

FCC REPORT

FCC Class II Permissive Change

Applicant Name:
SAMSUNG Electronics Co.,Ltd.**Date of Issue:**
January 15, 2018**Address:**
129, Samsung-ro, Yeongtong-gu, Suwon-si,
Gyeonggi-do, 16677, Rep. of Korea**Test Site/Location:**
HCT CO., LTD.,
74, Seoicheon-ro 578beon-gil, Majang-myeon,
Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA**Report No.:** HCT-RF-1801-FC006**FCC ID:** A3LSLS-BD10JQ**APPLICANT:** SAMSUNG Electronics Co.,Ltd.

FCC Model: SLS-BD10JQ
EUT Type: RRU(Remote Radio Unit)
Frequency Range: 2 496 MHz ~ 2 690 MHz
Tx Output Power: 160 W (20 W * 8)
Emission Designator

Mode	Tx Frequency (MHz)	Emission Designator	
		QPSK (G7W)	16QAM/64QAM/256QAM (W7W)
LTE (5 MHz)	2 496 ~ 2 690	-	4M63W7W
LTE (15 MHz)	2 496 ~ 2 690	13M7G7W	13M9W7W
LTE (20 MHz)	2 496 ~ 2 690	-	18M3W7W

※ 5 MHz / 20 MHz QPSK emission designator can be found in previously issued report

FCC Rule Part(s): FCC CFR 47 Part 2, Part 27**Data of Test:** November 20, 2017 ~ December 20, 2017**Note:** Refer to existing report 'HCTR1311FR01 and 'HCT-R-1511-F009-1' for data not included.**Engineering Statement:**

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 FCC Part 27 of the FCC Rules under normal use and maintenance.

**Report prepared by : Kyung Soo Kang**
Engineer of Telecommunication testing center**Approved by : Jong Seok Lee**
Manager of Telecommunication testing center

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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-1801-FC006	January 15, 2018	- First Approval Report

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1. GENERAL INFORMATION

1.1. CLIENT INFORMATION

Company	Samsung Electronics Co., Ltd.
Contact Point	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
Contact person	Name: Hwan Youl Kim / Principal Research Engineer E-mail : hwanyoul.kim@samsung.com

1.2. PRODUCT INFORMATION

EUT Type	RRU(Remote Radio Unit)																				
Power Supply	-48 VDC																				
Emission Designator	<table border="1"> <thead> <tr> <th rowspan="2">Mode</th><th rowspan="2">Tx Frequency (MHz)</th><th colspan="2">Emission Designator</th></tr> <tr> <th>QPSK (G7W)</th><th>16QAM/64QAM/256QAM (W7W)</th></tr> </thead> <tbody> <tr> <td>LTE (5 MHz)</td><td>2 496 ~ 2 690</td><td>-</td><td>4M63W7W</td></tr> <tr> <td>LTE (15 MHz)</td><td>2 496 ~ 2 690</td><td>13M7G7W</td><td>13M9W7W</td></tr> <tr> <td>LTE (20 MHz)</td><td>2 496 ~ 2 690</td><td>-</td><td>18M3W7W</td></tr> </tbody> </table> ※ 5 MHz / 20 MHz QPSK emission designator can be found in previously issued report			Mode	Tx Frequency (MHz)	Emission Designator		QPSK (G7W)	16QAM/64QAM/256QAM (W7W)	LTE (5 MHz)	2 496 ~ 2 690	-	4M63W7W	LTE (15 MHz)	2 496 ~ 2 690	13M7G7W	13M9W7W	LTE (20 MHz)	2 496 ~ 2 690	-	18M3W7W
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LTE (20 MHz)	2 496 ~ 2 690	-	18M3W7W																		
Frequency Range	2 496 MHz ~ 2 690 MHz																				
Conducted Output Power	160 W (20W * 8)																				
Channel Bandwidths	LTE Band 41, 5 MHz / 15 MHz / 20 MHz Bandwidth																				
Modulation Type	QPSK, 16QAM, 64QAM, 256QAM																				
Antenna Specification	Manufacturer does not provide an antenna.																				

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: 2014) 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 2, Part 27

SECTION	TEST ITEMS	RESULTS
§2.1046, §27.50	Conducted Output Power	Compliant
§2.1049	Occupied Bandwidth	Compliant
§2.1051, §27.53	Spurious Emissions at Antenna Terminals	Compliant
§2.1053, §27.53	Radiated Spurious Emissions.	Compliant
§2.1055, §27.54	Frequency Stability	Compliant

3.2. MODE OF OPERATION DURING THE TEST

The EUT is 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. All LTE modulation (QPSK, 16QAM, 64QAM, 256QAM) modes were tested.

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
Spurious Emissions at Antenna Terminals	-	± 1.08 dB
Radiated Spurious Emissions	$f \leq 1$ GHz	± 4.80 dB
	$f > 1$ GHz	± 6.07 dB
Frequency Stability	-	$\pm 1.22 \times 10^{-6}$

3.4. STANDARDS ENVIRONMENTAL TEST CONDITIONS

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

4. TEST EQUIPMENT

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Agilent	N9020A / Spectrum Analyzer	09/15/2017	Annual	MY46471250
Weinschel	67-30-33 / Fixed Attenuator	02/09/2017	Annual	CC7264
Weinschel	67-30-33 / Fixed Attenuator	02/09/2017	Annual	BU5347
Weinschel	67-30-33 / Fixed Attenuator	09/14/2017	Annual	N/A
Weinschel	67-30-33 / Fixed Attenuator	09/14/2017	Annual	N/A
Rohde&Schwarz	ATT / 10dB Attenuator	08/21/2017	Annual	N/A
KIKUSUI	PWR800L / DC Power Supply	03/28/2017	Annual	RE001154
KIKUSUI	PWR800L / DC Power Supply	07/18/2017	Annual	RK000880
NANGYEUL CO., LTD.	NY-THR18750 / Temperature and Humidity Chamber	10/21/2017	Annual	NY-2009012201A
Audix	AM4000 / Antenna Position Tower	N/A	N/A	N/A
Innco system	CT0800 / Turn Table	N/A	N/A	N/A
Audix	EM1000 / Controller	N/A	N/A	060520
Rohde & Schwarz	Loop Antenna	04/19/2017	Biennial	1513-175
Schwarzbeck	VULB 9168 / Hybrid Antenna	04/06/2017	Biennial	760
Schwarzbeck	BBHA 9120D / Horn Antenna	06/30/2017	Biennial	9120D-1300
Rohde & Schwarz	FSP / Spectrum Analyzer	09/21/2017	Annual	836650/016
Rohde & Schwarz	FSV40-N / Spectrum Analyzer	09/27/2017	Annual	101068-SZ
Wainwright Instruments	WHKX10-900-1000-15000-40SS	07/21/2017	Annual	5
CERNEX	CBLU1183540 / Power Amplifier	01/25/2017	Annual	24614
CERNEX	CBL06185030 / Power Amplifier	01/25/2017	Annual	24615

5. CONDUCTED OUTPUT POWER

Test Requirements:

§ 2.1046 Measurements required: RF power output:

- (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.
- (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.
- (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.

§ 27.50 Power limits and duty cycle

- (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 $33 \text{ dBW} + 10\log(X/Y) \text{ dBW}$, 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: $\text{EIRP} = 33 \text{ dBW} + 10\log(X/Y) \text{ dBW} + 10\log(360/\text{beamwidth}) \text{ dBW}$, 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.

Test Procedures:

According to FCC §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). The electrical characteristics of the radio frequency load attached to the output terminals when this test is made shall be stated.

- 1) The radio frequency load attached to the EUT antenna terminal was 50 Ohm. The loss of the cables the test system is calibrated to correct the reading.
- 2) The spectrum analyzer was set to RMS Detector function and Average mode.
- 3) The resolution bandwidth of the spectrum analyzer was comparable to the emission bandwidth.
- 4) The conducted emission level is measured at each antenna port and then summed mathematically to determine the total emission level from the device.

Note:

- 1) Maximum ERP is sufficient level to pass the limit.
- 2) Sum data is in a tolerance of specification provided from manufacturer.

RF Output power tolerance: ± 1 dB (each port)

Maximum output power for one port: 25.177 W (43.01 dBm + 1 dB)

Maximum output sum power: $25.177 \text{ W} \times 8 = 201.416 \text{ W}$

Measured sum maximum power: 155.787 W

The measured value is lower than the specification value.

Test Results:

5 MHz / 1 Carrier (5 W)

Test Data at Downlink Port 0

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
16QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
64QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
256QAM	Low	2498.50	36.83	4.819
	Middle	2593.00	37.06	5.082
	High	2687.50	37.29	5.358

Test Data at Downlink Port 1

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
16QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
64QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
256QAM	Low	2498.50	36.88	4.875
	Middle	2593.00	36.89	4.887
	High	2687.50	37.27	5.333

Test Data at Downlink Port 2

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
16QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
64QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
256QAM	Low	2498.50	36.90	4.898
	Middle	2593.00	36.94	4.943
	High	2687.50	37.14	5.176

Test Data at Downlink Port 3

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
16QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
64QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
256QAM	Low	2498.50	36.89	4.887
	Middle	2593.00	36.93	4.932
	High	2687.50	36.93	4.932

Test Data at Downlink Port 4

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
16QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
64QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
256QAM	Low	2498.50	36.88	4.875
	Middle	2593.00	37.12	5.152
	High	2687.50	37.02	5.035

Test Data at Downlink Port 5

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
16QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
64QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
256QAM	Low	2498.50	36.86	4.853
	Middle	2593.00	36.94	4.943
	High	2687.50	36.83	4.819

Test Data at Downlink Port 6

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
16QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
64QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
256QAM	Low	2498.50	36.86	4.853
	Middle	2593.00	36.99	5.000
	High	2687.50	36.54	4.508

Test Data at Downlink Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
16QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
64QAM	Low	2498.50	-	-
	Middle	2593.00	-	-
	High	2687.50	-	-
256QAM	Low	2498.50	36.83	4.819
	Middle	2593.00	36.94	4.943
	High	2687.50	37.02	5.035

Sum Data from Port 0 to Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power (W)
256QAM	Low	2498.50	38.879
	Middle	2593.00	39.882
	High	2687.50	40.196

5 MHz + 5 MHz / 2 Carriers (5 W + 5 W)

Test Data at Downlink Port 0

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
16QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
64QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
256QAM	Low	2501.00	39.89	9.750
	Middle	2593.00	39.77	9.484
	High	2685.00	40.03	10.069

Test Data at Downlink Port 1

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
16QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
64QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
256QAM	Low	2501.00	39.77	9.484
	Middle	2593.00	40.04	10.093
	High	2685.00	40.16	10.375

Test Data at Downlink Port 2

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
16QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
64QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
256QAM	Low	2501.00	39.75	9.441
	Middle	2593.00	39.90	9.772
	High	2685.00	40.03	10.069

Test Data at Downlink Port 3

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
16QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
64QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
256QAM	Low	2501.00	39.70	9.333
	Middle	2593.00	40.03	10.069
	High	2685.00	40.02	10.046

Test Data at Downlink Port 4

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
16QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
64QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
256QAM	Low	2501.00	39.84	9.638
	Middle	2593.00	40.04	10.093
	High	2685.00	40.04	10.093

Test Data at Downlink Port 5

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
16QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
64QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
256QAM	Low	2501.00	39.86	9.683
	Middle	2593.00	39.86	9.683
	High	2685.00	39.86	9.683

Test Data at Downlink Port 6

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
16QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
64QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
256QAM	Low	2501.00	39.99	9.977
	Middle	2593.00	40.12	10.280
	High	2685.00	39.95	9.886

Test Data at Downlink Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
16QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
64QAM	Low	2501.00	-	-
	Middle	2593.00	-	-
	High	2685.00	-	-
256QAM	Low	2501.00	39.74	9.419
	Middle	2593.00	39.95	9.886
	High	2685.00	40.11	10.257

Sum Data from Port 0 to Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power (W)
256QAM	Low	2501.00	76.725
	Middle	2593.00	79.360
	High	2685.00	80.478

5 MHz + 5 MHz + 5 MHz / 3 Carriers (5 W + 5 W + 5 W)

Test Data at Downlink Port 0

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
16QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
64QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
256QAM	Low	2503.50	41.65	14.622
	Middle	2593.00	42.24	16.749
	High	2682.50	41.81	15.171

Test Data at Downlink Port 1

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
16QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
64QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
256QAM	Low	2503.50	41.78	15.066
	Middle	2593.00	42.32	17.061
	High	2682.50	40.94	12.417

Test Data at Downlink Port 2

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
16QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
64QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
256QAM	Low	2503.50	41.67	14.689
	Middle	2593.00	42.32	17.061
	High	2682.50	41.58	14.388

Test Data at Downlink Port 3

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
16QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
64QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
256QAM	Low	2503.50	41.51	14.158
	Middle	2593.00	42.07	16.106
	High	2682.50	41.47	14.028

Test Data at Downlink Port 4

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
16QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
64QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
256QAM	Low	2503.50	41.50	14.125
	Middle	2593.00	42.32	17.061
	High	2682.50	41.58	14.388

Test Data at Downlink Port 5

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
16QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
64QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
256QAM	Low	2503.50	41.93	15.596
	Middle	2593.00	42.40	17.378
	High	2682.50	41.62	14.521

Test Data at Downlink Port 6

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
16QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
64QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
256QAM	Low	2503.50	41.77	15.031
	Middle	2593.00	41.27	13.397
	High	2682.50	41.53	14.223

Test Data at Downlink Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
16QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
64QAM	Low	2503.50	-	-
	Middle	2593.00	-	-
	High	2682.50	-	-
256QAM	Low	2503.50	41.81	15.171
	Middle	2593.00	41.88	15.417
	High	2682.50	41.52	14.191

Sum Data from Port 0 to Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power (W)
256QAM	Low	2503.50	118.758
	Middle	2593.00	130.230
	High	2682.50	113.327

20 MHz / 1 Carrier (10 W)

Test Data at Downlink Port 0

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
16QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
64QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
256QAM	Low	2506.00	39.84	9.638
	Middle	2593.00	40.06	10.139
	High	2680.00	39.99	9.977

Test Data at Downlink Port 1

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
16QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
64QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
256QAM	Low	2506.00	39.82	9.594
	Middle	2593.00	39.97	9.931
	High	2680.00	39.83	9.616

Test Data at Downlink Port 2

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
16QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
64QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
256QAM	Low	2506.00	39.81	9.572
	Middle	2593.00	40.04	10.093
	High	2680.00	39.87	9.705

Test Data at Downlink Port 3

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
16QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
64QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
256QAM	Low	2506.00	39.83	9.616
	Middle	2593.00	39.93	9.840
	High	2680.00	39.81	9.572

Test Data at Downlink Port 4

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
16QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
64QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
256QAM	Low	2506.00	39.82	9.594
	Middle	2593.00	40.09	10.209
	High	2680.00	39.79	9.528

Test Data at Downlink Port 5

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
16QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
64QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
256QAM	Low	2506.00	39.85	9.661
	Middle	2593.00	39.54	8.995
	High	2680.00	39.73	9.397

Test Data at Downlink Port 6

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
16QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
64QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
256QAM	Low	2506.00	39.90	9.772
	Middle	2593.00	39.90	9.772
	High	2680.00	39.78	9.506

Test Data at Downlink Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
16QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
64QAM	Low	2506.00	-	-
	Middle	2593.00	-	-
	High	2680.00	-	-
256QAM	Low	2506.00	39.79	9.528
	Middle	2593.00	39.89	9.750
	High	2680.00	39.76	9.462

Sum Data from Port 0 to Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power (W)
256QAM	Low	2506.00	76.975
	Middle	2593.00	78.729
	High	2680.00	76.763

20 MHz + 20 MHz / 2 Carriers (10 W + 10 W)

Test Data at Downlink Port 0

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
16QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
64QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
256QAM	Low	2516.00	43.10	20.417
	Middle	2593.00	42.89	19.454
	High	2670.00	42.76	18.880

Test Data at Downlink Port 1

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
16QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
64QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
256QAM	Low	2516.00	43.19	20.845
	Middle	2593.00	42.63	18.323
	High	2670.00	42.57	18.072

Test Data at Downlink Port 2

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
16QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
64QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
256QAM	Low	2516.00	42.71	18.664
	Middle	2593.00	42.62	18.281
	High	2670.00	42.65	18.408

Test Data at Downlink Port 3

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
16QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
64QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
256QAM	Low	2516.00	43.02	20.045
	Middle	2593.00	42.65	18.408
	High	2670.00	42.69	18.578

Test Data at Downlink Port 4

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
16QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
64QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
256QAM	Low	2516.00	42.93	19.634
	Middle	2593.00	42.78	18.967
	High	2670.00	42.88	19.409

Test Data at Downlink Port 5

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
16QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
64QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
256QAM	Low	2516.00	42.87	19.364
	Middle	2593.00	42.65	18.408
	High	2670.00	42.89	19.454

Test Data at Downlink Port 6

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
16QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
64QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
256QAM	Low	2516.00	42.83	19.187
	Middle	2593.00	42.62	18.281
	High	2670.00	42.99	19.907

Test Data at Downlink Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
16QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
64QAM	Low	2516.00	-	-
	Middle	2593.00	-	-
	High	2670.00	-	-
256QAM	Low	2516.00	42.78	18.967
	Middle	2593.00	42.42	17.458
	High	2670.00	43.09	20.370

Sum Data from Port 0 to Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power (W)
256QAM	Low	2516.00	157.123
	Middle	2593.00	147.580
	High	2670.00	153.078

20 MHz + 20 MHz + 20 MHz / 3 Carriers (6.67 W + 6.67 W + 6.67 W)

Test Data at Downlink Port 0

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2526.00	-	-
	Middle	2593.00	-	-
	High	2660.00	-	-
16QAM	Low	2526.00	-	-
	Middle	2593.00	-	-
	High	2660.00	-	-
64QAM	Low	2526.00	-	-
	Middle	2593.00	-	-
	High	2660.00	-	-
256QAM	Low	2526.00	42.90	19.498
	Middle	2593.00	42.88	19.409
	High	2660.00	42.72	18.707

Test Data at Downlink Port 1

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2526.00	43.08	20.324
	Middle	2593.00	42.39	17.338
	High	2660.00	42.80	19.055
16QAM	Low	2526.00	42.85	19.275
	Middle	2593.00	43.18	20.797
	High	2660.00	42.64	18.365
64QAM	Low	2526.00	43.09	20.370
	Middle	2593.00	43.04	20.137
	High	2660.00	42.66	18.450
256QAM	Low	2526.00	42.99	19.907
	Middle	2593.00	42.85	19.275
	High	2660.00	42.66	18.450

Test Data at Downlink Port 2

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2526.00	42.98	19.861
	Middle	2593.00	42.80	19.055
	High	2660.00	42.70	18.621
16QAM	Low	2526.00	42.69	18.578
	Middle	2593.00	42.98	19.861
	High	2660.00	42.69	18.578
64QAM	Low	2526.00	42.96	19.770
	Middle	2593.00	43.06	20.230
	High	2660.00	42.67	18.493
256QAM	Low	2526.00	42.97	19.815
	Middle	2593.00	42.72	18.707
	High	2660.00	42.65	18.408

Test Data at Downlink Port 3

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2526.00	42.93	19.634
	Middle	2593.00	42.76	18.880
	High	2660.00	42.63	18.323
16QAM	Low	2526.00	42.72	18.707
	Middle	2593.00	43.17	20.749
	High	2660.00	42.66	18.450
64QAM	Low	2526.00	42.94	19.679
	Middle	2593.00	43.07	20.277
	High	2660.00	42.69	18.578
256QAM	Low	2526.00	42.88	19.409
	Middle	2593.00	42.91	19.543
	High	2660.00	42.73	18.750

Test Data at Downlink Port 4

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2526.00	-	-
	Middle	2593.00	-	-
	High	2660.00	-	-
16QAM	Low	2526.00	-	-
	Middle	2593.00	-	-
	High	2660.00	-	-
64QAM	Low	2526.00	-	-
	Middle	2593.00	-	-
	High	2660.00	-	-
256QAM	Low	2526.00	42.82	19.143
	Middle	2593.00	42.91	19.543
	High	2660.00	42.65	18.408

Test Data at Downlink Port 5

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2526.00	42.84	19.231
	Middle	2593.00	42.72	18.707
	High	2660.00	42.52	17.865
16QAM	Low	2526.00	42.72	18.707
	Middle	2593.00	43.14	20.606
	High	2660.00	42.63	18.323
64QAM	Low	2526.00	42.90	19.498
	Middle	2593.00	43.02	20.045
	High	2660.00	42.70	18.621
256QAM	Low	2526.00	42.72	18.707
	Middle	2593.00	42.96	19.770
	High	2660.00	42.74	18.793

Test Data at Downlink Port 6

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2526.00	42.77	18.923
	Middle	2593.00	43.18	20.797
	High	2660.00	42.57	18.072
16QAM	Low	2526.00	42.77	18.923
	Middle	2593.00	43.12	20.512
	High	2660.00	42.63	18.323
64QAM	Low	2526.00	42.85	19.275
	Middle	2593.00	42.95	19.724
	High	2660.00	42.77	18.923
256QAM	Low	2526.00	42.79	19.011
	Middle	2593.00	42.98	19.861
	High	2660.00	42.64	18.365

Test Data at Downlink Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2526.00	42.71	18.664
	Middle	2593.00	43.18	20.797
	High	2660.00	42.59	18.155
16QAM	Low	2526.00	42.74	18.793
	Middle	2593.00	43.09	20.370
	High	2660.00	42.53	17.906
64QAM	Low	2526.00	42.8	19.055
	Middle	2593.00	42.96	19.770
	High	2660.00	42.77	18.923
256QAM	Low	2526.00	42.79	19.011
	Middle	2593.00	42.94	19.679
	High	2660.00	42.63	18.323

Sum Data of Port 1 Port 2, Port 3, Port 5, Port 6 and Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power (W)
QPSK	Low	2526.00	116.637
	Middle	2593.00	115.574
	High	2660.00	110.091
16QAM	Low	2526.00	112.983
	Middle	2593.00	122.895
	High	2660.00	109.945
64QAM	Low	2526.00	117.647
	Middle	2593.00	120.183
	High	2660.00	111.988

Sum Data from Port 0 to Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power (W)
QPSK	Low	2526.00	For sum power of all port, refer to exiting report data
	Middle	2593.00	
	High	2660.00	
16QAM	Low	2526.00	
	Middle	2593.00	
	High	2660.00	
64QAM	Low	2526.00	
	Middle	2593.00	
	High	2660.00	
256QAM	Low	2526.00	154.501
	Middle	2593.00	155.787
	High	2660.00	148.204

15 MHz / 1 Carrier (7.5 W)

Test Data at Downlink Port 0

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	38.76	7.516
	Middle	2593.00	38.66	7.345
	High	2682.50	38.45	6.998
16QAM	Low	2503.50	38.52	7.112
	Middle	2593.00	38.09	6.442
	High	2682.50	38.06	6.397
64QAM	Low	2503.50	38.23	6.653
	Middle	2593.00	38.02	6.339
	High	2682.50	38.15	6.531
256QAM	Low	2503.50	38.65	7.328
	Middle	2593.00	38.00	6.310
	High	2682.50	38.46	7.015

Test Data at Downlink Port 1

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	38.61	7.261
	Middle	2593.00	38.65	7.328
	High	2682.50	38.39	6.902
16QAM	Low	2503.50	38.58	7.211
	Middle	2593.00	38.11	6.471
	High	2682.50	38.22	6.637
64QAM	Low	2503.50	38.28	6.730
	Middle	2593.00	37.81	6.039
	High	2682.50	38.21	6.622
256QAM	Low	2503.50	38.45	6.998
	Middle	2593.00	38.19	6.592
	High	2682.50	38.48	7.047

Test Data at Downlink Port 2

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	38.62	7.278
	Middle	2593.00	38.60	7.244
	High	2682.50	38.41	6.934
16QAM	Low	2503.50	38.65	7.328
	Middle	2593.00	38.06	6.397
	High	2682.50	38.15	6.531
64QAM	Low	2503.50	38.27	6.714
	Middle	2593.00	37.93	6.209
	High	2682.50	38.20	6.607
256QAM	Low	2503.50	38.49	7.063
	Middle	2593.00	38.24	6.668
	High	2682.50	38.43	6.966

Test Data at Downlink Port 3

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	38.58	7.211
	Middle	2593.00	38.56	7.178
	High	2682.50	38.34	6.823
16QAM	Low	2503.50	38.67	7.362
	Middle	2593.00	37.91	6.180
	High	2682.50	38.28	6.730
64QAM	Low	2503.50	38.31	6.776
	Middle	2593.00	38.30	6.761
	High	2682.50	38.22	6.637
256QAM	Low	2503.50	38.20	6.607
	Middle	2593.00	38.27	6.714
	High	2682.50	38.45	6.998

Test Data at Downlink Port 4

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	38.16	6.546
	Middle	2593.00	38.19	6.592
	High	2682.50	38.63	7.295
16QAM	Low	2503.50	38.26	6.699
	Middle	2593.00	38.12	6.486
	High	2682.50	38.53	7.129
64QAM	Low	2503.50	38.19	6.592
	Middle	2593.00	38.08	6.427
	High	2682.50	38.23	6.653
256QAM	Low	2503.50	38.24	6.668
	Middle	2593.00	38.41	6.934
	High	2682.50	38.08	6.427

Test Data at Downlink Port 5

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	38.12	6.486
	Middle	2593.00	38.20	6.607
	High	2682.50	38.64	7.311
16QAM	Low	2503.50	38.29	6.745
	Middle	2593.00	38.14	6.516
	High	2682.50	38.52	7.112
64QAM	Low	2503.50	38.19	6.592
	Middle	2593.00	38.10	6.457
	High	2682.50	38.17	6.561
256QAM	Low	2503.50	38.28	6.730
	Middle	2593.00	38.40	6.918
	High	2682.50	38.01	6.324

Test Data at Downlink Port 6

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	38.11	6.471
	Middle	2593.00	38.20	6.607
	High	2682.50	38.61	7.261
16QAM	Low	2503.50	38.31	6.776
	Middle	2593.00	38.11	6.471
	High	2682.50	38.60	7.244
64QAM	Low	2503.50	38.18	6.577
	Middle	2593.00	38.03	6.353
	High	2682.50	38.17	6.561
256QAM	Low	2503.50	38.31	6.776
	Middle	2593.00	38.36	6.855
	High	2682.50	38.63	7.295

Test Data at Downlink Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2503.50	38.18	6.577
	Middle	2593.00	38.17	6.561
	High	2682.50	38.56	7.178
16QAM	Low	2503.50	38.33	6.808
	Middle	2593.00	38.04	6.368
	High	2682.50	38.62	7.278
64QAM	Low	2503.50	38.12	6.486
	Middle	2593.00	38.02	6.339
	High	2682.50	38.17	6.561
256QAM	Low	2503.50	38.12	6.486
	Middle	2593.00	38.37	6.871
	High	2682.50	38.60	7.244

Sum Data from Port 0 to Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power (W)
QPSK	Low	2503.50	55.346
	Middle	2593.00	55.462
	High	2682.50	56.702
16QAM	Low	2503.50	56.041
	Middle	2593.00	51.331
	High	2682.50	55.058
64QAM	Low	2503.50	53.120
	Middle	2593.00	50.924
	High	2682.50	52.733
256QAM	Low	2503.50	54.656
	Middle	2593.00	53.862
	High	2682.50	55.316

20 MHz +15 MHz / 2 Carriers (10 W + 7.5 W)

Test Data at Downlink Port 0

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2513.50	42.06	16.069
	Middle	2593.00	42.31	17.022
	High	2672.50	42.21	16.634
16QAM	Low	2513.50	42.36	17.219
	Middle	2593.00	42.11	16.255
	High	2672.50	42.27	16.866
64QAM	Low	2513.50	42.29	16.943
	Middle	2593.00	42.04	15.996
	High	2672.50	42.27	16.866
256QAM	Low	2513.50	42.24	16.749
	Middle	2593.00	42.16	16.444
	High	2672.50	42.05	16.032

Test Data at Downlink Port 1

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2513.50	41.83	15.241
	Middle	2593.00	42.28	16.904
	High	2672.50	42.11	16.255
16QAM	Low	2513.50	42.21	16.634
	Middle	2593.00	42.20	16.596
	High	2672.50	42.15	16.406
64QAM	Low	2513.50	41.91	15.524
	Middle	2593.00	42.18	16.520
	High	2672.50	41.94	15.631
256QAM	Low	2513.50	42.05	16.032
	Middle	2593.00	42.37	17.258
	High	2672.50	42.10	16.218

Test Data at Downlink Port 2

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2513.50	41.94	15.631
	Middle	2593.00	42.15	16.406
	High	2672.50	42.17	16.482
16QAM	Low	2513.50	41.99	15.812
	Middle	2593.00	42.17	16.482
	High	2672.50	42.02	15.922
64QAM	Low	2513.50	41.91	15.524
	Middle	2593.00	42.07	16.106
	High	2672.50	42.38	17.298
256QAM	Low	2513.50	42.20	16.596
	Middle	2593.00	42.30	16.982
	High	2672.50	42.34	17.140

Test Data at Downlink Port 3

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2513.50	41.71	14.825
	Middle	2593.00	41.95	15.668
	High	2672.50	42.02	15.922
16QAM	Low	2513.50	41.92	15.560
	Middle	2593.00	42.13	16.331
	High	2672.50	42.05	16.032
64QAM	Low	2513.50	42.09	16.181
	Middle	2593.00	41.92	15.560
	High	2672.50	41.98	15.776
256QAM	Low	2513.50	41.99	15.812
	Middle	2593.00	42.01	15.885
	High	2672.50	41.80	15.136

Test Data at Downlink Port 4

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2513.50	42.10	16.218
	Middle	2593.00	42.22	16.672
	High	2672.50	42.04	15.996
16QAM	Low	2513.50	41.99	15.812
	Middle	2593.00	42.06	16.069
	High	2672.50	42.37	17.258
64QAM	Low	2513.50	41.95	15.668
	Middle	2593.00	42.11	16.255
	High	2672.50	42.31	17.022
256QAM	Low	2513.50	41.80	15.136
	Middle	2593.00	42.18	16.520
	High	2672.50	42.18	16.520

Test Data at Downlink Port 5

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2513.50	41.89	15.453
	Middle	2593.00	42.04	15.996
	High	2672.50	42.29	16.943
16QAM	Low	2513.50	41.82	15.205
	Middle	2593.00	42.01	15.885
	High	2672.50	42.41	17.418
64QAM	Low	2513.50	41.89	15.453
	Middle	2593.00	41.81	15.171
	High	2672.50	42.20	16.596
256QAM	Low	2513.50	41.74	14.928
	Middle	2593.00	42.08	16.144
	High	2672.50	42.39	17.338

Test Data at Downlink Port 6

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2513.50	42.03	15.959
	Middle	2593.00	42.31	17.022
	High	2672.50	42.28	16.904
16QAM	Low	2513.50	42.04	15.996
	Middle	2593.00	42.25	16.788
	High	2672.50	42.51	17.824
64QAM	Low	2513.50	42.06	16.069
	Middle	2593.00	42.12	16.293
	High	2672.50	42.32	17.061
256QAM	Low	2513.50	41.97	15.740
	Middle	2593.00	42.35	17.179
	High	2672.50	42.42	17.458

Test Data at Downlink Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2513.50	42.15	16.406
	Middle	2593.00	42.17	16.482
	High	2672.50	42.36	17.219
16QAM	Low	2513.50	41.92	15.560
	Middle	2593.00	41.79	15.101
	High	2672.50	42.69	18.578
64QAM	Low	2513.50	41.84	15.276
	Middle	2593.00	42.04	15.996
	High	2672.50	42.31	17.022
256QAM	Low	2513.50	41.82	15.205
	Middle	2593.00	42.33	17.100
	High	2672.50	42.45	17.579

Sum Data from Port 0 to Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power (W)
QPSK	Low	2513.50	125.802
	Middle	2593.00	132.172
	High	2672.50	132.355
16QAM	Low	2513.50	127.798
	Middle	2593.00	129.507
	High	2672.50	136.304
64QAM	Low	2513.50	126.638
	Middle	2593.00	127.897
	High	2672.50	133.272
256QAM	Low	2513.50	126.198
	Middle	2593.00	133.512
	High	2672.50	133.421

20 MHz +15 MHz +20 MHz / 3 Carriers (6.67 W + 5 W + 6.67 W)

Test Data at Downlink Port 0

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2523.50	42.57	18.072
	Middle	2593.00	42.37	17.258
	High	2662.50	42.42	17.458
16QAM	Low	2523.50	42.80	19.055
	Middle	2593.00	42.35	17.179
	High	2662.50	42.67	18.493
64QAM	Low	2523.50	42.85	19.275
	Middle	2593.00	42.21	16.634
	High	2662.50	42.38	17.298
256QAM	Low	2523.50	42.76	18.880
	Middle	2593.00	42.42	17.458
	High	2662.50	42.47	17.660

Test Data at Downlink Port 1

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2523.50	42.48	17.701
	Middle	2593.00	42.34	17.140
	High	2662.50	42.52	17.865
16QAM	Low	2523.50	41.97	15.740
	Middle	2593.00	42.61	18.239
	High	2662.50	42.70	18.621
64QAM	Low	2523.50	42.38	17.298
	Middle	2593.00	42.43	17.498
	High	2662.50	42.56	18.030
256QAM	Low	2523.50	42.46	17.620
	Middle	2593.00	42.50	17.783
	High	2662.50	42.39	17.338

Test Data at Downlink Port 2

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2523.50	42.19	16.558
	Middle	2593.00	42.59	18.155
	High	2662.50	42.67	18.493
16QAM	Low	2523.50	42.06	16.069
	Middle	2593.00	42.40	17.378
	High	2662.50	42.62	18.281
64QAM	Low	2523.50	42.15	16.406
	Middle	2593.00	42.38	17.298
	High	2662.50	42.39	17.338
256QAM	Low	2523.50	42.14	16.368
	Middle	2593.00	42.40	17.378
	High	2662.50	42.46	17.620

Test Data at Downlink Port 3

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2523.50	42.39	17.338
	Middle	2593.00	42.46	17.620
	High	2662.50	42.28	16.904
16QAM	Low	2523.50	42.20	16.596
	Middle	2593.00	42.32	17.061
	High	2662.50	42.20	16.596
64QAM	Low	2523.50	42.38	17.298
	Middle	2593.00	42.46	17.620
	High	2662.50	42.46	17.620
256QAM	Low	2523.50	42.32	17.061
	Middle	2593.00	42.52	17.865
	High	2662.50	42.28	16.904

Test Data at Downlink Port 4

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2523.50	42.50	17.783
	Middle	2593.00	42.48	17.701
	High	2662.50	42.57	18.072
16QAM	Low	2523.50	42.27	16.866
	Middle	2593.00	42.44	17.539
	High	2662.50	42.28	16.904
64QAM	Low	2523.50	42.36	17.219
	Middle	2593.00	42.53	17.906
	High	2662.50	42.27	16.866
256QAM	Low	2523.50	42.50	17.783
	Middle	2593.00	42.43	17.498
	High	2662.50	42.21	16.634

Test Data at Downlink Port 5

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2523.50	42.39	17.338
	Middle	2593.00	42.32	17.061
	High	2662.50	42.60	18.197
16QAM	Low	2523.50	42.33	17.100
	Middle	2593.00	42.25	16.788
	High	2662.50	42.34	17.140
64QAM	Low	2523.50	42.43	17.498
	Middle	2593.00	42.31	17.022
	High	2662.50	42.34	17.140
256QAM	Low	2523.50	42.31	17.022
	Middle	2593.00	42.34	17.140
	High	2662.50	42.20	16.596

Test Data at Downlink Port 6

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2523.50	42.29	16.943
	Middle	2593.00	42.28	16.904
	High	2662.50	42.35	17.179
16QAM	Low	2523.50	42.36	17.219
	Middle	2593.00	42.19	16.558
	High	2662.50	42.30	16.982
64QAM	Low	2523.50	42.34	17.140
	Middle	2593.00	42.40	17.378
	High	2662.50	42.30	16.982
256QAM	Low	2523.50	42.40	17.378
	Middle	2593.00	42.37	17.258
	High	2662.50	42.16	16.444

Test Data at Downlink Port 7

Mod.	Channel	Frequency (MHz)	Measured Output Power	
			(dBm)	(W)
QPSK	Low	2523.50	42.32	17.061
	Middle	2593.00	42.33	17.100
	High	2662.50	42.37	17.258
16QAM	Low	2523.50	42.27	16.866
	Middle	2593.00	42.25	16.788
	High	2662.50	42.27	16.866
64QAM	Low	2523.50	42.35	17.179
	Middle	2593.00	42.31	17.022
	High	2662.50	42.32	17.061
256QAM	Low	2523.50	42.32	17.061
	Middle	2593.00	42.30	16.982
	High	2662.50	42.16	16.444

Sum Data from Port 0 to Port 7

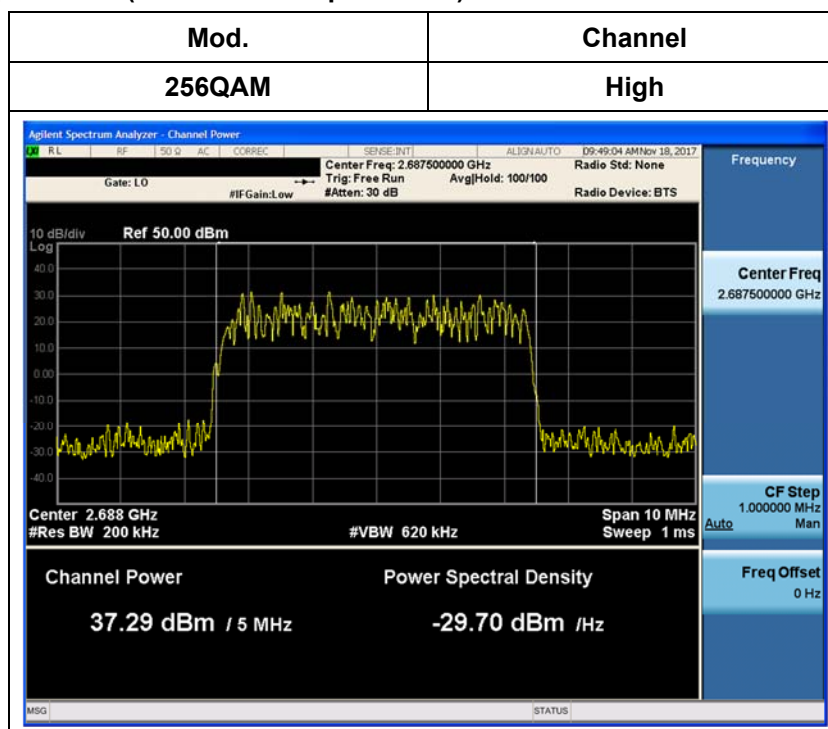
Mod.	Channel	Frequency (MHz)	Measured Output Power (W)
QPSK	Low	2523.50	138.794
	Middle	2593.00	138.939
	High	2662.50	141.426
16QAM	Low	2523.50	135.511
	Middle	2593.00	137.530
	High	2662.50	139.883
64QAM	Low	2523.50	139.313
	Middle	2593.00	138.378
	High	2662.50	138.335
256QAM	Low	2523.50	139.173
	Middle	2593.00	139.362
	High	2662.50	135.640

Note:

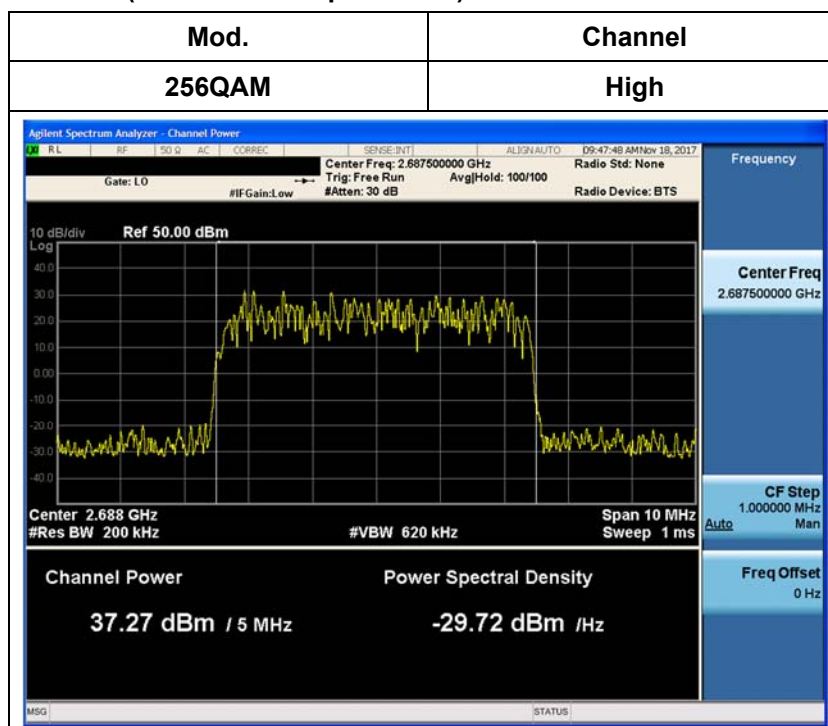
This test report only contains the worst case plot data for each port and modulation.

5 MHz / 1 Carrier (5 W)

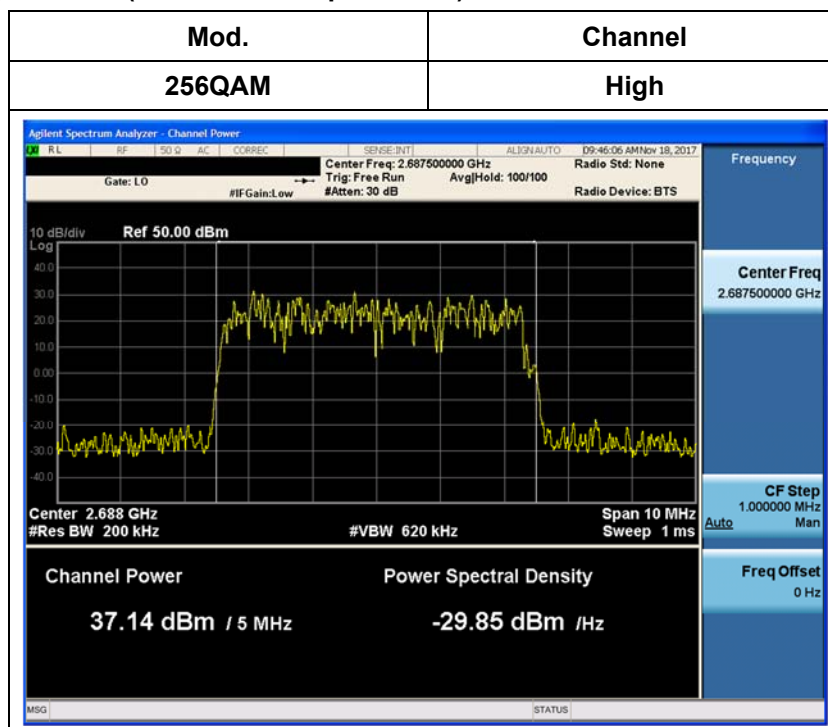
Plot Data for Output Port 0 (Conducted Output Power)



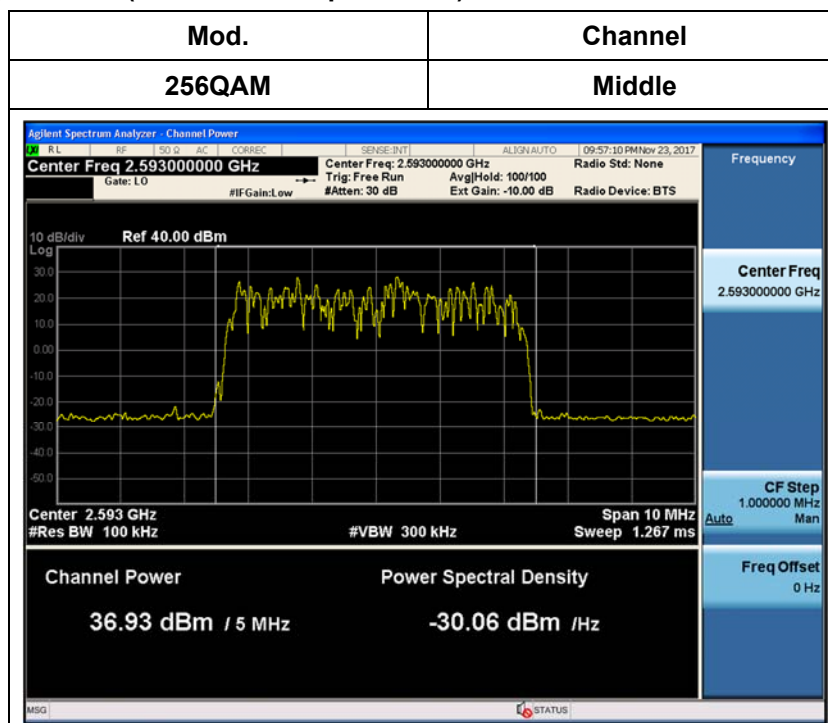
Plot Data for Output Port 1 (Conducted Output Power)



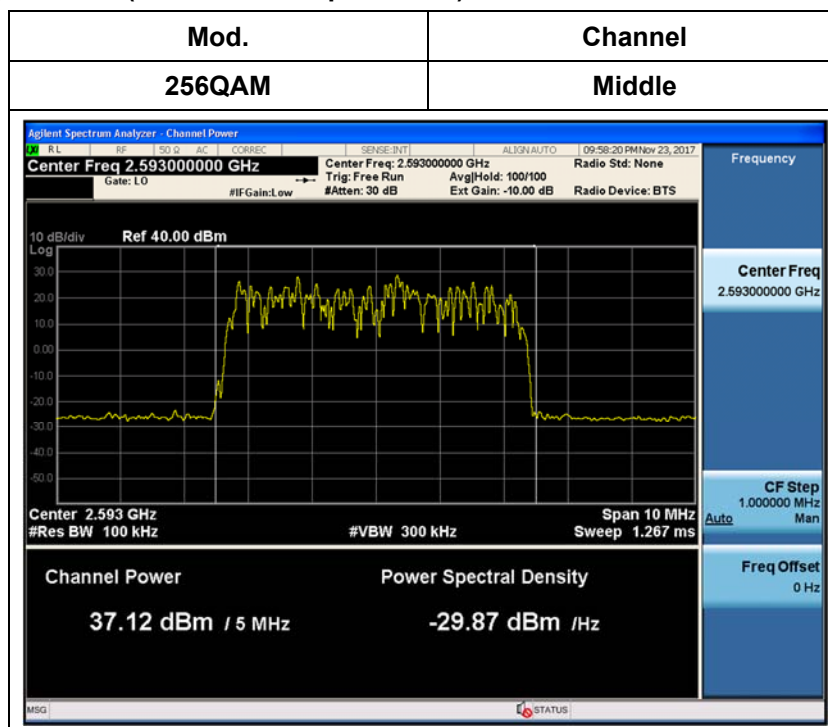
Plot Data for Output Port 2 (Conducted Output Power)



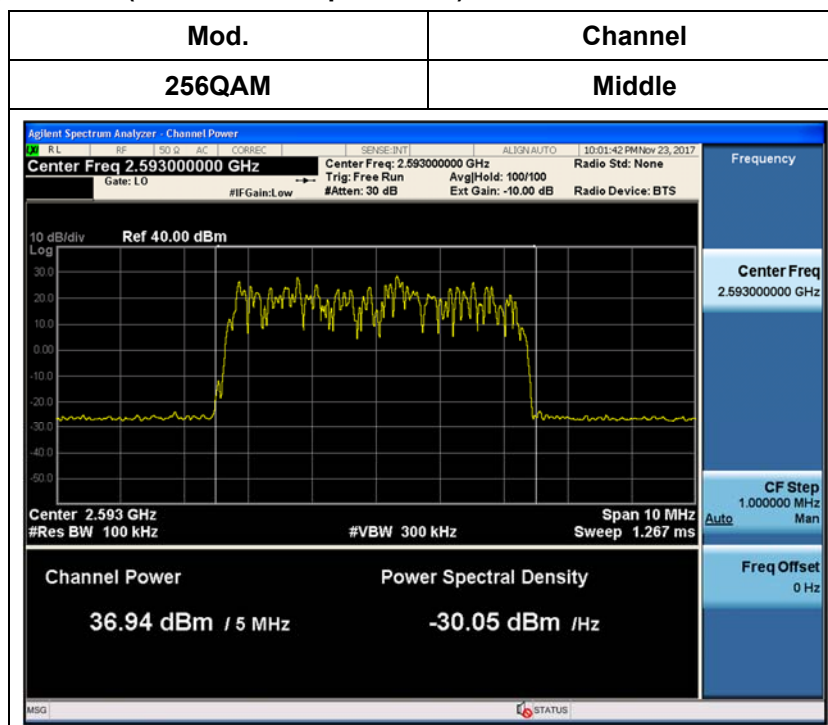
Plot Data for Output Port 3 (Conducted Output Power)



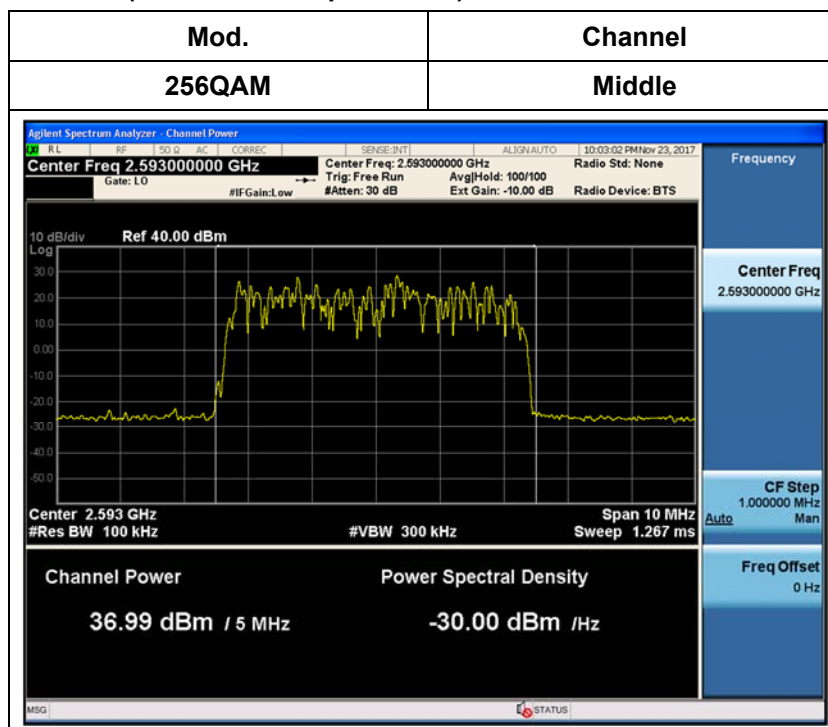
Plot Data for Output Port 4 (Conducted Output Power)



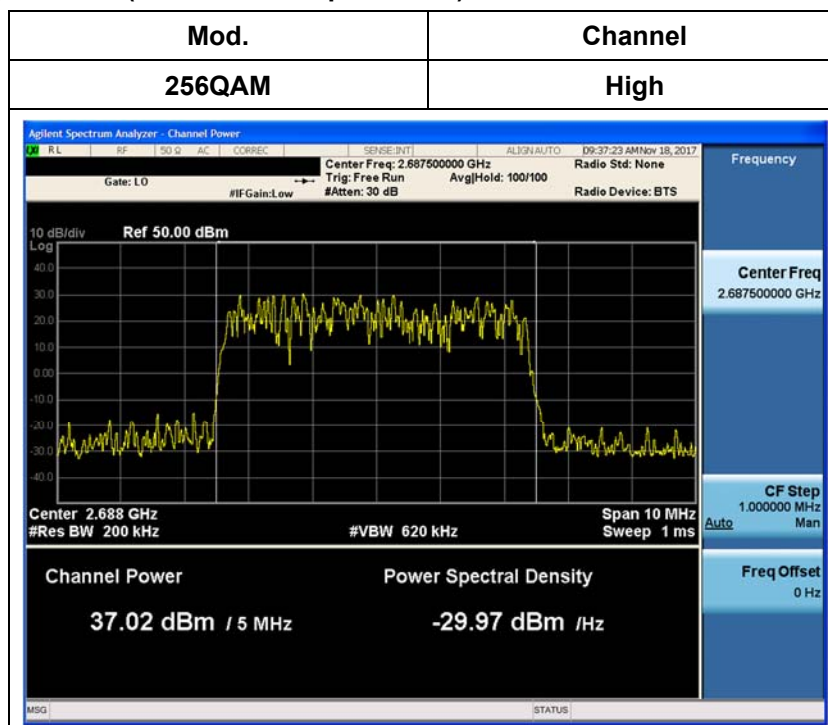
Plot Data for Output Port 5 (Conducted Output Power)



Plot Data for Output Port 6 (Conducted Output Power)

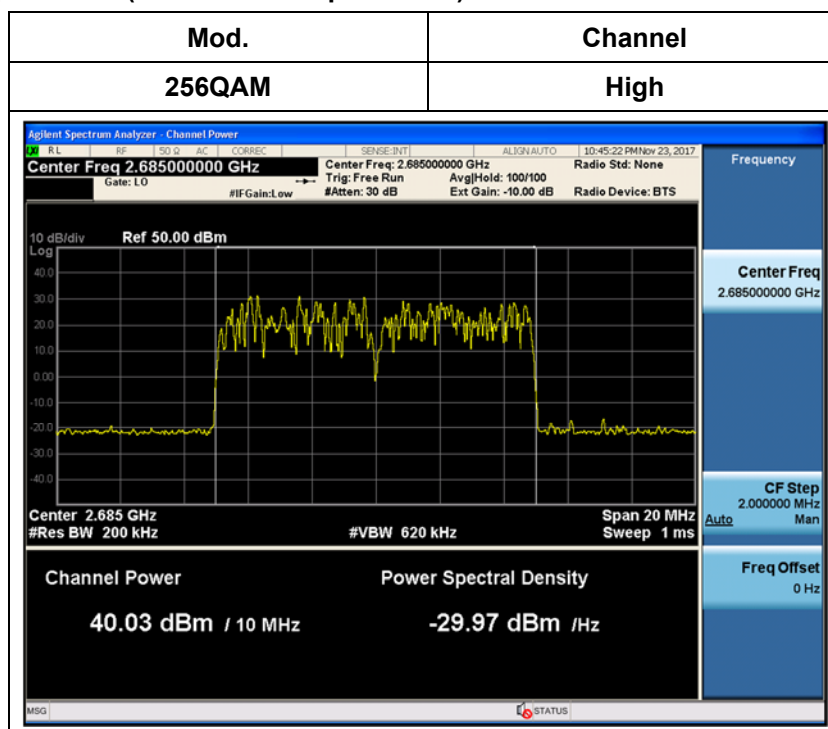


Plot Data for Output Port 7 (Conducted Output Power)

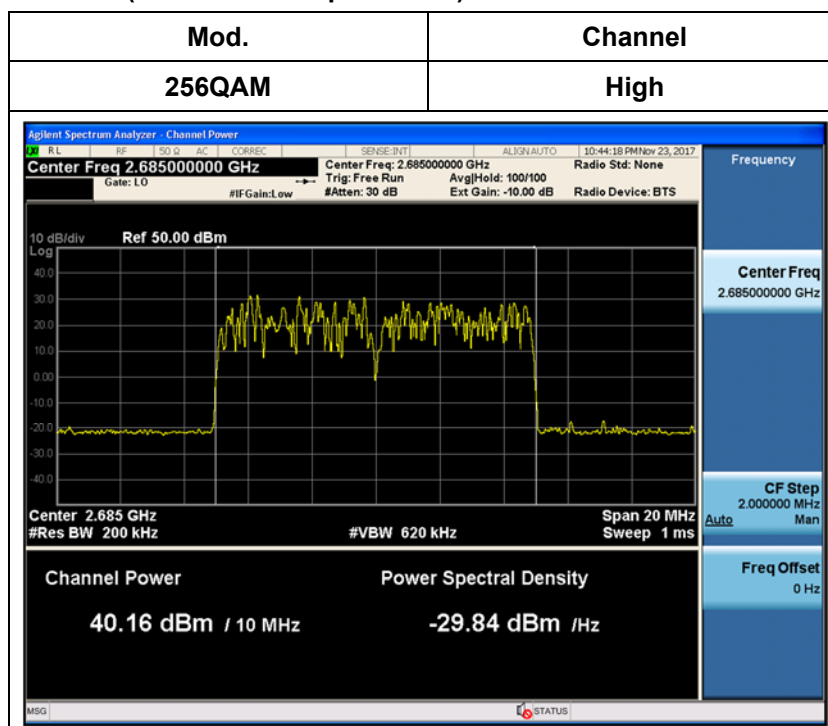


5 MHz + 5 MHz / 2 Carriers (5 W + 5 W)

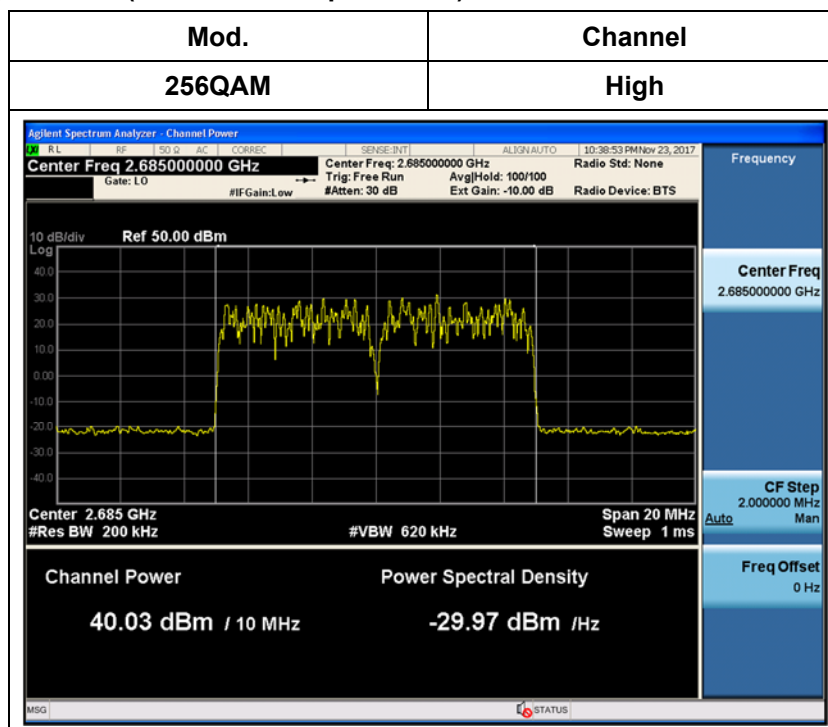
Plot Data for Output Port 0 (Conducted Output Power)



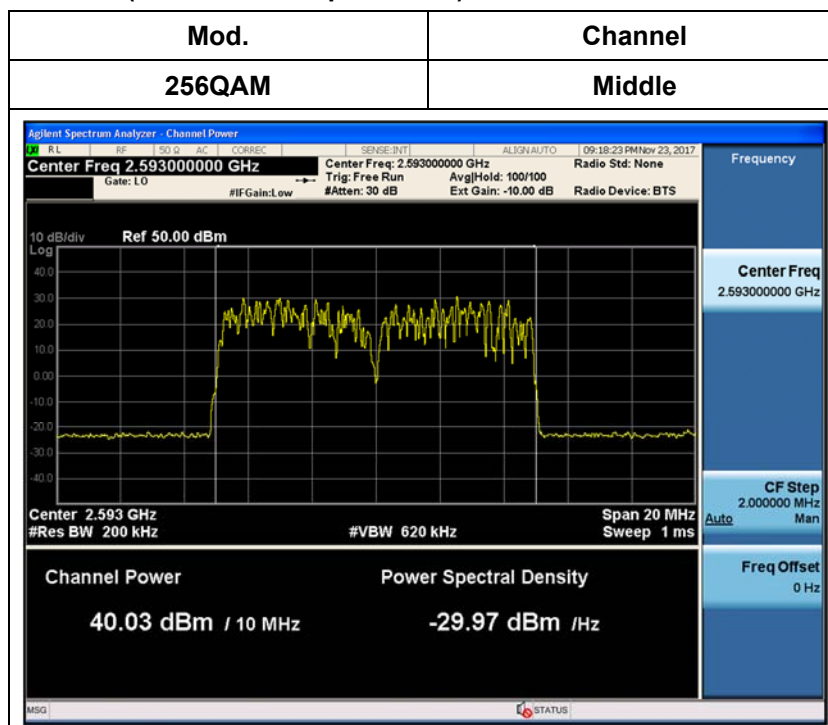
Plot Data for Output Port 1 (Conducted Output Power)



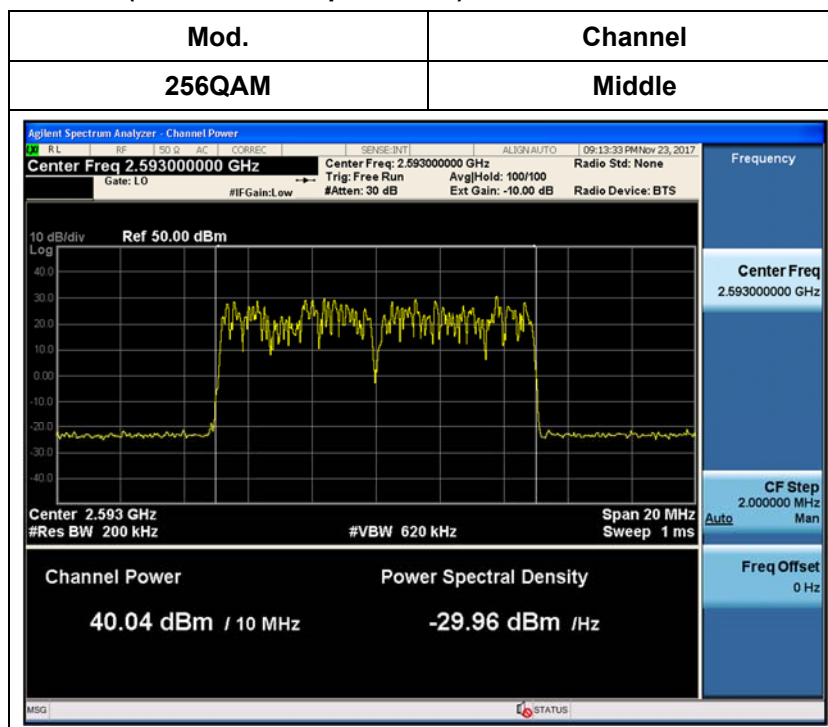
Plot Data for Output Port 2 (Conducted Output Power)



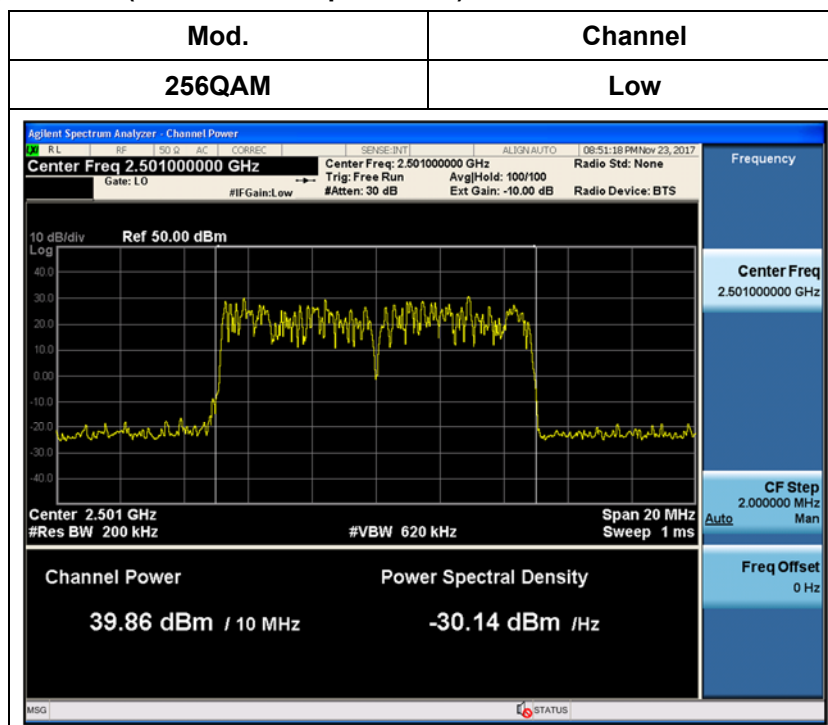
Plot Data for Output Port 3 (Conducted Output Power)



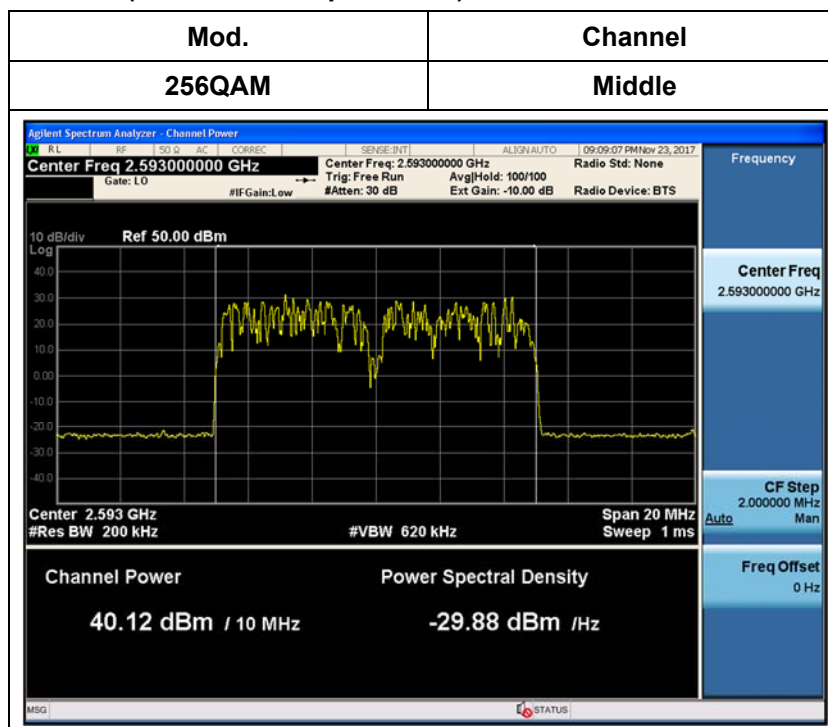
Plot Data for Output Port 4 (Conducted Output Power)



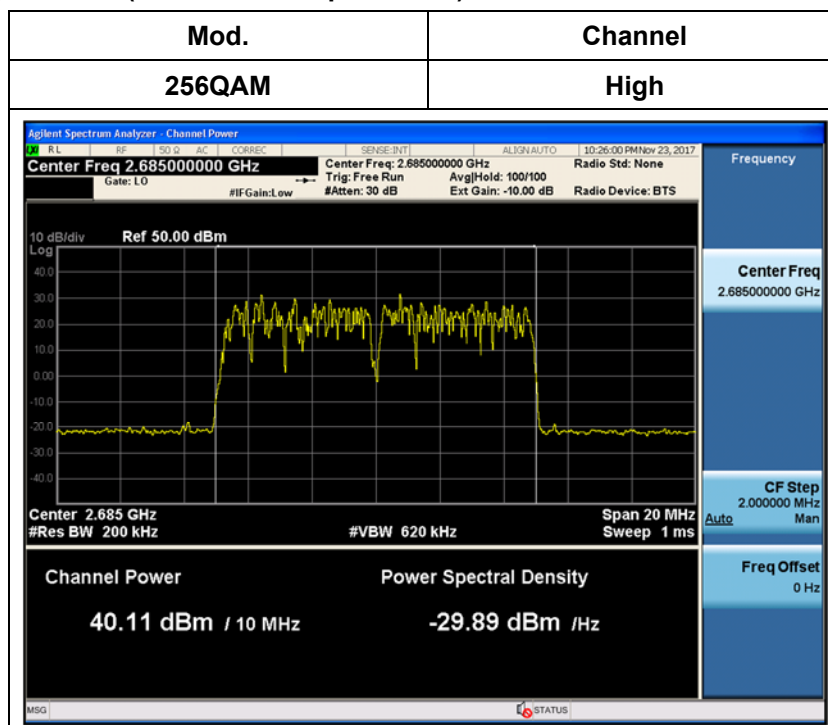
Plot Data for Output Port 5 (Conducted Output Power)



Plot Data for Output Port 6 (Conducted Output Power)

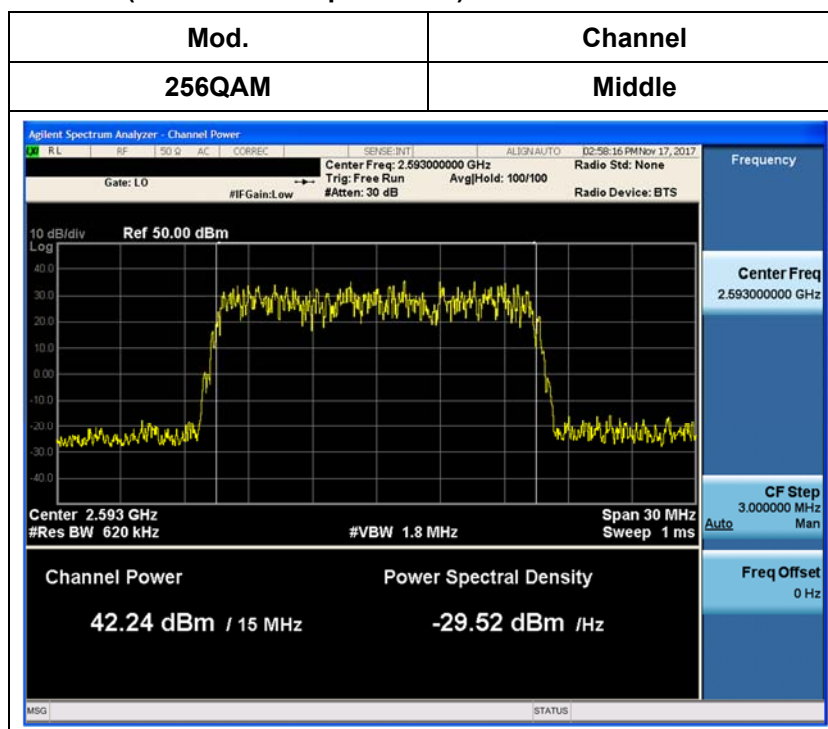


Plot Data for Output Port 7 (Conducted Output Power)

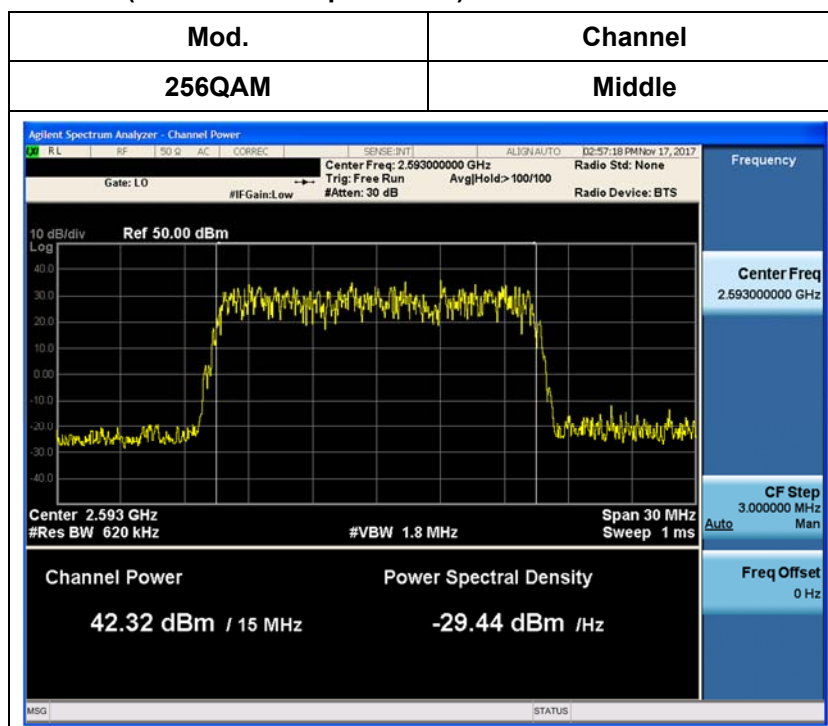


5 MHz + 5 MHz + 5 MHz / 3 Carriers (5 W + 5 W + 5 W)

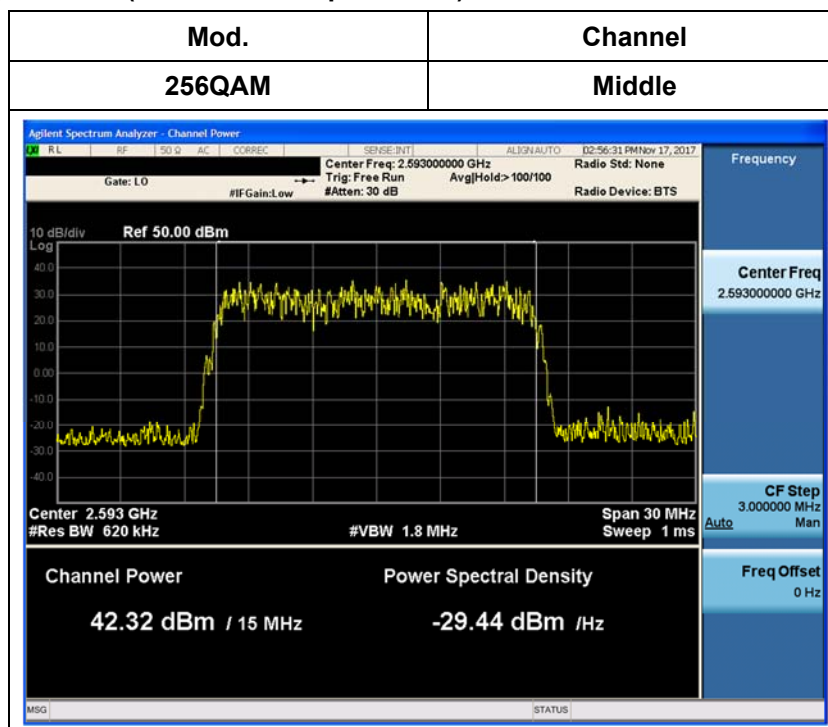
Plot Data for Output Port 0 (Conducted Output Power)



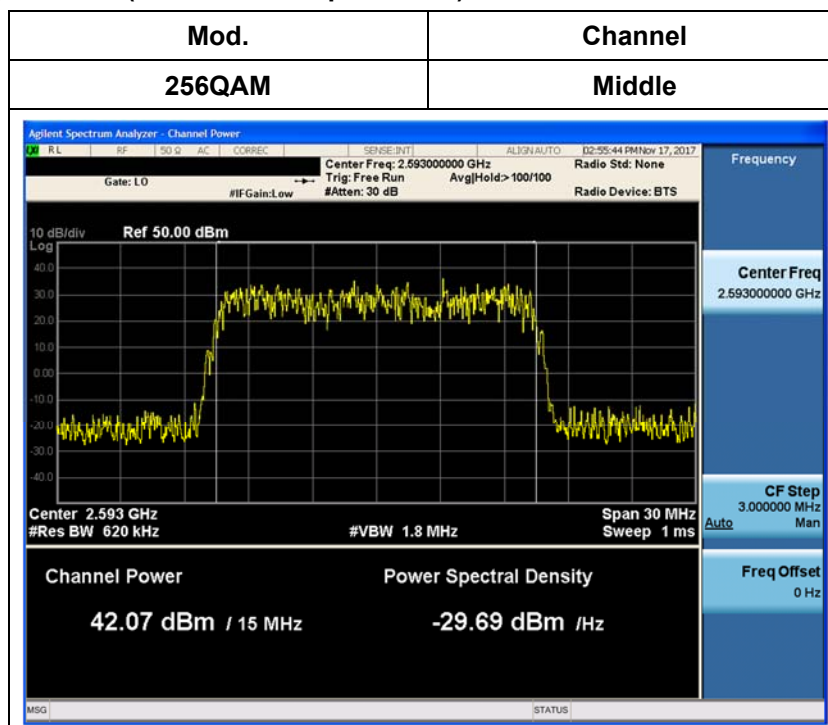
Plot Data for Output Port 1 (Conducted Output Power)



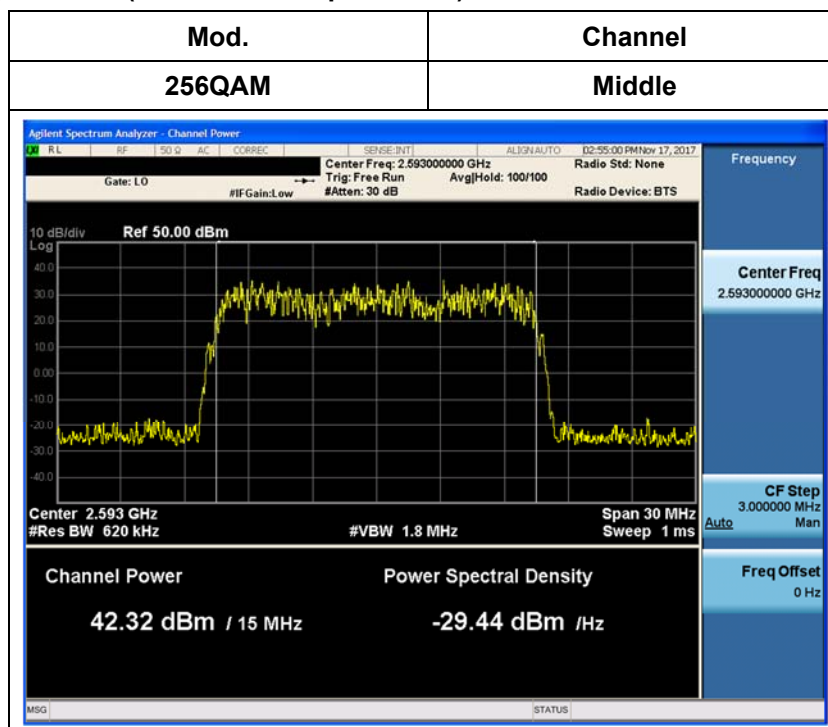
Plot Data for Output Port 2 (Conducted Output Power)



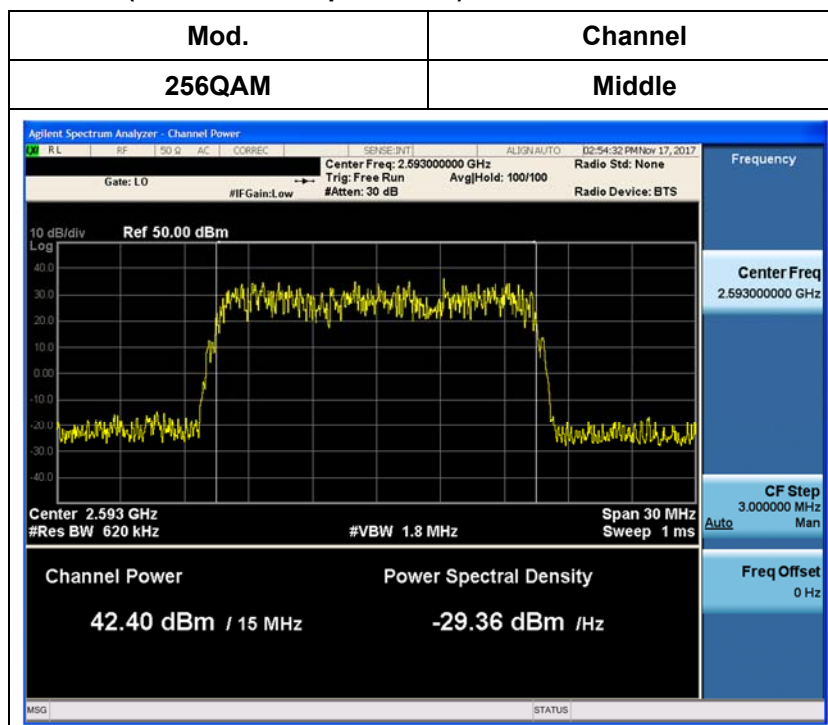
Plot Data for Output Port 3 (Conducted Output Power)



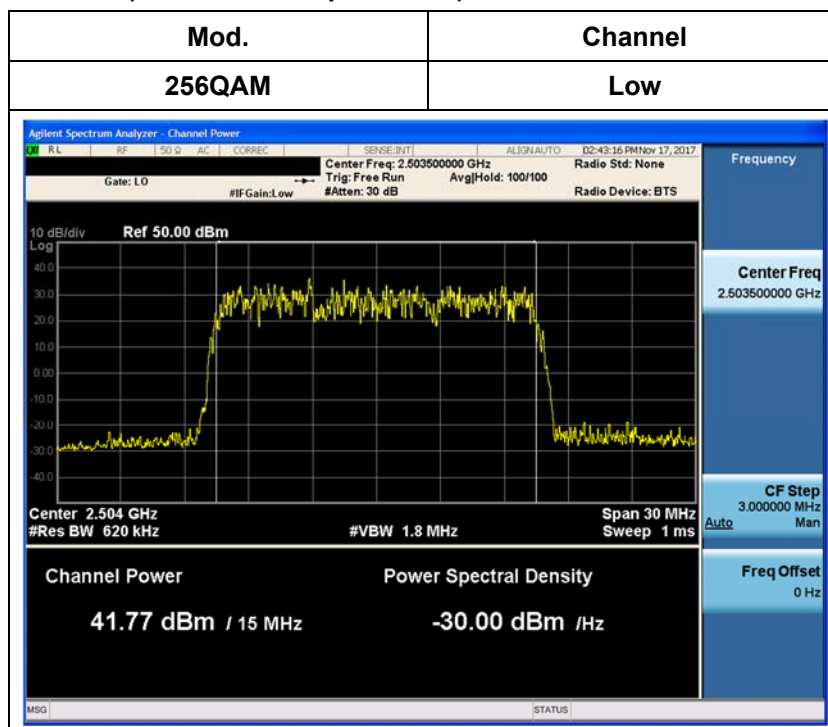
Plot Data for Output Port 4 (Conducted Output Power)



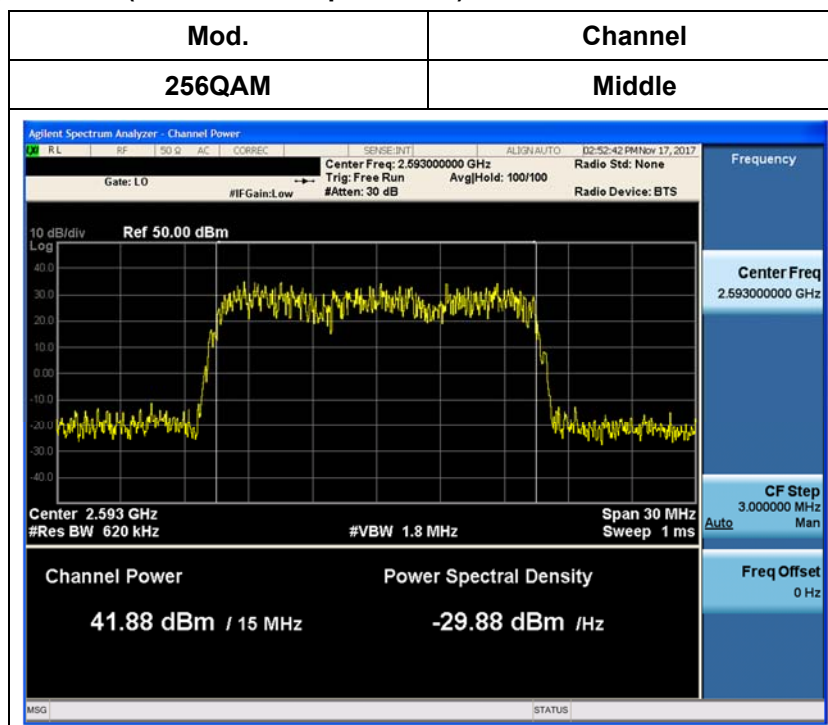
Plot Data for Output Port 5 (Conducted Output Power)



Plot Data for Output Port 6 (Conducted Output Power)

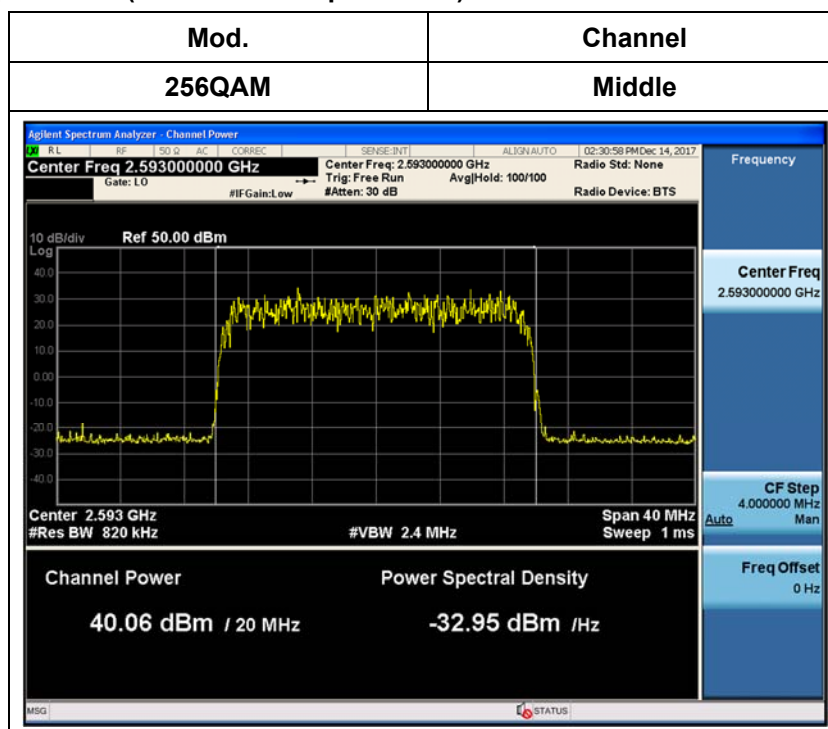


Plot Data for Output Port 7 (Conducted Output Power)

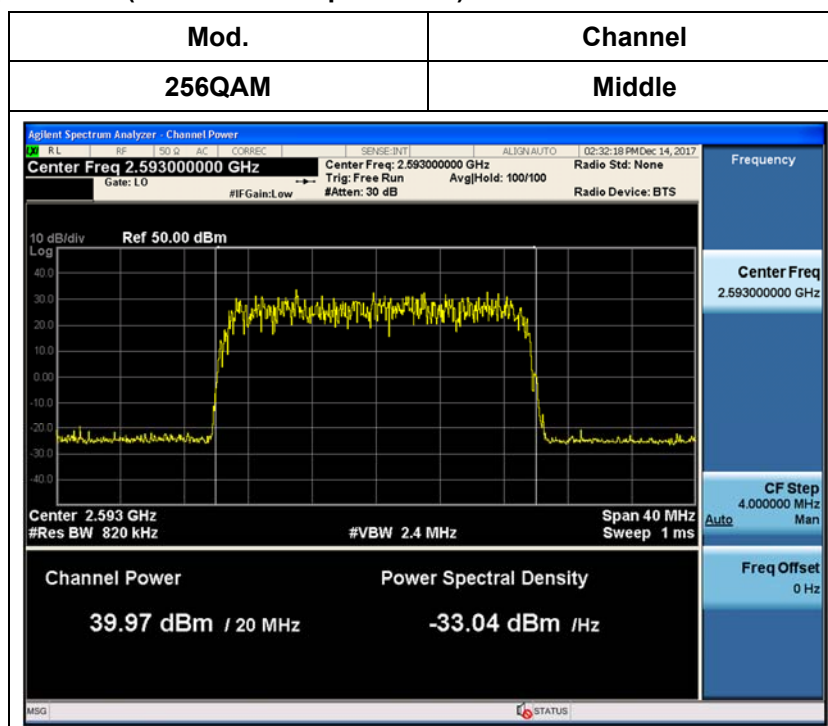


20 MHz / 1 Carrier (10 W)

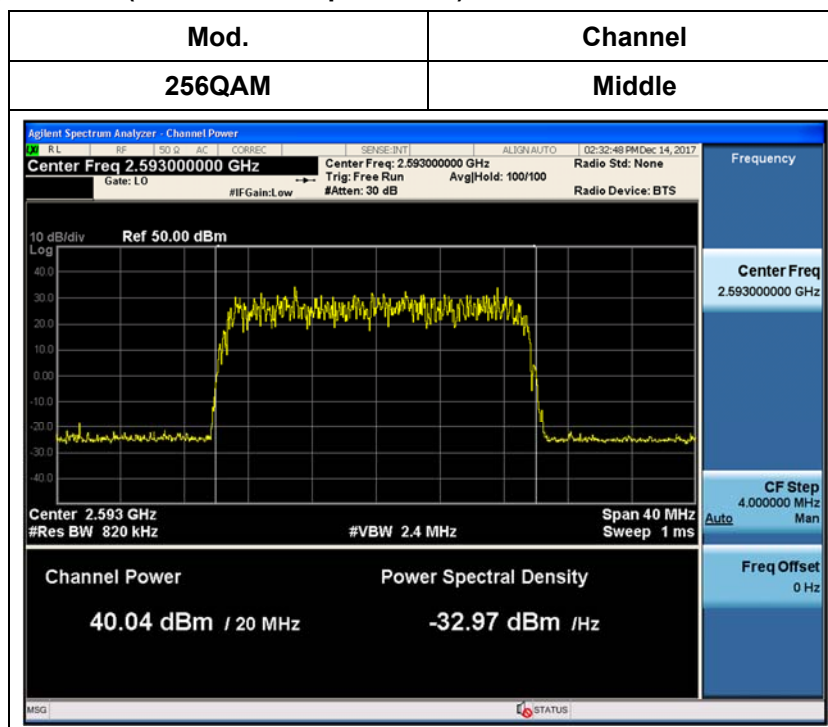
Plot Data for Output Port 0 (Conducted Output Power)



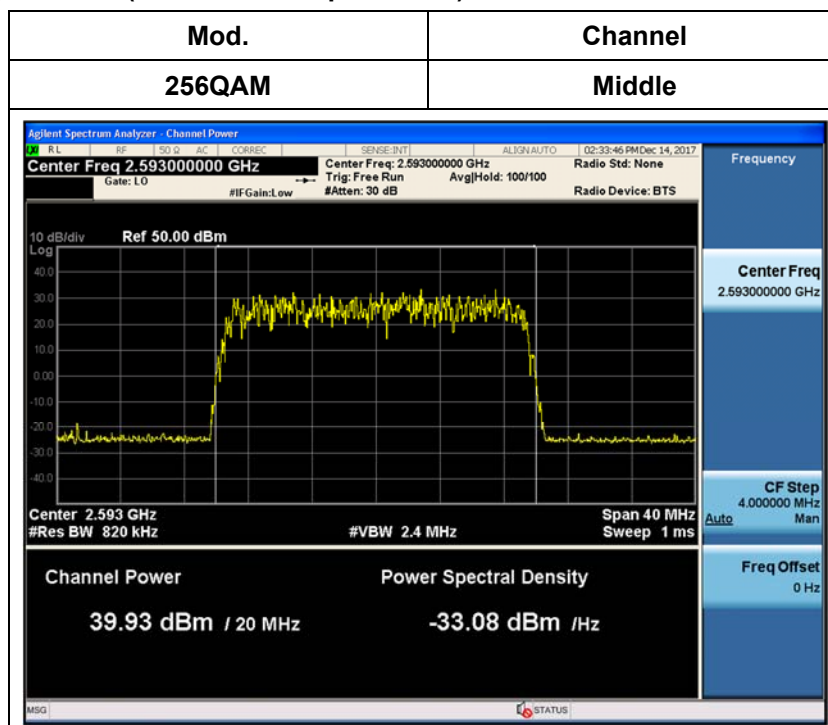
Plot Data for Output Port 1 (Conducted Output Power)



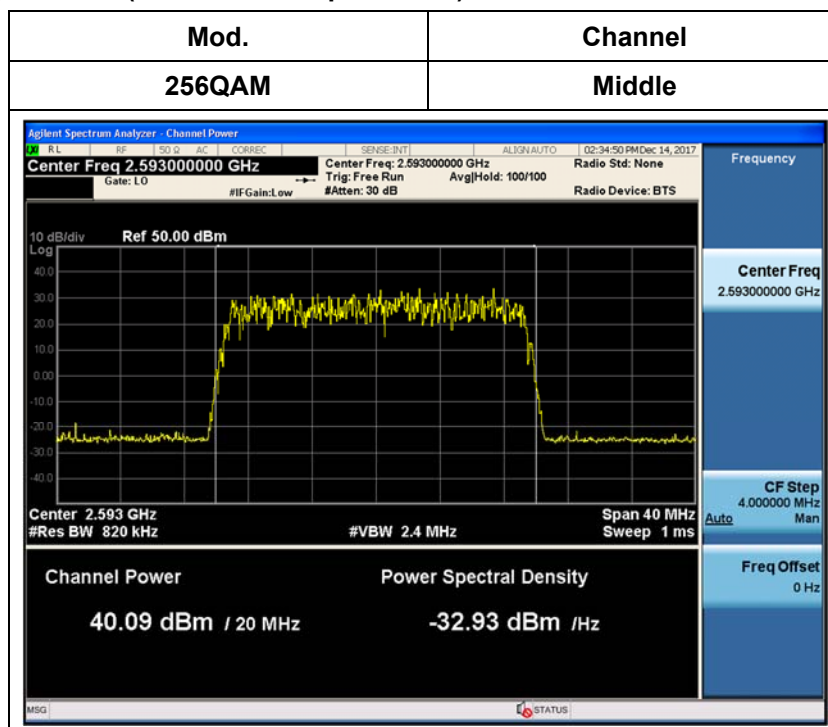
Plot Data for Output Port 2 (Conducted Output Power)



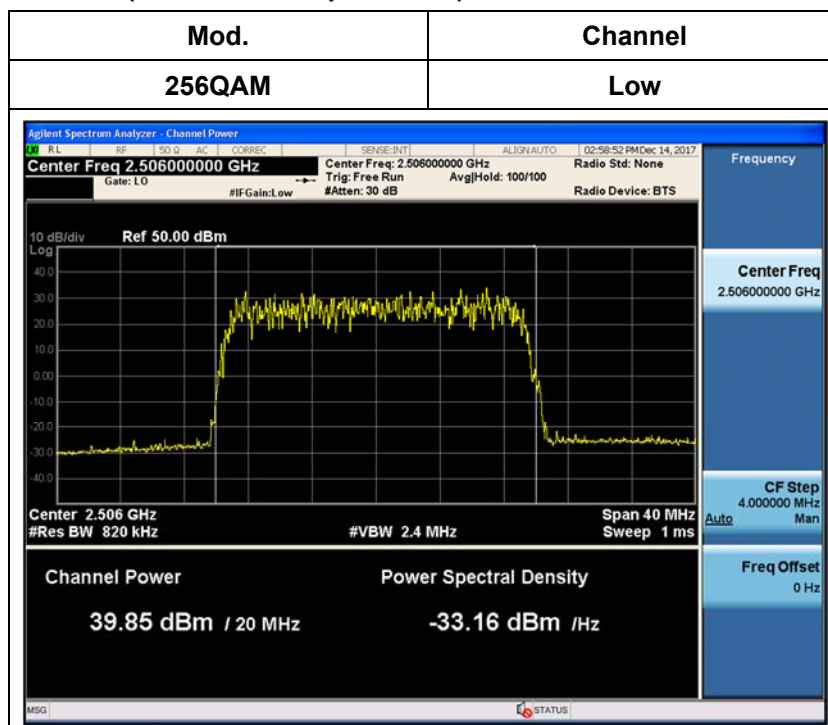
Plot Data for Output Port 3 (Conducted Output Power)



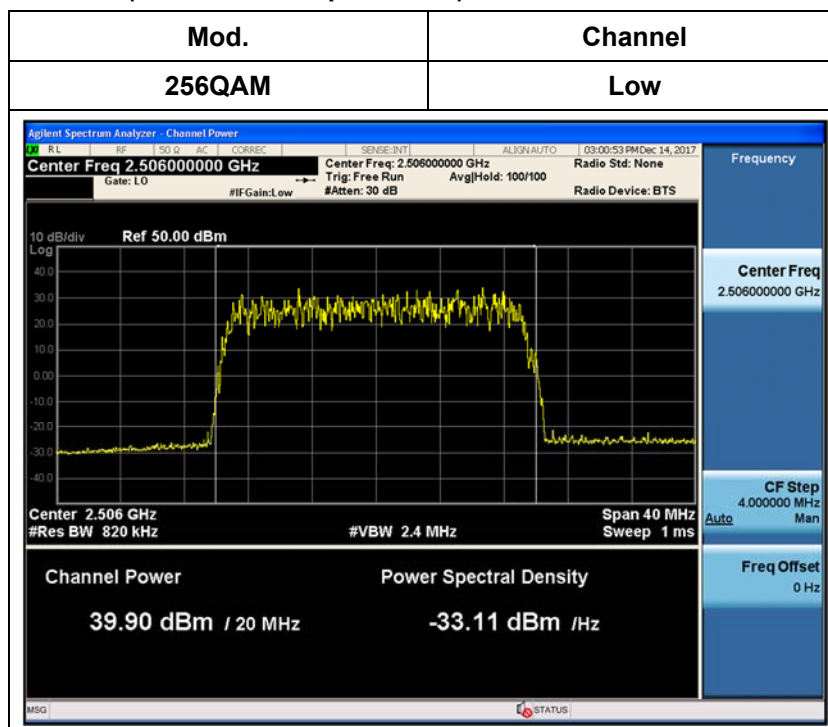
Plot Data for Output Port 4 (Conducted Output Power)



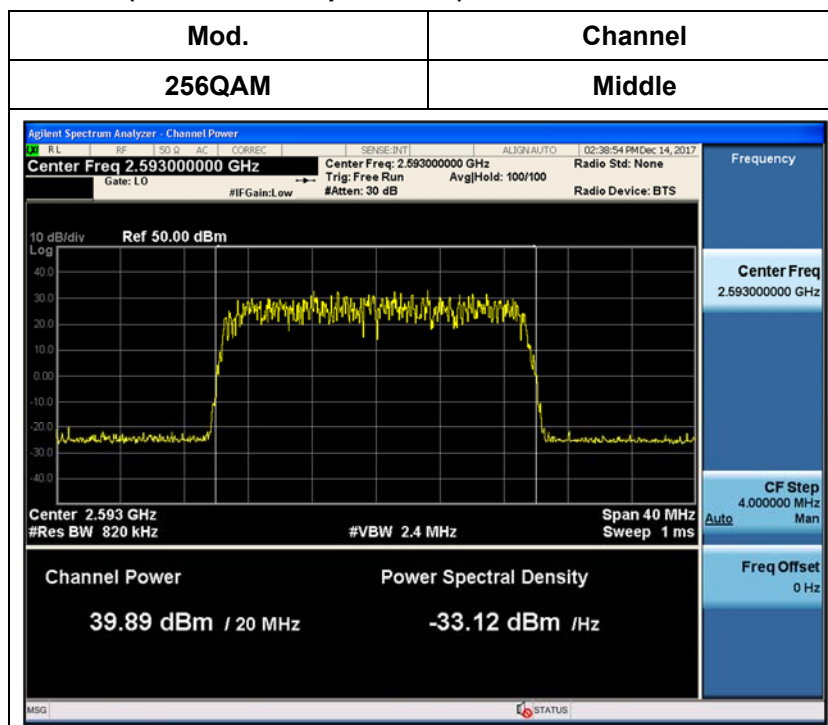
Plot Data for Output Port 5 (Conducted Output Power)



Plot Data for Output Port 6 (Conducted Output Power)

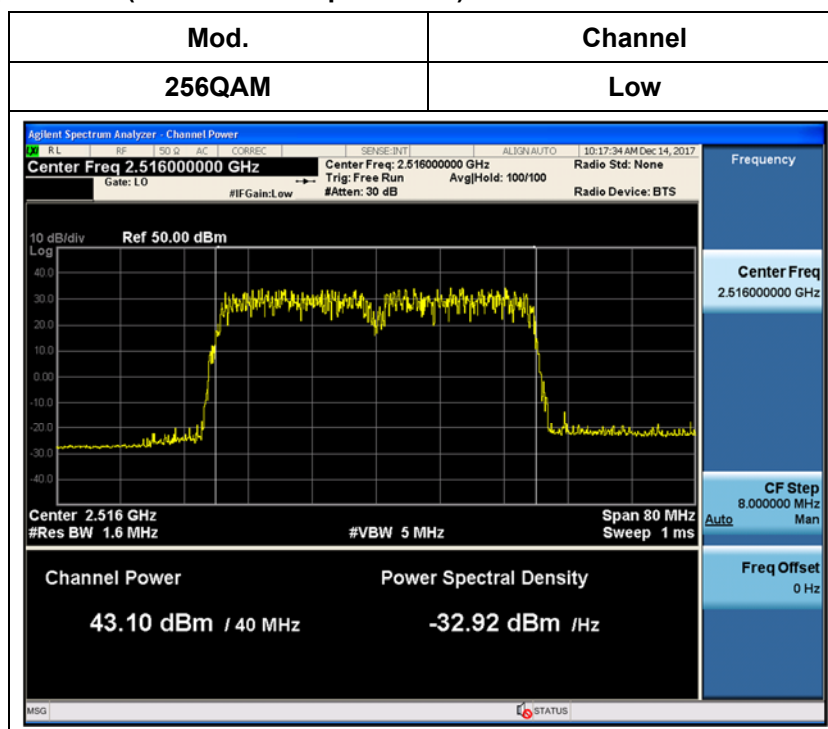


Plot Data for Output Port 7 (Conducted Output Power)

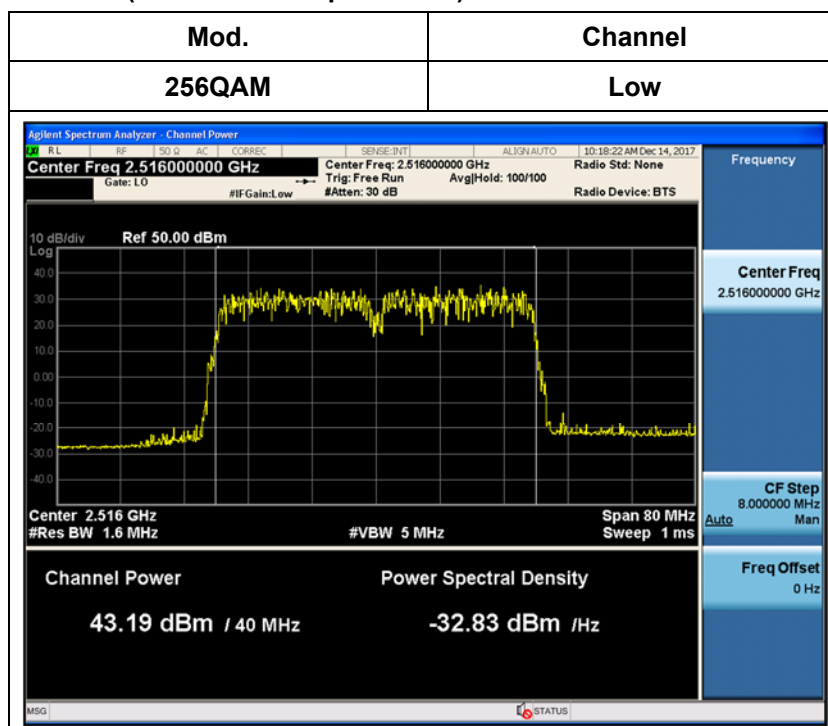


20 MHz + 20 MHz / 2 Carriers (10 W + 10 W)

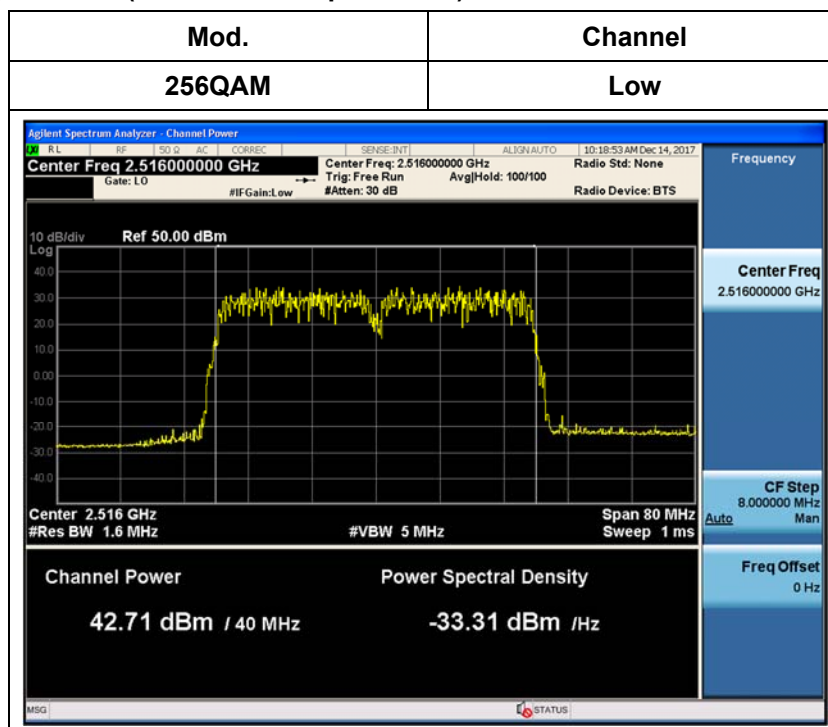
Plot Data for Output Port 0 (Conducted Output Power)



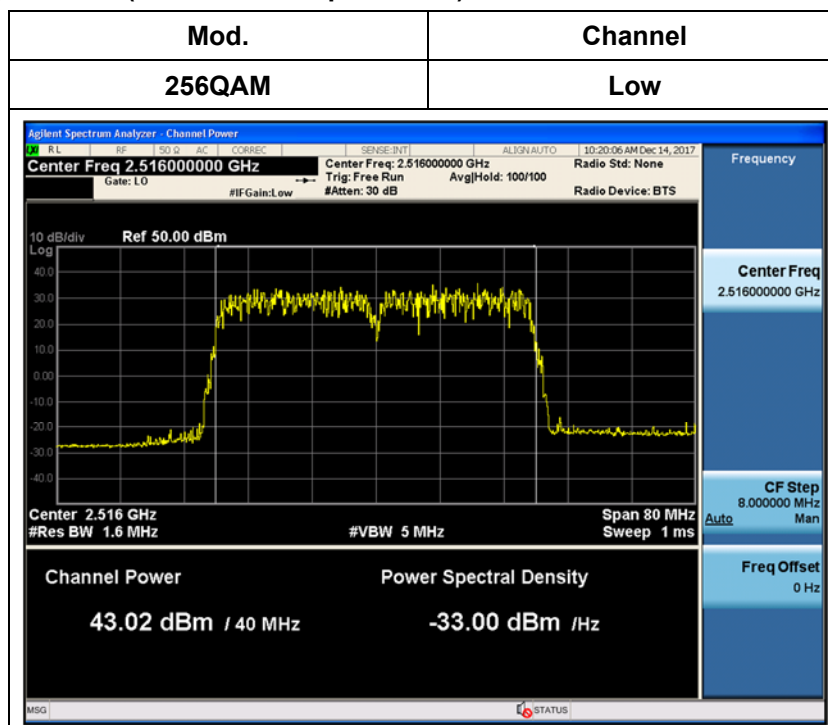
Plot Data for Output Port 1 (Conducted Output Power)



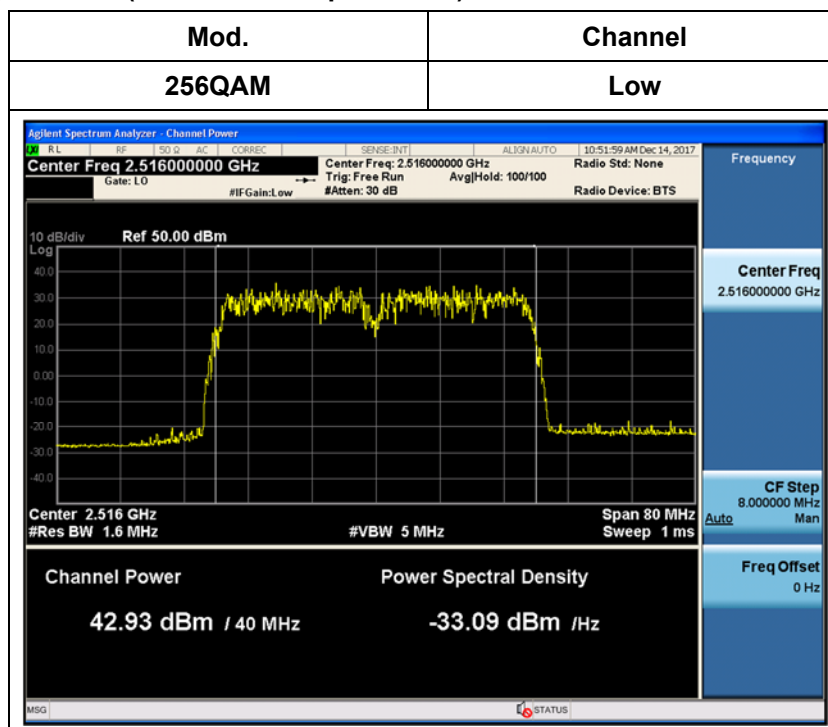
Plot Data for Output Port 2 (Conducted Output Power)



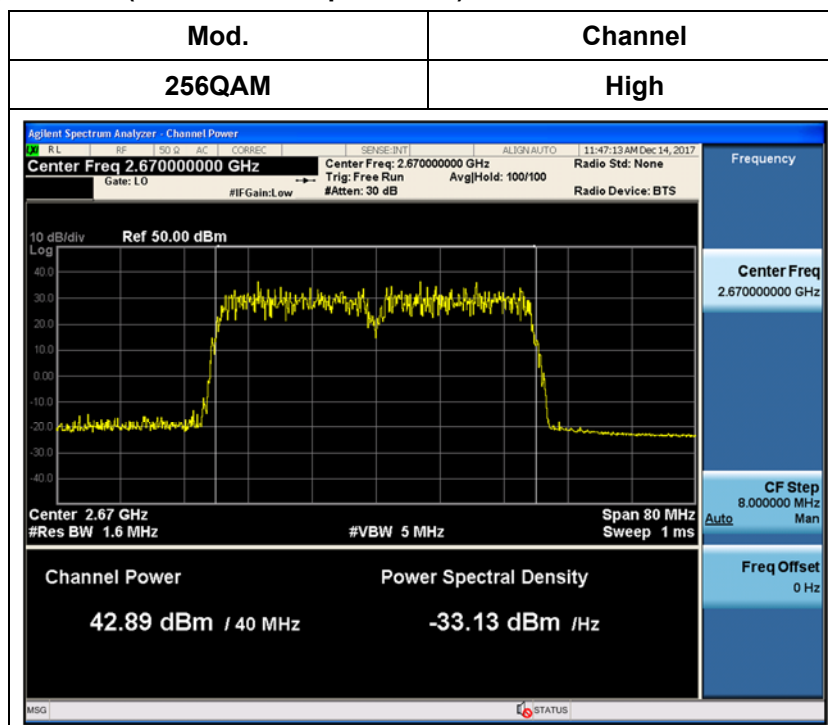
Plot Data for Output Port 3 (Conducted Output Power)



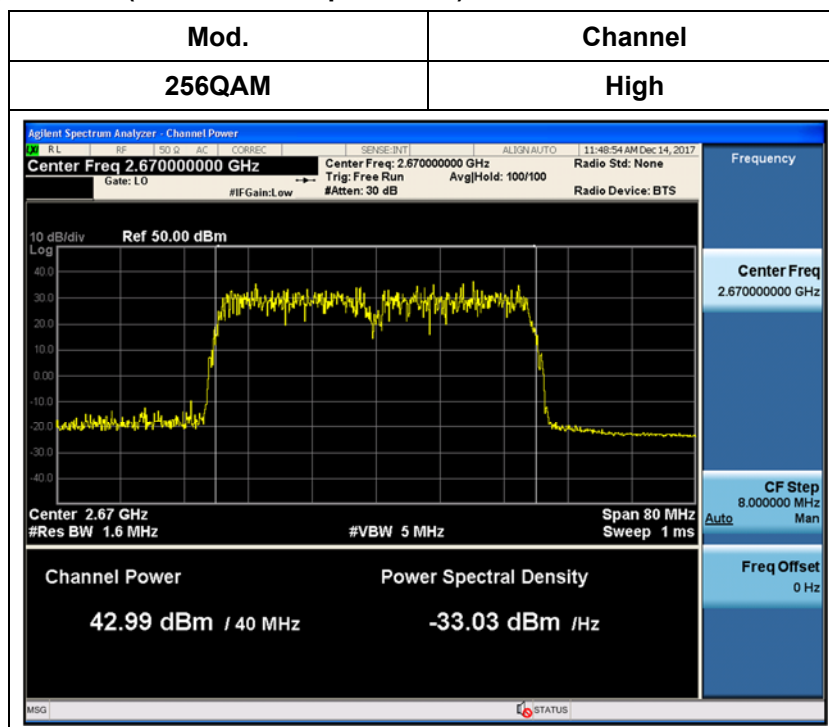
Plot Data for Output Port 4 (Conducted Output Power)



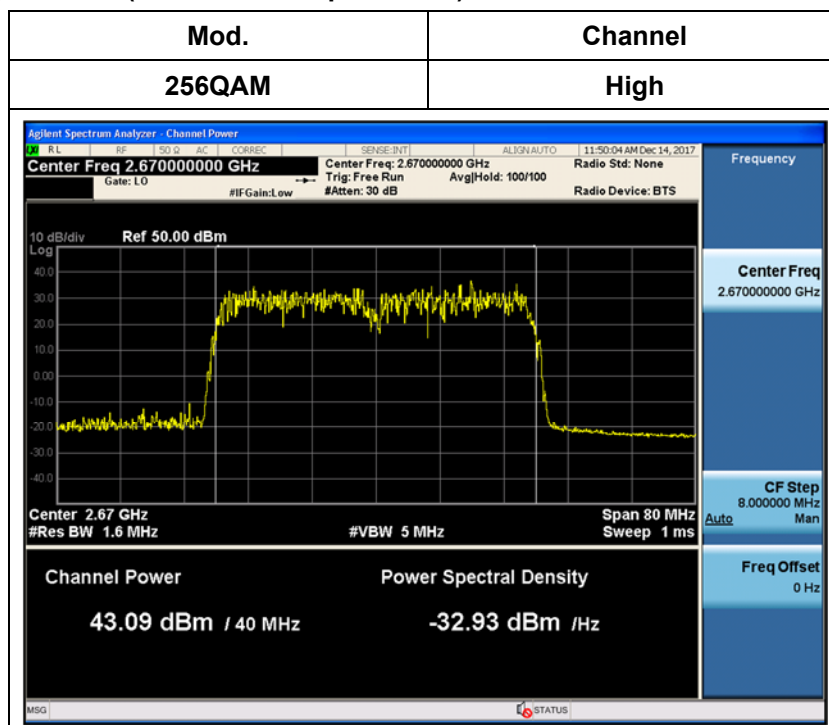
Plot Data for Output Port 5 (Conducted Output Power)



Plot Data for Output Port 6 (Conducted Output Power)

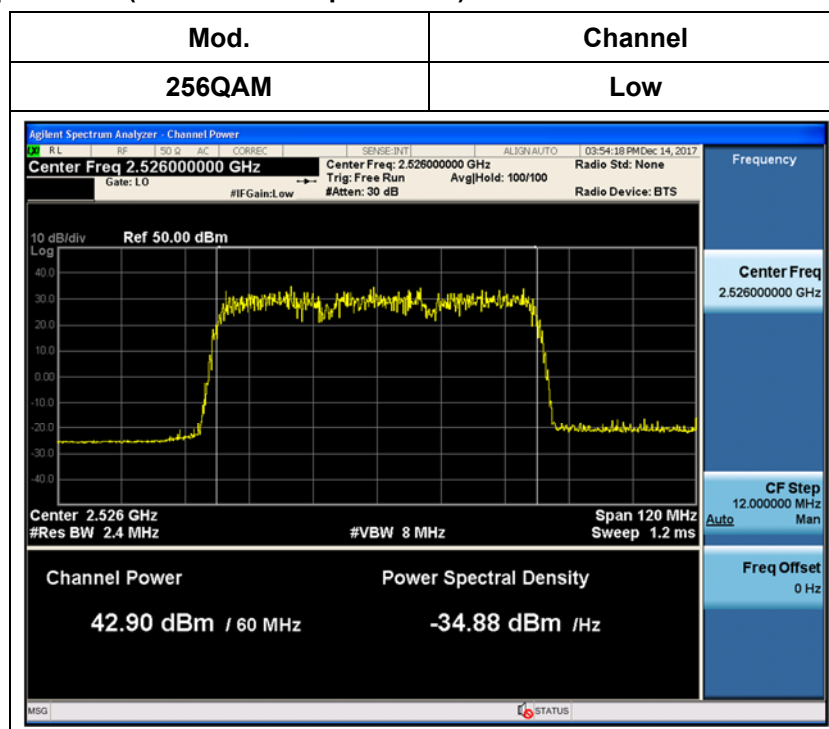


Plot Data for Output Port 7 (Conducted Output Power)

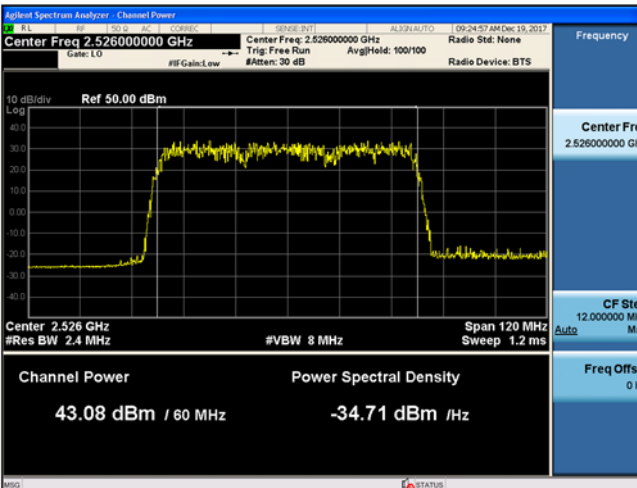
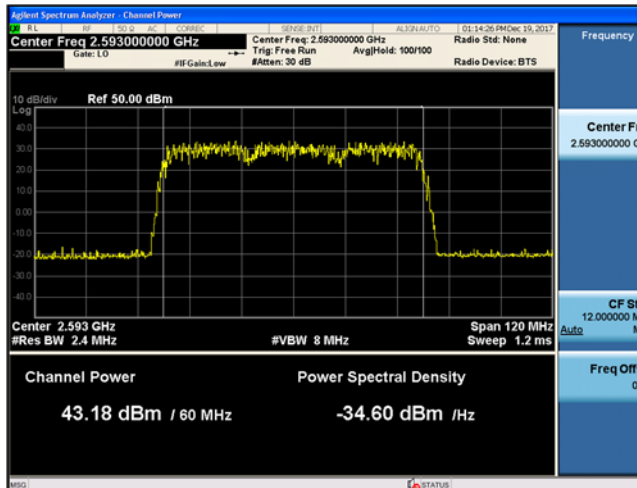
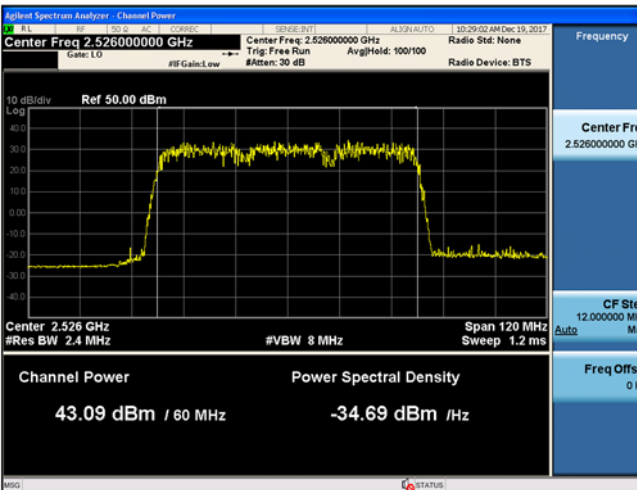
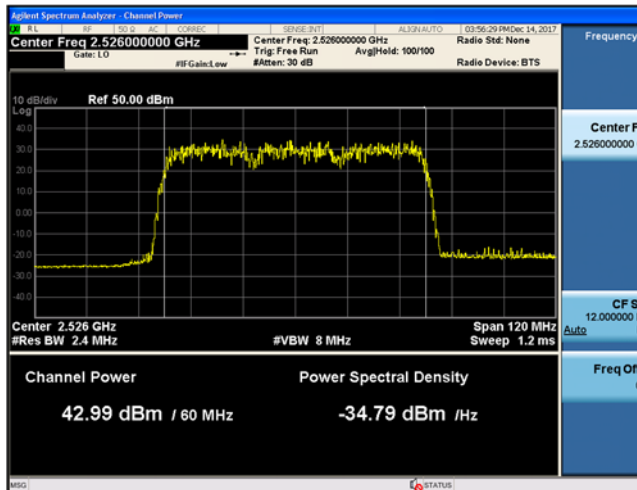


20 MHz + 20 MHz + 20 MHz / 3 Carriers (6.67 W + 6.67 W + 6.67 W)

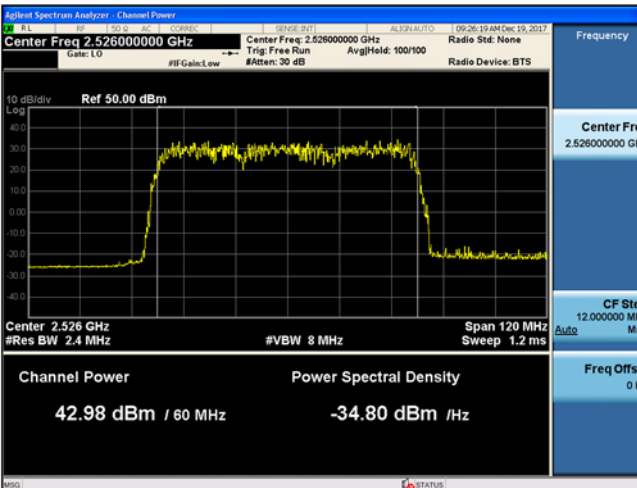
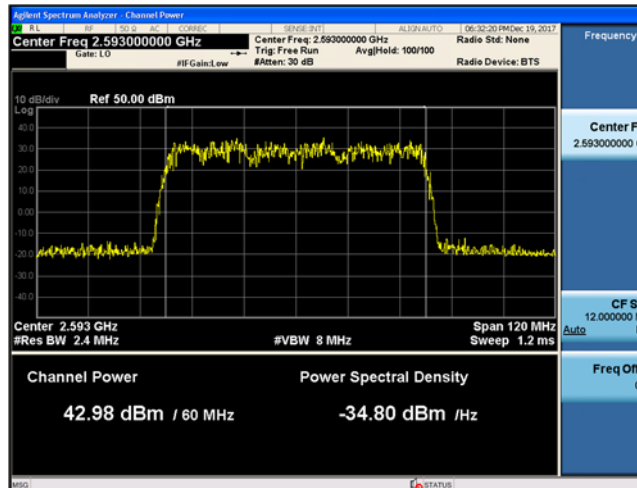
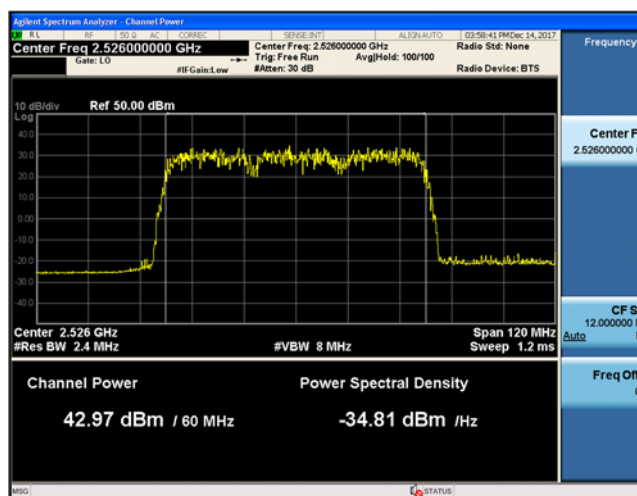
Plot Data for Output Port 0 (Conducted Output Power)



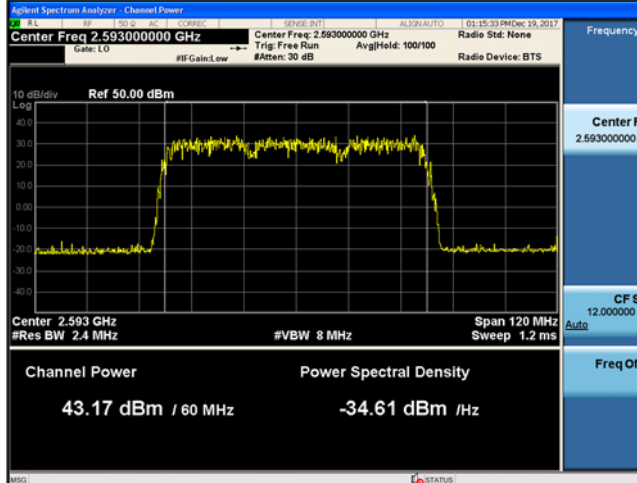
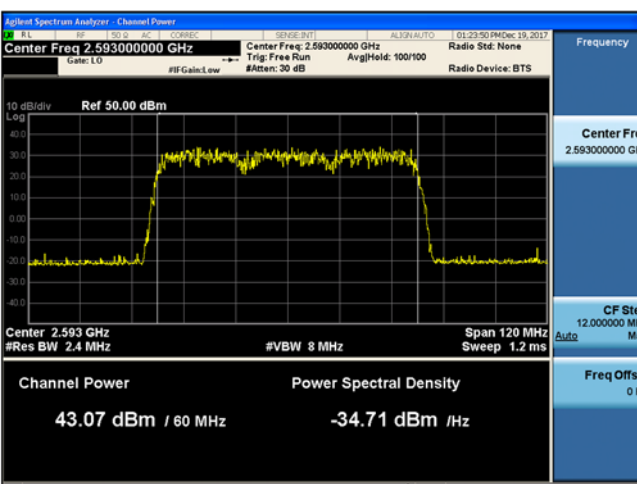
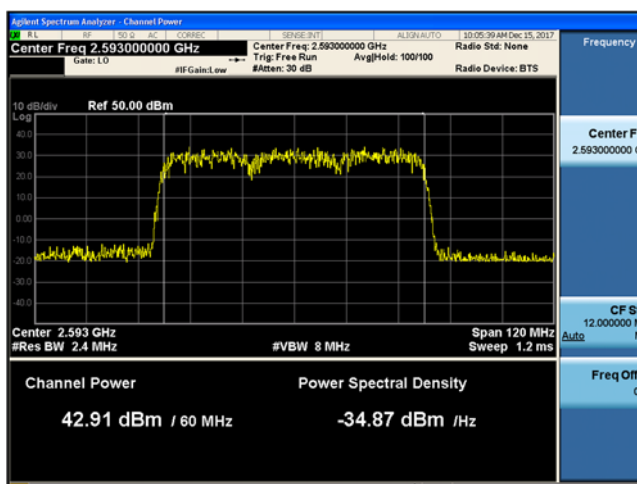
Plot Data for Output Port 1 (Conducted Output Power)

Mod.	Channel	Mod.	Channel
QPSK	Low	16QAM	Middle
 Agilent Spectrum Analyzer - Channel Power Center Freq 2.526000000 GHz Center Freq: 2.526000000 GHz Radio Std: None Gate: LO #IF Gain: Low #Atten: 30 dB Avg/Hold: 100/100 Radio Device: BTS 10 dB/div Ref 50.00 dBm Center Freq 2.526 GHz #Res BW 2.4 MHz #VBW 8 MHz Span 120 MHz Sweep 1.2 ms Channel Power Power Spectral Density 43.08 dBm / 60 MHz -34.71 dBm / Hz		 Agilent Spectrum Analyzer - Channel Power Center Freq 2.593000000 GHz Center Freq: 2.593000000 GHz Radio Std: None Gate: LO #IF Gain: Low #Atten: 30 dB Avg/Hold: 100/100 Radio Device: BTS 10 dB/div Ref 50.00 dBm Center Freq 2.593 GHz #Res BW 2.4 MHz #VBW 8 MHz Span 120 MHz Sweep 1.2 ms Channel Power Power Spectral Density 43.18 dBm / 60 MHz -34.60 dBm / Hz	
64QAM	Low	256QAM	Low
 Agilent Spectrum Analyzer - Channel Power Center Freq 2.526000000 GHz Center Freq: 2.526000000 GHz Radio Std: None Gate: LO #IF Gain: Low #Atten: 30 dB Avg/Hold: 100/100 Radio Device: BTS 10 dB/div Ref 50.00 dBm Center Freq 2.526 GHz #Res BW 2.4 MHz #VBW 8 MHz Span 120 MHz Sweep 1.2 ms Channel Power Power Spectral Density 43.09 dBm / 60 MHz -34.69 dBm / Hz		 Agilent Spectrum Analyzer - Channel Power Center Freq 2.526000000 GHz Center Freq: 2.526000000 GHz Radio Std: None Gate: LO #IF Gain: Low #Atten: 30 dB Avg/Hold: 100/100 Radio Device: BTS 10 dB/div Ref 50.00 dBm Center Freq 2.526 GHz #Res BW 2.4 MHz #VBW 8 MHz Span 120 MHz Sweep 1.2 ms Channel Power Power Spectral Density 42.99 dBm / 60 MHz -34.79 dBm / Hz	

Plot Data for Output Port 2 (Conducted Output Power)

Mod.	Channel	Mod.	Channel
QPSK	Low	16QAM	Middle
			
Mod.	Channel	Mod.	Channel
64QAM	Middle	256QAM	Low
			

Plot Data for Output Port 3 (Conducted Output Power)

Mod.	Channel	Mod.	Channel
QPSK	Low	16QAM	Middle
 Agilent Spectrum Analyzer - Channel Power Center Freq 2.526000000 GHz Center Freq: 2.526000000 GHz Radio Std: None Gate: LO #IF Gain: Low Trig: Free Run AvgHold: 100/100 #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 50.00 dBm Center Freq 2.526 GHz #Res BW 2.4 MHz #VBW 8 MHz Span 120 MHz Sweep 1.2 ms Channel Power Power Spectral Density 42.93 dBm / 60 MHz -34.85 dBm / Hz		 Agilent Spectrum Analyzer - Channel Power Center Freq 2.593000000 GHz Center Freq: 2.593000000 GHz Radio Std: None Gate: LO #IF Gain: Low Trig: Free Run AvgHold: 100/100 #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 50.00 dBm Center Freq 2.593 GHz #Res BW 2.4 MHz #VBW 8 MHz Span 120 MHz Sweep 1.2 ms Channel Power Power Spectral Density 43.17 dBm / 60 MHz -34.61 dBm / Hz	
64QAM	Middle	256QAM	Middle
 Agilent Spectrum Analyzer - Channel Power Center Freq 2.593000000 GHz Center Freq: 2.593000000 GHz Radio Std: None Gate: LO #IF Gain: Low Trig: Free Run AvgHold: 100/100 #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 50.00 dBm Center Freq 2.593 GHz #Res BW 2.4 MHz #VBW 8 MHz Span 120 MHz Sweep 1.2 ms Channel Power Power Spectral Density 43.07 dBm / 60 MHz -34.71 dBm / Hz		 Agilent Spectrum Analyzer - Channel Power Center Freq 2.593000000 GHz Center Freq: 2.593000000 GHz Radio Std: None Gate: LO #IF Gain: Low Trig: Free Run AvgHold: 100/100 #Atten: 30 dB Radio Device: BTS 10 dB/div Ref 50.00 dBm Center Freq 2.593 GHz #Res BW 2.4 MHz #VBW 8 MHz Span 120 MHz Sweep 1.2 ms Channel Power Power Spectral Density 42.91 dBm / 60 MHz -34.87 dBm / Hz	

Plot Data for Output Port 4 (Conducted Output Power)

