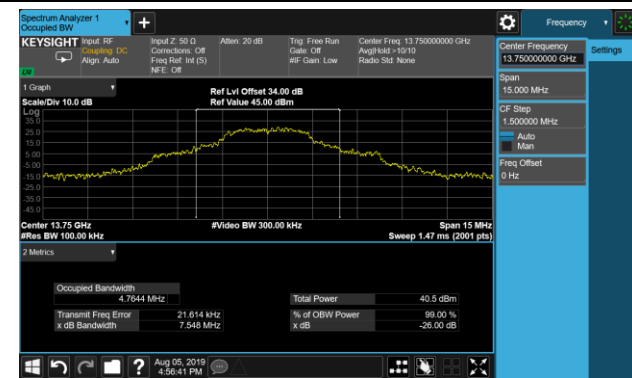
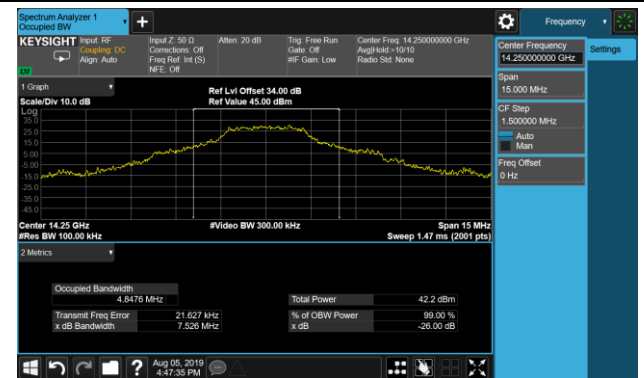


OQPSK (5000kbps) - 99% Bandwidth

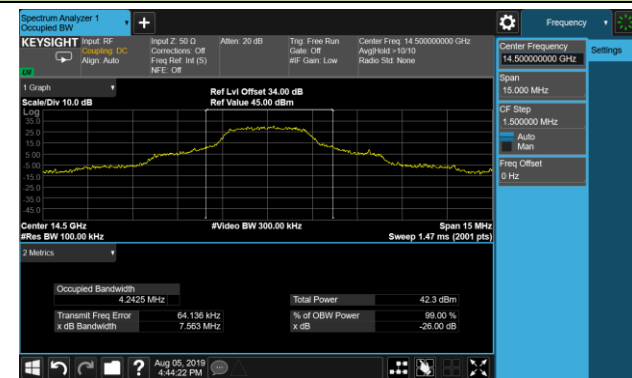
Low Channel (13750MHz)



Mid Channel (14250MHz)

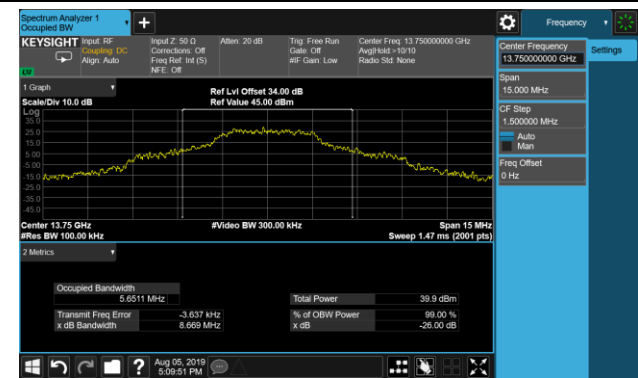


High Channel (14500MHz)

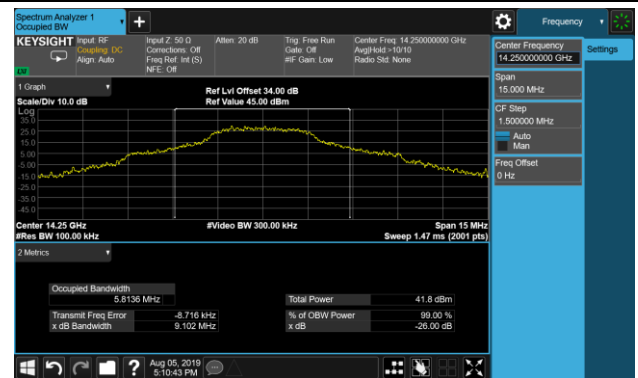


1/2 OQPSK (3000kbps) - 99% Bandwidth

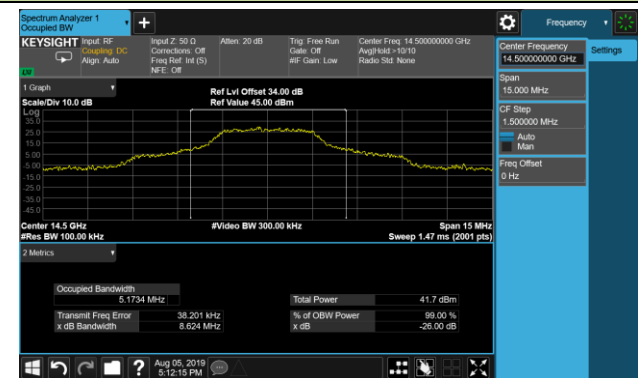
Low Channel (13750MHz)



Mid Channel (14250MHz)

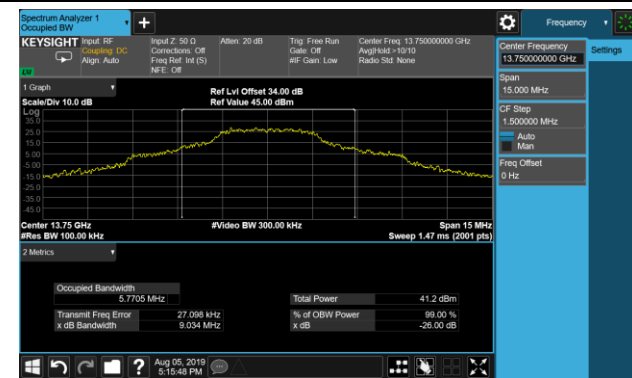


High Channel (14500MHz)

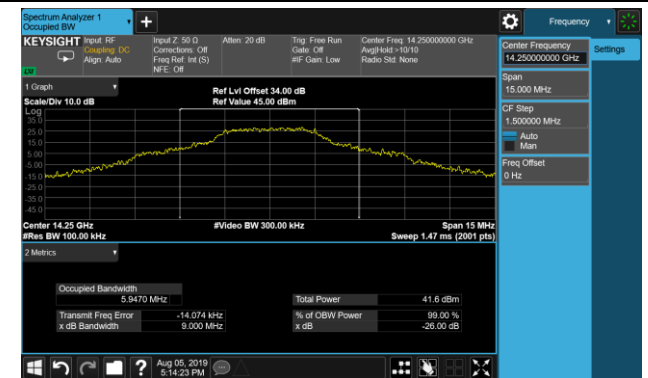


3/4 OQPSK (4500kbps) - 99% Bandwidth

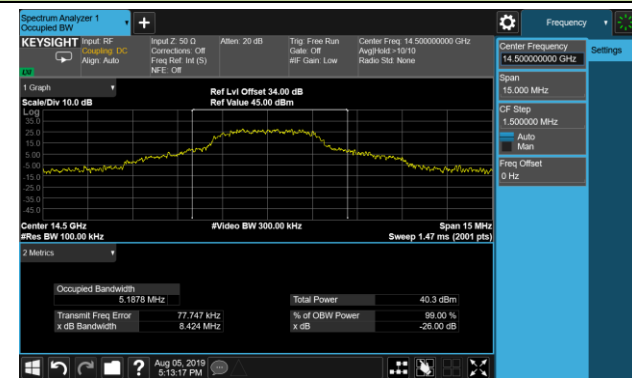
Low Channel (13750MHz)



Mid Channel (14250MHz)

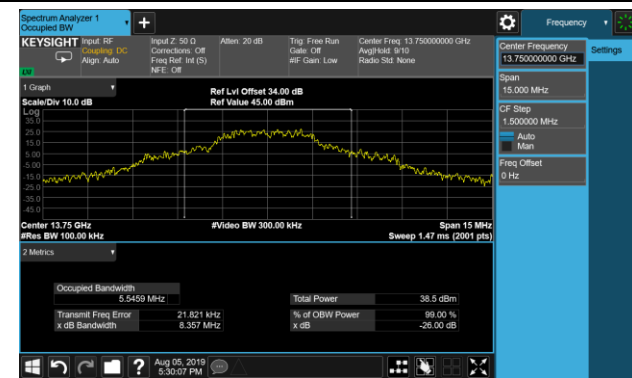


High Channel (14500MHz)

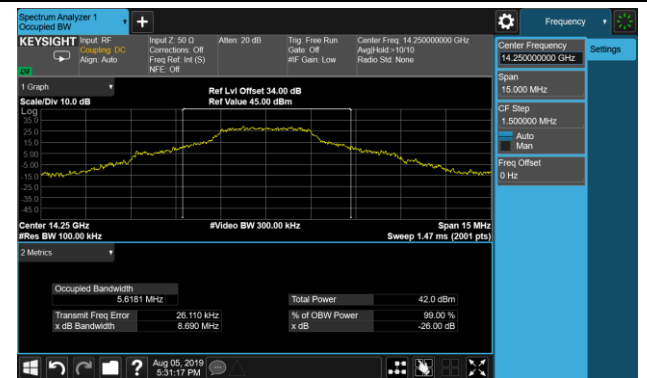


7/8 OQPSK (5000kbps) - 99% Bandwidth

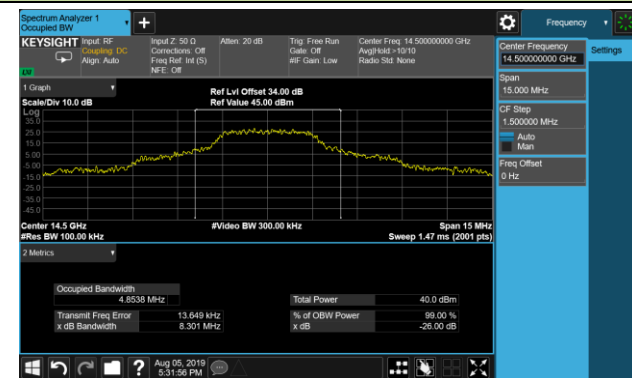
Low Channel (13750MHz)



Mid Channel (14250MHz)

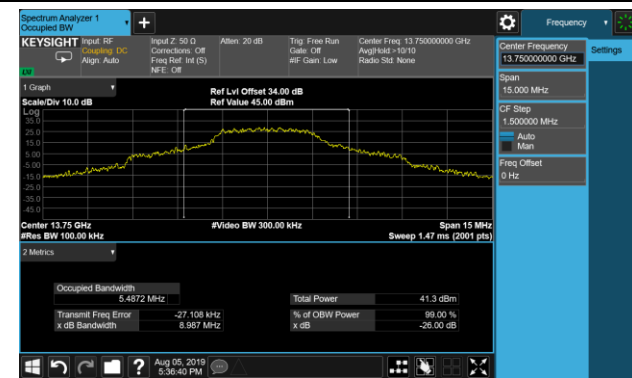


High Channel (14500MHz)

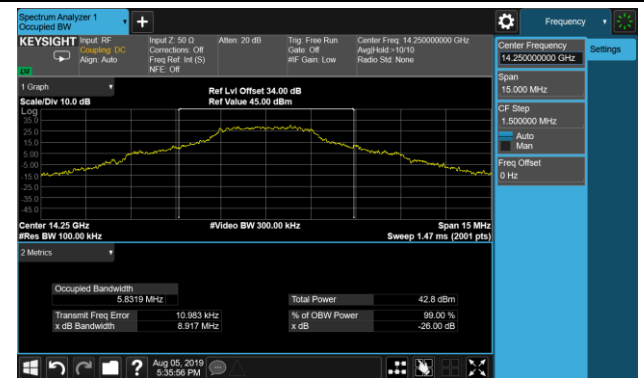


21/44 OQPSK (2863.636kbps) - 99% Bandwidth

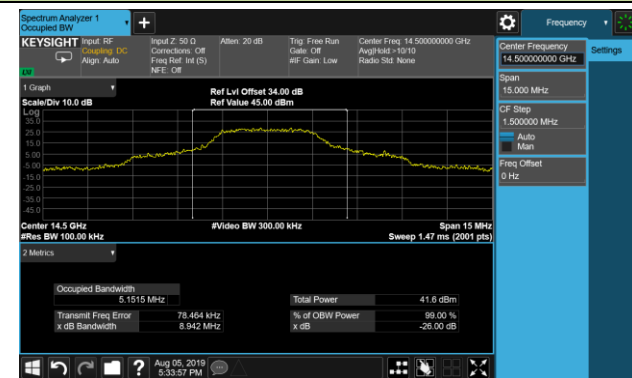
Low Channel (13750MHz)



Mid Channel (14250MHz)



High Channel (14500MHz)



6.3. Power Spectral Density & Output Power Measurement

6.3.1. Test Limit

Part 25.203(c)(ix)

Maximum equivalent isotropically radiated power (e.i.r.p.) density in the main beam in any 4kHz band, (dBW/4kHz) for frequency bands below 15GHz or in any 1MHz band (dBW/MHz) for frequency band above 15GHz,

FCC Part 25.204(a)

In bands shared coequally with terrestrial radio communication services, the equivalent isotropically radiated power transmitted in any direction towards the horizon by an earth station, other than an ESV, operating in frequency bands between 1 and 15GHz, shall not exceed the following limits except as provided for in paragraph(c) of this section:

+ 40dBW in any 4 kHz band for $\theta \leq 0^\circ$

+ 40 + 3 θ dBW in any 4 kHz band for $0^\circ < \theta \leq 5^\circ$

where θ is the angle of elevation of the horizon viewed from the center of radiation of the antenna of the earth station and measured in degrees as positive above the horizontal plane and negative below it.

6.3.2. Test Procedure Used

ANSI C63.26-2015 - Section 5.2.4.5 & 5.2.4.4.1 (Power Spectral Density Measurement)

ANSI C63.26-2015 - Section 5.2.4.2 (Output Power Measurement)

6.3.3. Test Setting

Power Spectral Density Measurement using spectrum analyzer

1. Set span to 2 to 3 times the OBW

2. Set RBW = 1% to 5% of the OBW

(RBW shall set to the reference bandwidth specified by the applicable regulatory requirement, so set RBW = 3 kHz herein for measurement)

3. Set VBW $\geq 3 \times$ RBW

4. Set number of measurement points in sweep $\geq 2 \times$ span / RBW

5. Detector = power averaging (RMS)

6. Trace mode = Trace average

7. Trace was allowed to stabilize

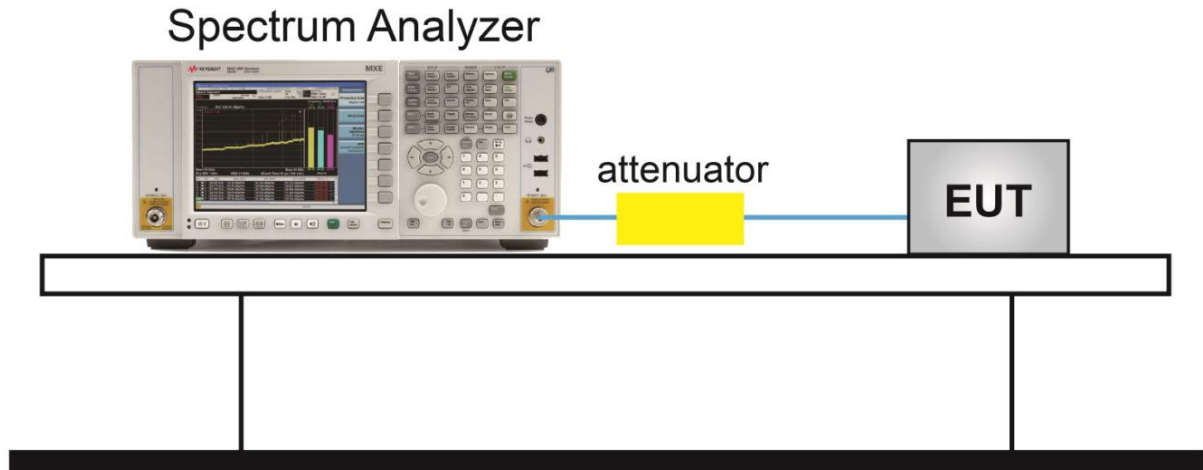
8. $10 \cdot \log(4\text{kHz}/3\text{kHz}) = 1.25\text{dB}$ was added to the reference offset to correct the result relative to any 4kHz band as per the requirement in 25.202(f)(1).

Output Power Measurement using a gated RF average-reading power meter

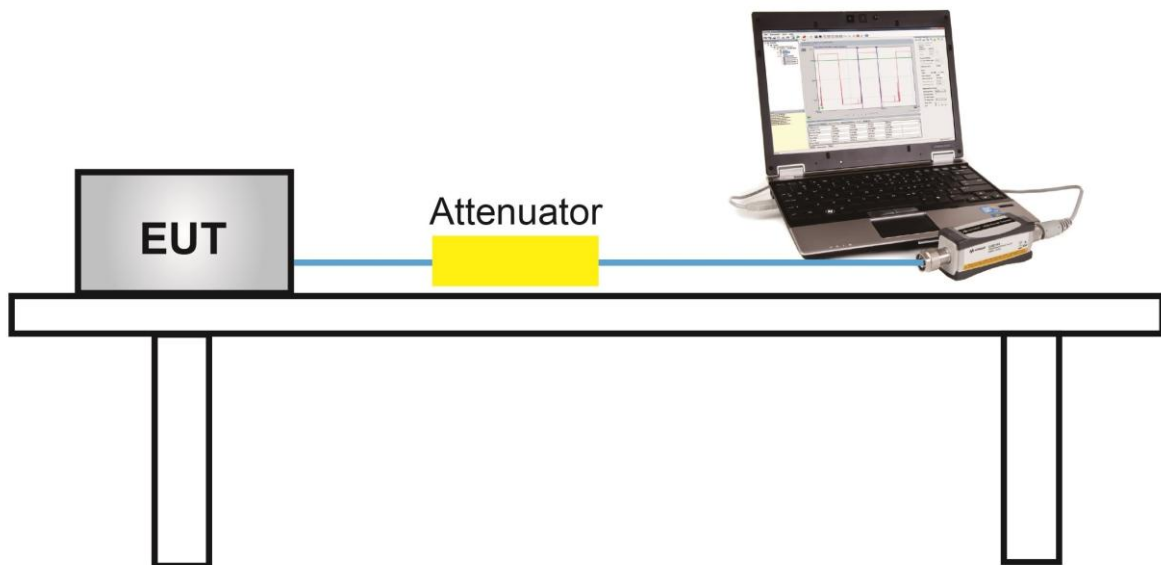
Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since this measurement is made only during the ON time of the transmitter, no duty cycle correction is required.

6.3.4. Test Setup

For Power Spectral Density Measurement



For Output Power Measurement



6.3.5. Test Result

Product	Flat Panel Integrated Satellite Communication Terminal	Temperature	25°C
Test Engineer	Bruce Wang	Relative Humidity	52%
Test Site	TR3	Test Date	2019/08/02 ~ 2019/08/03

Test Result of Average Power Spectral Density (Low Data Rate):

Test Mode	Date Rate (kbps)	Channel	Test Frequency (MHz)	Average PSD (dBm/4kHz)	Final PSD (dBm/4kHz)	Limit (dBm/4kHz)	Result
BPSK	256	Low	13750	16.54	52.76	≤ 70	Pass
	256	Mid	14250	16.93	53.15	≤ 70	Pass
	256	High	14500	16.08	52.30	≤ 70	Pass
1/2 BPSK	256	Low	13750	13.51	49.73	≤ 70	Pass
	256	Mid	14250	13.94	50.16	≤ 70	Pass
	256	High	14500	13.46	49.68	≤ 70	Pass
5/16 BPSK	256	Low	13750	11.85	48.07	≤ 70	Pass
	256	Mid	14250	12.81	49.03	≤ 70	Pass
	256	High	14500	11.65	47.87	≤ 70	Pass
21/44 BPSK	256	Low	13750	13.42	49.64	≤ 70	Pass
	256	Mid	14250	13.64	49.86	≤ 70	Pass
	256	High	14500	13.16	49.38	≤ 70	Pass
QPSK	256	Low	13750	19.79	56.01	≤ 70	Pass
	256	Mid	14250	20.03	56.25	≤ 70	Pass
	256	High	14500	19.45	55.67	≤ 70	Pass
1/2 QPSK	256	Low	13750	16.70	52.92	≤ 70	Pass
	256	Mid	14250	17.24	53.46	≤ 70	Pass
	256	High	14500	16.59	52.81	≤ 70	Pass
3/4 QPSK	256	Low	13750	18.61	54.83	≤ 70	Pass
	256	Mid	14250	19.05	55.27	≤ 70	Pass
	256	High	14500	18.32	54.54	≤ 70	Pass
7/8 QPSK	256	Low	13750	19.44	55.66	≤ 70	Pass
	256	Mid	14250	19.50	55.72	≤ 70	Pass
	256	High	14500	19.06	55.28	≤ 70	Pass
21/44 QPSK	256	Low	13750	16.93	53.15	≤ 70	Pass
	256	Mid	14250	17.21	53.43	≤ 70	Pass
	256	High	14500	16.66	52.88	≤ 70	Pass

Test Mode	Date Rate (kbps)	Channel	Test Frequency (MHz)	Average PSD (dBm/4kHz)	Final PSD (dBm/4kHz)	Limit (dBm/4kHz)	Result
OQPSK	256	Low	13750	20.02	56.24	≤ 70	Pass
	256	Mid	14250	20.35	56.57	≤ 70	Pass
	256	High	14500	19.27	55.49	≤ 70	Pass
1/2 OQPSK	256	Low	13750	17.03	53.25	≤ 70	Pass
	256	Mid	14250	17.59	53.81	≤ 70	Pass
	256	High	14500	16.52	52.74	≤ 70	Pass
3/4 OQPSK	256	Low	13750	18.82	55.04	≤ 70	Pass
	256	Mid	14250	19.36	55.58	≤ 70	Pass
	256	High	14500	18.54	54.76	≤ 70	Pass
7/8 OQPSK	256	Low	13750	19.41	55.63	≤ 70	Pass
	256	Mid	14250	19.72	55.94	≤ 70	Pass
	256	High	14500	19.10	55.32	≤ 70	Pass
21/44 OQPSK	256	Low	13750	19.41	55.63	≤ 70	Pass
	256	Mid	14250	17.16	53.38	≤ 70	Pass
	256	High	14500	16.82	53.04	≤ 70	Pass

Note 1: Final Power Spectral Density (dBm/4kHz) = Average Power Spectral Density (dBm/4kHz) + Antenna Gain (dBi). Antenna Gain = 36.22dBi.

Note 2: $10 \cdot \log(4\text{kHz}/3\text{kHz}) = 1.25\text{dB}$ was added to the spectrum analyzer reference offset to correct the result, so the maker level in each figure was equivalent the result in any 4kHz.

Test Result of Average Power Spectral Density (High Data Rate):

Test Mode	Date Rate (kbps)	Channel	Test Frequency (MHz)	Average PSD (dBm/4kHz)	Final PSD (dBm/4kHz)	Limit (dBm/4kHz)	Result
BPSK	3000	Low	13750	7.33	43.55	≤ 70	Pass
	3000	Mid	14250	6.95	43.17	≤ 70	Pass
	3000	High	14500	6.55	42.77	≤ 70	Pass
1/2 BPSK	1500	Low	13750	7.11	43.33	≤ 70	Pass
	1500	Mid	14250	7.17	43.39	≤ 70	Pass
	1500	High	14500	6.68	42.90	≤ 70	Pass
5/16 BPSK	937.5	Low	13750	7.18	43.40	≤ 70	Pass
	937.5	Mid	14250	7.56	43.78	≤ 70	Pass
	937.5	High	14500	7.21	43.43	≤ 70	Pass
21/44 BPSK	1431.818	Low	13750	7.39	43.61	≤ 70	Pass
	1431.818	Mid	14250	7.35	43.57	≤ 70	Pass
	1431.818	High	14500	6.84	43.06	≤ 70	Pass
QPSK	5000	Low	13750	7.90	44.12	≤ 70	Pass
	5000	Mid	14250	8.45	44.67	≤ 70	Pass
	5000	High	14500	8.19	44.41	≤ 70	Pass
1/2 QPSK	3000	Low	13750	7.64	43.86	≤ 70	Pass
	3000	Mid	14250	8.03	44.25	≤ 70	Pass
	3000	High	14500	7.14	43.36	≤ 70	Pass
3/4 QPSK	4500	Low	13750	8.21	44.43	≤ 70	Pass
	4500	Mid	14250	8.53	44.75	≤ 70	Pass
	4500	High	14500	8.13	44.35	≤ 70	Pass
7/8 QPSK	5000	Low	13750	8.33	44.55	≤ 70	Pass
	5000	Mid	14250	8.50	44.72	≤ 70	Pass
	5000	High	14500	8.45	44.67	≤ 70	Pass
21/44 QPSK	2863.636	Low	13750	7.84	44.06	≤ 70	Pass
	2863.636	Mid	14250	7.93	44.15	≤ 70	Pass
	2863.636	High	14500	7.93	44.15	≤ 70	Pass

Test Mode	Date Rate (kbps)	Channel	Test Frequency (MHz)	Average PSD (dBm/4kHz)	Final PSD (dBm/4kHz)	Limit (dBm/4kHz)	Result
OQPSK	5000	Low	13750	8.45	44.67	≤ 70	Pass
	5000	Mid	14250	8.80	45.02	≤ 70	Pass
	5000	High	14500	7.87	44.09	≤ 70	Pass
1/2 OQPSK	3000	Low	13750	7.71	43.93	≤ 70	Pass
	3000	Mid	14250	7.96	44.18	≤ 70	Pass
	3000	High	14500	7.31	43.53	≤ 70	Pass
3/4 OQPSK	4500	Low	13750	8.18	44.40	≤ 70	Pass
	4500	Mid	14250	8.57	44.79	≤ 70	Pass
	4500	High	14500	7.73	43.95	≤ 70	Pass
7/8 OQPSK	5000	Low	13750	8.07	44.29	≤ 70	Pass
	5000	Mid	14250	9.02	45.24	≤ 70	Pass
	5000	High	14500	8.26	44.48	≤ 70	Pass
21/44 OQPSK	2863.636	Low	13750	7.97	44.19	≤ 70	Pass
	2863.636	Mid	14250	7.94	44.16	≤ 70	Pass
	2863.636	High	14500	7.30	43.52	≤ 70	Pass

Note 1: Final Power Spectral Density (dBm/4kHz) = Average Power Spectral Density (dBm/4kHz) + Antenna Gain (dBi). Antenna Gain = 36.22dBi.

Note 2: $10 \cdot \log(4\text{kHz}/3\text{kHz}) = 1.25\text{dB}$ was added to the spectrum analyzer reference offset to correct the result, so the maker level in each figure was equivalent the result in any 4kHz.

Test Result of Average Output Power (Low Data Rate) (Reporting Only):

Test Mode	Date Rate (kbps)	Channel	Test Frequency (MHz)	Average Power (dBm)	E.I.R.P (dBm)
BPSK	256	Low	13750	34.46	70.68
	256	Mid	14250	34.87	71.09
	256	High	14500	33.89	70.11
1/2 BPSK	256	Low	13750	34.33	70.55
	256	Mid	14250	34.87	71.09
	256	High	14500	33.83	70.05
5/16 BPSK	256	Low	13750	34.35	70.57
	256	Mid	14250	34.83	71.05
	256	High	14500	33.84	70.06
21/44 BPSK	256	Low	13750	34.38	70.60
	256	Mid	14250	34.83	71.05
	256	High	14500	33.86	70.08
QPSK	256	Low	13750	34.79	71.01
	256	Mid	14250	35.28	71.50
	256	High	14500	34.32	70.54
1/2 QPSK	256	Low	13750	34.79	71.01
	256	Mid	14250	35.26	71.48
	256	High	14500	34.28	70.50
3/4 QPSK	256	Low	13750	34.83	71.05
	256	Mid	14250	35.29	71.51
	256	High	14500	34.31	70.53
7/8 QPSK	256	Low	13750	34.88	71.10
	256	Mid	14250	35.32	71.54
	256	High	14500	34.31	70.53
21/44 QPSK	256	Low	13750	34.88	71.10
	256	Mid	14250	35.37	71.59
	256	High	14500	34.29	70.51

Test Mode	Date Rate (kbps)	Channel	Test Frequency (MHz)	Average Power (dBm)	E.I.R.P (dBm)
OQPSK	256	Low	13750	35.04	71.26
	256	Mid	14250	35.53	71.75
	256	High	14500	34.52	70.74
1/2 OQPSK	256	Low	13750	34.98	71.20
	256	Mid	14250	35.52	71.74
	256	High	14500	34.56	70.78
3/4 OQPSK	256	Low	13750	34.98	71.20
	256	Mid	14250	35.48	71.70
	256	High	14500	34.44	70.66
7/8 OQPSK	256	Low	13750	34.97	71.19
	256	Mid	14250	35.51	71.73
	256	High	14500	34.46	70.68
21/44 OQPSK	256	Low	13750	34.98	71.20
	256	Mid	14250	35.49	71.71
	256	High	14500	34.45	70.67

Note 1: E.I.R.P (dBm) = Average Power (dBm) + Antenna Gain (dBi). Antenna Gain = 36.22dBi.

Note 2: The test result of average output power is only for RF exposure evaluation.

Test Result of Average Output Power (High Data Rate) (Reporting Only):

Test Mode	Date Rate (kbps)	Channel	Test Frequency (MHz)	Average Power (dBm)	E.I.R.P (dBm)
BPSK	3000	Low	13750	33.70	69.92
	3000	Mid	14250	34.18	70.40
	3000	High	14500	33.38	69.60
1/2 BPSK	1500	Low	13750	33.71	69.93
	1500	Mid	14250	34.19	70.41
	1500	High	14500	33.41	69.63
5/16 BPSK	937.5	Low	13750	33.72	69.94
	937.5	Mid	14250	34.19	70.41
	937.5	High	14500	33.41	69.63
21/44 BPSK	1431.818	Low	13750	33.73	69.95
	1431.818	Mid	14250	34.21	70.43
	1431.818	High	14500	33.42	69.64
QPSK	5000	Low	13750	34.18	70.40
	5000	Mid	14250	34.66	70.88
	5000	High	14500	33.92	70.14
1/2 QPSK	3000	Low	13750	34.21	70.43
	3000	Mid	14250	34.70	70.92
	3000	High	14500	33.95	70.17
3/4 QPSK	4500	Low	13750	34.22	70.44
	4500	Mid	14250	34.72	70.94
	4500	High	14500	33.98	70.20
7/8 QPSK	5000	Low	13750	34.26	70.48
	5000	Mid	14250	34.73	70.95
	5000	High	14500	34.01	70.23
21/44 QPSK	2863.636	Low	13750	34.24	70.46
	2863.636	Mid	14250	34.75	70.97
	2863.636	High	14500	33.98	70.20

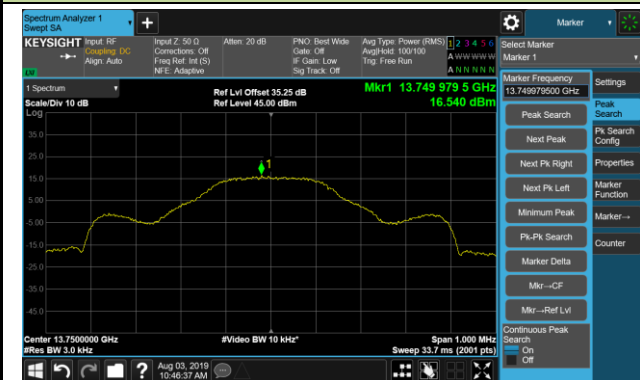
Test Mode	Date Rate (kbps)	Channel	Test Frequency (MHz)	Average Power (dBm)	E.I.R.P (dBm)
OQPSK	5000	Low	13750	34.51	70.73
	5000	Mid	14250	35.01	71.23
	5000	High	14500	34.24	70.46
1/2 OQPSK	3000	Low	13750	34.25	70.47
	3000	Mid	14250	35.01	71.23
	3000	High	14500	34.24	70.46
3/4 OQPSK	4500	Low	13750	34.57	70.79
	4500	Mid	14250	35.20	71.42
	4500	High	14500	34.22	70.44
7/8 OQPSK	5000	Low	13750	34.60	70.82
	5000	Mid	14250	34.73	70.95
	5000	High	14500	34.25	70.47
21/44 OQPSK	2863.636	Low	13750	34.23	70.45
	2863.636	Mid	14250	35.06	71.28
	2863.636	High	14500	34.20	70.42

Note 1: E.I.R.P (dBm) = Average Power (dBm) + Antenna Gain (dBi). Antenna Gain = 36.22dBi.

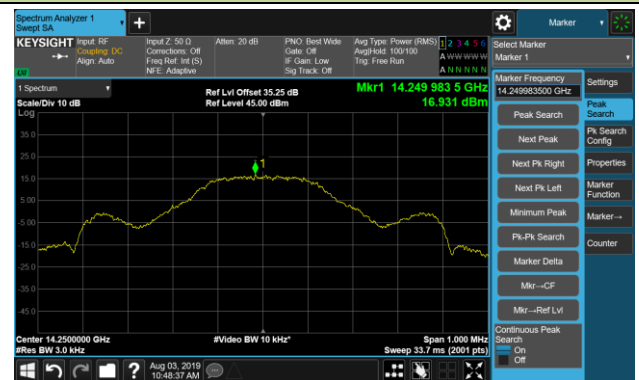
Note 2: The test result of average output power is only for RF exposure evaluation.

BPSK (256kbps) - Average PSD

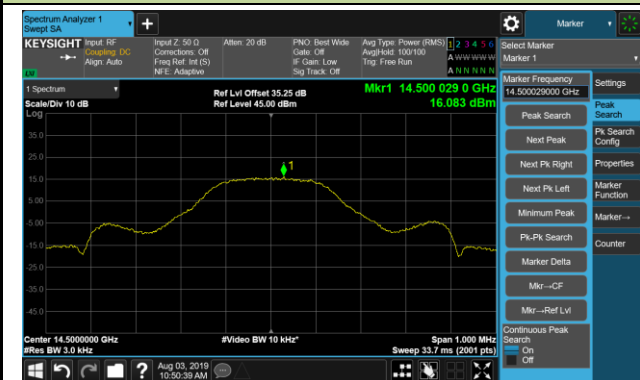
Low Channel (13750MHz)



Mid Channel (14250MHz)

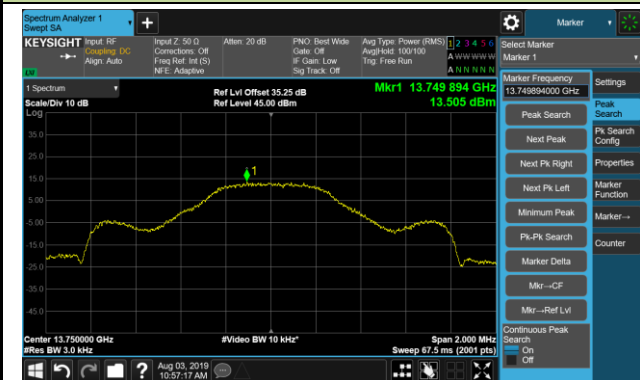


High Channel (14500MHz)

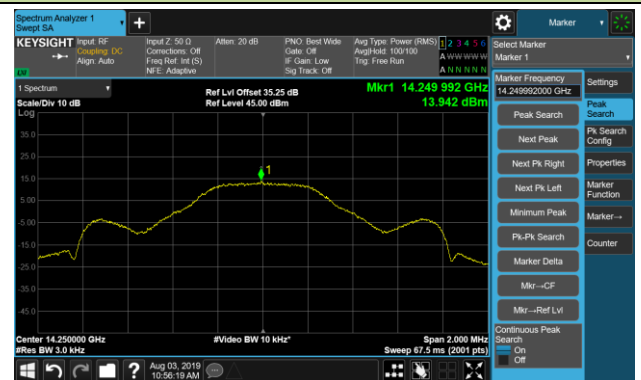


1/2 BPSK (256kbps) - Average PSD

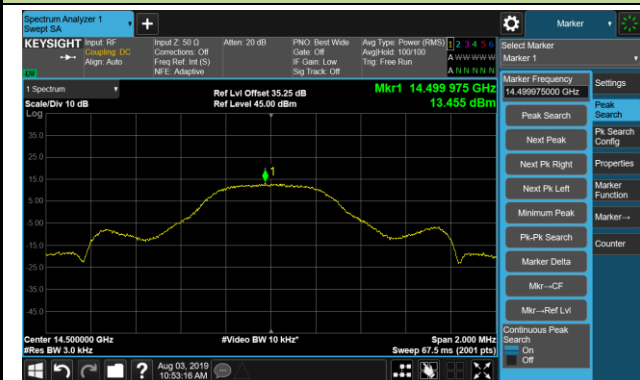
Low Channel (13750MHz)



Mid Channel (14250MHz)

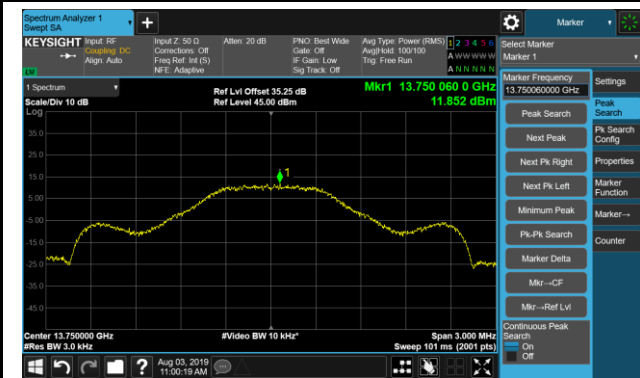


High Channel (14500MHz)

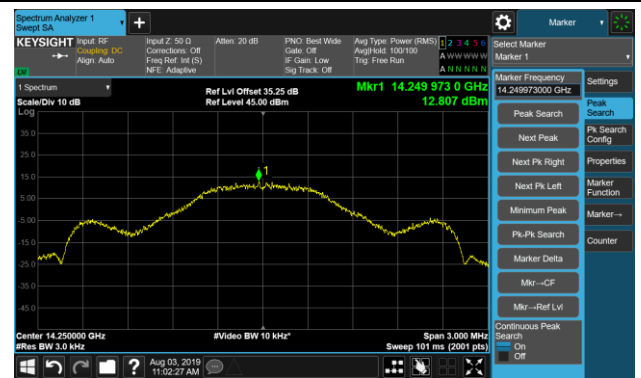


5/16 BPSK (256kbps) - Average PSD

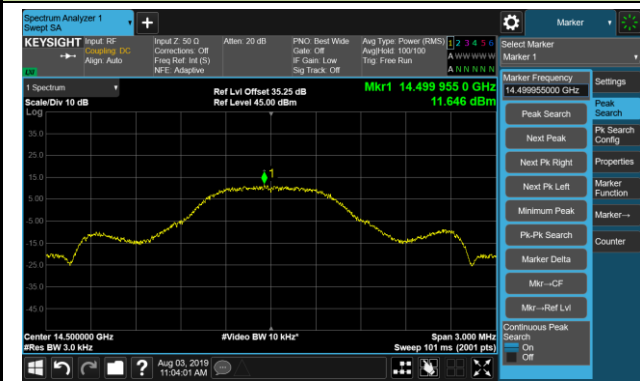
Low Channel (13750MHz)



Mid Channel (14250MHz)

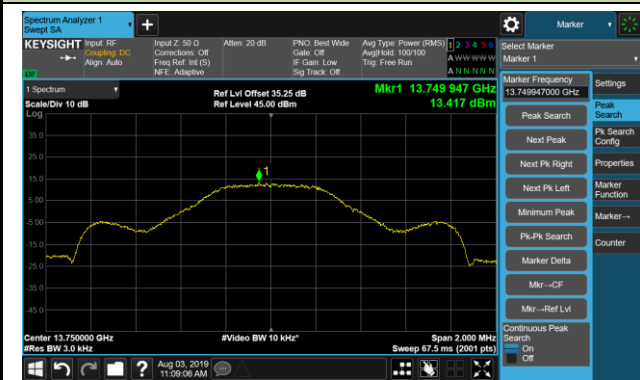


High Channel (14500MHz)

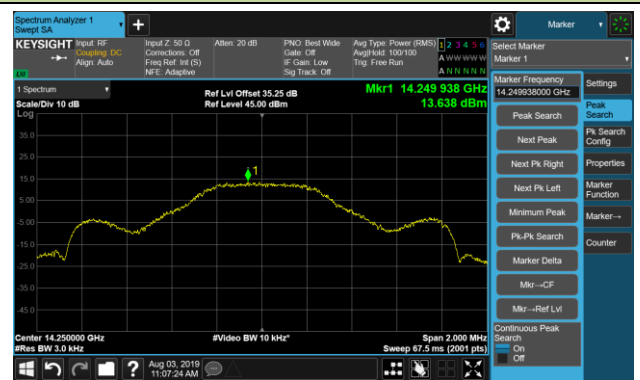


21/44 BPSK (256kbps) - Average PSD

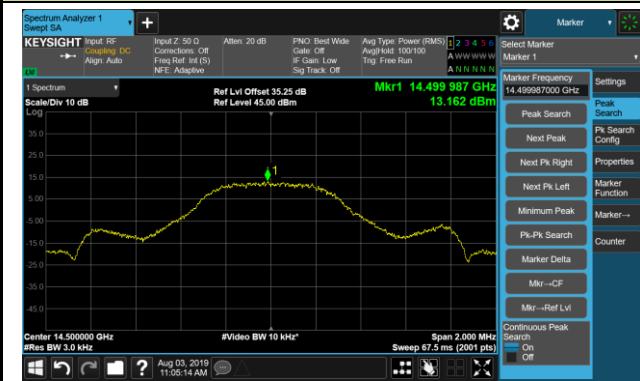
Low Channel (13750MHz)



Mid Channel (14250MHz)

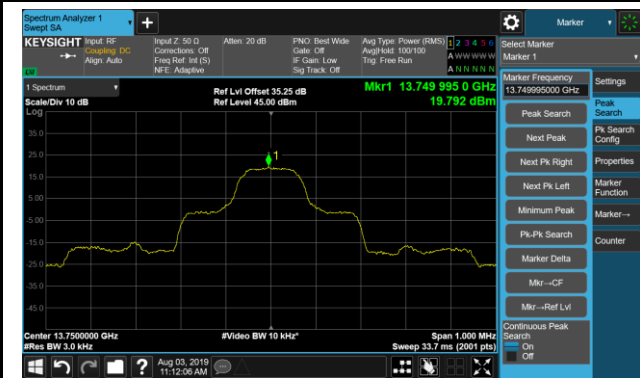


High Channel (14500MHz)

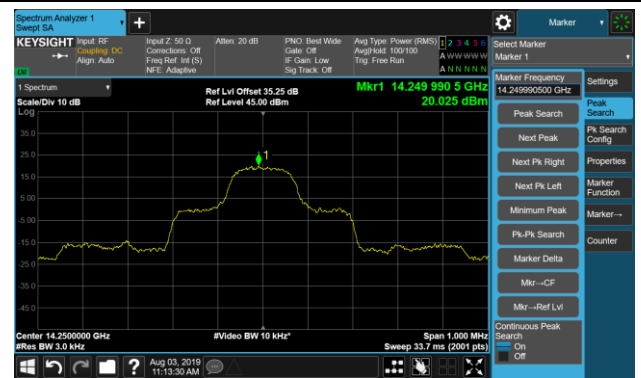


QPSK (256kbps) - Average PSD

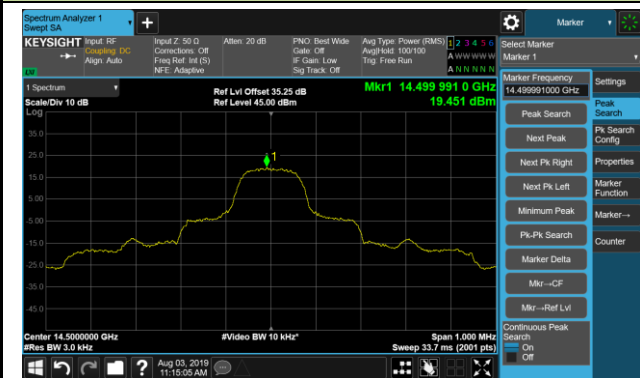
Low Channel (13750MHz)



Mid Channel (14250MHz)

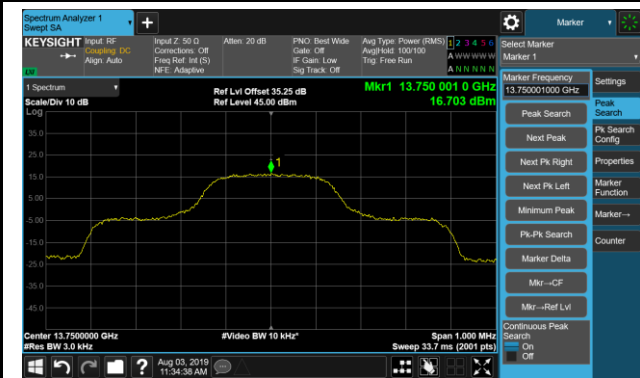


High Channel (14500MHz)

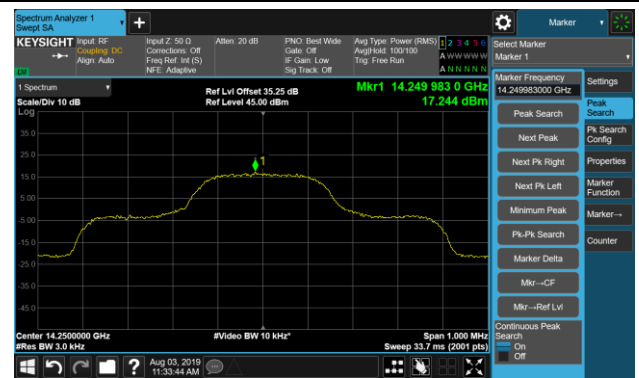


1/2 QPSK (256kbps) - Average PSD

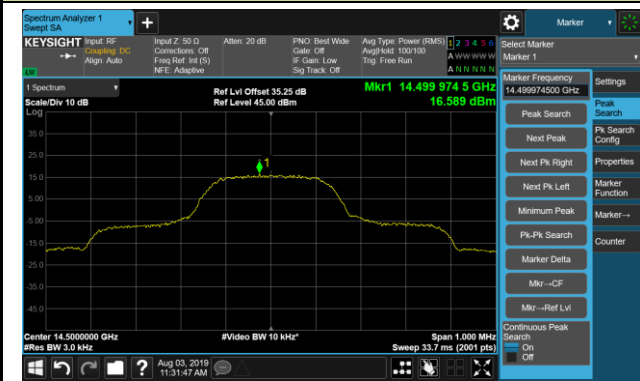
Low Channel (13750MHz)



Mid Channel (14250MHz)

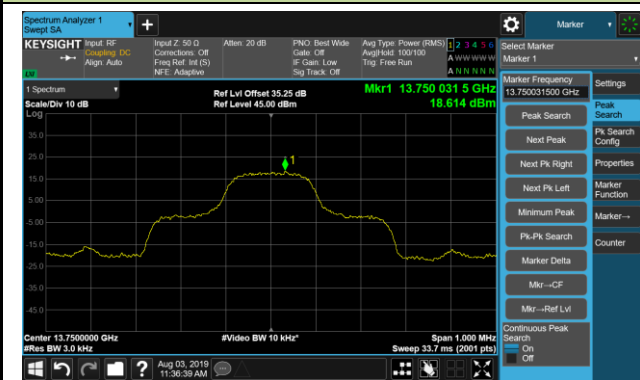


High Channel (14500MHz)



3/4 QPSK (256kbps) - Average PSD

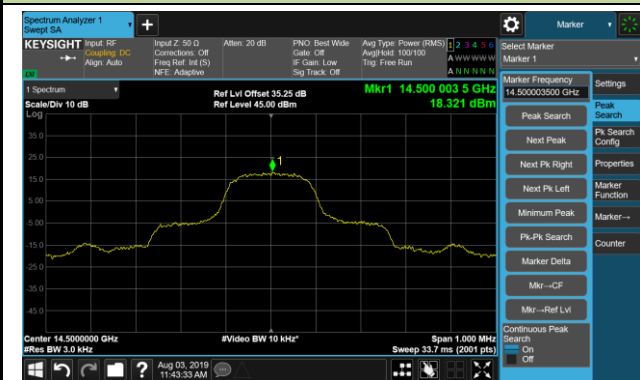
Low Channel (13750MHz)



Mid Channel (14250MHz)

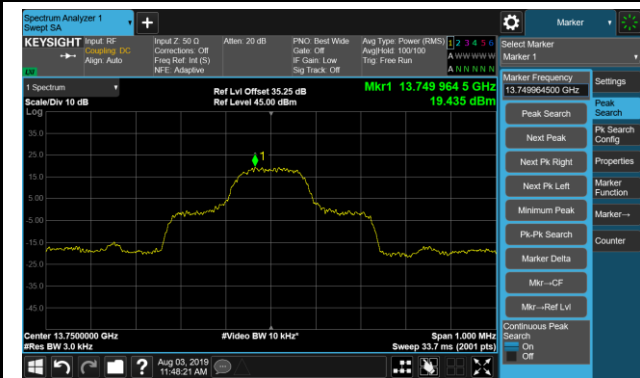


High Channel (14500MHz)

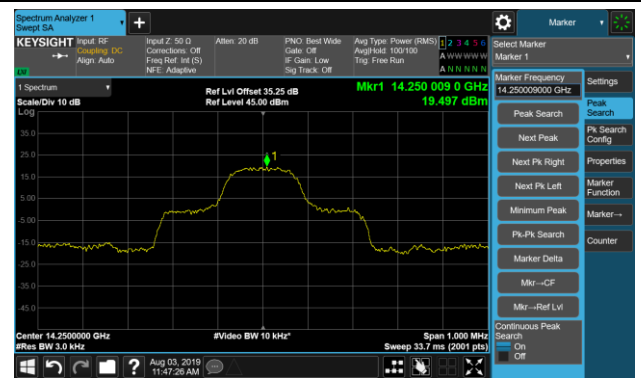


7/8 QPSK (256kbps) - Average PSD

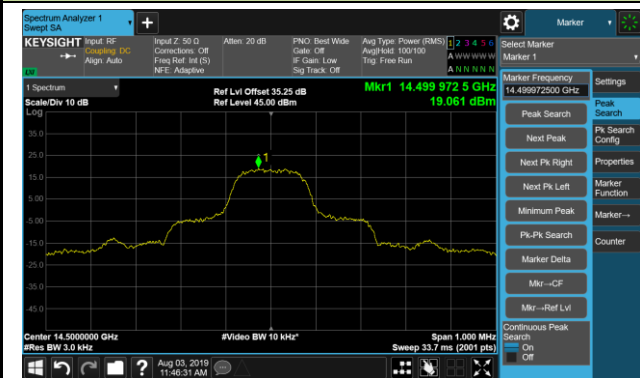
Low Channel (13750MHz)



Mid Channel (14250MHz)

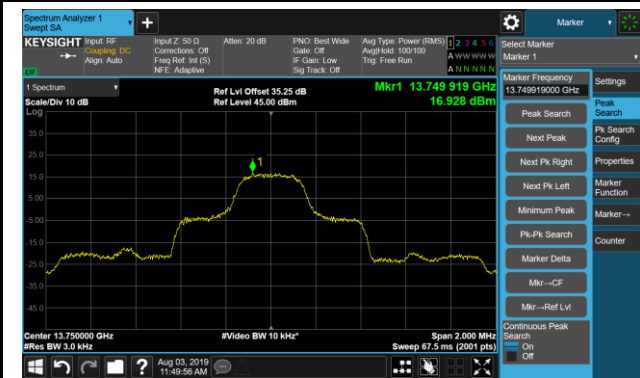


High Channel (14500MHz)



21/44 QPSK (256kbps) - Average PSD

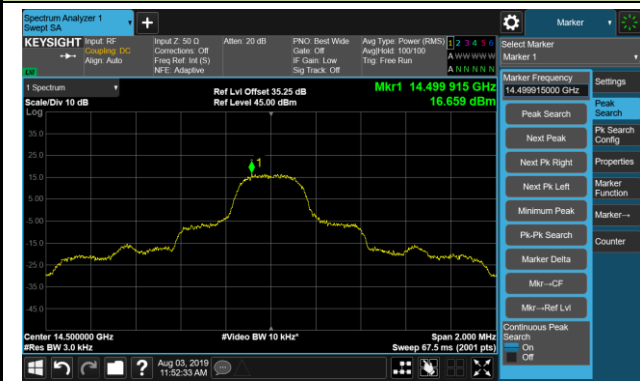
Low Channel (13750MHz)



Mid Channel (14250MHz)

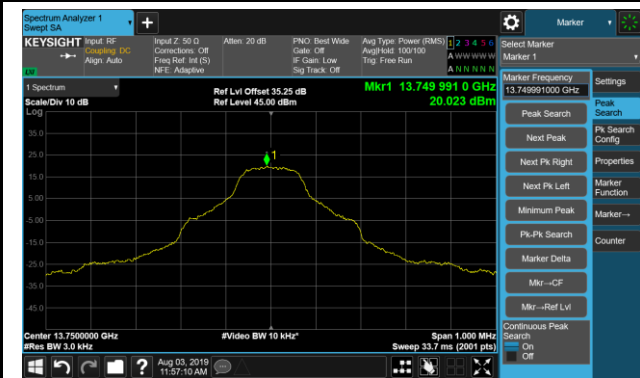


High Channel (14500MHz)



OQPSK (256kbps) - Average PSD

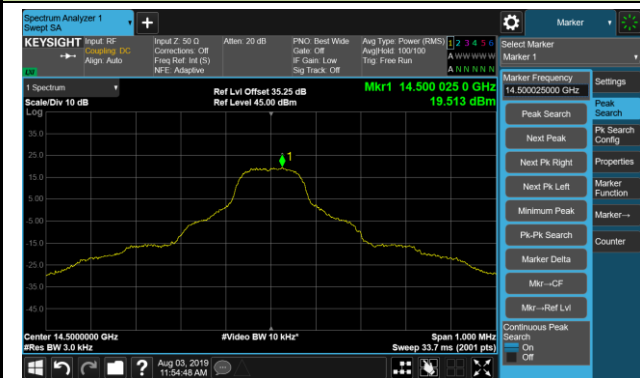
Low Channel (13750MHz)



Mid Channel (14250MHz)

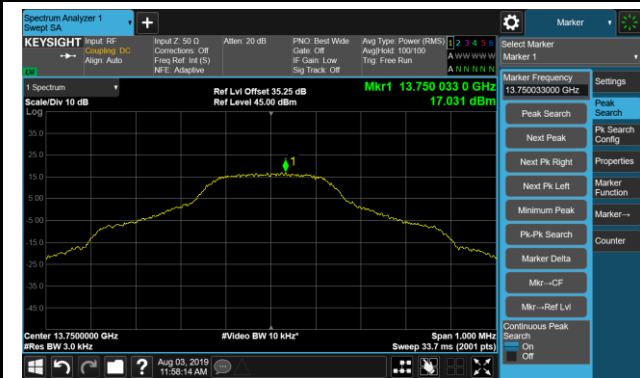


High Channel (14500MHz)



1/2 QPSK (256kbps) - Average PSD

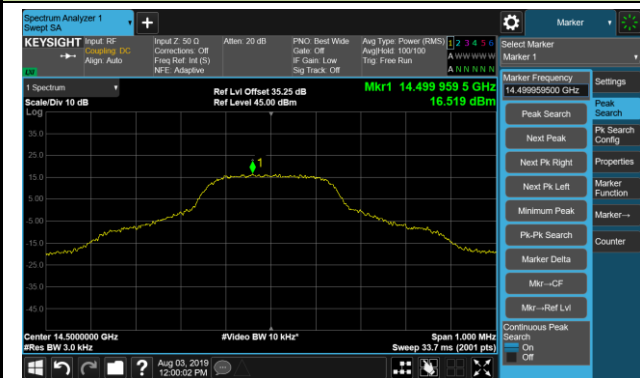
Low Channel (13750MHz)



Mid Channel (14250MHz)

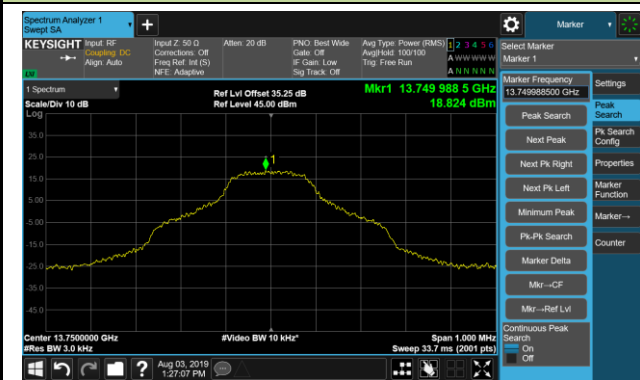


High Channel (14500MHz)



3/4 QPSK (256kbps) - Average PSD

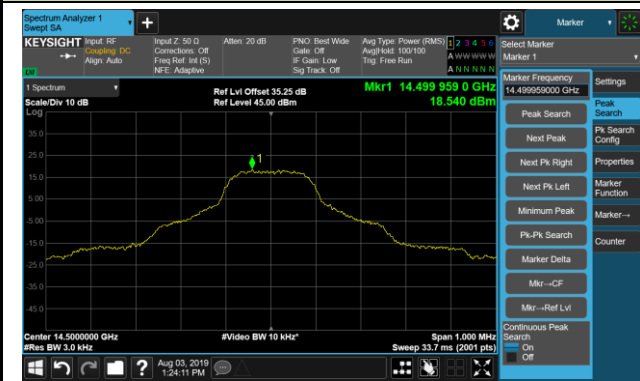
Low Channel (13750MHz)



Mid Channel (14250MHz)

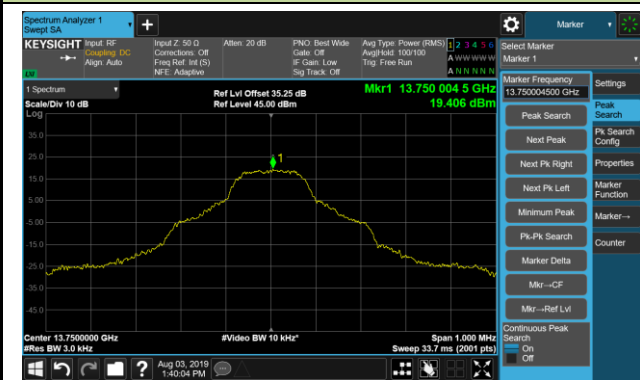


High Channel (14500MHz)



7/8 QPSK (256kbps) - Average PSD

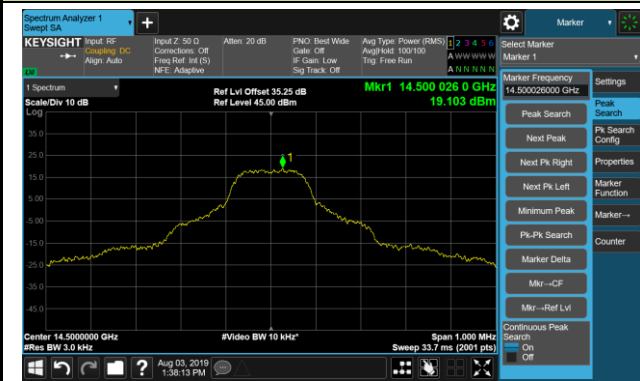
Low Channel (13750MHz)



Mid Channel (14250MHz)

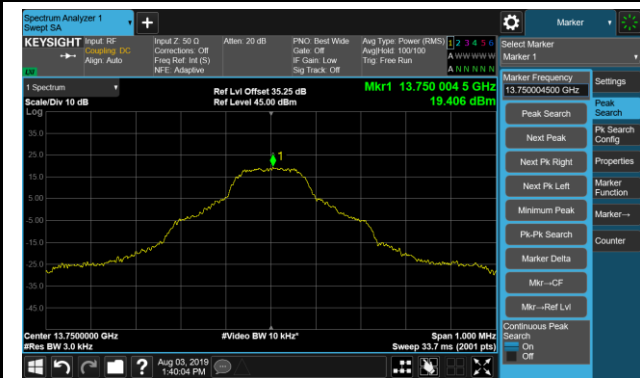


High Channel (14500MHz)

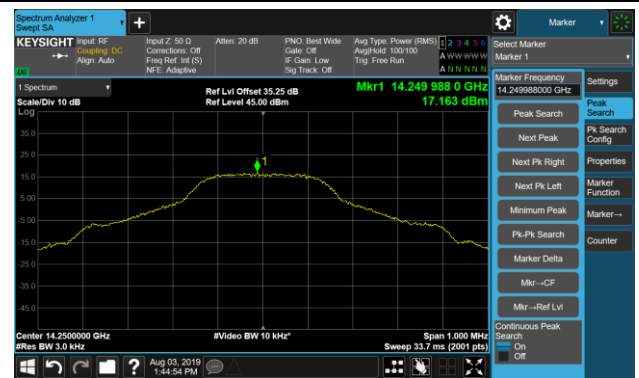


21/44 OQPSK (256kbps) - Average PSD

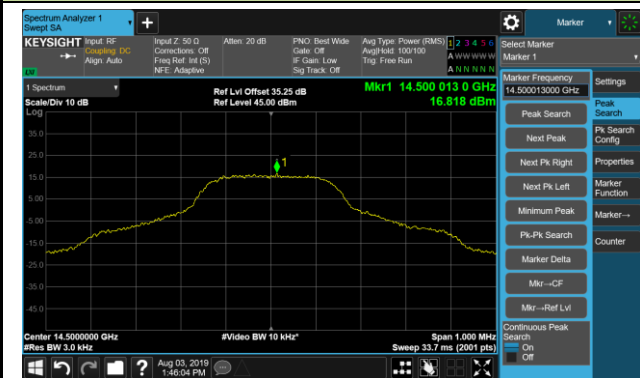
Low Channel (13750MHz)



Mid Channel (14250MHz)

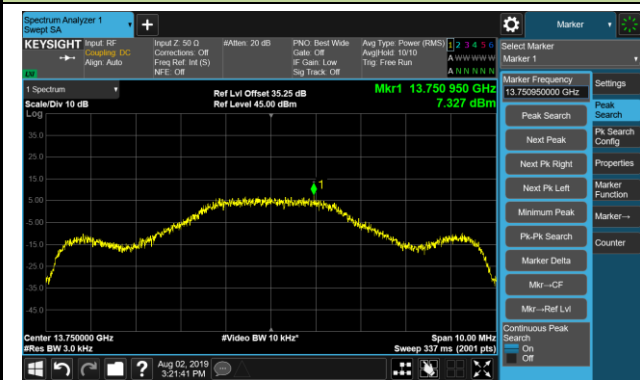


High Channel (14500MHz)



BPSK (3000kbps) - Average PSD

Low Channel (13750MHz)



Mid Channel (14250MHz)

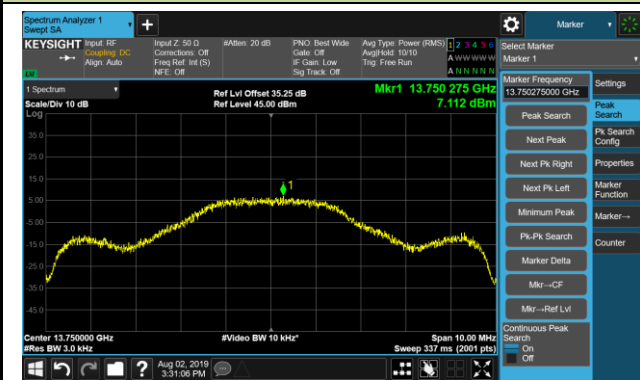


High Channel (14500MHz)



1/2 BPSK (1500kbps) - Average PSD

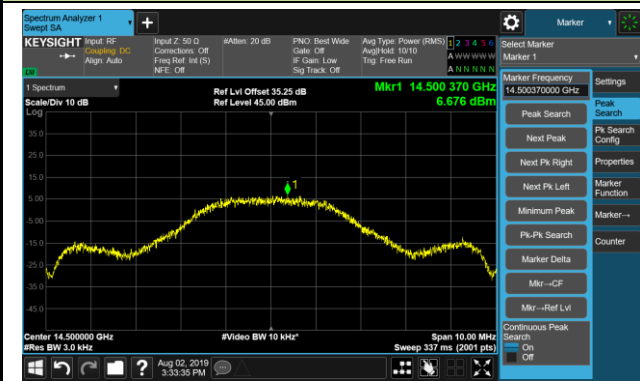
Low Channel (13750MHz)



Mid Channel (14250MHz)

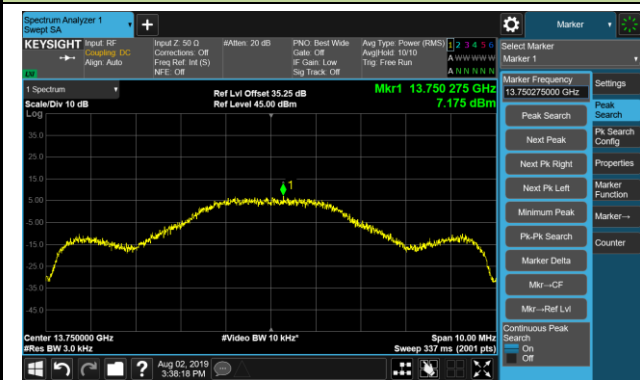


High Channel (14500MHz)

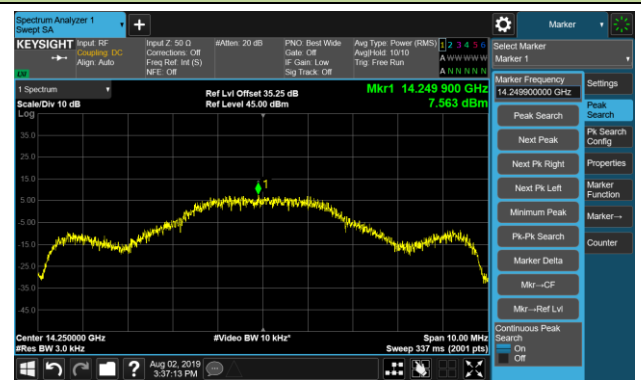


5/16 BPSK (937.5kbps) - Average PSD

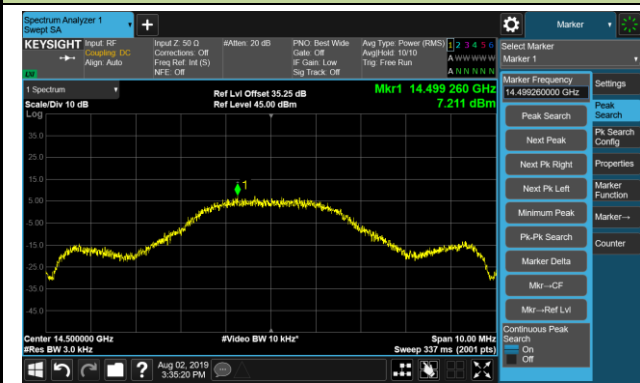
Low Channel (13750MHz)



Mid Channel (14250MHz)

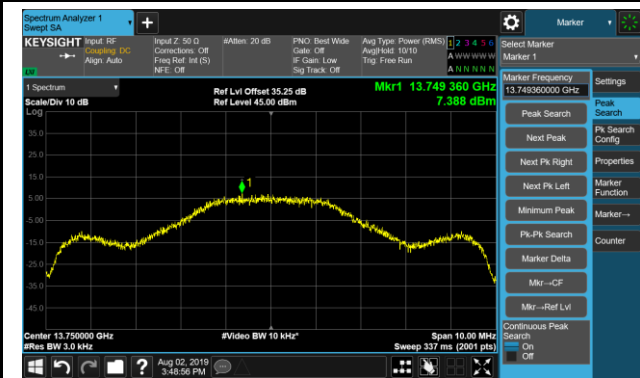


High Channel (14500MHz)



21/44 BPSK (1431.818kbps) - Average PSD

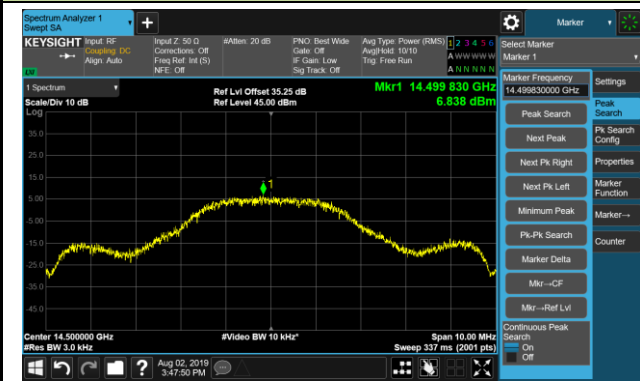
Low Channel (13750MHz)



Mid Channel (14250MHz)

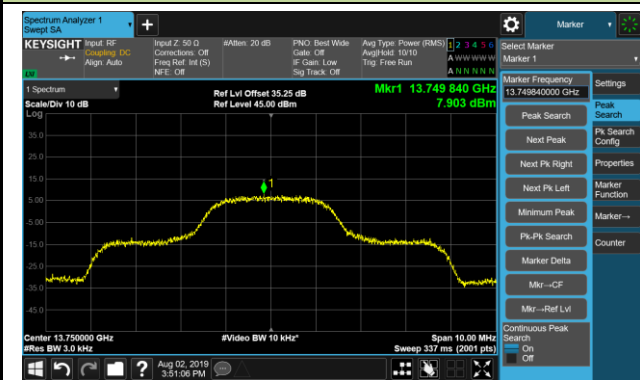


High Channel (14500MHz)

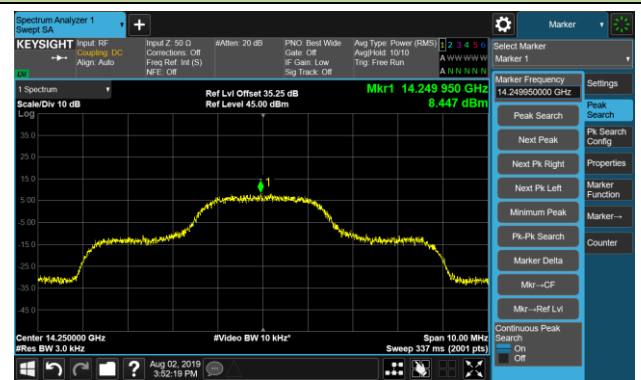


QPSK (5000kbps) - Average PSD

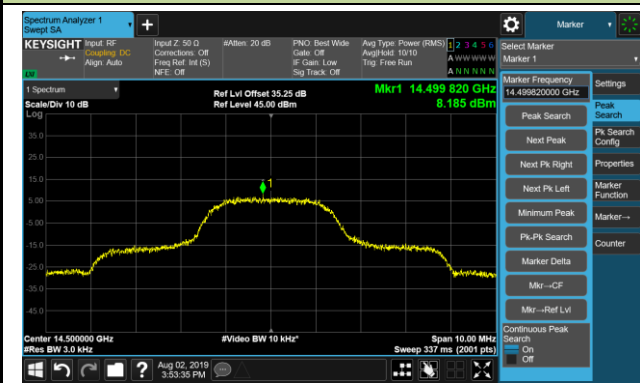
Low Channel (13750MHz)



Mid Channel (14250MHz)

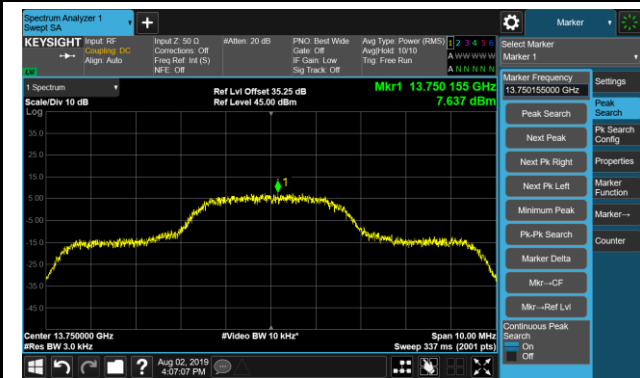


High Channel (14500MHz)

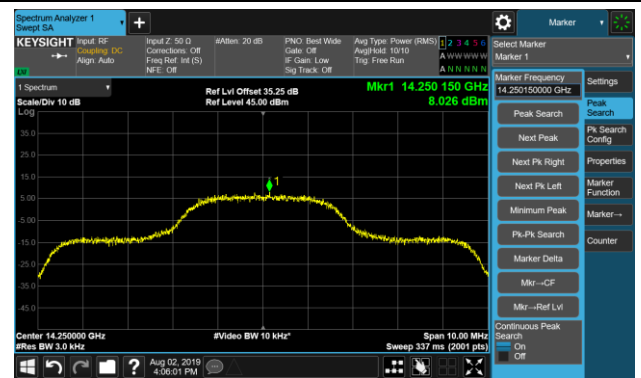


1/2 QPSK (3000kbps) - Average PSD

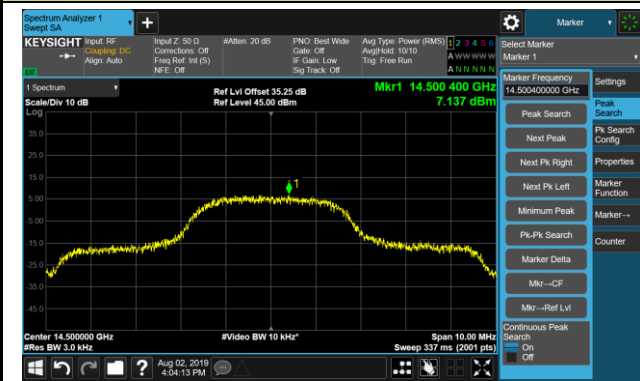
Low Channel (13750MHz)



Mid Channel (14250MHz)

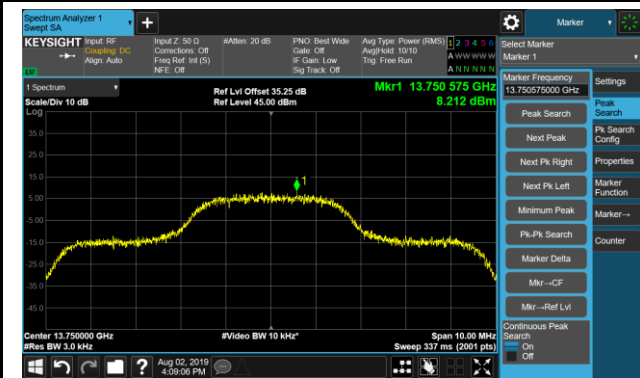


High Channel (14500MHz)

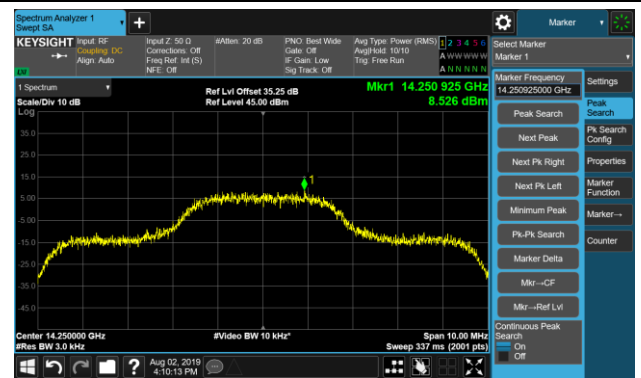


3/4 QPSK (4500kbps) - Average PSD

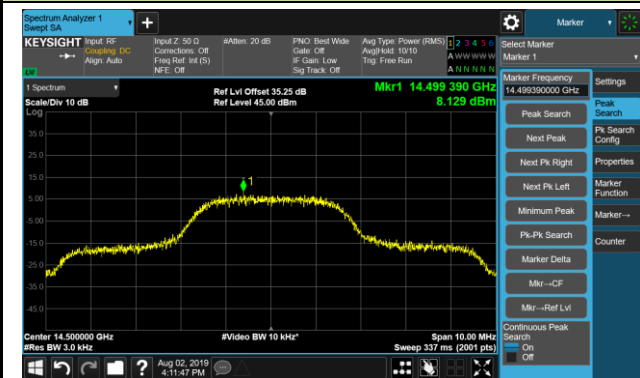
Low Channel (13750MHz)



Mid Channel (14250MHz)

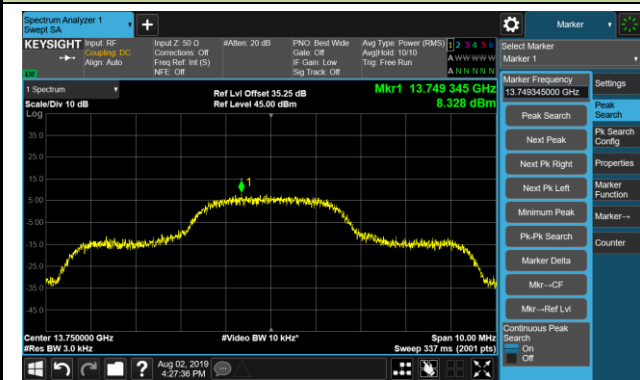


High Channel (14500MHz)

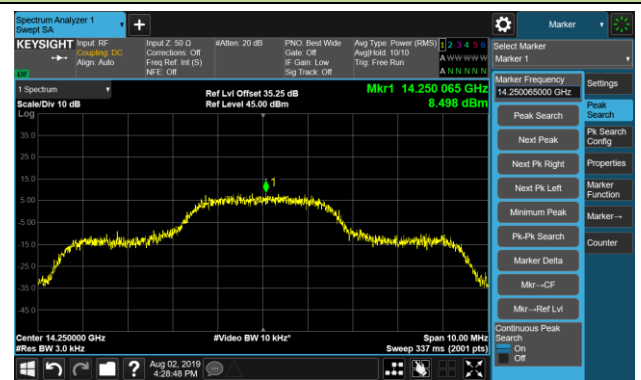


7/8 QPSK (5000kbps) - Average PSD

Low Channel (13750MHz)



Mid Channel (14250MHz)



High Channel (14500MHz)

