

(16QAM Middle Channel)



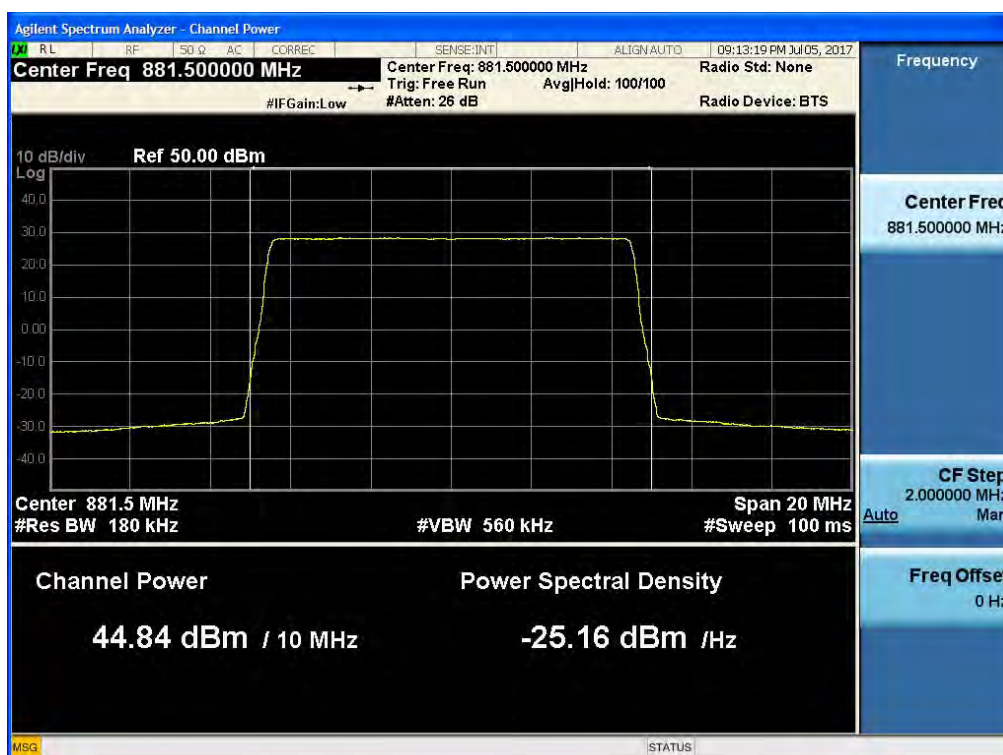
(16QAM High Channel)



(64QAM Low Channel)



(64QAM Middle Channel)



(64QAM High Channel)



(256QAM Low Channel)



(256QAM Middle Channel)



(256QAM High Channel)



LTE Band 5_2 Carrier (5 MHz)

Test Data at Output Port 1 (2 paths)

Frequency (MHz)	Channel	Output Power							
		QPSK		16QAM		64QAM		256QAM	
		dBm	W	dBm	W	dBm	W	dBm	W
881.50	Discontinuous	48.01	63.241	47.82	60.534	47.85	60.954	47.92	61.944
881.50	Continuous	47.99	62.951	47.72	59.156	47.92	61.944	47.95	62.373

Test Data at Output Port 2 (2 paths)

Frequency (MHz)	Channel	Output Power							
		QPSK		16QAM		64QAM		256QAM	
		dBm	W	dBm	W	dBm	W	dBm	W
881.50	Discontinuous	47.66	58.345	47.91	61.802	47.80	60.256	47.84	60.814
881.50	Continuous	47.89	61.518	47.88	61.376	47.92	61.944	48.04	63.680

Test Data at Output Port 3 (4 paths)

Frequency (MHz)	Channel	Output Power							
		QPSK		16QAM		64QAM		256QAM	
		dBm	W	dBm	W	dBm	W	dBm	W
881.50	Discontinuous	46.06	40.365	46.04	40.179	45.86	38.548	45.94	39.264
881.50	Continuous	45.91	38.994	45.72	37.325	45.65	36.728	45.67	36.898

Test Data at Output Port 4 (4 paths)

Frequency (MHz)	Channel	Output Power							
		QPSK		16QAM		64QAM		256QAM	
		dBm	W	dBm	W	dBm	W	dBm	W
881.50	Discontinuous	46.04	40.179	46.32	42.855	46.04	40.179	46.08	40.551
881.50	Continuous	46.03	40.087	46.20	41.687	45.88	38.726	45.91	38.994

MIMO Power (60 W / path x 2 paths)

Frequency (MHz)	Channel	Output Power			
		QPSK	16QAM	64QAM	256QAM
		W	W	W	W
881.50	Discontinuous	121.586	122.336	121.210	122.758
881.50	Continuous	124.469	120.532	123.888	126.053

MIMO Power (40 W / path x 4 paths)

Frequency (MHz)	Channel	Output Power			
		QPSK	16QAM	64QAM	256QAM
		W	W	W	W
881.50	Discontinuous	161.088	166.068	157.454	159.630
881.50	Continuous	158.162	158.024	150.908	151.784

LTE Band 5_2 Carrier (5 MHz)

Plot Data for Output Port 1 (2paths)

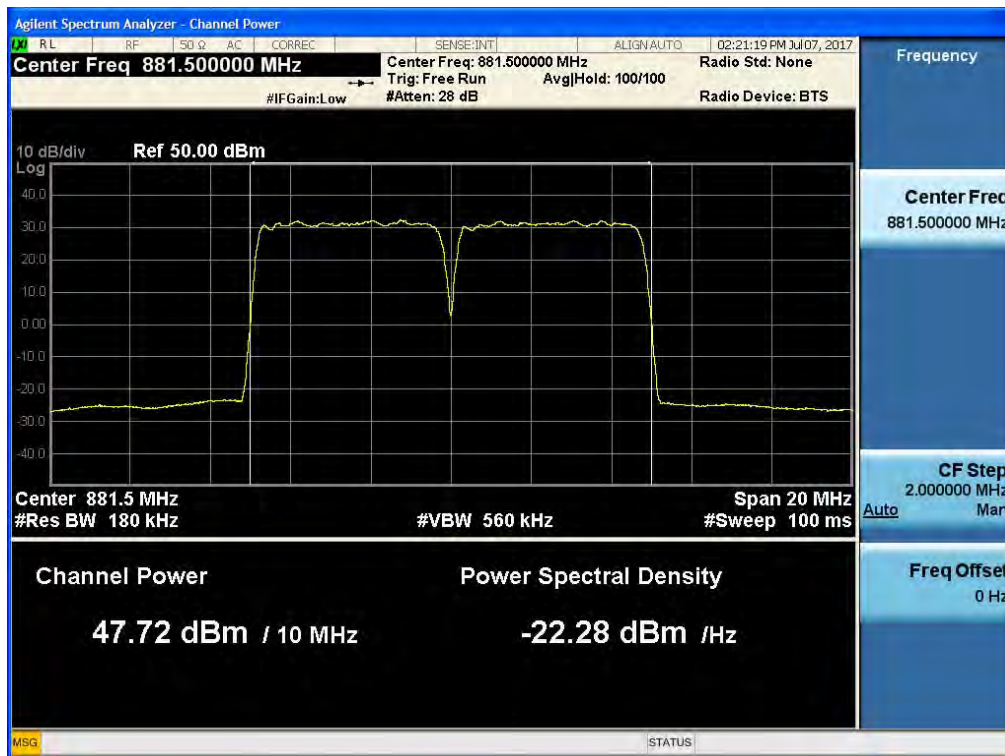
(QPSK Continuous)



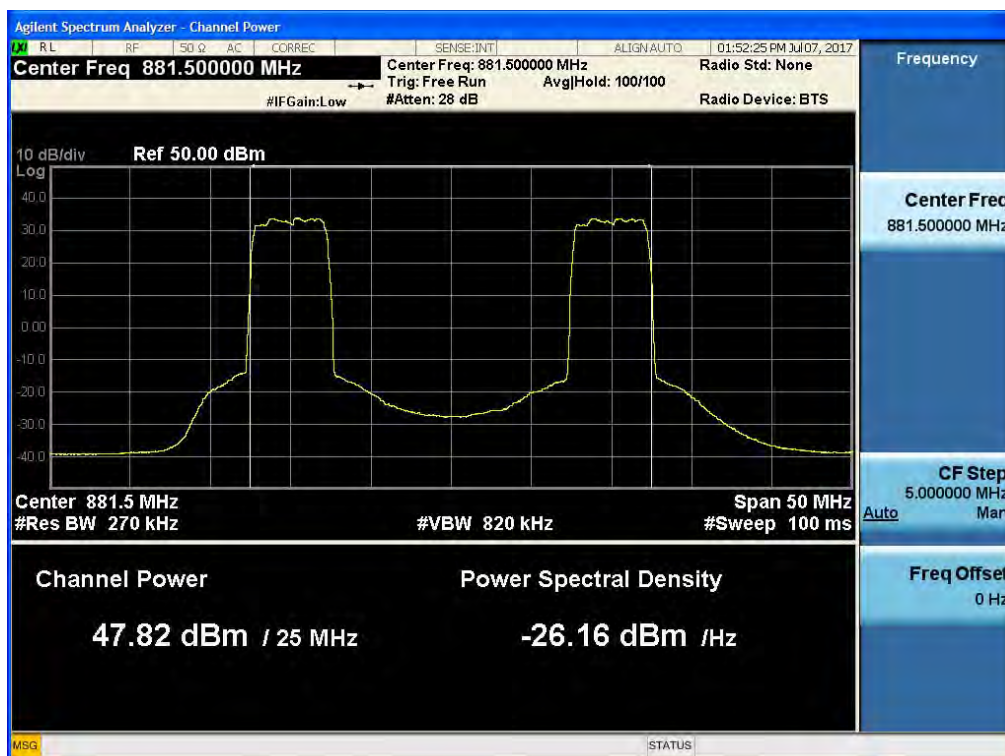
(QPSK Discontinuous)



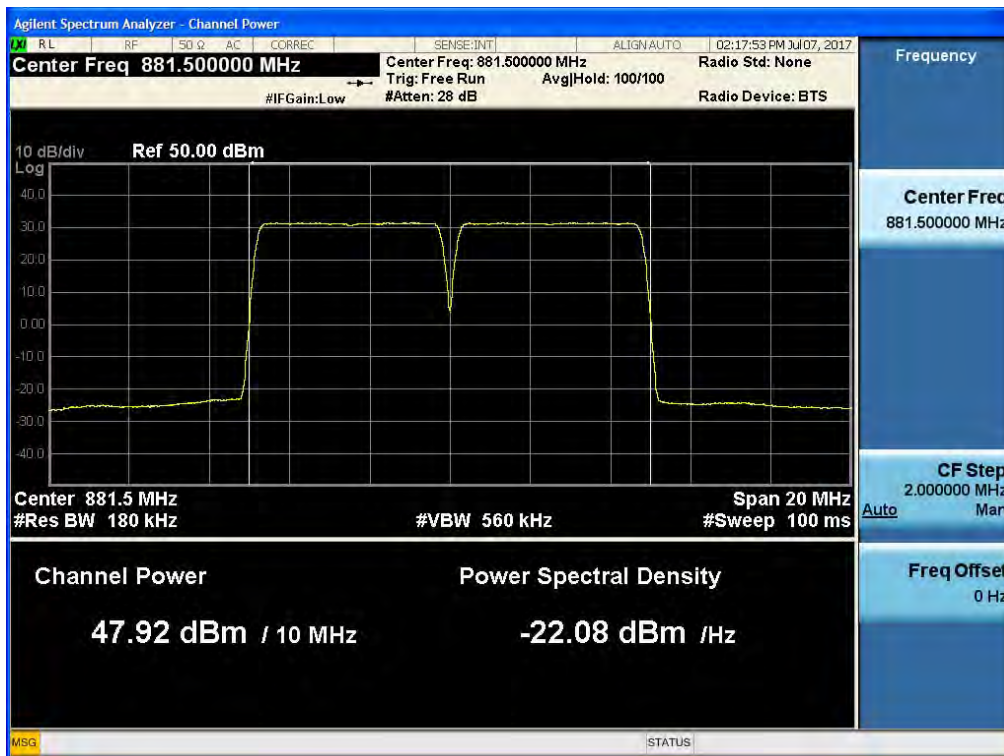
(16QAM Continuous)



(16QAM Discontinuous)



(64QAM Continuous)



(64QAM Discontinuous)



(256QAM Continuous)



(256QAM Discontinuous)

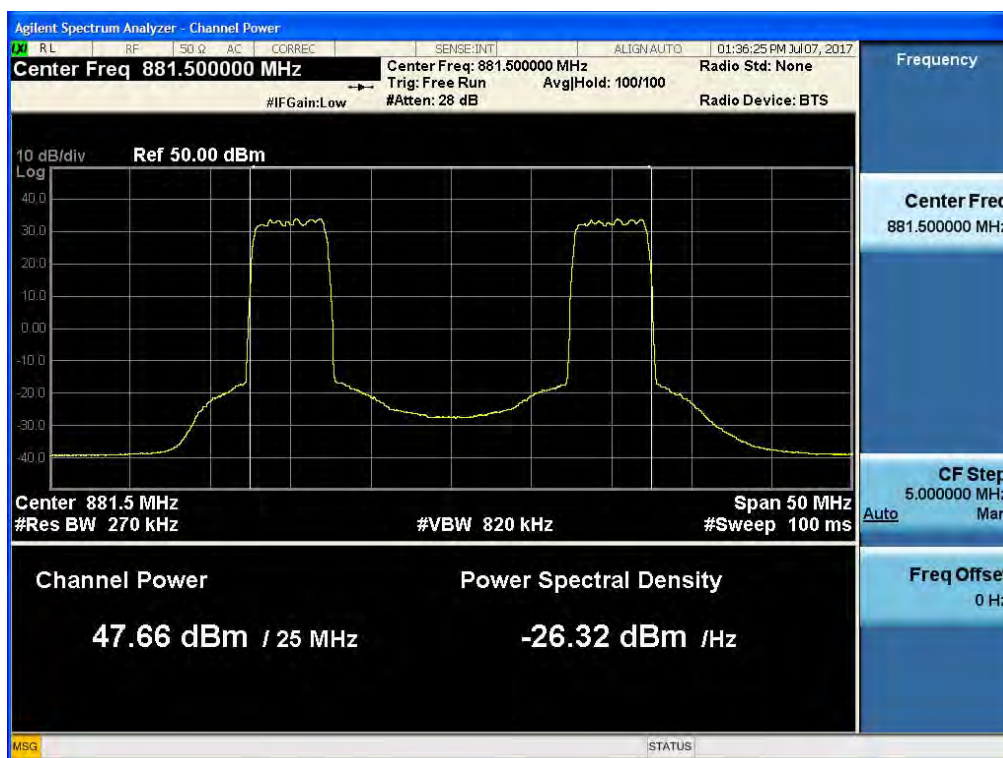


Plot Data for Output Port 2 (2 paths)

(QPSK Continuous)



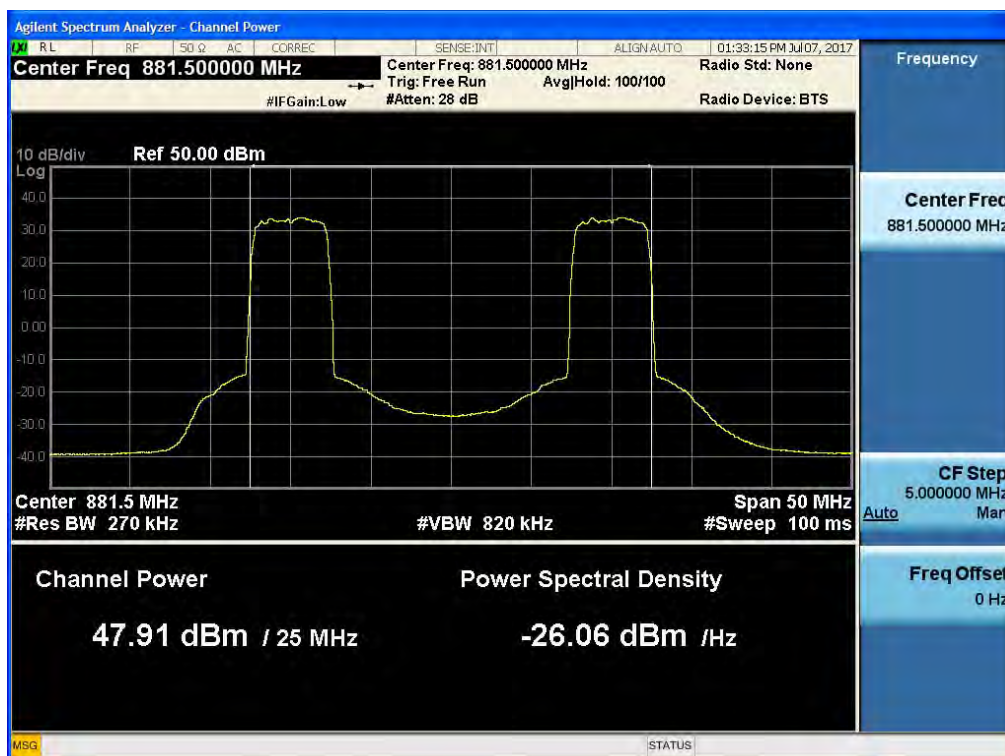
(QPSK Discontinuous)



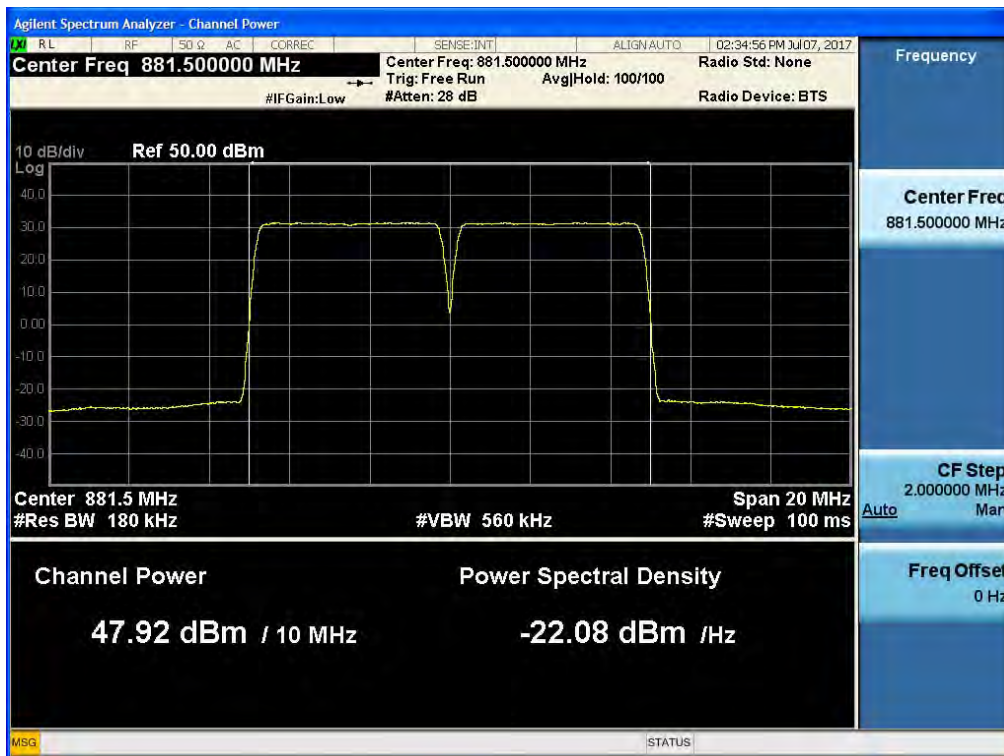
(16QAM Continuous)



(16QAM Discontinuous)



(64QAM Continuous)



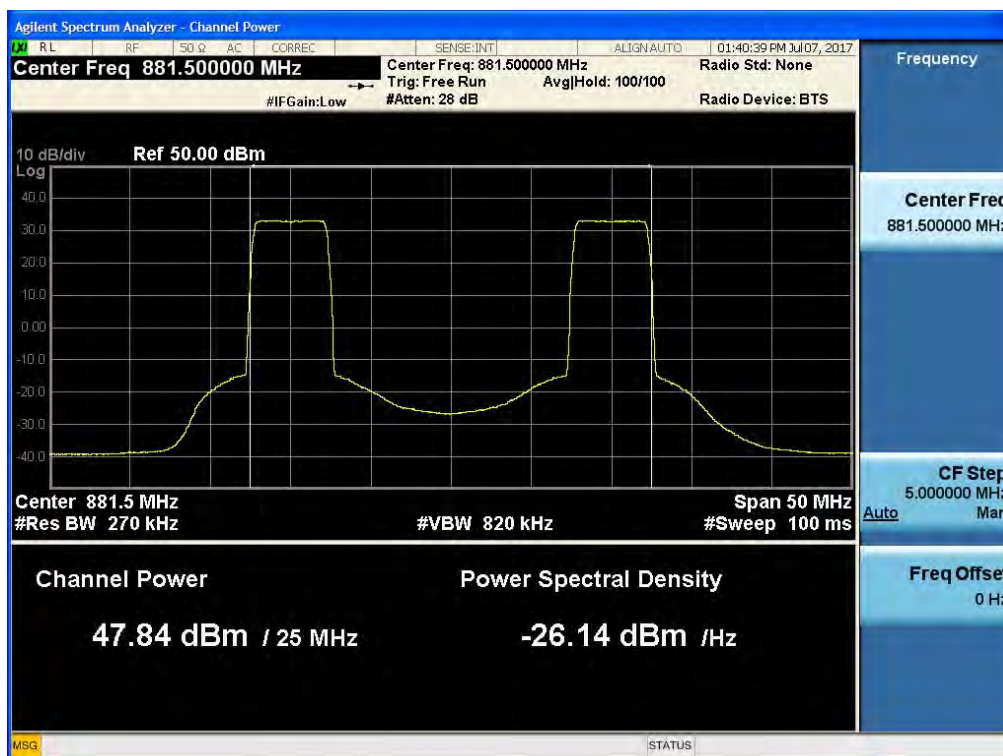
(64QAM Discontinuous)



(256QAM Continuous)



(256QAM Discontinuous)



Plot Data for Output Port 3 (4 paths)

(QPSK Continuous)



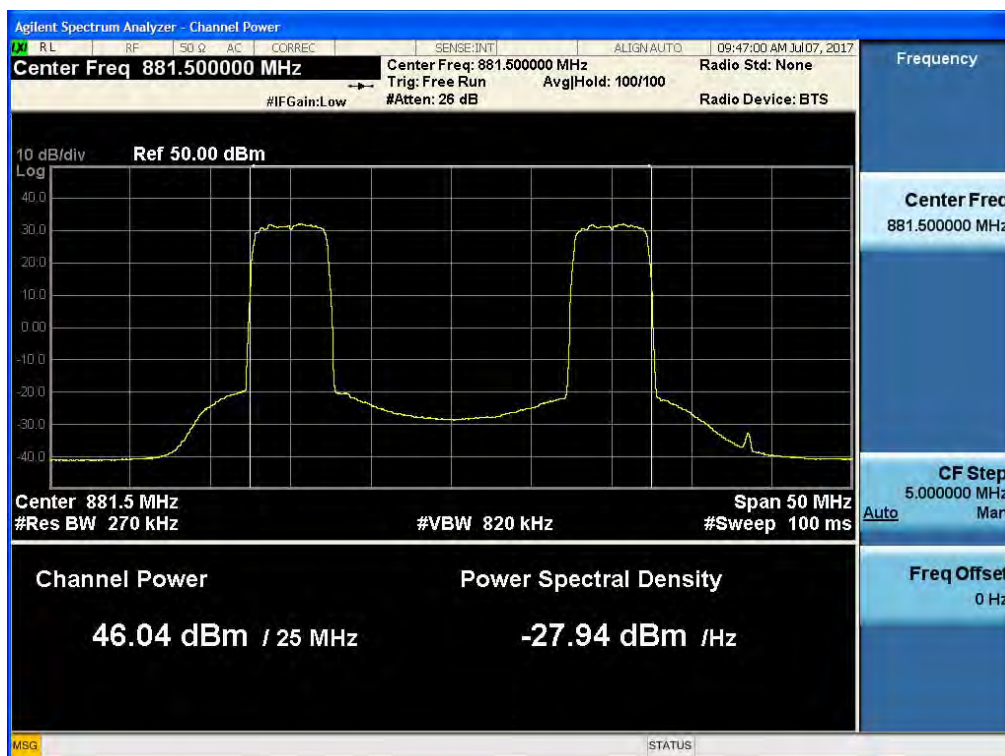
(QPSK Discontinuous)



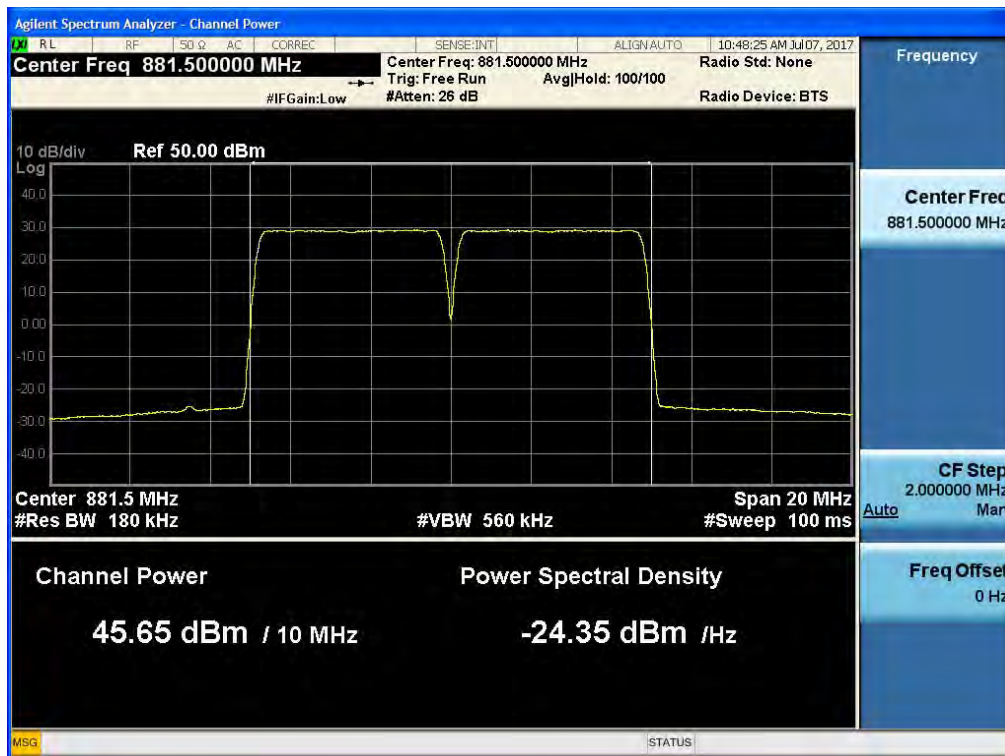
(16QAM Continuous)



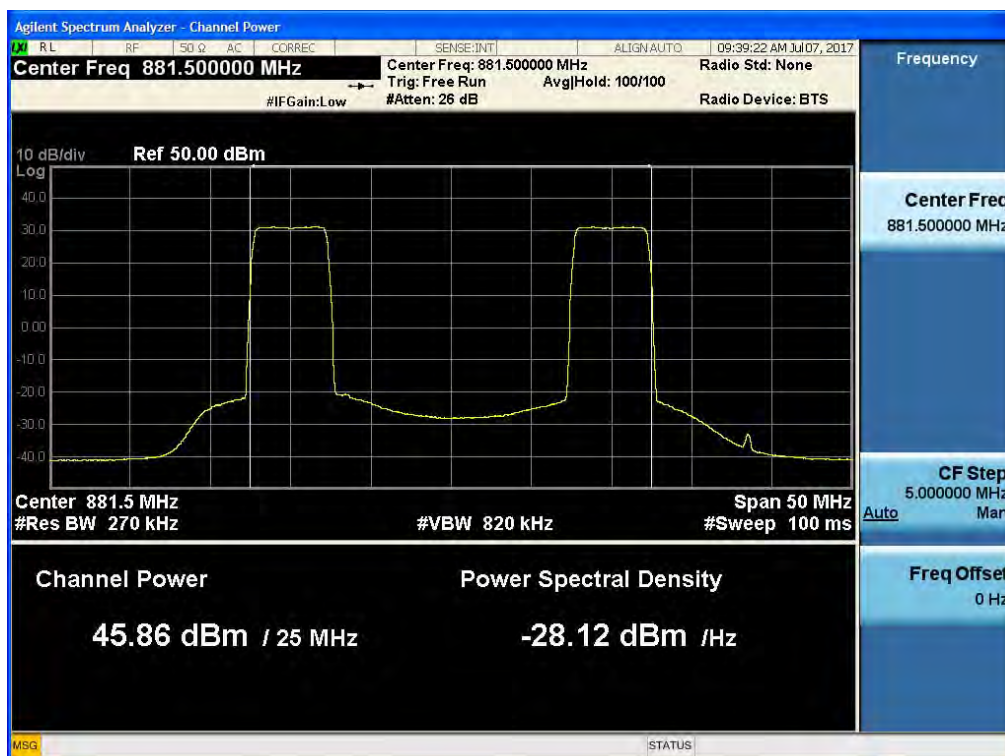
(16QAM Discontinuous)



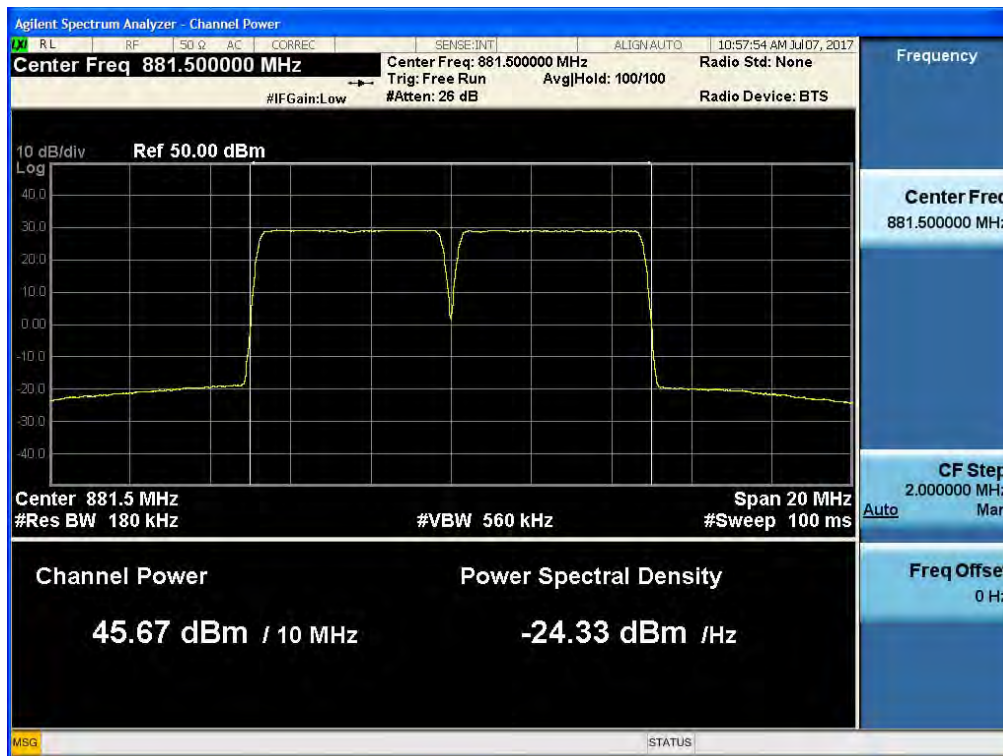
(64QAM Continuous)



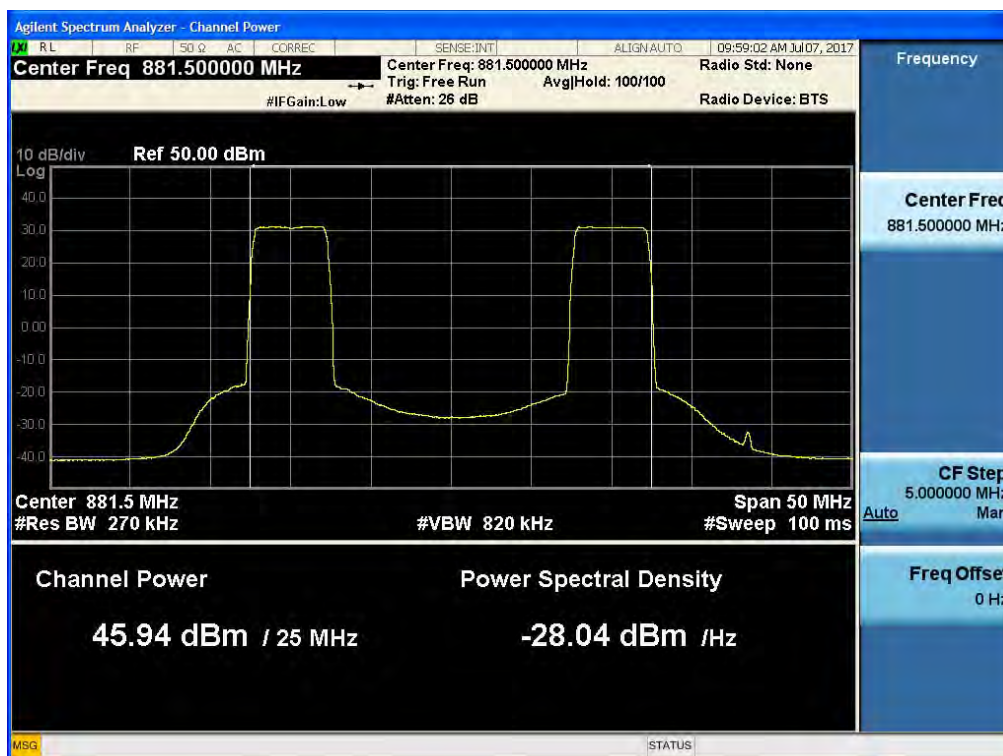
(64QAM Discontinuous)



(256QAM Continuous)



(256QAM Discontinuous)

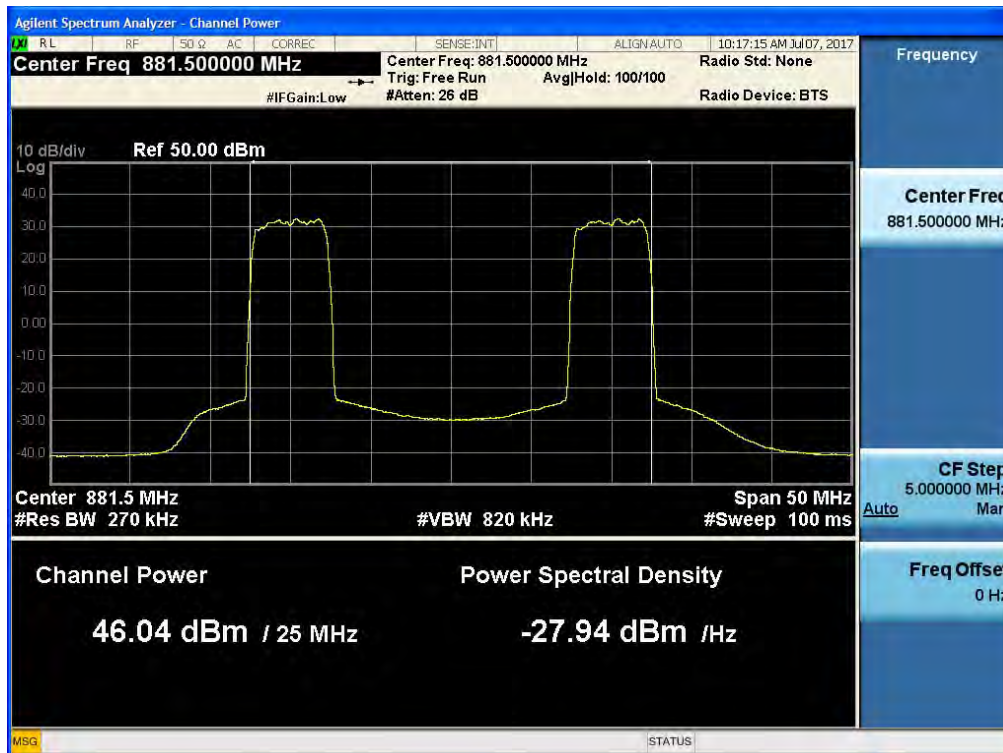


Plot Data for Output Port 4 (4 paths)

(QPSK Continuous)



(QPSK Discontinuous)



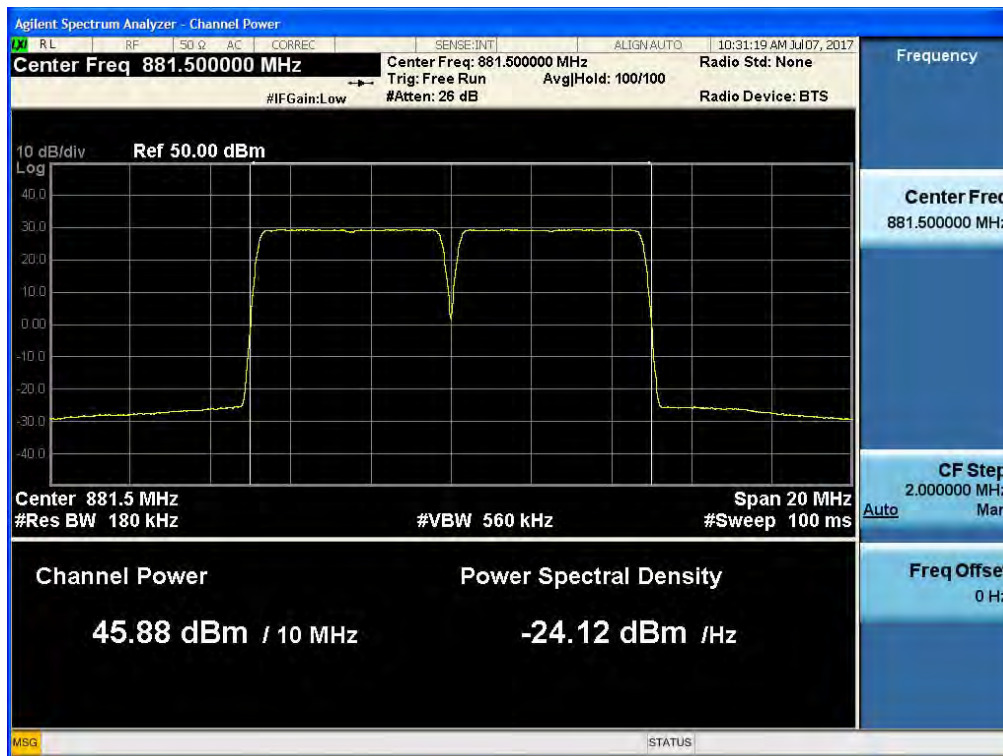
(16QAM Continuous)



(16QAM Discontinuous)



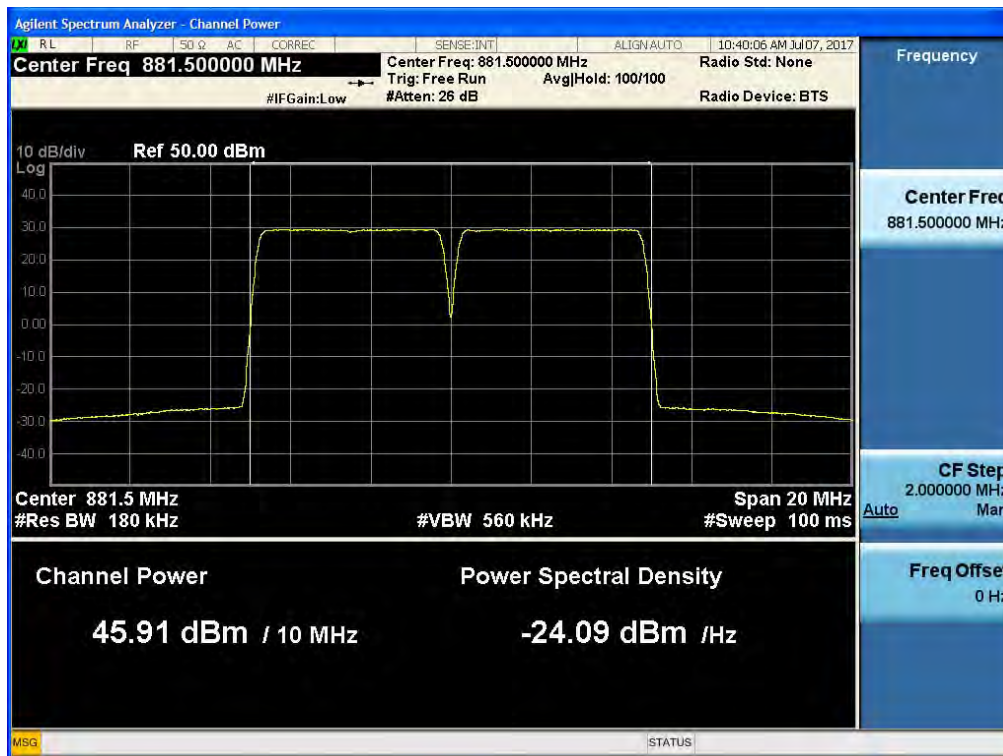
(64QAM Continuous)



(64QAM Discontinuous)



(256QAM Continuous)



(256QAM Discontinuous)



LTE Band 5_2 Carrier (10 MHz)
Test Data at Output Port 1 (2 paths)

Frequency (MHz)	Channel	Output Power							
		QPSK		16QAM		64QAM		256QAM	
		dBm	W	dBm	W	dBm	W	dBm	W
881.50	Discontinuous	47.82	60.534	47.98	62.806	47.93	62.087	47.94	62.230
881.50	Continuous	47.91	61.802	47.92	61.944	47.89	61.518	47.90	61.660

Test Data at Output Port 2 (2 paths)

Frequency (MHz)	Channel	Output Power							
		QPSK		16QAM		64QAM		256QAM	
		dBm	W	dBm	W	dBm	W	dBm	W
881.50	Discontinuous	47.94	62.230	48.01	63.241	47.92	61.944	48.02	63.387
881.50	Continuous	48.07	64.121	48.07	64.121	47.98	62.806	48.02	63.387

Test Data at Output Port 3 (4 paths)

Frequency (MHz)	Channel	Output Power							
		QPSK		16QAM		64QAM		256QAM	
		dBm	W	dBm	W	dBm	W	dBm	W
881.50	Discontinuous	44.96	31.333	44.88	30.761	45.89	38.815	44.95	31.261
881.50	Continuous	45.40	34.674	45.55	35.892	45.43	34.914	45.35	34.277

Test Data at Output Port 4 (4 paths)

Frequency (MHz)	Channel	Output Power							
		QPSK		16QAM		64QAM		256QAM	
		dBm	W	dBm	W	dBm	W	dBm	W
881.50	Discontinuous	45.46	35.156	45.33	34.119	45.18	32.961	45.34	34.198
881.50	Continuous	45.53	35.727	45.54	35.810	45.39	34.594	45.46	35.156

MIMO Power (60 W / path x 2 paths)

Frequency (MHz)	Channel	Output Power			
		QPSK	16QAM	64QAM	256QAM
		W	W	W	W
881.50	Discontinuous	122.764	126.047	124.031	125.617
881.50	Continuous	125.923	126.065	124.324	125.047

MIMO Power (40 W / path x 4 paths)

Frequency (MHz)	Channel	Output Power			
		QPSK	16QAM	64QAM	256QAM
		W	W	W	W
881.50	Discontinuous	132.978	129.760	143.552	130.918
881.50	Continuous	140.802	143.404	139.016	138.866

LTE Band 5_2 Carrier (10 MHz)

Plot Data for Output Port 1 (2 paths)

(QPSK Continuous)



(QPSK Discontinuous)



(16QAM Continuous)



(16QAM Discontinuous)



(64QAM Continuous)



(64QAM Discontinuous)



(256QAM Continuous)



(256QAM Discontinuous)



Plot Data for Output Port 2 (2 paths)

(QPSK Continuous)



(QPSK Discontinuous)



(16QAM Continuous)



(16QAM Discontinuous)



(64QAM Continuous)



(64QAM Discontinuous)



(256QAM Continuous)



(256QAM Discontinuous)



Plot Data for Output Port 3 (4 paths)

(QPSK Continuous)



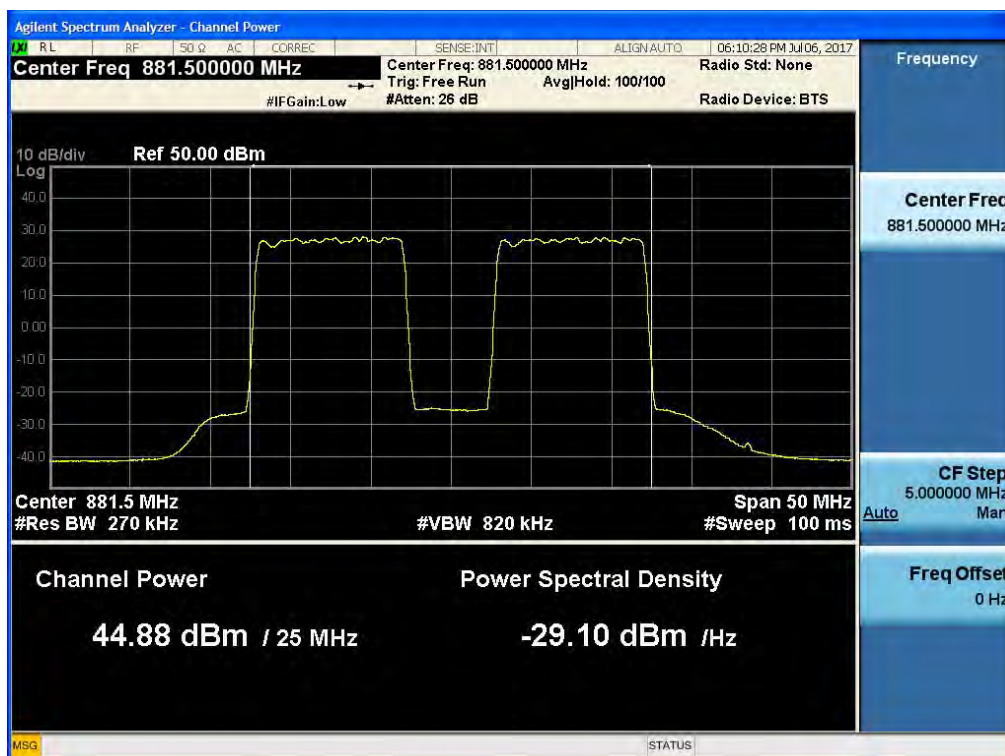
(QPSK Discontinuous)



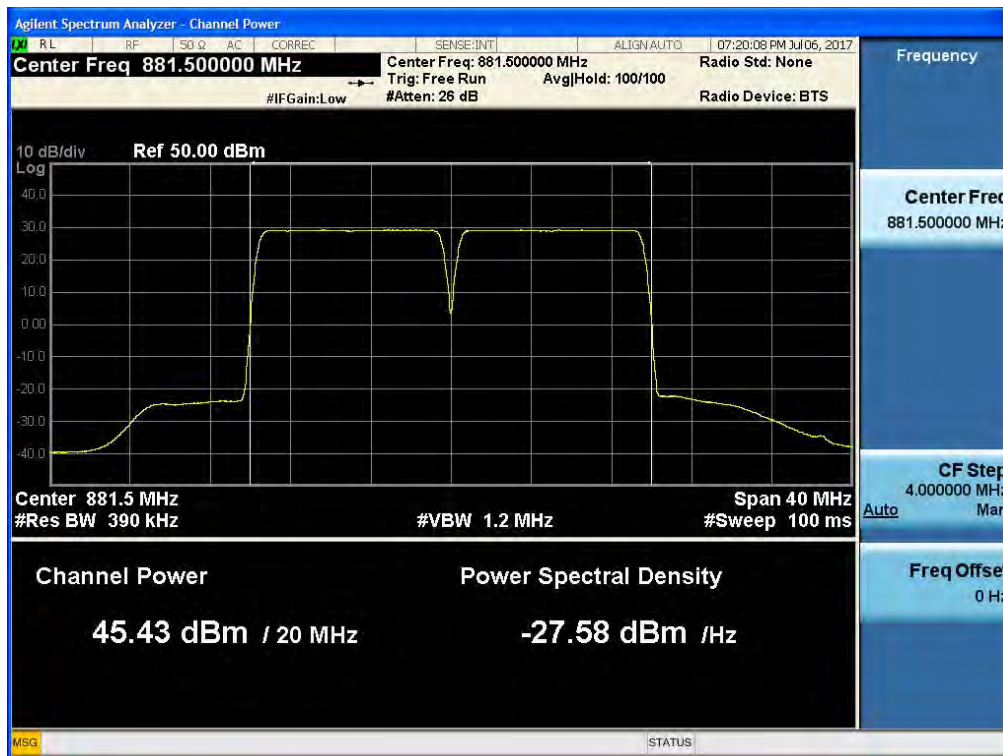
(16QAM Continuous)



(16QAM Discontinuous)



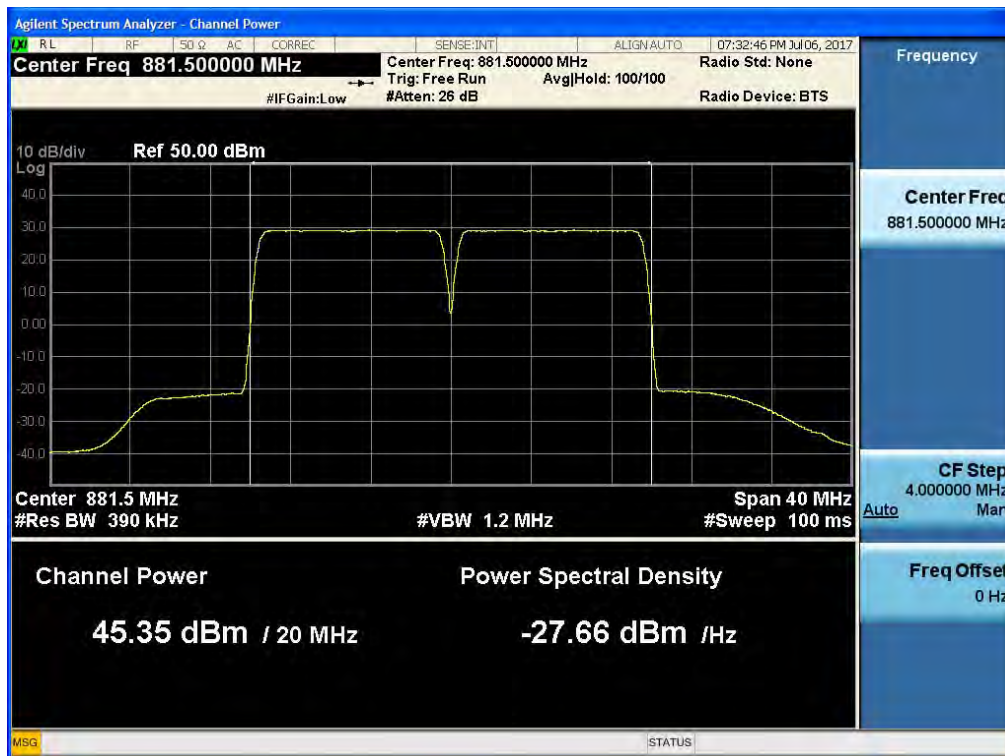
(64QAM Continuous)



(64QAM Discontinuous)



(256QAM Continuous)



(256QAM Discontinuous)



Plot Data for Output Port 4 (4 paths)

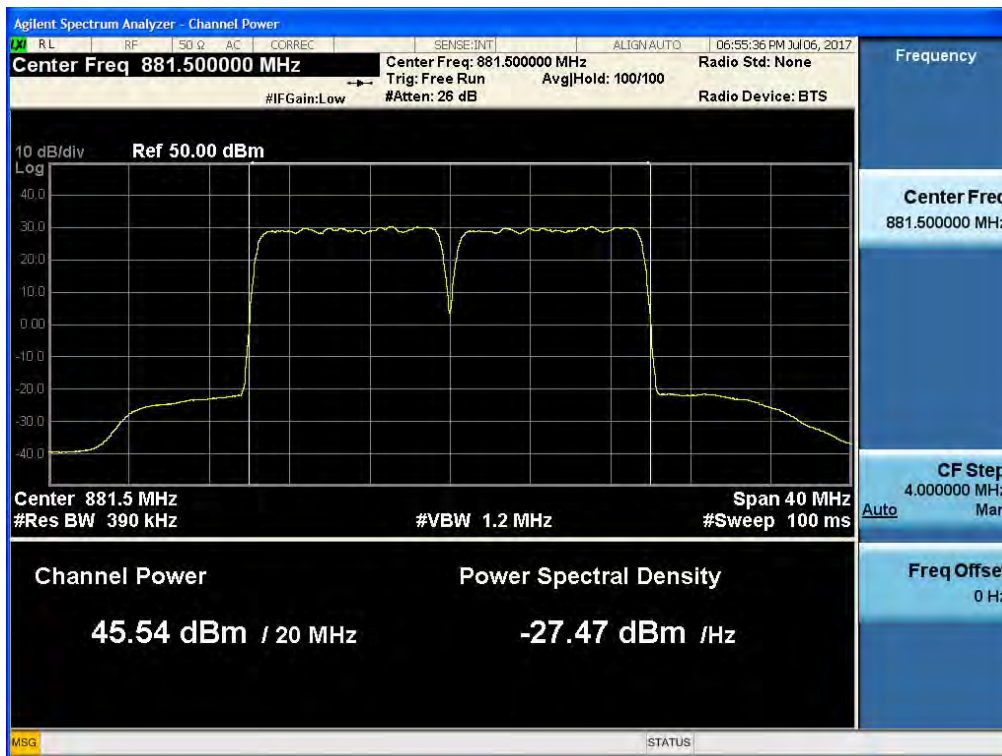
(QPSK Continuous)



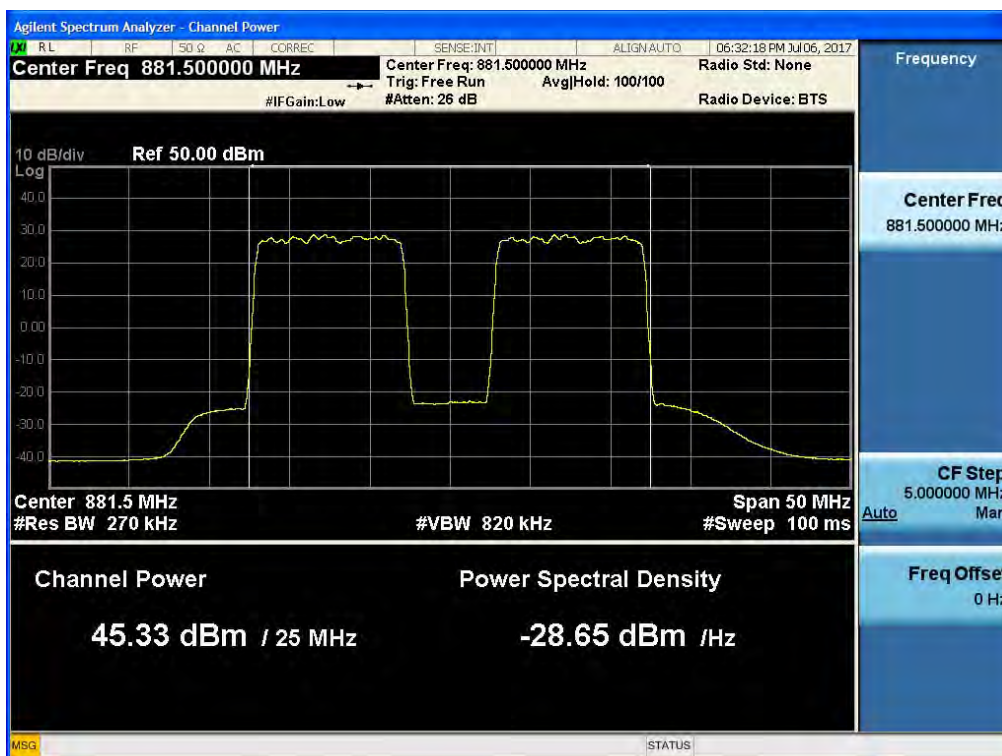
(QPSK Discontinuous)



(16QAM Continuous)



(16QAM Discontinuous)



(64QAM Continuous)



(64QAM Discontinuous)



(256QAM Continuous)



(256QAM Discontinuous)



LTE Band 5_3 Carrier

Test Data at Output Port 1 (2 paths)

Frequency (MHz)	Output Power							
	QPSK		16QAM		64QAM		256QAM	
	dBm	W	dBm	W	dBm	W	dBm	W
881.50	47.75	59.566	48.01	63.241	48.10	64.565	47.91	61.802

Test Data at Output Port 2 (2 paths)

Frequency (MHz)	Output Power							
	QPSK		16QAM		64QAM		256QAM	
	dBm	W	dBm	W	dBm	W	dBm	W
881.50	48.09	64.417	48.10	64.565	48.02	63.387	48.00	63.096

Test Data at Output Port 3 (4 paths)

Frequency (MHz)	Output Power							
	QPSK		16QAM		64QAM		256QAM	
	dBm	W	dBm	W	dBm	W	dBm	W
881.50	44.88	30.761	44.81	30.269	44.60	28.840	44.82	30.339

Test Data at Output Port 4 (4 paths)

Frequency (MHz)	Output Power							
	QPSK		16QAM		64QAM		256QAM	
	dBm	W	dBm	W	dBm	W	dBm	W
881.50	44.80	30.200	45.19	33.037	45.44	34.995	44.77	29.992

MIMO Power (60 W / path x 2 paths)

Frequency (MHz)	Output Power			
	QPSK	16QAM	64QAM	256QAM
	W	W	W	W
881.50	123.983	127.806	127.952	124.898

MIMO Power (40 W / path x 4 paths)

Frequency (MHz)	Output Power			
	QPSK	16QAM	64QAM	256QAM
	W	W	W	W
881.50	121.922	126.612	127.670	120.662

LTE Band 5_3 Carrier

Plot Data for Output Port 1 (2 paths)

(QPSK Middle Channel)



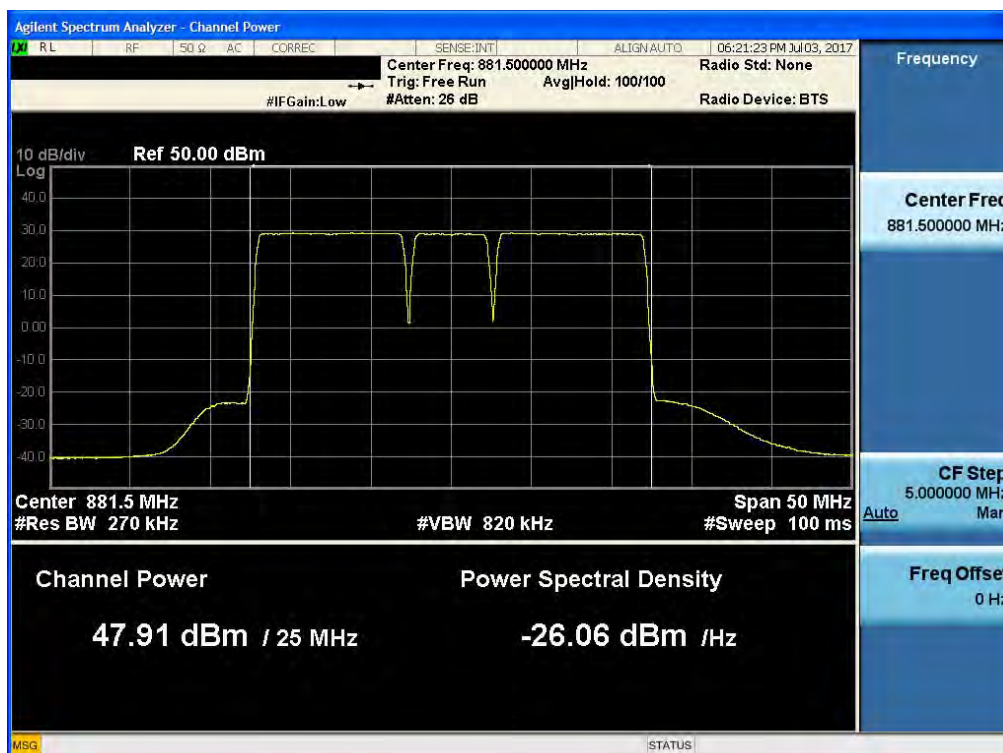
(16QAM Middle Channel)



(64QAM Middle Channel)



(256QAM Middle Channel)



Plot Data for Output Port 2 (2 paths)

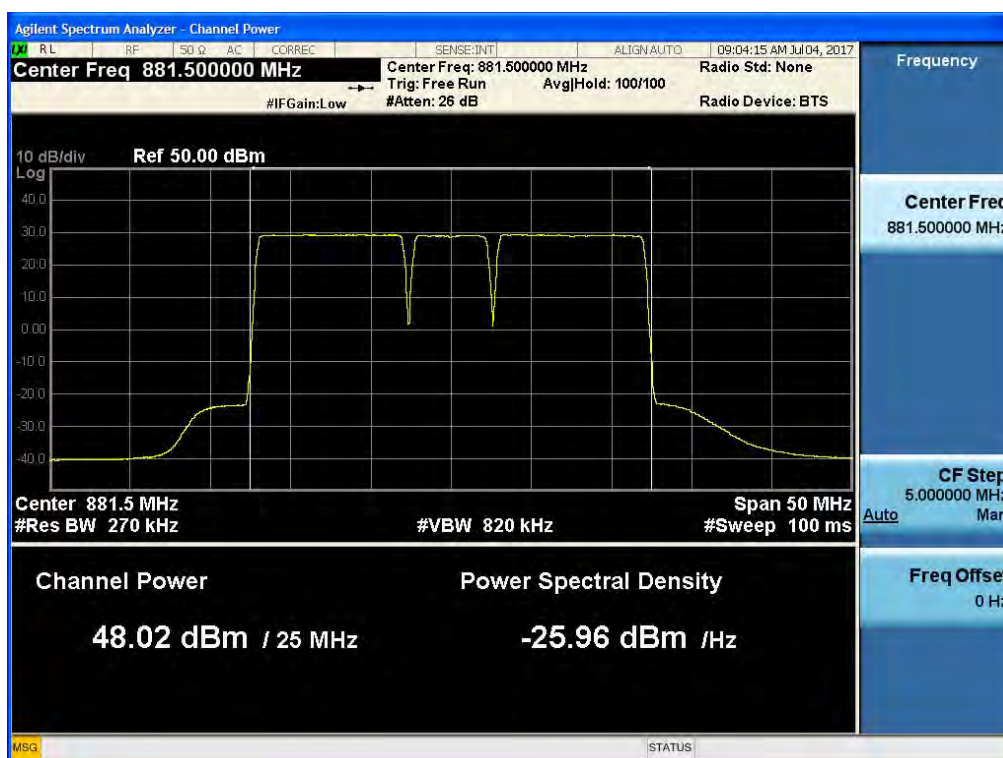
(QPSK Middle Channel)



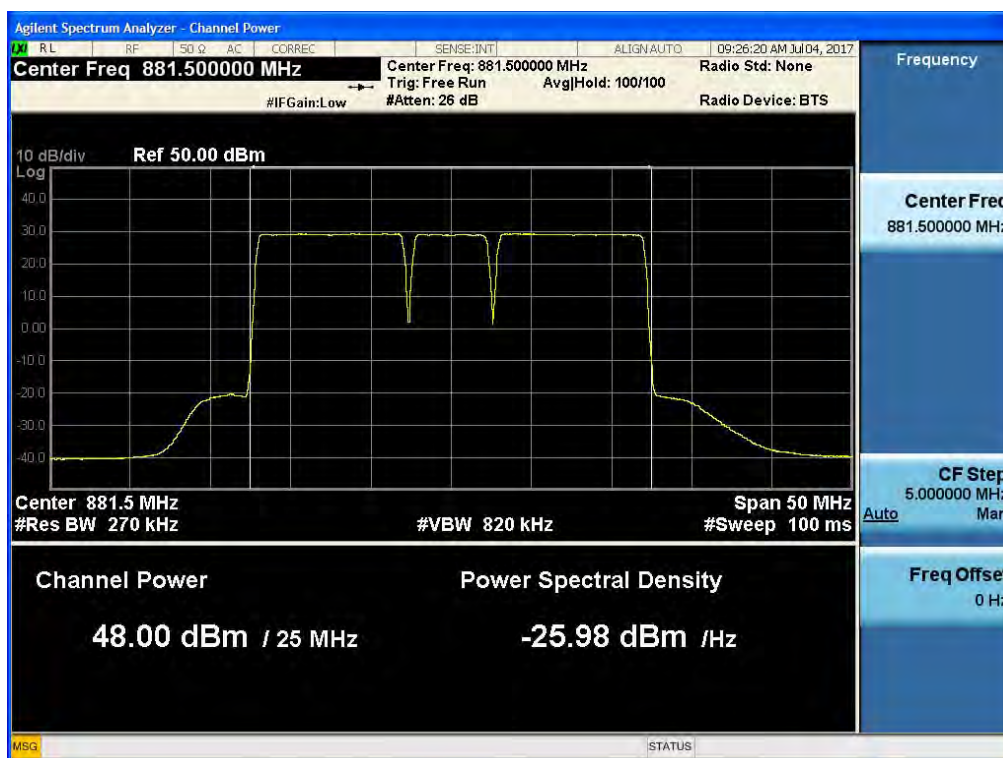
(16QAM Middle Channel)



(64QAM Middle Channel)



(256QAM Middle Channel)



Plot Data for Output Port 3 (4 paths)

(QPSK Middle Channel)



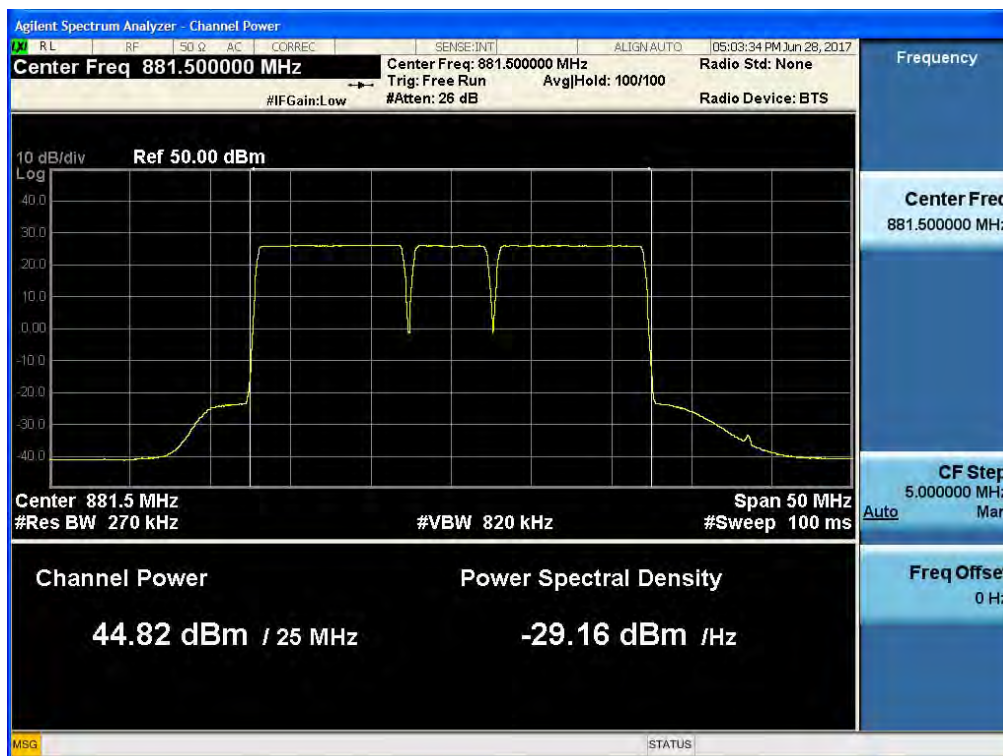
(16QAM Middle Channel)



(64QAM Middle Channel)

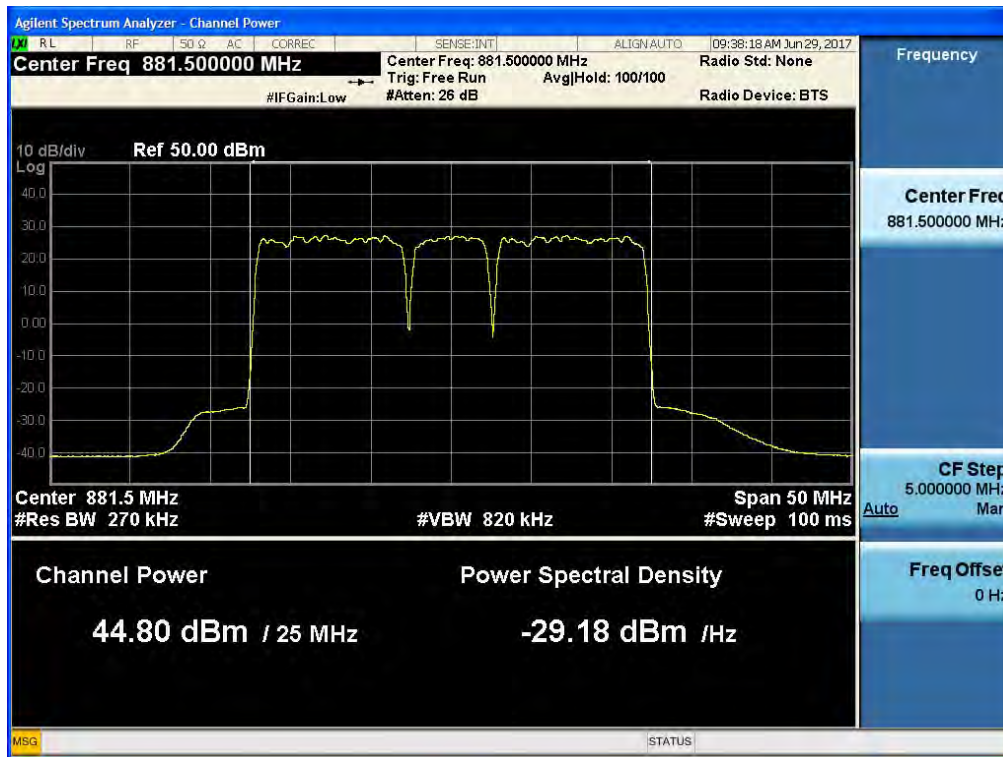


(256QAM Middle Channel)

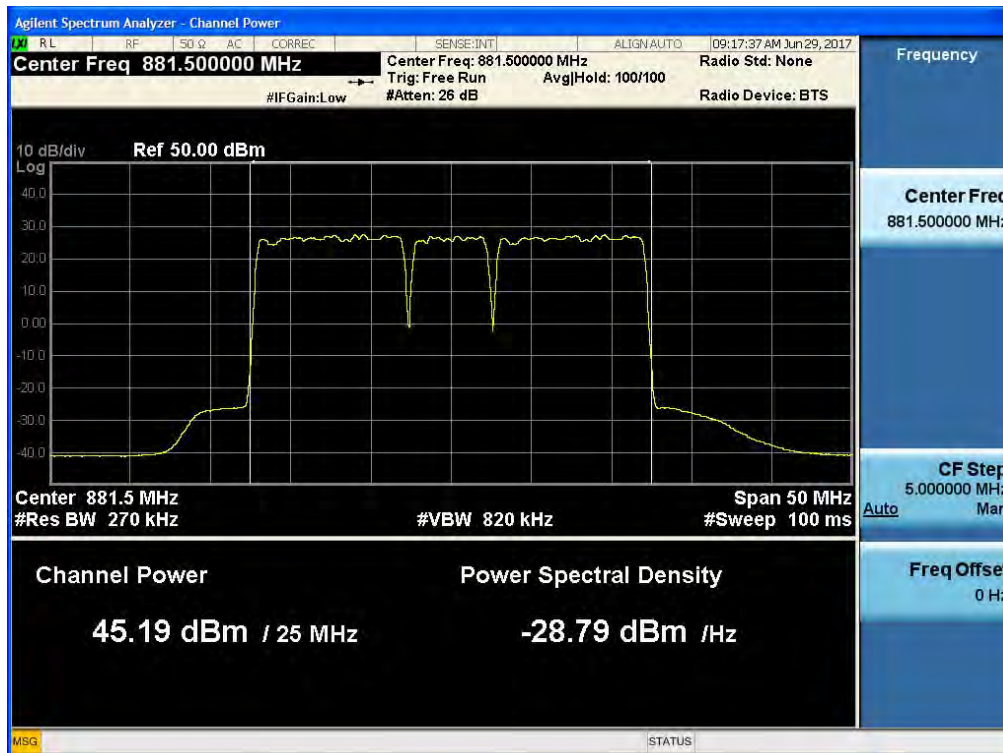


Plot Data for Output Port 4 (4 paths)

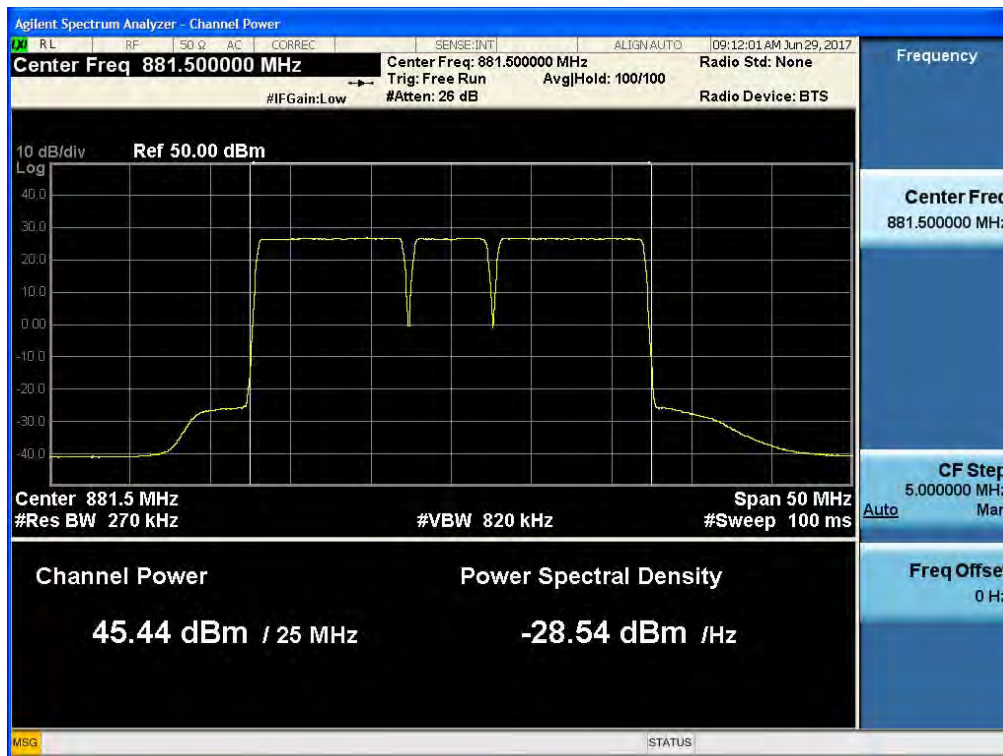
(QPSK Middle Channel)



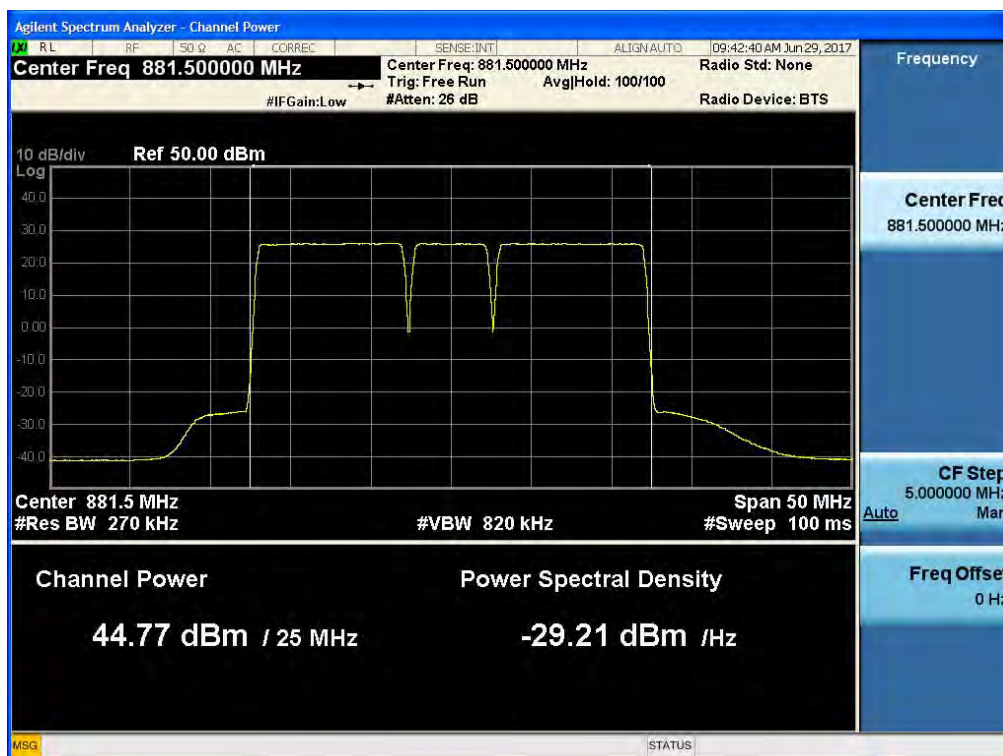
(16QAM Middle Channel)



(64QAM Middle Channel)



(256QAM Middle Channel)



PSD Test Results:

We only tested highest output power at LTE Band 5 1 carrier each port.

LTE Band 5_1 Carrier (5 MHz)

Test Data at Output (2 paths)

Port 1				Port 2			
16QAM				64QAM			
Frequency (MHz)	dBm	W	PSD (dBm / MHz)	Frequency (MHz)	dBm	W	PSD (dBm / MHz)
881.5	46.20	41.687	38.503	871.5	46.30	42.658	38.111

* 56.02 dBm/MHz(Limit : 400 W) = 38.503 dBm/MHz(highest result of 1 path) + 3 dB(2 path)
+ Ant.Gain(dBi) – 2.15 dB(correction factor : dBi → dBd)

* Ant. Gain < 16.667 dBi

Test Data at Output (4 paths)

Port 1				Port 2			
64QAM				16QAM			
Frequency (MHz)	dBm	W	PSD (dBm / MHz)	Frequency (MHz)	dBm	W	PSD (dBm / MHz)
871.5	42.85	19.275	41.184	881.5	43.03	20.091	41.305

* 56.02 dBm/MHz(Limit : 400 W) = 41.305 dBm/MHz(highest result of 1 path) + 6 dB(4 path)
+ Ant.Gain(dBi) – 2.15 dB(correction factor : dBi → dBd)

* Ant. Gain < 10.865 dBi

LTE Band 5_1 Carrier (10 MHz)

Test Data at Output (2 paths)

Port 3				Port 4			
QPSK				QPSK			
Frequency (MHz)	dBm	W	PSD (dBm / MHz)	Frequency (MHz)	dBm	W	PSD (dBm / MHz)
874	47.95	62.373	38.568	874	48.06	63.973	38.629

* 56.02 dBm/MHz(Limit : 400 W) = 38.629 dBm/MHz(highest result of 1 path) + 3 dB(2 path)
+ Ant.Gain(dBi) – 2.15 dB(correction factor : dBi → dBd)

* Ant. Gain < 16.541 dBi

Test Data at Output (4 paths)

Port 3				Port 4			
16QAM				QPSK			
Frequency (MHz)	dBm	W	PSD (dBm / MHz)	Frequency (MHz)	dBm	W	PSD (dBm / MHz)
874	45.95	39.355	40.220	874	45.57	36.058	40.215

* 56.02 dBm/MHz(Limit : 400 W) = 40.220 dBm/MHz(highest result of 1 path) + 6 dB(4 path)
+ Ant.Gain(dBi) – 2.15 dB(correction factor : dBi → dBd)

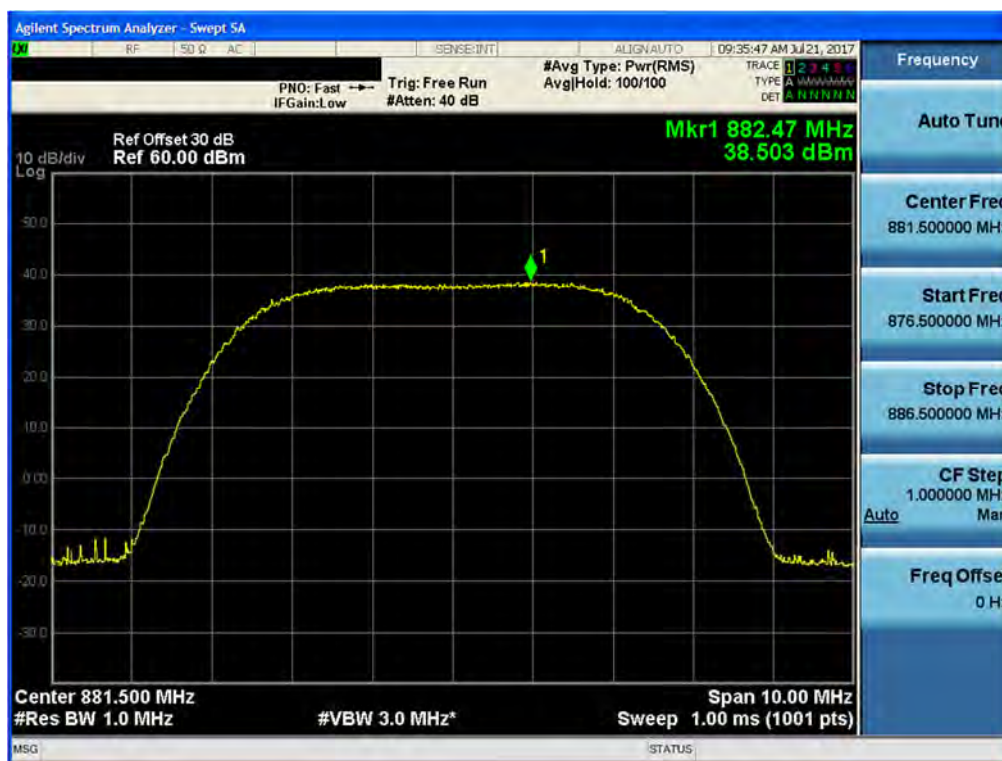
* Ant. Gain < 11.950 dBi

***The antenna gain should not exceed 10.865 dBi for pass the ERP limit for band 5 and 13.**

LTE Band 5_1 Carrier (5 MHz)

Plot Data for Output Port 1 (2 paths)

(16QAM Middle Channel)



Plot Data for Output Port 2 (2 paths)

(64QAM Low Channel)

