.2
dB
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-22.34 dBm /100.0000 kHz
Power Spectral Density
-72.34 dBm/Hz
Copyright 2000-2010 Agilent Technologies

LTE Band 12

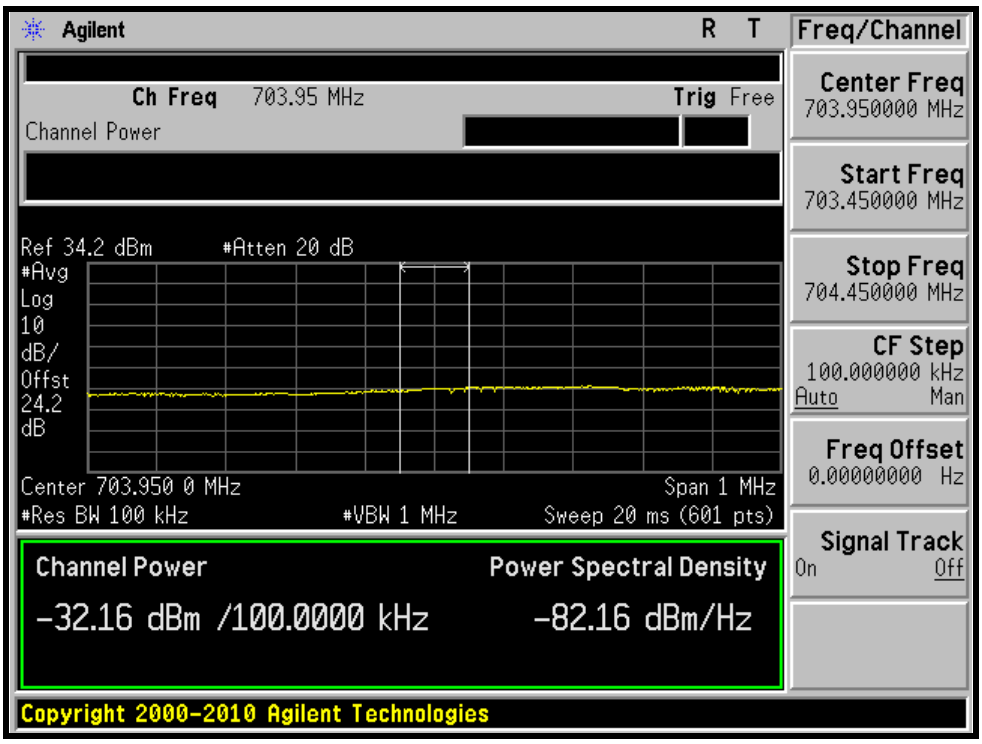
CHANNEL BANDWIDTH: 5MHz / QPSK / 100% RB ALLOCATION

701.5MHz





707.5MHz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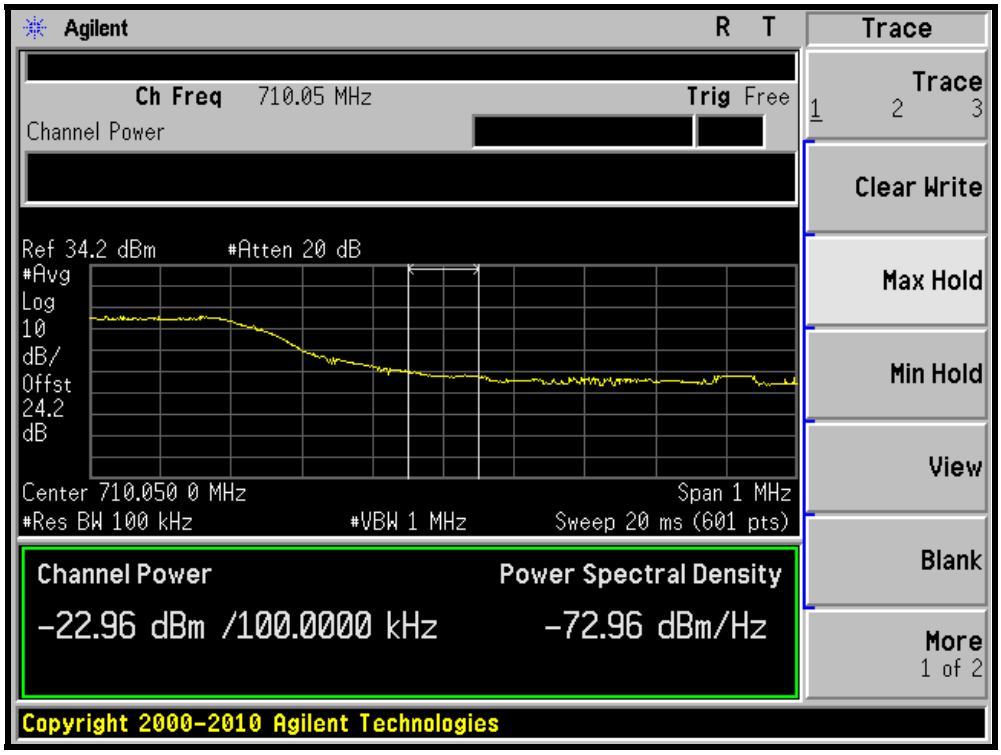
R T
Freq/Channel
Ch Freq 703.95 MHz
Trig Free
Channel Power
Center Freq
703.950000 MHz
Start Freq
703.450000 MHz
Stop Freq
704.450000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 703.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-32.16 dBm /100.0000 kHz
Power Spectral Density
-82.16 dBm/Hz
Copyright 2000-2010 Agilent Technologies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R T
Trace
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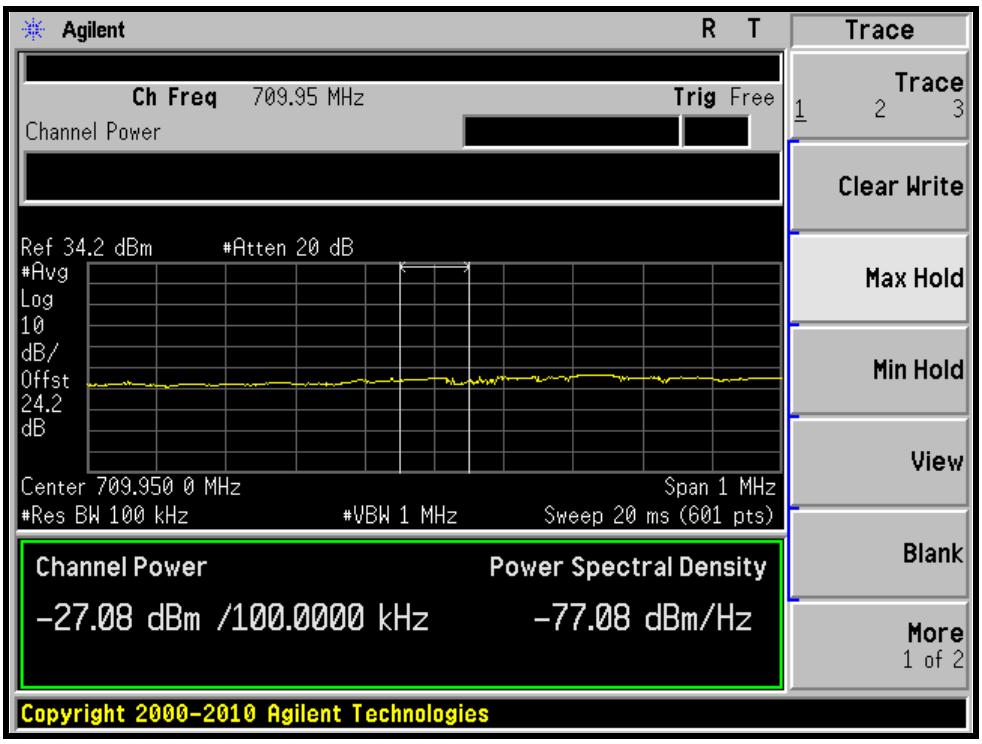
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 710.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-22.96 dBm /100.0000 kHz
Power Spectral Density
-72.96 dBm/Hz
Copyright 2000-2010 Agilent Technologies

713.5MHz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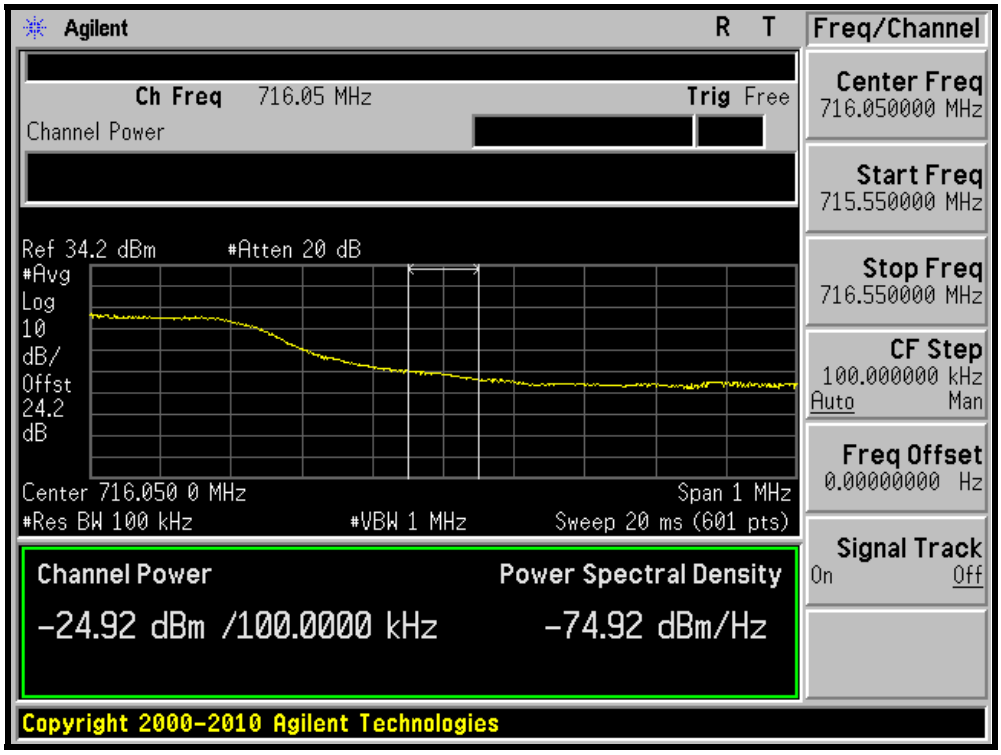
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Max Hold
Min Hold
View
Center 709.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Blank
Channel Power
-27.08 dBm /100.0000 kHz
Power Spectral Density
-77.08 dBm/Hz
More
1 of 2
Copyright 2000-2010 Agilent Technologies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R T
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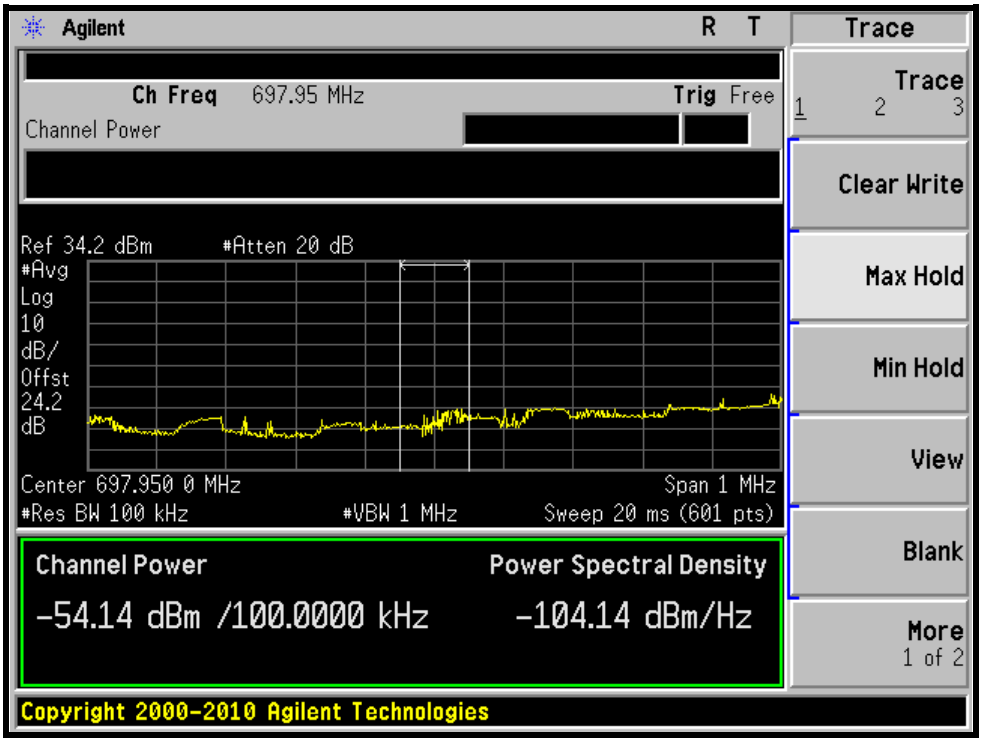
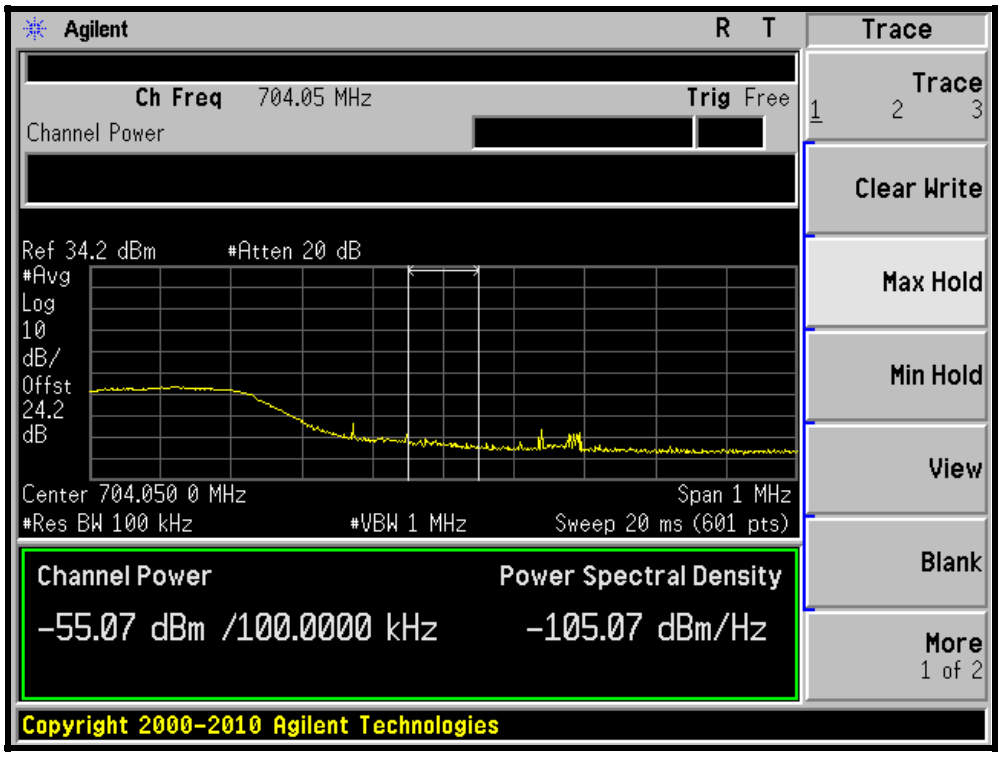
Channel Power
Center Freq
716.050000 MHz
Start Freq
715.550000 MHz
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Stop Freq
716.550000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Signal Track
On Off
Channel Power
-24.92 dBm /100.0000 kHz
Power Spectral Density
-74.92 dBm/Hz
Copyright 2000-2010 Agilent Technologies

LTE Band 12

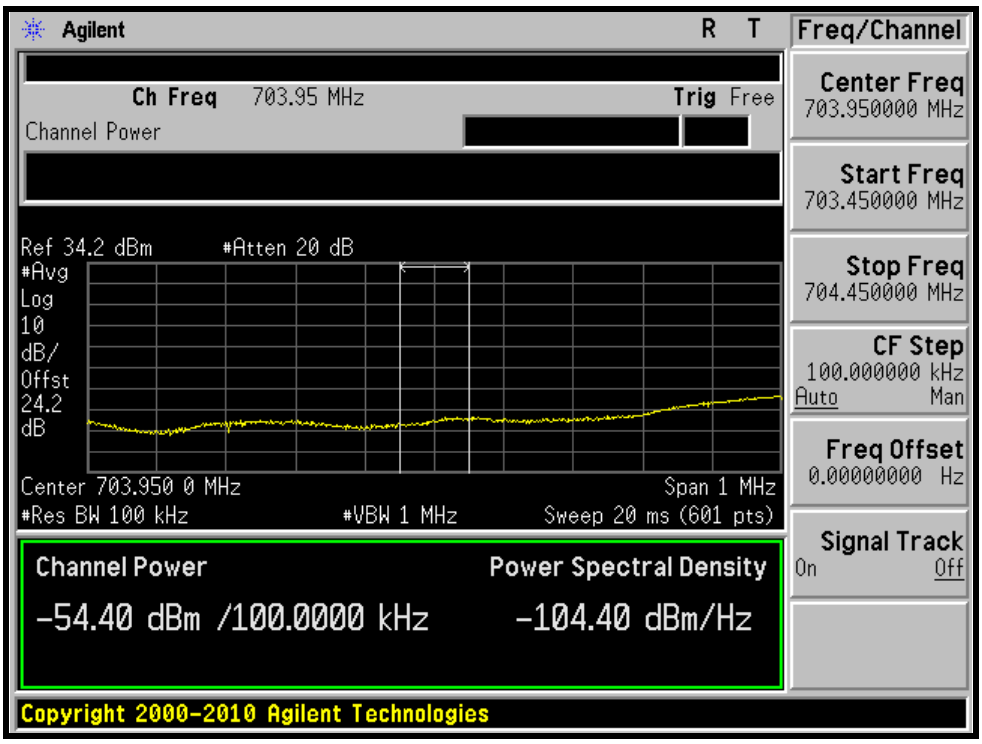
CHANNEL BANDWIDTH: 5MHz / 16QAM / 1 RB ALLOCATED AT THE LOWER EDGE

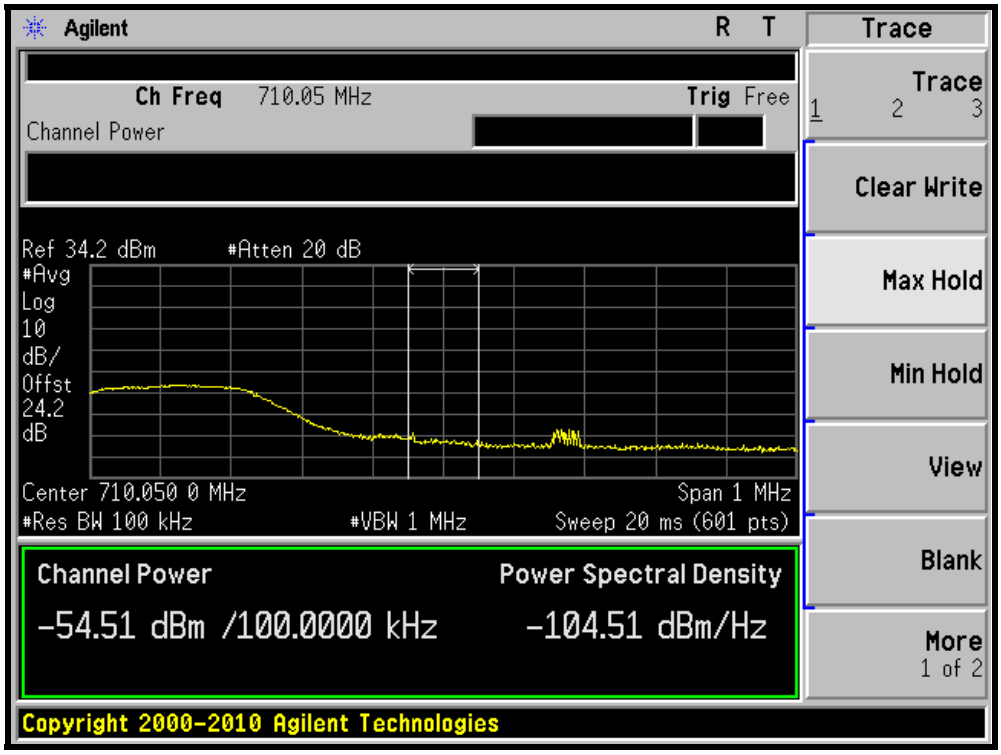
701.5MHz



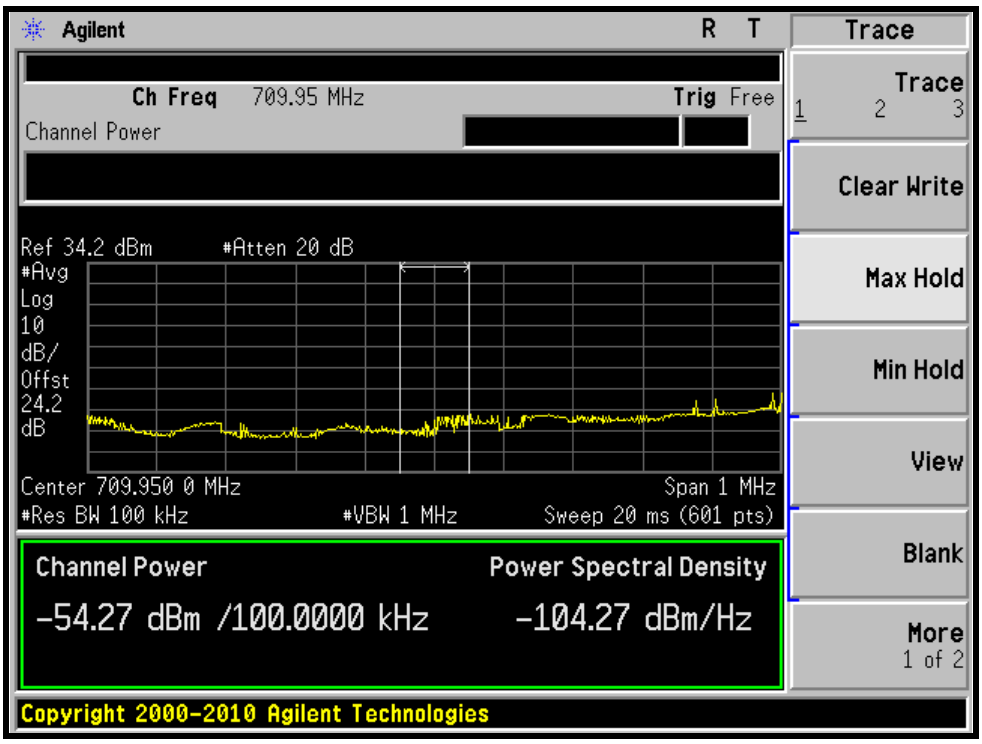


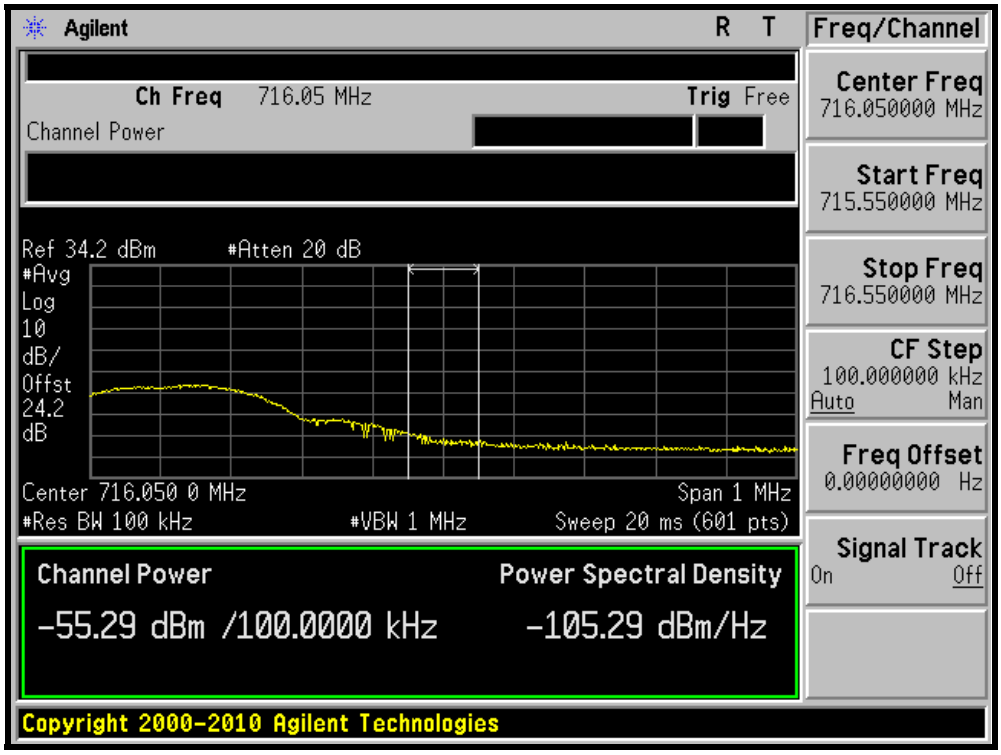
707.5MHz


Agilent
R T
Freq/Channel
Ch Freq 703.95 MHz
Trig Free
Channel Power
Center Freq
703.950000 MHz
Start Freq
703.450000 MHz
Stop Freq
704.450000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 703.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-54.40 dBm /100.0000 kHz
Power Spectral Density
-104.40 dBm/Hz
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Trace
Ch Freq 710.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 710.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-54.51 dBm /100.0000 kHz
Power Spectral Density
-104.51 dBm/Hz
Copyright 2000-2010 Agilent Technologies

713.5MHz

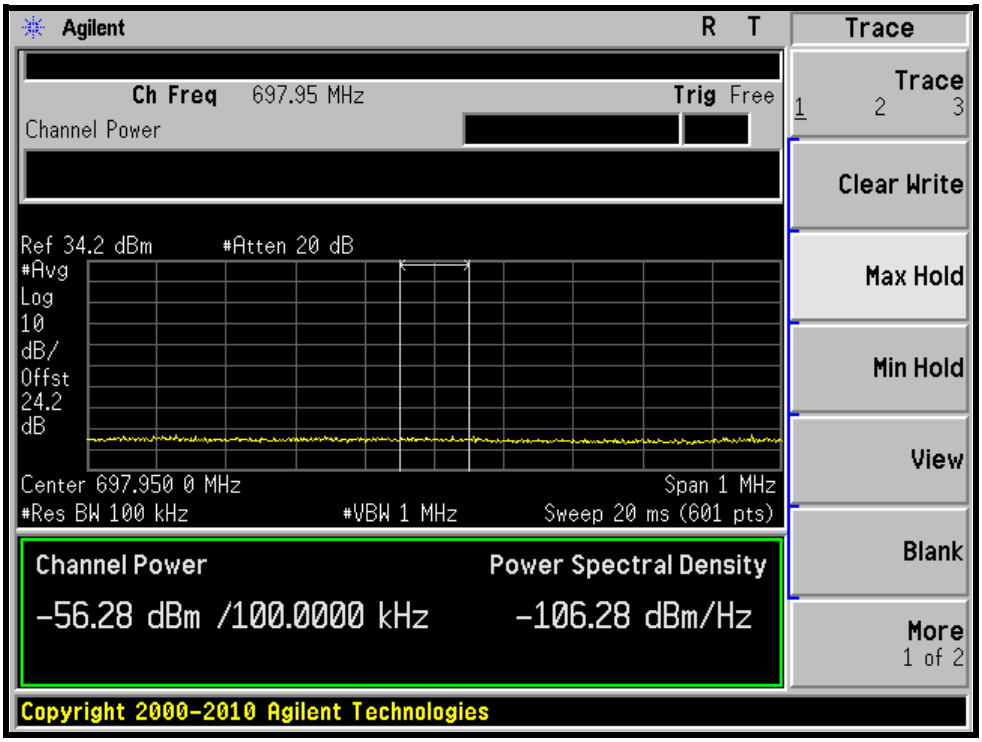

Agilent
R T
Trace
Ch Freq 709.95 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Max Hold
Min Hold
View
Center 709.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Blank
Channel Power
-54.27 dBm /100.0000 kHz
Power Spectral Density
-104.27 dBm/Hz
More
1 of 2
Copyright 2000-2010 Agilent Technologies

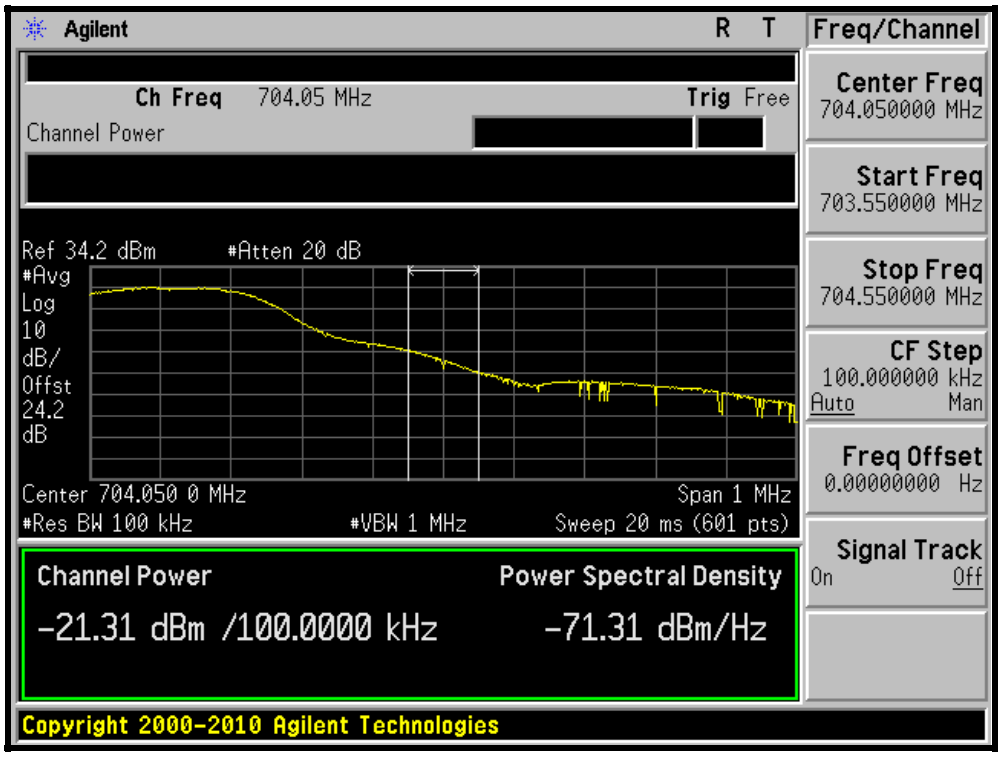

Agilent
R T
Freq/Channel
Ch Freq 716.05 MHz
Trig Free
Channel Power
Center Freq
716.050000 MHz
Start Freq
715.550000 MHz
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Stop Freq
716.550000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Signal Track
On Off
Channel Power
-55.29 dBm /100.0000 kHz
Power Spectral Density
-105.29 dBm/Hz
Copyright 2000-2010 Agilent Technologies

LTE Band 12

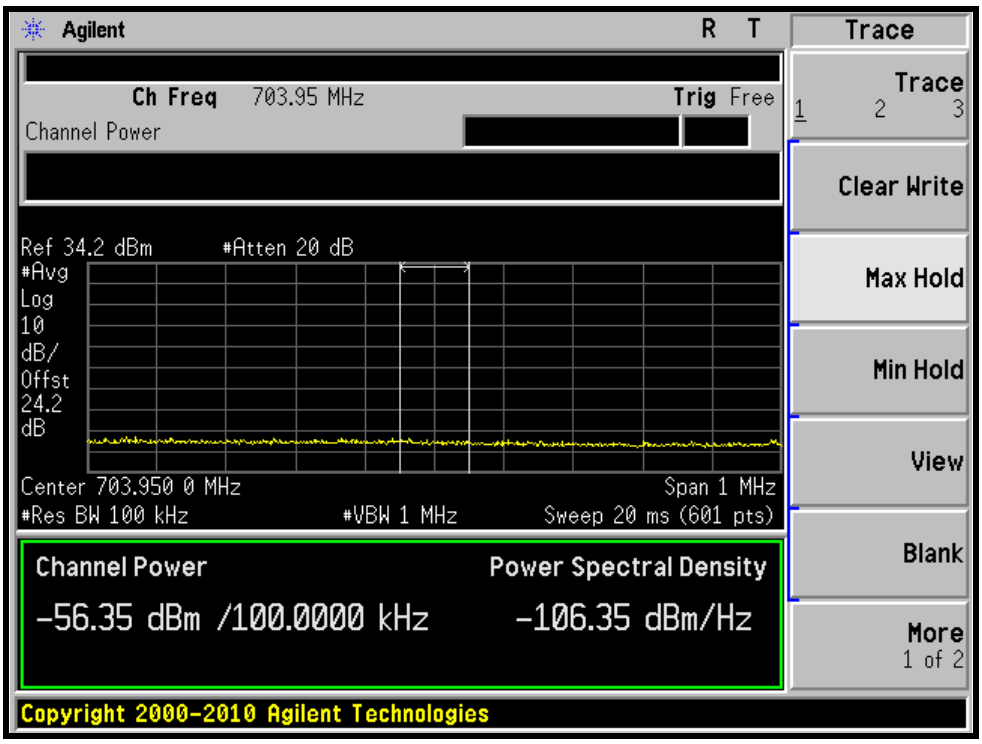
CHANNEL BANDWIDTH: 5MHz / 16QAM / 1 RB ALLOCATED AT THE UPPER EDGE

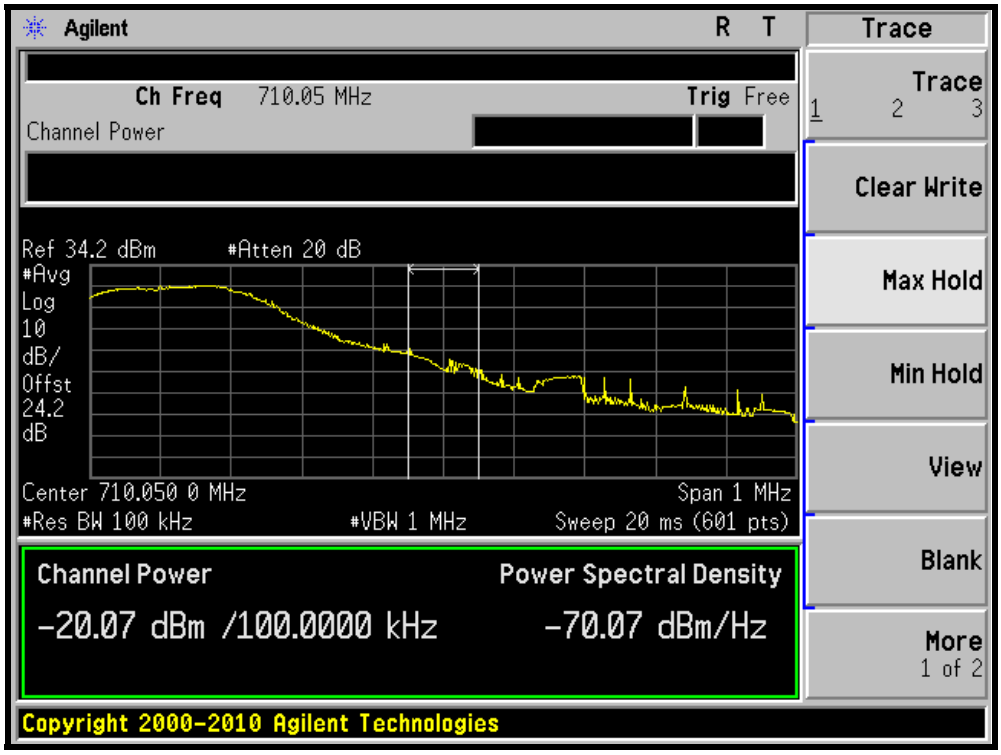
701.5MHz



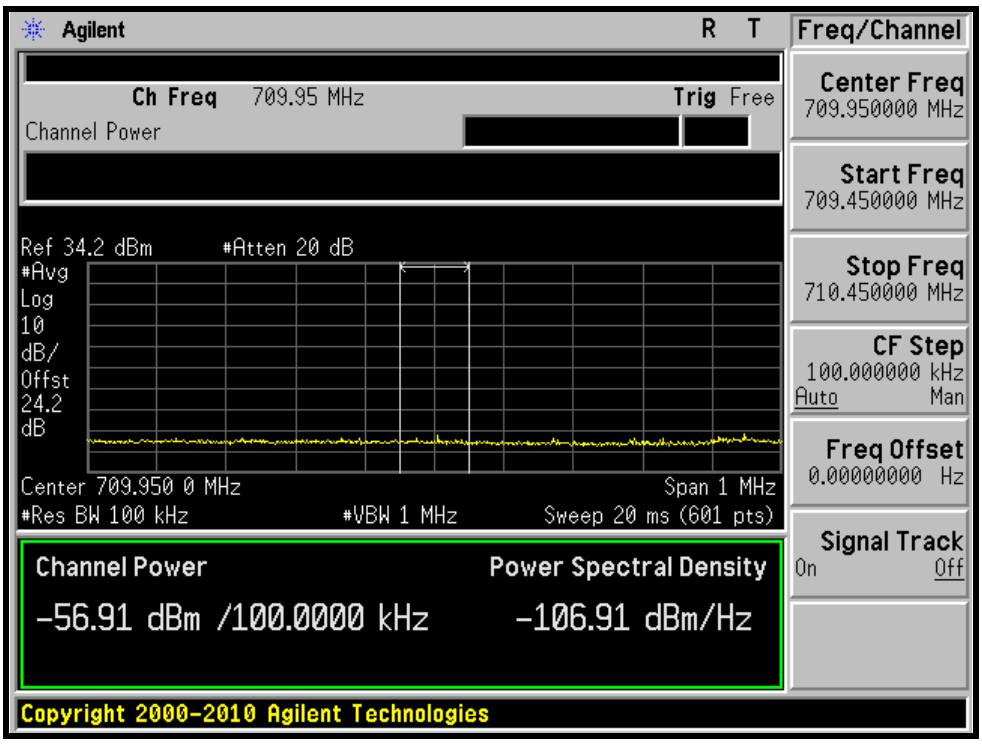


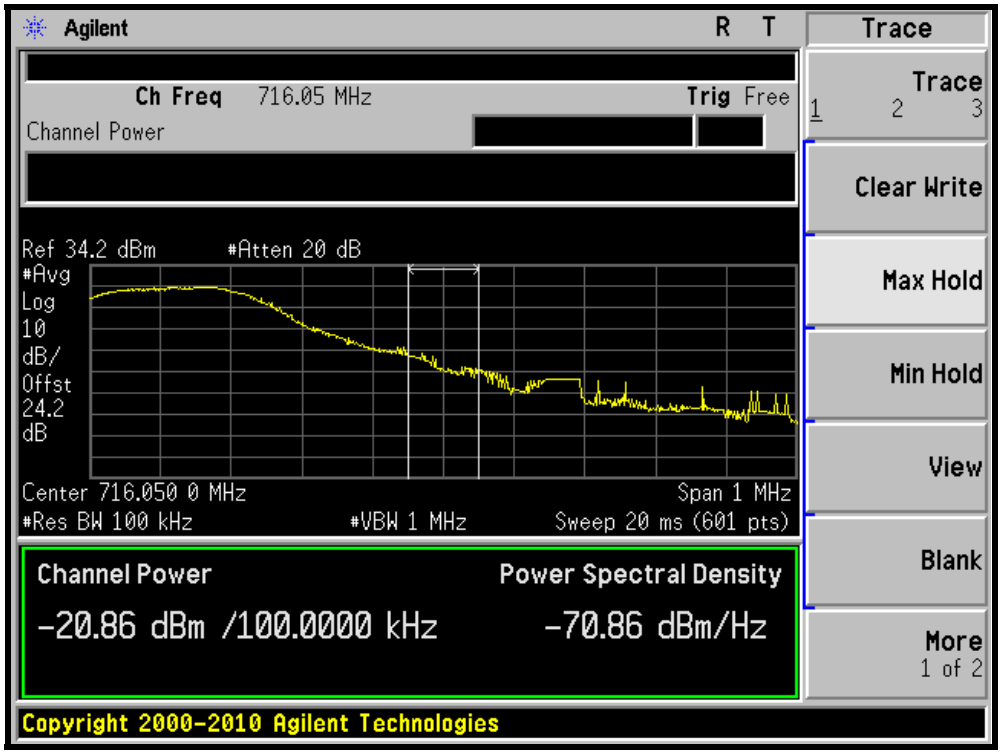
707.5MHz


Agilent
R T
Trace
Ch Freq 703.95 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Max Hold
Min Hold
View
Center 703.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Blank
Channel Power
-56.35 dBm /100.0000 kHz
Power Spectral Density
-106.35 dBm/Hz
More
1 of 2
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Trace
Ch Freq 710.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Max Hold
Min Hold
View
Center 710.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Blank
Channel Power
-20.07 dBm /100.0000 kHz
Power Spectral Density
-70.07 dBm/Hz
More
1 of 2
Copyright 2000-2010 Agilent Technologies

713.5MHz

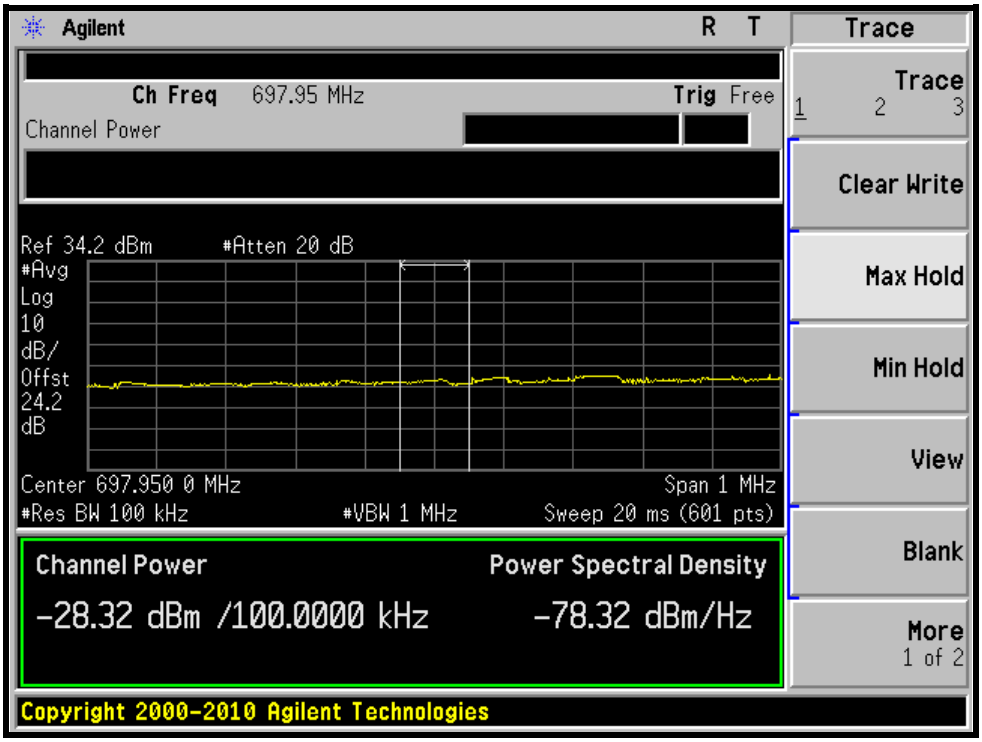

Agilent
R T
Freq/Channel
Ch Freq 709.95 MHz
Trig Free
Channel Power
Center Freq
709.950000 MHz
Start Freq
709.450000 MHz
Stop Freq
710.450000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 709.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-56.91 dBm /100.0000 kHz
Power Spectral Density
-106.91 dBm/Hz
Copyright 2000-2010 Agilent Technologies

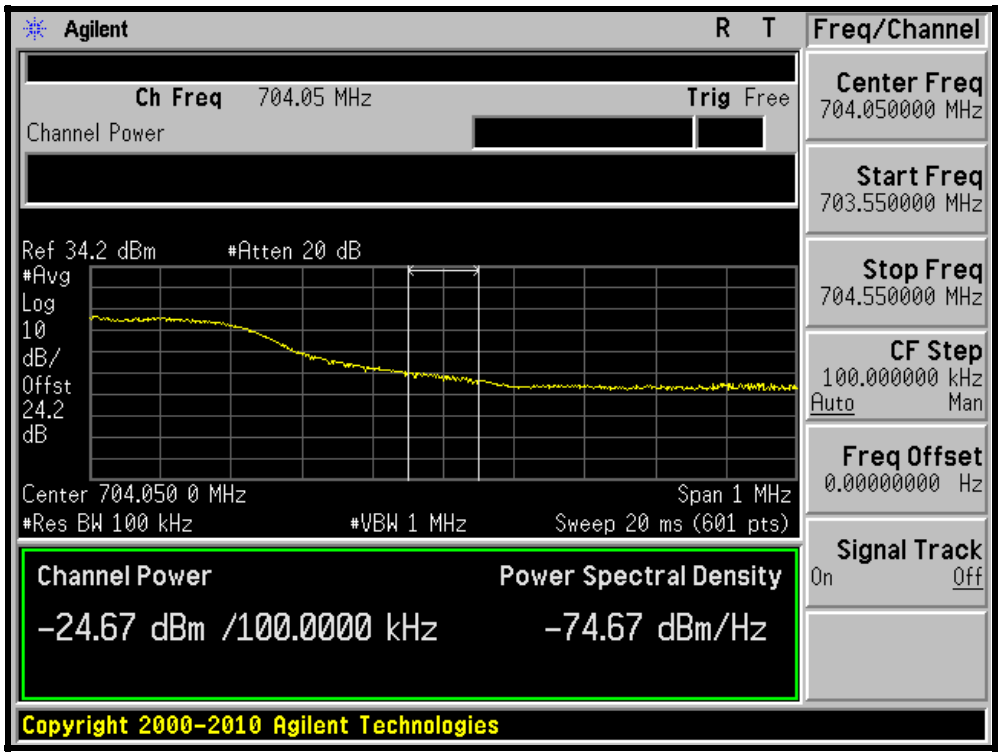

Agilent
R T
Trace
Ch Freq 716.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-20.86 dBm /100.0000 kHz
Power Spectral Density
-70.86 dBm/Hz
Copyright 2000-2010 Agilent Technologies

LTE Band 12

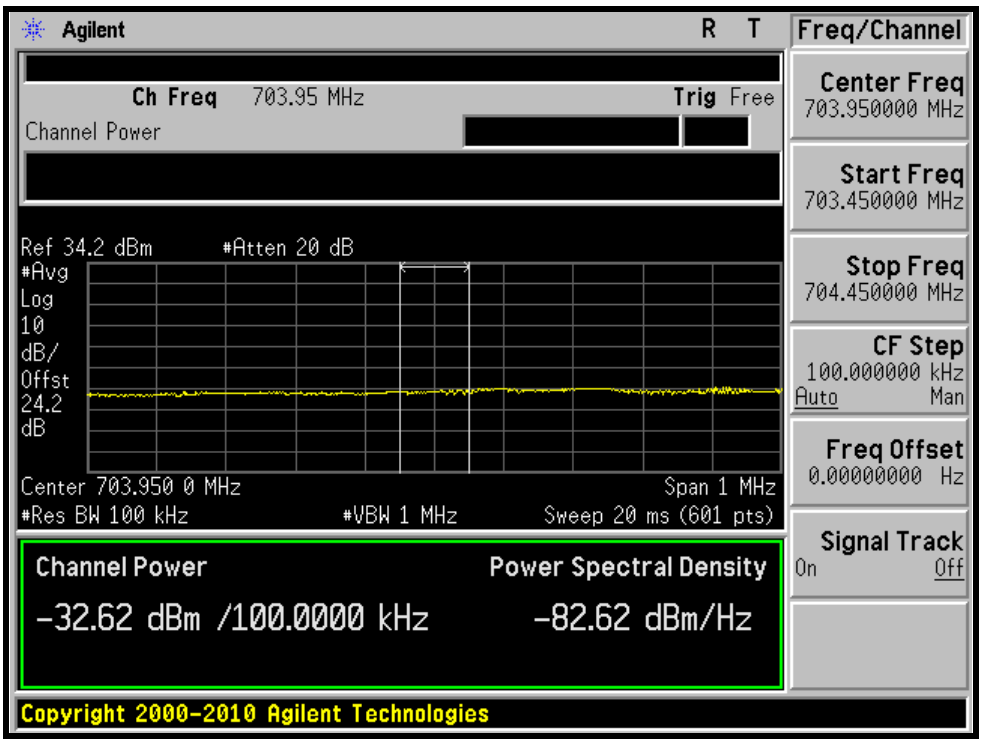
CHANNEL BANDWIDTH: 5MHz / 16QAM / 100% RB ALLOCATION

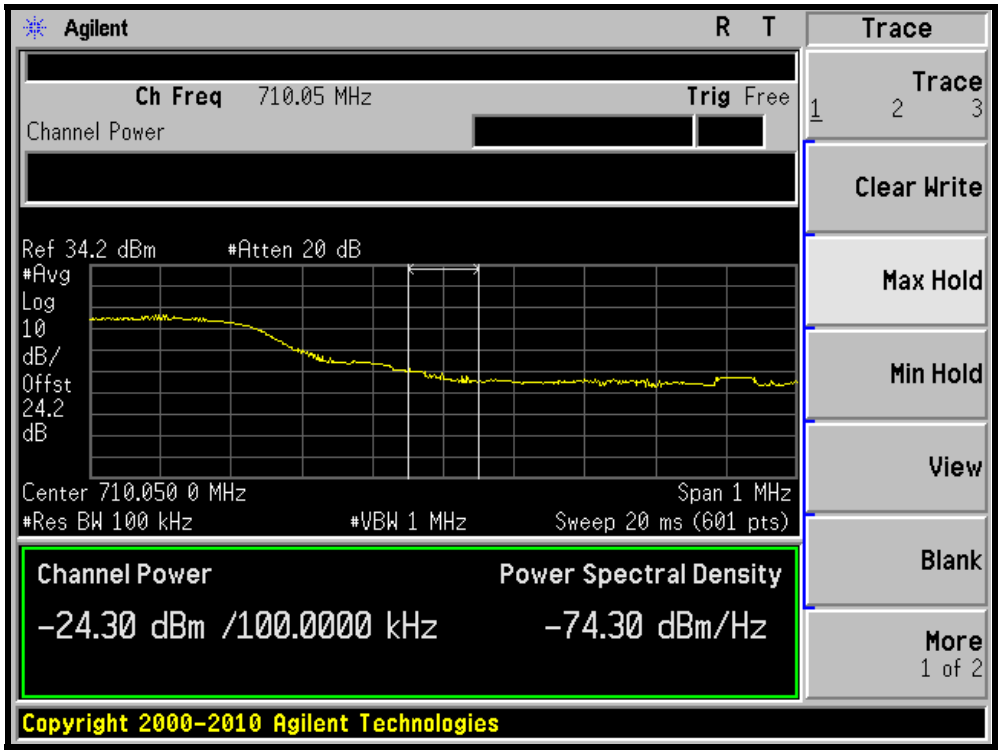
701.5MHz



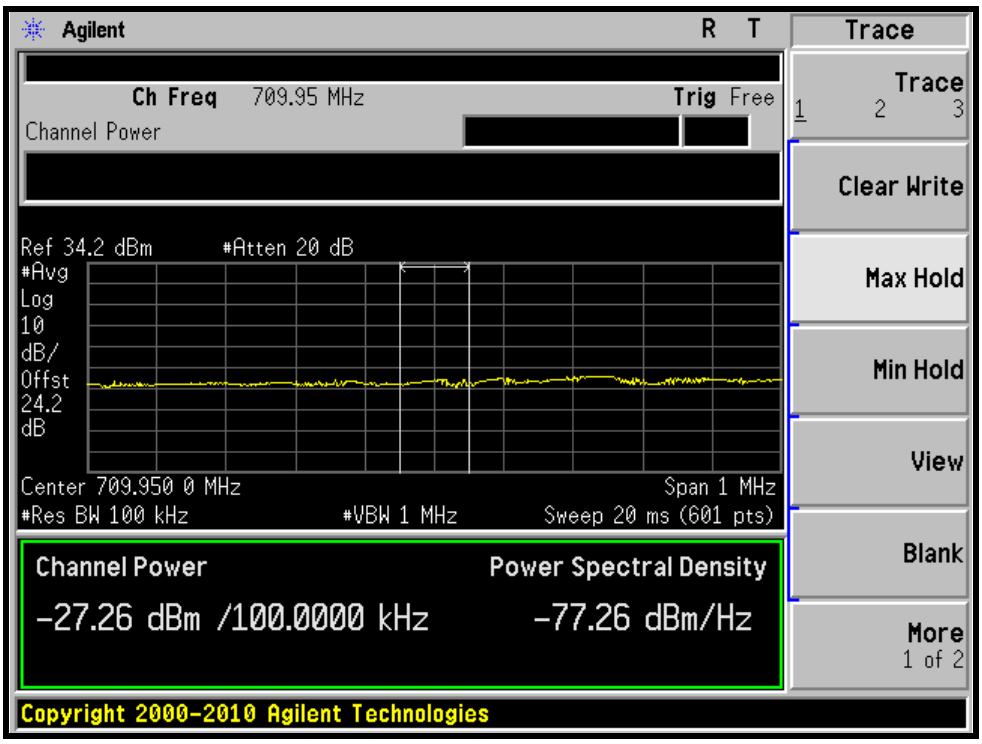


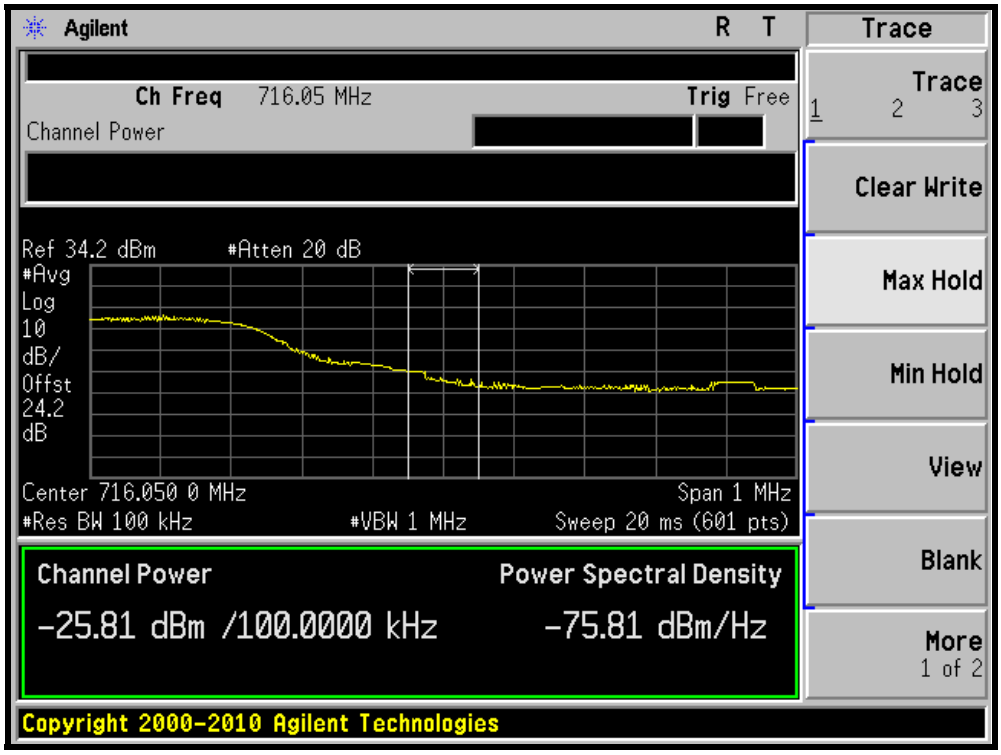
707.5MHz


Agilent
R T
Freq/Channel
Ch Freq 703.95 MHz
Trig Free
Channel Power
Center Freq
703.950000 MHz
Start Freq
703.450000 MHz
Stop Freq
704.450000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 703.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-32.62 dBm /100.0000 kHz
Power Spectral Density
-82.62 dBm/Hz
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Trace
Ch Freq 710.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 710.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-24.30 dBm /100.0000 kHz
Power Spectral Density
-74.30 dBm/Hz
Copyright 2000-2010 Agilent Technologies

713.5MHz

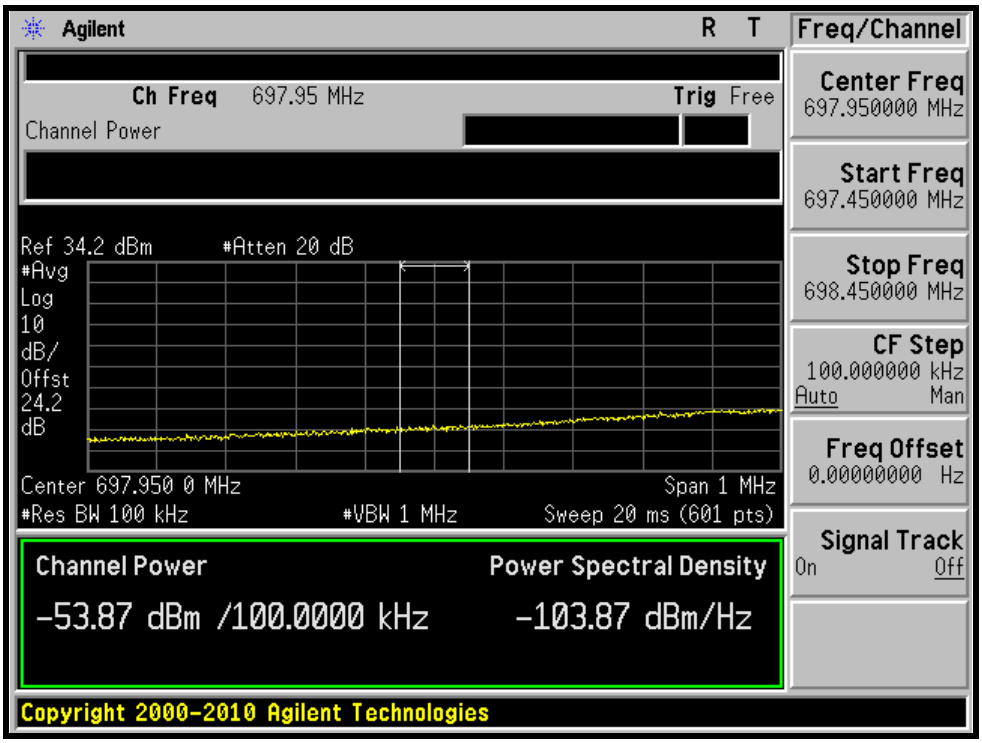

Agilent
R T
Trace
Ch Freq 709.95 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 709.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-27.26 dBm /100.0000 kHz
Power Spectral Density
-77.26 dBm/Hz
Copyright 2000-2010 Agilent Technologies

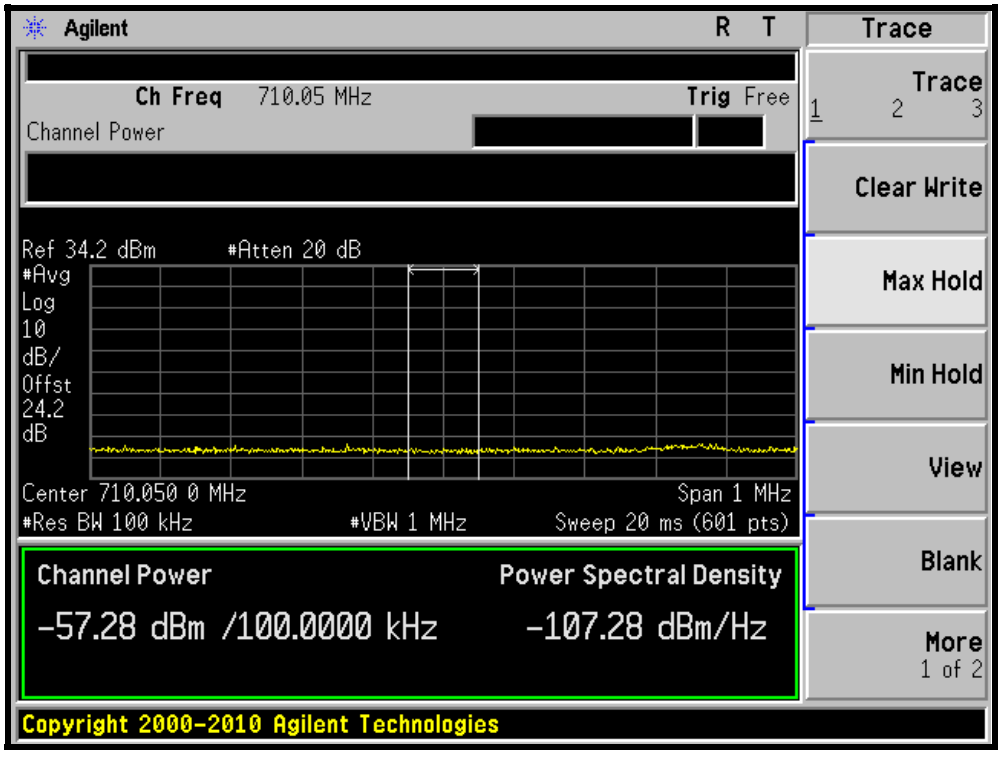

Agilent
R T
Trace
Ch Freq 716.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-25.81 dBm /100.0000 kHz
Power Spectral Density
-75.81 dBm/Hz
Copyright 2000-2010 Agilent Technologies

LTE Band 12

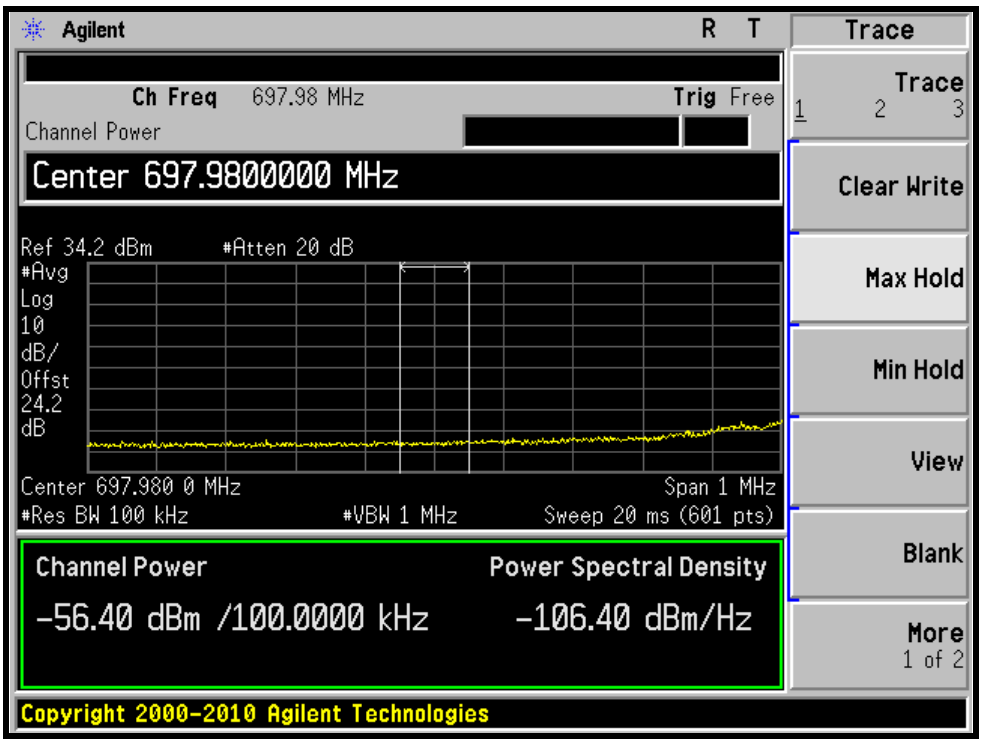
CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB ALLOCATED AT THE LOWER EDGE

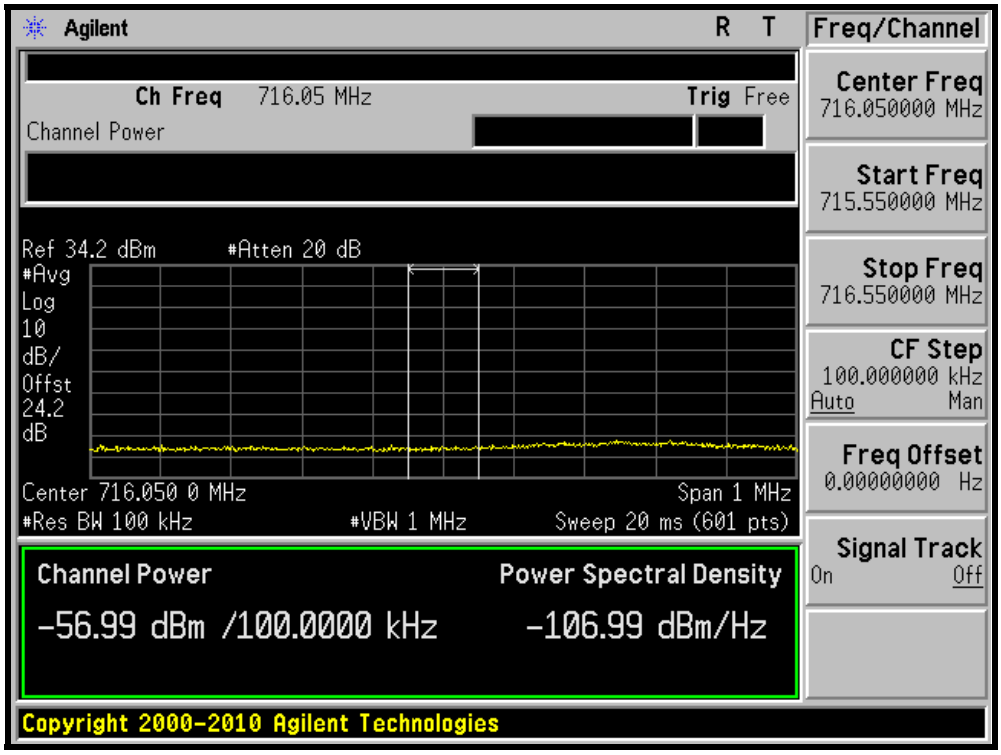
704.0MHz



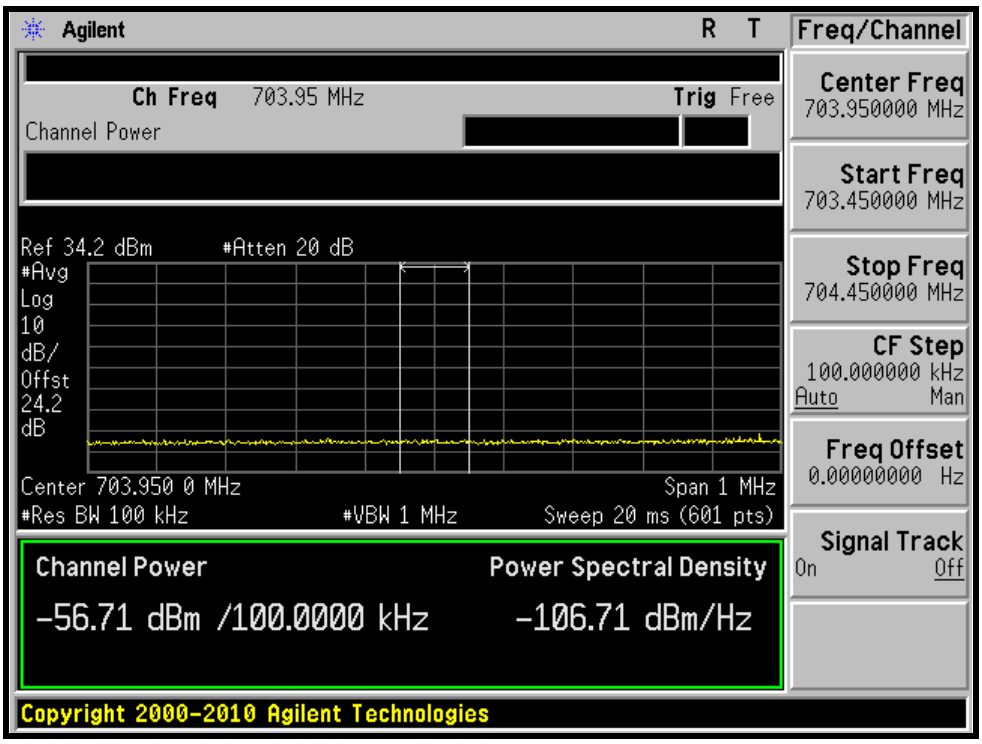


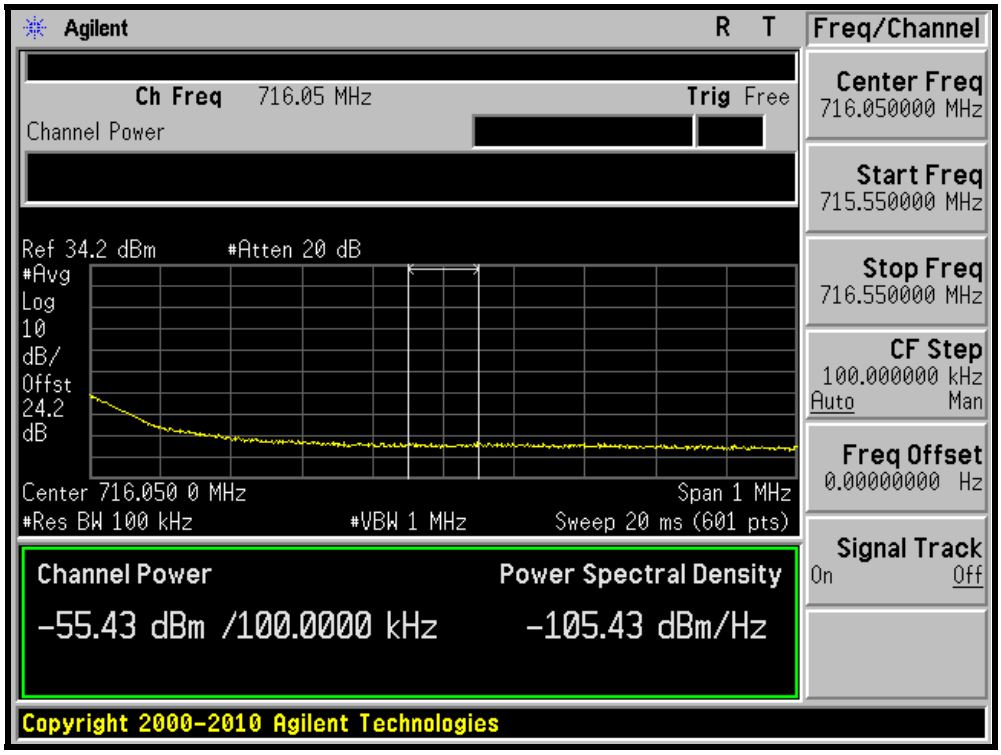
707.5MHz


Agilent
R T
Trace
Ch Freq 697.98 MHz
Trig Free
Channel Power
Center 697.9800000 MHz
Trace
1 2 3
Clear Write
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Max Hold
Min Hold
View
Center 697.980 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Blank
Channel Power
-56.40 dBm /100.0000 kHz
Power Spectral Density
-106.40 dBm/Hz
More
1 of 2
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Freq/Channel
Ch Freq 716.05 MHz
Trig Free
Channel Power
Center Freq
716.050000 MHz
Start Freq
715.550000 MHz
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Stop Freq
716.550000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Signal Track
On Off
Channel Power
-56.99 dBm /100.0000 kHz
Power Spectral Density
-106.99 dBm/Hz
Copyright 2000-2010 Agilent Technologies

711.0MHz

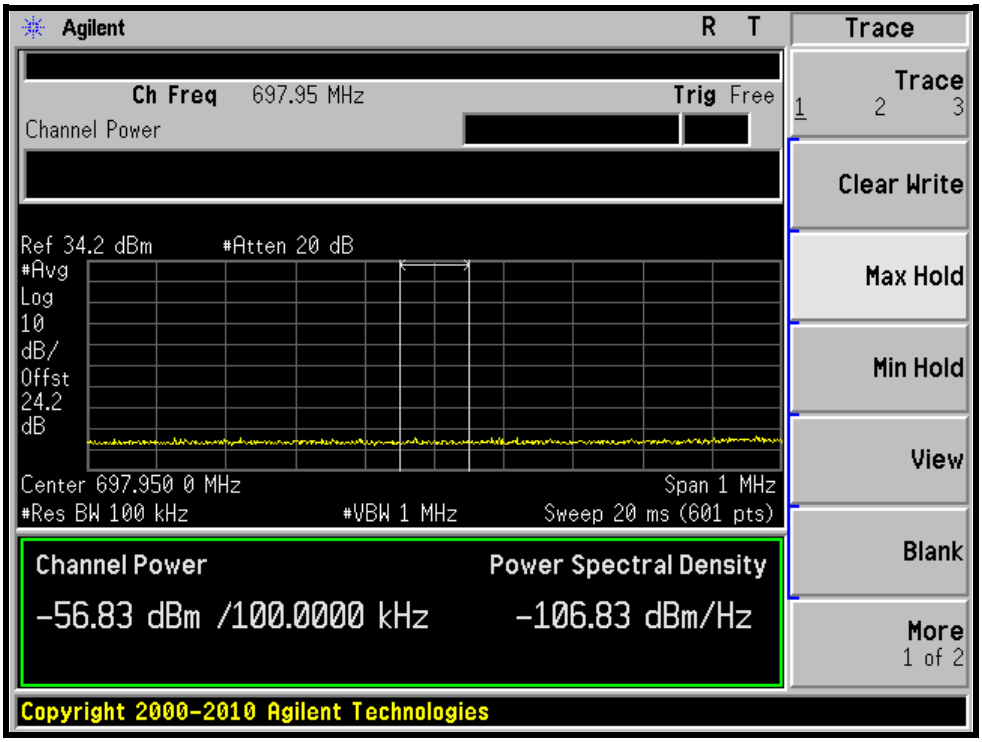

Agilent
R T
Freq/Channel
Ch Freq 703.95 MHz
Trig Free
Channel Power
Center Freq
703.950000 MHz
Start Freq
703.450000 MHz
Stop Freq
704.450000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 703.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-56.71 dBm /100.0000 kHz
Power Spectral Density
-106.71 dBm/Hz
Copyright 2000-2010 Agilent Technologies

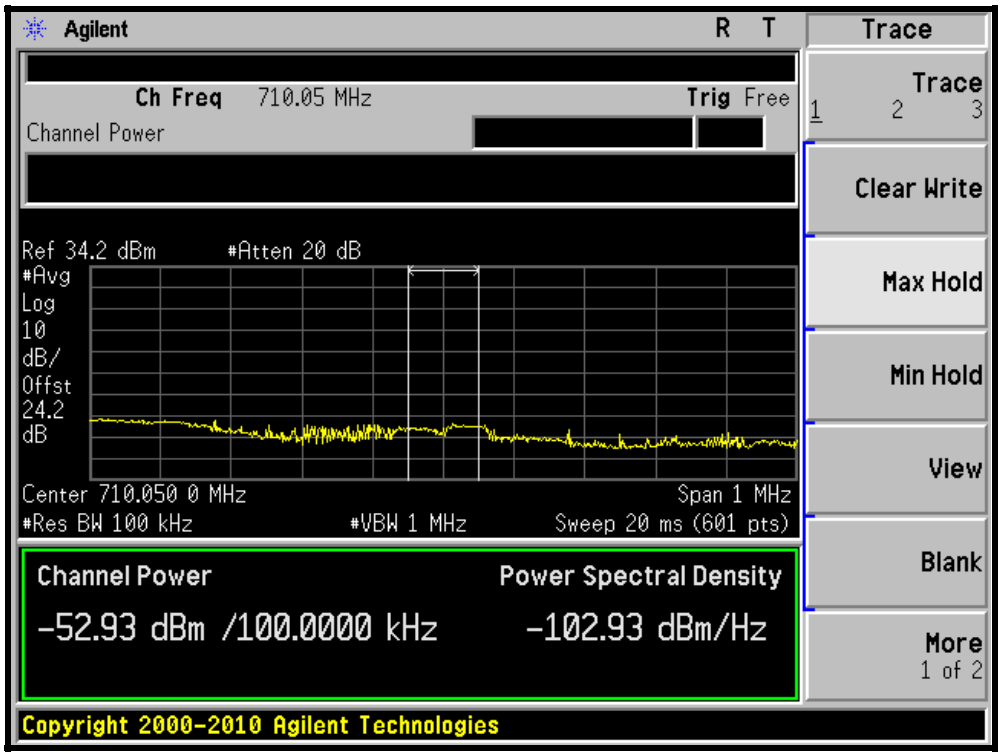

Agilent
R T
Freq/Channel
Ch Freq 716.05 MHz
Trig Free
Channel Power
Center Freq
716.050000 MHz
Start Freq
715.550000 MHz
Stop Freq
716.550000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-55.43 dBm /100.0000 kHz
Power Spectral Density
-105.43 dBm/Hz
Copyright 2000-2010 Agilent Technologies

LTE Band 12

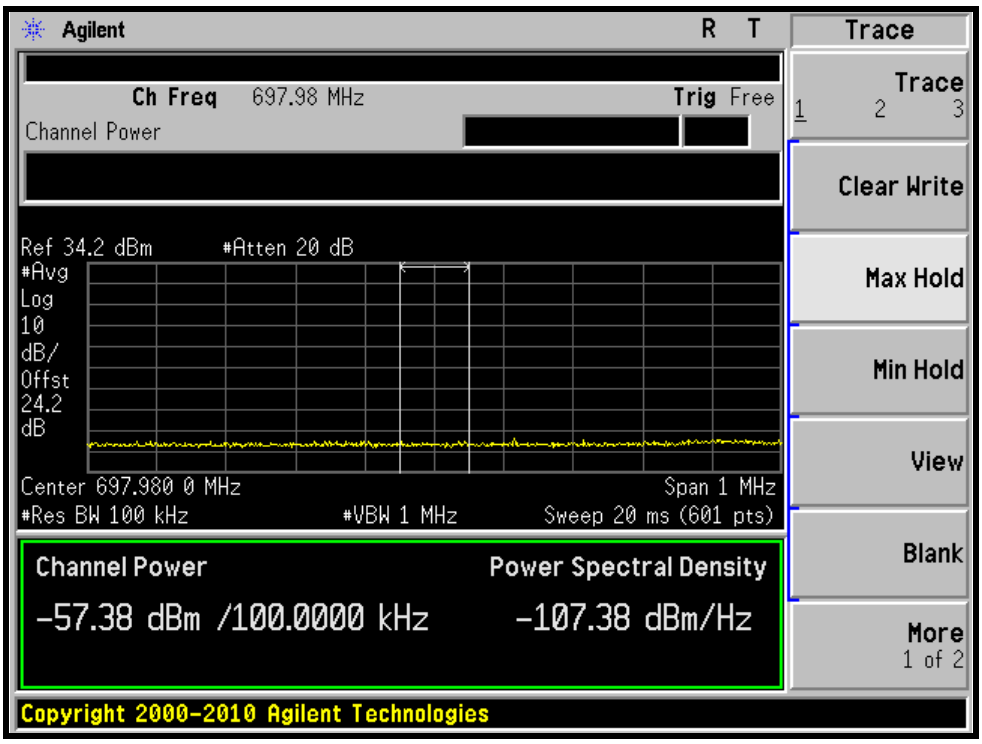
CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB ALLOCATED AT THE UPPER EDGE

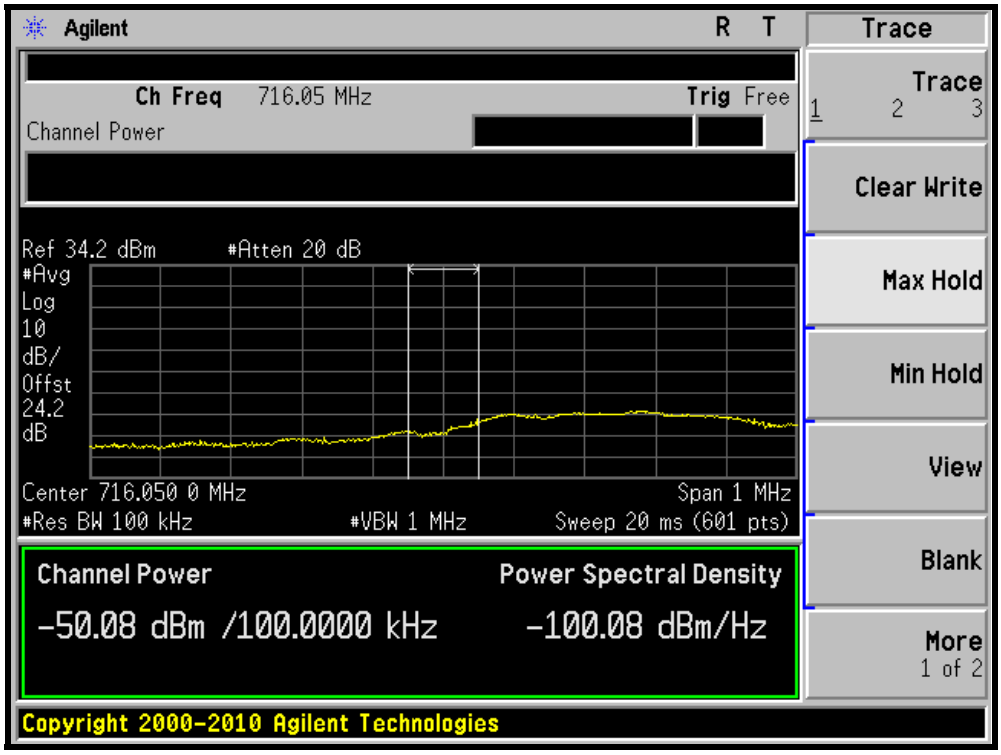
704.0MHz



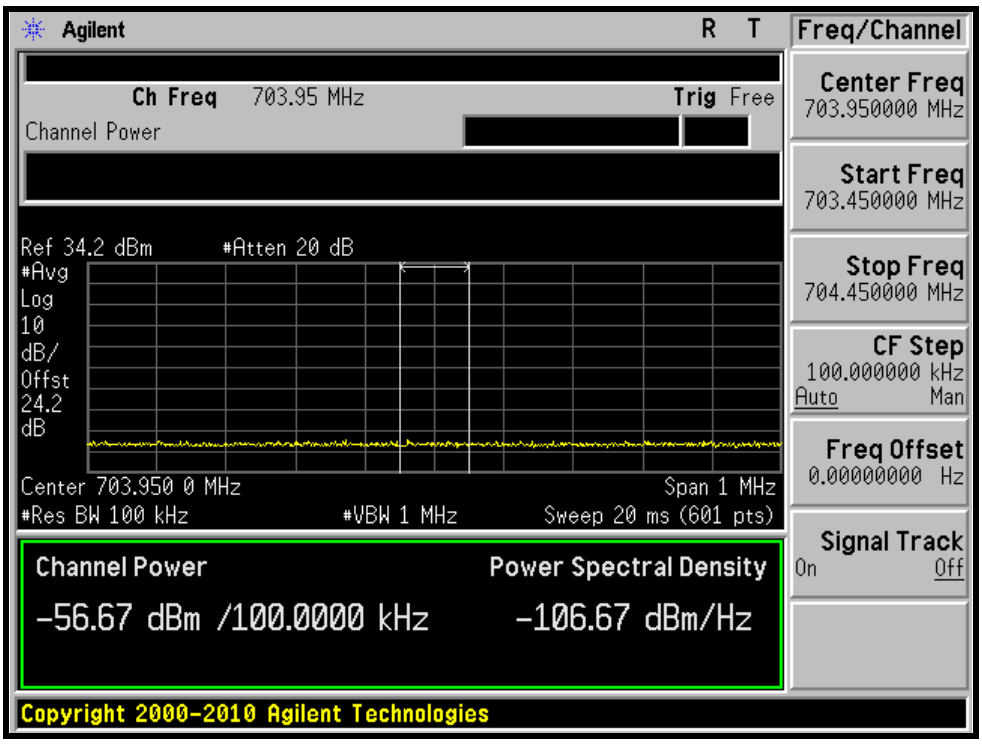


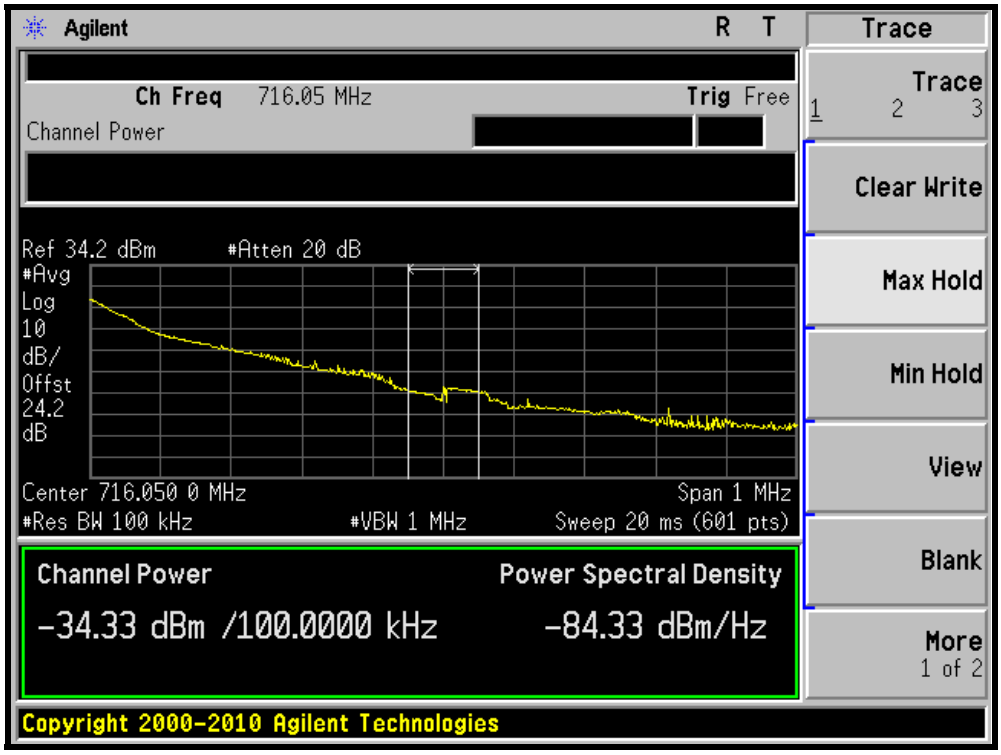
707.5MHz


Agilent
R T
Trace
Ch Freq 697.98 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 697.980 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-57.38 dBm /100.0000 kHz
Power Spectral Density
-107.38 dBm/Hz
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Trace
Ch Freq 716.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-50.08 dBm /100.0000 kHz
Power Spectral Density
-100.08 dBm/Hz
Copyright 2000-2010 Agilent Technologies

711.0MHz

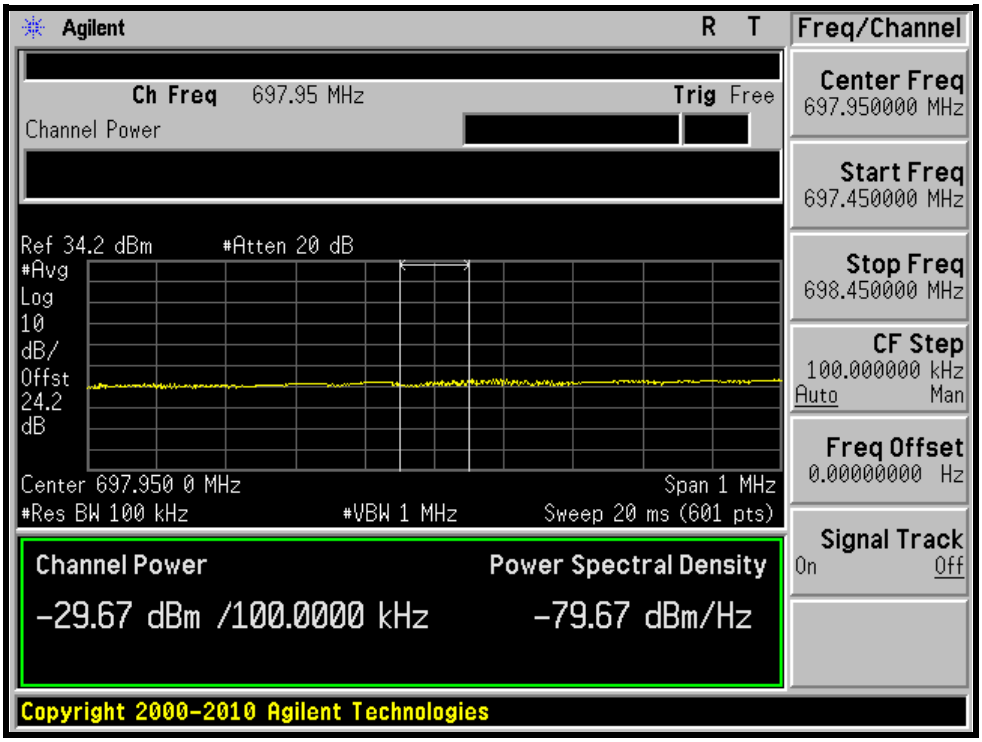

Agilent
R T
Freq/Channel
Ch Freq 703.95 MHz
Trig Free
Channel Power
Center Freq
703.950000 MHz
Start Freq
703.450000 MHz
Stop Freq
704.450000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 703.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-56.67 dBm /100.0000 kHz
Power Spectral Density
-106.67 dBm/Hz
Copyright 2000-2010 Agilent Technologies

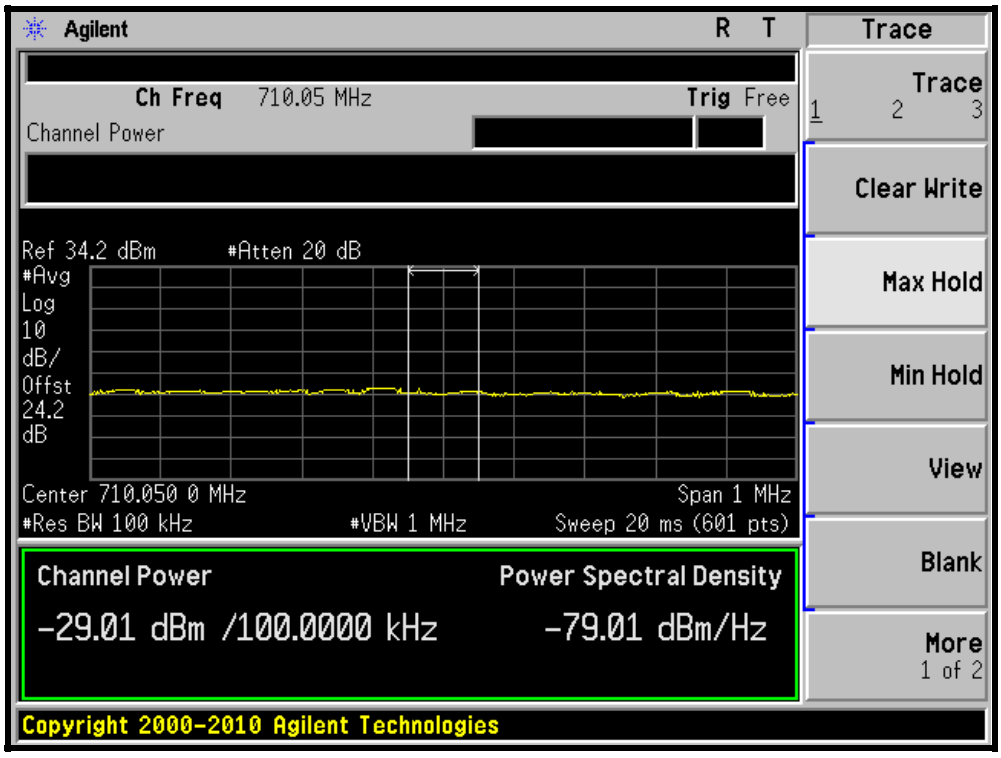

Agilent
R T
Trace
Ch Freq 716.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-34.33 dBm /100.0000 kHz
Power Spectral Density
-84.33 dBm/Hz
Copyright 2000-2010 Agilent Technologies

LTE Band 12

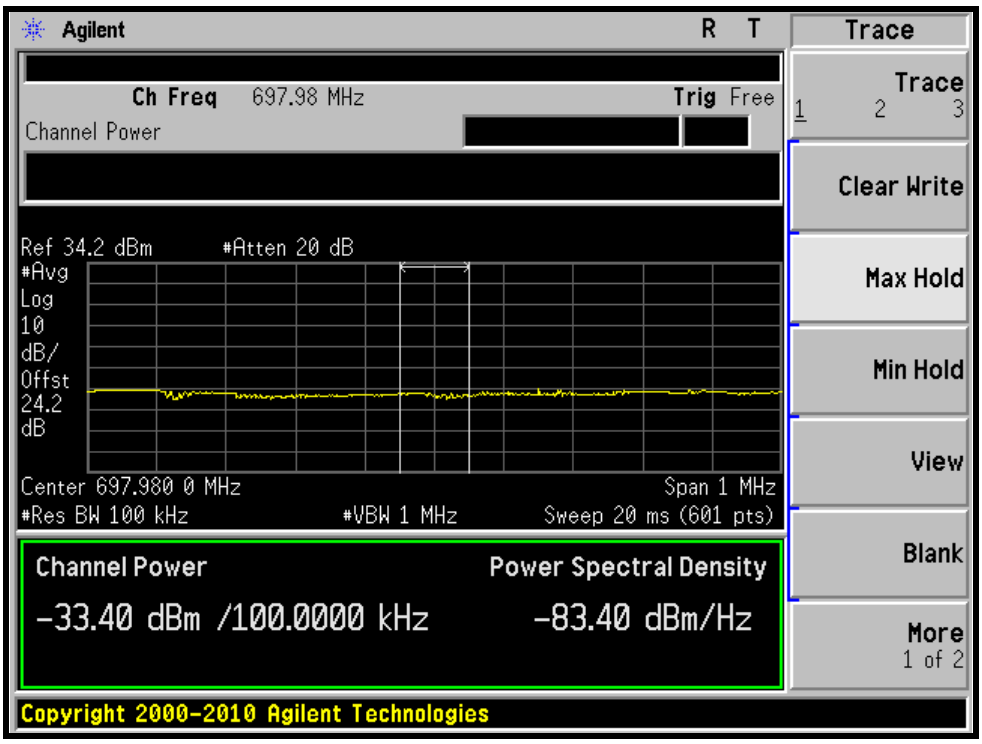
CHANNEL BANDWIDTH: 10MHz / QPSK / 100% RB ALLOCATION

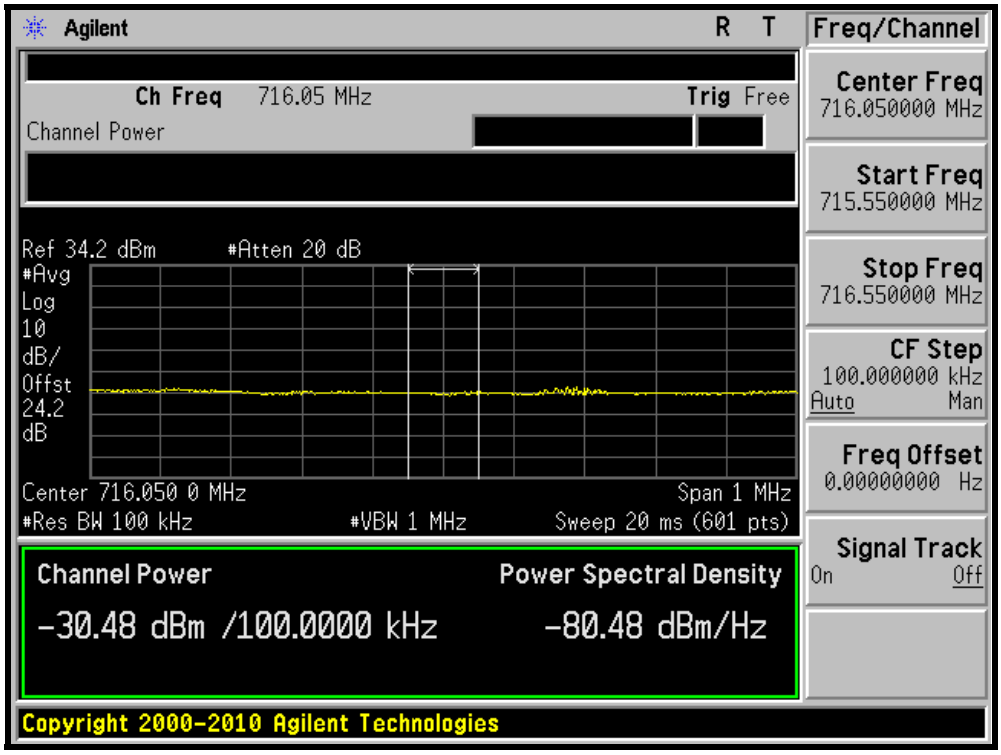
704.0MHz



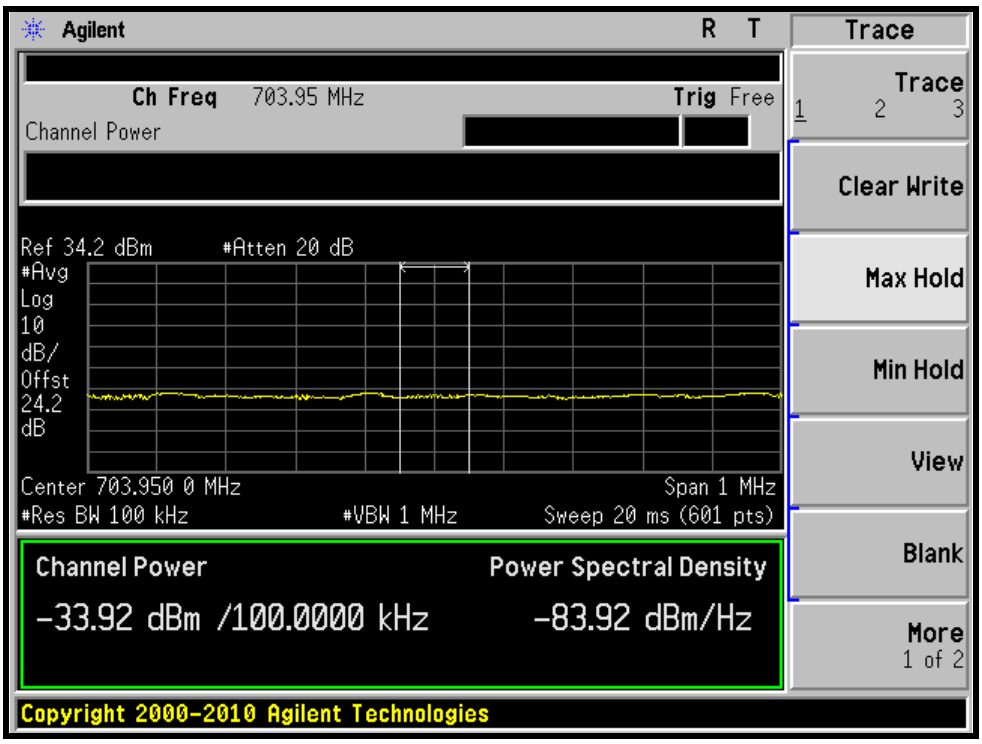


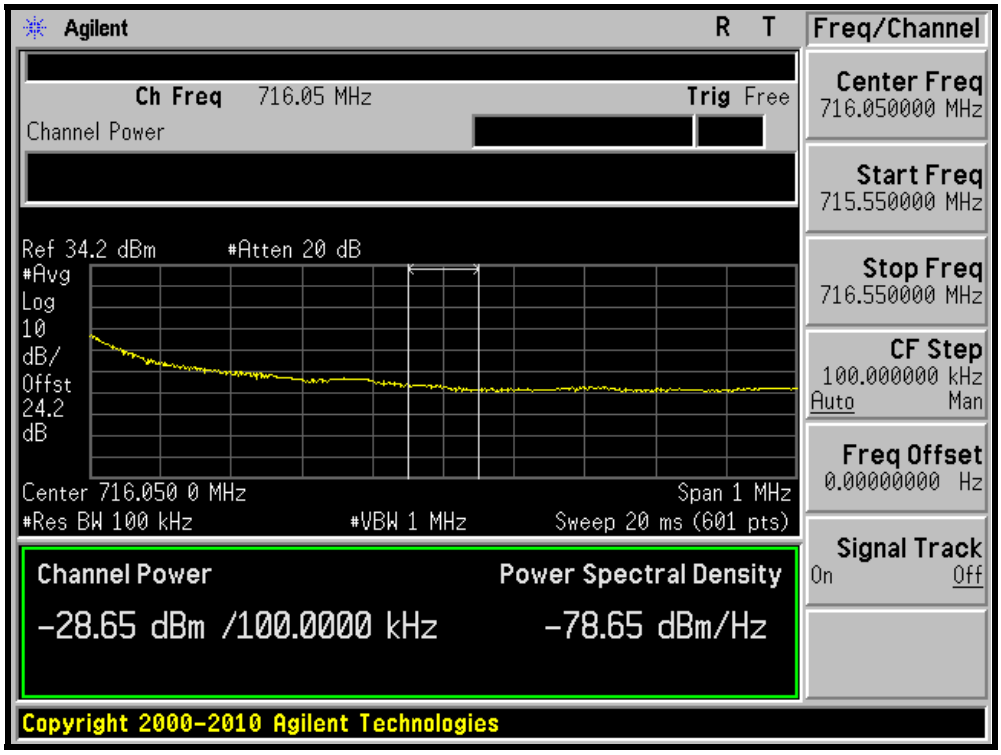
707.5MHz


Agilent
R T
Trace
Ch Freq 697.98 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Max Hold
Min Hold
View
Center 697.980 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Blank
Channel Power
-33.40 dBm /100.0000 kHz
Power Spectral Density
-83.40 dBm/Hz
More
1 of 2
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Freq/Channel
Ch Freq 716.05 MHz
Trig Free
Channel Power
Center Freq
716.050000 MHz
Start Freq
715.550000 MHz
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Stop Freq
716.550000 MHz
CF Step
100.000000 kHz
Auto Man
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Freq Offset
0.00000000 Hz
Signal Track
On Off
Channel Power
-30.48 dBm /100.0000 kHz
Power Spectral Density
-80.48 dBm/Hz
Copyright 2000-2010 Agilent Technologies

711.0MHz

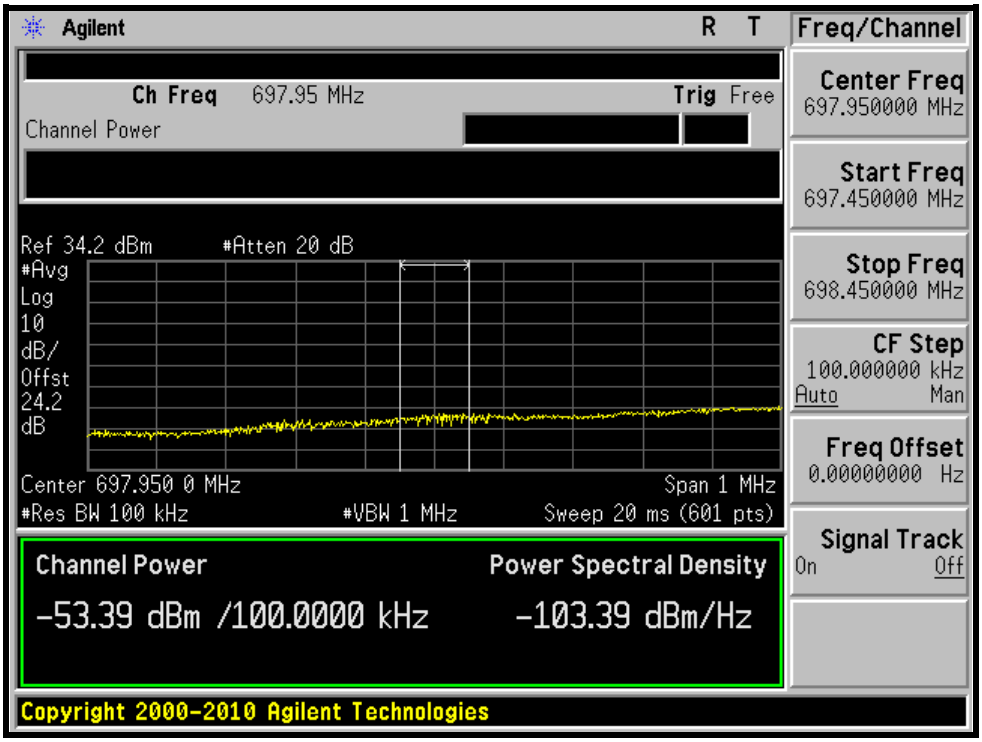

Agilent
R T
Trace
Ch Freq 703.95 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Max Hold
Min Hold
View
Center 703.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Blank
Channel Power
-33.92 dBm /100.0000 kHz
Power Spectral Density
-83.92 dBm/Hz
More
1 of 2
Copyright 2000-2010 Agilent Technologies

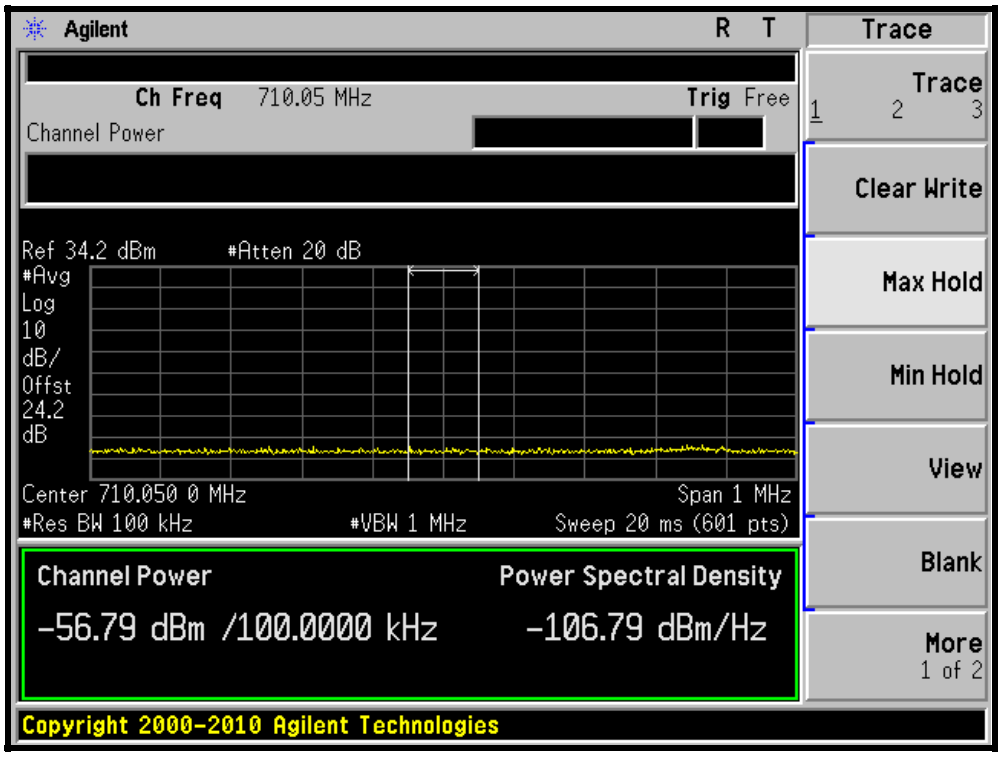

Agilent
R T
Freq/Channel
Ch Freq 716.05 MHz
Trig Free
Channel Power
Center Freq
716.050000 MHz
Start Freq
715.550000 MHz
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Stop Freq
716.550000 MHz
CF Step
100.000000 kHz
Auto Man
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Freq Offset
0.00000000 Hz
Signal Track
On Off
Channel Power
-28.65 dBm /100.0000 kHz
Power Spectral Density
-78.65 dBm/Hz
Copyright 2000-2010 Agilent Technologies

LTE Band 12

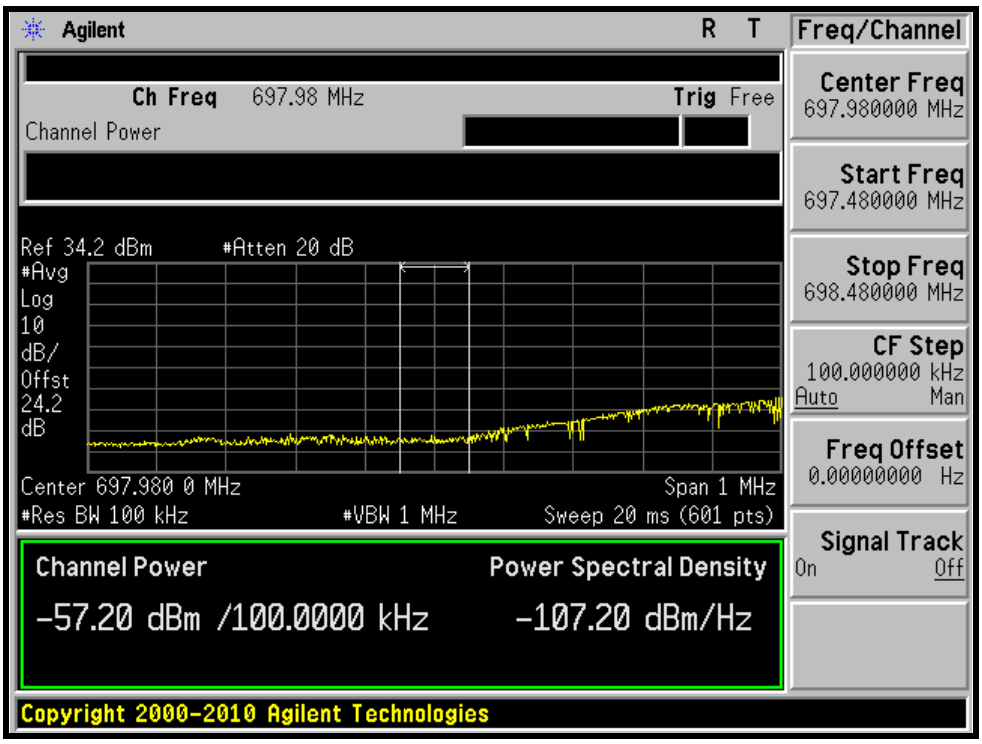
CHANNEL BANDWIDTH: 10MHz / 16QAM / 1 RB ALLOCATED AT THE LOWER EDGE

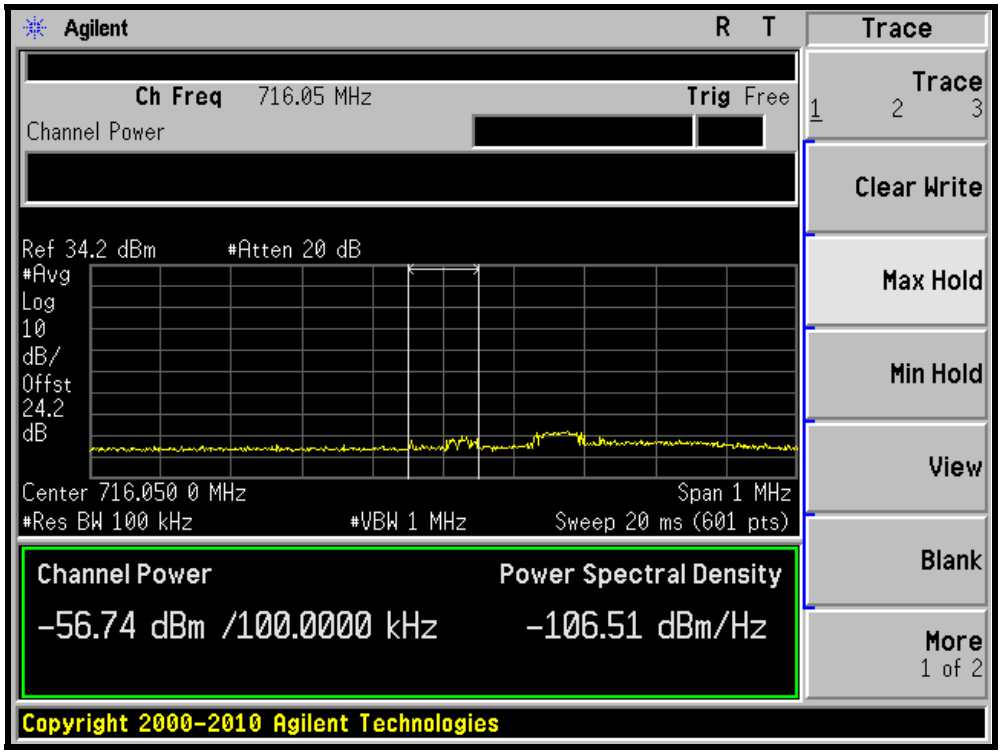
704.0MHz



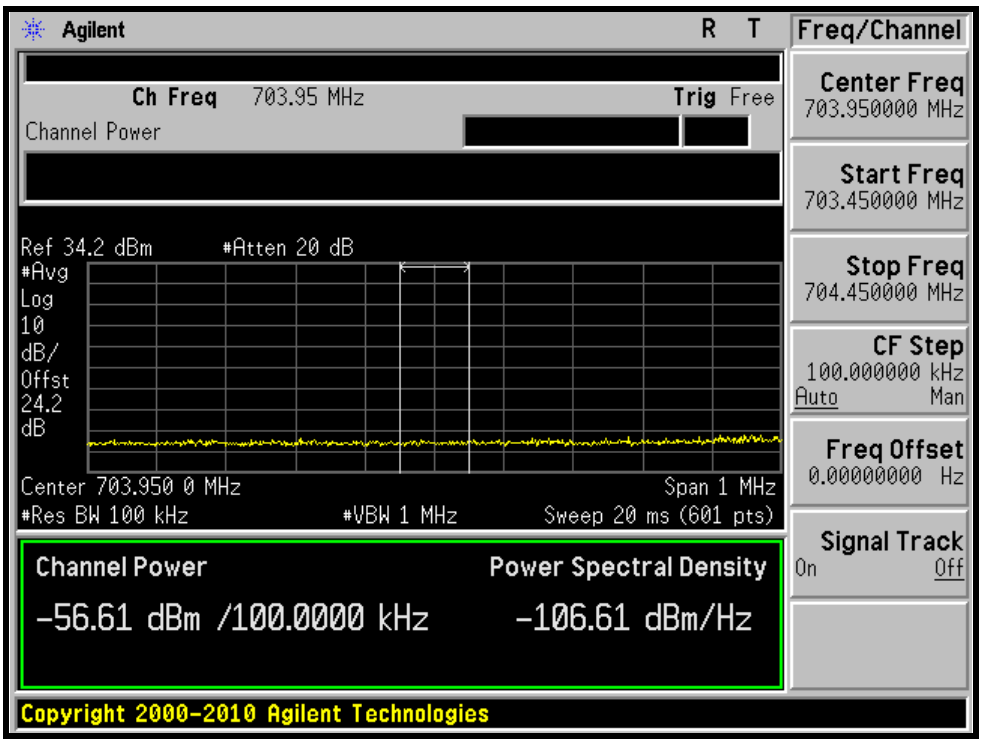


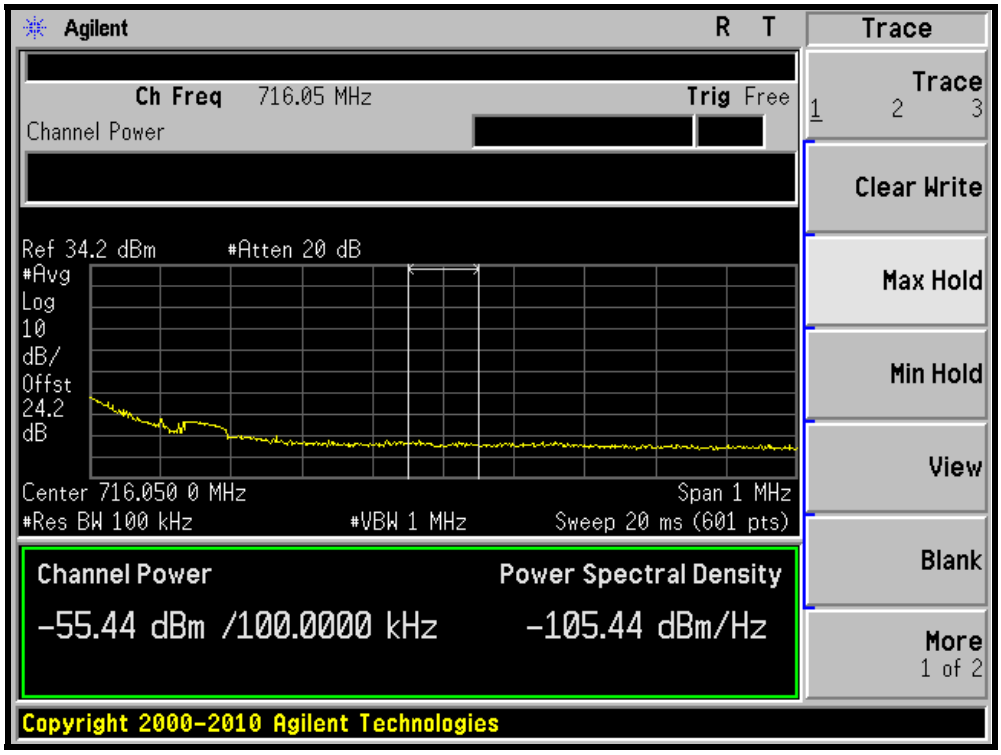
707.5MHz


Agilent
R T
Freq/Channel
Ch Freq 697.98 MHz
Trig Free
Channel Power
Center Freq
697.980000 MHz
Start Freq
697.480000 MHz
Stop Freq
698.480000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 697.980 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-57.20 dBm /100.0000 kHz
Power Spectral Density
-107.20 dBm/Hz
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Trace
Ch Freq 716.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-56.74 dBm /100.0000 kHz
Power Spectral Density
-106.51 dBm/Hz
Copyright 2000-2010 Agilent Technologies

711.0MHz

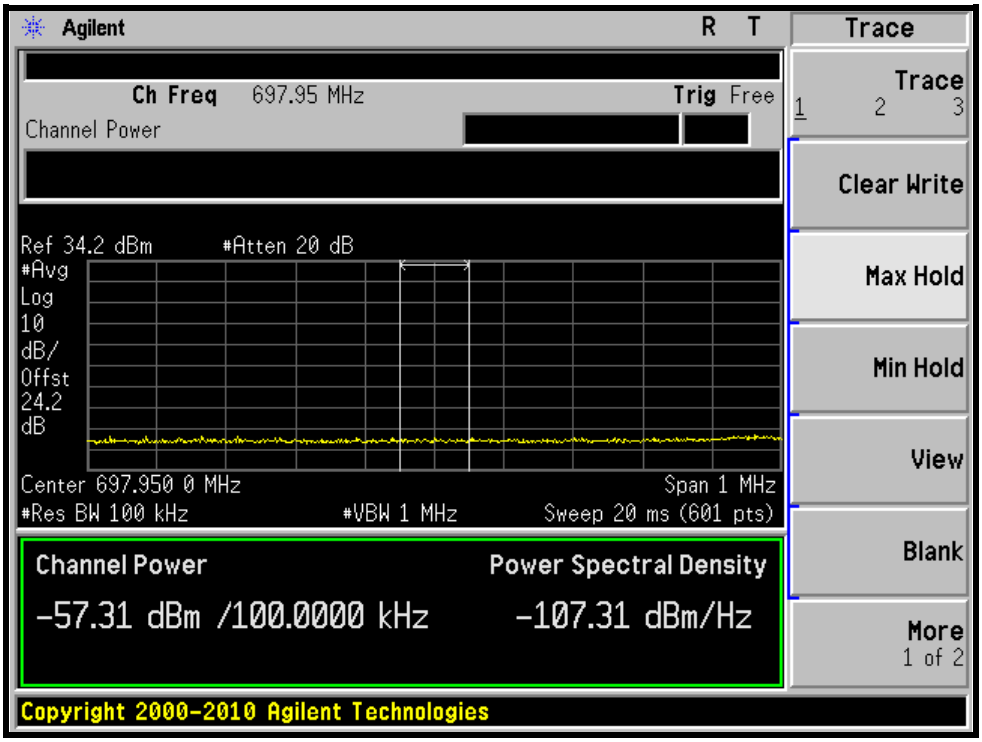

Agilent
R T
Freq/Channel
Ch Freq 703.95 MHz
Trig Free
Channel Power
Center Freq
703.950000 MHz
Start Freq
703.450000 MHz
Stop Freq
704.450000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 703.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-56.61 dBm /100.0000 kHz
Power Spectral Density
-106.61 dBm/Hz
Copyright 2000-2010 Agilent Technologies

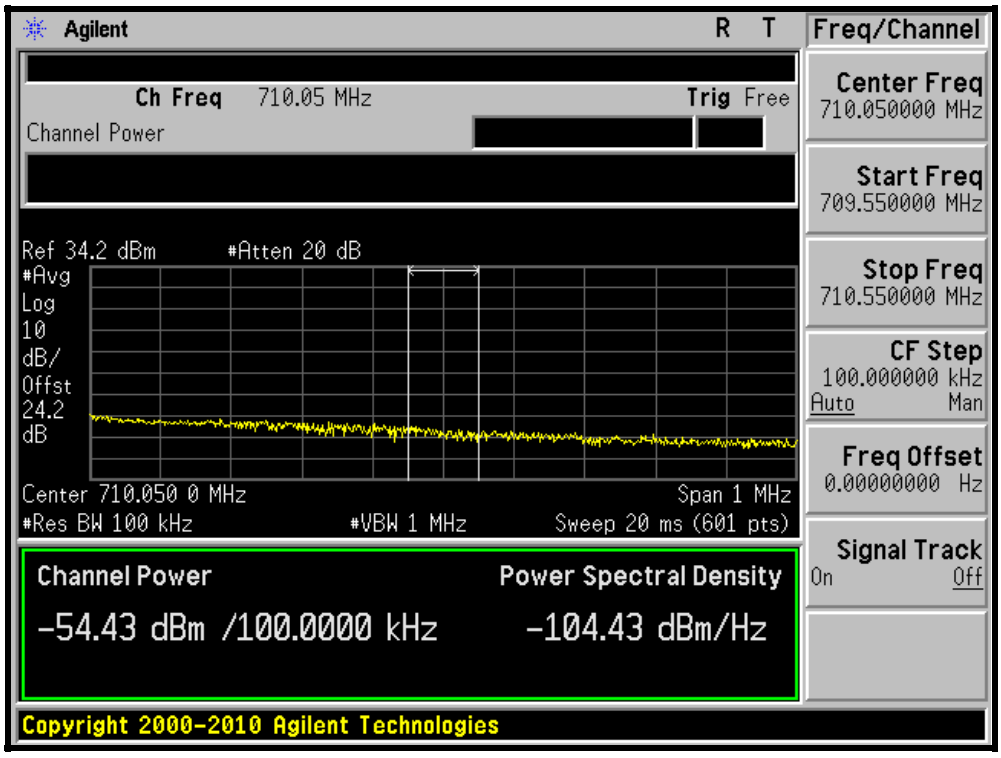

Agilent
R T
Trace
Ch Freq 716.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-55.44 dBm /100.0000 kHz
Power Spectral Density
-105.44 dBm/Hz
Copyright 2000-2010 Agilent Technologies

LTE Band 12

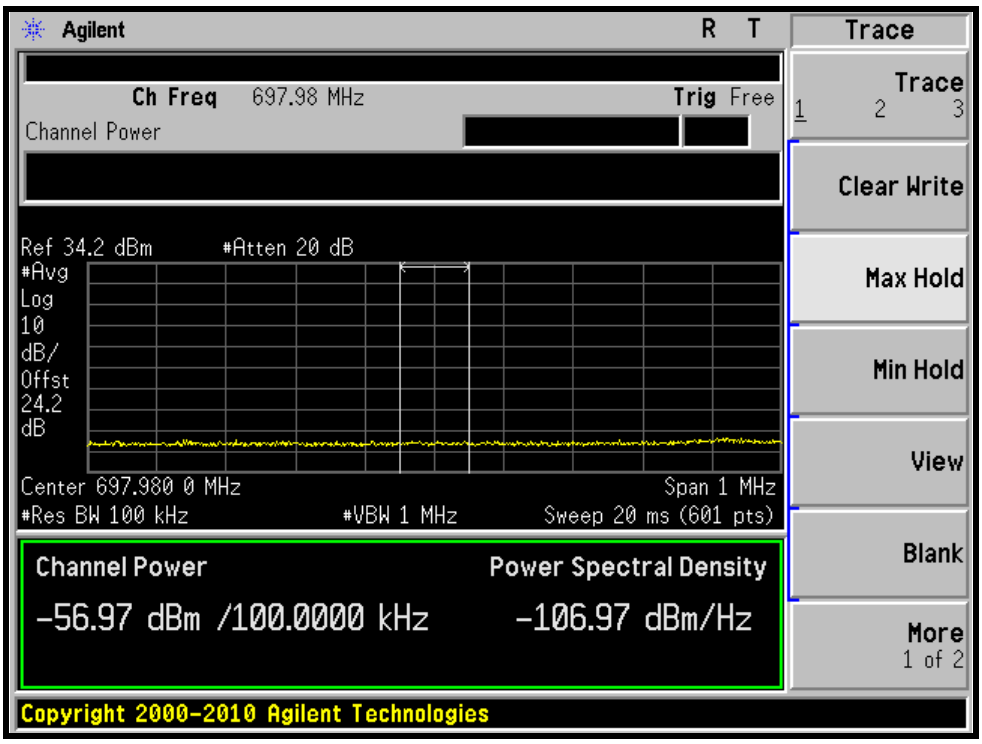
CHANNEL BANDWIDTH: 10MHz / 16QAM / 1 RB ALLOCATED AT THE UPPER EDGE

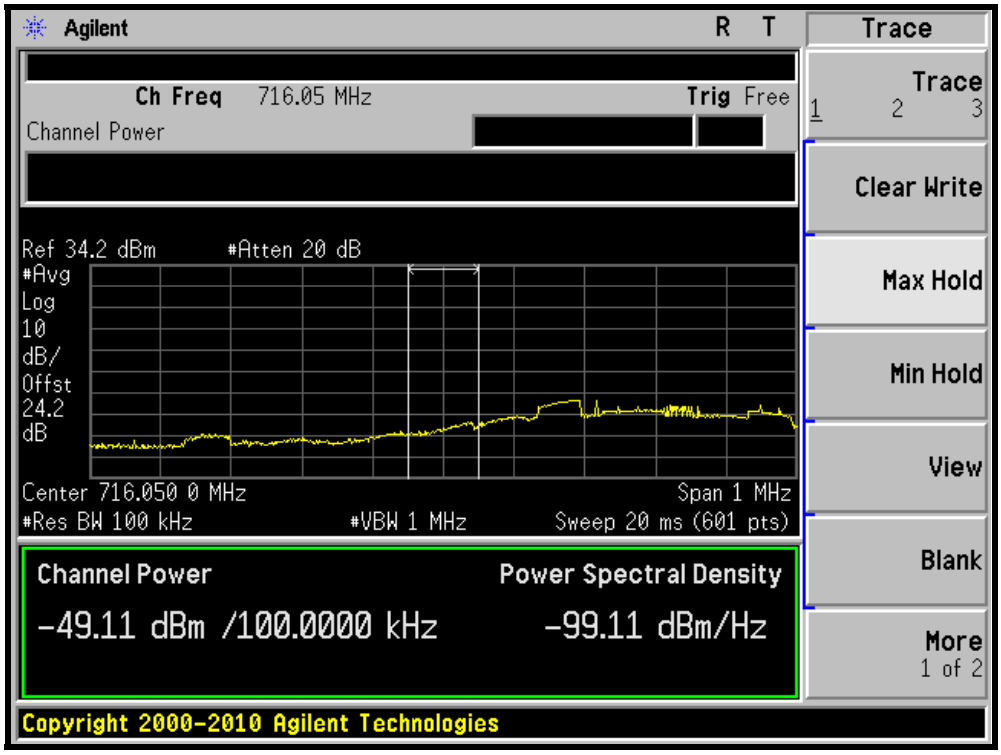
704.0MHz



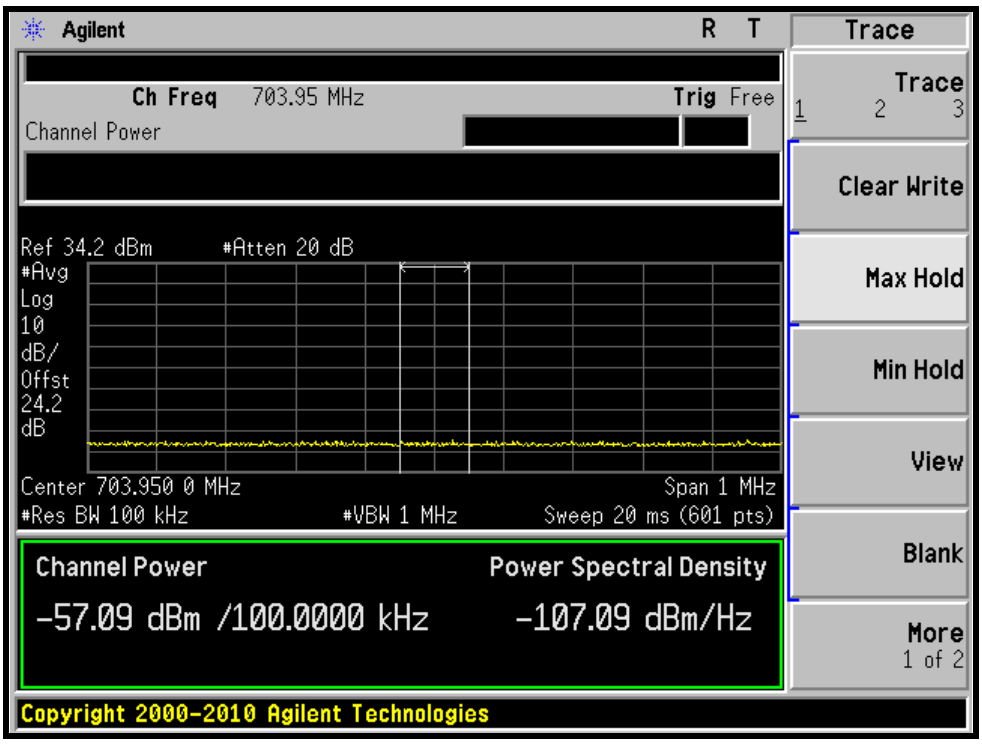


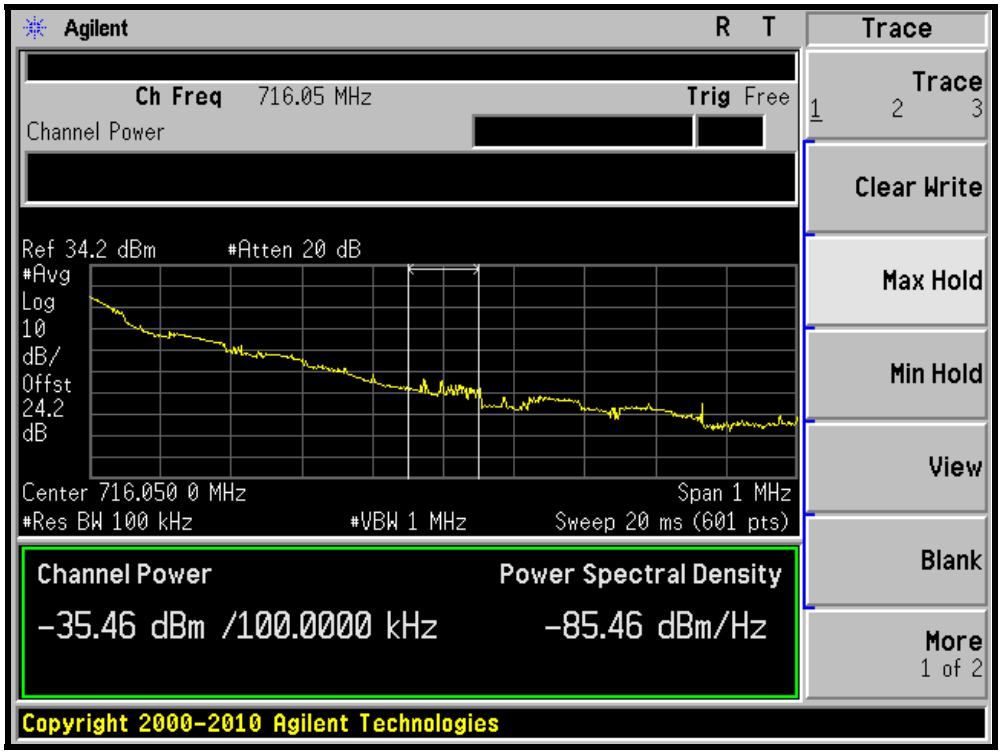
707.5MHz


Agilent
R T
Trace
Ch Freq 697.98 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 697.980 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-56.97 dBm /100.0000 kHz
Power Spectral Density
-106.97 dBm/Hz
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Trace
Ch Freq 716.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-49.11 dBm /100.0000 kHz
Power Spectral Density
-99.11 dBm/Hz
Copyright 2000-2010 Agilent Technologies

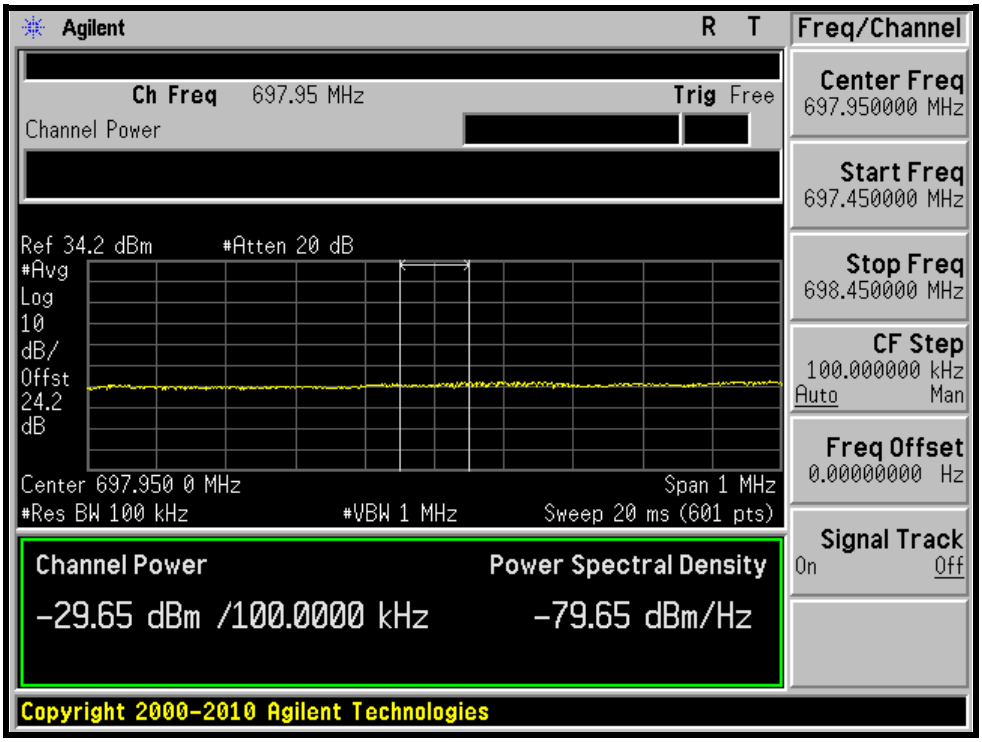
711.0MHz

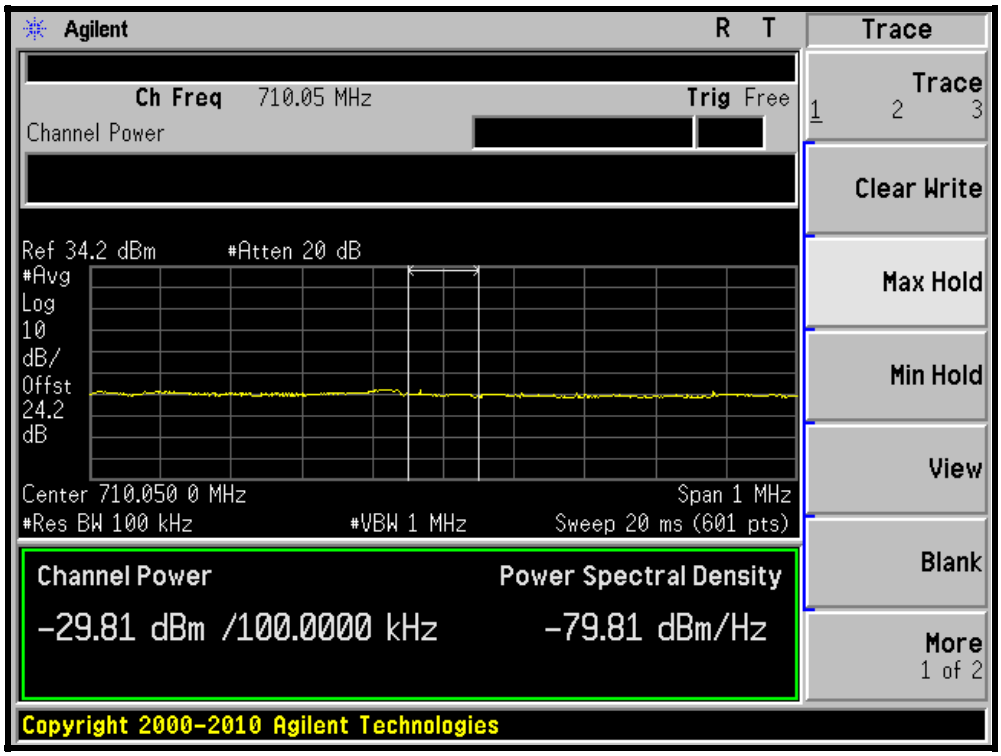

Agilent
R T
Trace
Ch Freq 703.95 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 703.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-57.09 dBm /100.0000 kHz
Power Spectral Density
-107.09 dBm/Hz
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Trace
Ch Freq 716.05 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-35.46 dBm /100.0000 kHz
Power Spectral Density
-85.46 dBm/Hz
Copyright 2000-2010 Agilent Technologies

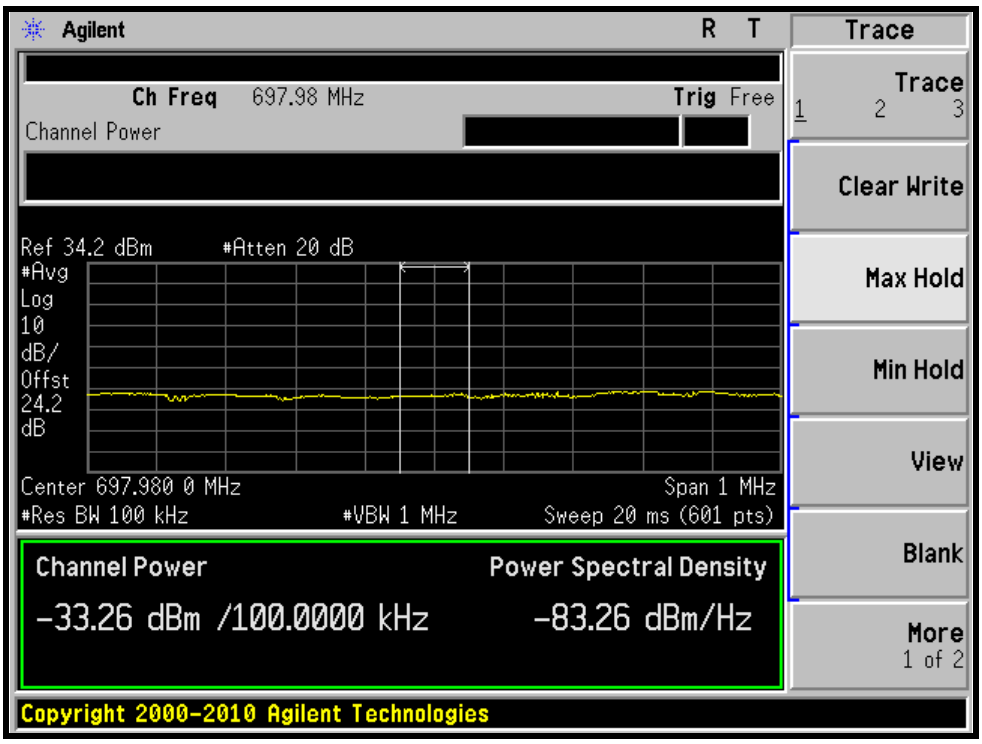
LTE Band 12
CHANNEL BANDWIDTH: 10MHz / 16QAM / 100% RB ALLOCATION

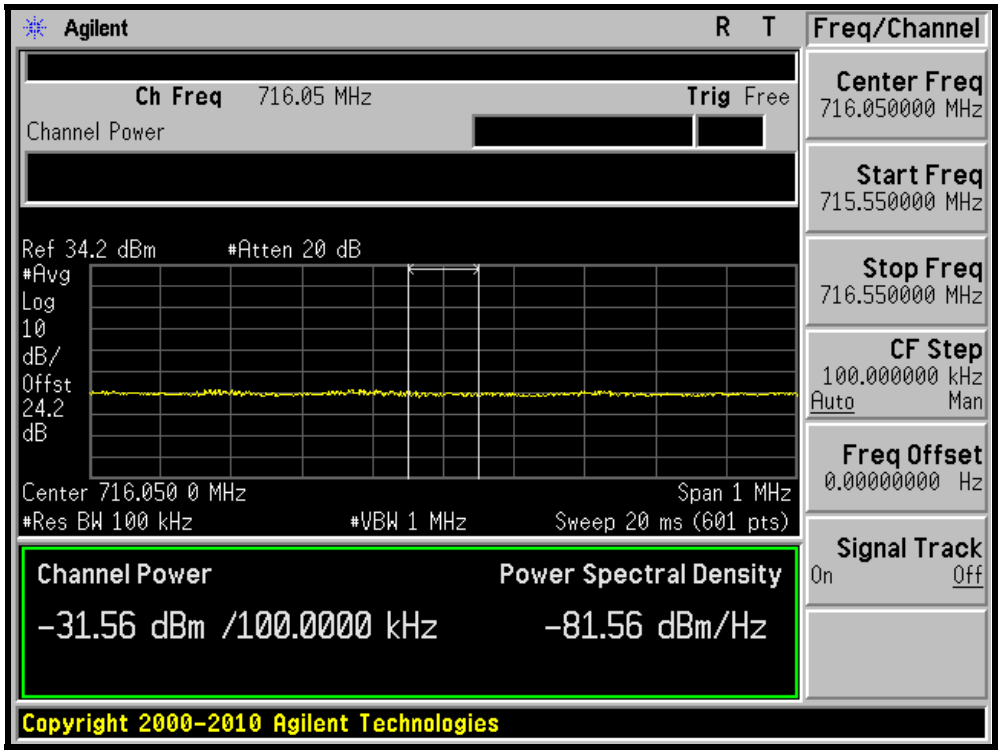
704.0MHz



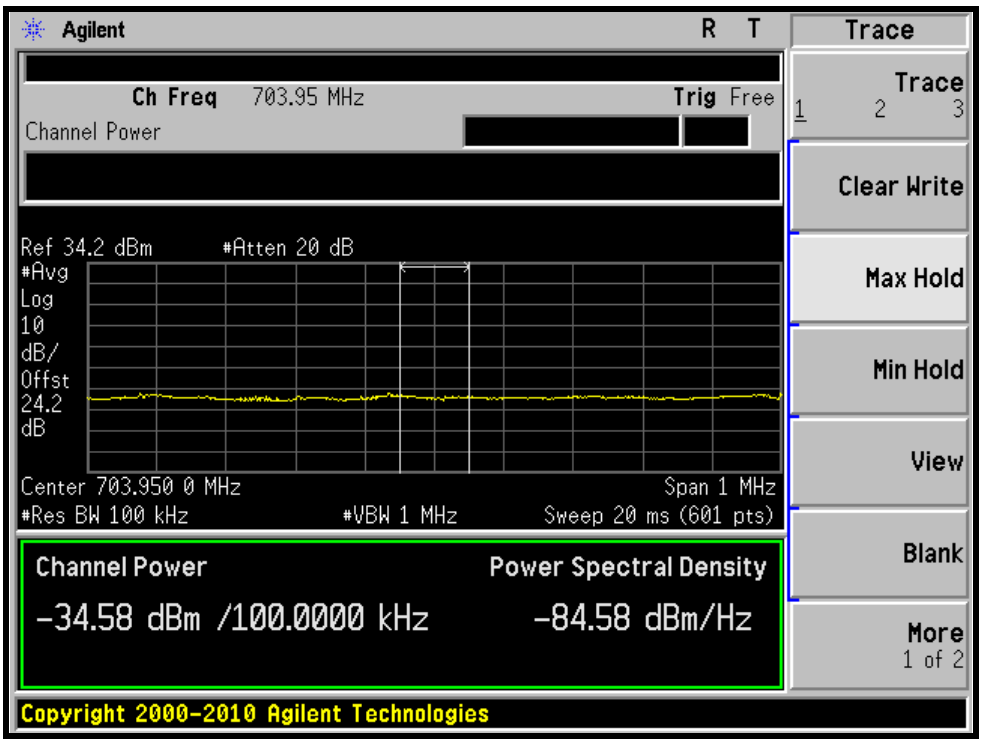


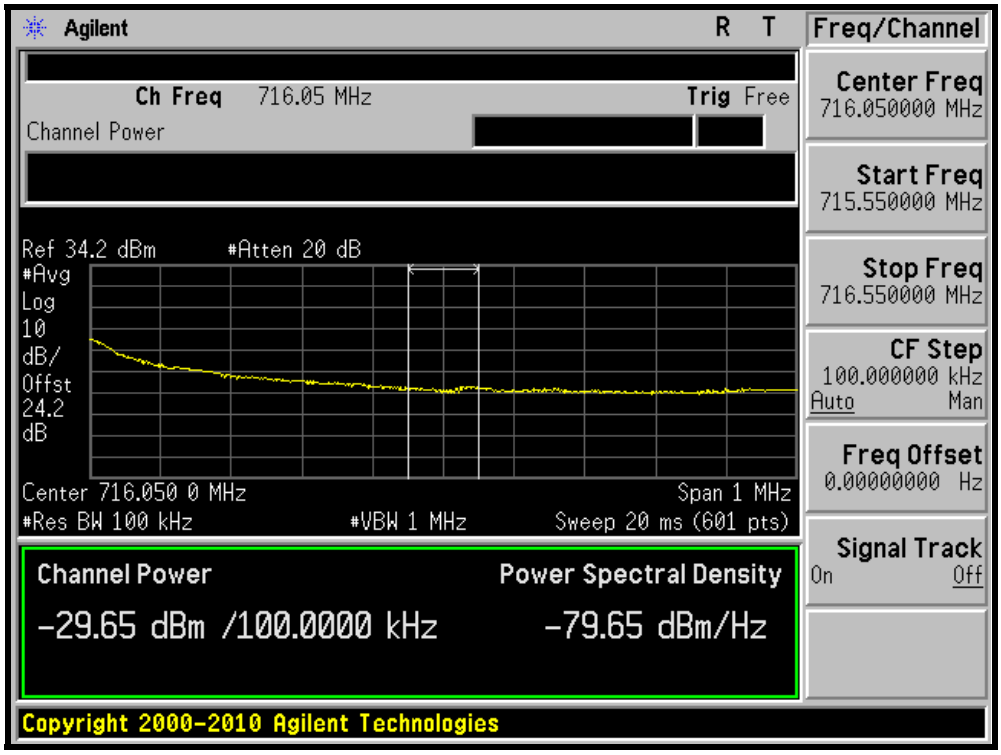
707.5MHz


Agilent
R T
Trace
Ch Freq 697.98 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Max Hold
Min Hold
View
Center 697.980 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Blank
Channel Power
-33.26 dBm /100.0000 kHz
Power Spectral Density
-83.26 dBm/Hz
More
1 of 2
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Freq/Channel
Ch Freq 716.05 MHz
Trig Free
Channel Power
Center Freq
716.050000 MHz
Start Freq
715.550000 MHz
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Stop Freq
716.550000 MHz
CF Step
100.000000 kHz
Auto Man
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Freq Offset
0.00000000 Hz
Signal Track
On Off
Channel Power
-31.56 dBm /100.0000 kHz
Power Spectral Density
-81.56 dBm/Hz
Copyright 2000-2010 Agilent Technologies

711.0MHz

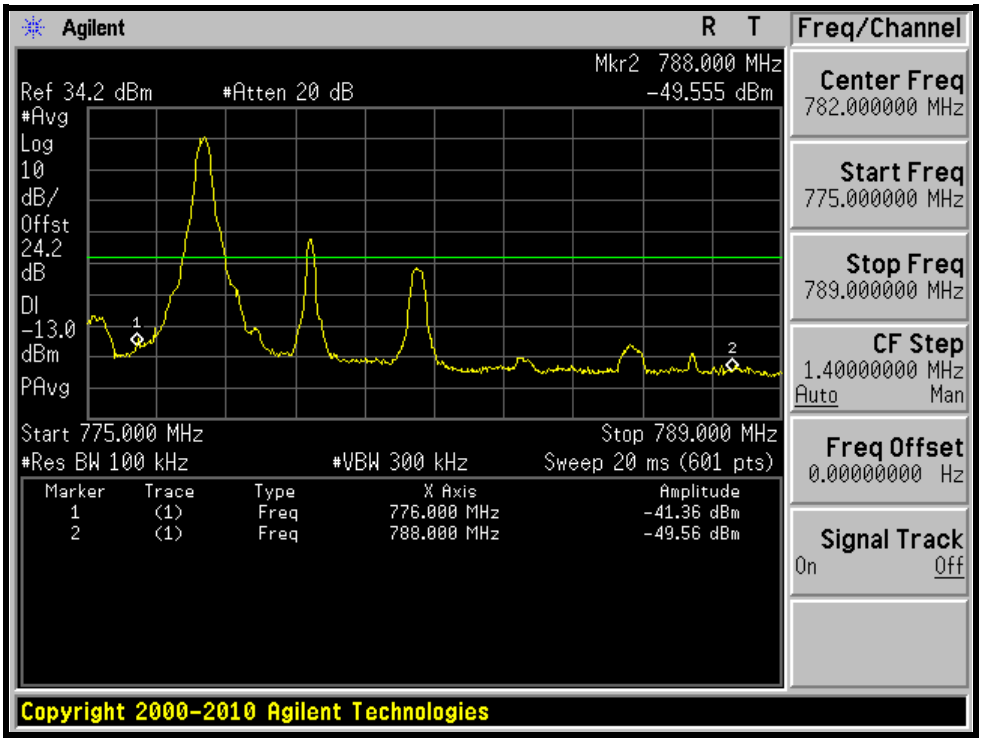

Agilent
R T
Trace
Ch Freq 703.95 MHz
Trig Free
Channel Power
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 703.950 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-34.58 dBm /100.0000 kHz
Power Spectral Density
-84.58 dBm/Hz
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Freq/Channel
Ch Freq 716.05 MHz
Trig Free
Channel Power
Center Freq
716.050000 MHz
Start Freq
715.550000 MHz
Stop Freq
716.550000 MHz
CF Step
100.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 34.2 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
24.2
dB
Center 716.050 0 MHz
Span 1 MHz
#Res BW 100 kHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Channel Power
-29.65 dBm /100.0000 kHz
Power Spectral Density
-79.65 dBm/Hz
Copyright 2000-2010 Agilent Technologies

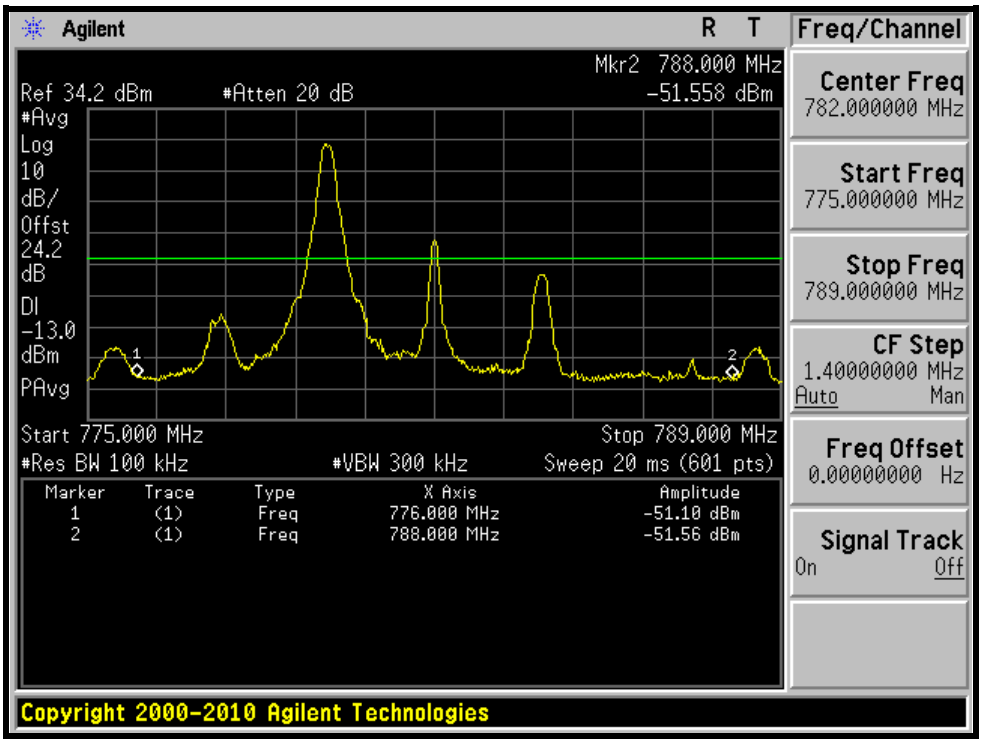
LTE Band 13

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB ALLOCATED AT THE LOWER EDGE

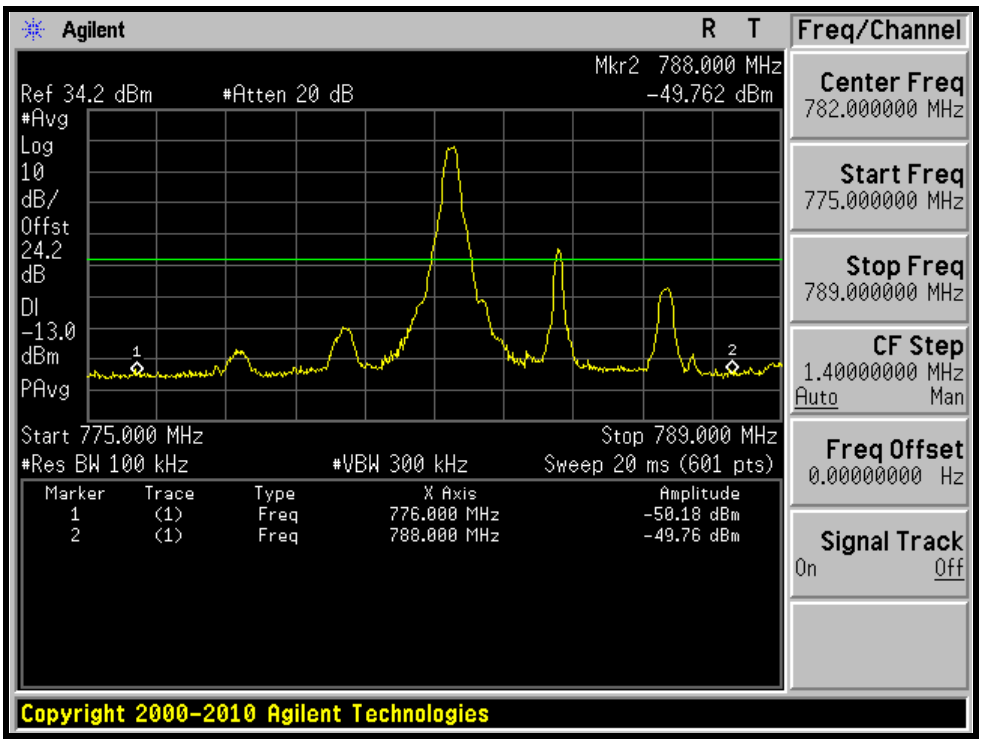
779.5MHz



782.0MHz



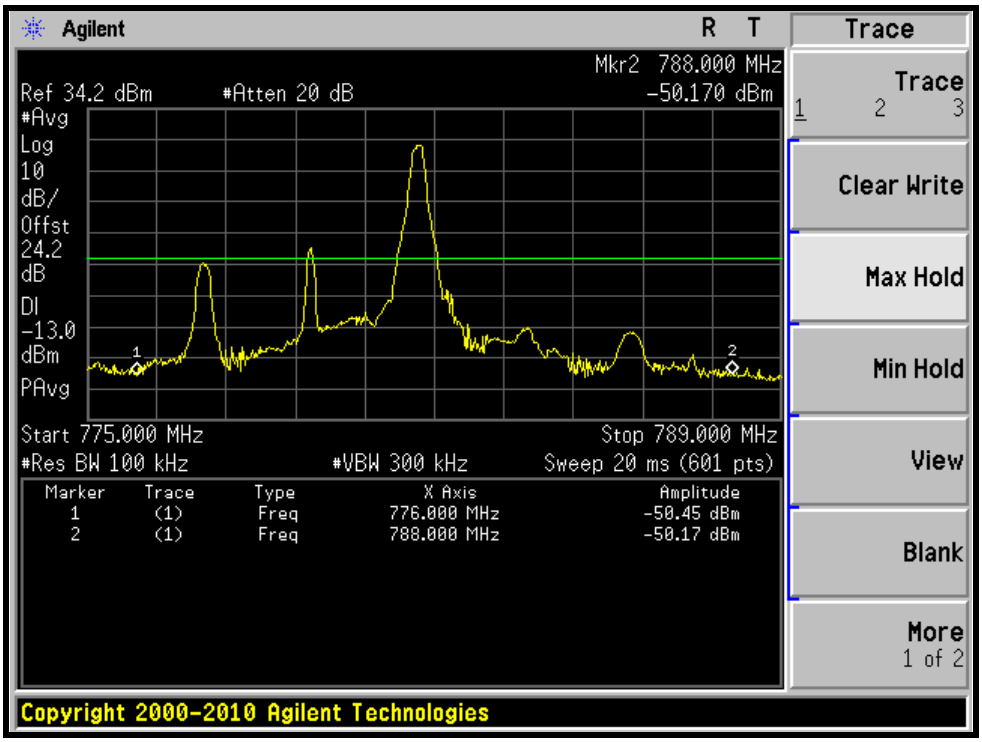
784.5MHz



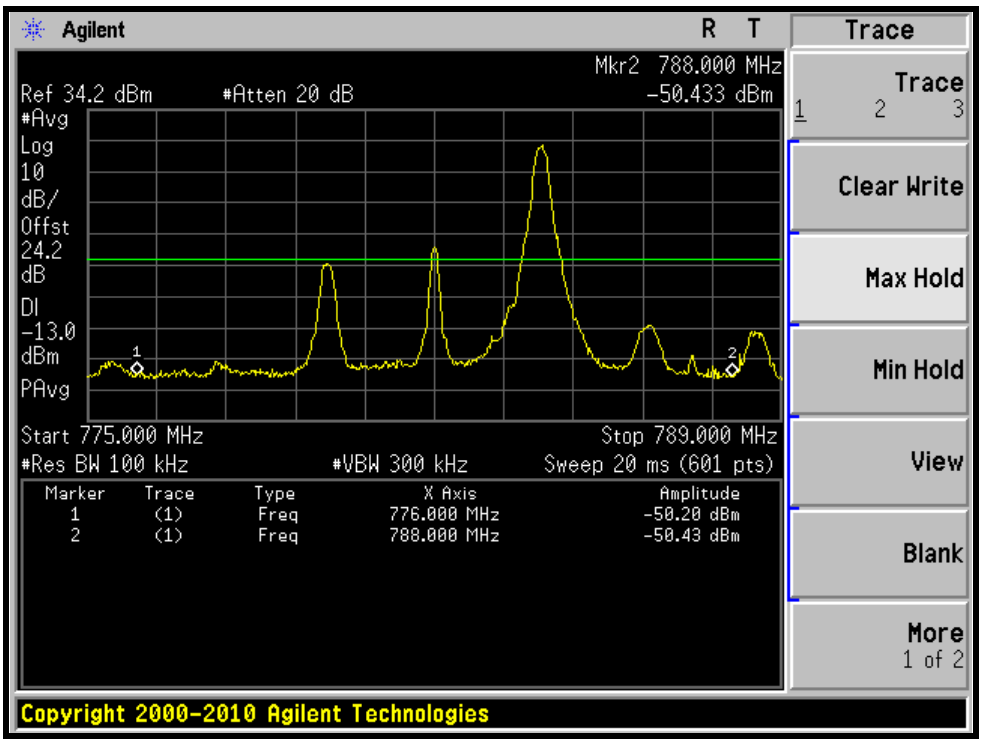
LTE Band 13

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB ALLOCATED AT THE UPPER EDGE

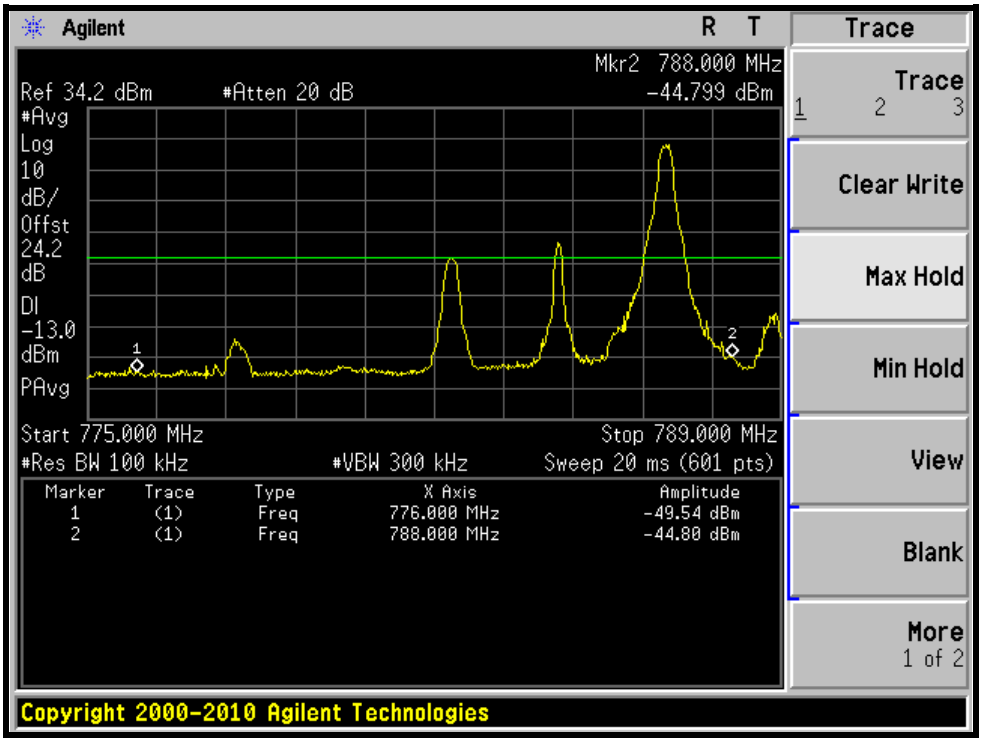
779.5MHz



782.0MHz

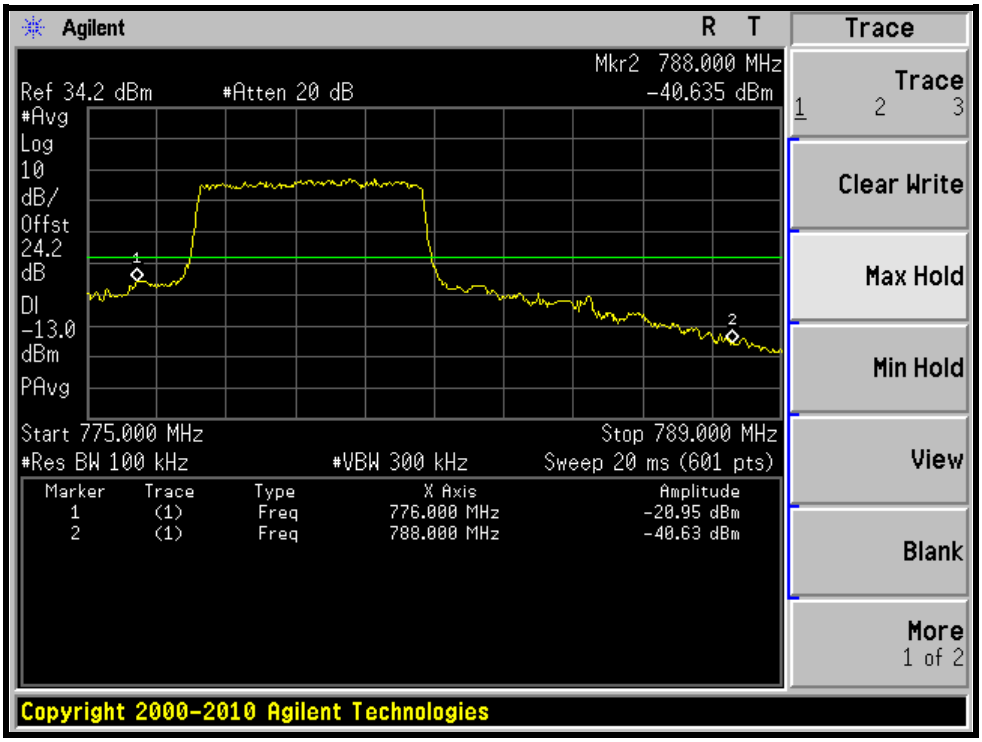


784.5MHz

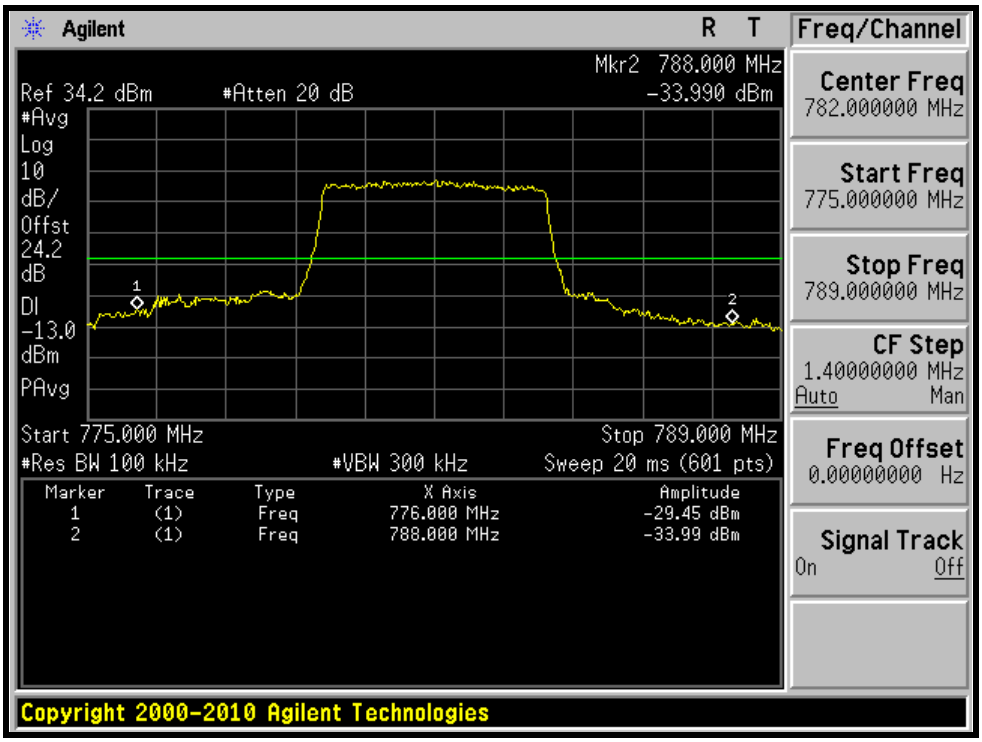


LTE Band 13
CHANNEL BANDWIDTH: 5MHz / QPSK / 100% RB ALLOCATION

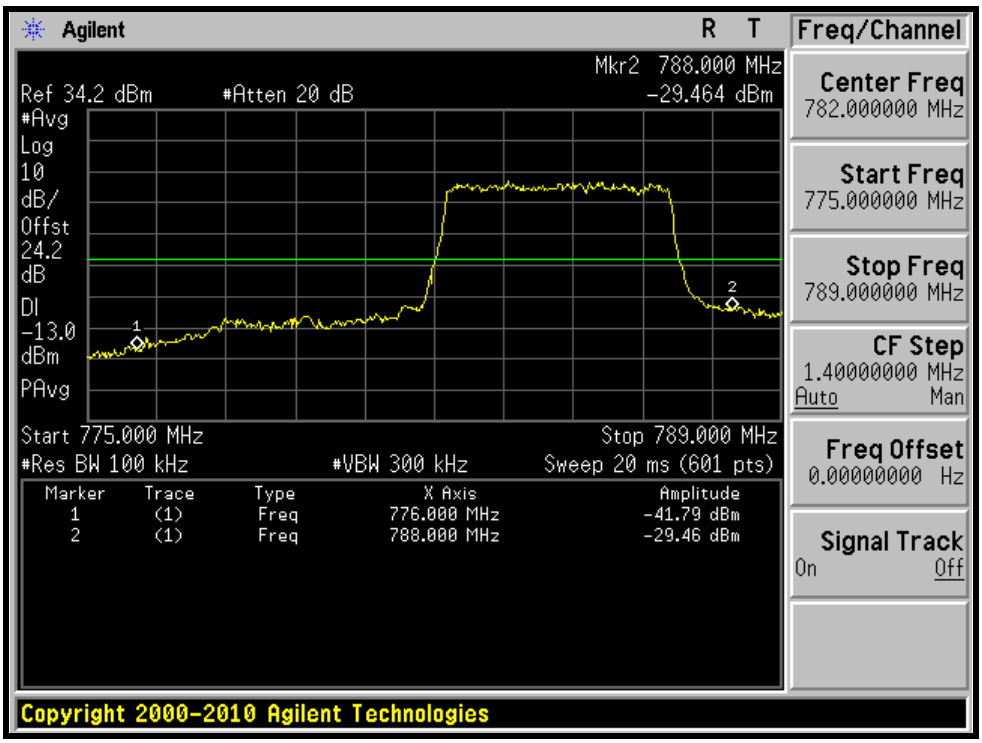
779.5MHz



782.0MHz



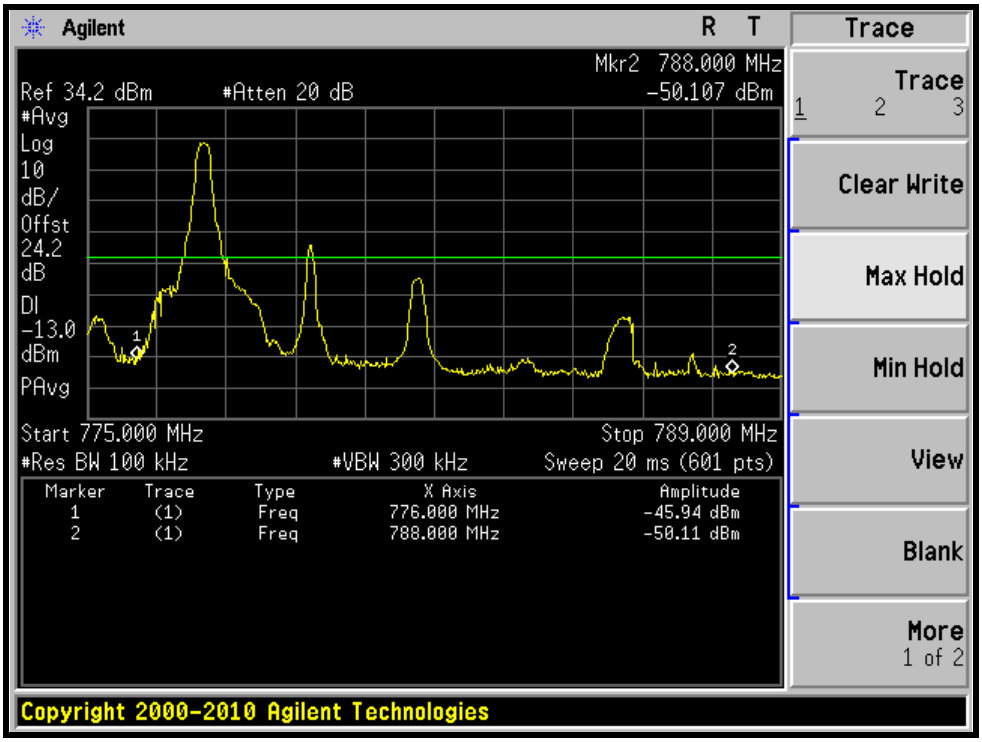
784.5MHz



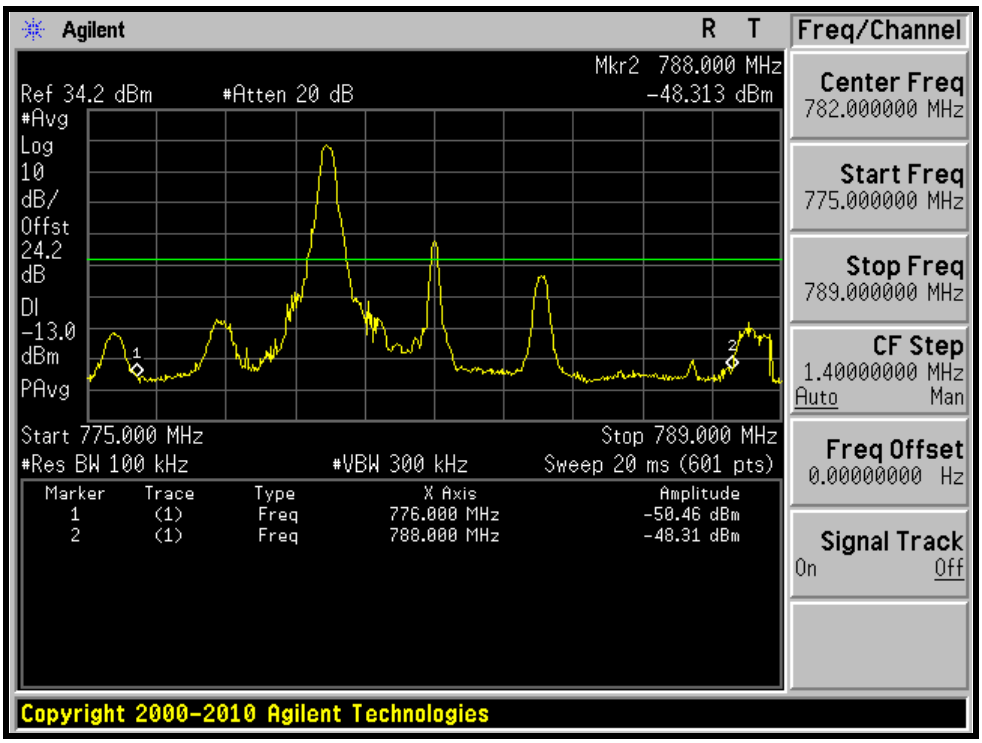
LTE Band 13

CHANNEL BANDWIDTH: 5MHz / 16QAM / 1 RB ALLOCATED AT THE LOWER EDGE

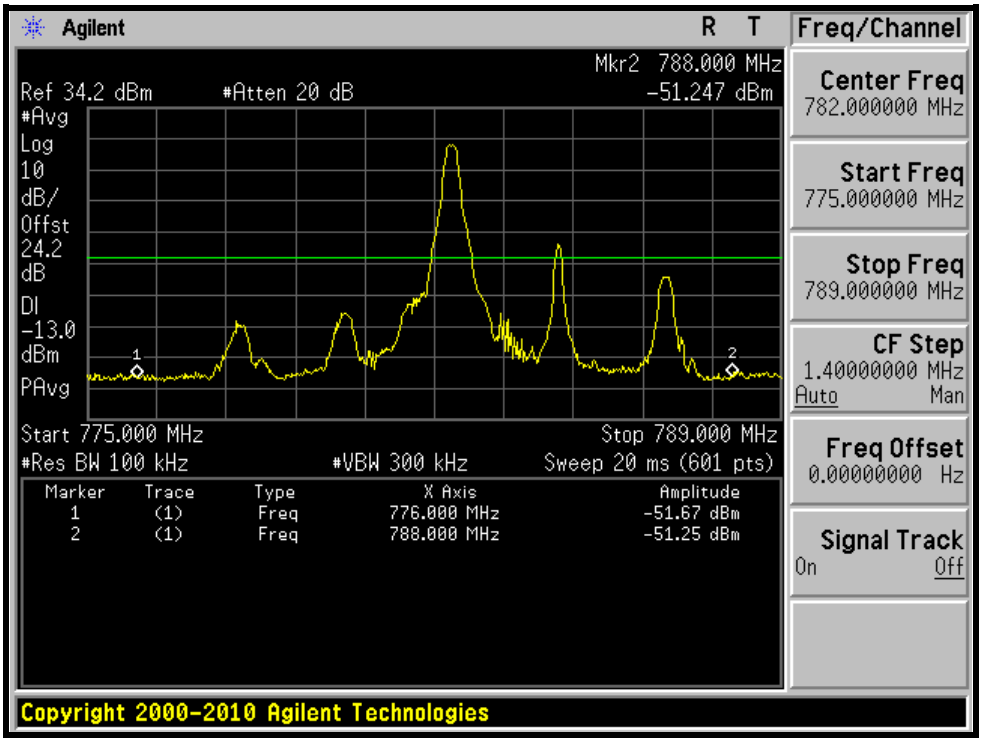
779.5MHz



782.0MHz



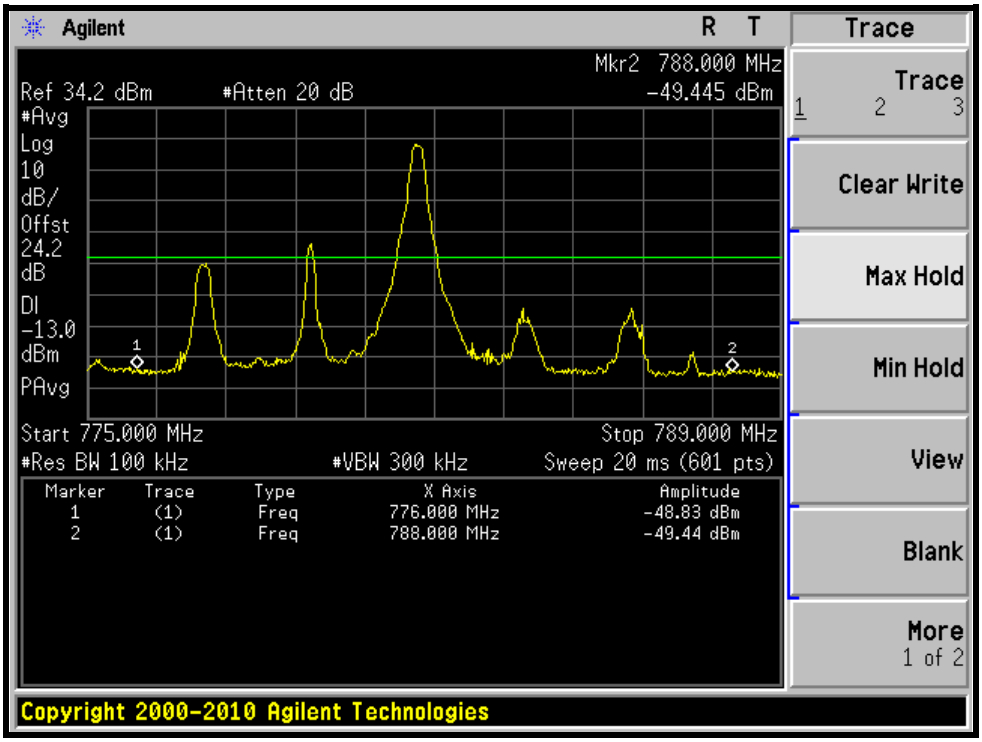
784.5MHz



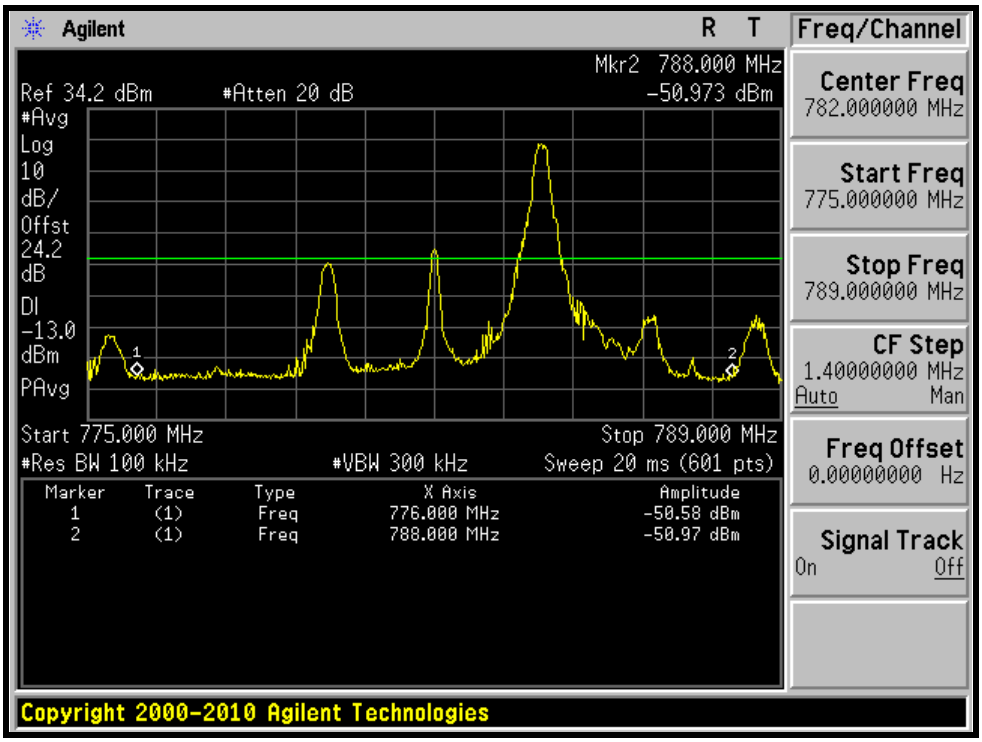
LTE Band 13

CHANNEL BANDWIDTH: 5MHz / 16QAM / 1 RB ALLOCATED AT THE UPPER EDGE

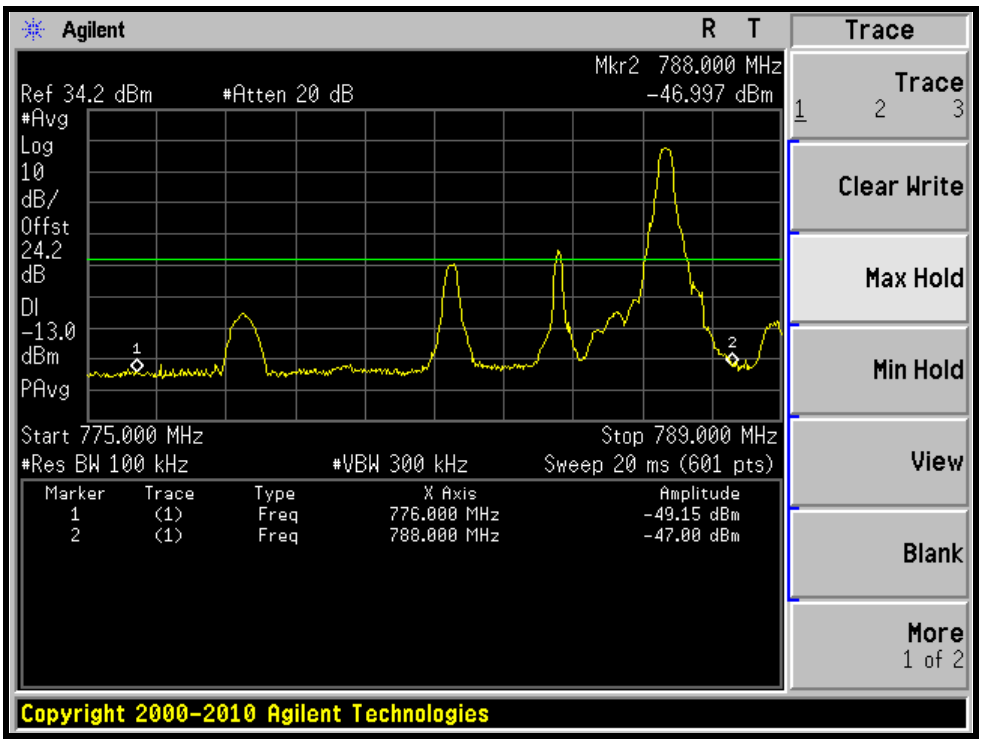
779.5MHz



782.0MHz



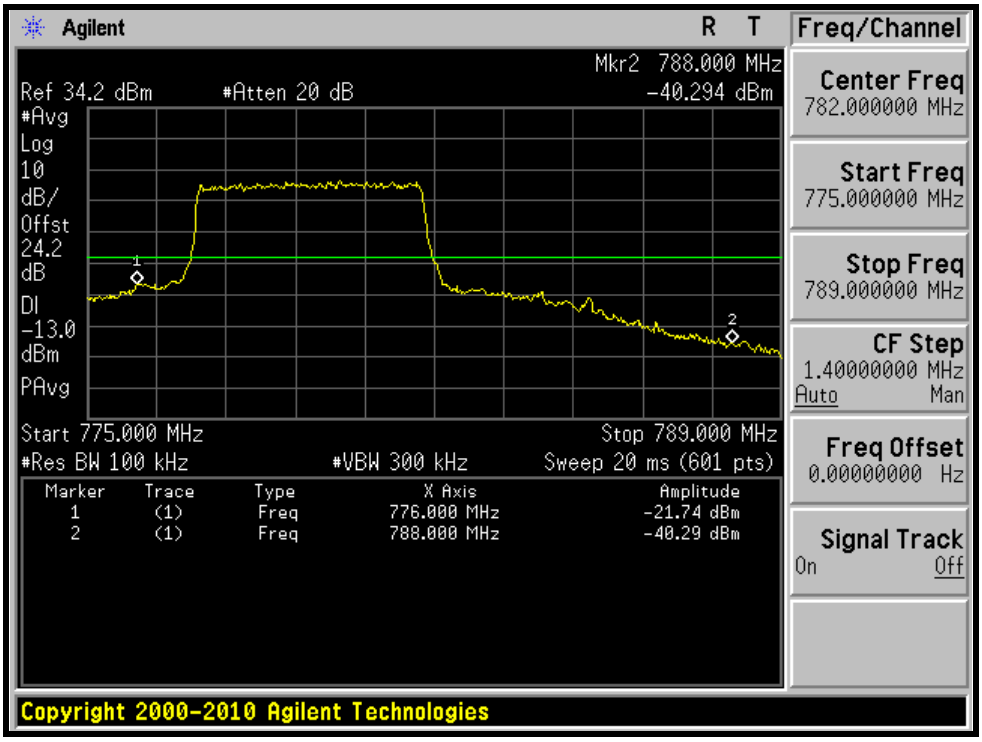
784.5MHz



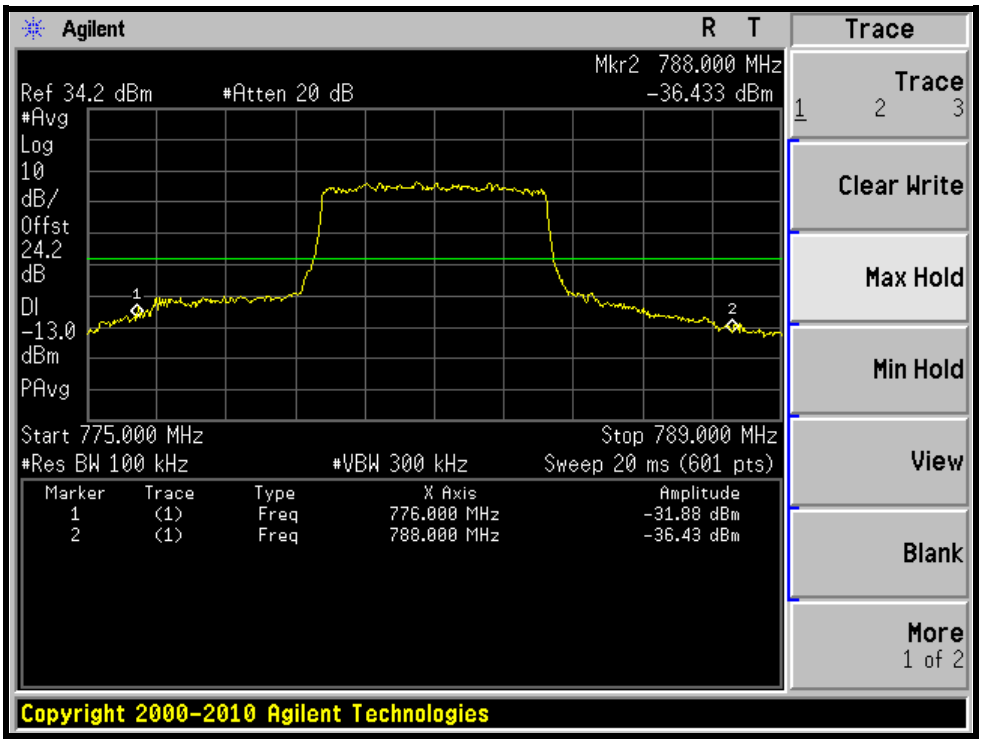
LTE Band 13

CHANNEL BANDWIDTH: 5MHz / 16QAM / 100% RB ALLOCATION

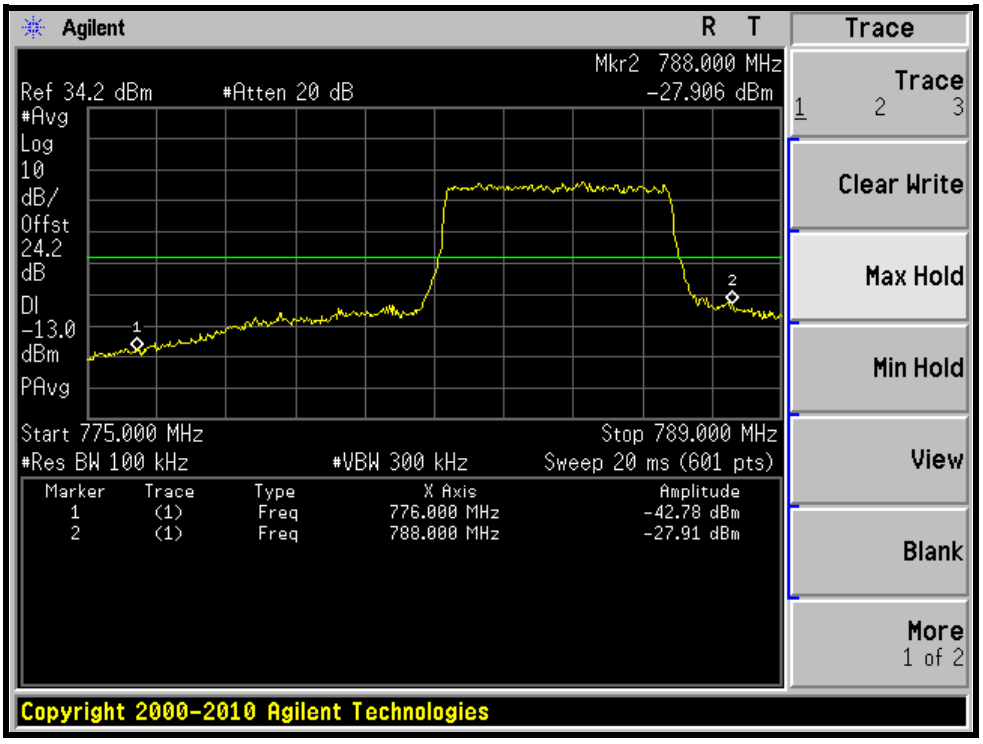
779.5MHz



782.0MHz



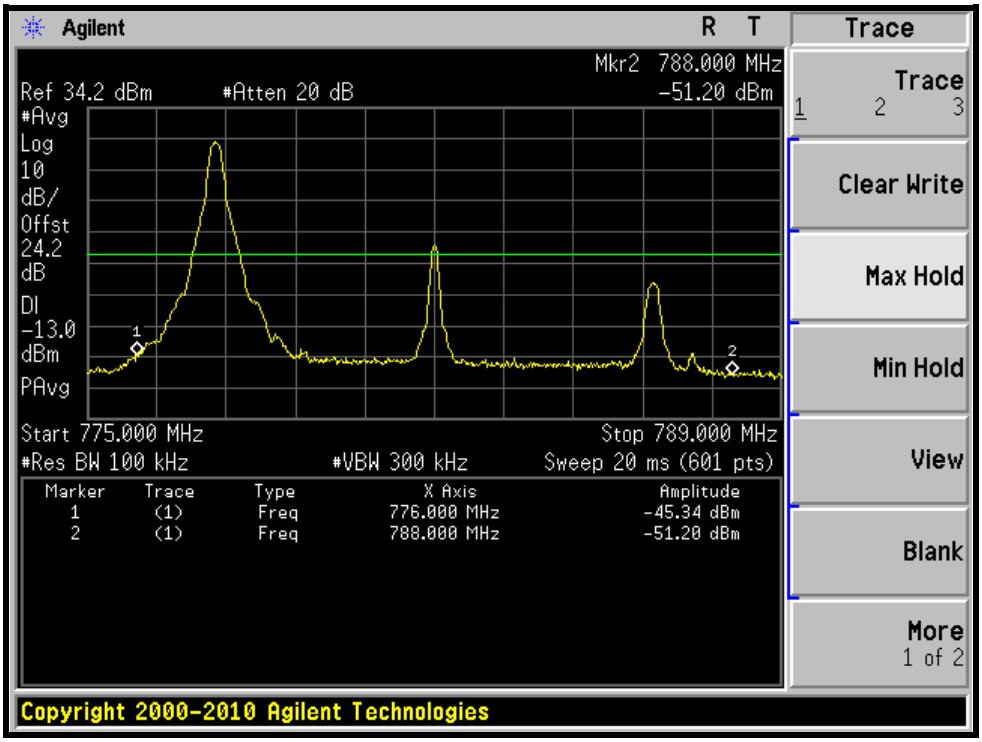
784.5MHz



LTE Band 13

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB ALLOCATED AT THE LOWER EDGE

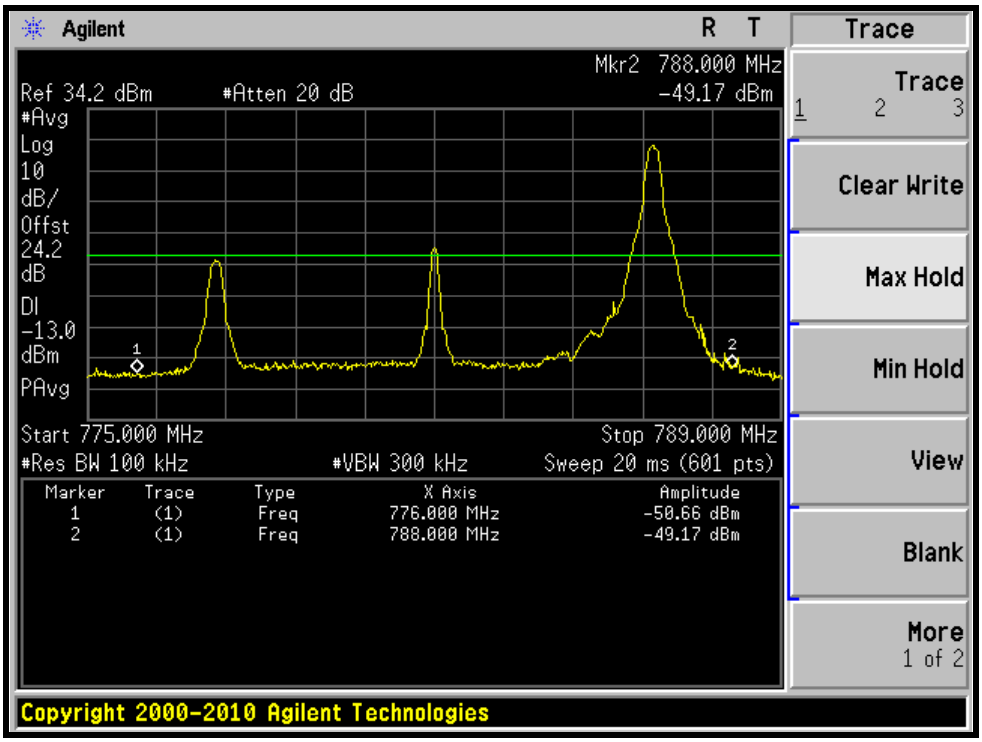
782MHz



LTE Band 13

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB ALLOCATED AT THE UPPER EDGE

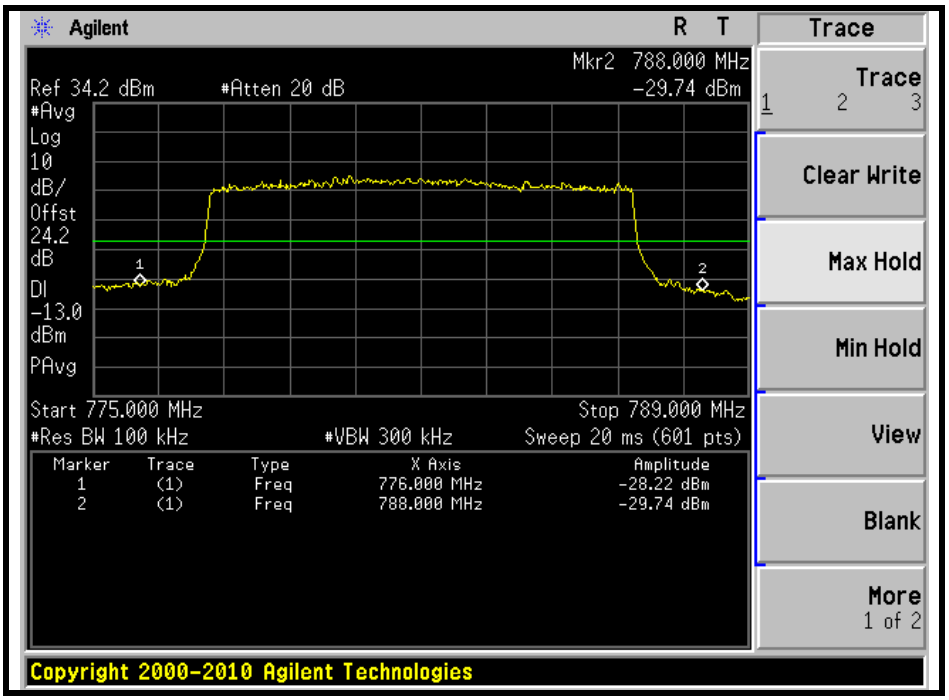
782MHz



LTE Band 13

CHANNEL BANDWIDTH: 10MHz / QPSK / 100% RB ALLOCATION

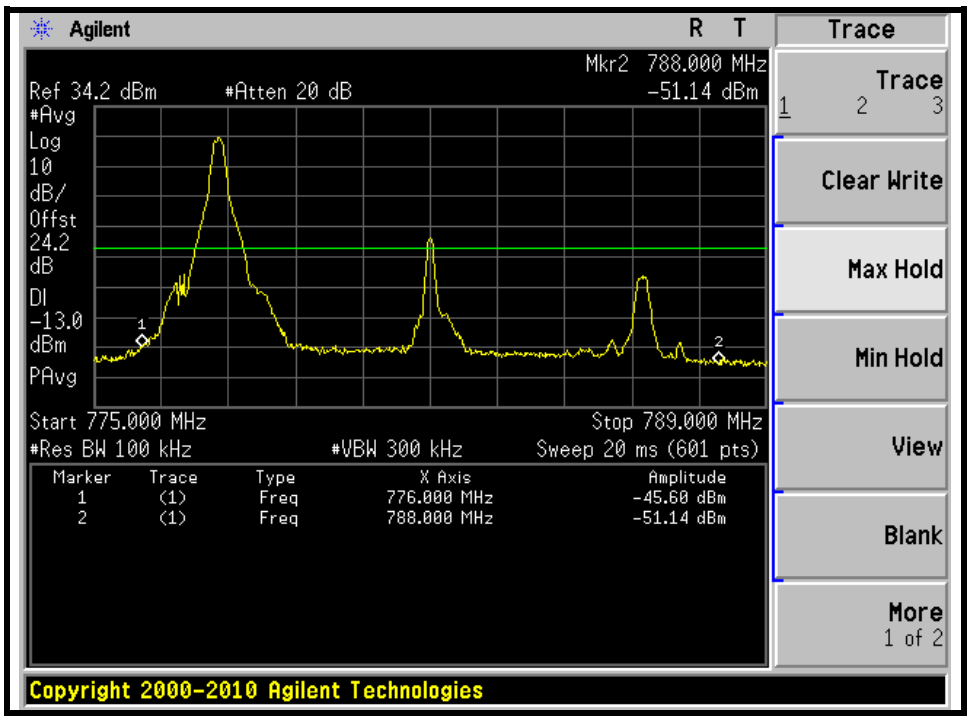
782MHz



LTE Band 13

CHANNEL BANDWIDTH: 10MHz / 16QAM / 1 RB ALLOCATED AT THE LOWER EDGE

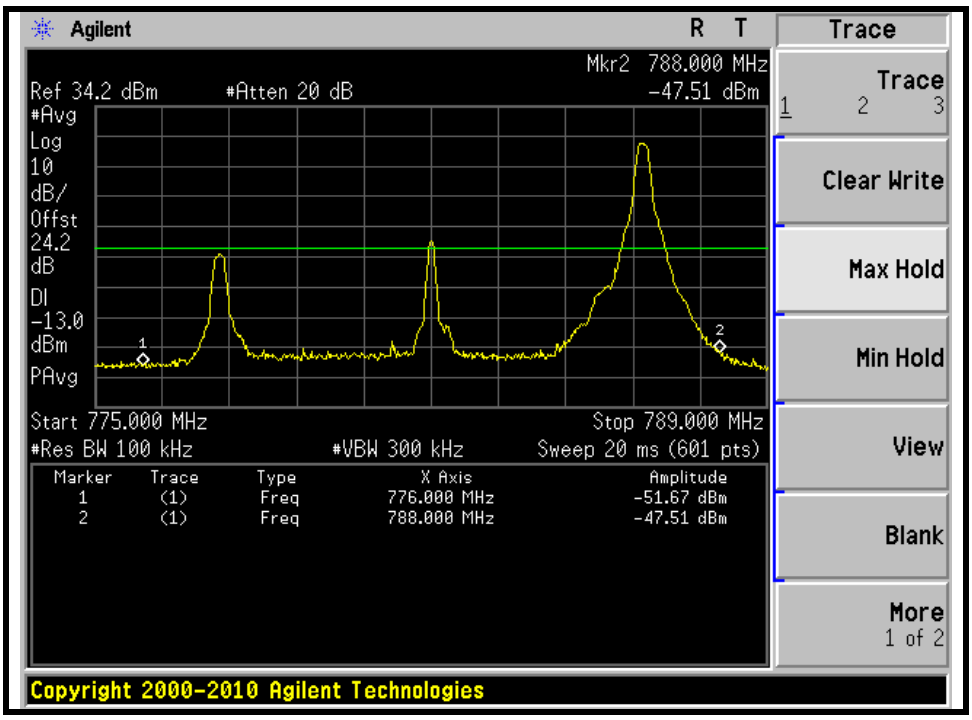
782MHz



LTE Band 13

CHANNEL BANDWIDTH: 10MHz / 16QAM / 1 RB ALLOCATED AT THE UPPER EDGE

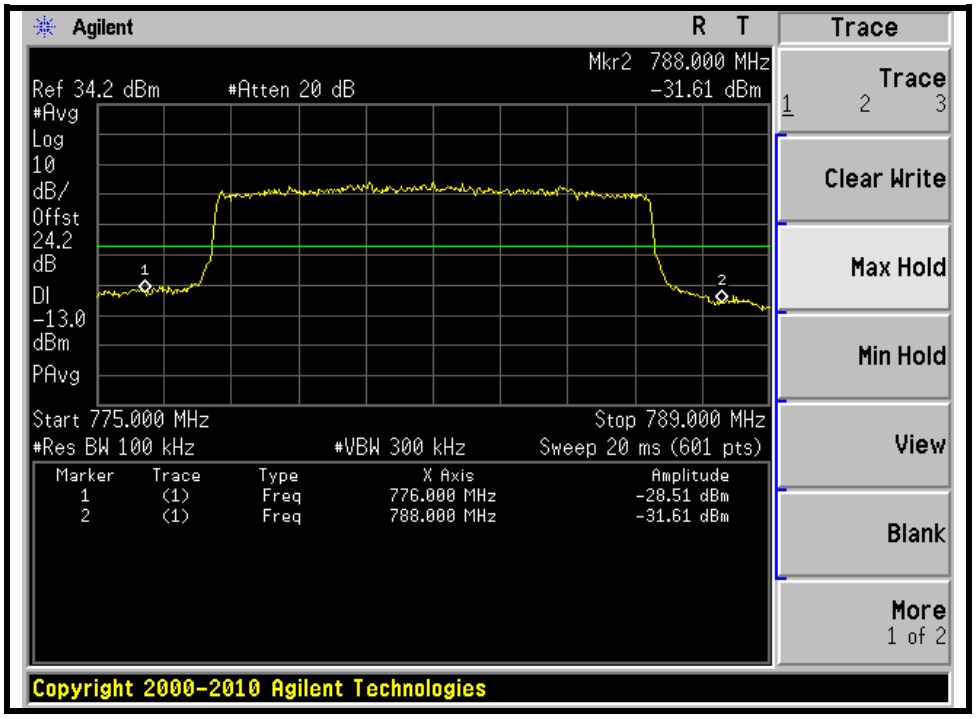
782MHz



LTE Band 13

CHANNEL BANDWIDTH: 10MHz / 16QAM / 100% RB ALLOCATION

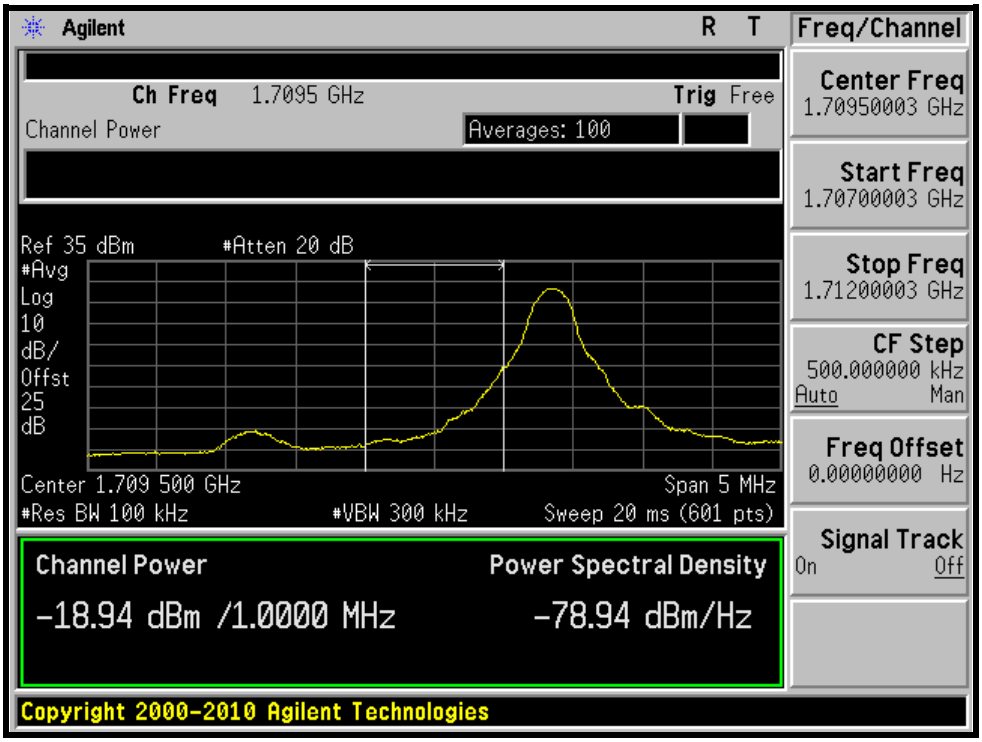
782MHz

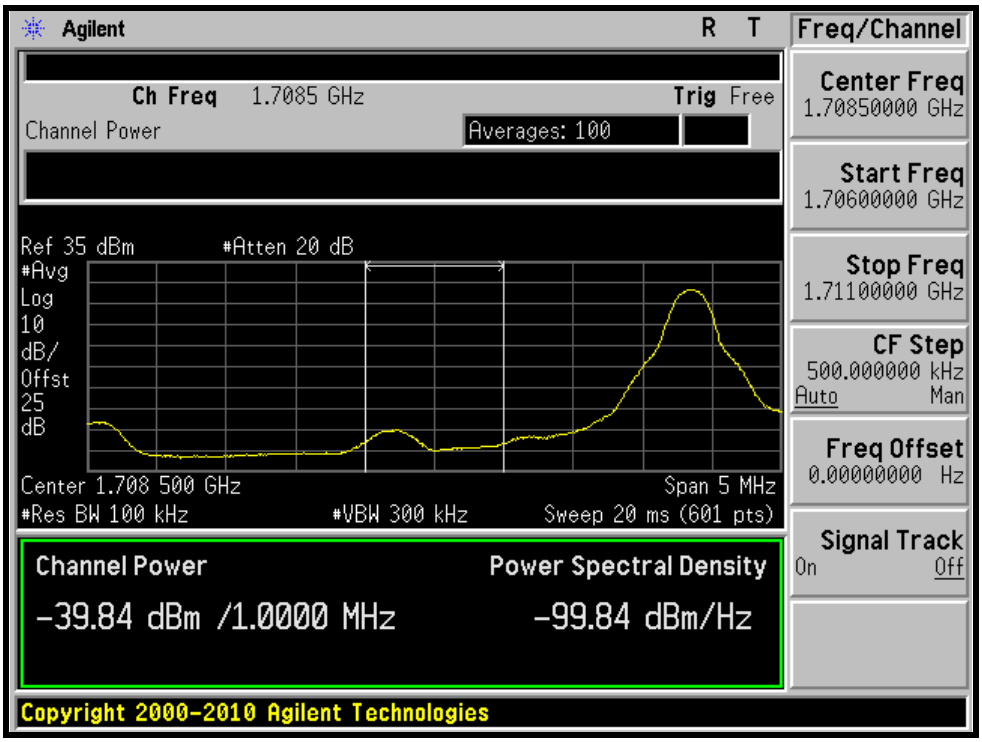


LTE Band 4

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB ALLOCATED AT THE LOWER EDGE

1712.5MHz

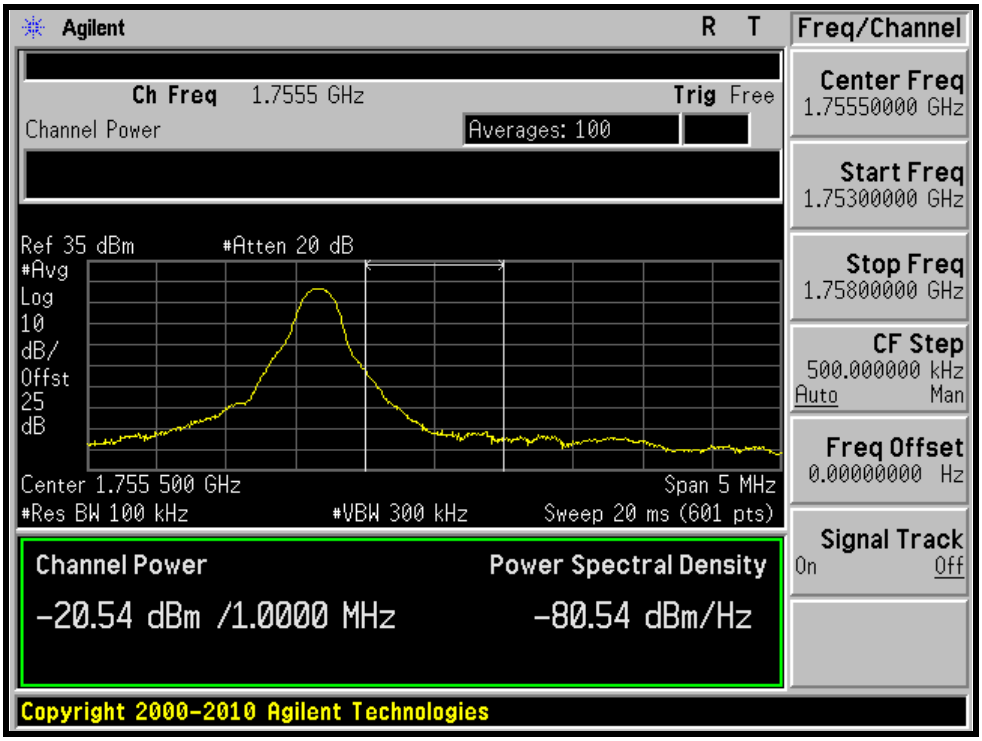


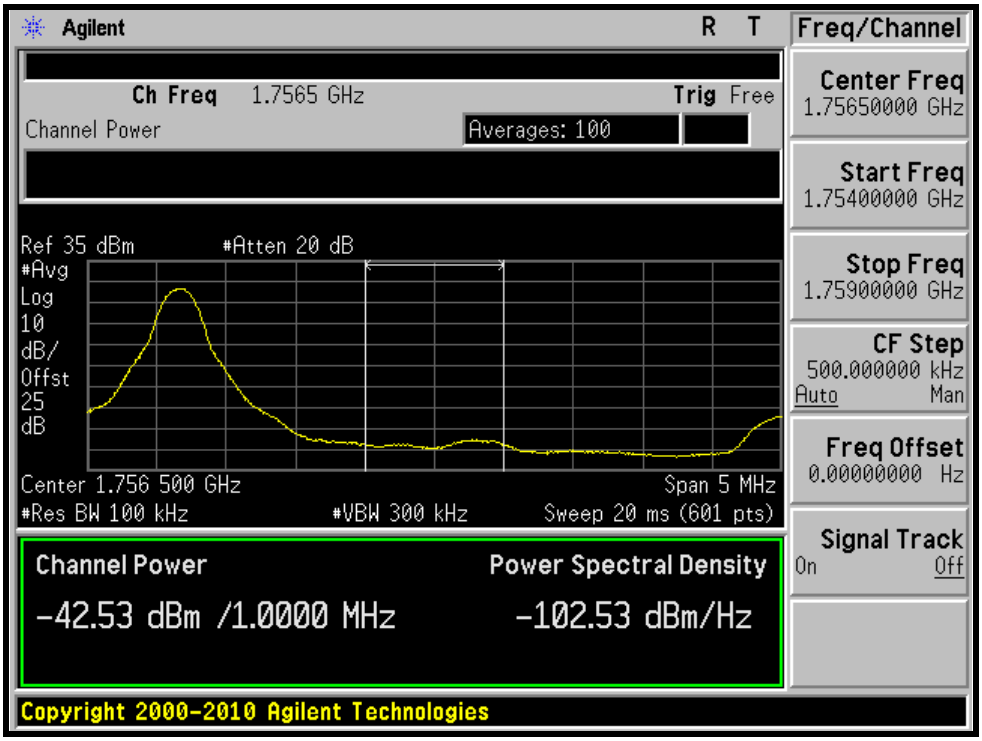


LTE Band 4

CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB ALLOCATED AT THE UPPER EDGE

1752.5MHz

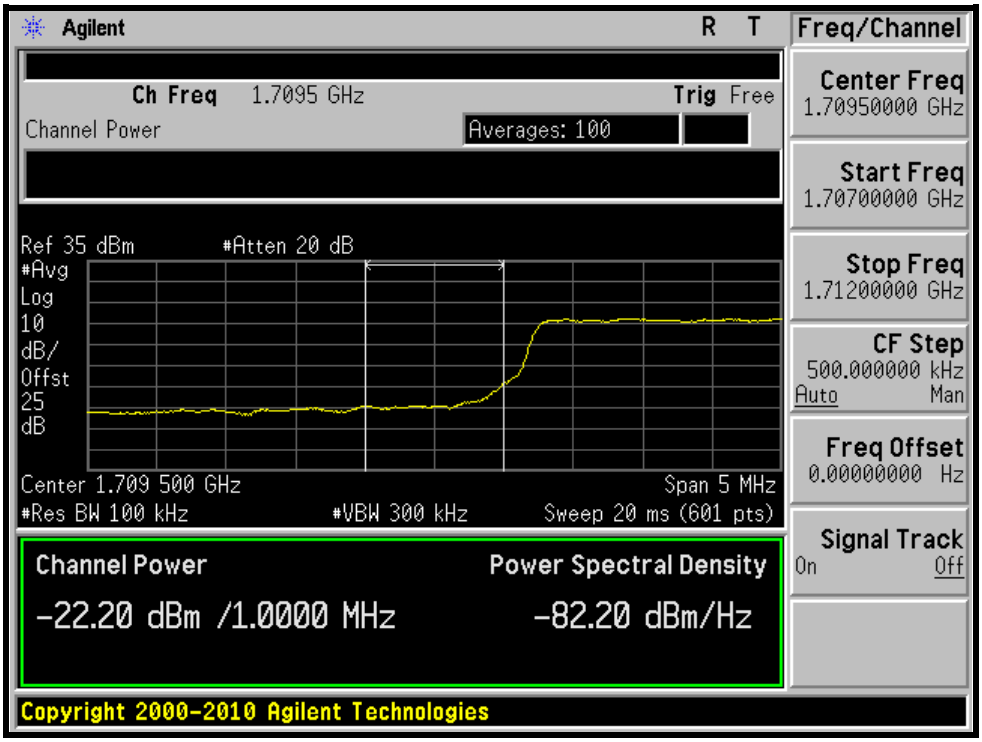


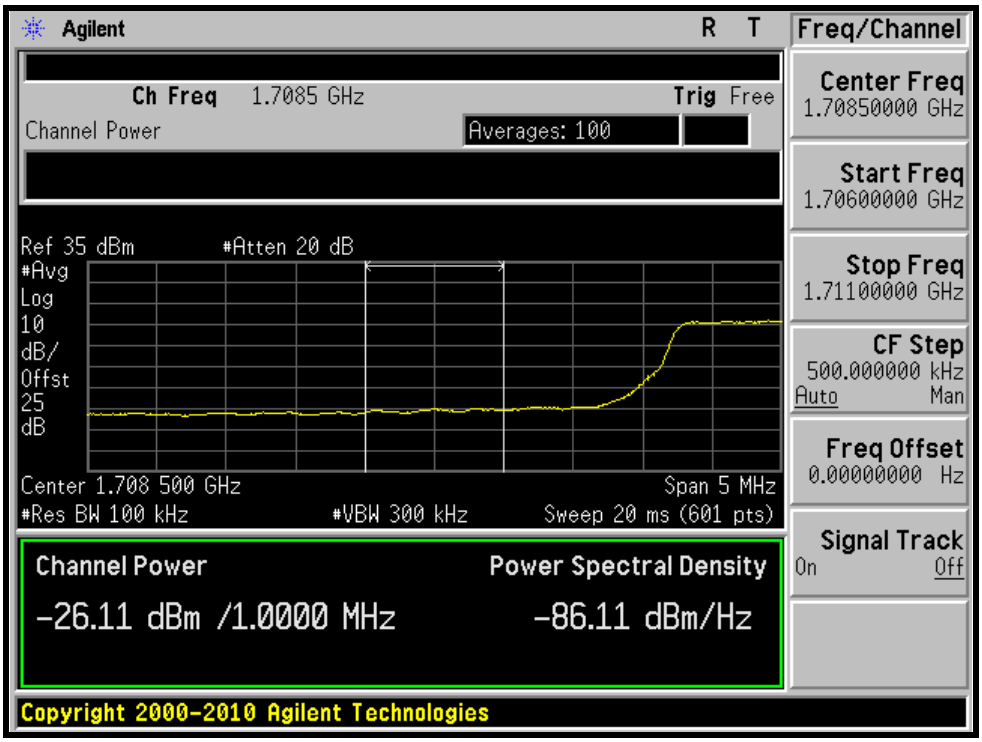


LTE Band 4

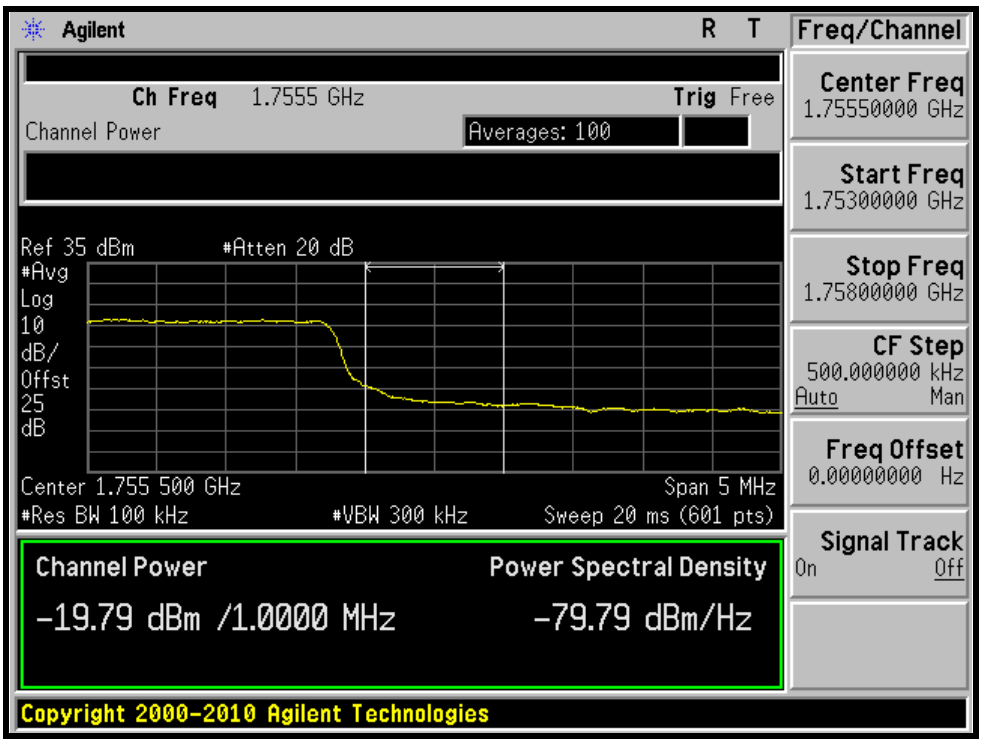
CHANNEL BANDWIDTH: 5MHz / QPSK / 100% RB ALLOCATION

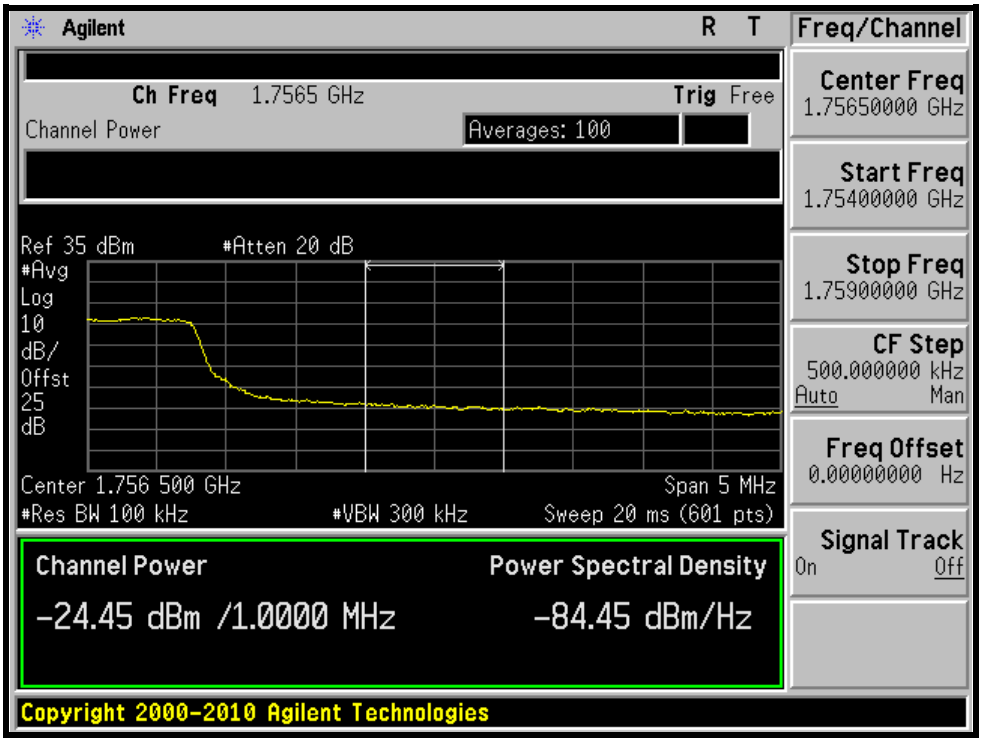
1712.5MHz





1752.5MHz

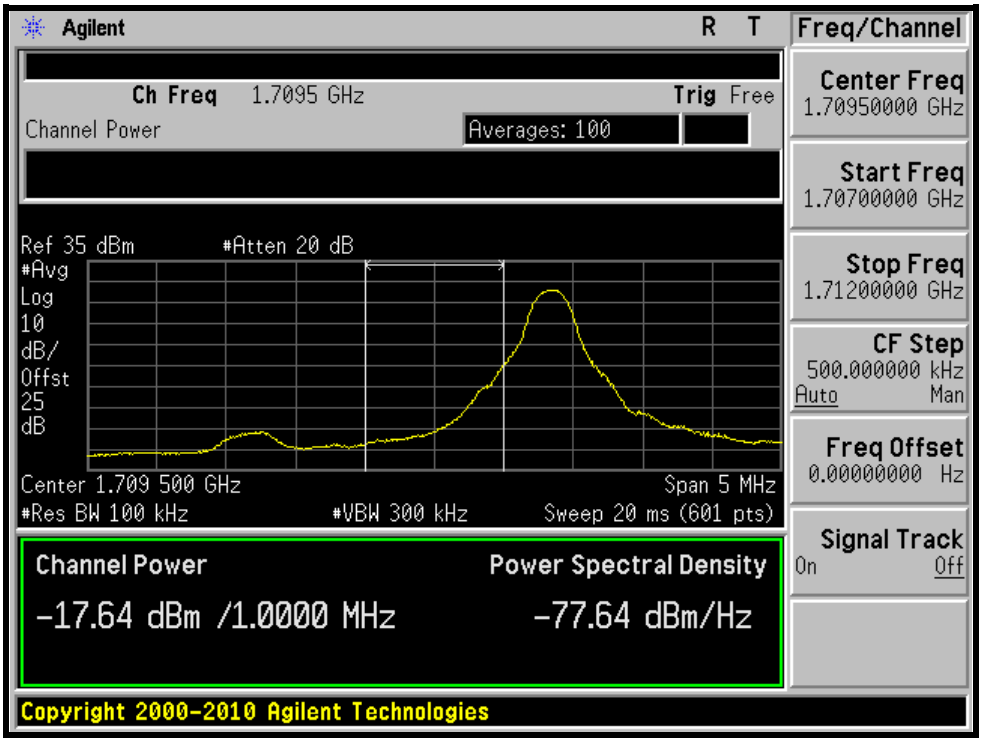

Agilent
R T
Freq/Channel
Ch Freq 1.7555 GHz
Trig Free
Channel Power
Averages: 100
Ref 35 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
25
dB
Center 1.755 500 GHz
Span 5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 20 ms (601 pts)
Channel Power
-19.79 dBm /1.0000 MHz
Power Spectral Density
-79.79 dBm/Hz
Center Freq
1.75550000 GHz
Start Freq
1.75300000 GHz
Stop Freq
1.75800000 GHz
CF Step
500.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Copyright 2000-2010 Agilent Technologies

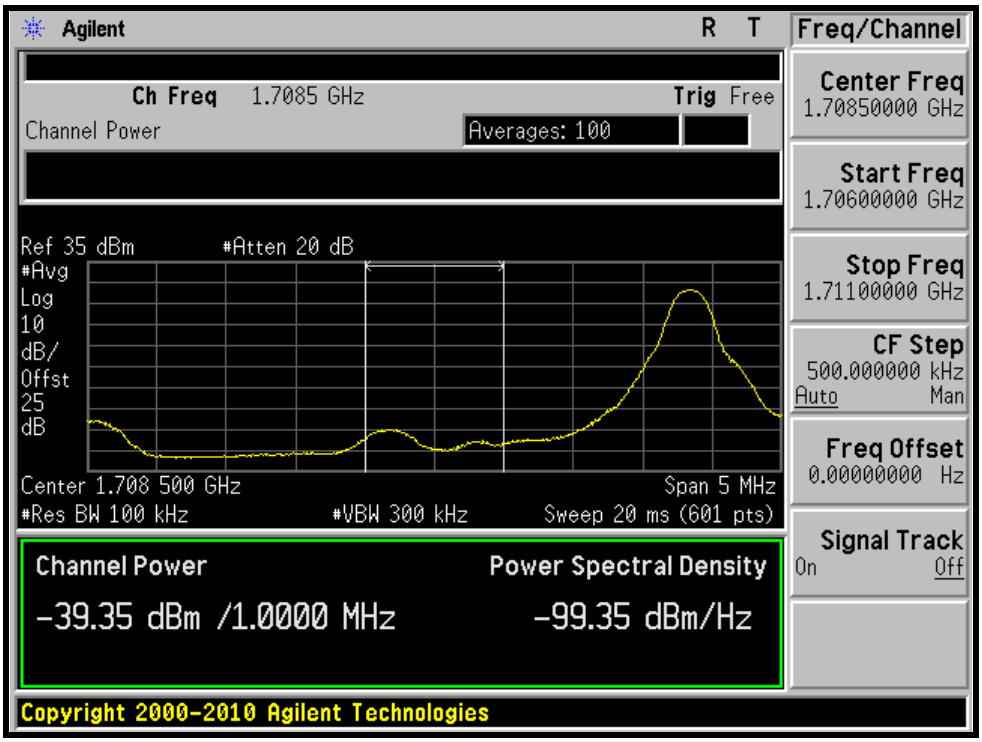

Agilent
R T
Freq/Channel
Ch Freq 1.7565 GHz
Trig Free
Channel Power
Averages: 100
Ref 35 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
25
dB
Center 1.756 500 GHz
Span 5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 20 ms (601 pts)
Channel Power
-24.45 dBm /1.0000 MHz
Power Spectral Density
-84.45 dBm/Hz
Center Freq
1.75650000 GHz
Start Freq
1.75400000 GHz
Stop Freq
1.75900000 GHz
CF Step
500.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Copyright 2000-2010 Agilent Technologies

LTE Band 4

CHANNEL BANDWIDTH: 5MHz / 16QAM / 1 RB ALLOCATED AT THE LOWER EDGE

1712.5MHz

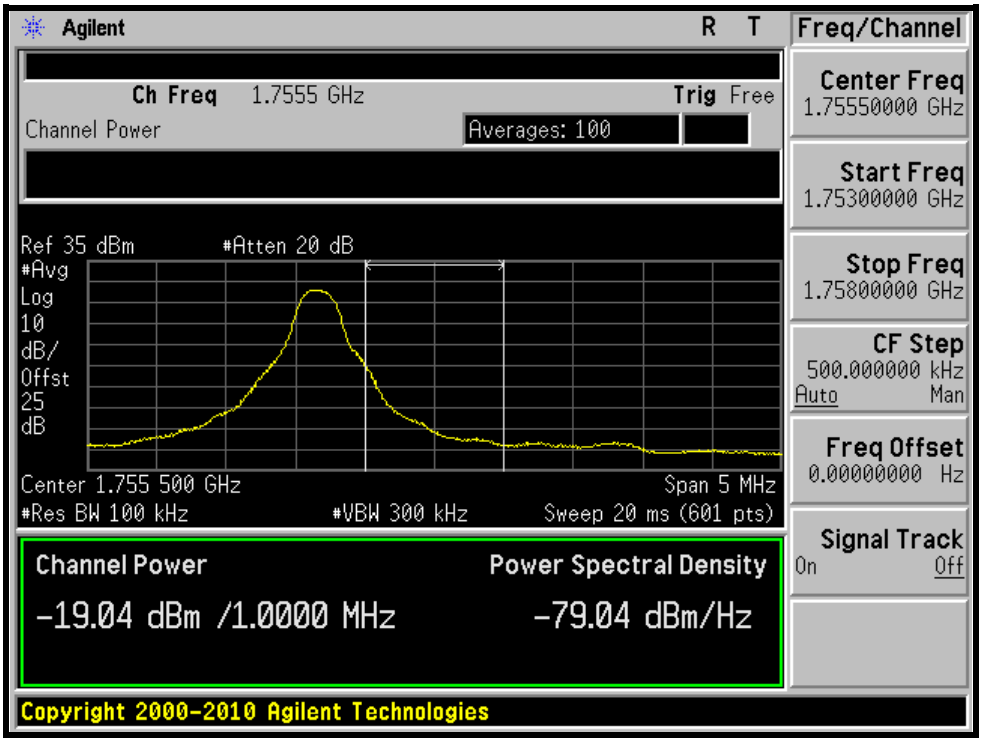


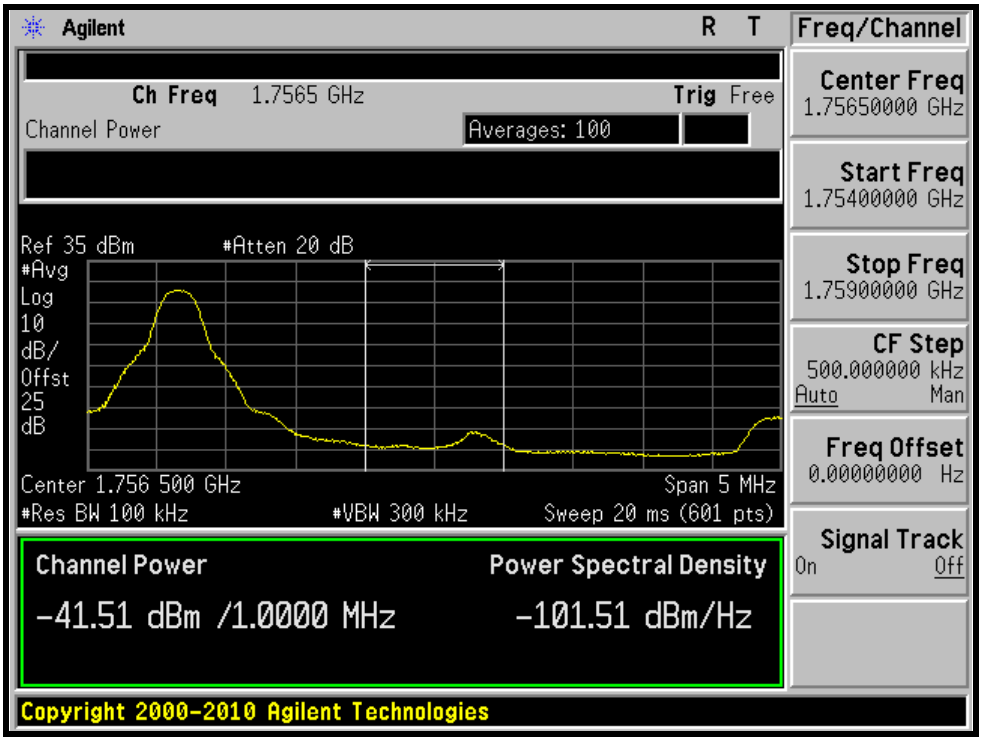


LTE Band 4

CHANNEL BANDWIDTH: 5MHz / 16QAM / 1 RB ALLOCATED AT THE UPPER EDGE

1752.5MHz

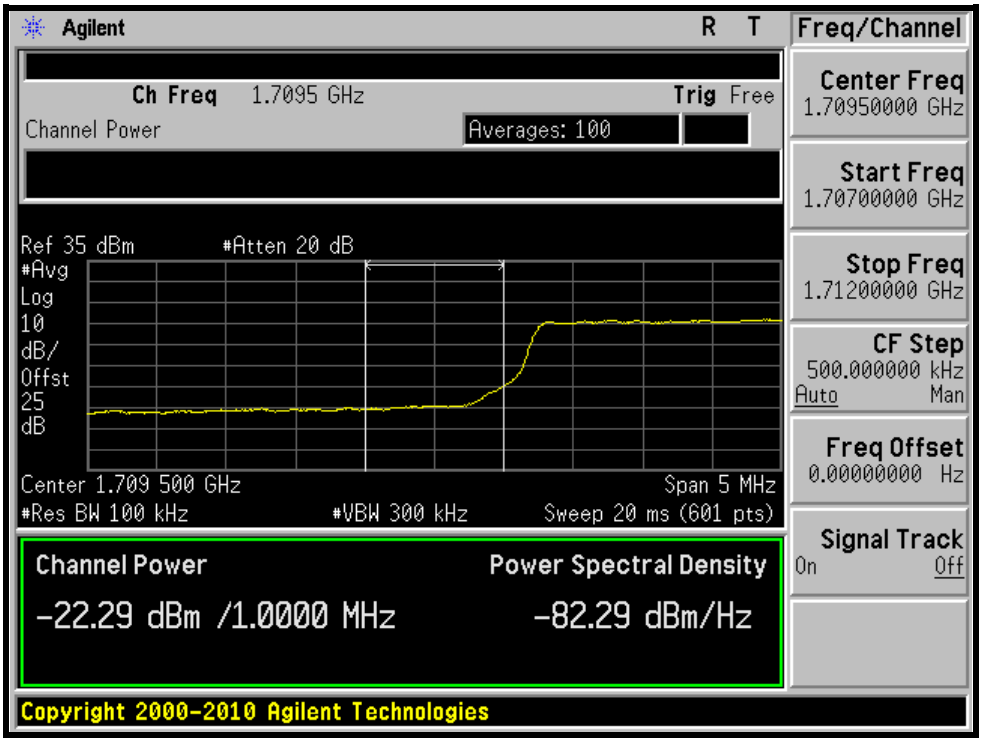


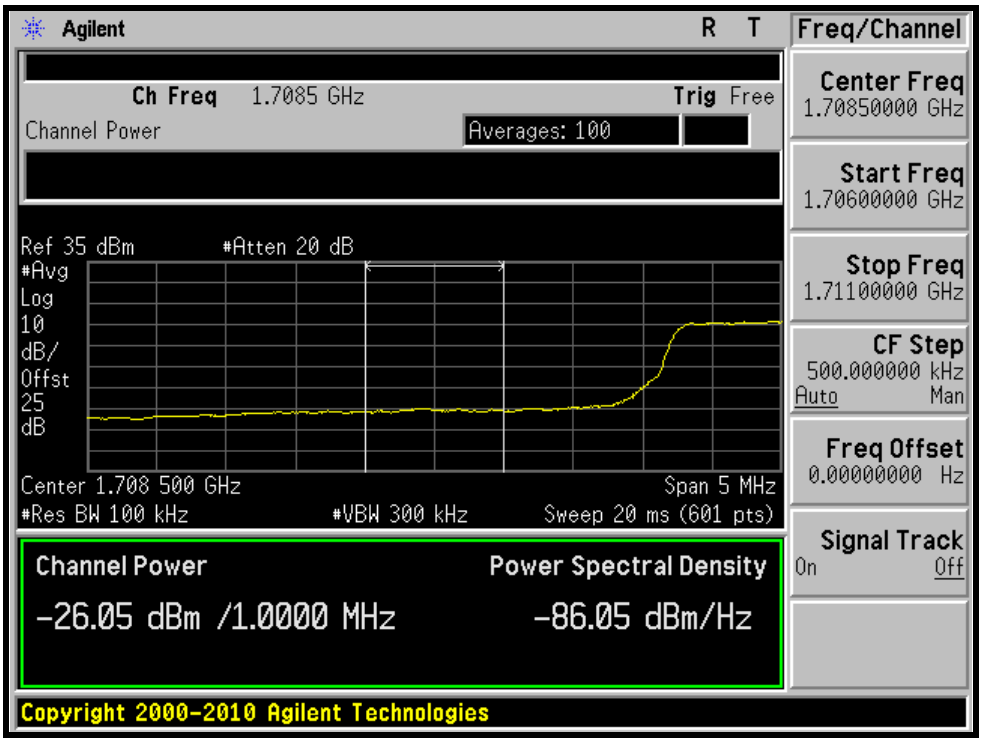


LTE Band 4

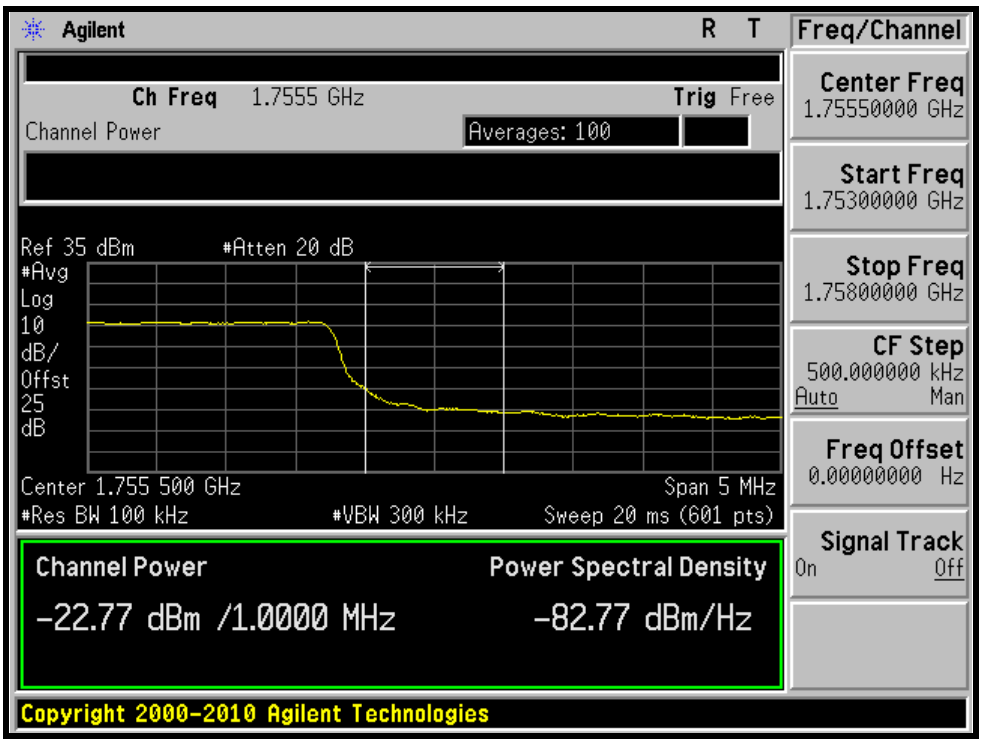
CHANNEL BANDWIDTH: 5MHz / 16QAM / 100% RB ALLOCATION

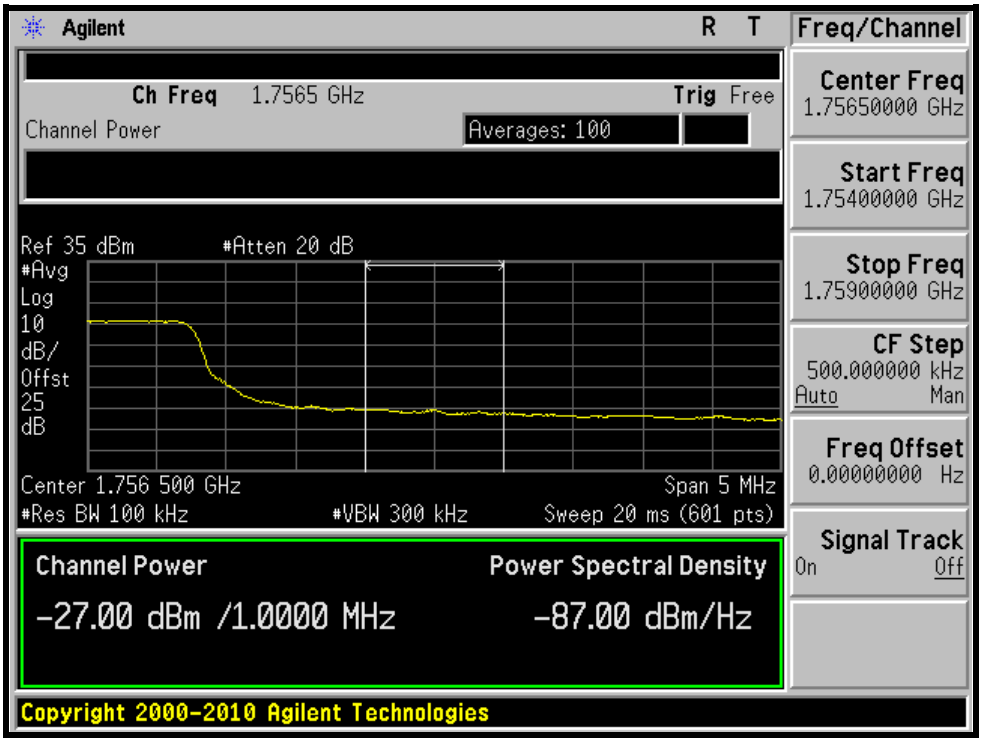
1712.5MHz





1752.5MHz

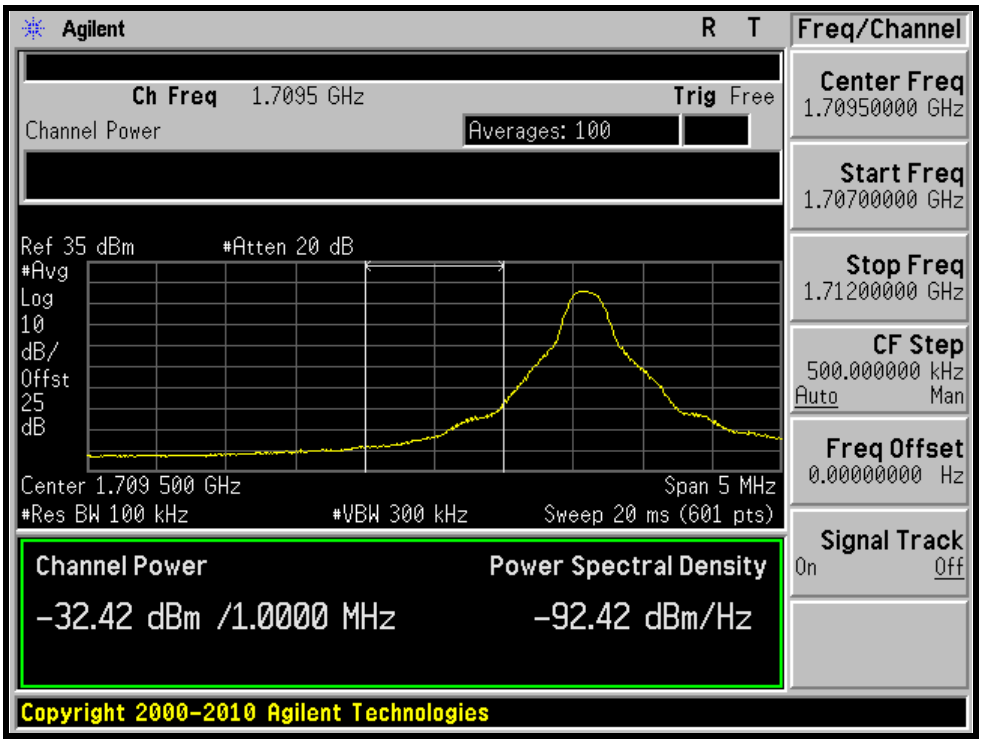

Agilent
R T
Freq/Channel
Ch Freq 1.7555 GHz
Trig Free
Channel Power
Averages: 100
Ref 35 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
25
dB
Center 1.755 500 GHz
Span 5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 20 ms (601 pts)
Channel Power
-22.77 dBm /1.0000 MHz
Power Spectral Density
-82.77 dBm/Hz
Center Freq
1.75550000 GHz
Start Freq
1.75300000 GHz
Stop Freq
1.75800000 GHz
CF Step
500.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Copyright 2000-2010 Agilent Technologies

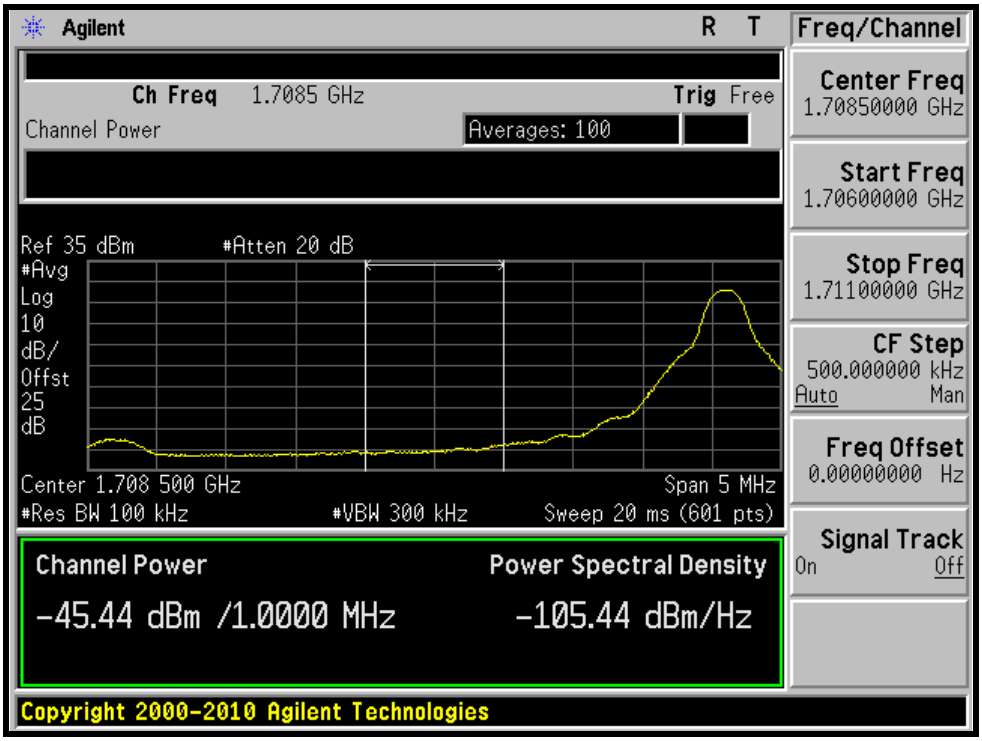

Agilent
R T
Freq/Channel
Ch Freq 1.7565 GHz
Trig Free
Channel Power
Averages: 100
Ref 35 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
25
dB
Center 1.756 500 GHz
Span 5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 20 ms (601 pts)
Channel Power
-27.00 dBm /1.0000 MHz
Power Spectral Density
-87.00 dBm/Hz
Center Freq
1.75650000 GHz
Start Freq
1.75400000 GHz
Stop Freq
1.75900000 GHz
CF Step
500.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Copyright 2000-2010 Agilent Technologies

LTE Band 4

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB ALLOCATED AT THE LOWER EDGE

1715.0MHz

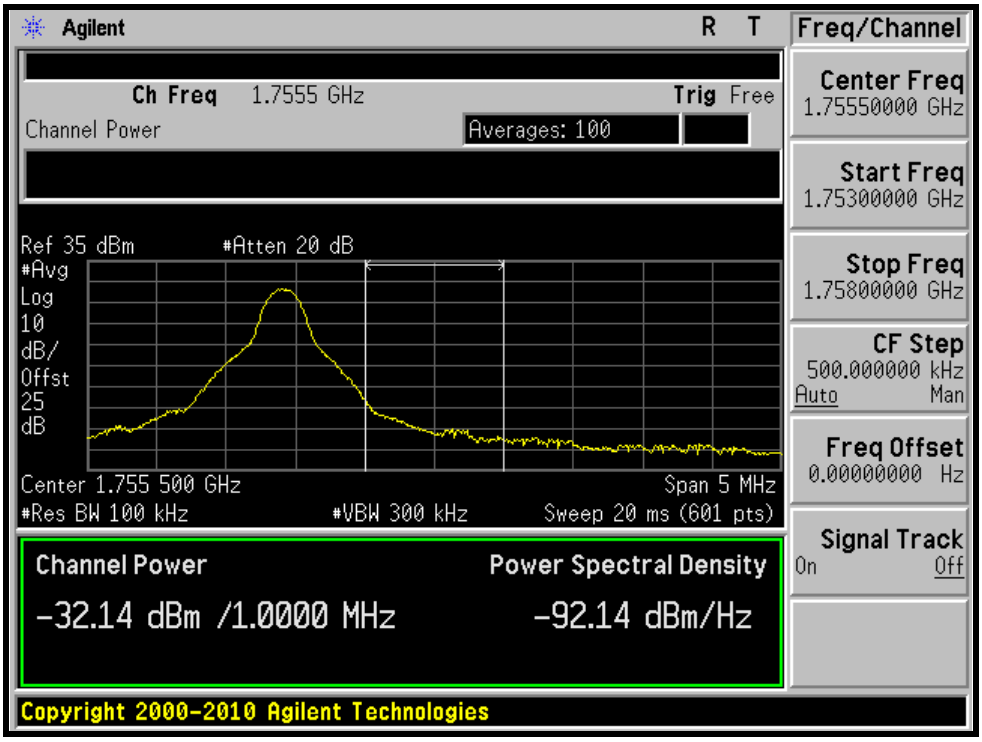


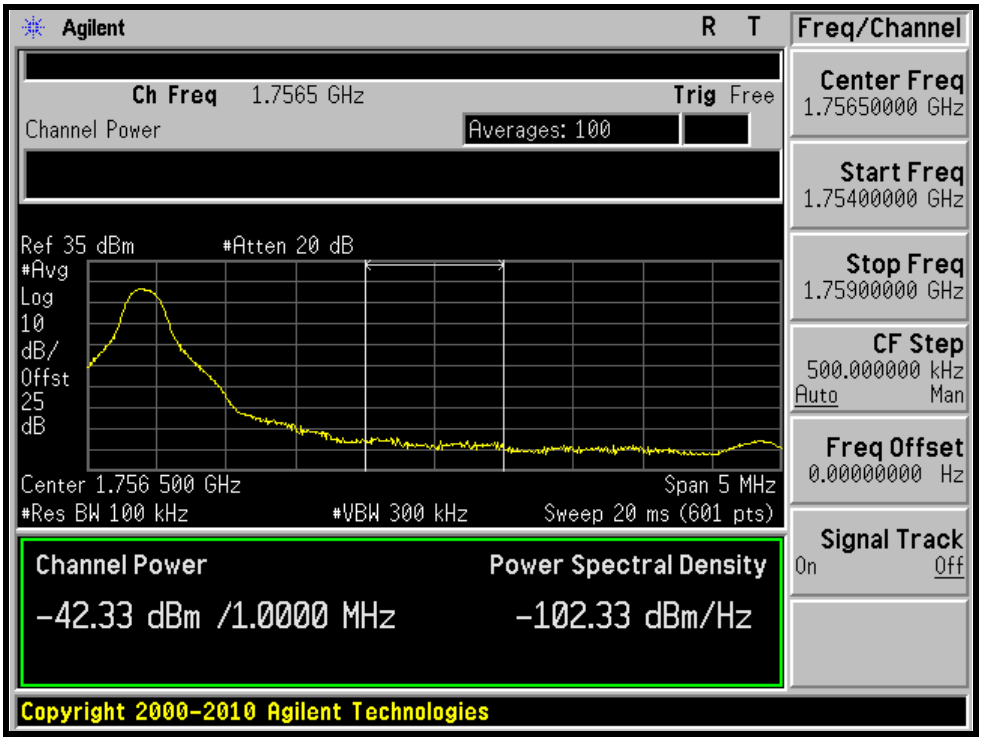


LTE Band 4

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB ALLOCATED AT THE UPPER EDGE

1750.0MHz

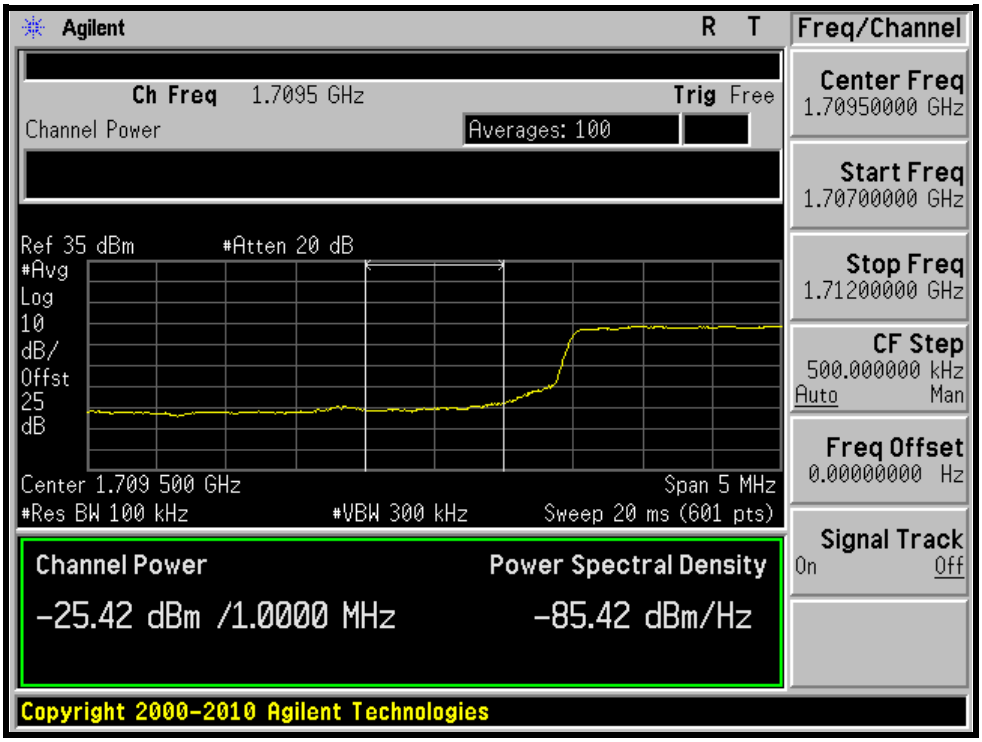


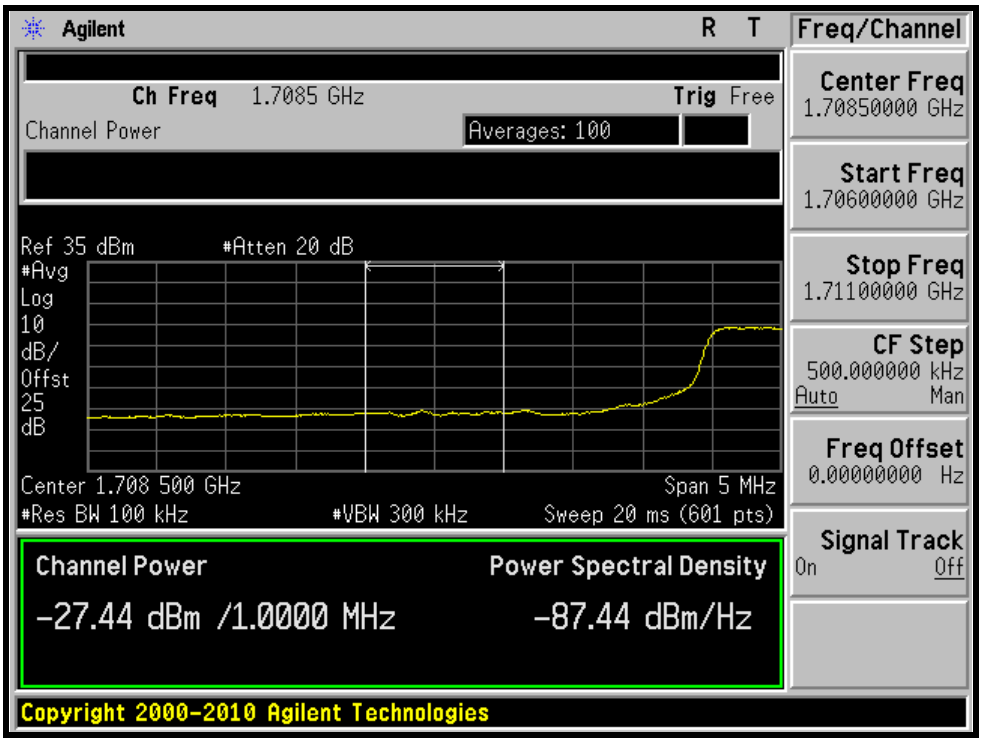


LTE Band 4

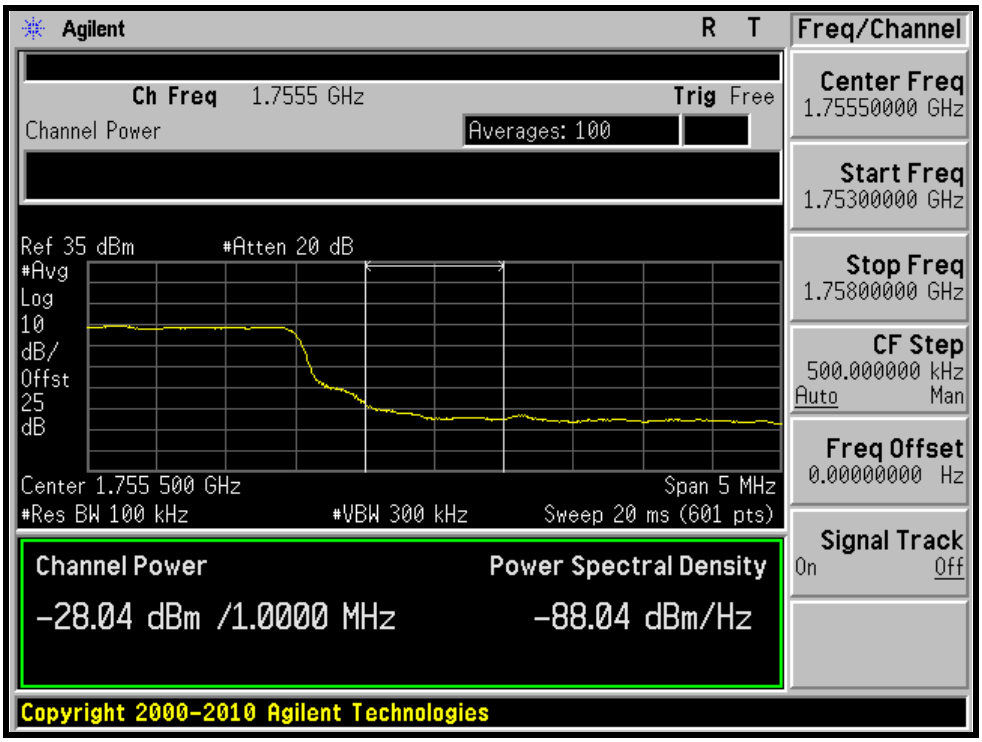
CHANNEL BANDWIDTH: 10MHz / QPSK / 100% RB ALLOCATION

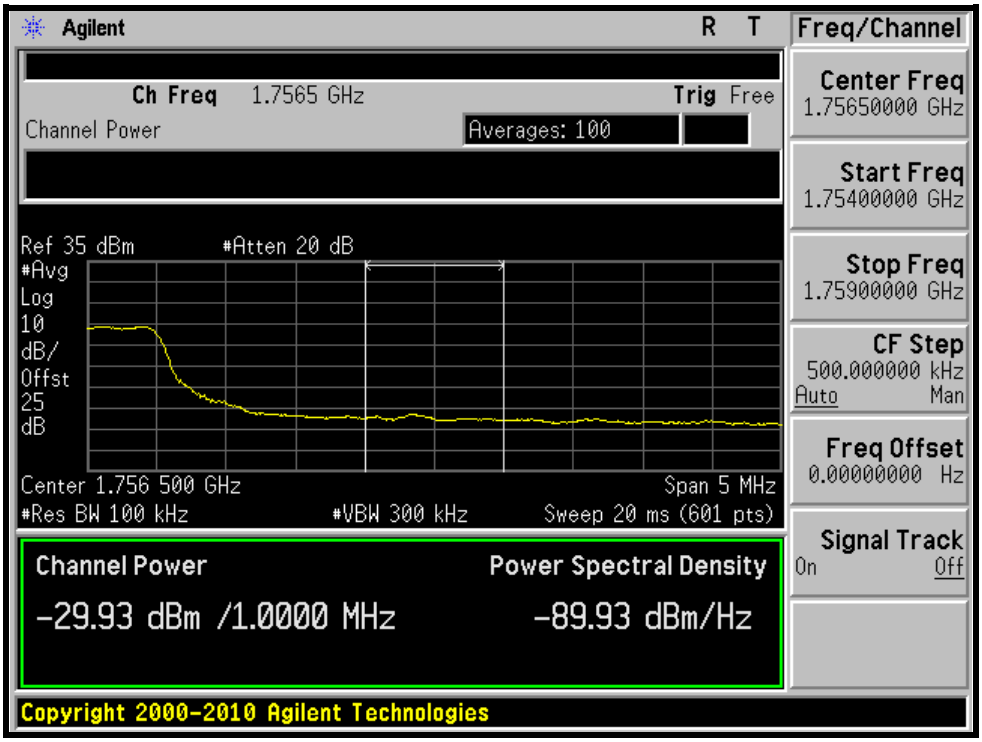
1715.0MHz





1750.0MHz

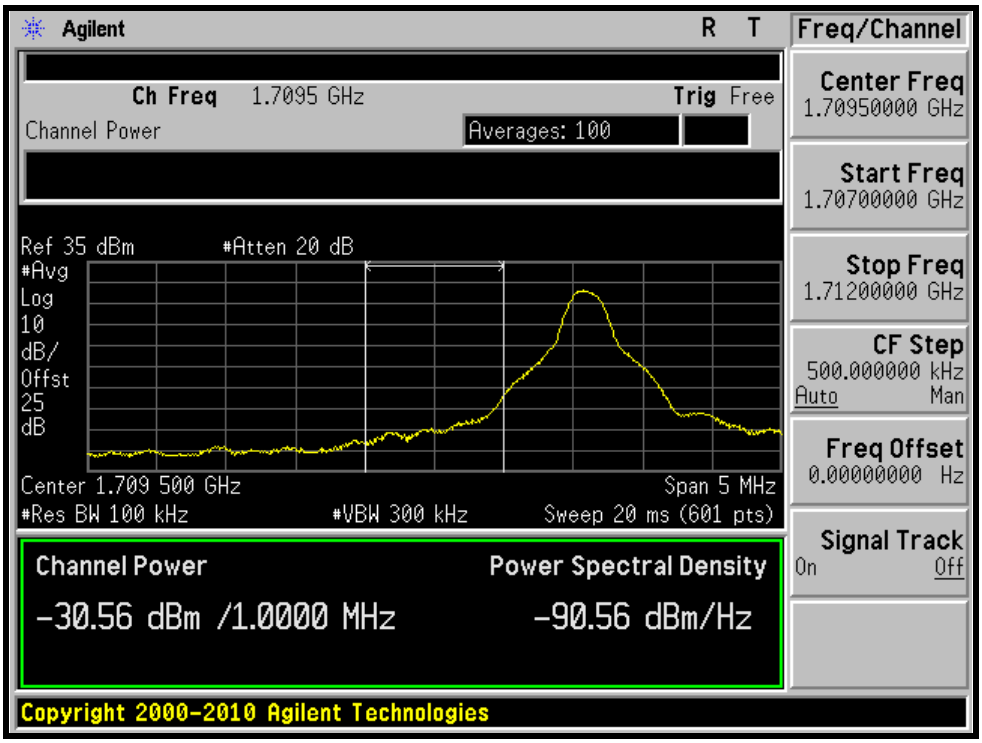

Agilent
R T
Freq/Channel
Ch Freq 1.7555 GHz
Trig Free
Channel Power
Averages: 100
Center Freq
1.75550000 GHz
Start Freq
1.75300000 GHz
Stop Freq
1.75800000 GHz
CF Step
500.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 35 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
25
dB
Center 1.755 500 GHz
Span 5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 20 ms (601 pts)
Channel Power
-28.04 dBm /1.0000 MHz
Power Spectral Density
-88.04 dBm/Hz
Copyright 2000-2010 Agilent Technologies

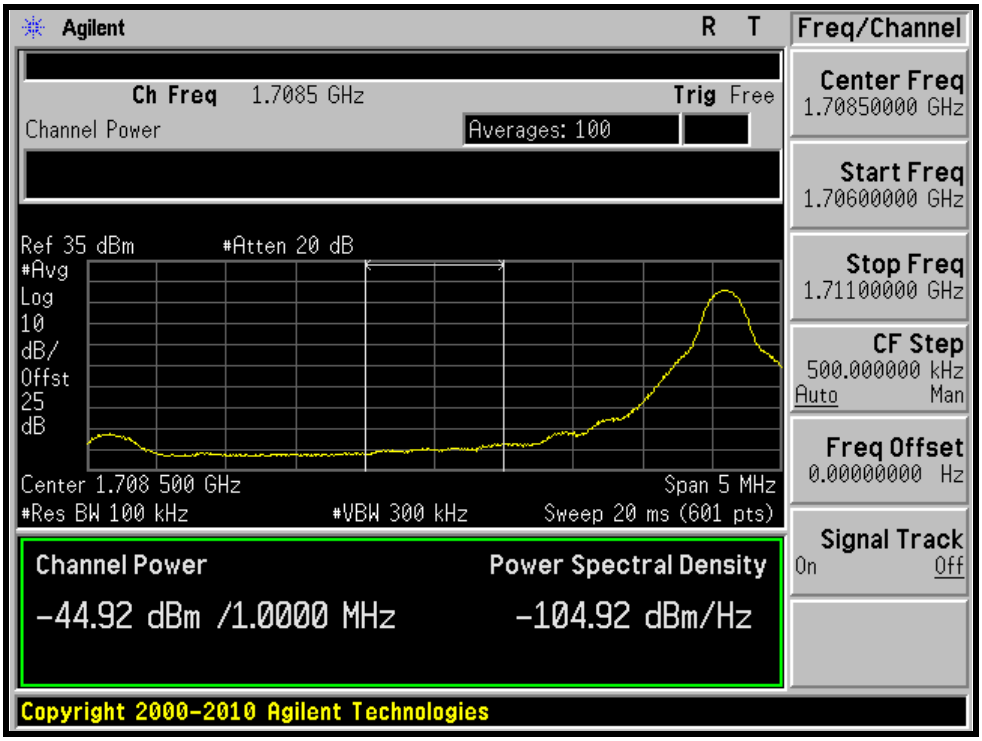

Agilent
R T
Freq/Channel
Ch Freq 1.7565 GHz
Trig Free
Channel Power
Averages: 100
Center Freq
1.75650000 GHz
Start Freq
1.75400000 GHz
Stop Freq
1.75900000 GHz
CF Step
500.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Ref 35 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
25
dB
Center 1.756 500 GHz
Span 5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 20 ms (601 pts)
Channel Power
-29.93 dBm /1.0000 MHz
Power Spectral Density
-89.93 dBm/Hz
Copyright 2000-2010 Agilent Technologies

LTE Band 4

CHANNEL BANDWIDTH: 10MHz / 16QAM / 1 RB ALLOCATED AT THE LOWER EDGE

1715.0MHz

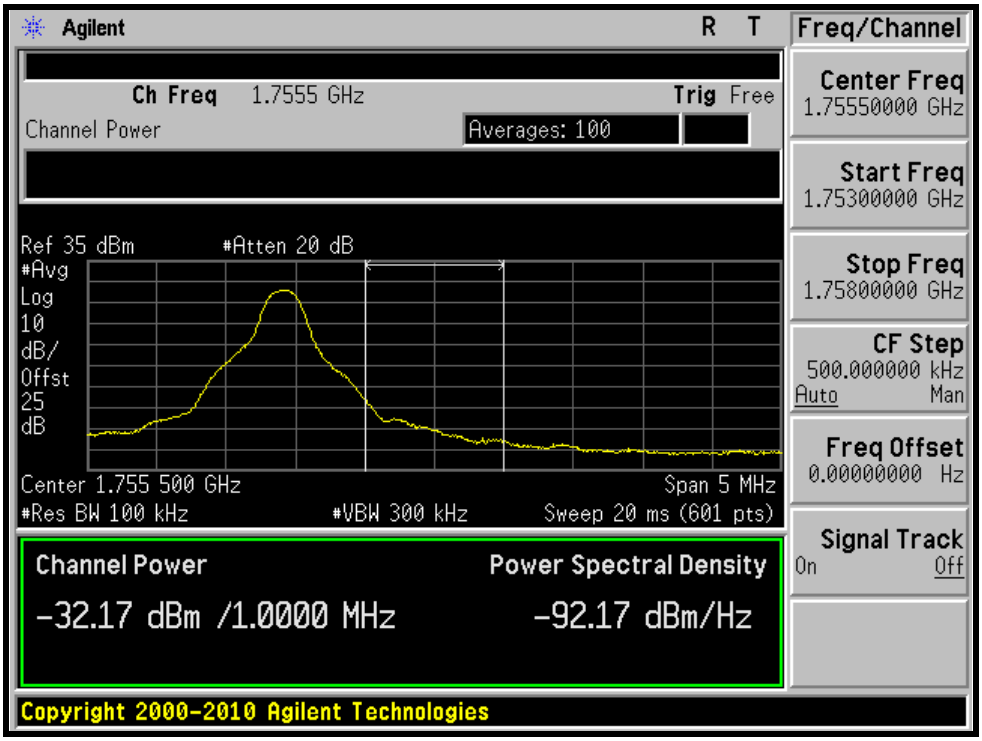


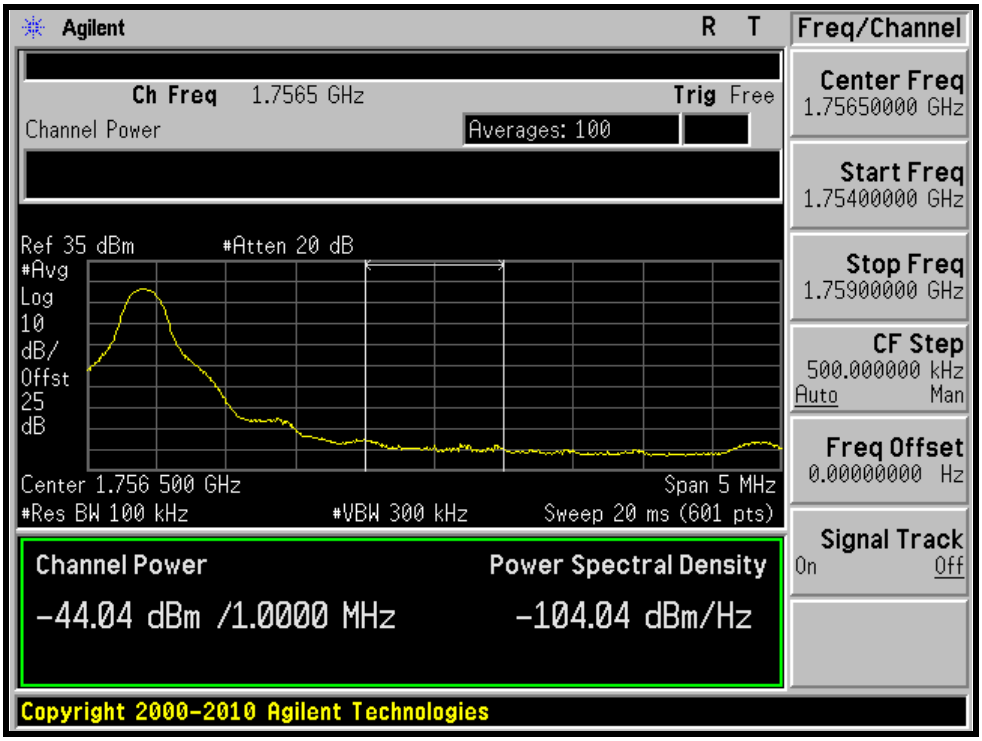


LTE Band 4

CHANNEL BANDWIDTH: 10MHz / 16QAM / 1 RB ALLOCATED AT THE UPPER EDGE

1750.0MHz

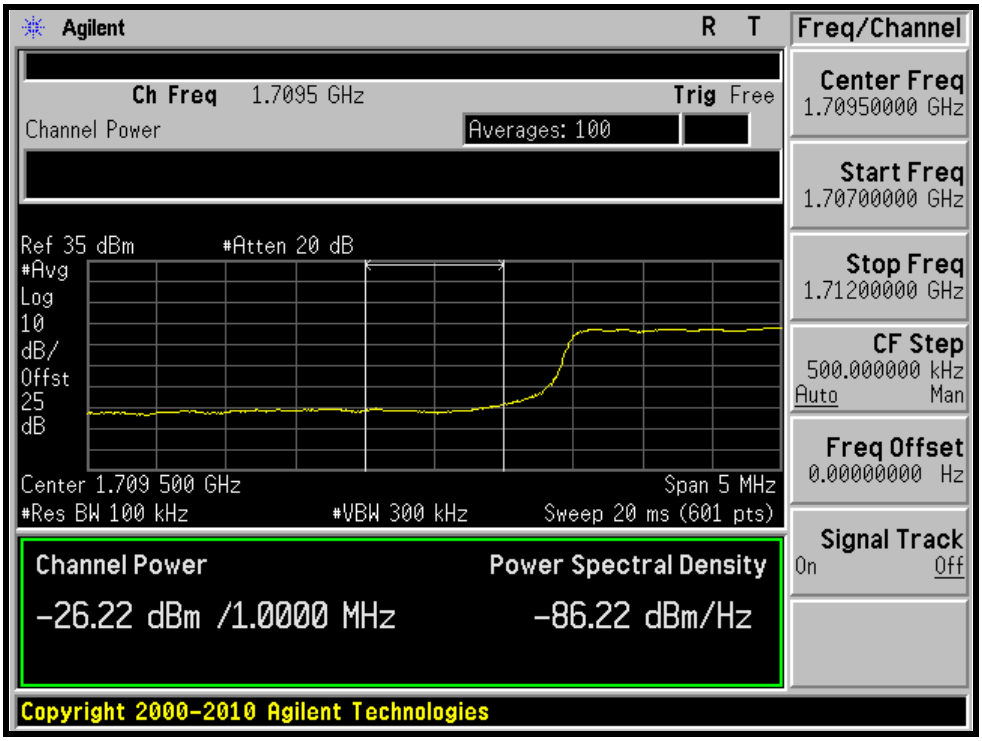


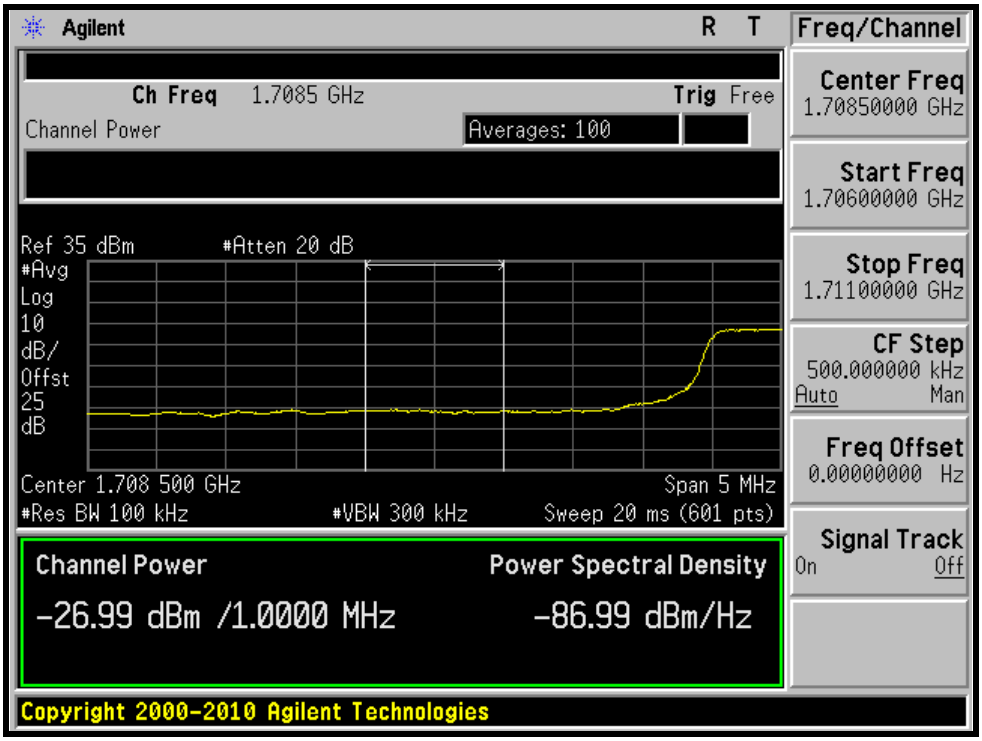


LTE Band 4

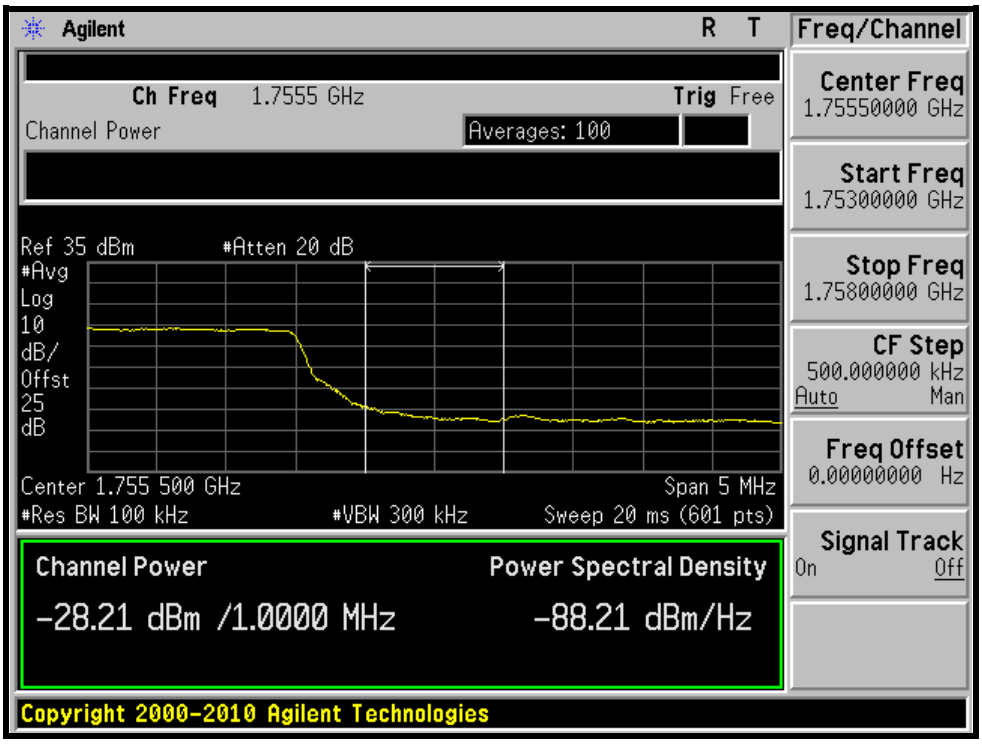
CHANNEL BANDWIDTH: 10MHz / 16QAM / 100% RB ALLOCATION

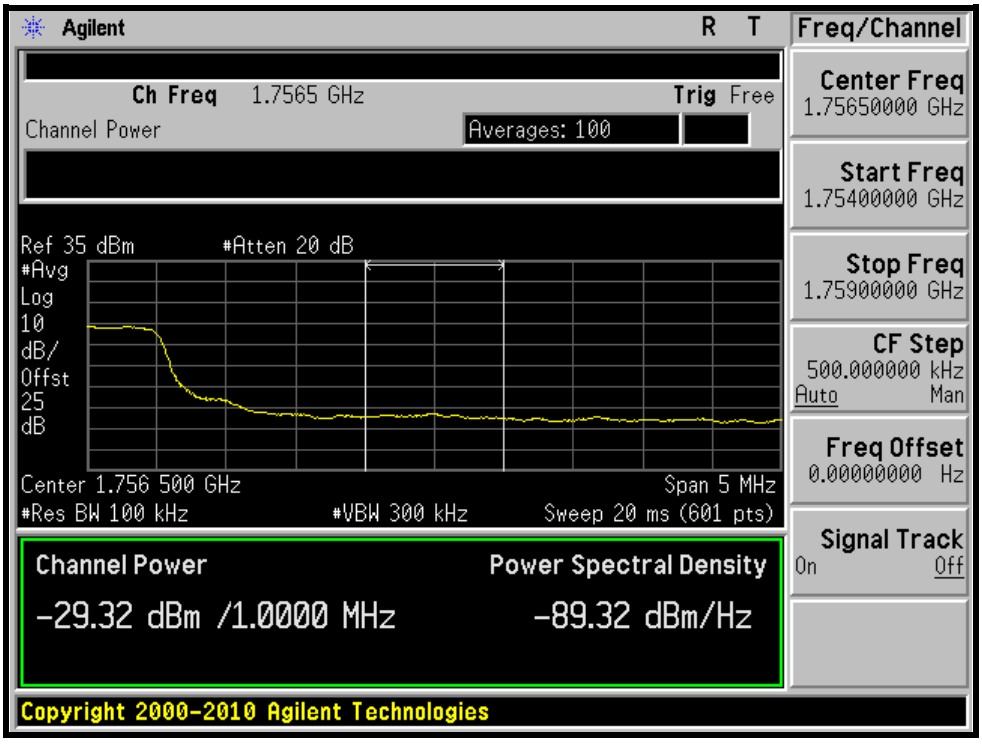
1715.0MHz





1750.0MHz

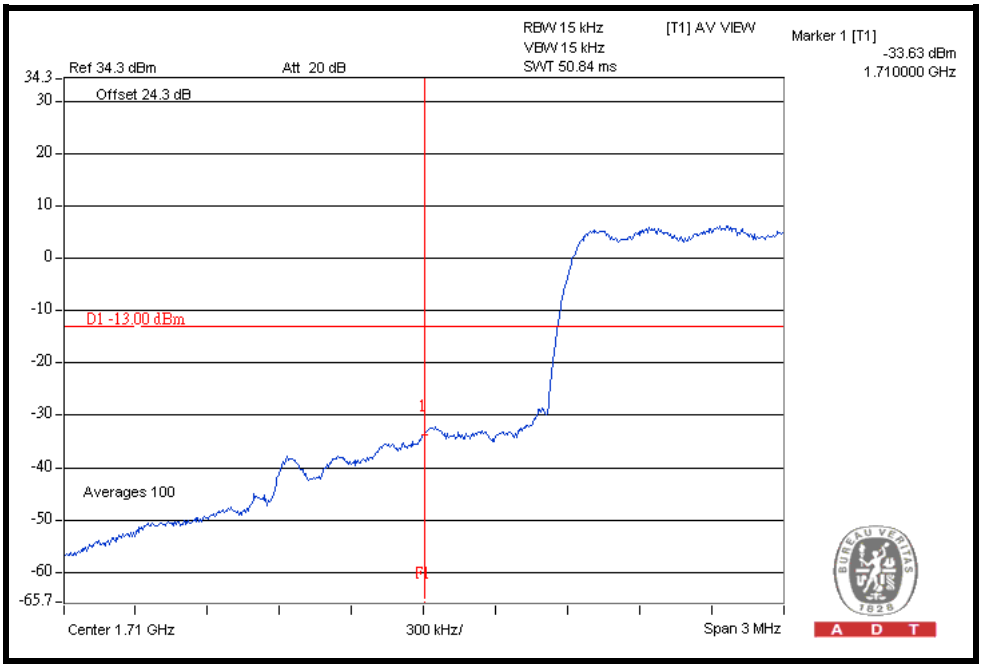

Agilent
R T
Freq/Channel
Ch Freq 1.7555 GHz
Trig Free
Channel Power
Averages: 100
Ref 35 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
25
dB
Center 1.755 500 GHz
Span 5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 20 ms (601 pts)
Channel Power
-28.21 dBm /1.0000 MHz
Power Spectral Density
-88.21 dBm/Hz
Center Freq
1.75550000 GHz
Start Freq
1.75300000 GHz
Stop Freq
1.75800000 GHz
CF Step
500.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Copyright 2000-2010 Agilent Technologies


Agilent
R T
Freq/Channel
Ch Freq 1.7565 GHz
Trig Free
Channel Power
Averages: 100
Ref 35 dBm
#Atten 20 dB
#Avg
Log
10
dB/
Offst
25
dB
Center 1.756 500 GHz
Span 5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 20 ms (601 pts)
Channel Power
-29.32 dBm /1.0000 MHz
Power Spectral Density
-89.32 dBm/Hz
Center Freq
1.75650000 GHz
Start Freq
1.75400000 GHz
Stop Freq
1.75900000 GHz
CF Step
500.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Copyright 2000-2010 Agilent Technologies

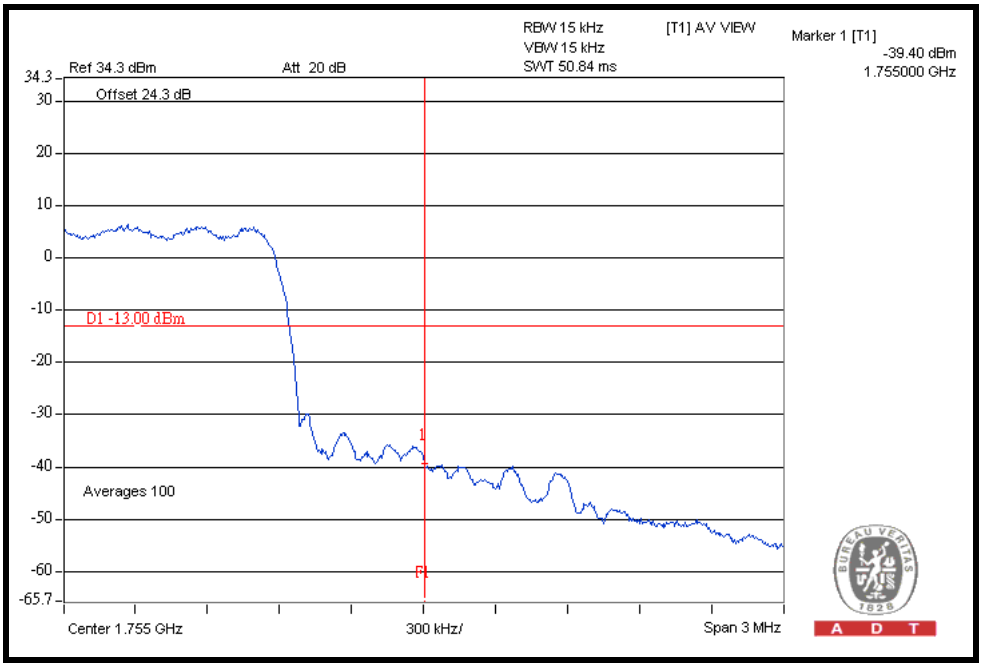
CDMA BC 15 Band

CDMA

LOWER BAND EDGE

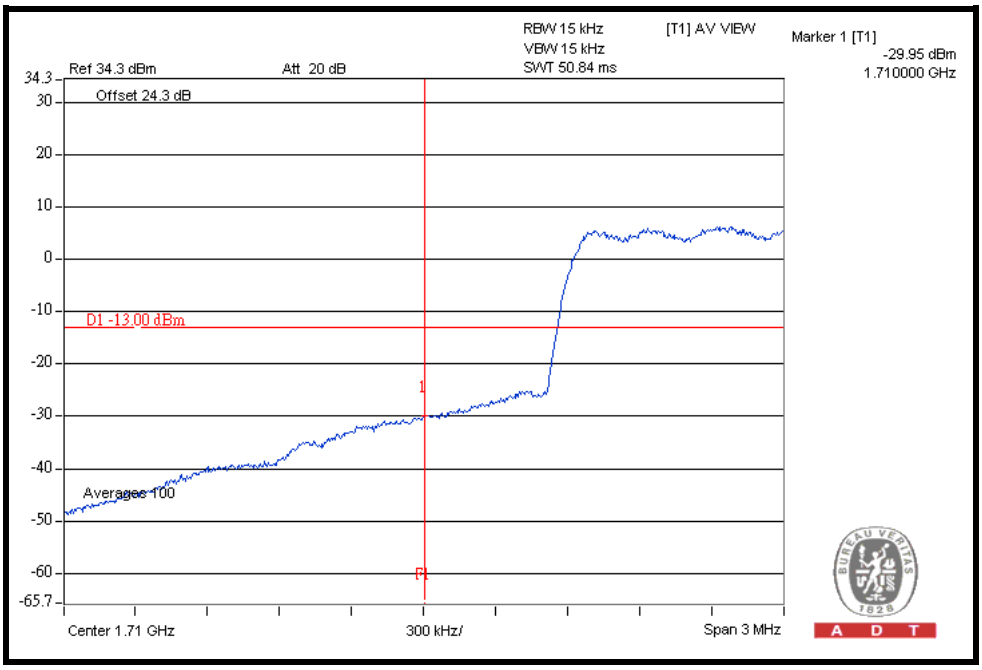


HIGHER BAND EDGE

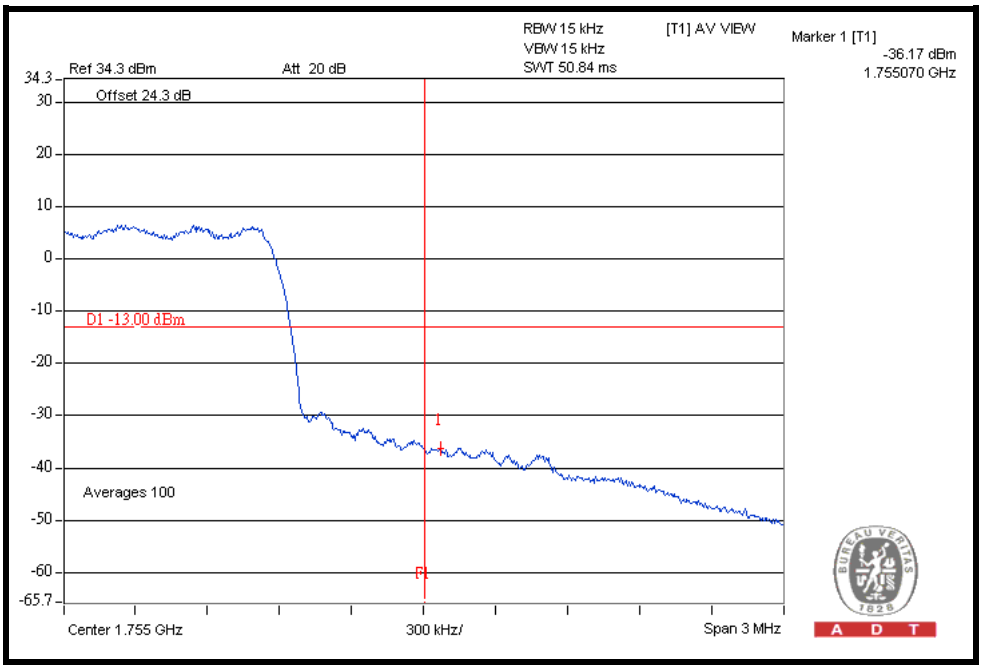


1xEVDO Rev. A MODE

LOWER BAND EDGE

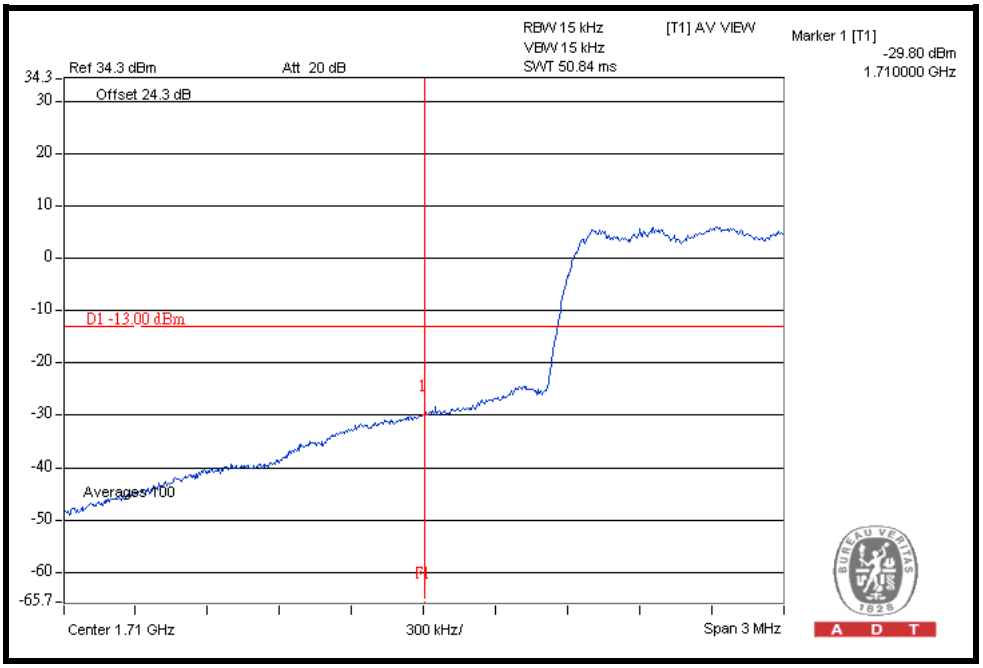


HIGHER BAND EDGE

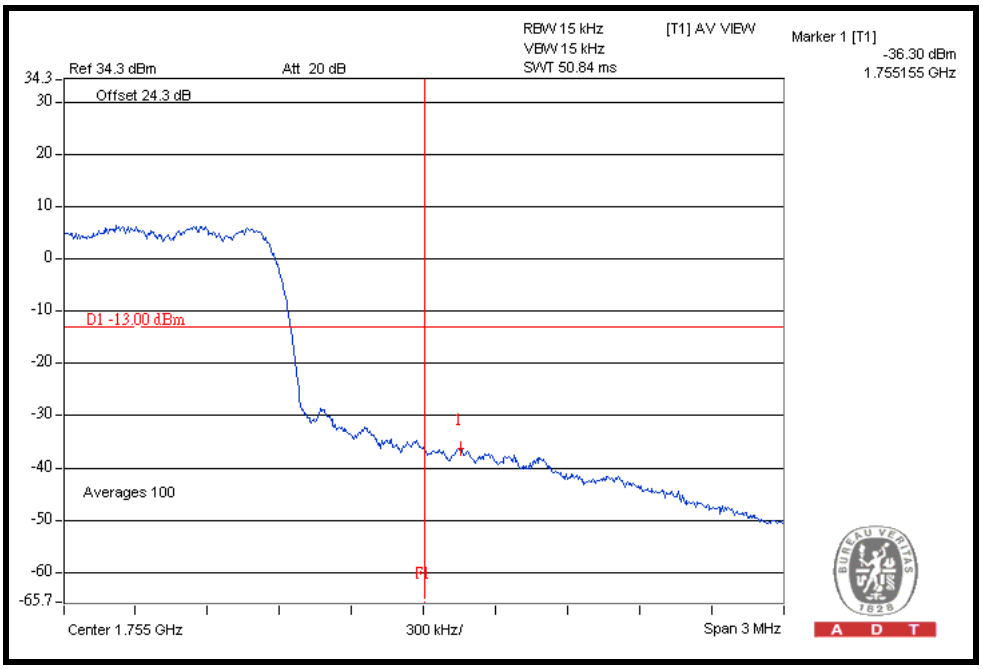


1xEVDO Rev. 0 MODE

LOWER BAND EDGE



HIGHER BAND EDGE



4.6 CONDUCTED SPURIOUS EMISSIONS

4.6.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
* ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100039	Jan. 11, 2011	Jan. 10, 2012
* Wainwright Instruments Band Reject Filter	WRCG 1710/1785-1690/1805-60/12SS	SN1	Oct. 28, 2011	Oct. 27, 2012
* Wainwright Instruments High Pass Filter	WHK3.1/18G-10SS	SN3	Jun. 14, 2011	Jun. 13, 2012
* Mini-Circuits Power Splitter	ZAPD-4	NA	Mar. 24, 2011	Mar. 23, 2012
* Hewlett Packard RF cable	8120-6192	274388	Oct. 22, 2011	Oct. 21, 2012
* JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
* Suhner RF cable	Sucoflex104	274403/4	Aug. 20, 2011	Aug. 19, 2012

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. "*" = These equipments are used for the final measurement.

4.6.3 TEST PROCEDURE

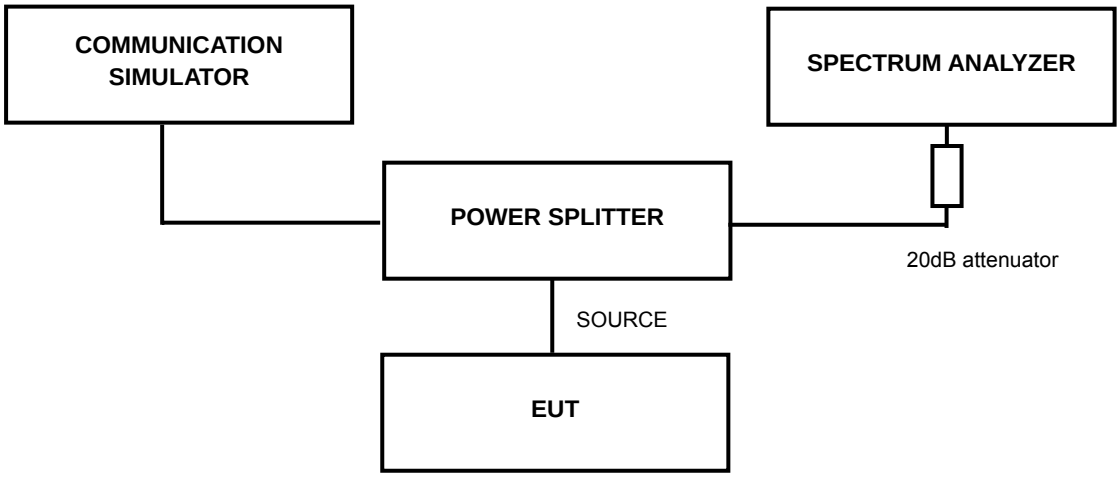
a. The EUT was set up for the maximum peak power with LTE / CDMA link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range.).

b. The conducted spurious emission used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

c. When the spectrum scanned from 30MHz to 3GHz, it shall be connected to the band reject filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=3MHz.

d. When the spectrum scanned from 3GHz to 20GHz, it shall be connected to the high pass filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=3MHz.

4.6.4 TEST SETUP



4.6.5 EUT OPERATING CONDITIONS

a. The EUT makes a phone call to the communication simulator.

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

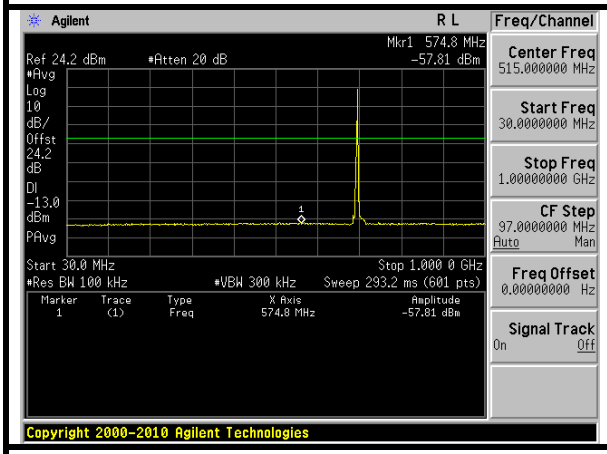
4.6.6 TEST RESULTS

LTE Band 12

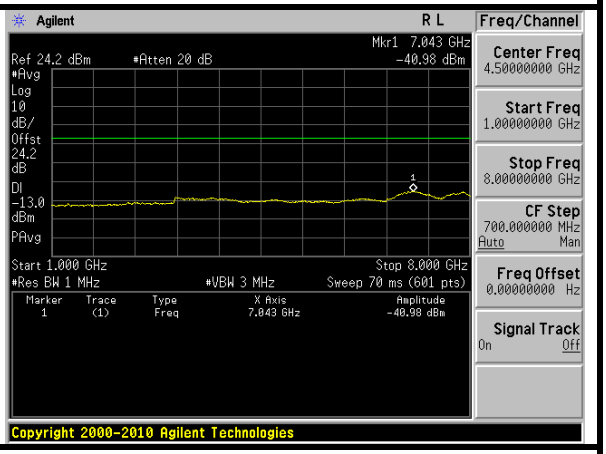
CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB ALLOCATED AT THE UPPER EDGE

CH 23035

30MHz ~ 1GHz

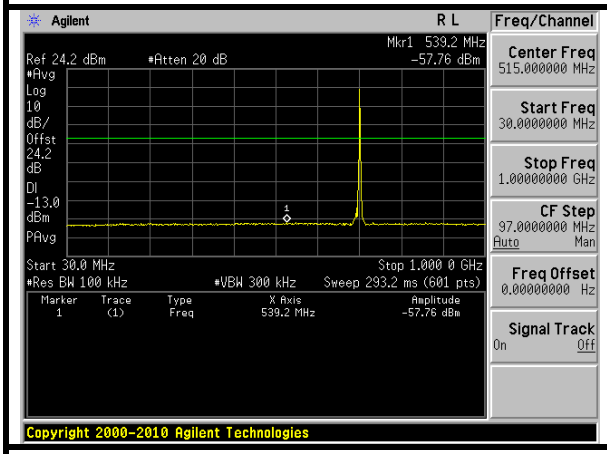


1GHz ~ 8GHz

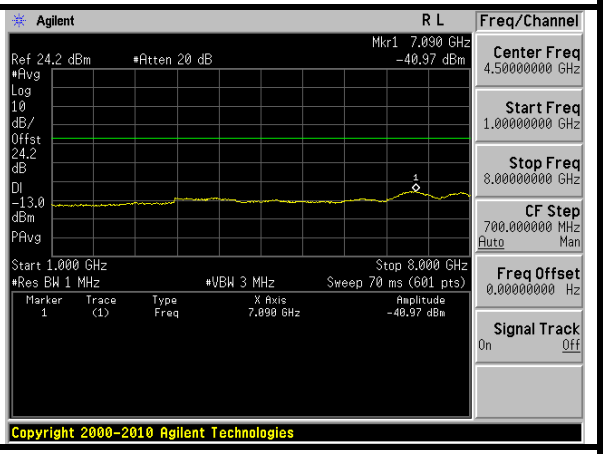


CH 23095

30MHz ~ 1GHz

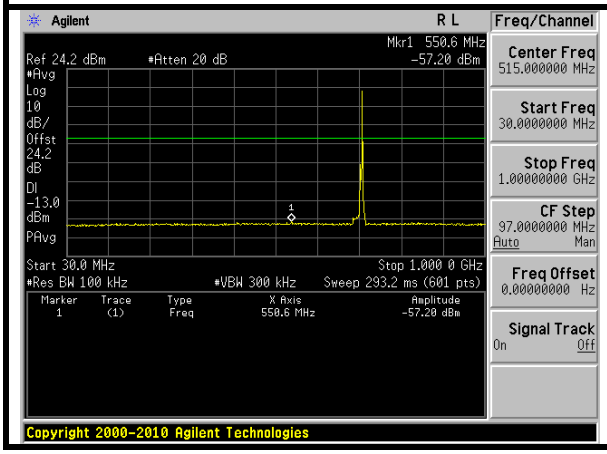


1GHz ~ 8GHz

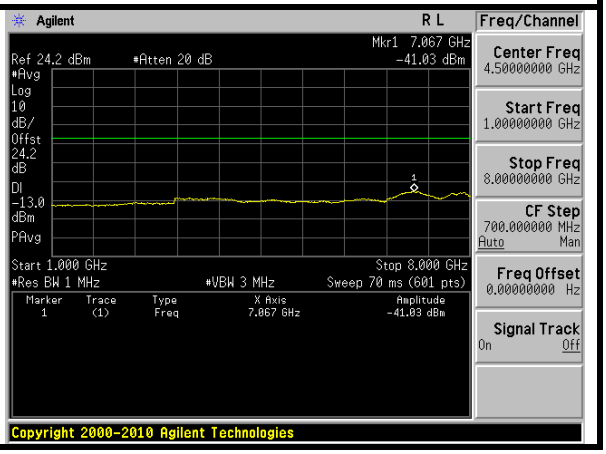


CH 23155

30MHz ~ 1GHz



1GHz ~ 8GHz

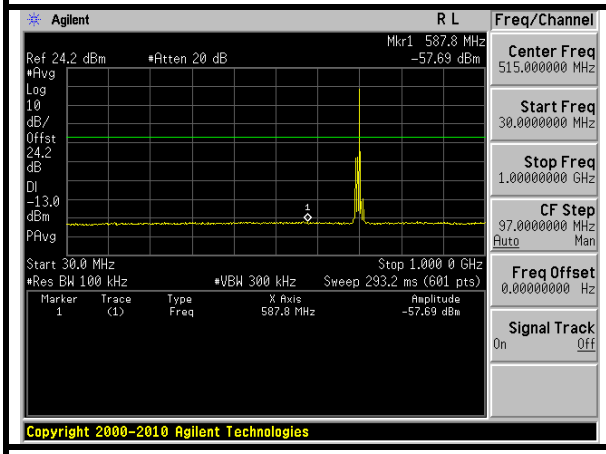


LTE Band 12

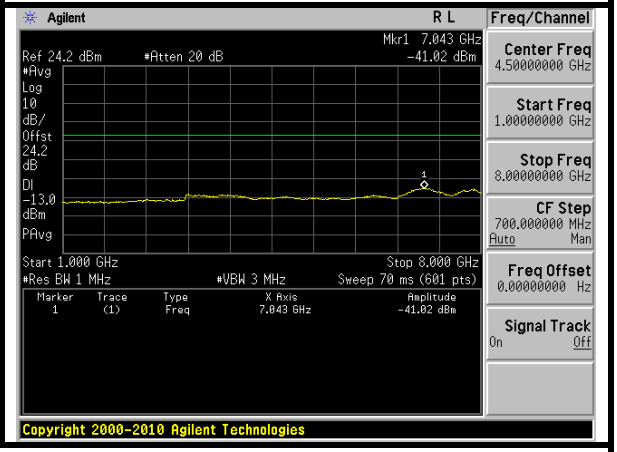
CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB ALLOCATED AT THE UPPER EDGE

CH 23060

30MHz ~ 1GHz

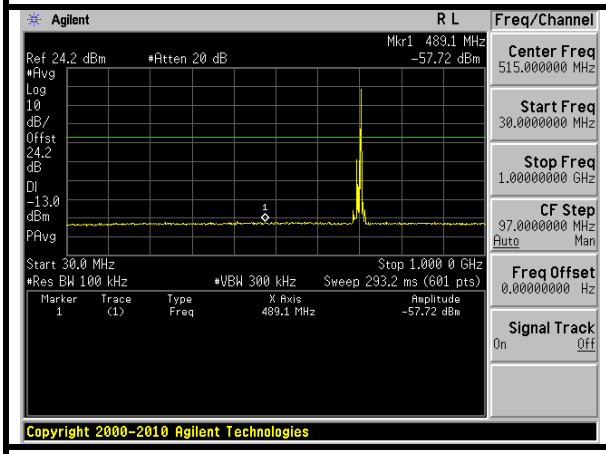


1GHz ~ 8GHz

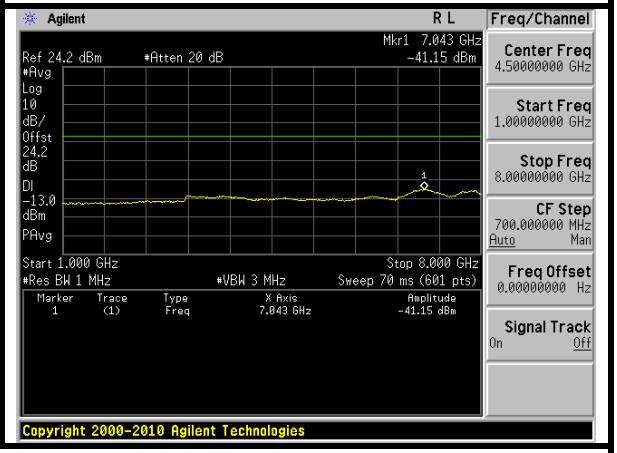


CH 23095

30MHz ~ 1GHz

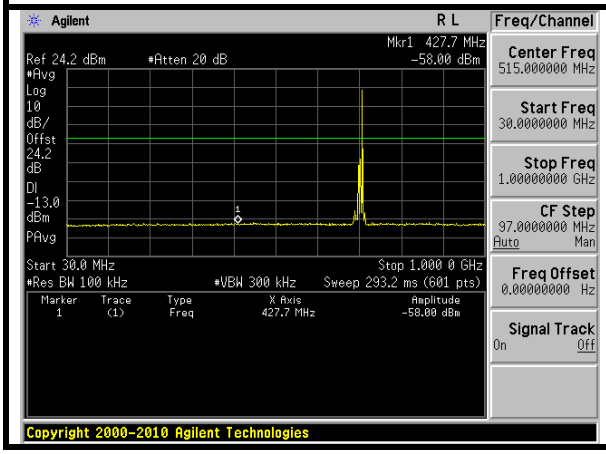


1GHz ~ 8GHz

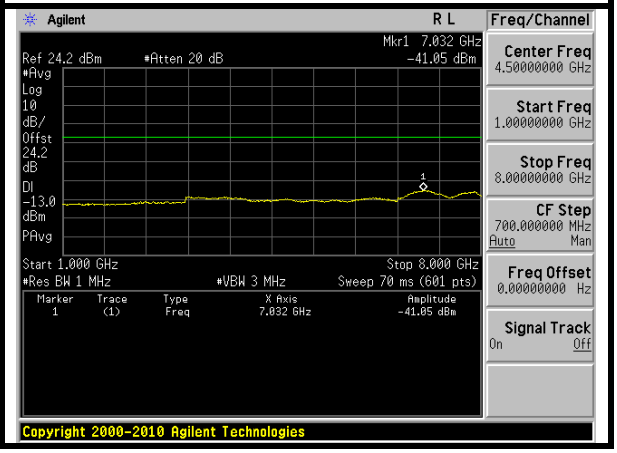


CH 23130

30MHz ~ 1GHz



1GHz ~ 8GHz

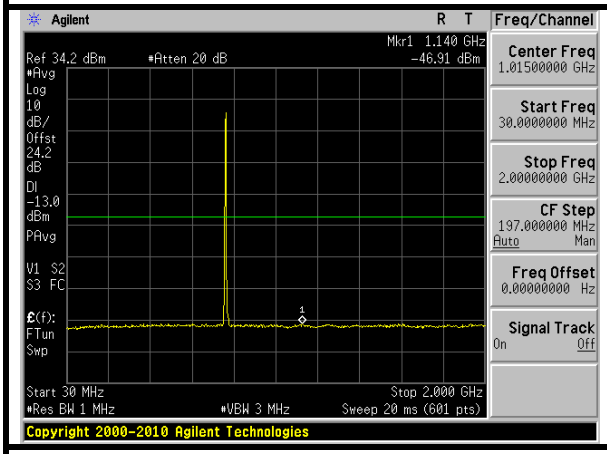


LTE Band 13

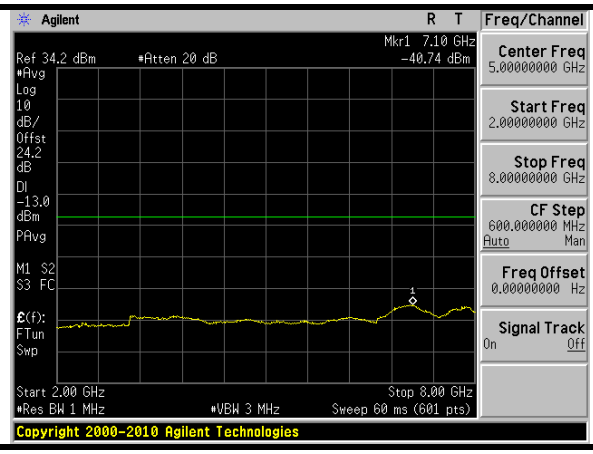
CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB ALLOCATED AT THE LOWER EDGE

CH 23205

30MHz ~ 2GHz

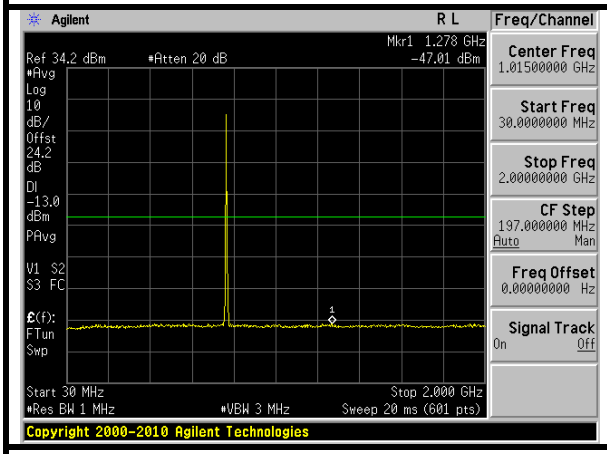


2GHz ~ 8GHz

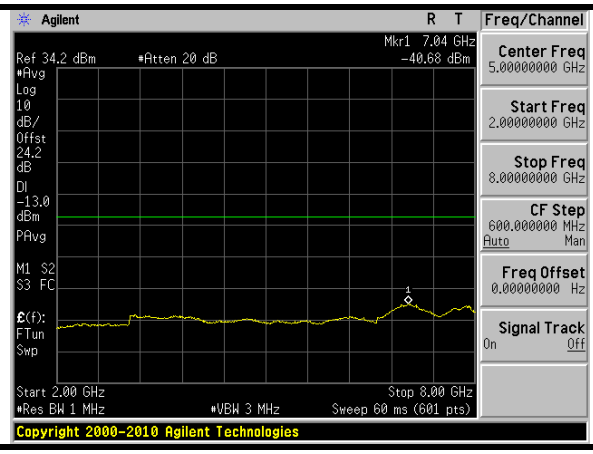


CH 23230

30MHz ~ 2GHz

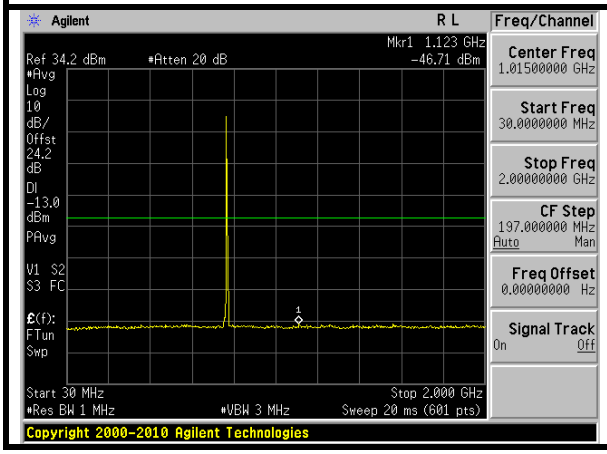


2GHz ~ 8GHz

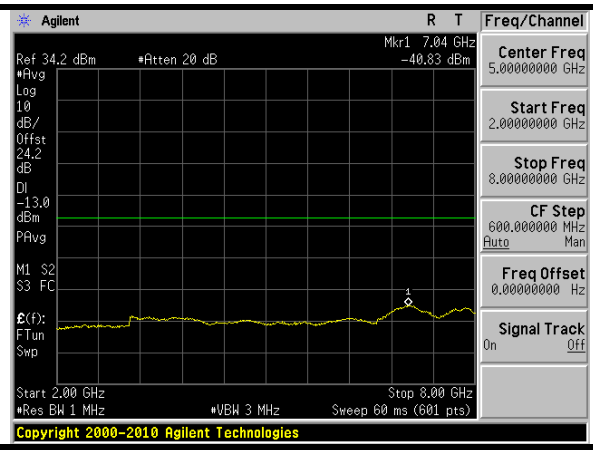


CH 23255

30MHz ~ 2GHz



2GHz ~ 8GHz

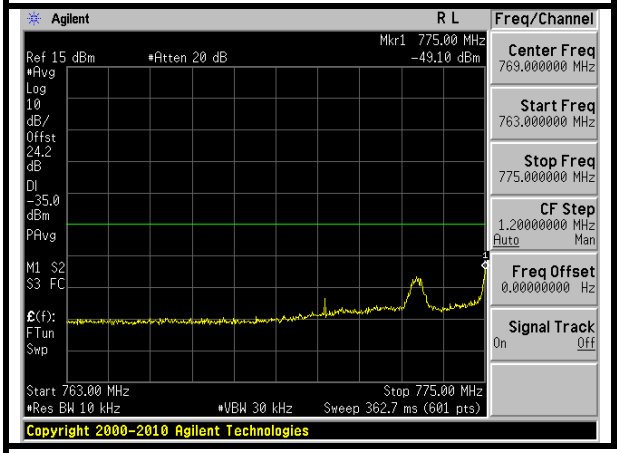


Emission in the 763–775 MHz and 793–805 MHz band

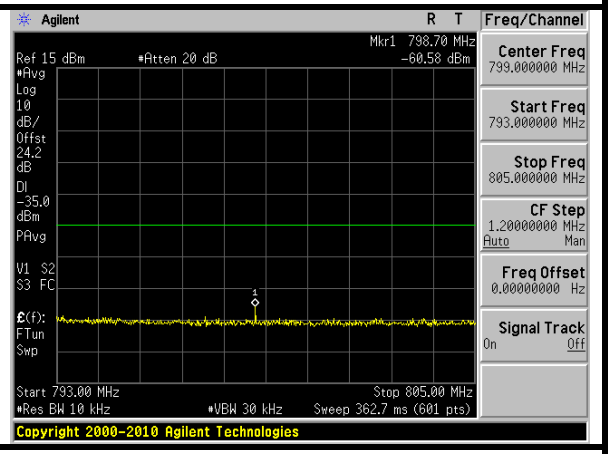
CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB ALLOCATED AT THE LOWER EDGE

CH 23205

763MHz ~ 775MHz

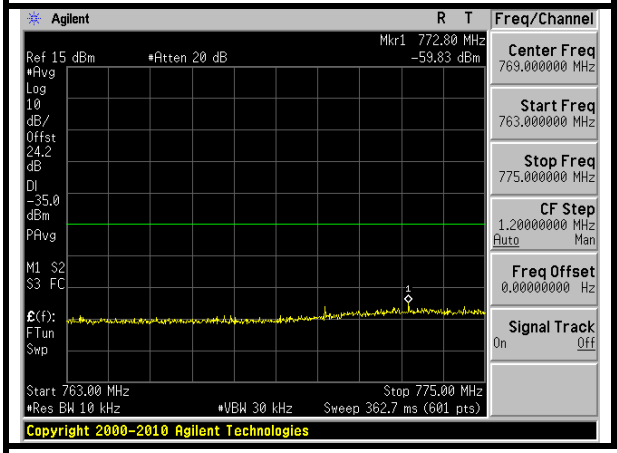


793MHz ~ 805MHz

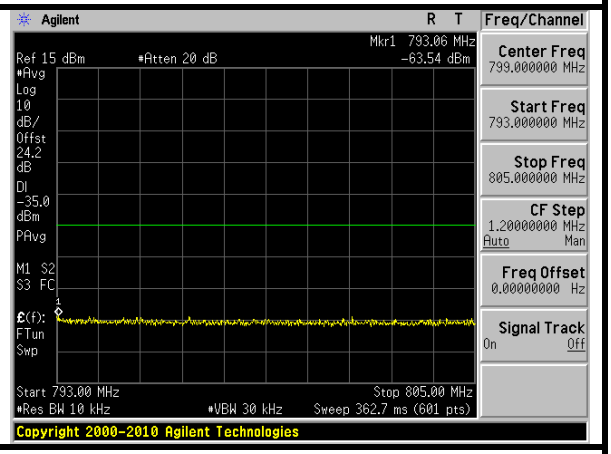


CH 23230

763MHz ~ 775MHz

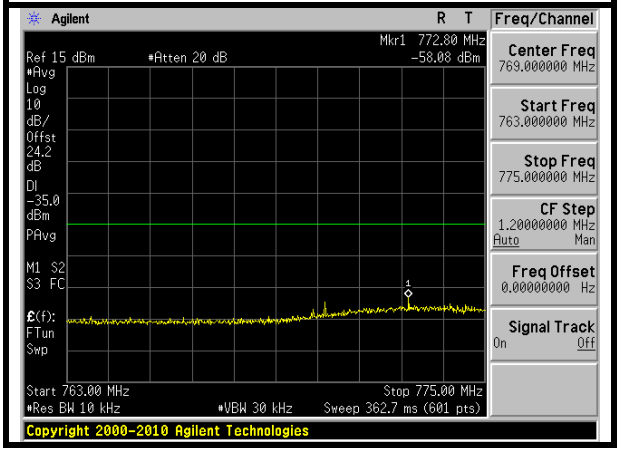


793MHz ~ 805MHz

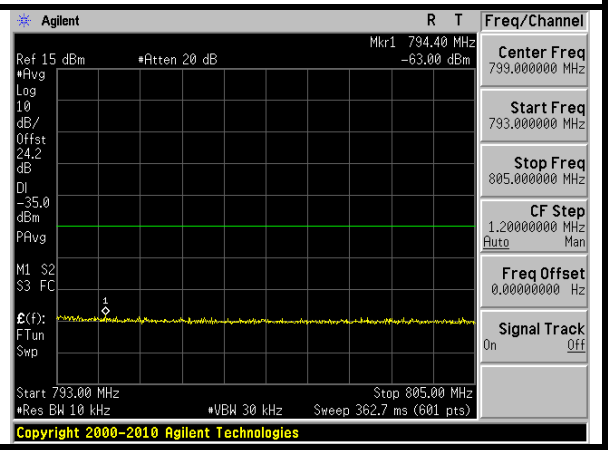


CH 23255

763MHz ~ 775MHz



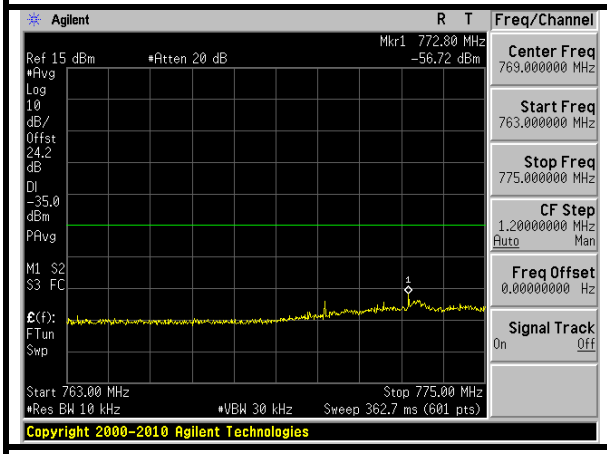
793MHz ~ 805MHz



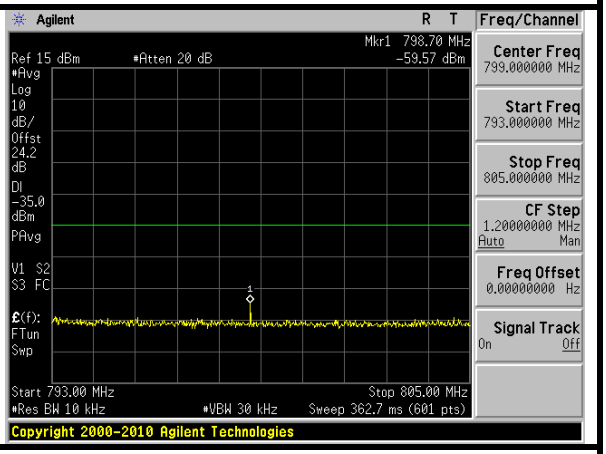
CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB ALLOCATED AT THE UPPER EDGE

CH 23205

763MHz ~ 775MHz

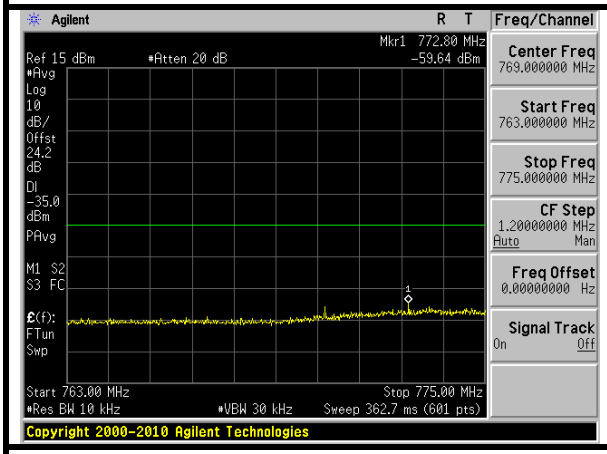


793MHz ~ 805MHz

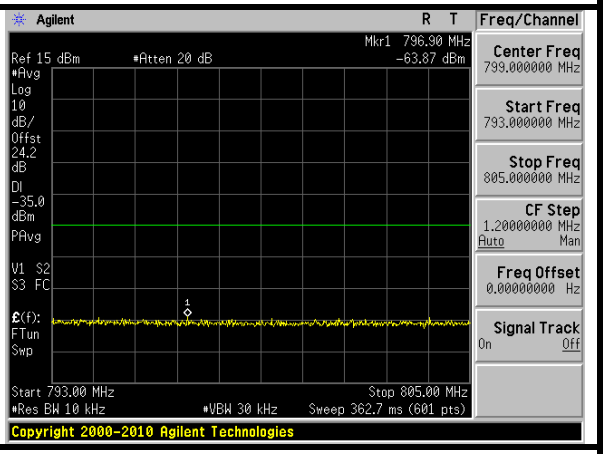


CH 23230

763MHz ~ 775MHz

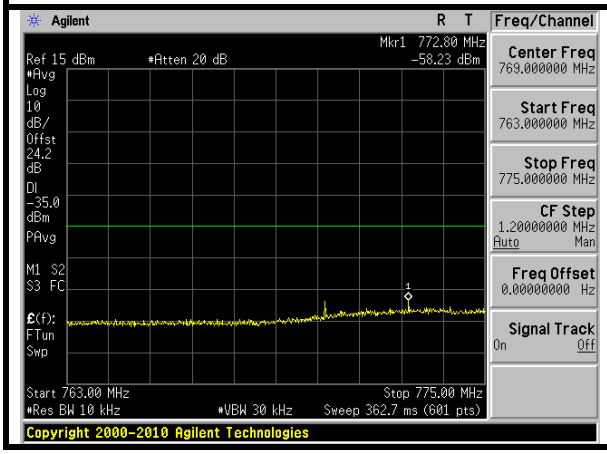


793MHz ~ 805MHz

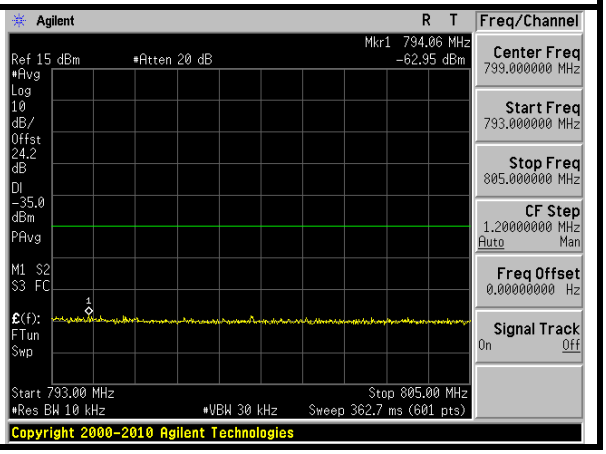


CH 23255

763MHz ~ 775MHz



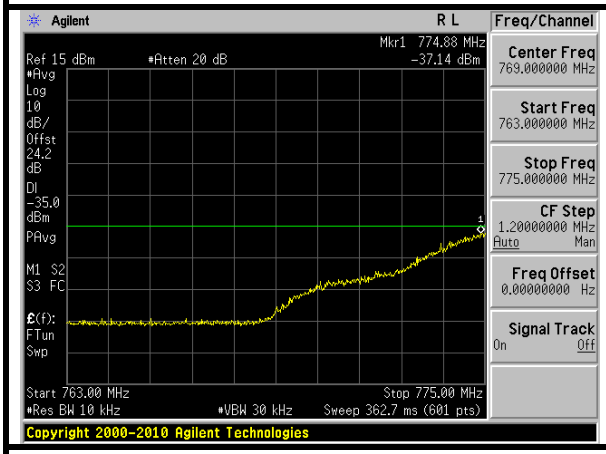
793MHz ~ 805MHz



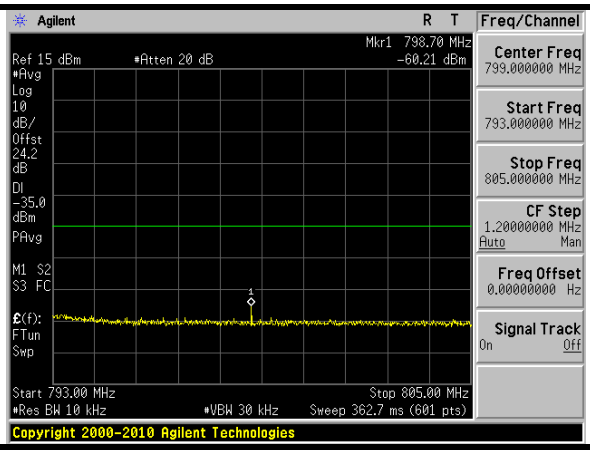
CHANNEL BANDWIDTH: 5MHz / QPSK / 100% RB ALLOCATION

CH 23205

763MHz ~ 775MHz

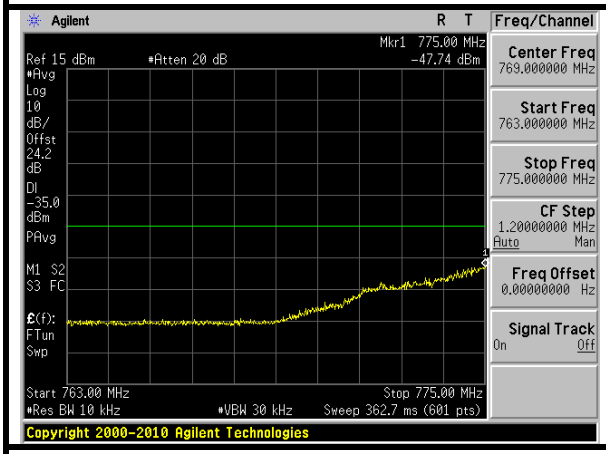


793MHz ~ 805MHz

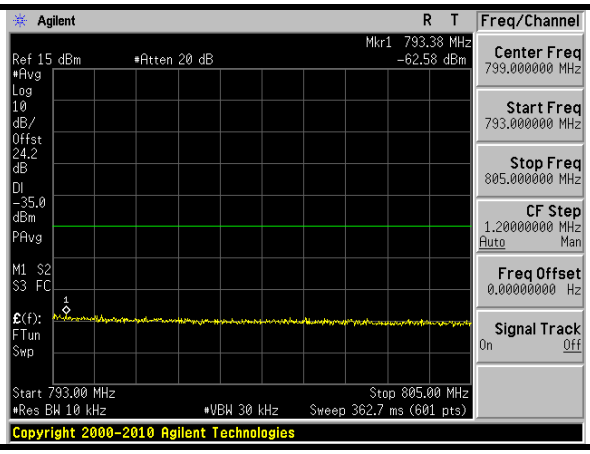


CH 23230

763MHz ~ 775MHz

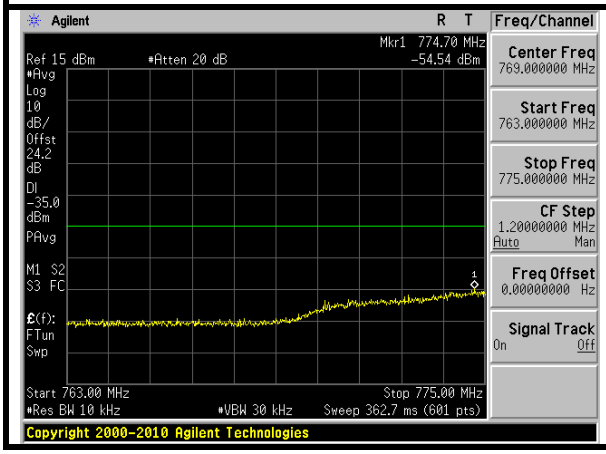


793MHz ~ 805MHz

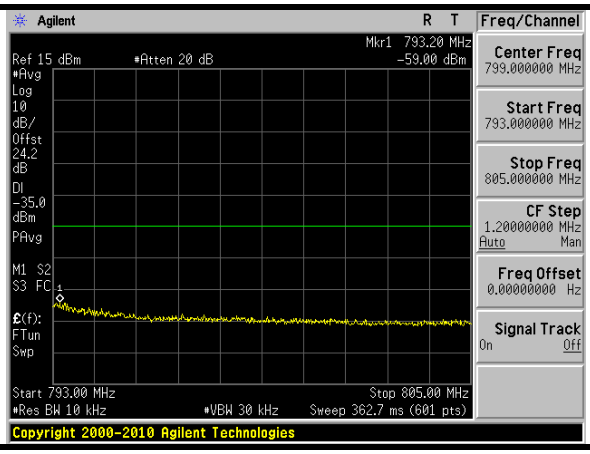


CH 23255

763MHz ~ 775MHz

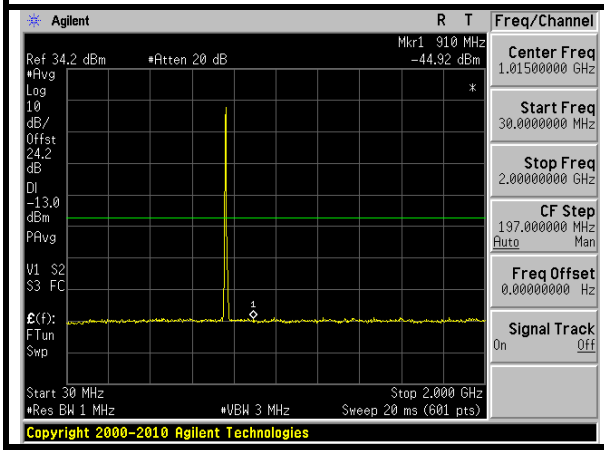
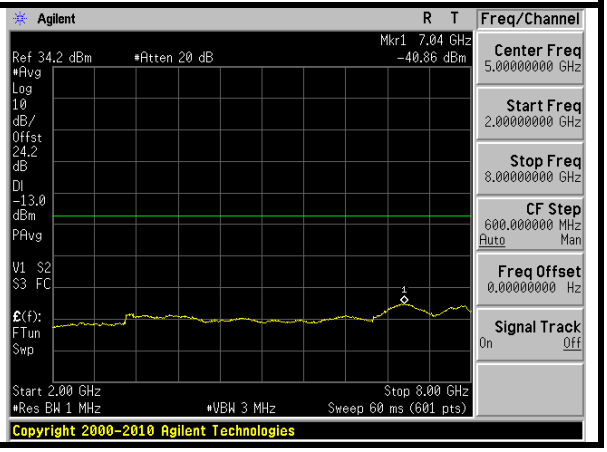


793MHz ~ 805MHz



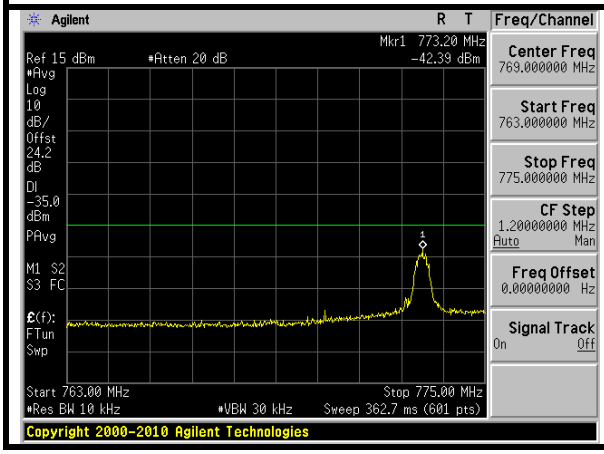
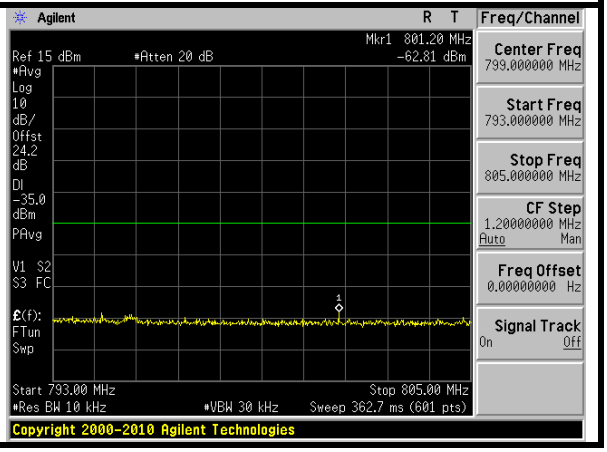
LTE Band 13

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB ALLOCATED AT THE LOWER EDGE

CH 23230	
30MHz ~ 2GHz	2GHz ~ 8GHz
	

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

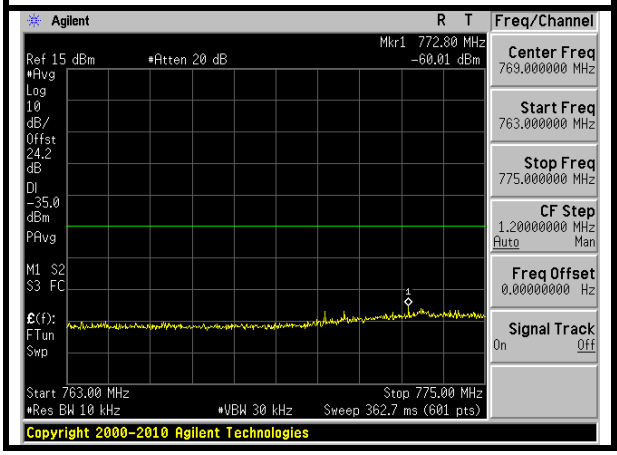
CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB ALLOCATED AT THE LOWER EDGE

CH 23230	
763MHz ~ 775MHz	793MHz ~ 805MHz
	

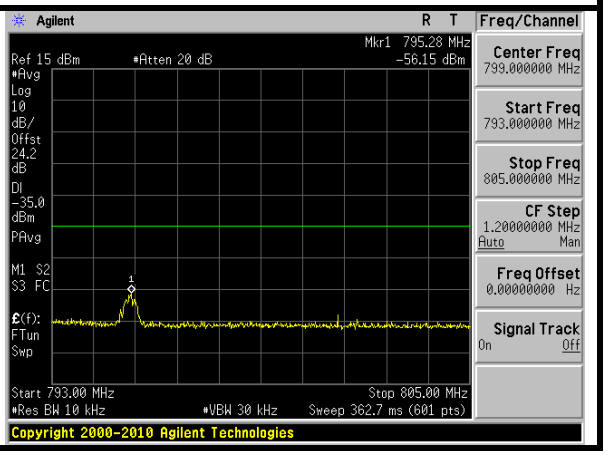
CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB ALLOCATED AT THE UPPER EDGE

CH 23230

763MHz ~ 775MHz



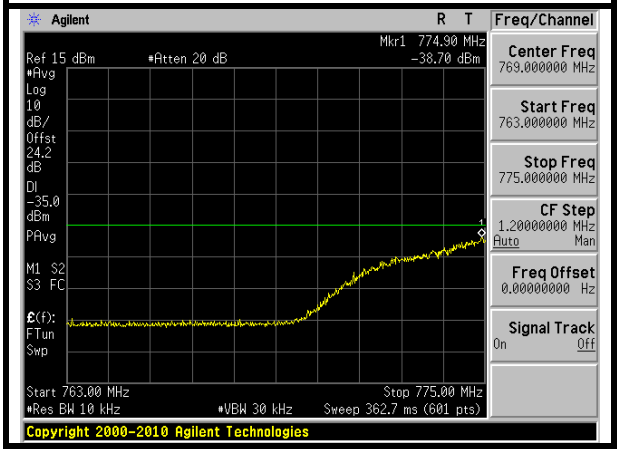
793MHz ~ 805MHz



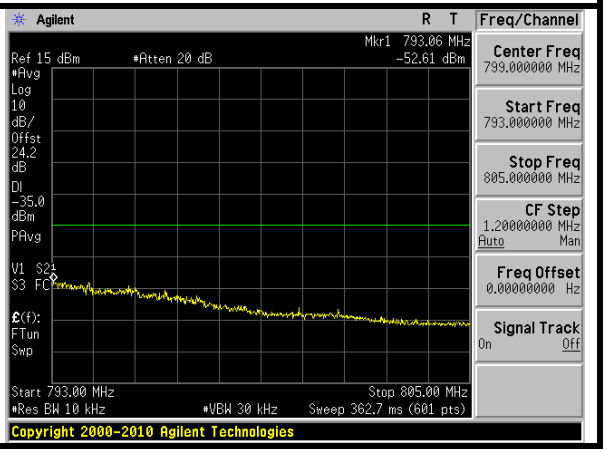
CHANNEL BANDWIDTH: 10MHz / QPSK / 100% RB ALLOCATION

CH 23230

763MHz ~ 775MHz



793MHz ~ 805MHz

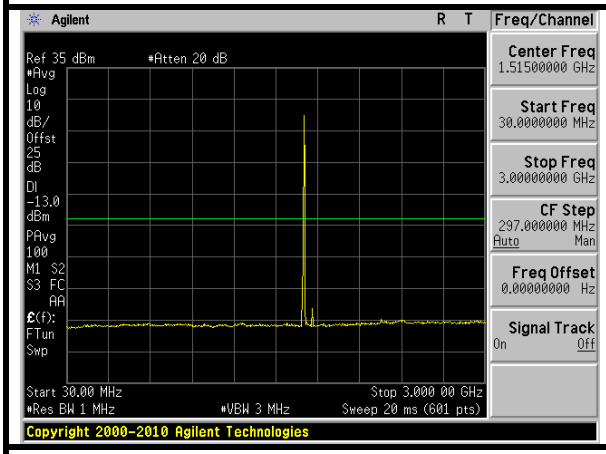


LTE Band 4

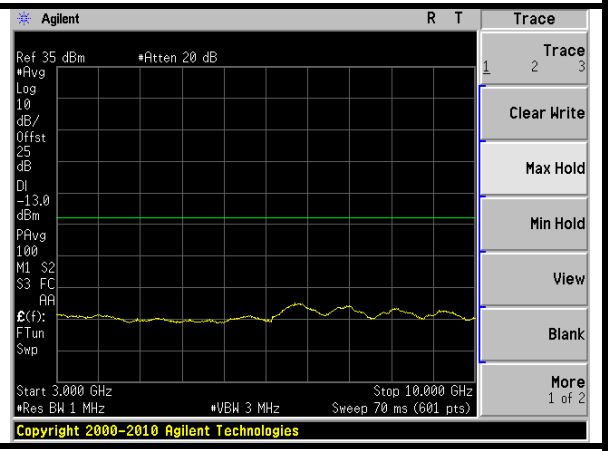
CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB ALLOCATED AT THE UPPER EDGE

CH 19975

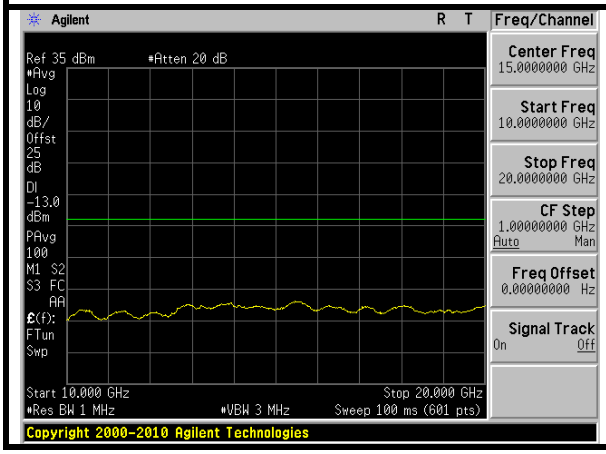
30MHz ~ 1GHz



1GHz ~ 10GHz

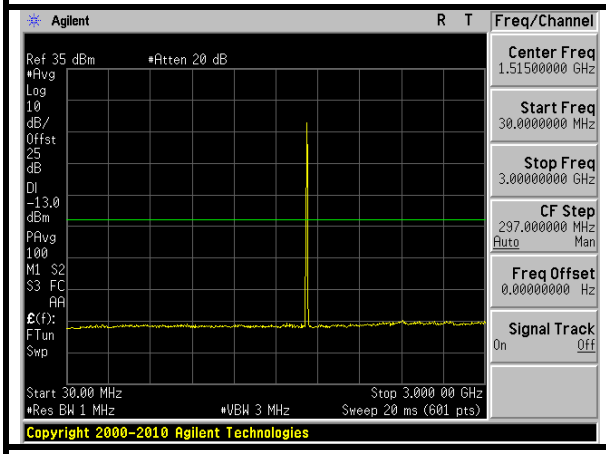


10GHz ~ 20GHz

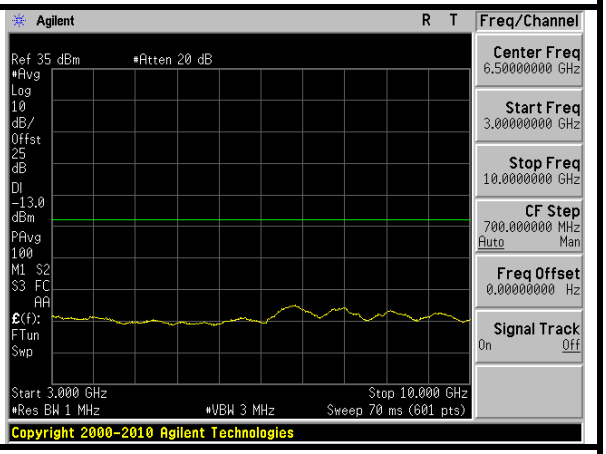


CH 20175

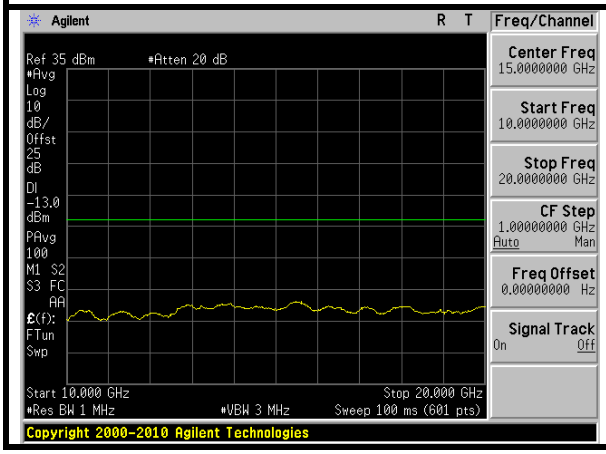
30MHz ~ 1GHz



1GHz ~ 10GHz

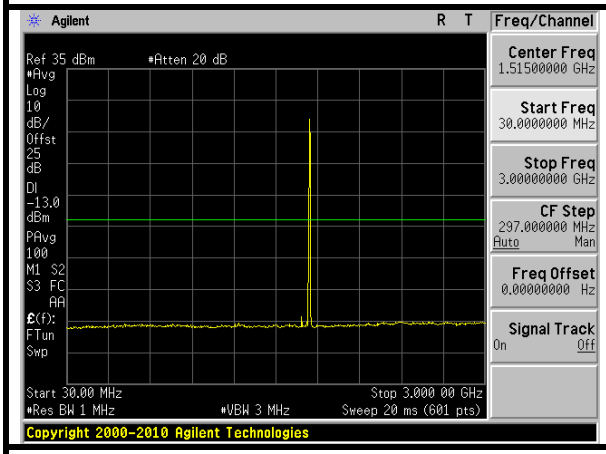


10GHz ~ 20GHz

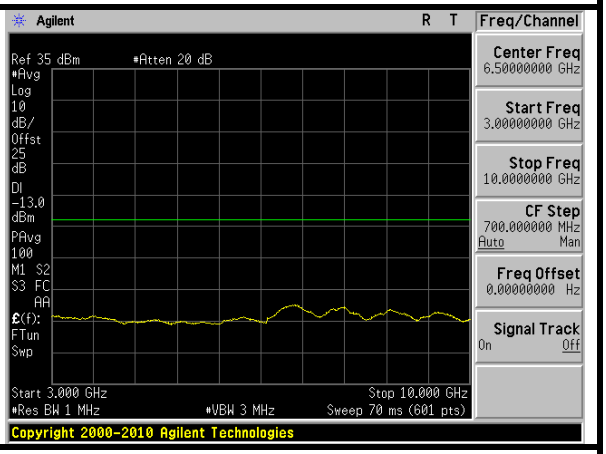


CH 20375

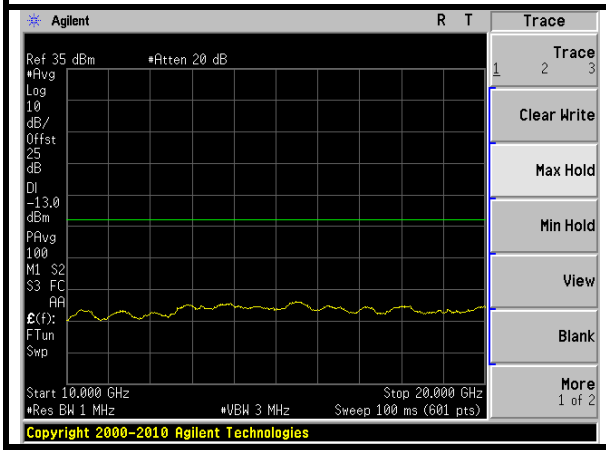
30MHz ~ 1GHz



1GHz ~ 10GHz



10GHz ~ 20GHz

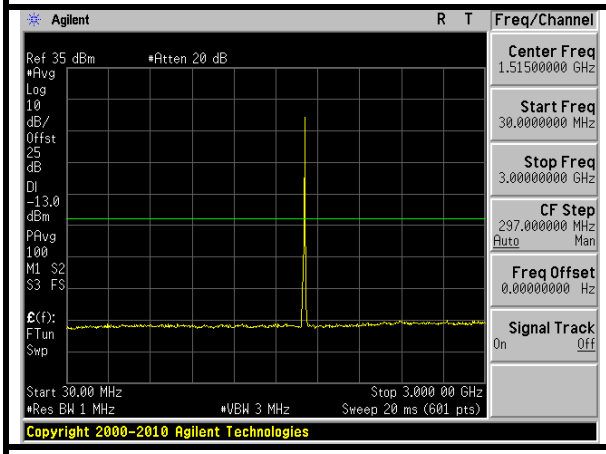


LTE Band 4

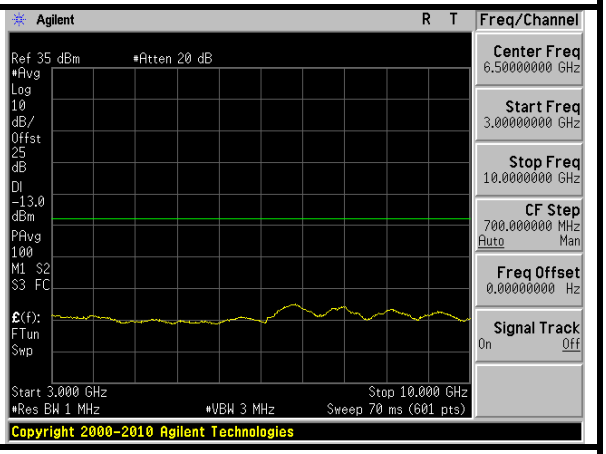
CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB ALLOCATED AT THE UPPER EDGE

CH 20000

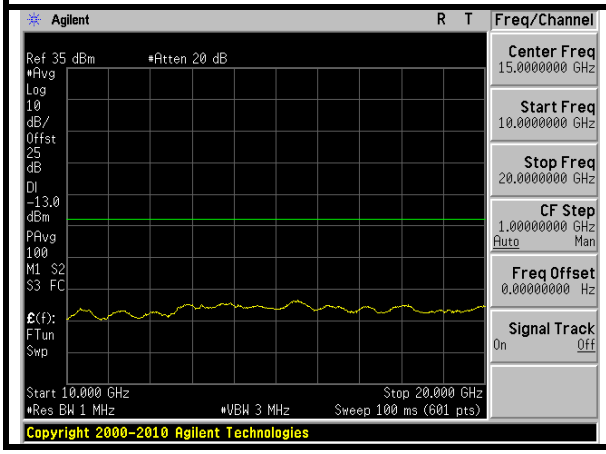
30MHz ~ 3GHz



3GHz ~ 10GHz

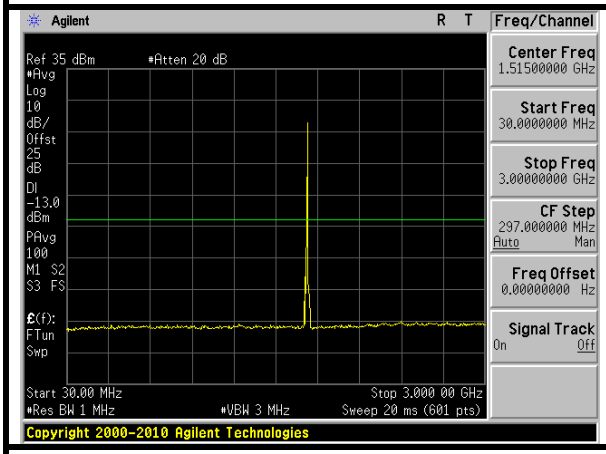


10GHz ~ 20GHz

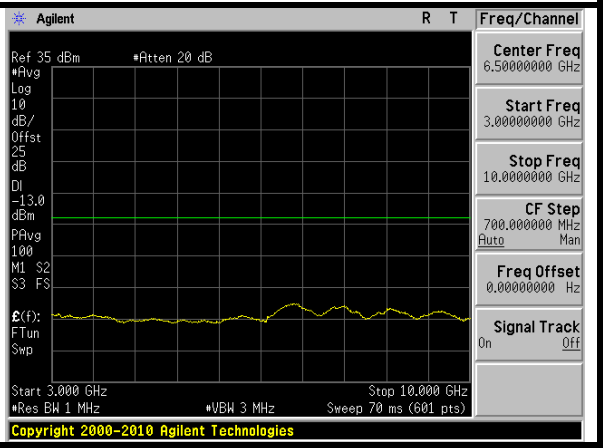


CH 20175

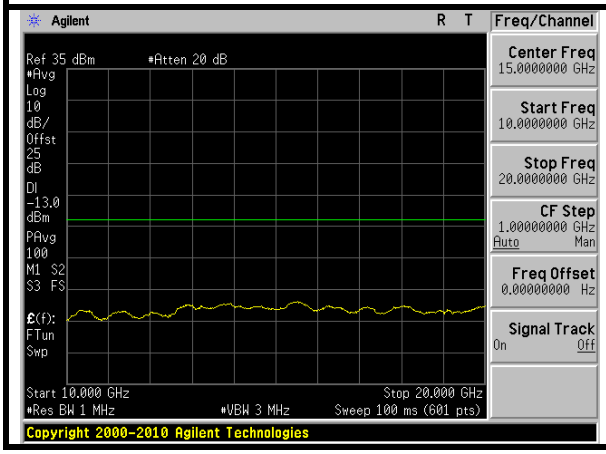
30MHz ~ 3GHz



3GHz ~ 10GHz

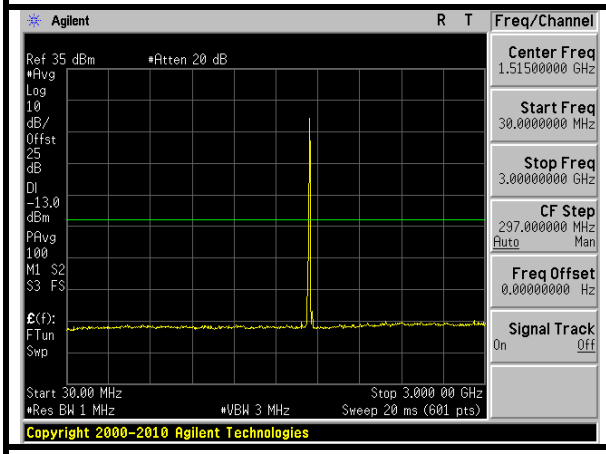


10GHz ~ 20GHz

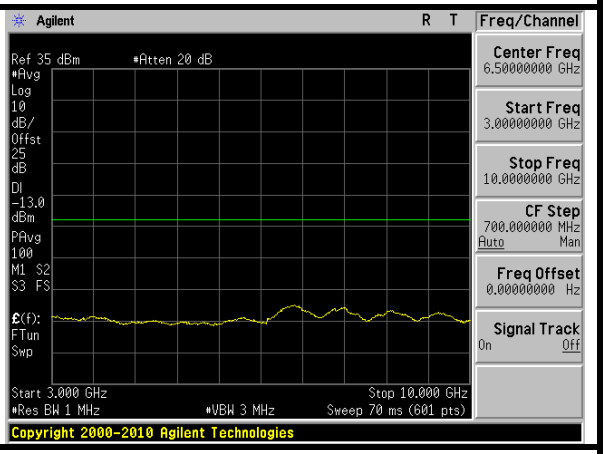


CH 20350

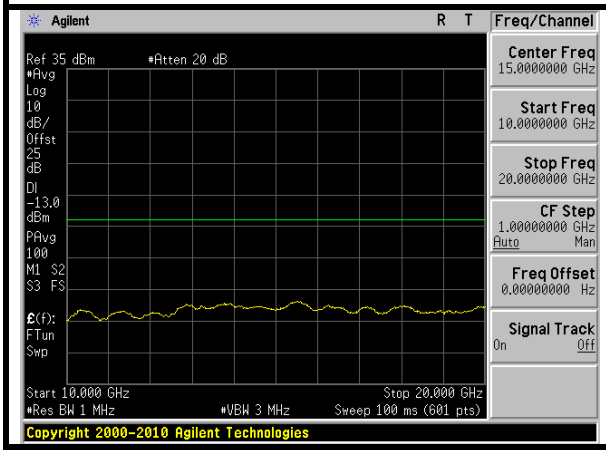
30MHz ~ 3GHz



3GHz ~ 10GHz

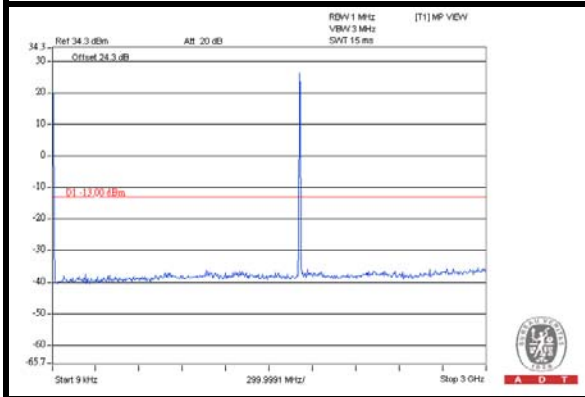
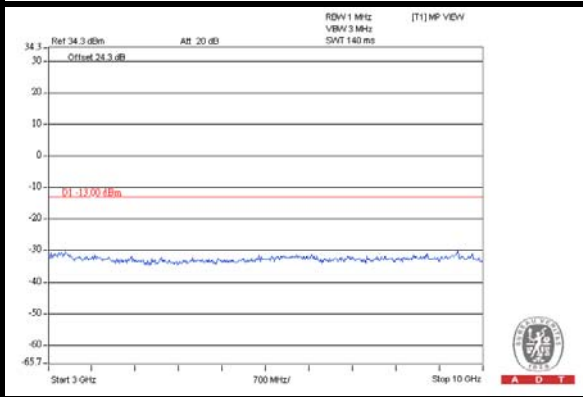
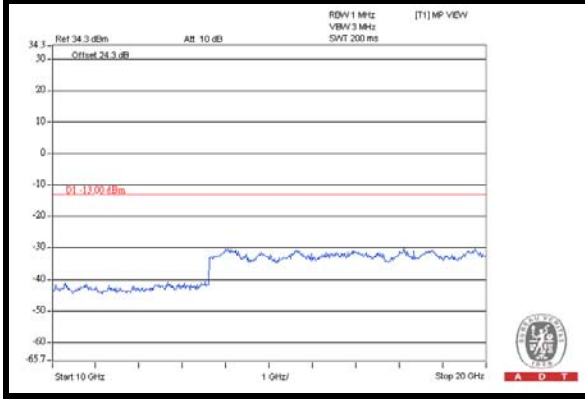


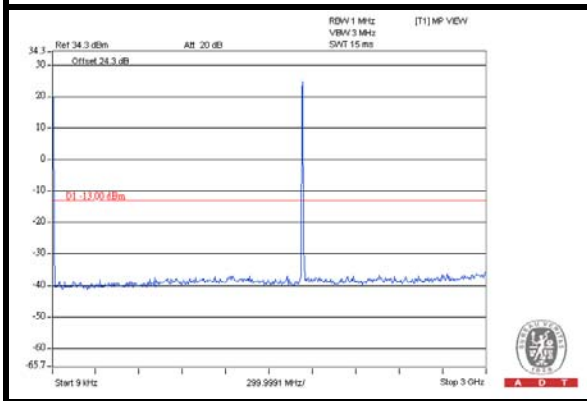
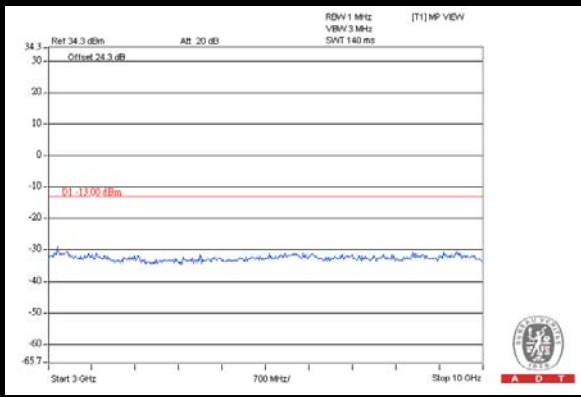
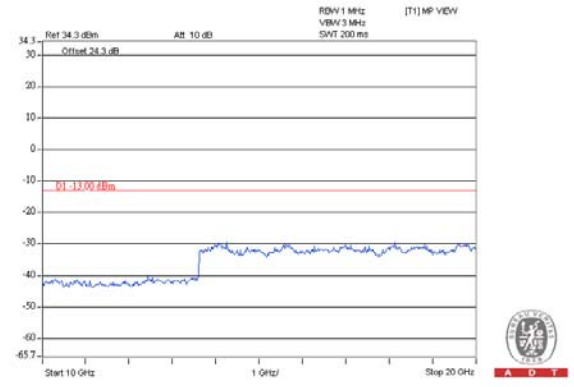
10GHz ~ 20GHz

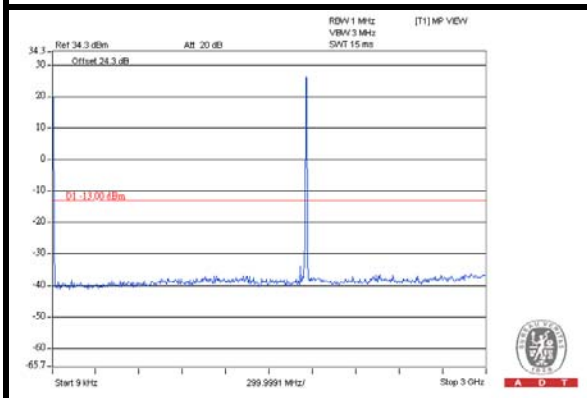
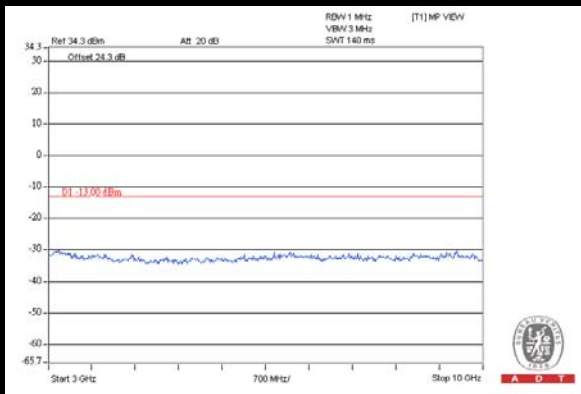
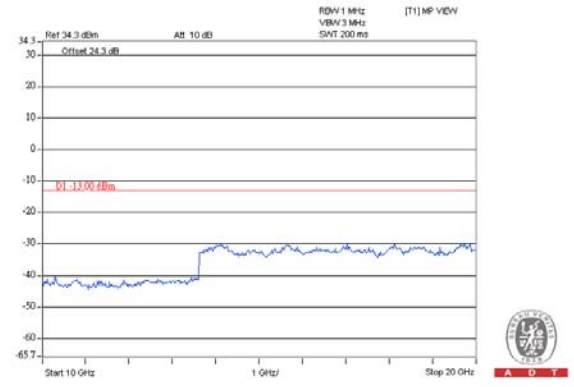


CDMA BC15 Band

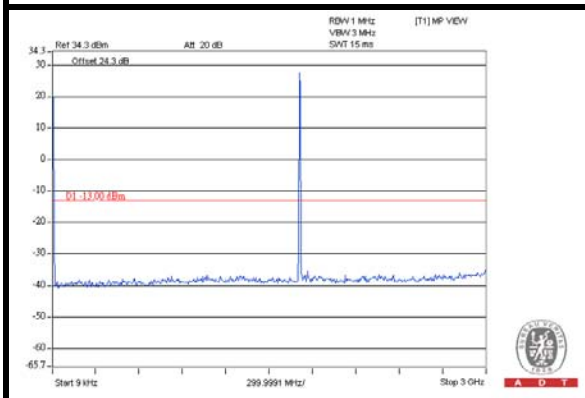
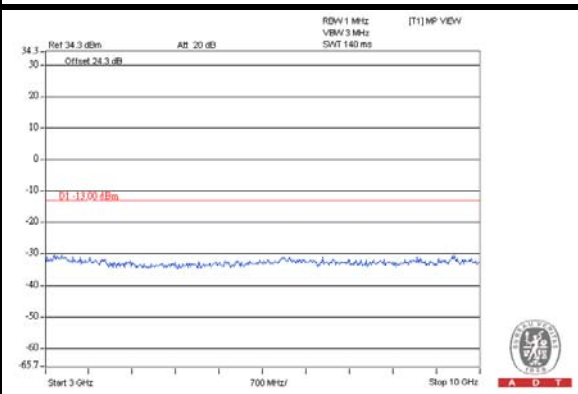
CDMA

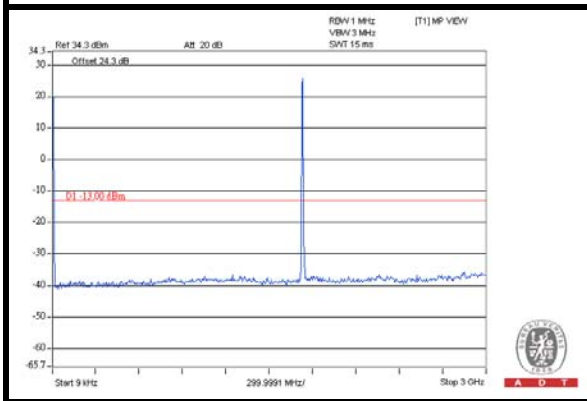
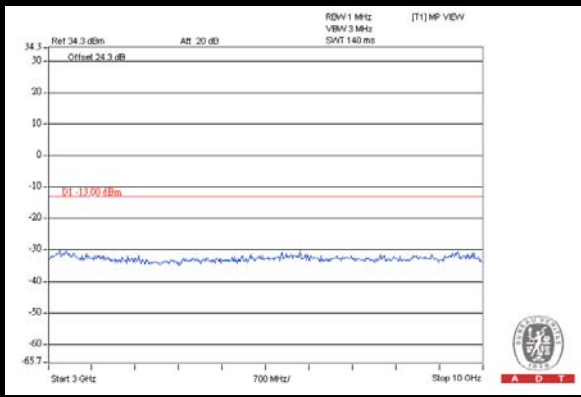
CH 25	
9kHz ~ 3GHz	3GHz ~ 10GHz
	
10GHz ~ 20GHz	
	

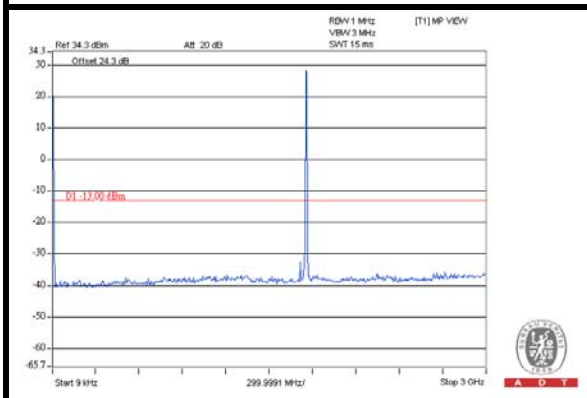
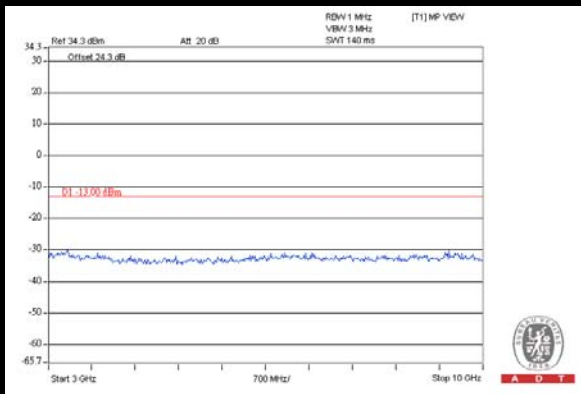
CH 425	
9kHz ~ 3GHz	3GHz ~ 10GHz
	
10GHz ~ 20GHz	
	

CH 875	
9kHz ~ 3GHz	3GHz ~ 10GHz
	
10GHz ~ 20GHz	
	

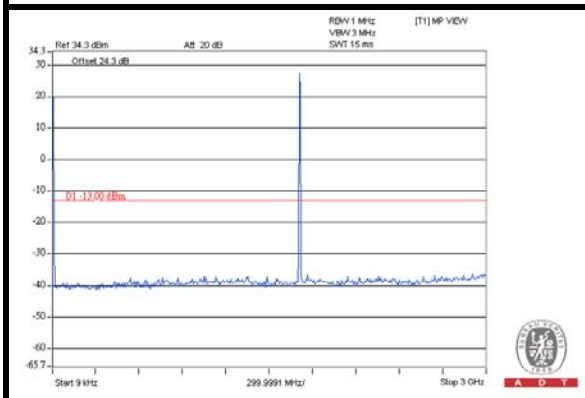
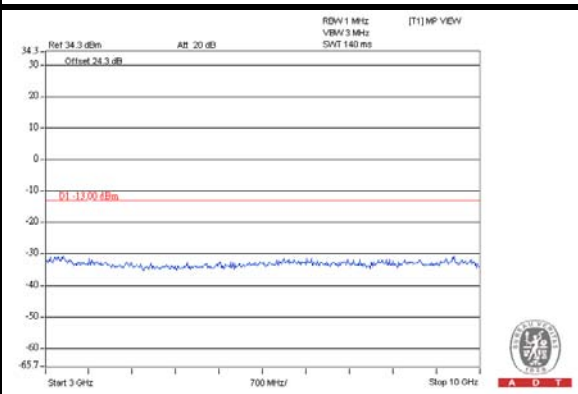
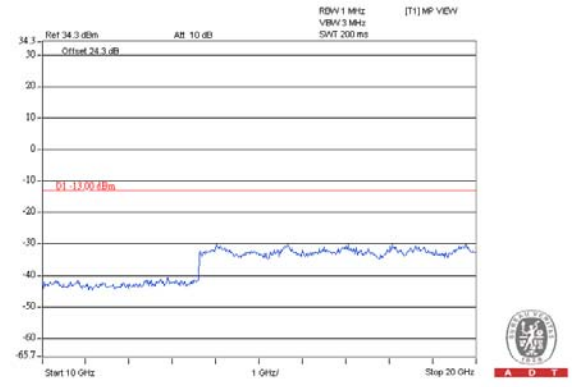
1xEVDO Rev. A MODE

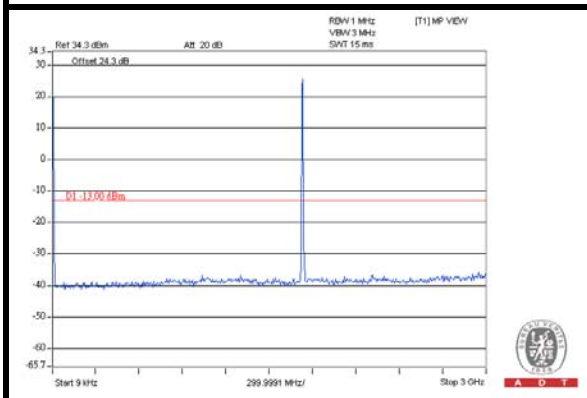
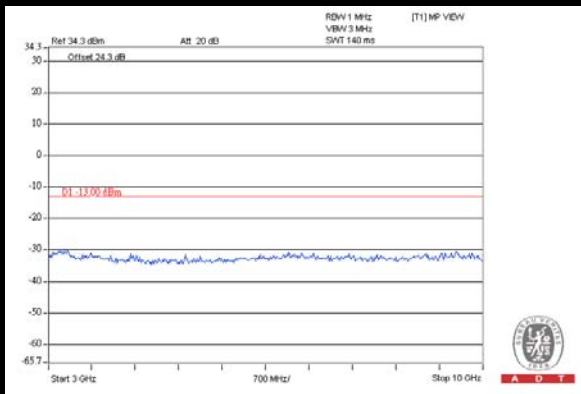
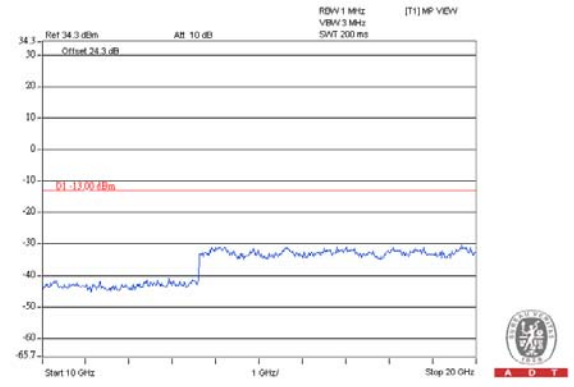
CH 25	
9kHz ~ 3GHz	3GHz ~ 10GHz
	
10GHz ~ 20GHz	
	

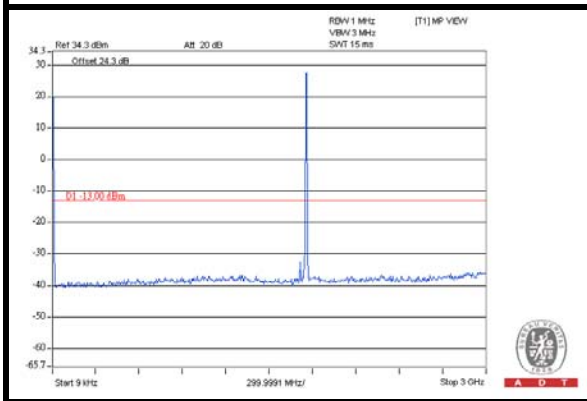
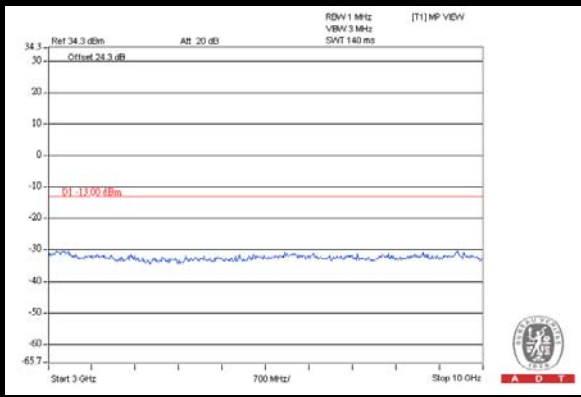
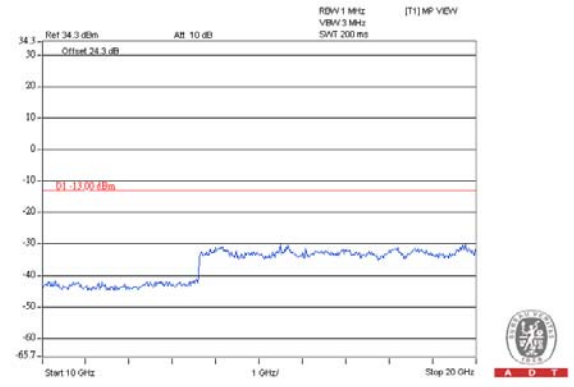
CH 425	
9kHz ~ 3GHz	3GHz ~ 10GHz
	
10GHz ~ 20GHz	
	

CH 875	
9kHz ~ 3GHz	3GHz ~ 10GHz
	
10GHz ~ 20GHz	
	

1xEVDO Rev. 0 MODE

CH 25	
9kHz ~ 3GHz	3GHz ~ 10GHz
	
10GHz ~ 20GHz	
	

CH 425	
9kHz ~ 3GHz	3GHz ~ 10GHz
	
10GHz ~ 20GHz	
	

CH 875	
9kHz ~ 3GHz	3GHz ~ 10GHz
	
10GHz ~ 20GHz	
	

4.7 RADIATED EMISSION MEASUREMENT

4.7.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

So the limit of emission is the same absolute specified line.

LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBuV/m) (NOTE)
-13	82.22

NOTE: The following formula is used to convert the equipment radiated power to field strength.

E = [1000000√ (30P)] / 3 uV/m, where P is Watts.

4.7.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100744	Apr. 19, 2011	Apr. 18, 2012
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jan. 06, 2011	Jan. 05, 2012
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 12, 2011	Apr. 11, 2012
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Sep. 06, 2011	Sep. 05, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 20, 2011	Jul. 19, 2012
Preamplifier Agilent	8449B	3008A01911	Oct. 29, 2011	Oct. 28, 2012
Preamplifier Agilent	8447D	2944A10638	Oct. 29, 2011	Oct. 28, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295013/4 283403/4	Aug. 19, 2011	Aug. 18, 2012
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 13, 2011	Aug. 12, 2012
Software	ADT_Radiated_ V7.6.15.9.2	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 Table Controller EMCO	2090	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 9.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 460141.
5. The IC Site Registration No. is IC 7450F-4.

4.7.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the receiving antenna, which was mounted on antenna tower and its position at 0.8 m above the ground.

c. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading and recorded the value.

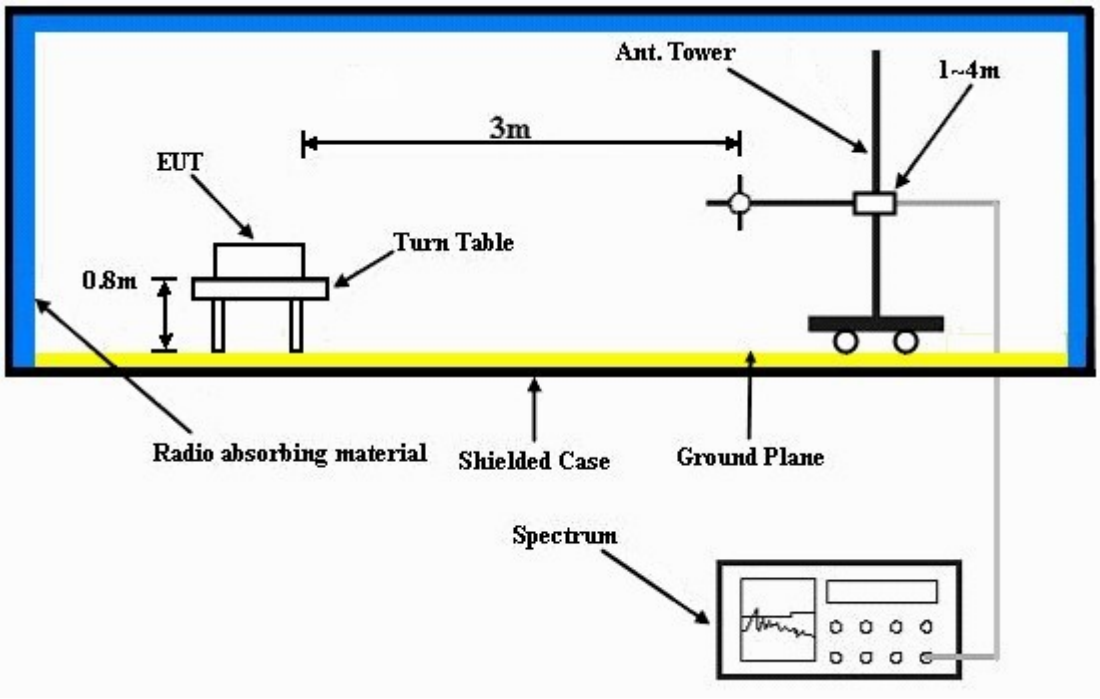
d. Repeat step a ~ c for horizontal polarization.

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

4.7.4 DEVIATION FROM TEST STANDARD

No deviation

4.7.5 TEST SETUP



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

4.7.6 EUT OPERATING CONDITIONS

a. The EUT makes a call to the communication simulator.

b. The communication simulator station system controlled an EUT to export maximum output power under transmission mode and specific channel frequency.

4.7.7 TEST RESULTS (Below 1GHz)

LTE Band 12

CHANNEL BANDWIDTH: 5MHz

MODE	Middle channel	FREQUENCY RANGE	Below 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	94.15	-44.1	-52.0	1.0	-53.1	-13.0	-40.1
2	218.56	-44.2	-55.8	5.5	-52.4	-13.0	-39.4
3	300.20	-53.0	-61.7	5.1	-58.8	-13.0	-45.8
4	366.29	-59.3	-64.7	5.2	-61.6	-13.0	-48.6
5	494.59	-59.2	-63.9	4.9	-61.1	-13.0	-48.1
6	665.65	-67.3	-69.6	5.0	-66.8	-13.0	-53.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	131.08	-57.4	-54.7	-0.1	-56.9	-13.0	-43.9
2	166.07	-48.9	-50.6	1.2	-51.5	-13.0	-38.5
3	218.56	-65.5	-63.3	5.5	-59.9	-13.0	-46.9
4	346.85	-65.9	-65.8	5.2	-62.8	-13.0	-49.8
5	479.04	-60.2	-62.7	5.0	-59.9	-13.0	-46.9
6	665.65	-56.2	-63.4	5.0	-60.5	-13.0	-47.5

NOTE:

1. Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).
2. The other emission levels were very low against the limit.
3. Margin value = ERP value – Limit value.
4. This is valid for all 3 channels.

LTE Band 12

CHANNEL BANDWIDTH: 10MHz

MODE	High channel	FREQUENCY RANGE	Below 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	133.03	-48.6	-54.4	-0.2	-56.8	-13.0	-43.8
2	171.90	-50.6	-56.6	1.9	-56.9	-13.0	-43.9
3	193.29	-51.1	-61.5	4.6	-59.0	-13.0	-46.0
4	286.59	-55.7	-64.9	5.2	-61.9	-13.0	-48.9
5	449.88	-60.1	-64.9	5.1	-61.9	-13.0	-48.9
6	601.50	-61.4	-64.3	4.4	-62.0	-13.0	-49.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	129.14	-55.3	-52.3	-0.1	-54.5	-13.0	-41.5
2	193.29	-56.4	-54.4	4.6	-51.9	-13.0	-38.9
3	228.28	-55.5	-53.9	5.4	-50.6	-13.0	-37.6
4	298.26	-57.4	-56.5	5.1	-53.5	-13.0	-40.5
5	449.88	-64.5	-67.6	5.1	-64.7	-13.0	-51.7
6	531.52	-64.8	-68.1	4.7	-65.5	-13.0	-52.5

NOTE:

1. Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).
2. The other emission levels were very low against the limit.
3. Margin value = ERP value – Limit value.
4. This is valid for all 3 channels.

LTE Band 13

CHANNEL BANDWIDTH: 5MHz

MODE	Low channel	FREQUENCY RANGE	Below 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	35.83	-63.1	-46.8	-11.9	-60.9	-13.0	-47.9
2	123.31	-48.4	-54.9	0.0	-57.0	-13.0	-44.0
3	222.44	-55.6	-67.1	5.4	-63.9	-13.0	-50.9
4	323.53	-61.1	-68.6	5.2	-65.5	-13.0	-52.5
5	432.38	-65.9	-70.6	5.1	-67.7	-13.0	-54.7
6	665.65	-62.9	-65.2	5.0	-62.4	-13.0	-49.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	90.26	-53.5	-49.1	1.1	-50.1	-13.0	-37.1
2	189.40	-57.9	-56.1	4.1	-54.1	-13.0	-41.1
3	210.78	-59.1	-56.9	5.5	-53.5	-13.0	-40.5
4	232.16	-60.2	-58.6	5.4	-55.4	-13.0	-42.4
5	366.29	-66.0	-66.4	5.2	-63.4	-13.0	-50.4
6	482.93	-65.0	-67.4	4.9	-64.7	-13.0	-51.7

NOTE:

1. Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).
2. The other emission levels were very low against the limit.
3. Margin value = ERP value – Limit value.
4. This is valid for all 3 channels.

LTE Band 13

CHANNEL BANDWIDTH: 10MHz

MODE	Channel 23230	FREQUENCY RANGE	Below 1000MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	129.14	-47.9	-53.9	-0.1	-56.1	-13.0	-43.1
2	171.90	-50.7	-56.7	1.9	-56.9	-13.0	-43.9
3	193.29	-51.0	-61.4	4.6	-58.9	-13.0	-45.9
4	292.42	-55.8	-64.9	5.2	-61.9	-13.0	-48.9
5	449.88	-59.0	-63.8	5.1	-60.9	-13.0	-47.9
6	601.50	-59.8	-62.7	4.4	-60.4	-13.0	-47.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	131.08	-54.2	-51.5	-0.1	-53.8	-13.0	-40.8
2	191.34	-54.3	-52.4	4.4	-50.1	-13.0	-37.1
3	228.28	-56.2	-54.6	5.4	-51.4	-13.0	-38.4
4	288.54	-59.8	-58.9	5.2	-55.9	-13.0	-42.9
5	449.88	-61.7	-64.8	5.1	-61.9	-13.0	-48.9
6	531.52	-65.6	-68.9	4.7	-66.4	-13.0	-53.4

NOTE:

1. Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).
2. The other emission levels were very low against the limit.
3. Margin value = ERP value – Limit value.
4. This is valid for all 3 channels.

LTE Band 4

CHANNEL BANDWIDTH: 5MHz

MODE	Middle channel	FREQUENCY RANGE	Below 1000MHz

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	92.20	-55.5	-63.4	1.1	-62.3	-13.0	-49.3
2	127.19	-47.9	-54.1	-0.1	-54.2	-13.0	-41.2
3	222.44	-54.3	-65.8	5.4	-60.4	-13.0	-47.4
4	323.53	-61.2	-68.7	5.2	-63.5	-13.0	-50.5
5	366.29	-64.3	-69.7	5.2	-64.5	-13.0	-51.5
6	665.65	-63.5	-65.8	5.0	-60.8	-13.0	-47.8
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	98.04	-52.6	-48.5	0.9	-47.6	-13.0	-34.6
2	133.03	-58.3	-55.9	-0.2	-56.1	-13.0	-43.1
3	189.40	-58.7	-56.9	4.1	-52.8	-13.0	-39.8
4	212.73	-58.6	-56.4	5.5	-50.9	-13.0	-37.9
5	364.35	-66.0	-66.3	5.2	-61.1	-13.0	-48.1
6	500.42	-65.7	-68.5	4.9	-63.6	-13.0	-50.6

NOTE:

1. Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).
2. The other emission levels were very low against the limit.
3. Margin value = EIRP value – Limit value.
4. This is valid for all 3 channels.

LTE Band 4

CHANNEL BANDWIDTH: 10MHz

MODE	Middle channel	FREQUENCY RANGE	Below 1000MHz

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	133.03	-47.9	-53.7	-0.2	-56.0	-13.0	-43.0
2	166.07	-50.4	-55.6	1.2	-56.5	-13.0	-43.5
3	286.59	-55.3	-64.5	5.2	-61.4	-13.0	-48.4
4	449.88	-60.3	-65.1	5.1	-62.1	-13.0	-49.1
5	601.50	-61.4	-64.3	4.4	-62.0	-13.0	-49.0
6	797.84	-67.1	-65.5	4.0	-63.6	-13.0	-50.6
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	131.08	-54.9	-52.2	-0.1	-54.4	-13.0	-41.4
2	191.34	-54.3	-52.4	4.4	-50.1	-13.0	-37.1
3	239.94	-59.8	-58.1	5.4	-54.9	-13.0	-41.9
4	290.48	-59.5	-58.6	5.2	-55.5	-13.0	-42.5
5	350.74	-66.0	-65.9	5.2	-62.9	-13.0	-49.9
6	531.52	-62.5	-65.8	4.7	-63.2	-13.0	-50.2

NOTE:

1. Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).
2. The other emission levels were very low against the limit.
3. Margin value = EIRP value – Limit value.
4. This is valid for all 3 channels.

CDMA BC 15 Band

MODE	Low channel	FREQUENCY RANGE	Below 1000MHz

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	133.03	-45.0	-50.8	-0.2	-51.0	-13.0	-38.0
2	191.34	-52.7	-63.0	4.4	-58.6	-13.0	-45.6
3	449.88	-60.1	-64.9	5.1	-59.8	-13.0	-46.8
4	601.50	-59.4	-62.3	4.4	-57.9	-13.0	-44.9
5	741.46	-68.7	-67.9	4.7	-63.2	-13.0	-50.2
6	813.39	-69.6	-68.0	4.0	-64.0	-13.0	-51.0
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	133.03	-54.7	-52.3	-0.2	-52.5	-13.0	-39.5
2	230.22	-55.0	-53.5	5.4	-48.1	-13.0	-35.1
3	286.59	-60.1	-59.1	5.2	-53.9	-13.0	-40.9
4	354.63	-68.0	-68.0	5.2	-62.8	-13.0	-49.8
5	447.94	-62.8	-65.9	5.1	-60.8	-13.0	-47.8
6	533.47	-64.0	-67.4	4.7	-62.7	-13.0	-49.7

NOTE:

1. Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).
2. The other emission levels were very low against the limit.
3. Margin value = EIRP value – Limit value.
4. This is valid for all 3 channels.

4.7.8 TEST RESULTS (Above 1GHz)

LTE Band 12

CHANNEL BANDWIDTH: 5MHz

Test channel	Low channel / QPSK / 1 RB AT THE UPPER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1405.00	-52.2	-54.7	4.7	-52.1	-13.0	-39.1
2	2107.00	-57.3	-58.9	6.4	-54.6	-13.0	-41.6
3	2810.00	-66.0	-66.5	6.4	-62.2	-13.0	-49.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1415.00	-54.2	-59.2	4.8	-56.5	-13.0	-43.5
2	2107.00	-57.9	-59.0	6.4	-54.8	-13.0	-41.8
3	2810.00	-63.9	-63.0	6.4	-58.8	-13.0	-45.8

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

Test channel	Middle channel / QPSK / 1 RB AT THE UPPER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1418.60	-52.1	-54.7	4.8	-52.0	-13.0	-39.0
2	2127.90	-56.2	-57.6	6.4	-53.4	-13.0	-40.4
3	2837.20	-65.7	-66.1	6.4	-61.9	-13.0	-48.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1418.60	-58.7	-63.7	4.8	-61.0	-13.0	-48.0
2	2127.90	-57.2	-57.7	6.4	-53.4	-13.0	-40.4
3	2837.20	-63.2	-62.3	6.4	-58.0	-13.0	-45.0

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

Test channel	High channel / QPSK / 1 RB AT THE UPPER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1431.20	-53.0	-55.7	4.8	-53.0	-13.0	-40.0
2	2146.80	-55.8	-57.1	6.4	-52.9	-13.0	-39.9
3	2862.40	-65.2	-65.5	6.4	-61.2	-13.0	-48.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1431.20	-57.2	-62.4	4.8	-59.8	-13.0	-46.8
2	2146.80	-57.8	-57.8	6.4	-53.5	-13.0	-40.5
3	2862.40	-62.2	-61.2	6.4	-56.9	-13.0	-43.9

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

LTE Band 12

CHANNEL BANDWIDTH: 10MHz

Test channel	Low channel / QPSK / 1 RB AT THE UPPER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1415.00	-49.2	-51.8	4.8	-49.1	-13.0	-36.1
2	2122.50	-50.3	-51.8	6.4	-47.5	-13.0	-34.5
3	2830.00	-59.2	-59.6	6.4	-55.4	-13.0	-42.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1415.00	-52.4	-57.4	4.8	-54.8	-13.0	-41.8
2	2122.50	-49.2	-49.8	6.4	-45.5	-13.0	-32.5
3	2830.00	-60.1	-59.2	6.4	-54.9	-13.0	-41.9

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

Test channel	Middle channel / QPSK / 1 RB AT THE UPPER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1423.00	-50.8	-53.4	4.8	-50.8	-13.0	-37.8
2	2134.50	-50.5	-51.9	6.4	-47.6	-13.0	-34.6
3	2846.00	-60.9	-61.2	6.4	-56.9	-13.0	-43.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1423.00	-51.3	-56.4	4.8	-53.8	-13.0	-40.8
2	**2134.50**	**-47.2**	**-47.5**	**6.4**	**-43.2**	**-13.0**	**-30.2**
3	2846.00	-59.2	-58.3	6.4	-54.0	-13.0	-41.0

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

Test channel	High channel / QPSK / 1 RB AT THE UPPER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1431.00	-49.9	-52.6	4.8	-49.9	-13.0	-36.9
2	2146.50	-50.3	-51.6	6.4	-47.4	-13.0	-34.4
3	2862.00	-59.7	-60.0	6.4	-55.8	-13.0	-42.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1431.00	-52.1	-57.3	4.8	-54.6	-13.0	-41.6
2	2146.50	-48.5	-48.5	6.4	-44.2	-13.0	-31.2
3	2862.00	-60.5	-59.5	6.4	-55.2	-13.0	-42.2

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

LTE Band 13

CHANNEL BANDWIDTH: 5MHz

Test channel	Low channel / QPSK / 1 RB AT THE LOWER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	**1554.60**	**-48.1**	**-51.3**	**5.3**	**-48.1**	**-13.0**	**-35.1**
2	2331.90	-64.1	-65.7	6.4	-61.4	-13.0	-48.4
3	3109.20	-73.7	-73.2	6.5	-68.9	-13.0	-55.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1554.60	-50.9	-57.3	5.3	-54.1	-13.0	-41.1
2	2331.90	-66.1	-65.8	6.4	-61.5	-13.0	-48.5
3	3109.20	-74.1	-74.8	6.5	-70.5	-13.0	-57.5

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

Test channel	Middle channel / QPSK / 1 RB AT THE LOWER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	2339.40	-52.8	-54.4	6.4	-50.1	-13.0	-37.1
2	3119.20	-74.1	-73.6	6.5	-69.2	-13.0	-56.2
3	3899.00	-68.9	-66.4	7.1	-61.4	-13.0	-48.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	2339.40	-63.5	-63.3	6.4	-59.0	-13.0	-46.0
2	3119.20	-75.1	-75.8	6.5	-71.5	-13.0	-58.5
3	3899.00	-70.8	-69.5	7.1	-64.5	-13.0	-51.5

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

Test channel	High channel / QPSK / 1 RB AT THE LOWER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	2346.90	-60.9	-62.5	6.4	-58.2	-13.0	-45.2
2	3129.20	-73.4	-73.0	6.6	-68.6	-13.0	-55.6
3	3911.50	-71.2	-68.6	7.0	-63.8	-13.0	-50.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	2346.90	-68.4	-68.2	6.4	-63.9	-13.0	-50.9
2	3129.20	-74.6	-75.3	6.6	-70.9	-13.0	-57.9
3	3911.50	-70.2	-68.8	7.0	-63.9	-13.0	-50.9

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

LTE Band 13: GPS Band

CHANNEL BANDWIDTH: 5MHz

Test channel	Low channel / QPSK / 1 RB AT THE UPPER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1563.40	-55.4	-58.6	5.3	-55.4	-40.0	-15.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1563.40	-59.3	-65.7	5.3	-62.5	-40.0	-22.5

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

Test channel	Middle channel / QPSK / 1 RB AT THE LOWER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1559.60	-54.5	-57.7	5.3	-54.5	-40.0	-14.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1559.60	-54.0	-60.4	5.3	-57.2	-40.0	-17.2

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

Test channel	High channel / QPSK / 1 RB AT THE LOWER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	**1564.60**	**-53.0**	**-56.2**	**5.3**	**-53.0**	**-40.0**	**-13.0**
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1564.60	-57.0	-63.4	5.3	-60.2	-40.0	-20.2

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

LTE Band 13

CHANNEL BANDWIDTH: 10MHz

Test channel	Channel 23230 / QPSK / 1 RB AT THE LOWER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1555.20	-48.4	-51.6	5.3	-48.4	-13.0	-35.4
2	2332.80	-58.0	-59.6	6.4	-55.4	-13.0	-42.4
3	3110.40	-69.1	-68.6	6.5	-64.2	-13.0	-51.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1555.20	-51.6	-58.0	5.3	-54.9	-13.0	-41.9
2	2332.80	-60.5	-60.2	6.4	-55.9	-13.0	-42.9
3	3110.40	-68.7	-69.4	6.5	-65.0	-13.0	-52.0

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

LTE Band 13: GPS Band

CHANNEL BANDWIDTH: 10MHz

Test channel	Channel 23230 / QPSK / 1 RB AT THE UPPER EDGE						
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1572.80	-56.2	-59.3	5.3	-56.1	-40.0	-16.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**ERP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	1572.80	-58.8	-65.2	5.3	-62.0	-40.0	-22.0

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

LTE Band 4

CHANNEL BANDWIDTH: 5MHz

Test channel	Low channel / QPSK / 1 RB AT THE UPPER EDGE						
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	3429.40	-53.9	-50.4	7.1	-43.3	-13.0	-30.3
2	5144.10	-67.4	-57.5	6.6	-50.9	-13.0	-37.9
3	6858.80	-68.2	-52.8	4.9	-47.9	-13.0	-34.9
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	3429.40	-56.2	-52.7	7.1	-45.6	-13.0	-32.6
2	5144.10	-67.4	-58.8	6.6	-52.2	-13.0	-39.2
3	6858.80	-68.8	-53.7	4.9	-48.8	-13.0	-35.8

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

Test channel	Middle channel / QPSK / 1 RB AT THE UPPER EDGE						
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	3469.40	-51.5	-48.1	7.2	-40.9	-13.0	-27.9
2	5204.10	-63.7	-53.7	6.7	-47.0	-13.0	-34.0
3	6938.80	-64.1	-48.6	4.8	-43.8	-13.0	-30.8
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	3469.40	-54.1	-53.2	7.2	-46.0	-13.0	-33.0
2	5204.10	-58.8	-54.0	6.7	-47.3	-13.0	-34.3
3	6938.80	-61.2	-50.0	4.8	-45.2	-13.0	-32.2

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

Test channel	High channel / QPSK / 1 RB AT THE UPPER EDGE						
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	3509.40	-54.5	-53.5	7.2	-46.3	-13.0	-33.3
2	5264.10	-66.9	-59.7	6.7	-53.0	-13.0	-40.0
3	7018.80	-64.6	-51.7	4.7	-47.0	-13.0	-34.0
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	3509.40	-58.9	-57.8	7.2	-50.6	-13.0	-37.6
2	5264.10	-67.0	-62.2	6.7	-55.5	-13.0	-42.5
3	7018.80	-63.5	-52.2	4.7	-47.5	-13.0	-34.5

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

LTE Band 4

CHANNEL BANDWIDTH: 10MHz

Test channel	Low channel / QPSK / 1 RB AT THE UPPER EDGE						
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	3438.80	-61.1	-57.6	7.1	-50.5	-13.0	-37.5
2	5158.20	-70.1	-60.1	6.6	-53.5	-13.0	-40.5
3	6877.60	-71.1	-55.7	4.9	-50.8	-13.0	-37.8
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	3438.80	-59.6	-56.1	7.1	-49.0	-13.0	-36.0
2	5158.20	-66.8	-58.1	6.6	-51.5	-13.0	-38.5
3	6877.60	-64.9	-49.8	4.9	-44.9	-13.0	-31.9

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

Test channel	Middle channel / QPSK / 1 RB AT THE UPPER EDGE						
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	3473.80	-57.3	-53.9	7.2	-46.7	-13.0	-33.7
2	5210.70	-64.5	-54.5	6.7	-47.8	-13.0	-34.8
3	6947.60	-67.5	-52.0	4.8	-47.2	-13.0	-34.2
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	3473.80	-61.5	-58.0	7.2	-50.8	-13.0	-37.8
2	5210.70	-65.3	-56.6	6.7	-49.9	-13.0	-36.9
3	6947.60	-69.4	-54.1	4.8	-49.3	-13.0	-36.3

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

Test channel	High channel / QPSK / 1 RB AT THE UPPER EDGE						
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	3508.80	-57.3	-53.9	7.2	-46.7	-13.0	-33.7
2	5263.20	-64.2	-54.0	6.7	-47.3	-13.0	-34.3
3	7017.60	-67.8	-52.1	4.7	-47.4	-13.0	-34.4
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	3508.80	-57.1	-53.5	7.2	-46.3	-13.0	-33.3
2	5263.20	-62.1	-53.3	6.7	-46.6	-13.0	-33.6
3	7017.60	-65.5	-50.0	4.7	-45.3	-13.0	-32.3

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

CDMA BC 15 Band

Test channel	Low channel						
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	3422.50	-53.4	-47.2	1.8	-45.4	-13.0	-32.4
2	5133.75	-56.7	-44.0	0.8	-43.2	-13.0	-30.2
3	**6845.00**	**-52.4**	**-34.8**	**-0.1**	**-34.9**	**-13.0**	**-21.9**
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	3422.50	-50.8	-44.8	1.8	-43.0	-13.0	-30.0
2	5133.75	-59.5	-48.8	0.8	-48.0	-13.0	-35.0
3	6845.00	-53.2	-37.1	-0.1	-37.2	-13.0	-24.2

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

Test channel	Middle channel						
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	3462.50	-53.1	-46.8	1.8	-45.0	-13.0	-32.0
2	5193.75	-51.5	-38.5	0.7	-37.8	-13.0	-24.8
3	6925.00	-54.6	-36.8	-0.2	-37.0	-13.0	-24.0
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	3462.50	-54.0	-47.7	1.8	-45.9	-13.0	-32.9
2	5193.75	-51.6	-40.8	0.7	-40.1	-13.0	-27.1
3	6925.00	-51.5	-35.3	-0.2	-35.5	-13.0	-22.5

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

Test channel	High channel						
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	3507.50	-50.8	-44.4	1.8	-42.6	-13.0	-29.6
2	5261.25	-55.2	-42.0	0.7	-41.3	-13.0	-28.3
3	7015.00	-54.1	-36.3	-0.2	-36.5	-13.0	-23.5
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	3507.50	-50.8	-44.3	1.8	-42.5	-13.0	-29.5
2	5261.25	-55.7	-44.9	0.7	-44.2	-13.0	-31.2
3	7015.00	-54.1	-37.9	-0.2	-38.1	-13.0	-25.1

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

5 INFORMATION ON THE TESTING LABORATORIES

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

Copies of accreditation and authorization certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5.phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
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The address and road map of all our labs can be found in our web site also.

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

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

---END---