74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
TEL: +82-31-645-6300 FAX: +82-31-645-6401

REPORT

FCC/IC Certification

Applicant Name:
KMW U.S.A.,INC.

Address:
1818 E. Orangethorpe Ave. Fullerton,
CA 92831

Date of Issue:
February 29, 2016
Test Site/Location:
HCT CO., LTD., 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
Report No.: HCT-R-1602-F006-1
HCT FRN: 0005866421
IC Recognition No.: 5944A-5

FCC ID:	**ZUQR7S8CPAWB-2730**
IC:	**12124A-7S8CPAWB30**
APPLICANT:	**KMW U.S.A., INC.**

Model(s):	POD-R-7S8CPAWB-2730-AC
Additional Model(s):	POD-R-7S8CPAW-2730-AC, POD-R-7CPAWB-2730-AC, POD-R-7CPAW-2730-AC, POD-R-7CPA-2730-AC, POD-R-7PA-2730-AC, POD-R-CPA-2730-AC, POD-R-7CP-2730-AC, POD-R-S8PB-2730-AC
EUT Type:	DAS 7-Band Remote Unit
Frequency Ranges For FCC certification :	DL : 728 MHz ~ 756 MHz (700 MHz) / 862 MHz ~ 869 MHz (SMR 800) / 869 MHz ~ 894 MHz (850 Cellular) / 1930 MHz ~1995 MHz (PCS 1900) / 2110 MHz ~2180 MHz (AWS 2100) / 2350 MHz ~2360 MHz (WCS) / 2496 MHz ~2690 MHz (BRS) UL : 698 MHz ~ 716 MHz (700 MHz) / 777 MHz ~ 787 MHz(700 MHz) / 817 MHz ~ 824 MHz (SMR 800) / 824 MHz ~ 849 MHz (850 Cellular) / 1850 MHz ~1915 MHz (PCS 1900) / 1710 MHz ~1780 MHz (AWS 2100) / 2305 MHz ~2315 MHz (WCS) / 2496 MHz ~2690 MHz (BRS)
For IC certification :	DL : 728 MHz ~ 756 MHz (700 MHz) / 862 MHz ~ 869 MHz (SMR 800) / 869 MHz ~ 894 MHz (850 Cellular) / 1930 MHz ~1995 MHz (PCS 1900) / 2110 MHz ~2180 MHz (AWS 2100) / 2350 MHz ~2360 MHz (WCS) / 2500 MHz ~2690 MHz (BRS) UL : 698 MHz ~ 716 MHz (700 MHz) / 777 MHz ~ 787 MHz(700 MHz) / 817 MHz ~ 824 MHz (SMR 800) / 824 MHz ~ 849 MHz (850 Cellular) / 1850 MHz ~1915 MHz (PCS 1900) / 1710 MHz ~1780 MHz (AWS 2100) / 2305 MHz ~2315 MHz (WCS) / 2500 MHz ~2690 MHz (BRS)
Conducted Output Power:	DL : 0.5 W (27 dBm) , 1W (30 dBm) UL : 0.316 mW (-5 dBm)
Date of Test:	December 07, 2015 ~ February 23, 2016
FCC Rule Part(s):	CFR 47, Part 22/24, Part 27, part 90
IC Rules:	RSS-Gen (Issue 4,November 2014), RSS-130 (Issue 2, July 2003) RSS-131 (Issue 2, July 2003), RSS-132 (Issue 3, January 2013) RSS-139 (Issue 3, July 2015), RSS-195 (Issue 2, April 2014) RSS-199 (Issue 2, October 2014)

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC / IC Rules under normal use and maintenance.

Report prepared by	**Approved by**
:Hwang Gu Kim	**: Yong Hyun Lee**
Test engineer of RF Team	**Manager of RF Team**

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-R-1602-F006	February 05, 2016	- First Approval Report
HCT-R-1602-F006-1	February 29, 2016	- Revised Typographical errors. - Add Test Requirements - Add the test WCS band IC spurious emission

Table of Contents

1. CLIENT INFORMATION

The EUT has been tested by request of

Company	KMW U.S.A.,INC. 1818 E. Orangethorpe Ave. Fullerton, CA 92831

FCC ID:	ZUQR7S8CPAWB-2730
IC:	12124A-7S8CPAWB30
EUT Type:	DAS 7-Band Remote Unit
FCC/IC Model(s):	POD-R-7S8CPAWB-2730-AC
Additional Model(s):	POD-R-7S8CPAW-2730-AC, POD-R-7CPAWB-2730-AC, POD-R-7CPAW-2730-AC,POD-R-7CPA-2730-AC, POD-R-7PA-2730-AC, POD-R-CPA-2730-AC POD-R-7CP-2730-AC, POD-R-S8PB-2730-AC
Frequency Ranges **For FCC certification :**	DL : 728 MHz ~ 756 MHz (700 MHz) / 862 MHz ~ 869 MHz (SMR 800) 869 MHz ~ 894 MHz (850 Cellular) / 1930 MHz ~1995 MHz (PCS 1900) 2110 MHz ~2180 MHz (AWS 2100) / 2350 MHz ~2360 MHz (WCS) 2496 MHz ~2690 MHz (BRS) UL : 698 MHz ~ 716 MHz (700 MHz) / 777 MHz ~ 787 MHz(700 MHz) 817 MHz ~ 824 MHz (SMR 800) / 824 MHz ~ 849 MHz (850 Cellular) 1850 MHz ~1915 MHz (PCS 1900) / 1710 MHz ~1780 MHz (AWS 2100) 2305 MHz ~2315 MHz (WCS) / 2496 MHz ~2690 MHz (BRS)
For IC certification :	DL : 728 MHz ~ 756 MHz (700 MHz) / 862 MHz ~ 869 MHz (SMR 800) 869 MHz ~ 894 MHz (850 Cellular) / 1930 MHz ~1995 MHz (PCS 1900) 2110 MHz ~2180 MHz (AWS 2100) / 2350 MHz ~2360 MHz (WCS) 2500 MHz ~2690 MHz (BRS) UL : 698 MHz ~ 716 MHz (700 MHz) / 777 MHz ~ 787 MHz(700 MHz) 817 MHz ~ 824 MHz (SMR 800) / 824 MHz ~ 849 MHz (850 Cellular) 1850 MHz ~1915 MHz (PCS 1900) / 1710 MHz ~1780 MHz (AWS 2100) 2305 MHz ~2315 MHz (WCS) / 2500 MHz ~2690 MHz (BRS)
Conducted Output Power:	DL : 0.5 W (27 dBm) , 1W (30 dBm) UL : 0.316 mW (-5 dBm)
Antenna Gain(s):	Manufacturer does not provide an antenna.
Measurement standard(s):	ANSI/TIA-603-C-2004, KDB 971168 D01 v02r02, KDB 935210 D02 v03, KDB 935210 D05 v01, KDB 662911 D01, RSS-GEN
FCC Rule Part(s):	CFR 47, Part 22/24, Part 27, Part 90
IC Rules:	RSS-Gen (Issue 4,November 2014), RSS-130 (Issue 2, July 2003) RSS-131 (Issue 2, July 2003), RSS-132 (Issue 3, January 2013) RSS-139 (Issue 3, July 2015), RSS-195 (Issue 2, April 2014) RSS-199 (Issue 2, October 2014)
Place of Tests:	HCT CO., LTD., 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA (IC Recognition No. : 5944A-5)

2. FACILITIES AND ACCREDITATIONS

2.1. FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2003) and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 07, 2015 (Registration Number: 90661).

2.2. EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.
Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.
All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

3. TEST SPECIFICATIONS

3.1. STANDARDS

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 22/24, Part 27, Part 90 RSS-GEN, RSS-131.

Description	Reference (FCC)	Reference (IC)	Results
Conducted RF Output Power	§2.1046; §27.50 §22.913, §24.232 §90.635	RSS-131, Section 4.3 RSS-131, Section 6.2 SRSP-502, SRSP-513 SRSP-510, SRSP-513 SRSP-516, SRSP-517 SRSP-518	Compliant
Occupied Bandwidth	§2.1049	RSS-GEN, Section 4.6.1	Compliant
Passband Gain and Bandwidth & Out of Band Rejection	KDB 935210 D02 v03	RSS-131, Section 4.2 RSS-131, Section 6.1	Compliant
Spurious Emissions at Antenna Terminals	§2.1051, §27.53 §22.917, §24.238	RSS-130, Section 4.6 RSS-131, Section 4.4 RSS-131, Section 6.3 RSS-131, Section 6.4 RSS-132, Section 5.5 RSS-139, Section 6.6 RSS-195, Section 5.6 RSS-199, Section 4.6 SRSP-510	Compliant
Radiated Spurious Emissions	§2.1053, §27.53 §22.917 §24.238	-	Compliant
Frequency Stability	§2.1055, §27.54 §22.355	RSS-131, Section 4.5 RSS-131, Section 6.5	N/A The EUT does not perform frequency translation

NOTE. DAS 7-Band Remote Unit supports SISO and MIMO system.

Support frequency Band

SISO system : 700M, SMR800, 850M, PCS, AWS, WCS, BRS

MIMO system : 700M, PCS, AWS, BRS

Calculation methods.

RF Output Power : KDB 662911 D01, section E)2)c)

Out-of-Band and Spurious Emission : KDB 662911 D01, section E)3)a)iii)

3.2. MODE OF OPERATION DURING THE TEST

The EUT was operated in a manner representative of the typical usage of the equipment.

During all testing, system components were manipulated within the confines of typical usage to maximize each emission.

The device does not supply antenna(s) with the system, so the dummy loads were connected to the RF output ports for radiated spurious emission testing.

Band Info	Modulation
700 MHz	LTE(5 MHz), LTE(10 MHz)
SMR800	LTE(5 MHz), CDMA
850 Cellular	LTE(5 MHz), LTE(10 MHz) CDMA, UMTS, GSM
PCS 1900	LTE(5 MHz), LTE(10 MHz) CDMA, UMTS, GSM
AWS 2100	LTE(5 MHz), LTE(10 MHz) LTE(15 MHz), LTE(20 MHz) UMTS
WCS	LTE(10 MHz)
BRS	LTE(20 MHz)

3.3. MAXIMUM MEASUREMENT UNCERTAINTY

The value of the measurement uncertainty for the measurement of each parameter.

Coverage factor *k* = 2, Confidence levels of 95 %

Description	Condition	Uncertainty
Conducted RF Output Power	-	± 0.72 dB
Occupied Bandwidth	OBW ≤ 20 MHz	± 52 kHz
Passband Gain and Bandwidth & Out of Band Rejection	Gain 20 dB bandwidth	± 0.89 dB ± 0.58 MHz
Spurious Emissions at Antenna Terminals	-	± 1.08 dB
Radiated Spurious Emissions	f ≤ 1 GHz f > 1 GHz	± 4.80 dB ± 6.07 dB

4. STANDARDS ENVIRONMENTAL TEST CONDITIONS

Temperature :	**+ 15 ℃ to + 35 ℃**
Relative humidity:	**30 % to 60 %**
Air pressure	**860 mbar to 1 060 mbar**

5. TEST EQUIPMENT

Manufacturer	Model / Equipment	Cal Interval	Calibration Date	Serial No.
Agilent	E4438C /Signal Generator	Annual	09/02/2015	MY42082646
Agilent	N5182A /Signal Generator	Annual	04/07/2015	MY50141649
Agilent	N5182A /Signal Generator	Annual	05/13/2015	MY47070230
Rohde & Schwarz	SMBV100A /Signal Generator	Annual	10/20/2015	255727
Rohde & Schwarz	SMB100A /Signal Generator	Annual	07/16/2015	177633
NANGYEUL CO., LTD.	NY-THR18750 / Temperature and Humidity Chamber	Annual	10/27/2015	NY-2009012201A
Agilent	N9020A /Signal Analyzer	Annual	02/27/2015	MY46471587
WEINSCHEL	67-30-33 / Fixed Attenuator	Annual	10/29/2015	BR5347
DEAYOUNG ENT	DFSS60 / AC Power Supply	Annual	04/01/2015	1003030-1
Rohde & Schwarz	FSP / Spectrum Analyzer	Annual	09/24/2015	100688
CERNEX, Inc	CBLU1183540/AMP	Annual	07/21/2015	22964
WEINSCHEL	1506A/Power Divider	Annual	10/21/2015	MD793
Schwarzbeck	BBHA 9120D / Horn Antenna	Biennial	07/30/2015	1151
Schwarzbeck	VULB 9160 / TRILOG Antenna	Biennial	10/10/2014	9160-3368
HD	MA240 / Antenna Position Tower	N/A	N/A	556
EMCO	1050 / Turn Table	N/A	N/A	114
HD GmbH	HD 100 / Controller	N/A	N/A	13
HD GmbH	KMS 560/ SlideBar	N/A	N/A	12

6. RF OUTPUT POWER

FCC Rules

Test Requirements:

§ 2.1046 Measurements required: RF power output:

§ 2.1046 (a) For transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in § 2.1033(c)(8).The electrical characteristics of the radio frequency load attached to the output terminals when this test is made shall be stated.

§ 2.1046 (b) For single sideband, independent sideband, and single channel, controlled carrier Radio telephone transmitters, the procedure specified in paragraph (a) of this section shall be employed and, in addition, the transmitter shall be modulated during the test as specified and as applicable in § 2.1046 (b) (1-5). In all tests, the input level of the modulating signal shall be such as to develop rated peak envelope power or carrier power, as appropriate, for the transmitter.

§ 2.1046 (c) For measurements conducted pursuant to paragraphs (a) and (b) of this section, all Calculations and methods used by the applicant for determining carrier power or peak envelope power, as appropriate, on the basis of measured power in the radio frequency load attached to the transmitter output terminals shall be shown. Under the test conditions specified, no components of the emission spectrum shall exceed the limits specified in the applicable rule parts as necessary for meeting occupied bandwidth or emission limitations.

§ 22.913 Effective radiated power limits. The effective radiated power (ERP) of transmitters in the Cellular Radiotelephone Service must not exceed the limits in this section.

(a) Maximum ERP. In general, the effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts. However, for those systems operating in areas more than 72 km (45 miles) from international borders that:

(1) Are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census; or,

(2) Extend coverage on a secondary basis into cellular unserved areas, as those areas are defined in § 22.949, the ERP of base transmitters and cellular repeaters of such systems must not exceed 1000 Watts. The ERP of mobile transmitter sand auxiliary test transmitters must not exceed 7 Watts.

§ 24.232 Power and antenna height limits. (a) Base stations are limited to 1640 watts peak equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT, except as described in paragraph (b) below. See §24.53 for HAAT calculation method. Base station antenna heights may exceed 300 meters with a corresponding reduction in power; see Table 1 of this section.

The service area boundary limit and microwave protection criteria specified in §24.236 and §24.237 apply.

§ 27.50 Power limits and duty cycle.

(a) The following power limits and related requirements apply to stations transmitting in the 2305-2320 MHz band or the 2345-2360 MHz band.(1) *Base and fixed stations.* (i) For base and fixed stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band:

(A) The average equivalent isotropically radiated power (EIRP) must not exceed 2,000 watts within any 5 megahertz of authorized bandwidth and must not exceed 400 watts within any 1 megahertz of authorized bandwidth.

(B) The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

(b) The following power and antenna height limits apply to transmitters operating in the 746-758 MHz, 775-788 MHz and 805-806 MHz bands:

(4) Fixed and base stations transmitting a signal in the 746-757 MHz and 776-787 MHz bands with an emission bandwidth greater than 1 MHz must not exceed an ERP of 1000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts/MHz ERP in accordance with Table 3 of this section.

(5) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal in the 746-757 MHz and 776-787 MHz bands with an

emission bandwidth greater than 1 MHz must not exceed an ERP of 2000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts/MHz ERP in accordance with Table 4 of this section.

(c) The following power and antenna height requirements apply to stations transmitting in the 600 MHz band and the 698-746 MHz band: permitted if power levels are reduced below 1000 watts/MHz ERP in accordance with Table 3 of this section;

(4) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal with an emission bandwidth greater than 1 MHz must not exceed an ERP of 2000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts/MHz ERP in accordance with Table 4 of this section;

(5) Licensees, except for licensees operating in the 600 MHz downlink band, seeking to operate a fixed or base station located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal at an ERP greater than 1000 watts must:

(d) The following power and antenna height requirements apply to stations transmitting in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz and 2180-2200 MHz bands

(2) The power of each fixed or base station transmitting in the 1995-2000 MHz, the 2110-2155 MHz 2155-2180 MHz band, or 2180-2200 MHz band and situated in any geographic location other than that described in paragraph (d)(1) of this section is limited to: (ii) An EIRP of 1640 watts/MHz when transmitting with an emission bandwidth greater than 1 MHz. licensees authorized to operate on adjacent frequency blocks in the 2110-2180 MHz band.

(4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

(5) Equipment employed must be authorized in accordance with the provisions of §24.51. Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (d)(6) of this section. 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.

(h) The following power limits shall apply in the BRS and EBS:

(1) *Main, booster and base stations.*

(i) The maximum EIRP of a main, booster or base station shall not exceed 33 dBW 10log(X/Y) dBW, where X is the actual channel width in MHz and Y is either 6 MHz if prior to transition or the station is in the MBS following transition or 5.5 MHz if the station is in the LBS and UBS following transition, except as provided in paragraph (h)(1)(ii) of this section.

(ii) If a main or booster station sectorizes or otherwise uses one or more transmitting antennas with a non-omnidirectional horizontal plane radiation pattern, the maximum EIRP in dBW in a given direction shall be determined by the following formula: EIRP = 33 dBW 10 log(X/Y) dBW 10 log(360/beamwidth) dBW, where X is the actual channel width in MHz, Y is either (i) 6 MHz if prior to transition or the station is in the MBS following transition or (ii) 5.5 MHz if the station is in the LBS and UBS following transition, and beamwidth is the total horizontal plane beamwidth of the individual transmitting antenna for the station or any sector measured at the half-power points.

§90.635 Limitations on power and antenna height. (a) The effective radiated power and antenna height for base stations may not exceed 1 kilowatt (30 dBw) and 304 m. (1,000 ft.) above average terrain (AAT), respectively, or the equivalent thereof as determined from the Table. These are maximum values, and applicants will be required to justify power levels and antenna heights requested. (b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

Antenna height (AAT) in meters (feet)	**Effective radiated power (watts)**
Above 1372 (4500)	65
Above 1220 (4000) To 1372 (4500)	70
Above 1067 (3500) To 1220 (4000)	75
Above 915 (3000) To 1067 (3500)	100
Above 763 (2500) To 915 (3000)	140
Above 610 (2000) To 763 (2500)	200
Above 458 (1500) To 610 (2000)	350
Above 305 (1000) To 458 (1500)	600
Up to 305 (1000)	1000

Test Procedures:

Measurements were in accordance with the test methods section 3.5.2 of KDB 935210 D05 v01.

a) Connect a signal generator to the input of the EUT.

b) Configure to generate the AWGN (broadband) test signal.

c) The frequency of the signal generator shall be set to the frequency of (f0) as determined from 3.3.

d) Connect a spectrum analyzer or power meter to the output of the EUT using appropriate attenuation as necessary.

e) Set the signal generator output power to a level that produces an EUT output level that is just below the AGC threshold (see 3.2), but not more than 0.5 dB below.

f) Measure the output power of the EUT and record (Power measurement with a spectrum analyzer).

g) Remove the EUT from the measurement setup and using the same signal generator settings, repeat the power measurement on the input signal to the EUT and record as input power.

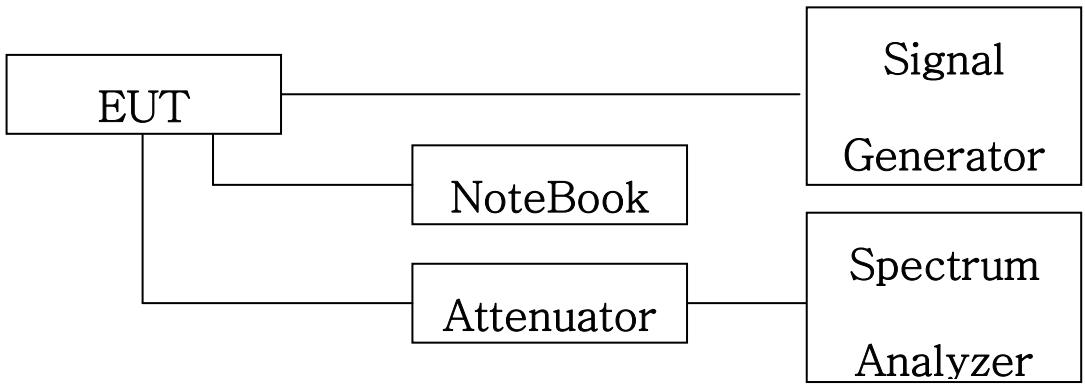
h) Repeat the procedure with the narrowband test signal.

i) Repeat the procedure for both test signals with input signal amplitude set to 3 dB above the AGC threshold level.

j) Repeat for all frequency bands authorized for use by the EUT.

Power measurement Method :

Guidance for performing input/output power measurements using a spectrum or signal analyzer is provided in 5.2 of KDB Publication 971168.



Block Diagram 1. RF Power Output Test Setup

IC Rules

Test Requirements:

SRSP-502

6.3 Technical Requirements

6.3.1 Radiated Power and Antenna Height Limits

Within the sharing and protection zones, the ERP will be subject to the limitations in tables C3 and C4 of Annex C. Outside the sharing and protection zones, the ERP shall be limited to that necessary to provide the required service as determined by the system requirements. Systems requiring an ERP greater than 125 watts may require additional justification and will be considered on a case-by-case basis by the local spectrum management office.

C3 Limits of Effective Radiated Power and Antenna Height for General Sharing

Arrangements

Effective Radiated Power (ERP) is defined as the product of the power supplied to the antenna and its gain relative to a half‑wave dipole in a given direction.

C3.1 For base stations in Sharing Zones I (include Sectors 1 and 2) and III, and the Protection Zones, Table C3 lists the limits of Effective Radiated Power (ERP) corresponding to the Effective Antenna Height (EAH) ranges shown. In this case, Effective Antenna Height is calculated by subtracting the Assumed Average Terrain Elevation given in Table C5 from the antenna height above mean sea level.

Table C3 — Limits of Effective Radiated Power (ERP) Corresponding to Effective Antenna Heights of Base Stations in Sharing Zones I (including Sectors 1 and 2) and III, and the Protection Zones

Effective Antenna Height (EAH) in Metres	ERP Watts (Maximum)
Up to 153	500
Above 153 to 306	125
Above 306 to 458	40
Above 458 to 610	20
Above 610 to 915	10
Above 915 to 1067	6
Above 1067	5

C3.2 For base stations in Sharing Zone II, Table C4 lists the limits of Effective Radiated Power (ERP) corresponding to the antenna height above mean sea level (AMSL) ranges shown.

Table C4 — Limits of Effective Radiated Power (ERP) Corresponding to Antenna Heights Above Mean Sea Level of Base Stations in Sharing Zone II

Antenna Height Above Mean Sea Level (AMSL) in Metres	ERP Watts (Maximum)
Up to 504	500
Above 504 to 610	350
Above 610 to 763	200
Above 763 to 915	140
Above 915 to 1067	100
Above 1067 to 1220	75
Above 1220 to 1372	70
Above 1372 to 1523	65
Above 1523	5

corresponding to the antenna height above mean sea level ranges shown.

SRSP-503

5. Technical Criteria

5.1 Power and Antenna Height Limitations

5.1.1 The maximum effective radiated power (ERP) for base stations shall be 100 watts for analogue systems and 500 watts per channel for digital systems.

5.1.2 Notwithstanding of section 5.1.1, outside of metropolitan areas along transportation corridors, when a directional antenna is used, the maximum allowable ERP of analogue systems shall not exceed 500 watts.

5.1.3 The maximum ERP shall be 6.3 watts for mobile stations.

5.1.4 The ERP and antenna height shall be limited to that necessary to provide the required service as governed by the system requirements.

5.1.5 A reduction in ERP from that specified in paragraphs 5.1.1 and 5.1.2 is required for base station antenna heights in excess of 150 meters above average terrain (AAT) as follows:

Antenna Height up to: (AAT) (meter)	150	180	210	240	270	300	450
Power Reduction (dB)	0.0	1.8	3.5	4.5	6.0	7.0	11.0

SRSP-510

5. Technical Criteria

5.1 Radiated Power and Antenna Height Limits

5.1.1 Base Stations

For base stations with channel bandwidth equal to or less than 1 MHz, the maximum equivalent isotropically radiated power (e.i.r.p.) is limited to 3280 watts with an antenna height above average terrain (HAAT) up to 300 metres. Base stations operating in urban areas are limited to a maximum allowable e.i.r.p. of 1640 watts. Base station antenna heights above average terrain may exceed 300 metres with a corresponding reduction in e.i.r.p. according to the following table:

HAAT[5] (in metres)	Maximum e.i.r.p. (watts)
≤ 300	3280 or 1640[8]
≤ 500	1070
≤1000	490
≤1500	270
≤2000	160

For base stations with a channel bandwidth greater than 1 MHz, the maximum e.i.r.p. is limited to 3280 watts/MHz e.i.r.p. (i.e., no more than 3280 watts e.i.r.p. in any 1 MHz band segment) with an antenna height above average terrain (HAAT) up to 300 metres. Fixed or base stations operating in urban areas are limited to a maximum allowable e.i.r.p. of 1640 watts/MHz e.i.r.p. Base station antenna heights above average terrain may exceed 300 metres with a corresponding reduction in e.i.r.p. according to the following table:

HAAT[5] (in metres)	Maximum e.i.r.p. (watts per MHz)
≤ 300	3280 or 1640[8]
≤ 500	1070
≤1000	490
≤1500	270
≤2000	160

Base stations transmitting in the lower sub-band shall comply with the power limits set forth in section 5.1.2, i.e. the same as mobile stations.

5.1.2 Mobile Stations

Mobile stations and hand-held portables are limited to 2 watts maximum e.i.r.p. The equipment shall employ means to limit the power to the minimum necessary for successful communication.

SRSP-513

5. Technical Criteria

5.1 Radiated Power and Antenna Height Limits

5.1.1 Fixed and Base Stations

5.1.1.2 For fixed and base stations operating within the frequency range 2110-2180 MHz with a channel bandwidth greater than 1 MHz, the maximum permissible e.i.r.p. is 1640 watts/MHz e.i.r.p. (i.e. no more than 1640 watts e.i.r.p. in any 1 MHz band segment) with an antenna height above average terrain (HAAT) up to 300 metres.

5.1.1.3 Fixed and base stations located in geographic areas at a distance greater than 26 km from large or medium population centres and transmitting within the frequency range 2110-2180 MHz, may increase their e.i.r.p. up to a maximum of 3280 watts/MHz (i.e. no more than 3280 watts e.i.r.p. in any 1 MHz band segment), with an antenna HAAT up to 300 metres.

Within 26 km of any large or medium population centre, fixed and base stations may operate at increased e.i.r.p. if more than 50% of the population within a particular sector's coverage 6 is located outside these large and medium population centres.

Fixed and base stations with increased e.i.r.p. must not be used to provide coverage to large and medium population centres. However, some incidental coverage of these large and medium population centres by stations with increased e.i.r.p. is permitted.

This provision also applies for fixed and base stations with a channel bandwidth equal to or less than 1 MHz (i.e. the e.i.r.p. may be increased up to a maximum of 3280 watts).

5.1.1.4 Fixed and base station antenna heights above average terrain may exceed 300 metres with a reduction in e.i.r.p. The maximum permissible e.i.r.p. for installations with antenna HAAT in excess of 300 metres is given in the following table:

Table 2 — Reduction to Maximum Allowable E.I.R.P. for HAAT > 300 m	
HAAT (in metres)	**Maximum e.i.r.p. (watts or watts per MHz[a])**
HAAT ≤ 300	1640 (or 3280[b])
300 < HAAT ≤ 500	1070
500 < HAAT ≤ 1000	490
1000 < HAAT ≤ 1500	270
1500 < HAAT ≤ 2000	160
Notes: [a] Depending on the channel bandwidth: watts if less than 1 MHz bandwidth or else watts per MHz. [b] If Section 5.1.1.3 applies.	

5.1.1.5 Fixed or base stations transmitting in the lower sub-band (1710-1780 MHz) shall comply with the power limits set forth in Section 5.1.2.

5.1.2 Mobile and Portable Stations

Maximum e.i.r.p. limits for mobile and portable (hand-held) stations are specified in RSS-139, Advanced Wireless Services (AWS) Equipment Operating in the Bands 1710–1780 MHz and 2110–2180 MHz. These stations should employ automatic transmit power control such that stations operate on the minimum required power.

SRSP-516

5. Technical Criteria

5.1 Radiated Power Limits

5.1.1 Base and Fixed Stations

5.1.1.1 The equivalent isotropically radiated power (e.i.r.p.) of the base and fixed stations (with the exception of fixed subscriber stations) operating in the band 2305-2315 MHz or in the band 2350-2360 MHz shall not exceed 400 watts within any 1 MHz band; and shall not exceed 2000 W within any 5 MHz of bandwidth. The peak to average power ratio (PAPR) of these transmissions shall comply with the limits specified in RSS-195.

5.1.1.2 The e.i.r.p. of the base and fixed stations (with the exception of fixed subscriber stations) operating in the band 2315-2320 MHz or in the band 2345-2350 MHz shall not exceed 2000 W within either 5 MHz band.

SRSP-517

5. Technical Criteria

5.1 Radiated Power Limits and Antenna Height Limits

5.1.1 Fixed and Base Stations

Fixed and base stations (except fixed subscriber stations) are limited to a maximum permissible equivalent isotropically radiated power (e.i.r.p.) of 1640 W/MHz (i.e. no more than 1640 W e.i.r.p. in any 1 MHz band segment) with an antenna height above average terrain (HAAT) up to 300 metres. For all installations with antenna HAAT in excess of 300 metres, a corresponding reduction in e.i.r.p. according to Table 2 shall be applied.

Table 2 — Reduction to Maximum Allowable E.I.R.P. for HAAT > 300 m

HAAT (m)	Reduction in maximum e.i.r.p. (dB)
300 < HAAT ≤500	2
500 < HAAT ≤1,000	5
1,000 < HAAT ≤1,500	8
1,500 < HAAT ≤2,000	10

SRSP-518

5. Technical Criteria

5.1 Radiated Power and Antenna Height Limits

5.1.1.2 For fixed and base stations transmitting in accordance with sections 4.1.1 to 4.1.3 within the frequency range 716-756 MHz with a channel bandwidth greater than 1 MHz, the maximum permissible e.i.r.p. is 1640 watts/MHz (i.e. no more than 1640 watts e.i.r.p. in any 1 MHz band segment) with a HAAT up to 305 metres. The same e.i.r.p. limit also applies to fixed and base stations operating at any frequency in the 700 MHz band in accordance with Section 4.1.4.

5.1.1.4 For all installations with an antenna HAAT in excess of 305 metres, a corresponding reduction in e.i.r.p. according to the following formula shall be applied:

EIRPreduction =20 log10(HAAT/305) dB

RSS-131 6.2

The manufacturer's output power rating Prated MUST NOT be greater than Pmean for all types of enhancers.

Additional Power Back-off Condition for Multiple Carrier Operations:

An example of a single carrier operation is a band translator that incorporates an (IF) filter of a passband equal to one channel bandwidth. Another example of a single carrier operation is the use of an enhancer, before the connection to the antenna, to boost a low power transmitter (single carrier) to a higher power.

An example of a multiple carrier operation is the use of an enhancer to amplify off-air signals that contain the wanted carrier and two (or more) adjacent band carriers. If the enhancer passband is wide enough to pass more than the wanted channel bandwidth, the enhancer output stage will be loaded by the multiple carriers.

Examination: with 3 carrier signals (of assumed equal level), the peak voltage will be 3 times the single carrier voltage. The corresponding Peak Envelope Power (PEP) will be 3^2 times greater than a single carrier or 9/4 = 2.25 times greater than 2 tones PEP. Therefore the permissible wanted signal operating point has to be backed off by 3.5 dB (i.e. **Ppermissible = Prated - 3.5 dB**).

Note 1: All enhancers will be classified in the Radio Equipment List (REL) for a single carrier operation.

Note 2: For a multiple carrier operation, the rating must be reduced by 3.5 dB or more.

Note 3: If there are more than 3 carriers present at the amplifier input point, greater power back-off may be required. This can be examined on a case-by-case basis.

Test Procedures: RSS-131 4.3

4.3.1 Multi-channel Enhancer

The following subscript "o" denotes a parameter at the enhancer output point.

Connect two signal generators to the input of the Device Under Test (DUT), via a proper impedance matching network (and preferably via a variable attenuator) so that the two input signals are equal sinusoids (and can be raised equally).

Connect a dummy load of suitable load rating to the enhancer output point. Connect also a spectrum analyser to this output point via a coupling network and attenuator, so that only a portion of the output signal is coupled to the spectrum analyser. The coupling attenuation shall be stated in the test report.

Set the two generator frequencies f1 and f2 such that they and their third-order intermodulation product frequencies, f3= 2f1-f2 and f4 = 2f2 - f1, are all within the passband of the DUT.

Raise the input level to the DUT while observing the output tone levels, Po1 and Po2, and the intermodulation product levels, Po3 and Po4.

For enhancers rated 500 watts or less: Raise the input level to the DUT until the greater level of the intermodulation products at the enhancer output terminals, Po3 or Po4, equals -43 dBW.

For enhancers rated over 500 watts: Raise the input level to the DUT until the greater level of the intermodulation products at the enhancer output terminals, Po3 or Po4, is 67 dB below the level of either output tone level, Po1 or Po2.

Record all signal levels and their frequencies. Calculate the mean output power (Pmean) under this testing condition using Pmean = Po1 + 3 dB.

4.3.2 Single Channel Enhancer

A suitably modulated signal, representative of the technology for which certification is sought, is applied to the input of the amplifier. The input power level is increased until the manufacturer’s rated input power level is achieved or until a 2 dB increase in input level results in a 1 dB increase

in output level (i.e. compression begins). Record the output power in the 99% emission bandwidth using any suitable means.

Test Results:

Input Signal	Input Level (dBm)	Maximum Amp Gain
700 MHz	DL : -15 dBm UL : -42 dBm	DL : 42 dB UL : 37 dB
SMR800		
850 Cellular		
PCS 1900	DL : -15 dBm UL : -45 dBm	DL : 45 dB UL : 40 dB
AWS 2100		
WCS		
BRS		

Single channel Enhancer

* Due to EUT's ALC function (Auto Level Control), even if input signal is increased,

The same output power is transmit.

[Downlink]

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(W)
700 Band_ LTE 5 MHz AGC threshold	Low	731.50	27.03	0.504
	Middle	742.50	27.05	0.507
	High	753.50	27.02	0.503
700 Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	731.50	27.01	0.502
	Middle	742.50	27.04	0.506
	High	753.50	27.06	0.508
700 Band_ LTE 10 MHz AGC threshold	Low	734.00	27.02	0.504
	Middle	741.00	27.00	0.501
	High	751.00	27.06	0.508
700 Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	734.00	27.09	0.512
	Middle	741.00	27.01	0.503
	High	751.00	27.10	0.512

	Channel	Frequency (MHz)	Calculated MIMO Output Power	
			(dBm)	(W)
700 Band_ LTE 5 MHz AGC threshold	Low	731.50	30.04	1.009
	Middle	742.50	30.06	1.014
	High	753.50	30.03	1.006
700 Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	731.50	30.02	1.004
	Middle	742.50	30.05	1.013
	High	753.50	30.07	1.015
700 Band_ LTE 10 MHz AGC threshold	Low	734.00	30.03	1.007
	Middle	741.00	30.01	1.002
	High	751.00	30.03	1.016
700 Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	734.00	30.10	1.024
	Middle	741.00	30.02	1.005
	High	751.00	30.11	1.025

Note. The MIMO output power were calculated, as described in FCC KDB 662911D01v02r01 section E)2)c)

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(W)
SMR 800 ,850 Cellular Band_ LTE 5 MHz AGC threshold	Low	864.50	27.04	0.505
	Middle	878.00	27.06	0.508
	High	891.50	27.05	0.507
SMR 800 ,850 Cellular Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	864.50	27.11	0.514
	Middle	878.00	27.06	0.509
	High	891.50	27.09	0.511
850 Cellular Band_ LTE 10 MHz AGC threshold	Low	874.00	27.03	0.504
	Middle	-	-	-
	High	889.00	27.06	0.508
850 Cellular Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	874.00	27.01	0.502
	Middle	-	-	-
	High	889.00	27.06	0.508

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(W)
850 Cellular Band_ UMTS AGC threshold	Low	871.50	27.08	0.510
	Middle	881.50	27.04	0.505
	High	891.50	27.10	0.512
850 Cellular Band_ UMTS +3dBm above the AGC threshold	Low	871.50	27.05	0.507
	Middle	881.50	27.05	0.507
	High	891.50	27.07	0.509
SMR 800 ,850 Cellular Band_ CDMA AGC threshold	Low	863.25	27.05	0.507
	Middle	878.00	27.09	0.511
	High	892.75	27.09	0.511
SMR 800 ,850 Cellular Band_ CDMA +3dBm above the AGC threshold	Low	863.25	27.07	0.510
	Middle	878.00	27.10	0.513
	High	892.75	27.13	0.517

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(W)
850 Cellular Band_ GSM AGC threshold	Low	869.20	27.09	0.511
	Middle	881.50	27.09	0.512
	High	893.80	27.09	0.511
850 Cellular Band_ GSM +3dBm above the AGC threshold	Low	869.20	27.05	0.507
	Middle	881.50	27.05	0.507
	High	893.80	27.07	0.510

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(W)
AWS 2100 Band_ LTE 5 MHz AGC threshold	Low	2112.50	30.10	1.022
	Middle	2145.00	30.09	1.020
	High	2177.50	30.08	1.018
AWS 2100 Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	2112.50	30.08	1.018
	Middle	2145.00	30.07	1.017
	High	2177.50	30.03	1.007
AWS 2100 Band_ LTE 10 MHz AGC threshold	Low	2115.00	30.08	1.019
	Middle	2145.00	30.03	1.006
	High	2175.00	30.04	1.009
AWS 2100 Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	2115.00	30.06	1.013
	Middle	2145.00	30.00	1.001
	High	2175.00	30.01	1.003
AWS 2100 Band_ LTE 15 MHz AGC threshold	Low	2117.50	30.04	1.009
	Middle	2145.00	30.05	1.012
	High	2172.50	30.09	1.020
AWS 2100 Band_ LTE 15 MHz +3dBm above the AGC threshold	Low	2117.50	30.07	1.017
	Middle	2145.00	30.07	1.015
	High	2172.50	30.06	1.013

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(W)
AWS 2100 Band_ LTE 20 MHz AGC threshold	Low	2120.00	30.08	1.019
	Middle	2145.00	30.09	1.020
	High	2170.00	30.02	1.004
AWS 2100 Band_ LTE 20 MHz +3dBm above the AGC threshold	Low	2120.00	30.04	1.009
	Middle	2145.00	30.02	1.004
	High	2170.00	30.06	1.013
AWS 2100 Band_ UMTS AGC threshold	Low	2112.50	30.09	1.021
	Middle	2145.00	30.05	1.011
	High	2177.50	30.09	1.021
AWS 2100 Band_ UMTS +3dBm above the AGC threshold	Low	2112.50	30.13	1.030
	Middle	2145.00	30.05	1.012
	High	2177.50	30.06	1.014

	Channel	Frequency (MHz)	Calculated MIMO Output Power	
			(dBm)	(W)
AWS 2100 Band_ LTE 5 MHz AGC threshold	Low	2112.50	33.11	2.046
	Middle	2145.00	33.10	2.042
	High	2177.50	33.09	2.037
AWS 2100 Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	2112.50	33.09	2.037
	Middle	2145.00	33.08	2.032
	High	2177.50	33.04	2.014
AWS 2100 Band_ LTE 10 MHz AGC threshold	Low	2115.00	33.09	2.037
	Middle	2145.00	33.04	2.014
	High	2175.00	33.05	2.018
AWS 2100 Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	2115.00	33.07	2.028
	Middle	2145.00	33.01	2.000
	High	2175.00	33.02	2.004
AWS 2100 Band_ LTE 15 MHz AGC threshold	Low	2117.50	33.05	2.018
	Middle	2145.00	33.06	2.023
	High	2172.50	33.10	2.042
AWS 2100 Band_ LTE 15 MHz +3dBm above the AGC threshold	Low	2117.50	33.08	2.032
	Middle	2145.00	33.08	2.032
	High	2172.50	33.07	2.028

	Channel	Frequency (MHz)	Calculated MIMO Output Power	
			(dBm)	(W)
AWS 2100 Band_ LTE 20 MHz AGC threshold	Low	2120.00	33.09	2.037
	Middle	2145.00	33.10	2.042
	High	2170.00	33.03	2.009
AWS 2100 Band_ LTE 20 MHz +3dBm above the AGC threshold	Low	2120.00	33.05	2.018
	Middle	2145.00	33.03	2.009
	High	2170.00	33.07	2.028
AWS 2100 Band_ UMTS AGC threshold	Low	2112.50	33.10	2.042
	Middle	2145.00	33.06	2.023
	High	2177.50	33.10	2.042
AWS 2100 Band_ UMTS +3dBm above the AGC threshold	Low	2112.50	33.14	2.061
	Middle	2145.00	33.06	2.023
	High	2177.50	33.09	2.037

Note. The MIMO output power were calculated, as described in FCC KDB 662911D01v02r01 section E)2)c)

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(W)
BRS_ LTE 20 MHz AGC threshold	Low	2506.00	30.03	1.006
	Middle	2593.00	30.01	1.002
	High	2680.00	30.08	1.019
BRS_ LTE 20 MHz +3dBm above the AGC threshold	Low	2506.00	30.04	1.009
	Middle	2593.00	30.03	1.007
	High	2680.00	30.09	1.021

	Channel	Frequency (MHz)	Calculated MIMO Output Power	
			(dBm)	(W)
BRS_ LTE 20 MHz AGC threshold	Low	2506.00	33.04	2.014
	Middle	2593.00	33.02	2.004
	High	2680.00	33.09	2.037
BRS_ LTE 20 MHz +3dBm above the AGC threshold	Low	2506.00	33.05	2.018
	Middle	2593.00	33.04	2.014
	High	2680.00	33.10	2.042

Note. The MIMO output power were calculated, as described in FCC KDB 662911D01v02r01 section E)2)c)

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(W)
PCS 1900 Band_ LTE 5 MHz AGC threshold	Low	1932.50	30.05	1.012
	Middle	1962.50	30.10	1.023
	High	1992.50	30.02	1.004
PCS 1900 Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	1992.50	30.13	1.031
	Middle	1992.50	30.06	1.015
	High	1992.50	30.03	1.007
PCS 1900 Band_ LTE 10 MHz AGC threshold	Low	1935.00	30.08	1.018
	Middle	1960.00	30.05	1.012
	High	1990.00	30.10	1.024
PCS 1900 Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	1935.00	30.18	1.042
	Middle	1960.00	30.37	1.089
	High	1990.00	30.12	1.028
PCS 1900 Band_ UMTS AGC threshold	Low	1932.50	30.02	1.004
	Middle	1962.50	30.56	1.139
	High	1992.50	30.07	1.017
PCS 1900 Band_ UMTS +3dBm above the AGC threshold	Low	1932.50	30.02	1.005
	Middle	1962.50	30.49	1.118
	High	1992.50	30.12	1.027

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(W)
PCS 1900 Band_ CDMA AGC threshold	Low	1931.25	30.05	1.011
	Middle	1962.50	30.06	1.015
	High	1993.75	30.09	1.021
PCS 1900 Band_ CDMA +3dBm above the AGC threshold	Low	1931.25	30.05	1.012
	Middle	1962.50	30.00	1.000
	High	1993.75	30.04	1.009
PCS 1900 Band_ GSM AGC threshold	Low	1930.20	30.13	1.031
	Middle	1963.50	30.08	1.018
	High	1994.80	30.04	1.010
PCS 1900 Band_ GSM +3dBm above the AGC threshold	Low	1932.20	30.06	1.014
	Middle	1963.50	30.11	1.025
	High	1994.80	30.05	1.010

	Channel	Frequency (MHz)	Calculated MIMO Output Power

			(dBm)	(W)
PCS 1900 Band_ LTE 5 MHz AGC threshold	Low	1932.50	33.06	2.023
	Middle	1962.50	33.11	2.046
	High	1992.50	33.03	2.009
PCS 1900 Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	1992.50	33.14	2.061
	Middle	1992.50	33.07	2.028
	High	1992.50	33.04	2.014
PCS 1900 Band_ LTE 10 MHz AGC threshold	Low	1935.00	33.09	2.037
	Middle	1960.00	33.06	2.023
	High	1990.00	33.11	2.046
PCS 1900 Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	1935.00	33.19	2.084
	Middle	1960.00	33.38	2.178
	High	1990.00	33.13	2.056
PCS 1900 Band_ UMTS AGC threshold	Low	1932.50	33.03	2.009
	Middle	1962.50	33.57	2.275
	High	1992.50	33.08	2.032
PCS 1900 Band_ UMTS +3dBm above the AGC threshold	Low	1932.50	33.03	2.009
	Middle	1962.50	33.5	2.239
	High	1992.50	33.13	2.056

	Channel	Frequency (MHz)	Calculated MIMO Output Power	
			(dBm)	(W)
PCS 1900 Band_ CDMA AGC threshold	Low	1931.25	33.06	2.023
	Middle	1962.50	33.07	2.028
	High	1993.75	33.10	2.042
PCS 1900 Band_ CDMA +3dBm above the AGC threshold	Low	1931.25	33.06	2.023
	Middle	1962.50	33.01	2.000
	High	1993.75	33.05	2.018
PCS 1900 Band_ GSM AGC threshold	Low	1930.20	33.14	2.061
	Middle	1963.50	33.09	2.037
	High	1994.80	33.05	2.018
PCS 1900 Band_ GSM +3dBm above the AGC threshold	Low	1932.20	33.07	2.028
	Middle	1963.50	33.12	2.051
	High	1994.80	33.06	2.023

Note. The MIMO output power were calculated, as described in FCC KDB 662911D01v02r01 section E)2)c)

	Channel	Frequency	Output Power

		(MHz)	(dBm)	(W)
WCS_ LTE 10MHz AGC threshold	Low	-	-	-
	Middle	2355.00	30.09	1.020
	High	-	-	-
WCS_ LTE 10MHz +3dBm above the AGC threshold	Low	-	-	-
	Middle	2355.00	30.08	1.018
	High	-	-	-

	Channel	Frequency (MHz)	PAR (dB)
WCS_ LTE 10MHz the peak-to-average ratio (PAR) AGC threshold	Low	-	-
	Middle	2355.00	10.63
	High	-	-
WCS_ LTE 10MHz the peak-to-average ratio (PAR) +3dBm above the AGC threshold	Low	-	-
	Middle	2355.00	10.57
	High	-	-

[Uplink]

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(mW)
700 Band_ LTE 5 MHz AGC threshold	Low	700.50	-4.93	0.321
	Middle	707.00	-4.96	0.319
	High	713.50	-4.95	0.320
700 Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	700.50	-4.98	0.318
	Middle	707.00	-4.86	0.327
	High	713.50	-5.03	0.314
700 Band_ LTE 10 MHz AGC threshold	Low	-	-	-
	Middle	782.00	-4.94	0.321
	High	-	-	-
700 Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	-	-	-
	Middle	782.00	-4.94	0.321
	High	-	-	-

	Channel	Frequency (MHz)	Calculated MIMO Output Power	
			(dBm)	(mW)
700 Band_ LTE 5 MHz AGC threshold	Low	700.50	-1.92	0.643
	Middle	707.00	-1.95	0.638
	High	713.50	-1.94	0.640
700 Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	700.50	-1.97	0.635
	Middle	707.00	-1.85	0.653
	High	713.50	-2.02	0.628
700 Band_ LTE 10 MHz AGC threshold	Low	-	-	-
	Middle	782.00	-1.93	0.641
	High	-	-	-
700 Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	-	-	-
	Middle	782.00	-1.93	0.641
	High	-	-	-

Note. The MIMO output power were calculated, as described in FCC KDB 662911D01v02r01 section E)2)c)

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(mW)
SMR 800 ,850 Cellular Band_ LTE 5 MHz AGC threshold	Low	819.50	-4.97	0.318
	Middle	833.00	-4.99	0.317
	High	846.50	-4.97	0.318
SMR 800 ,850 Cellular Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	819.50	-4.92	0.322
	Middle	833.00	-5.00	0.316
	High	846.50	-5.00	0.316
850 Cellular Band_ LTE 10 MHz AGC threshold	Low	829.00	-4.97	0.318
	Middle	-	-	-
	High	844.00	-4.94	0.321
850 Cellular Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	829.00	-4.96	0.319
	Middle	-	-	-
	High	844.00	-4.92	0.322

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(mW)
850 Cellular Band_ UMTS AGC threshold	Low	826.50	-4.94	0.321
	Middle	836.50	-4.91	0.323
	High	846.50	-4.94	0.321
850 Cellular Band_ UMTS +3dBm above the AGC threshold	Low	826.50	-4.97	0.318
	Middle	836.50	-4.93	0.321
	High	846.50	-4.96	0.319
SMR 800 ,850 Cellular Band_ CDMA AGC threshold	Low	818.25	-4.92	0.322
	Middle	833.00	-4.95	0.320
	High	847.75	-5.02	0.315
SMR 800 ,850 Cellular Band_ CDMA +3dBm above the AGC threshold	Low	818.25	-4.96	0.319
	Middle	833.00	-4.95	0.320
	High	847.75	-5.02	0.315

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(mW)
850 Cellular Band_ GSM AGC threshold	Low	824.20	-4.98	0.318
	Middle	836.50	-4.94	0.321
	High	848.80	-4.93	0.321
850 Cellular Band_ GSM +3dBm above the AGC threshold	Low	824.20	-5.00	0.316
	Middle	836.50	-4.96	0.319
	High	848.80	-4.94	0.321

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(mW)
AWS 2100 Band_ LTE 5 MHz AGC threshold	Low	1712.50	-4.92	0.322
	Middle	1745.00	-4.96	0.319
	High	1777.50	-5.01	0.316
AWS 2100 Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	1712.50	-4.93	0.321
	Middle	1745.00	-4.95	0.320
	High	1777.50	-4.96	0.319
AWS 2100 Band_ LTE 10 MHz AGC threshold	Low	1715.00	-4.96	0.319
	Middle	1745.00	-4.95	0.320
	High	1775.00	-4.96	0.319
AWS 2100 Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	1715.00	-4.95	0.320
	Middle	1745.00	-4.94	0.321
	High	1775.00	-4.94	0.321
AWS 2100 Band_ LTE 15 MHz AGC threshold	Low	1717.50	-4.99	0.317
	Middle	1745.00	-5.03	0.314
	High	1772.50	-4.96	0.319
AWS 2100 Band_ LTE 15 MHz +3dBm above the AGC threshold	Low	1717.50	-5.00	0.316
	Middle	1745.00	-5.04	0.313
	High	1772.50	-4.94	0.321

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(mW)
AWS 2100 Band_ LTE 20 MHz AGC threshold	Low	1720.00	-4.95	0.320
	Middle	1745.00	-4.98	0.318
	High	1770.00	-5.02	0.315
AWS 2100 Band_ LTE 20 MHz +3dBm above the AGC threshold	Low	1720.00	-4.96	0.319
	Middle	1745.00	-4.99	0.317
	High	1770.00	-4.99	0.317
AWS 2100 Band_ UMTS AGC threshold	Low	1712.50	-4.93	0.321
	Middle	1745.00	-5.00	0.316
	High	1777.50	-4.98	0.318
AWS 2100 Band_ UMTS +3dBm above the AGC threshold	Low	1712.50	-4.97	0.318
	Middle	1745.00	-4.97	0.318
	High	1777.50	-5.01	0.316

	Channel	Frequency (MHz)	Calculated MIMO Output Power	
			(dBm)	(mW)
AWS 2100 Band_ LTE 5 MHz AGC threshold	Low	1712.50	-1.91	0.644
	Middle	1745.00	-1.95	0.638
	High	1777.50	-2.00	0.631
AWS 2100 Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	1712.50	-1.92	0.643
	Middle	1745.00	-1.94	0.640
	High	1777.50	-1.95	0.638
AWS 2100 Band_ LTE 10 MHz AGC threshold	Low	1715.00	-1.95	0.638
	Middle	1745.00	-1.94	0.640
	High	1775.00	-1.95	0.638
AWS 2100 Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	1715.00	-1.94	0.640
	Middle	1745.00	-1.93	0.641
	High	1775.00	-1.93	0.641
AWS 2100 Band_ LTE 15 MHz AGC threshold	Low	1717.50	-1.98	0.634
	Middle	1745.00	-2.02	0.628
	High	1772.50	-1.95	0.638
AWS 2100 Band_ LTE 15 MHz +3dBm above the AGC threshold	Low	1717.50	-1.99	0.632
	Middle	1745.00	-2.03	0.627
	High	1772.50	-1.93	0.641

	Channel	Frequency (MHz)	Calculated MIMO Output Power	
			(dBm)	(mW)
AWS 2100 Band_ LTE 20 MHz AGC threshold	Low	1720.00	-1.94	0.640
	Middle	1745.00	-1.97	0.635
	High	1770.00	-2.01	0.630
AWS 2100 Band_ LTE 20 MHz +3dBm above the AGC threshold	Low	1720.00	-1.95	0.638
	Middle	1745.00	-1.98	0.634
	High	1770.00	-1.98	0.634
AWS 2100 Band_ UMTS AGC threshold	Low	1712.50	-1.92	0.643
	Middle	1745.00	-1.99	0.632
	High	1777.50	-1.97	0.635
AWS 2100 Band_ UMTS +3dBm above the AGC threshold	Low	1712.50	-1.96	0.637
	Middle	1745.00	-1.96	0.637
	High	1777.50	-2.00	0.631

Note. The MIMO output power were calculated, as described in FCC KDB 662911D01v02r01 section E)2)c)

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(mW)
BRS_ LTE 20 MHz AGC threshold	Low	2506.00	-4.98	0.318
	Middle	2593.00	-4.97	0.318
	High	2680.00	-4.92	0.322
BRS_ LTE 20 MHz +3dBm above the AGC threshold	Low	2506.00	-4.86	0.327
	Middle	2593.00	-4.98	0.318
	High	2680.00	-4.95	0.320

	Channel	Frequency (MHz)	Calculated MIMO Output Power	
			(dBm)	(mW)
BRS_ LTE 20 MHz AGC threshold	Low	2506.00	-1.97	0.635
	Middle	2593.00	-1.96	0.637
	High	2680.00	-1.91	0.644
BRS_ LTE 20 MHz +3dBm above the AGC threshold	Low	2506.00	-1.85	0.653
	Middle	2593.00	-1.97	0.635
	High	2680.00	-1.94	0.640

Note. The MIMO output power were calculated, as described in FCC KDB 662911D01v02r01 section E)2)c)

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(mW)
PCS 1900 Band_ LTE 5 MHz AGC threshold	Low	1852.50	-5.03	0.314
	Middle	1882.50	-5.06	0.312
	High	1912.50	-5.09	0.31
PCS 1900 Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	1852.50	-5.06	0.312
	Middle	1882.50	-5.10	0.309
	High	1912.50	-5.13	0.307
PCS 1900 Band_ LTE 10 MHz AGC threshold	Low	1855.00	-5.07	0.311
	Middle	1882.50	-5.06	0.312
	High	1910.00	-5.04	0.313
PCS 1900 Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	1855.00	-5.08	0.310
	Middle	1882.50	-5.11	0.308
	High	1910.00	-5.02	0.315
PCS 1900 Band_ UMTS AGC threshold	Low	1852.50	-5.01	0.316
	Middle	1882.50	-5.06	0.312
	High	1912.50	-5.10	0.309
PCS 1900 Band_ UMTS +3dBm above the AGC threshold	Low	1852.50	-5.06	0.312
	Middle	1882.50	-5.09	0.310
	High	1912.50	-5.07	0.311

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(mW)
PCS 1900 Band_ CDMA AGC threshold	Low	1851.25	-5.05	0.313
	Middle	1882.50	-5.01	0.316
	High	1913.75	-5.07	0.311
PCS 1900 Band_ CDMA +3dBm above the AGC threshold	Low	1851.25	-4.96	0.319
	Middle	1882.50	-5.00	0.316
	High	1913.75	-5.07	0.311
PCS 1900 Band_ GSM AGC threshold	Low	1850.20	-5.04	0.313
	Middle	1882.50	-4.90	0.324
	High	1914.80	-4.99	0.317
PCS 1900 Band_ GSM +3dBm above the AGC threshold	Low	1850.20	-4.91	0.323
	Middle	1882.50	-4.89	0.324
	High	1914.80	-5.03	0.314

	Channel	Frequency (MHz)	Calculated MIMO Output Power	
			(dBm)	(mW)
PCS 1900 Band_ LTE 5 MHz AGC threshold	Low	1852.50	-2.02	0.628
	Middle	1882.50	-2.05	0.624
	High	1912.50	-2.08	0.619
PCS 1900 Band_ LTE 5 MHz +3dBm above the AGC threshold	Low	1852.50	-2.05	0.624
	Middle	1882.50	-2.09	0.618
	High	1912.50	-2.12	0.614
PCS 1900 Band_ LTE 10 MHz AGC threshold	Low	1855.00	-2.06	0.622
	Middle	1882.50	-2.05	0.624
	High	1910.00	-2.03	0.627
PCS 1900 Band_ LTE 10 MHz +3dBm above the AGC threshold	Low	1855.00	-2.07	0.621
	Middle	1882.50	-2.10	0.617
	High	1910.00	-2.01	0.630
PCS 1900 Band_ UMTS AGC threshold	Low	1852.50	-2.00	0.631
	Middle	1882.50	-2.05	0.624
	High	1912.50	-2.09	0.618
PCS 1900 Band_ UMTS +3dBm above the AGC threshold	Low	1852.50	-2.05	0.624
	Middle	1882.50	-2.08	0.619
	High	1912.50	-2.06	0.622

	Channel	Frequency (MHz)	Calculated MIMO Output Power	
			(dBm)	(mW)
PCS 1900 Band_ CDMA AGC threshold	Low	1851.25	-2.04	0.625
	Middle	1882.50	-2.00	0.631
	High	1913.75	-2.06	0.622
PCS 1900 Band_ CDMA +3dBm above the AGC threshold	Low	1851.25	-1.95	0.638
	Middle	1882.50	-1.99	0.632
	High	1913.75	-2.06	0.622
PCS 1900 Band_ GSM AGC threshold	Low	1850.20	-2.03	0.627
	Middle	1882.50	-1.89	0.647
	High	1914.80	-1.98	0.634
PCS 1900 Band_ GSM +3dBm above the AGC threshold	Low	1850.20	-1.90	0.646
	Middle	1882.50	-1.88	0.649
	High	1914.80	-2.02	0.628

Note. The MIMO output power were calculated, as described in FCC KDB 662911D01v02r01 section E)2)c)

	Channel	Frequency (MHz)	Output Power	
			(dBm)	(W)
WCS_ LTE 10MHz AGC threshold	Low	-	-	-
	Middle	2310.00	-4.95	0.320
	High	-	-	-
WCS_ LTE 10MHz +3dBm above the AGC threshold	Low	-	-	-
	Middle	2310.00	-4.98	0.318
	High	-	-	-

	Channel	Frequency (MHz)	PAR
			(dB)
WCS_ LTE 10MHz the peak-to-average ratio (PAR) AGC threshold	Low	-	-
	Middle	2310.00	9.82
	High	-	-
WCS_ LTE 10MHz the peak-to-average ratio (PAR) +3dBm above the AGC threshold	Low	-	-
	Middle	2310.00	8.25
	High	-	-

Multi-channel Enhancer for IC

* Due to EUT's ALC function (Auto Level Control), even if input signal is increased,

The same output power is transmit.

[Downlink]

	Channel	Frequency (MHz)	Output Power	
			Po1(dBm)	Pmean(mW)
700 MHz Band	Low	728.40	24.06	27.06
	Middle	742.50	24.09	27.09
	High	755.60	24.09	27.09
SMR800 / 850 Cellular	Low	862.40	24.02	27.02
	Middle	878.00	24.07	27.07
	High	893.60	24.03	27.03
PCS1900	Low	1930.40	27.02	30.02
	Middle	1962.50	27.02	30.02
	High	1994.60	27.06	30.06
AWS2100	Low	2110.40	27.02	30.02
	Middle	2145.00	27.02	30.02
	High	2179.60	27.11	30.11

	Channel	Frequency (MHz)	Output Power	
			Po1(dBm)	Pmean(mW)
BRS	Low	2496.40	27.02	30.02
	Middle	2593.00	27.02	30.02
	High	2689.60	27.04	30.04
WCS	Low	2350.40	27.07	30.07
	Middle	2355.00	27.11	30.11
	High	2359.60	27.03	30.03

[Uplink]

	Channel	Frequency (MHz)	Output Power	
			Po1(dBm)	Pmean(mW)
700 MHz Band _ 5MHz	Low	698.40	-7.96	-4.96
	Middle	707.00	-7.92	-4.92
	High	715.60	-7.93	-4.93
700 MHz band _ 10MHz	Low	777.40	-7.97	-4.97
	Middle	782.00	-7.91	-4.91
	High	786.60	-7.96	-4.96
SMR800 / 850 Cellular	Low	817.40	-7.90	-4.90
	Middle	833.00	-7.94	-4.94
	High	848.60	-7.93	-4.93
PCS1900	Low	1850.40	-7.90	-4.90
	Middle	1882.50	-7.91	-4.91
	High	1914.60	-7.91	-4.91

	Channel	Frequency (MHz)	Output Power	
			Po1(dBm)	Pmean(mW)
AWS2100	Low	1710.40	-7.95	-4.95
	Middle	1745.00	-7.94	-4.94
	High	1779.60	-7.91	-4.91
WCS	Low	2305.40	-7.92	-4.92
	Middle	2310.00	-7.96	-4.97
	High	2314.60	-7.93	-4.93

Additional Power Back-off Condition for Multiple Carrier Operations for IC

[Downlink]

	1 Carrier (dBm)	3 Carrier (dBm)	Power Back-off (dB)
700 MHz Band	27.05	22.29	4.76
SMR800 / 850 cellular	27.06	22.61	4.45
PCS1900	30.10	25.59	4.51
AWS2100	30.09	25.59	4.50
BRS	30.01	25.49	4.52

[Uplink]

	1 Carrier (dBm)	3 Carrier (dBm)	Power Back-off (dB)
700 MHz Band	-4.96	-9.88	4.92
SMR800 / 850 cellular	-4.99	-9.58	4.59
PCS1900	-5.06	-9.87	4.81
AWS2100	-4.96	-9.80	4.84

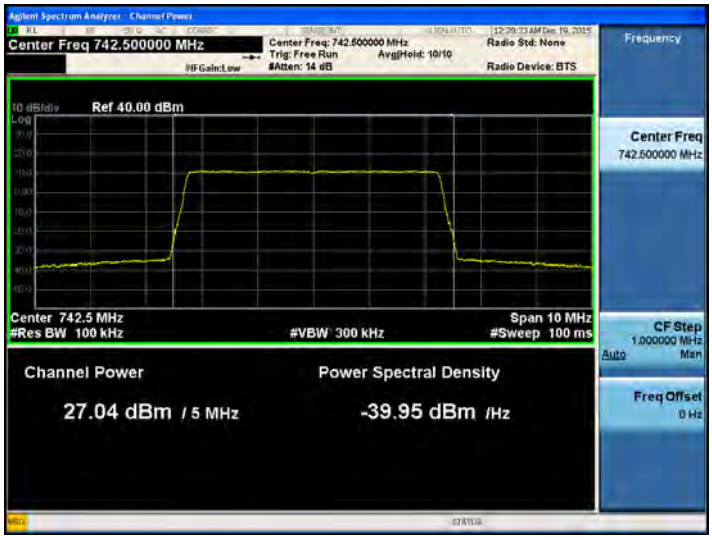
Single channel Enhancer Plots of RF Output Power

700MHz LTE5MHz Band DL

[700 Band AGC threshold Downlink LTE 5 MHz Low]

[700 Band AGC threshold Downlink LTE 5 MHz Mid]

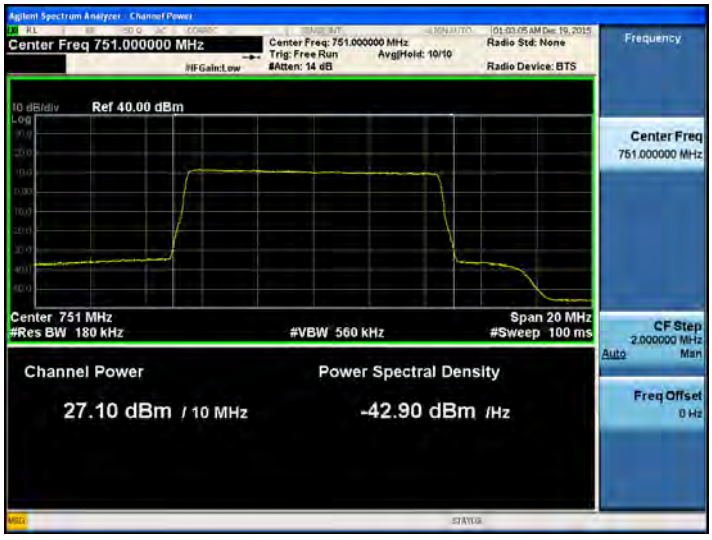
[700 Band AGC threshold Downlink LTE 5 MHz High]

[700 Band +3dB above the threshold Downlink LTE 5 MHz Low]	[700 Band +3dB above the threshold Downlink LTE 5 MHz Mid]
	
[700 Band +3dB above the threshold Downlink LTE 5 MHz High]	
	

700MHz LTE10MHz Band DL

[700 Band AGC threshold Downlink LTE 10 MHz Low]	[700 Band AGC threshold Downlink LTE 10 MHz Mid]
	

[700 Band AGC threshold Downlink LTE 10 MHz High]

[700 Band +3dB above the threshold Downlink LTE 10 MHz Low]	[700 Band +3dB above the threshold Downlink LTE 10 MHz Mid]
	
[700 Band +3dB above the threshold Downlink LTE 10 MHz High]	
	

SMR 800,850Cellular LTE5MHz Band DL

[SMR 800,850Cellular AGC threshold Downlink LTE 5 MHz Low]

[SMR 800,850Cellular AGC threshold Downlink LTE 5 MHz Mid]

[SMR 800,850Cellular AGC threshold Downlink LTE 5 MHz High]

[SMR 800,850Cellular +3dB above the threshold Downlink LTE 5 MHz Low]

[SMR 800,850Cellular +3dB above the threshold Downlink LTE 5 MHz Mid]

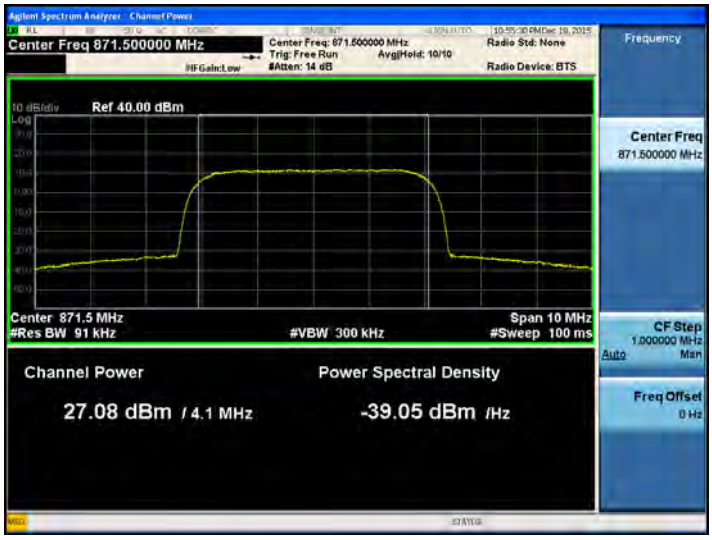
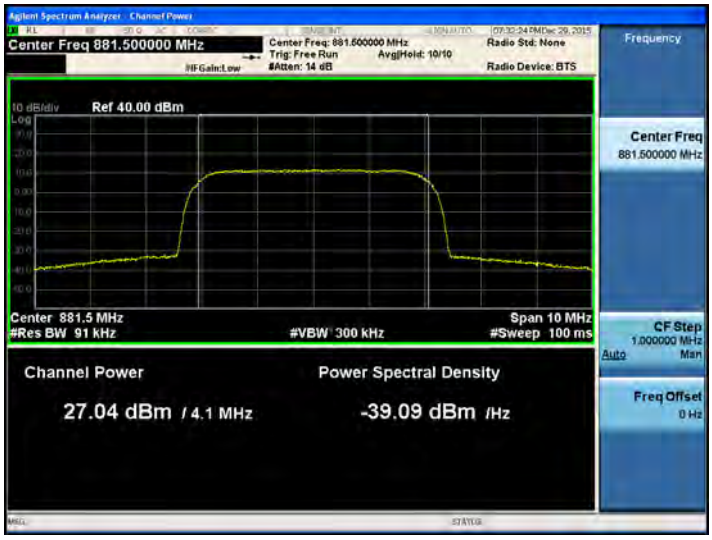
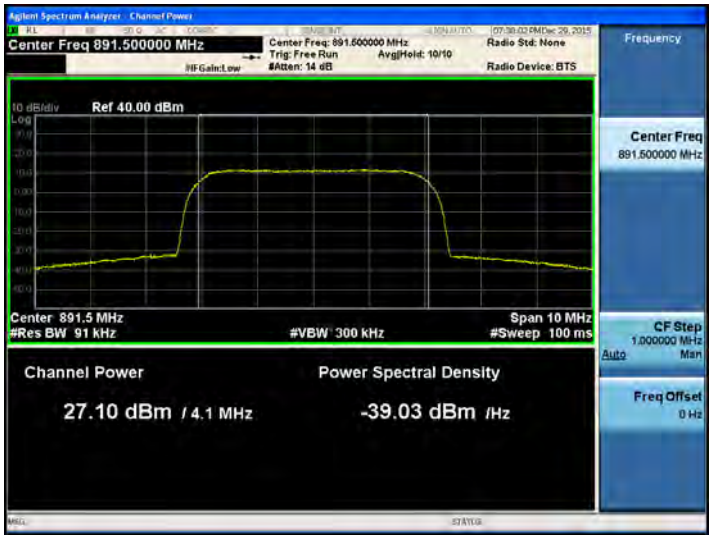
[SMR 800,850Cellular +3dB above the threshold Downlink LTE 5 MHz High]

850Cellular LTE10MHz Band DL

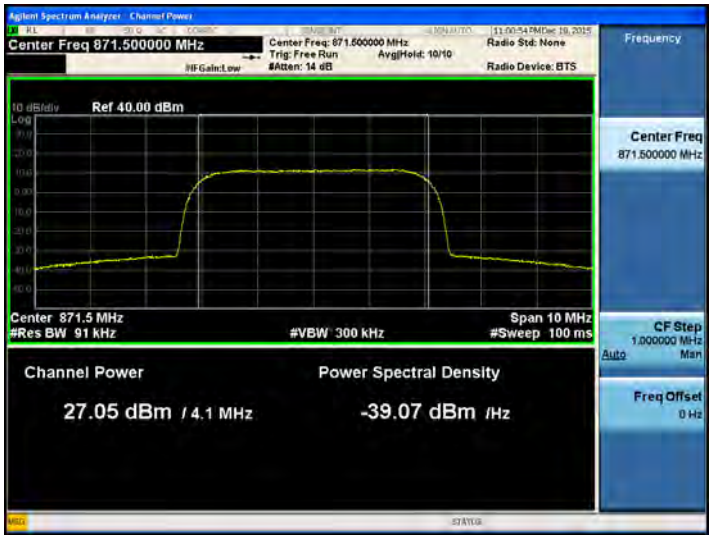
[850Cellular AGC threshold Downlink LTE 10 MHz Low]	[850Cellular AGC threshold Downlink LTE 10 MHz High]
	
[850Cellular +3dB above the threshold Downlink LTE 10 MHz Low]	**[850Cellular +3dB above the threshold Downlink LTE 10 MHz Mid]**
	

[850Cellular AGC threshold Downlink LTE 10 MHz Low]	[850Cellular AGC threshold Downlink LTE 10 MHz High]
	
[850Cellular +3dB above the threshold Downlink LTE 10 MHz Low]	**[850Cellular +3dB above the threshold Downlink LTE 10 MHz Mid]**
	

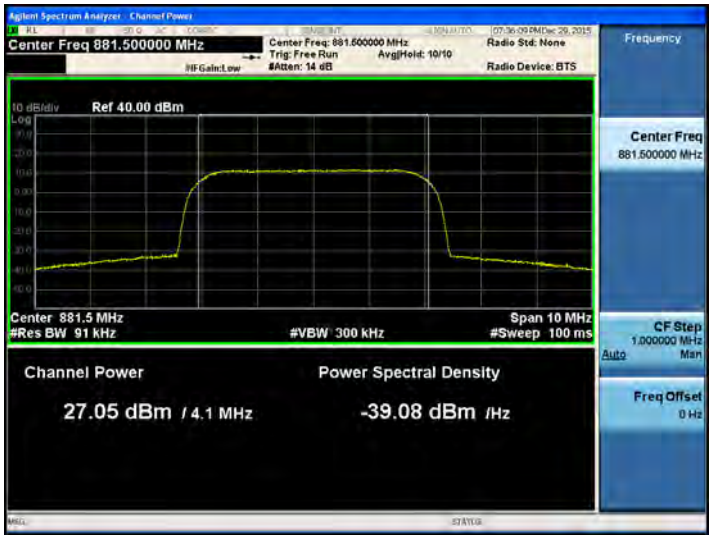
850Cellular UMTS Band DL

[850Cellular AGC threshold Downlink UMTS Low]	[850Cellular AGC threshold Downlink UMTS Mid]
	
[850Cellular AGC threshold Downlink UMTS High]	
	

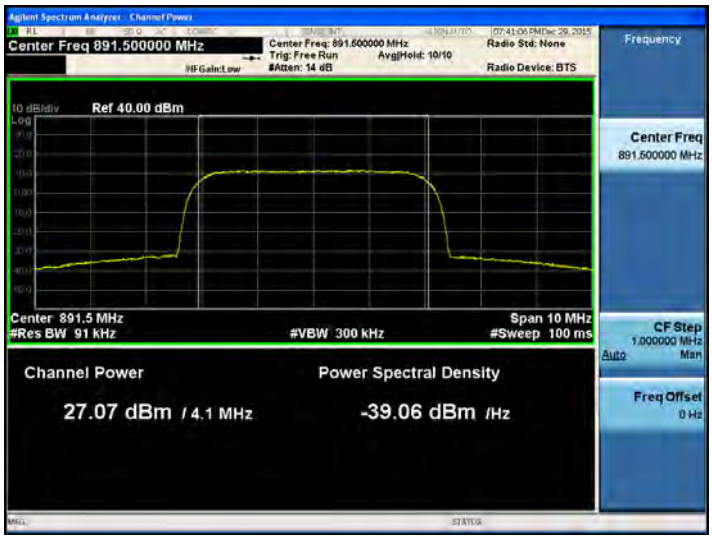
[850Cellular 3dB above the threshold Downlink UMTS Low]



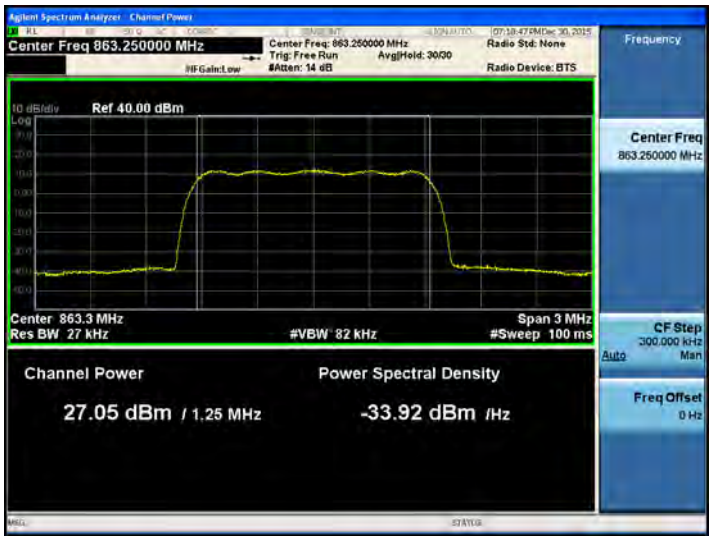
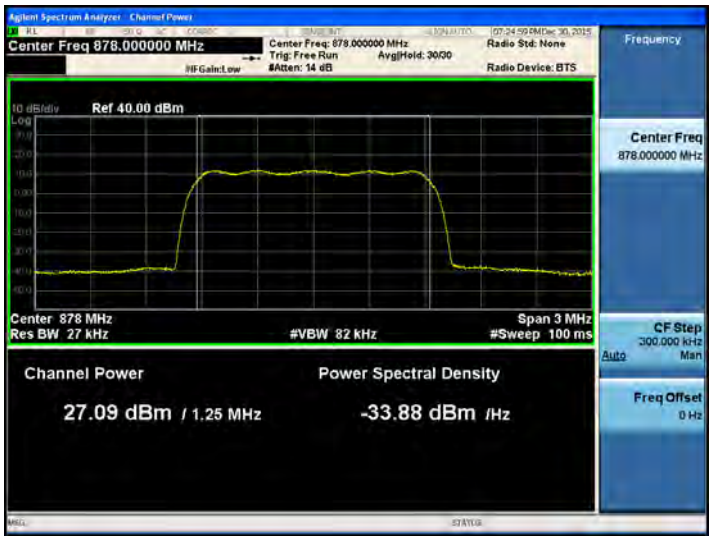
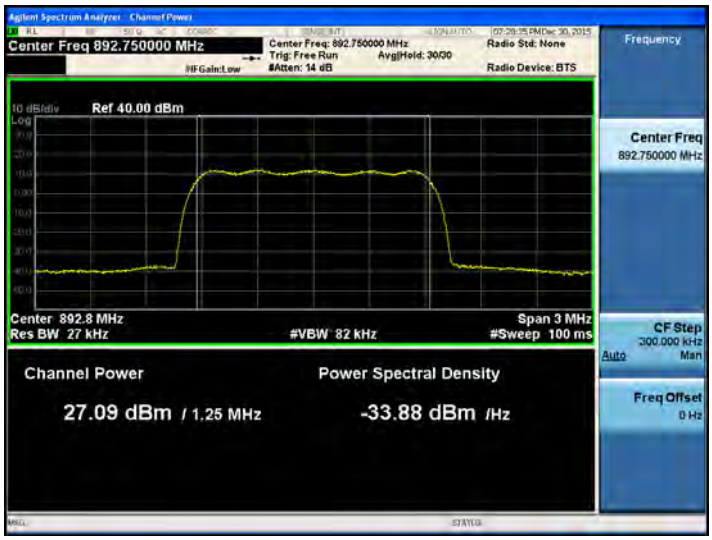
[850Cellular 3dB above the threshold Downlink UMTS Mid]



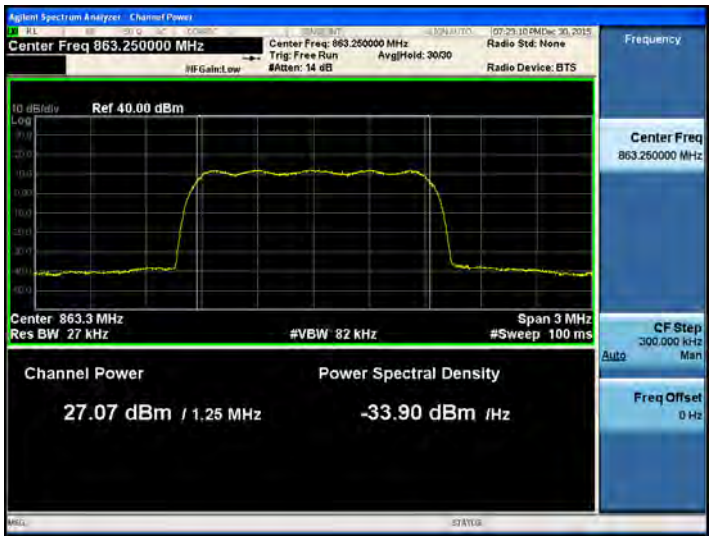
[850Cellular 3dB above the threshold Downlink UMTS High]



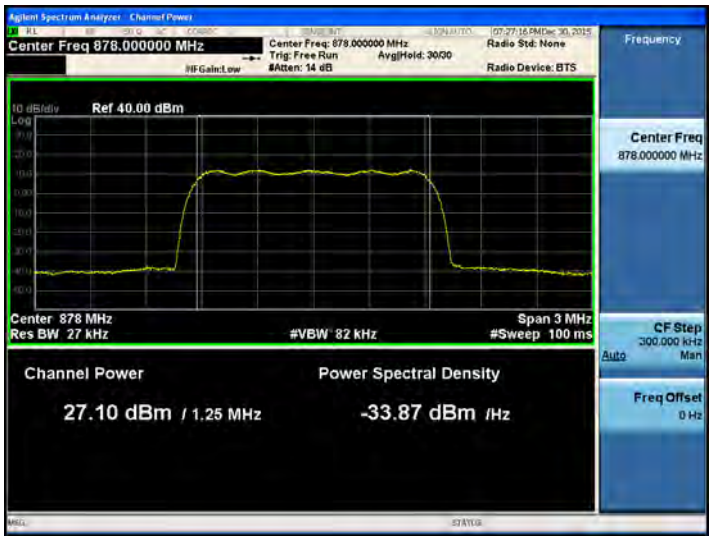
SMR 800,850Cellular CDMA Band DL

[SMR 800,850Cellular AGC threshold Downlink CDMA Low]	[SMR 800,850Cellular AGC threshold Downlink CDMA Mid]
	
[SMR 800,850Cellular AGC threshold Downlink CDMA High]	
	

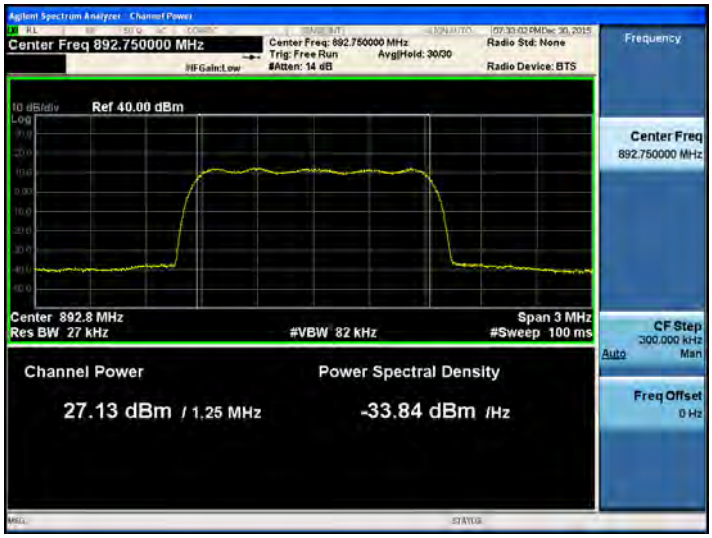
[SMR 800,850Cellular 3dB above the threshold Downlink CDMA Low]



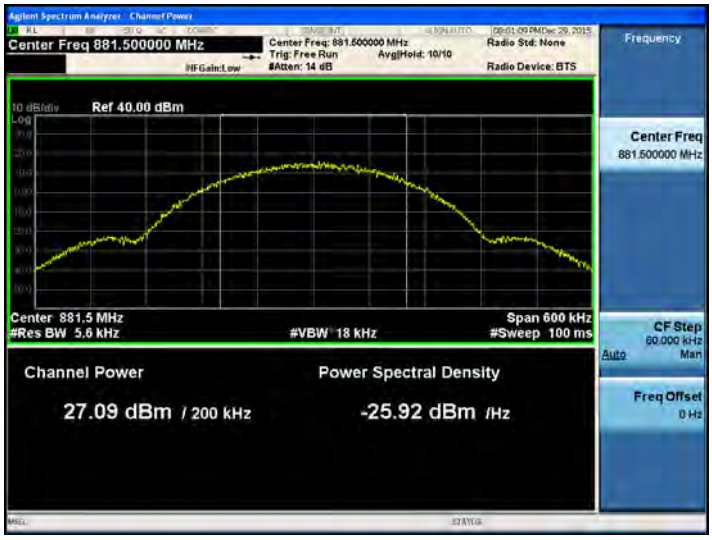
[SMR 800,850Cellular 3dB above the threshold Downlink CDMA Mid]



[SMR 800,850Cellular 3dB above the threshold Downlink CDMA High]



850Cellular GSM Band DL

[,850Cellular AGC threshold Downlink GSM Low]	[850Cellular AGC threshold Downlink GSM Mid]
	
[850Cellular AGC threshold Downlink GSM High]	
	

[850Cellular 3dB above the threshold Downlink GSM Low]	[850Cellular 3dB above the threshold Downlink GSM Mid]
	
[850Cellular 3dB above the threshold Downlink GSM High]	
	

AWS 2100 LTE 5 MHz Band DL

[AWS 2100 AGC threshold Downlink LTE 5 MHz Low]

[AWS 2100 AGC threshold Downlink LTE 5 MHz Mid]

[AWS 2100 AGC threshold Downlink LTE 5 MHz High]

[AWS2100 +3dB above the threshold Downlink LTE 5 MHz Low]

[AWS2100 +3dB above the threshold Downlink LTE 5 MHz Mid]

[AWS2100+3dB above the threshold Downlink LTE 5 MHz High]

AWS 2100 LTE 10 MHz Band DL

[AWS 2100 AGC threshold Downlink LTE 10 MHz Low]

[AWS 2100 AGC threshold Downlink LTE 10 MHz Mid]

[AWS 2100 AGC threshold Downlink LTE 10 MHz High]

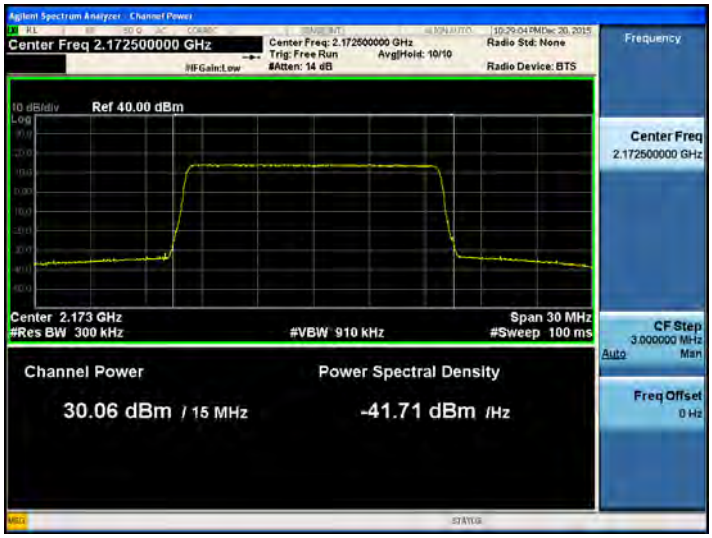
[AWS2100 +3dB above the threshold Downlink LTE 10 MHz Low]

[AWS2100 +3dB above the threshold Downlink LTE 10 MHz Mid]

[AWS2100+3dB above the threshold Downlink LTE 10 MHz High]

AWS 2100 LTE 15 MHz Band DL

[AWS 2100 AGC threshold Downlink LTE 15 MHz Low]	[AWS 2100 AGC threshold Downlink LTE 15 MHz Mid]
	
[AWS 2100 AGC threshold Downlink LTE 15 MHz High]	
	

[AWS2100 +3dB above the threshold Downlink LTE 15 MHz Low]	[AWS2100 +3dB above the threshold Downlink LTE 15 MHz Mid]
	
[AWS2100+3dB above the threshold Downlink LTE 15 MHz High]	
	

AWS 2100 LTE 20 MHz Band DL

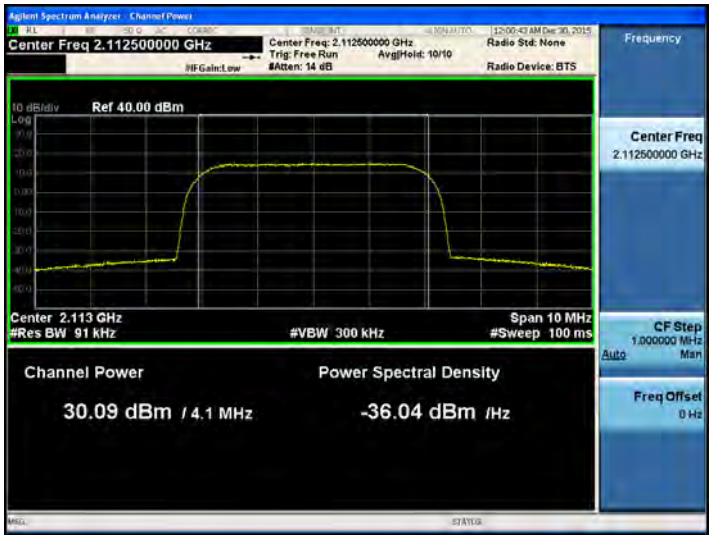
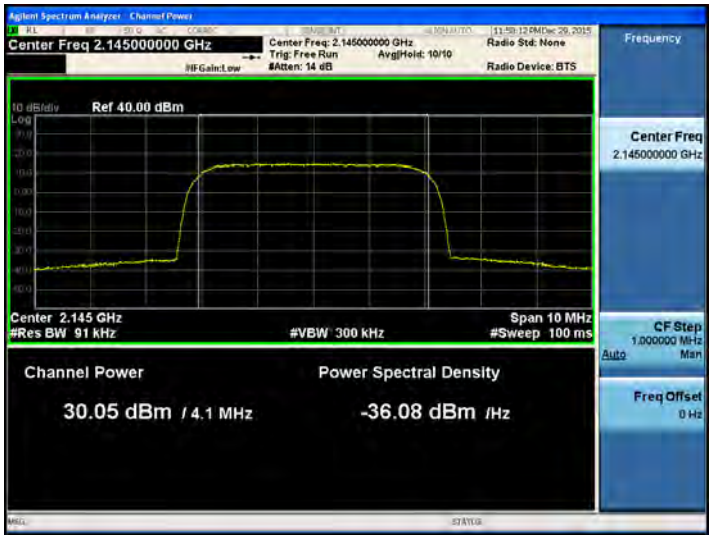
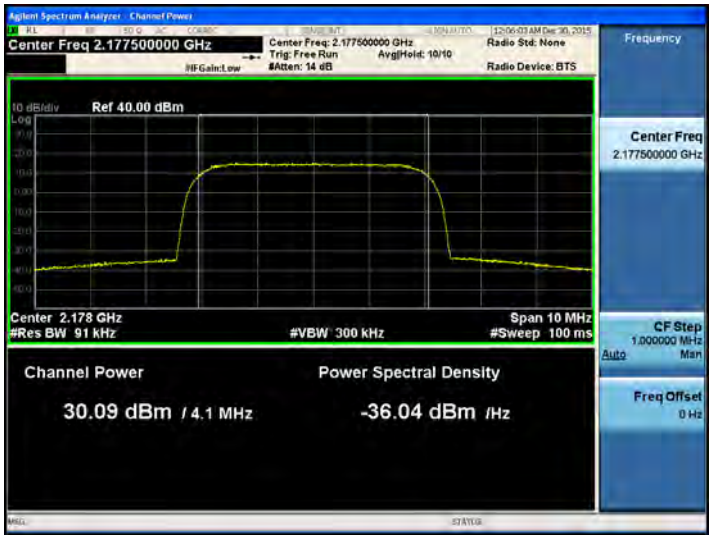
[AWS 2100 AGC threshold Downlink LTE 20 MHz Low]

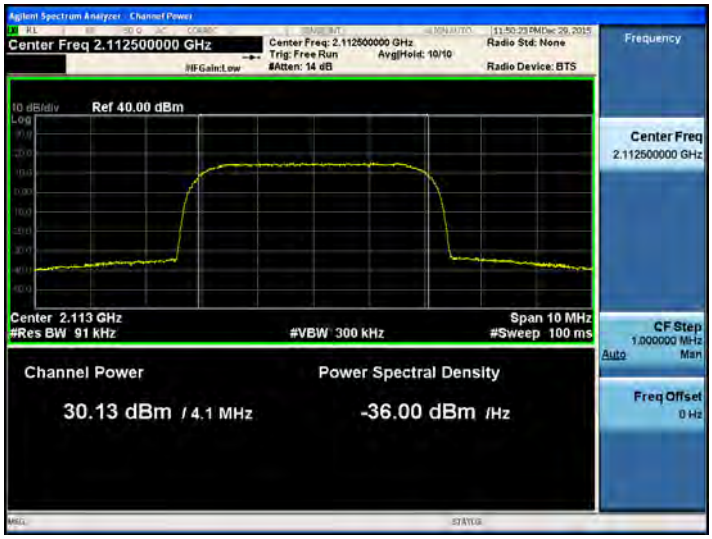
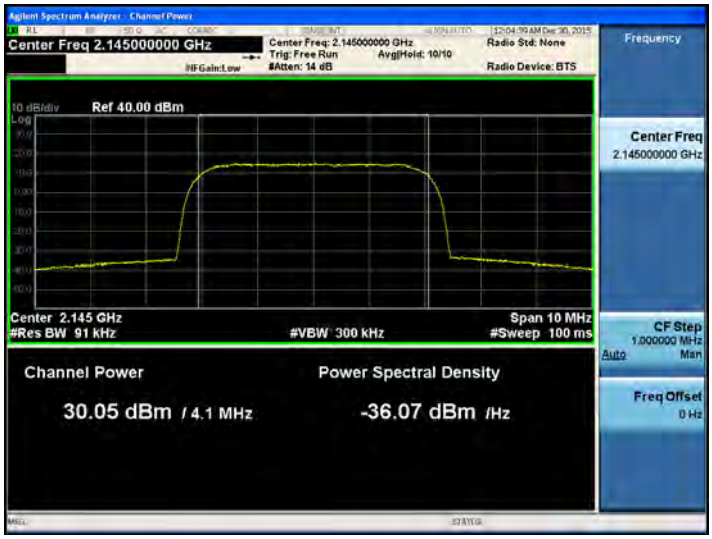
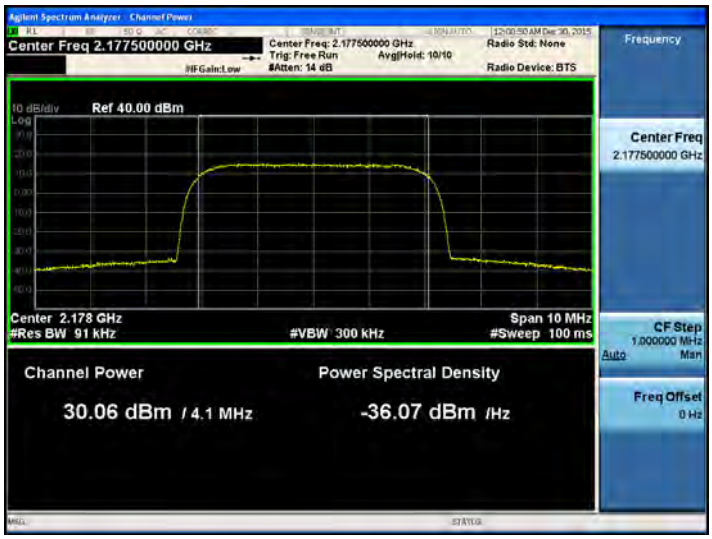
[AWS 2100 AGC threshold Downlink LTE 20 MHz Mid]

[AWS 2100 AGC threshold Downlink LTE 20 MHz High]

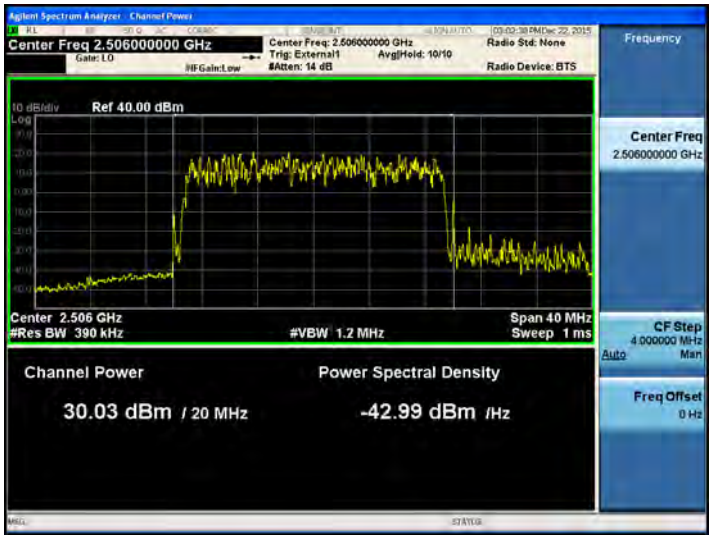
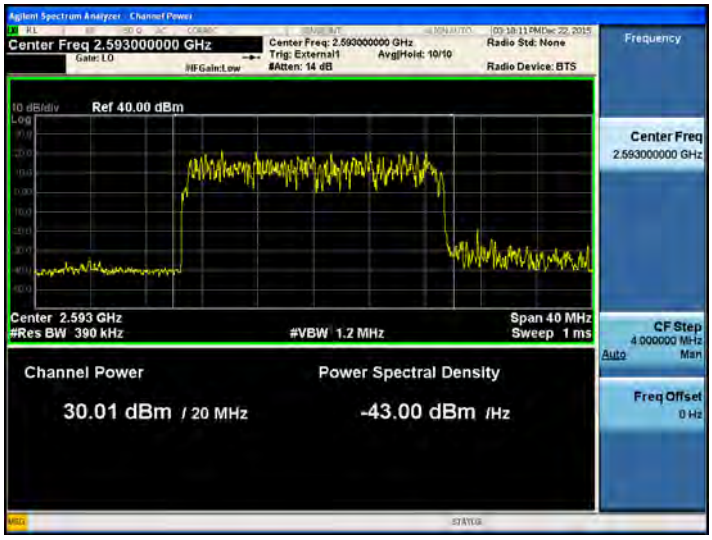
[AWS2100 +3dB above the threshold Downlink LTE 20 MHz Low]	[AWS2100 +3dB above the threshold Downlink LTE 20 MHz Mid]
	
[AWS2100+3dB above the threshold Downlink LTE 20 MHz High]	
	

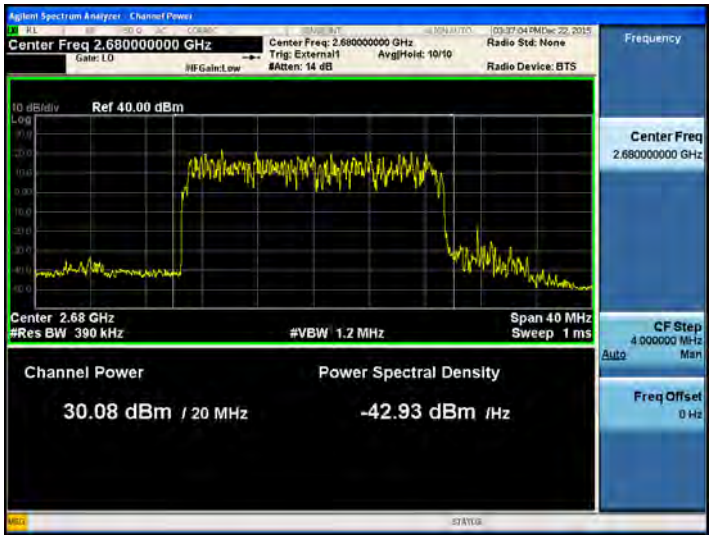
AWS 2100 UMTS Band DL

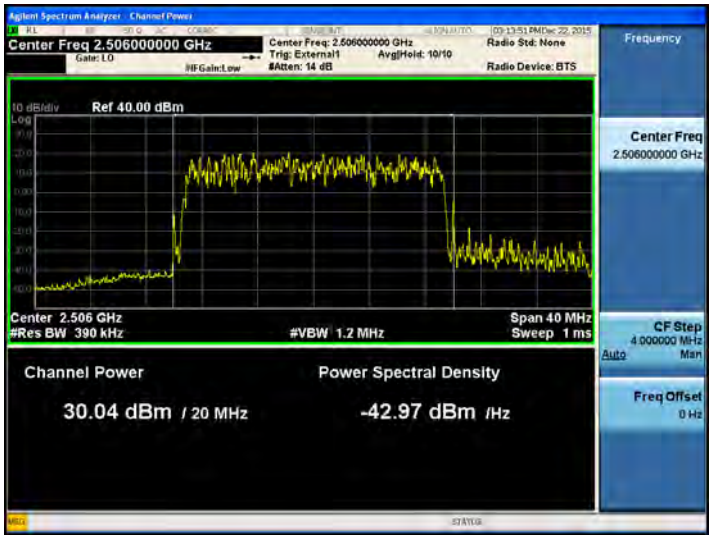
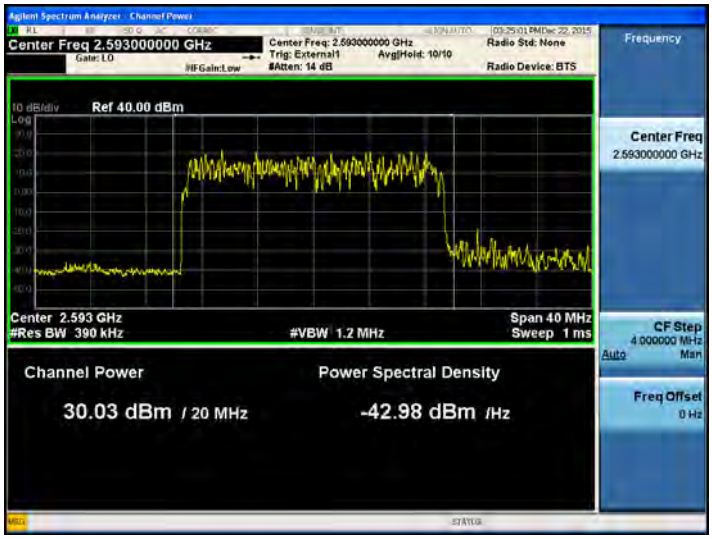
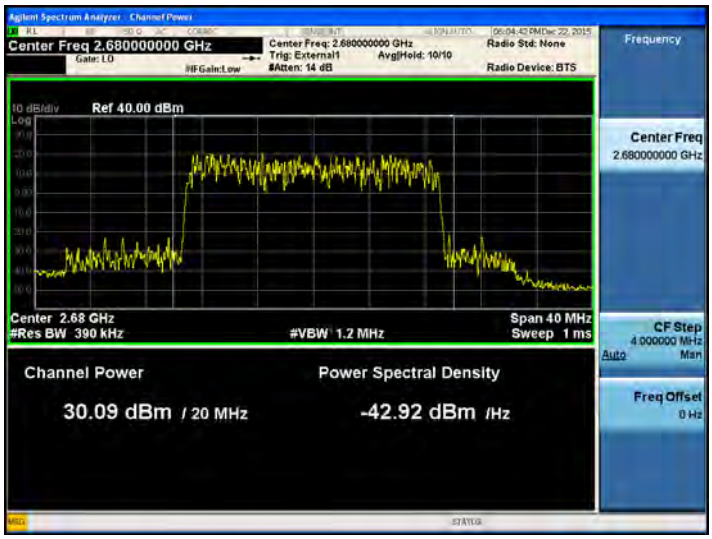
[AWS 2100 AGC threshold Downlink UMTS Low]	[AWS 2100 AGC threshold Downlink UMTS Mid]
	
[AWS 2100 AGC threshold Downlink UMTS High]	
	

[AWS2100 +3dB above the threshold Downlink UMTS Low]	[AWS2100 +3dB above the threshold Downlink UMTS Mid]
	
[AWS2100+3dB above the threshold Downlink UMTS High]	
	

BRS LTE 20 MHz Band DL

[BRS AGC threshold Downlink LTE 20MHz Low]	[BRS AGC threshold Downlink LTE 20MHz Mid]
	

[BRS AGC threshold Downlink LTE 20MHz High]


[BRS +3dB above the threshold Downlink LTE 20MHz Low]	[BRS +3dB above the threshold Downlink LTE 20MHz Mid]
	
[BRS +3dB above the threshold Downlink LTE 20MHz High]	
	

PCS 1900 LTE 5 MHz Band DL

[PCS 1900 AGC threshold Downlink LTE 5 MHz Low]

[PCS 1900 AGC threshold Downlink LTE 5 MHz Mid]

[PCS 1900 AGC threshold Downlink LTE 5 MHz High]

[PCS 1900 +3dB above the threshold Downlink LTE 5 MHz Low]

[PCS 1900 +3dB above the threshold Downlink LTE 5 MHz Mid]

[PCS 1900 +3dB above the threshold Downlink LTE 5 MHz High]

PCS 1900 LTE 10 MHz Band DL

[PCS 1900 AGC threshold Downlink LTE 10 MHz Low]	[PCS 1900 AGC threshold Downlink LTE 10 MHz Mid]
	

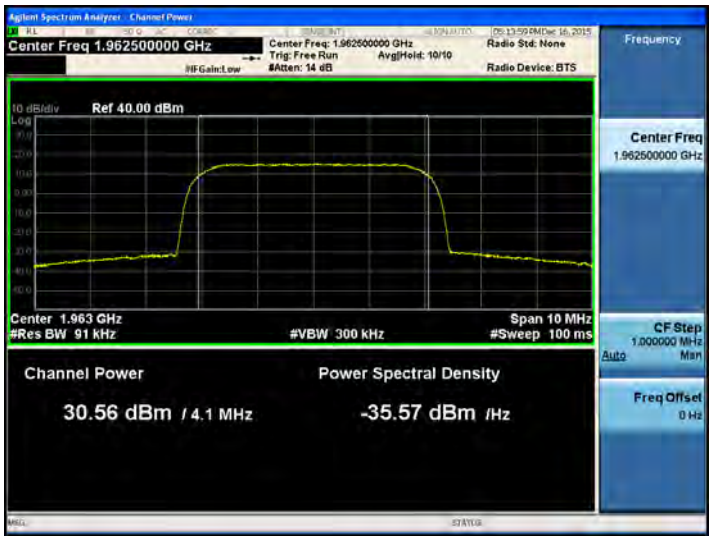
[PCS 1900 AGC threshold Downlink LTE 10 MHz High]

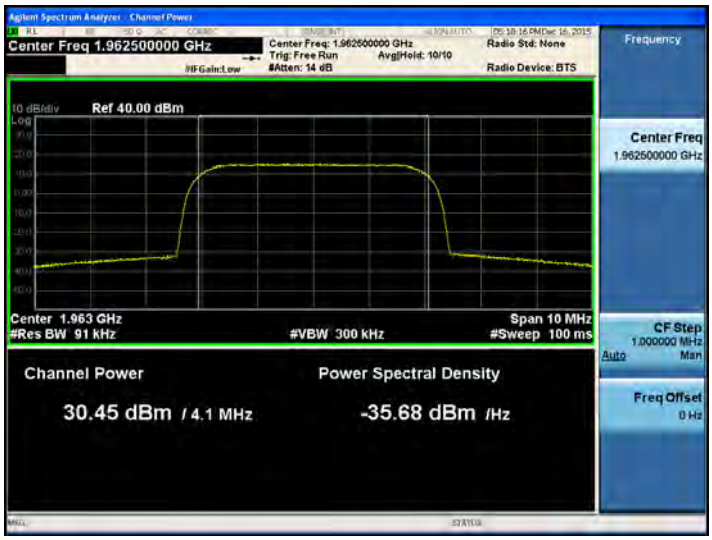
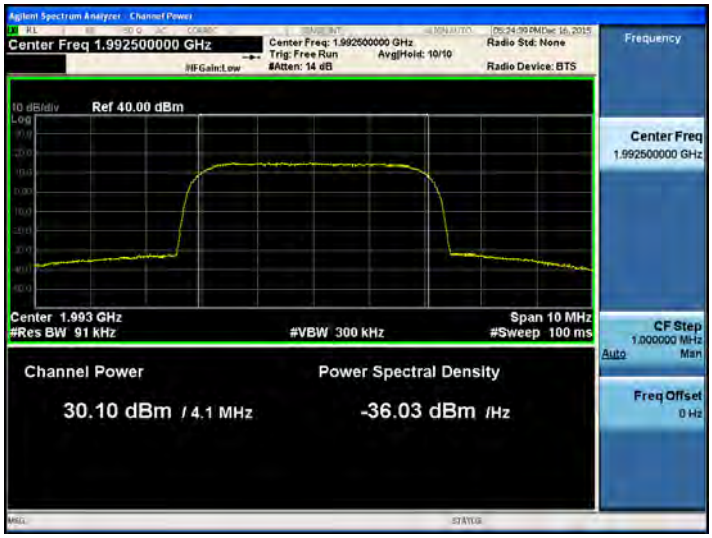
[PCS 1900 +3dB above the threshold Downlink LTE 10 MHz Low]

[PCS 1900 +3dB above the threshold Downlink LTE 10 MHz Mid]

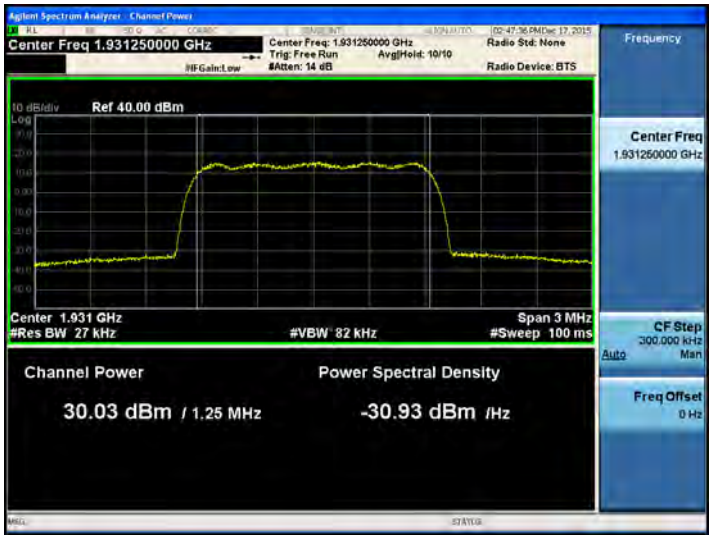
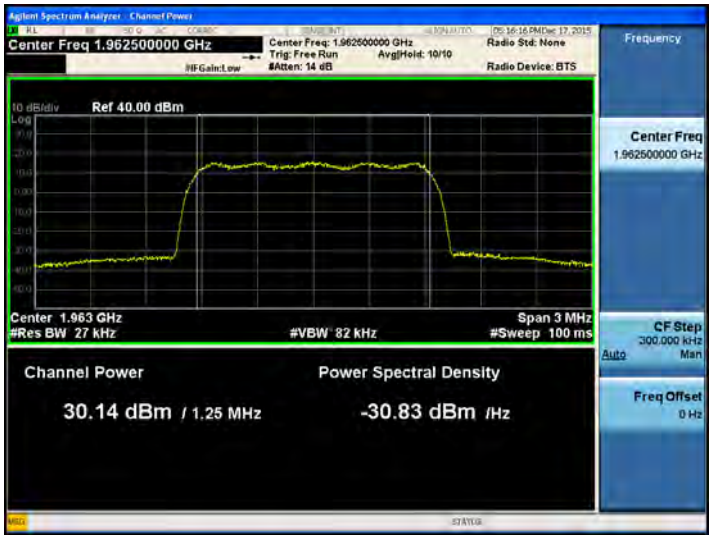
[PCS 1900 +3dB above the threshold Downlink LTE 10 MHz High]

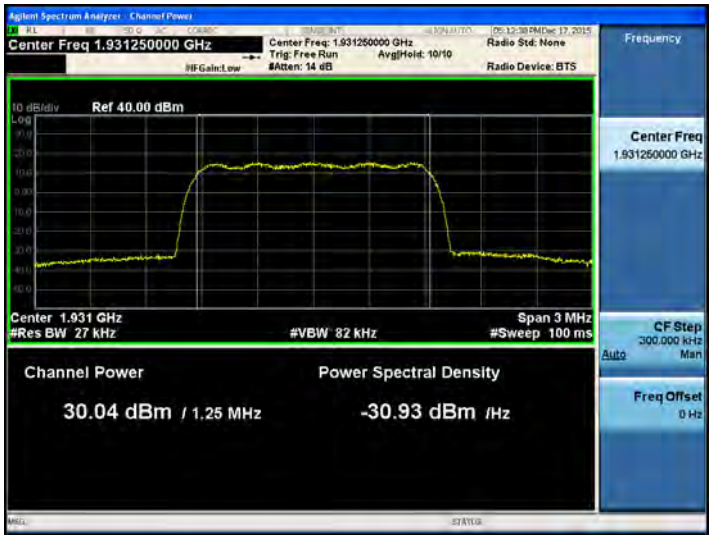
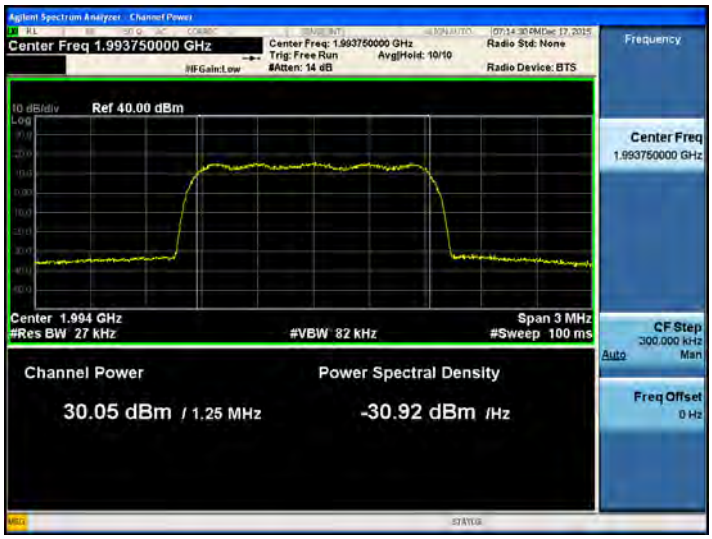
PCS 1900 UMTS Band DL

[PCS 1900 AGC threshold Downlink UMTS Low]	[PCS 1900 AGC threshold Downlink UMTS Mid]
	
[PCS 1900 AGC threshold Downlink UMTS High]	
	

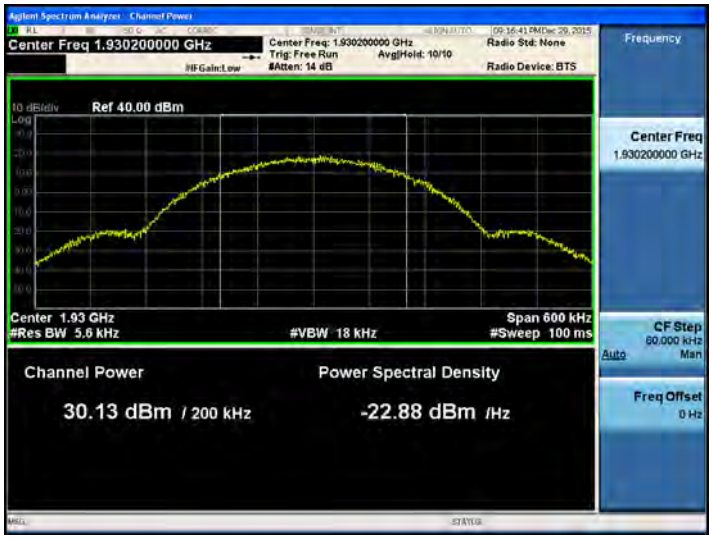
[PCS 1900 +3dB above the threshold Downlink UMTS Low]	[PCS 1900 +3dB above the threshold Downlink UMTS Mid]
	
[PCS 1900 +3dB above the threshold Downlink UMTS High]	
	

PCS1900 CDMA Band DL

[PCS 1900 AGC threshold Downlink CDMA Low]	[PCS 1900 AGC threshold Downlink CDMA Mid]
	
[PCS 1900 AGC threshold Downlink CDMA High]	
	

[PCS 1900 +3dB above the threshold Downlink CDMA Low]	[PCS 1900 +3dB above the threshold Downlink CDMA Mid]
	
[PCS 1900 +3dB above the threshold Downlink CDMA High]	
	

PCS1900 GSM Band DL

[PCS 1900 AGC threshold Downlink GSM Low]	[PCS 1900 AGC threshold Downlink GSM Mid]
	
[PCS 1900 AGC threshold Downlink GSM High]	
	

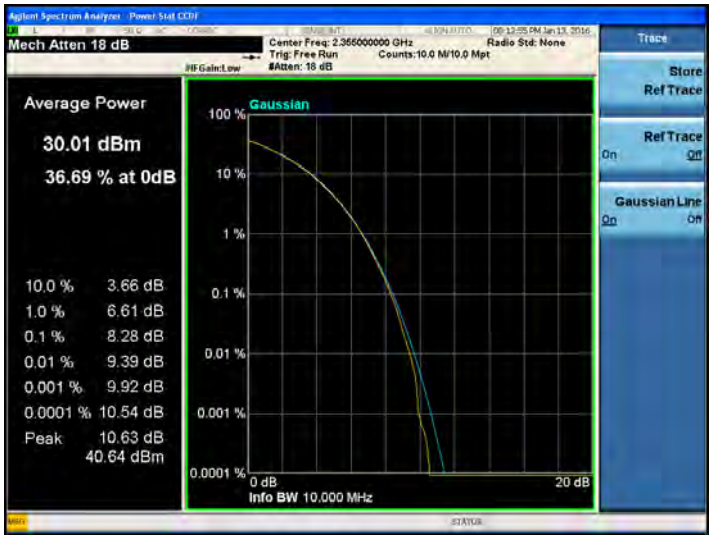
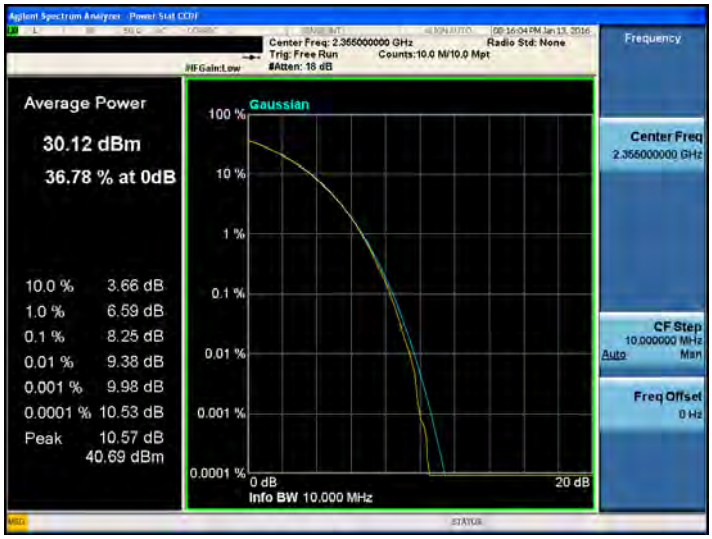
[PCS 1900 +3dB above the threshold Downlink GSM Low]

[PCS 1900 +3dB above the threshold Downlink GSM Mid]

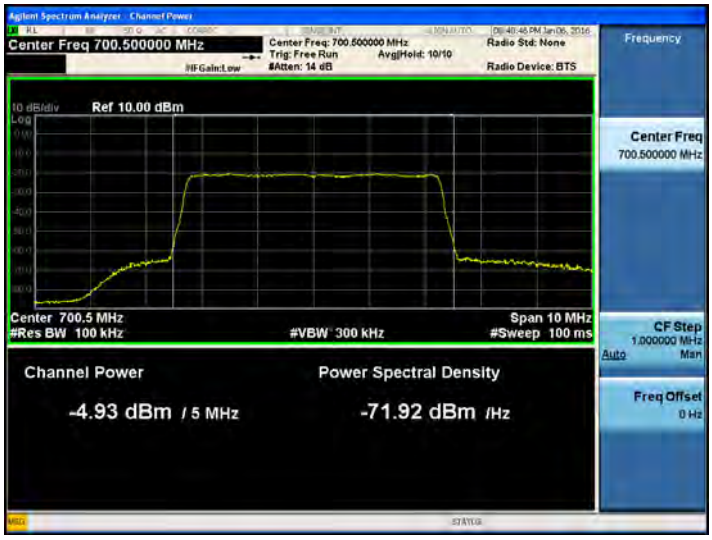
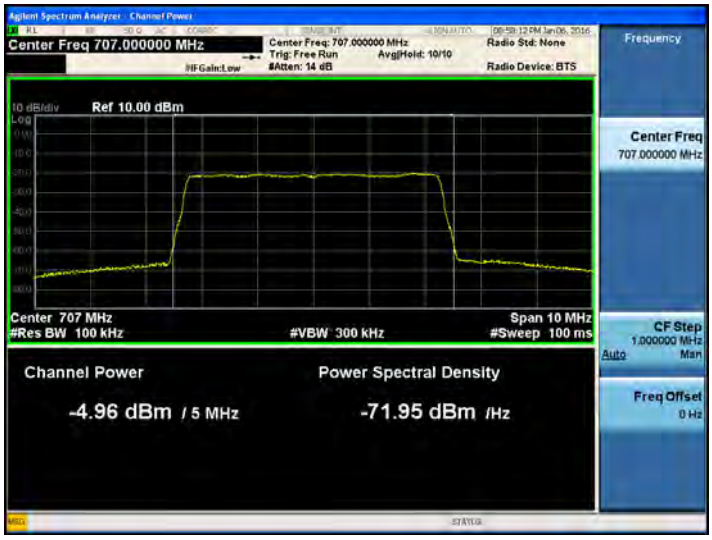
[PCS 1900 +3dB above the threshold Downlink GSM High]

WCS Band DL

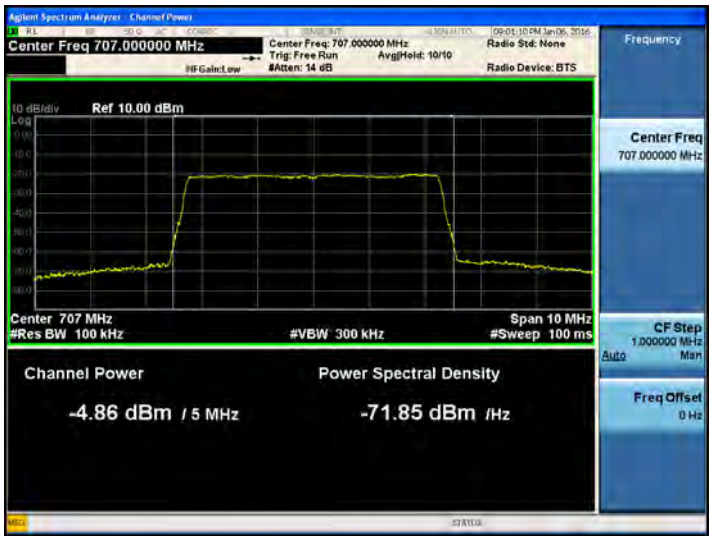
[WCS AGC threshold Downlink LTE 10MHz Mid]	[WCS +3dB above the threshold Downlink LTE 10MHz Mid]
	

[WCS AGC threshold Downlink LTE 10MHz Mid] [PAR]	[WCS +3dB above the threshold Downlink [PAR]
	

700MHz LTE5MHz Band UL

[700 Band AGC threshold Uplink LTE 5 MHz Low]	[700 Band AGC threshold Uplink LTE 5 MHz Mid]
	

[700 Band AGC threshold Uplink LTE 5 MHz High]


[700 Band +3dB above the threshold Uplink LTE 5 MHz Low]	[700 Band +3dB above the threshold Uplink LTE 5 MHz Mid]
	
[700 Band +3dB above the threshold Uplink LTE 5 MHz High]