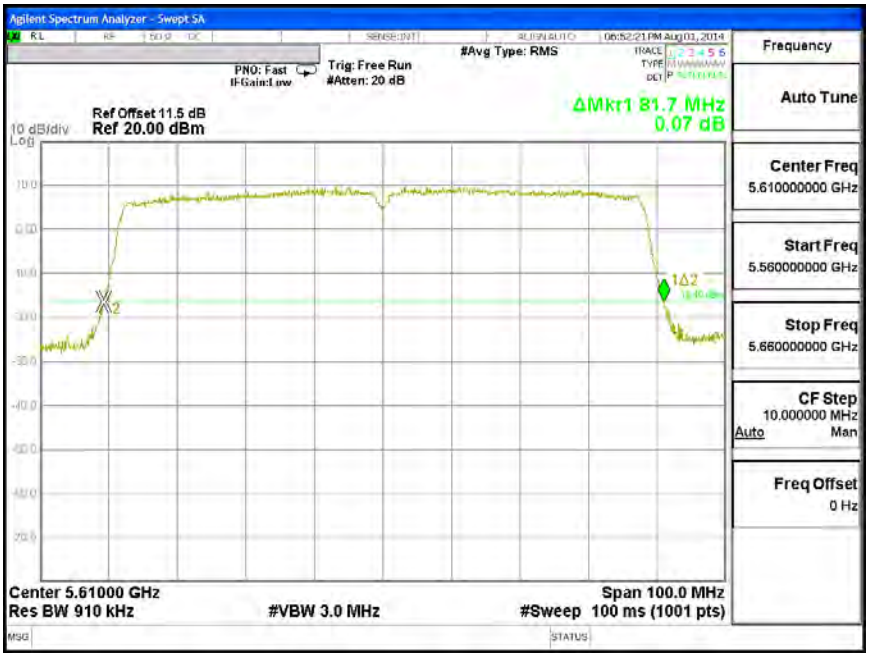
BANDWIDTH ANTENNA B MID CH



BANDWIDTH ANTENNA B HIGH CH

9.27.2. 99% BANDWIDTH

LIMITS

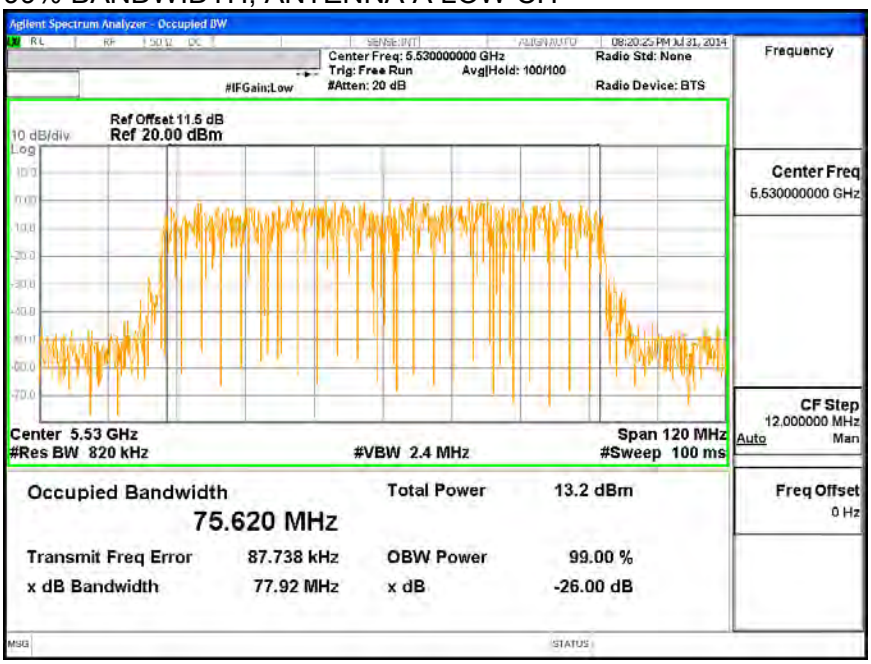
None; for reporting purposes only.

RESULTS

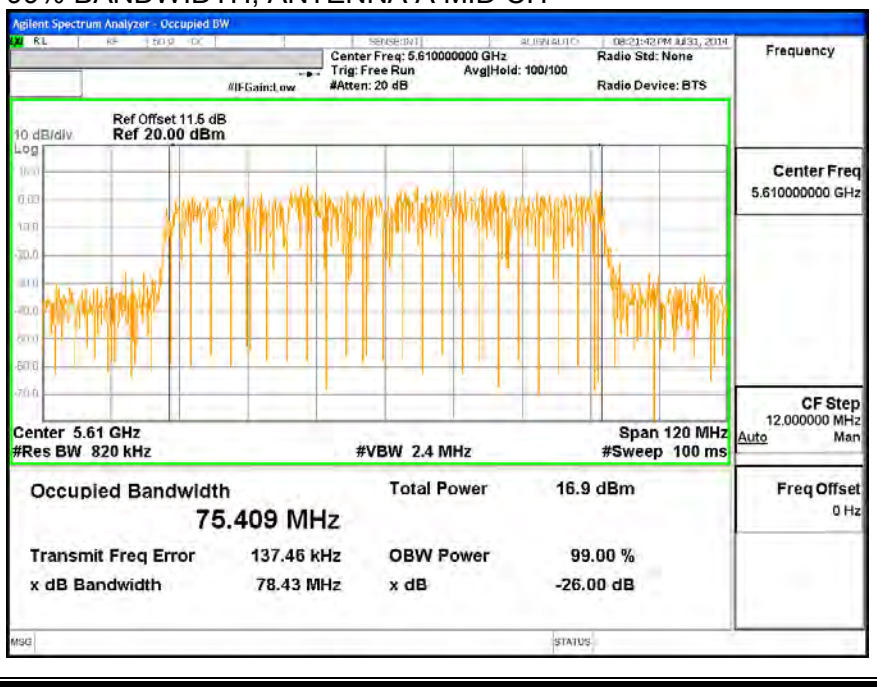
Channel	Frequency (MHz)	99% BW Antenna A (MHz)	99% BW Antenna B (MHz)
Low	5530	75.620	75.572
Mid	5610	75.409	75.406
High	5690	75.257	75.014

99% BANDWIDTH, ANTENNA A

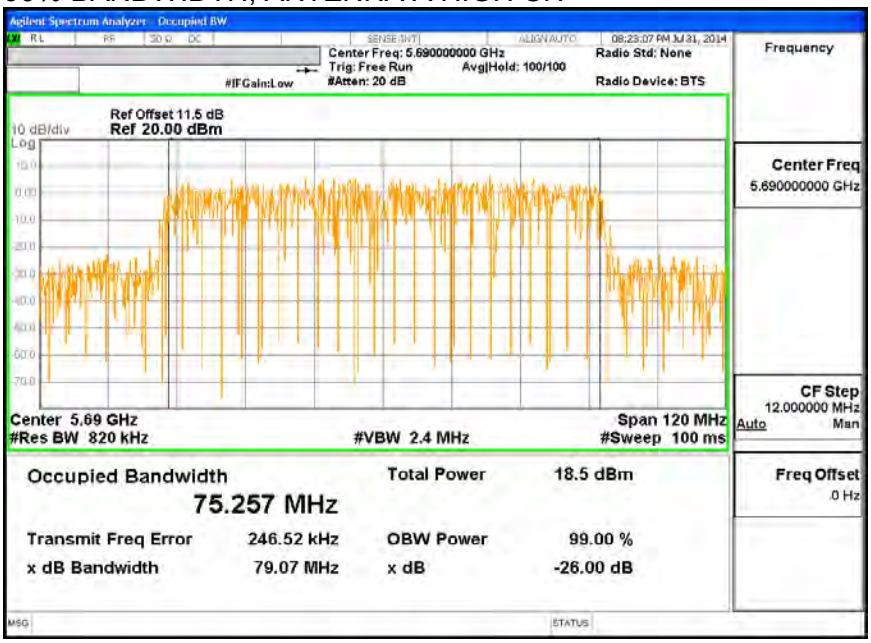
99% BANDWIDTH, ANTENNA A LOW CH



99% BANDWIDTH, ANTENNA A MID CH

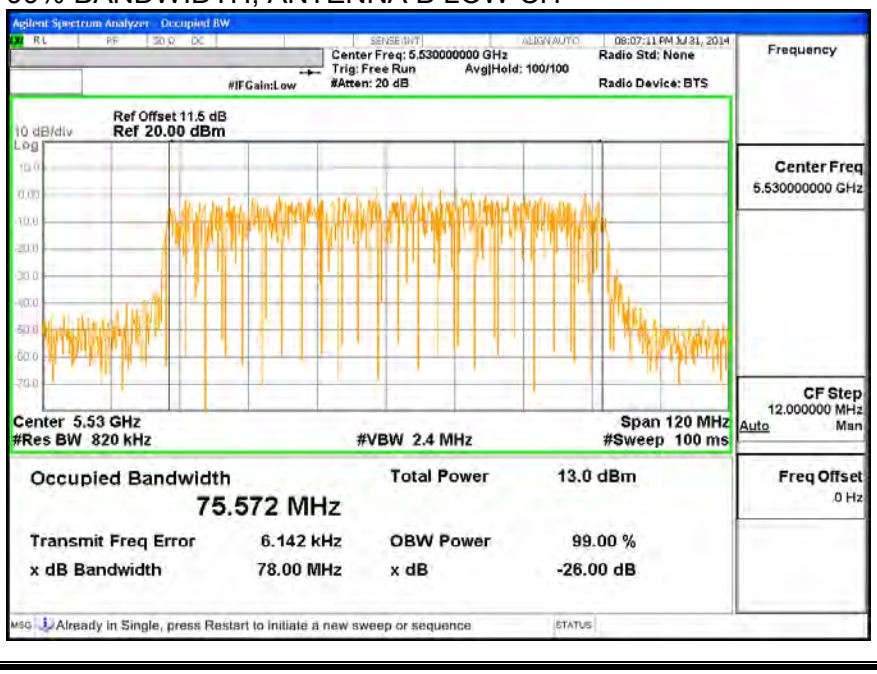


99% BANDWIDTH, ANTENNA A HIGH CH

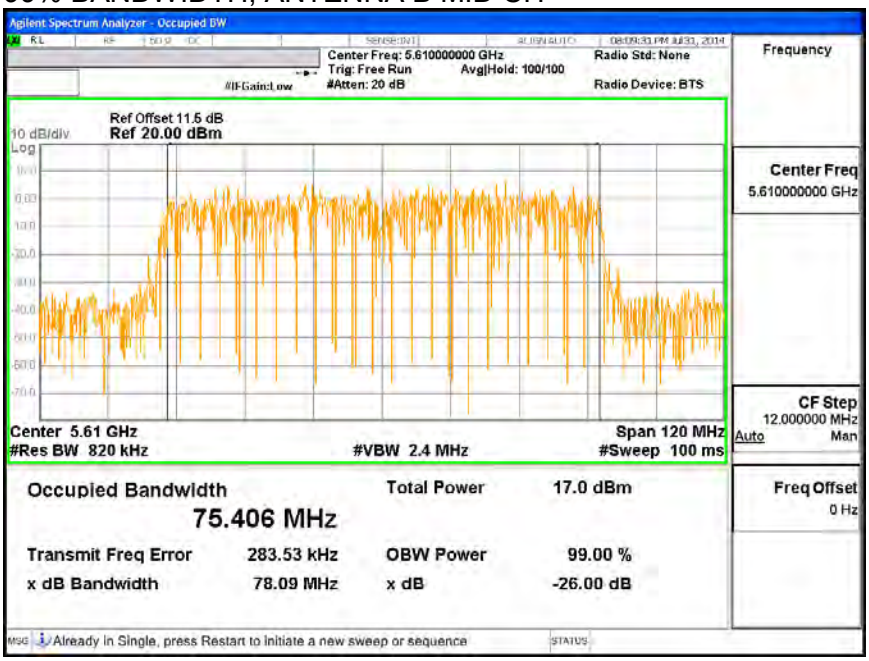


99% BANDWIDTH, ANTENNA B

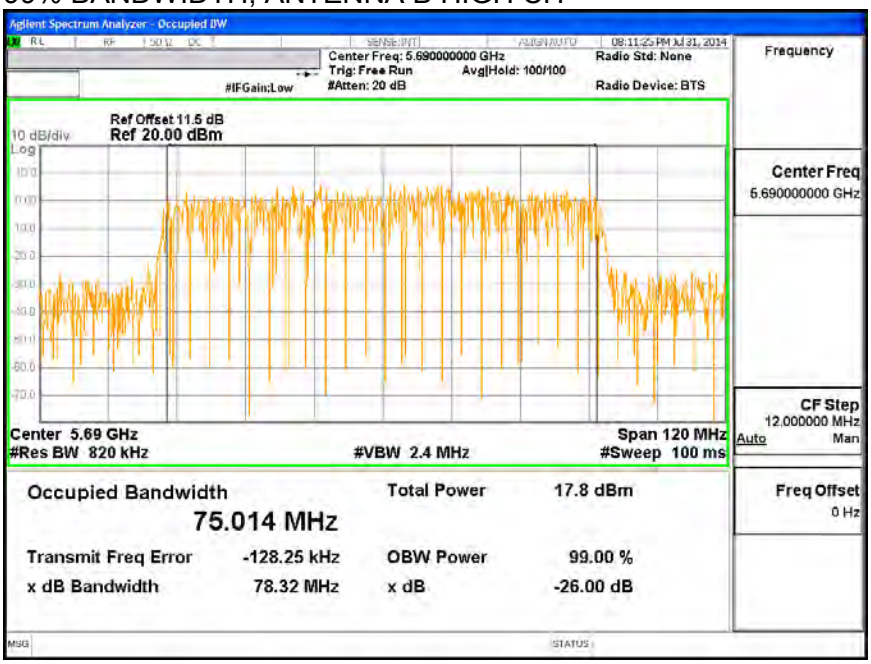
99% BANDWIDTH, ANTENNA B LOW CH



99% BANDWIDTH, ANTENNA B MID CH



99% BANDWIDTH, ANTENNA B HIGH CH



9.27.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter was setup for a gated power measurement.

The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Average Power Results

Channel	Frequency (MHz)	Antenna A Power (dBm)	Antenna B Power (dBm)	Total Power (dBm)
Low	5530	12.85	12.93	15.90
Mid	5610	16.78	16.80	19.80
High	5690	17.26	17.86	20.58

9.27.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter was setup for a gated power measurement.

The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Antenna A Gain (dBi)	Antenna B Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
4.293	4.247	4.27

RESULTS

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5530	81.70	4.27	4.27	24.00	11.00
Mid	5610	81.70	4.27	4.27	24.00	11.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PSD

Output Power Results

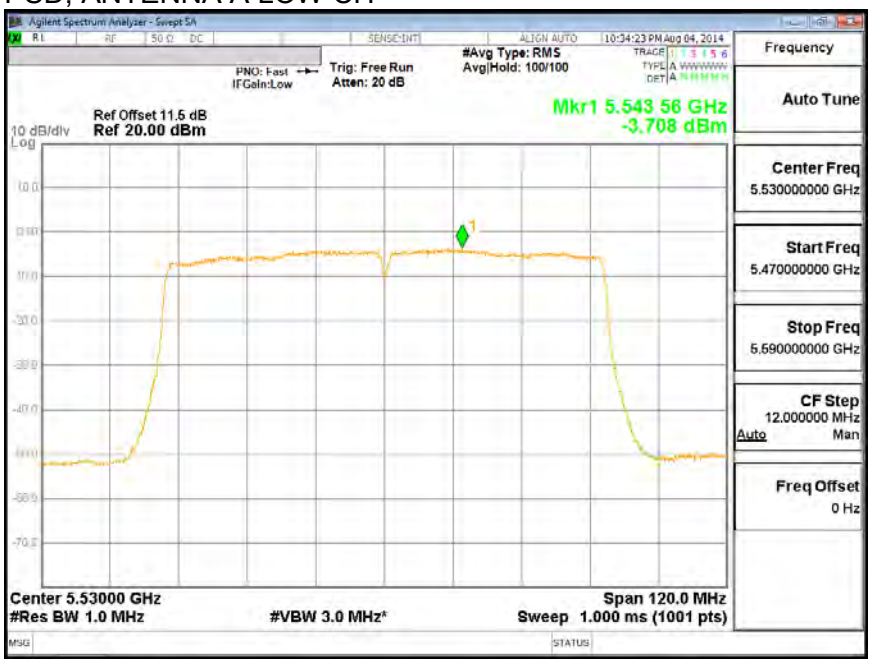
Channel	Frequency (MHz)	Antenna A Meas Power (dBm)	Antenna B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	12.85	12.93	16.12	24.00	-7.88
Mid	5610	16.78	16.80	20.02	24.00	-3.98

PSD Results

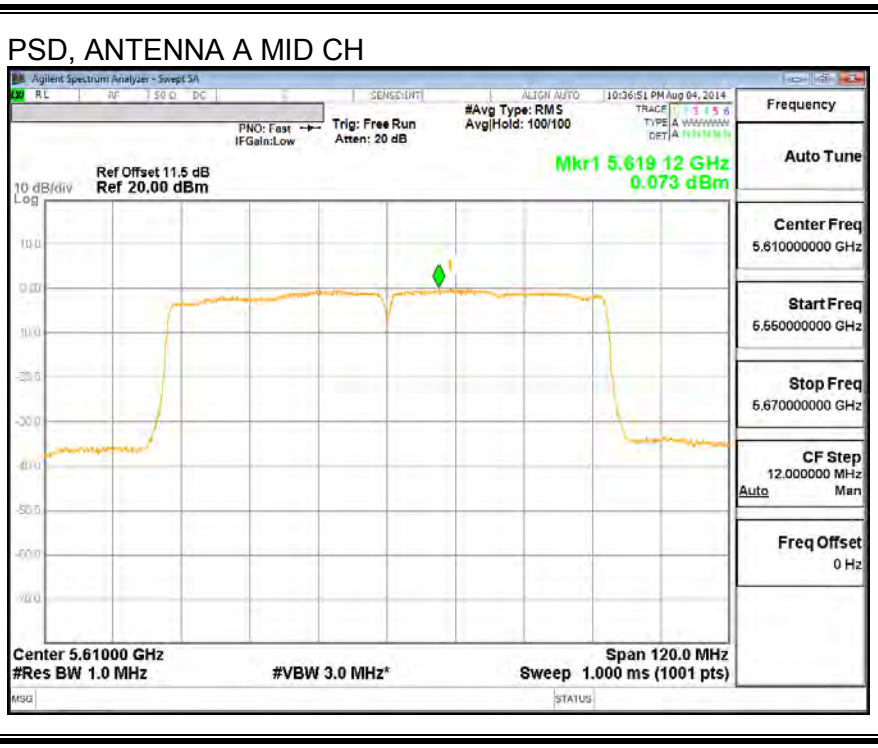
Channel	Frequency (MHz)	Antenna A Meas PSD (dBm)	Antenna B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-3.71	-3.60	-0.42	11.00	-11.42
Mid	5610	0.07	-0.16	3.19	11.00	-7.81

PSD, ANTENNA A

PSD, ANTENNA A LOW CH

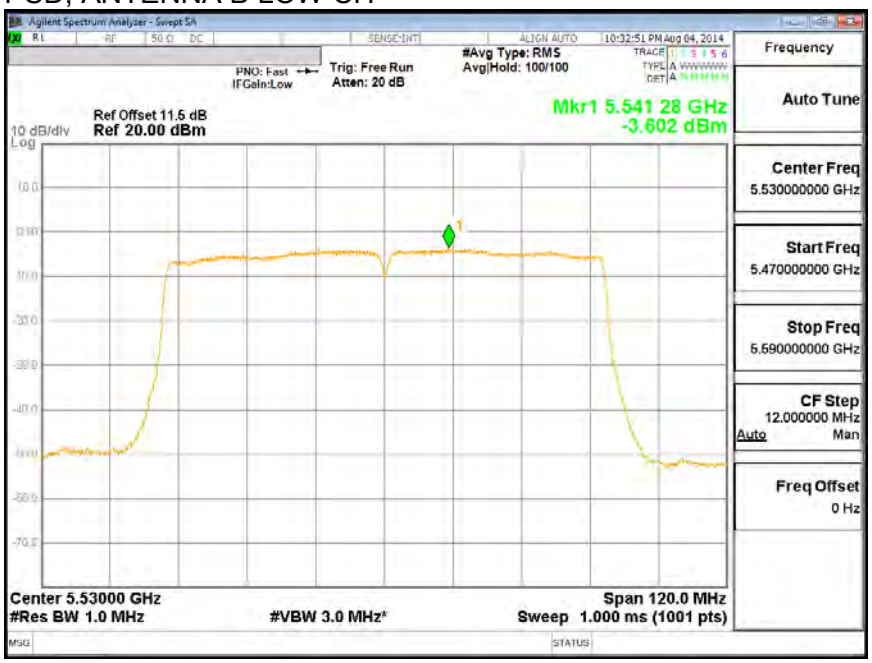


PSD, ANTENNA A MID CH

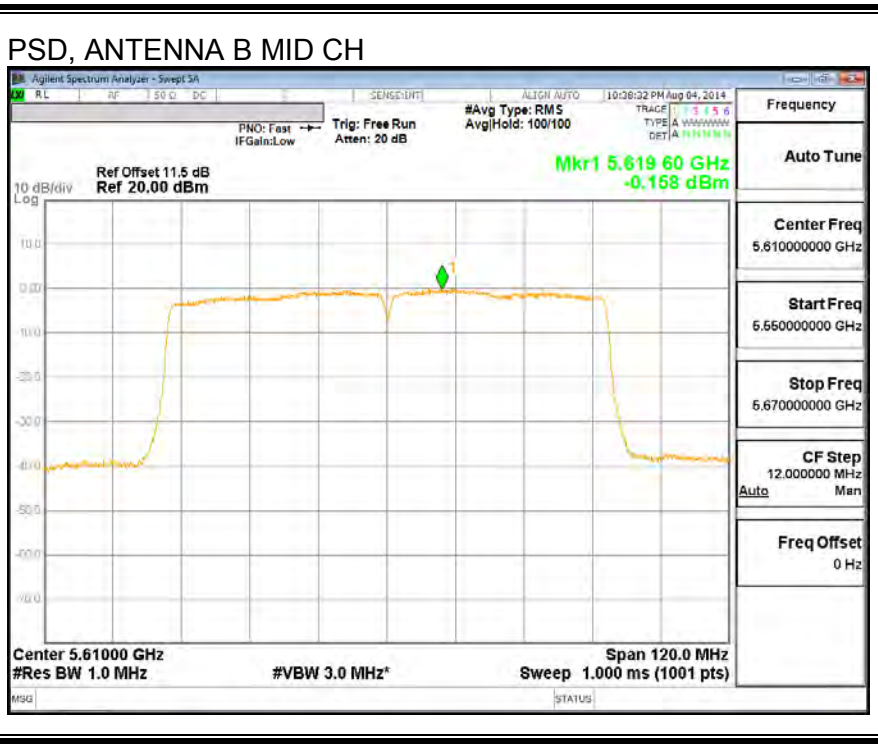


PSD, ANTENNA B

PSD, ANTENNA B LOW CH



PSD, ANTENNA B MID CH



STRADDLE CHANNEL 138 RESULTS

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	75.90	4.27	4.27	24.00	11.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PSD

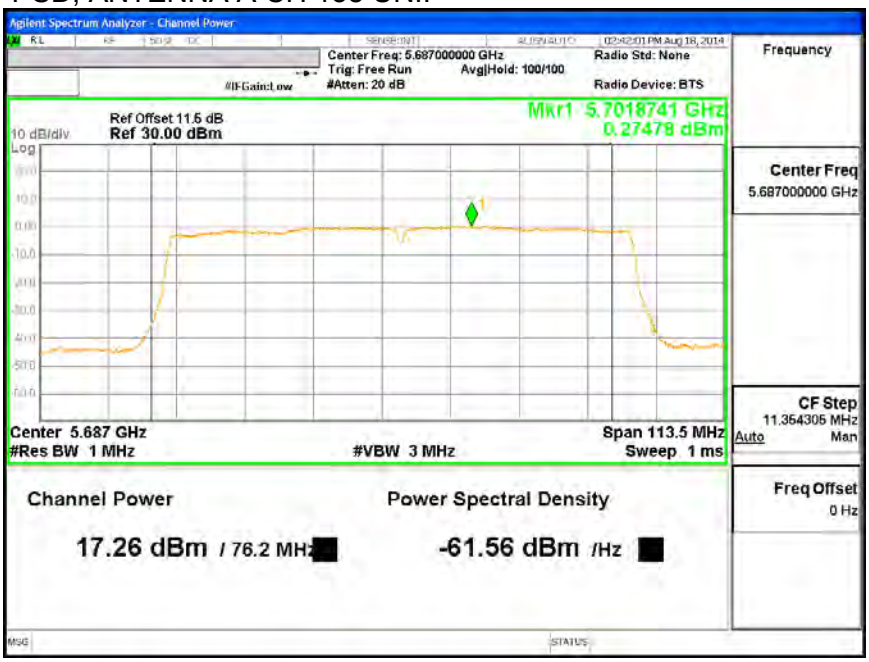
Output Power Results

Channel	Frequency (MHz)	Antenna A Meas Power (dBm)	Antenna B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	17.26	17.86	20.80	24.00	-3.20

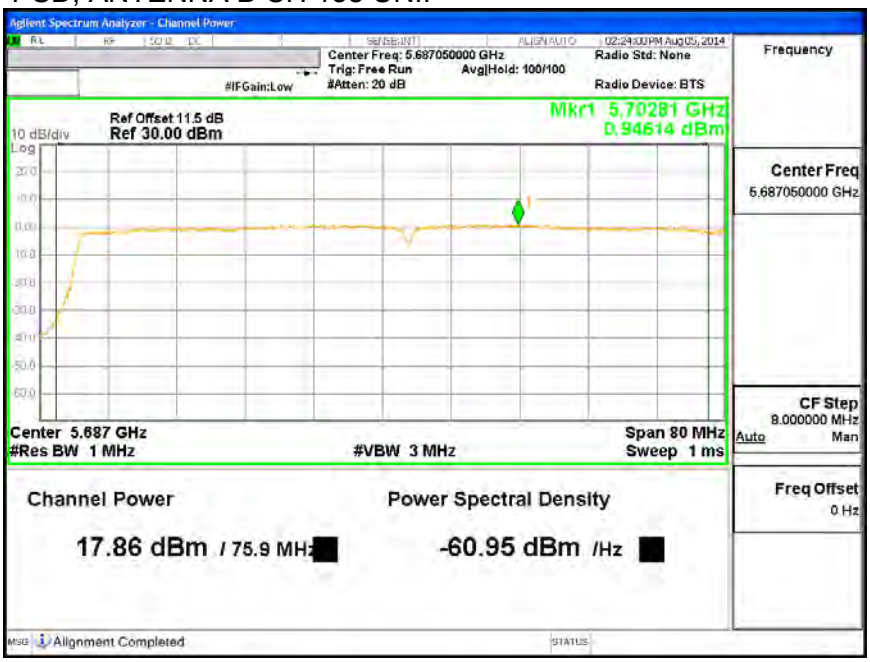
PSD Results

Channel	Frequency (MHz)	Antenna A Meas PSD (dBm)	Antenna B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	0.27	0.95	3.85	11.00	-7.15

PSD, ANTENNA A CH 138 UNII



PSD, ANTENNA B CH 138 UNII



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	4.27	30.00	30.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PSD

Output Power Results

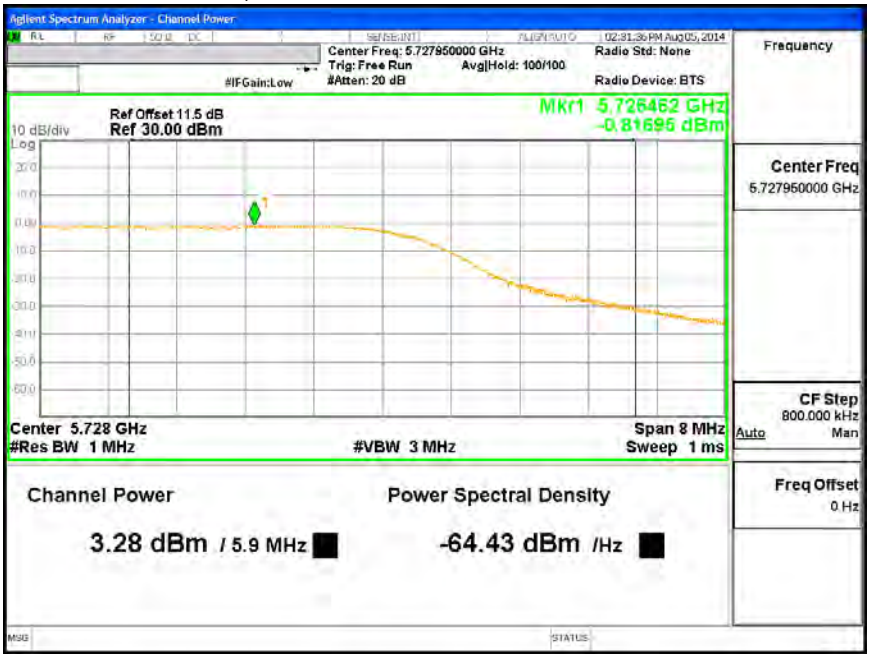
Channel	Frequency (MHz)	Antenna A Meas Power (dBm)	Antenna B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	3.23	3.28	6.49	30.00	-23.51

PSD Results

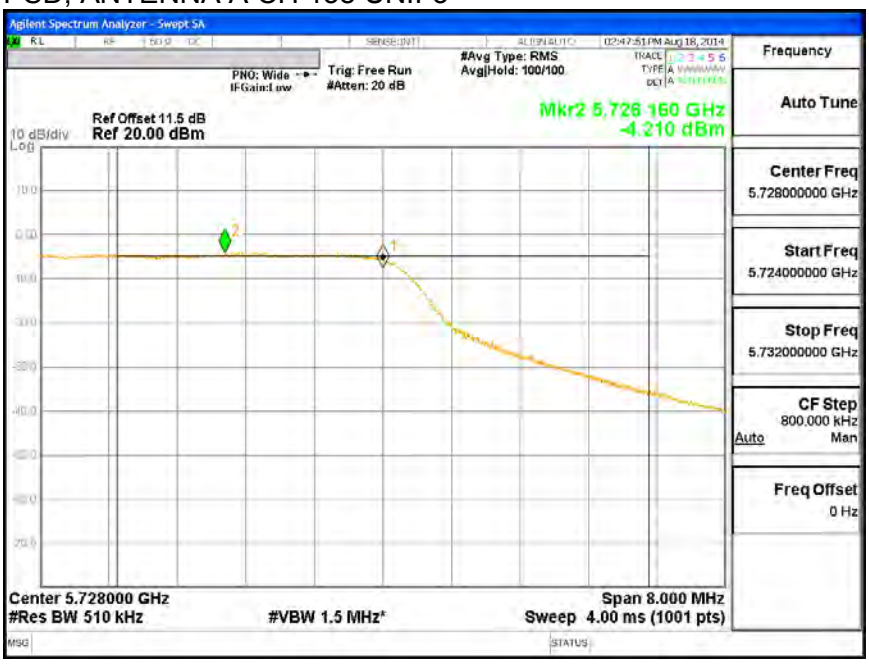
Channel	Frequency (MHz)	Antenna A Meas PSD (dBm)	Antenna B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-4.21	-3.60	-0.66	30.00	-30.66

OUTPUT POWER, ANTENNA A CH 138 UNII-3

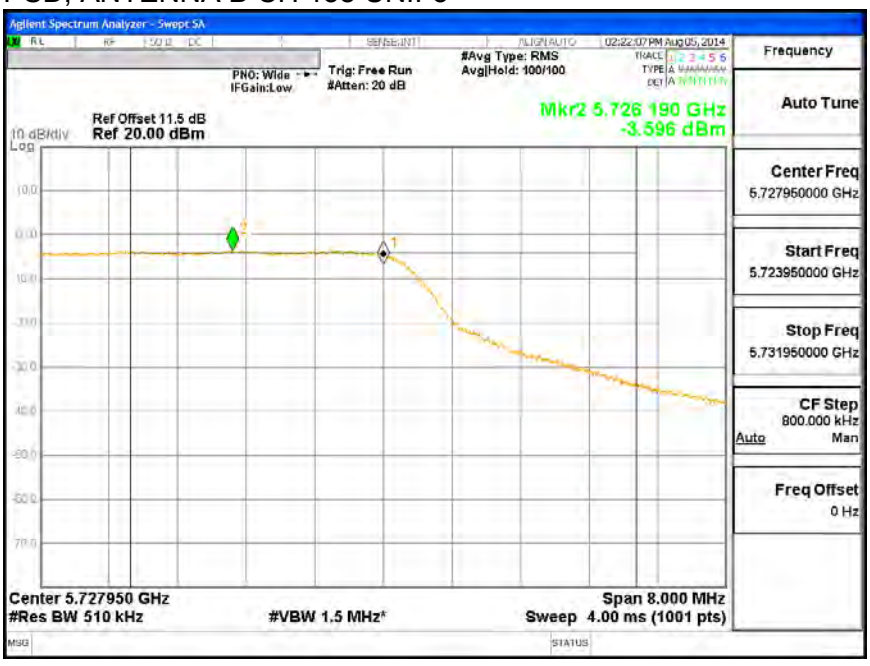
OUTPUT POWER, ANTENNA B CH 138 UNII-3



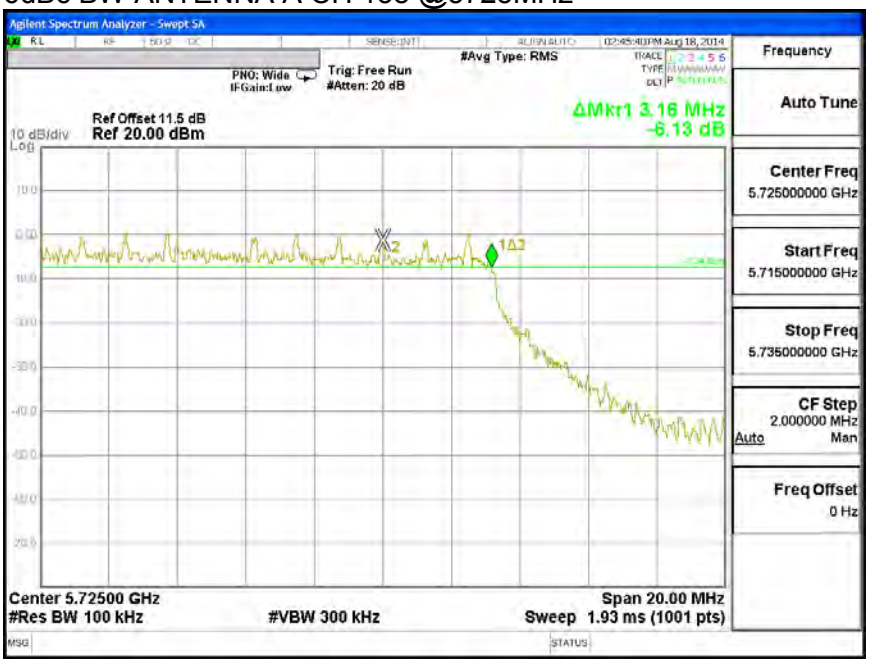
PSD, ANTENNA A CH 138 UNII-3



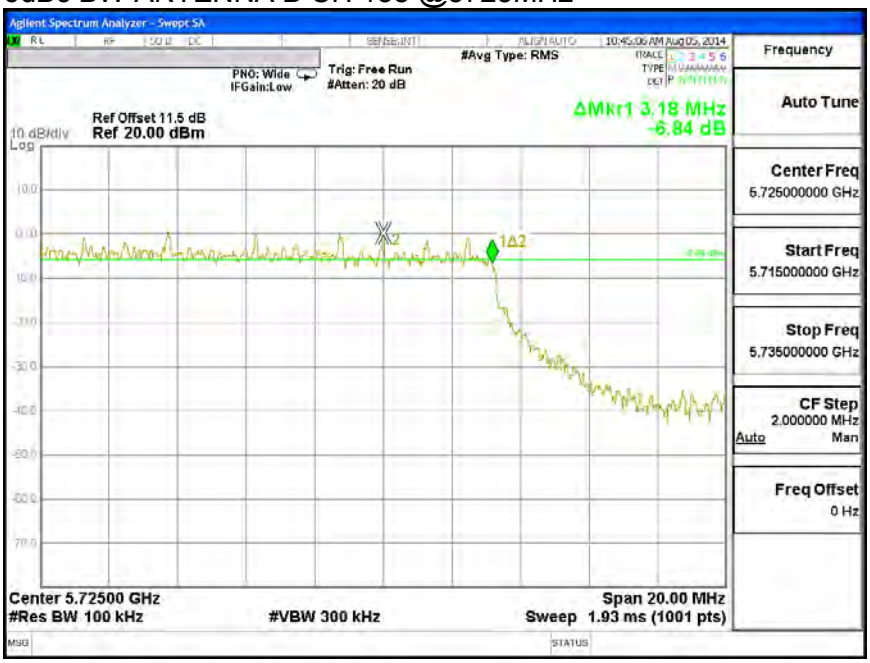
PSD, ANTENNA B CH 138 UNII-3



6dBc BW ANTENNA A CH 138 @5725MHz



6dBc BW ANTENNA B CH 138 @5725MHz



9.28. 802.11a MODE IN THE 5.8 GHz BAND

9.28.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

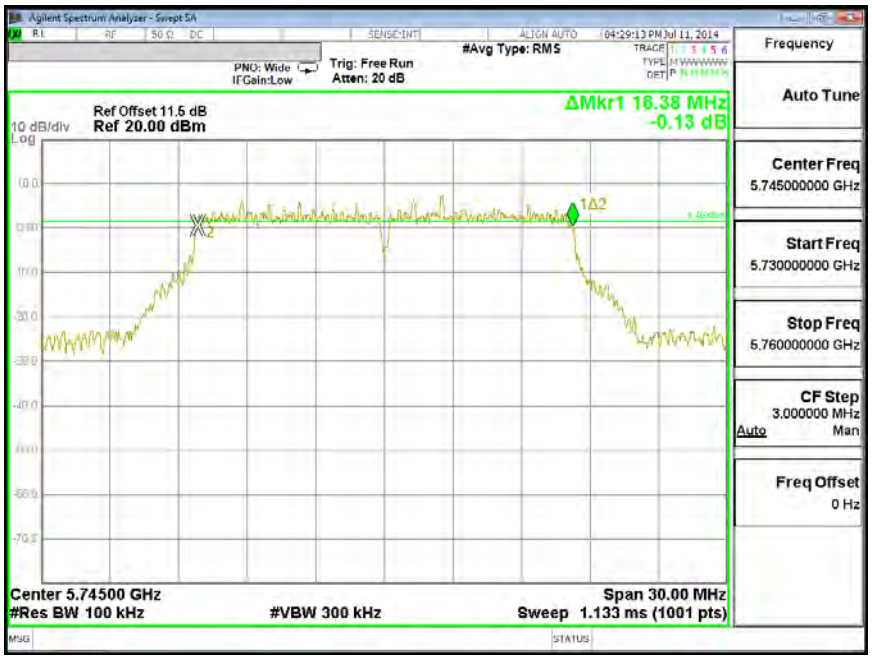
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

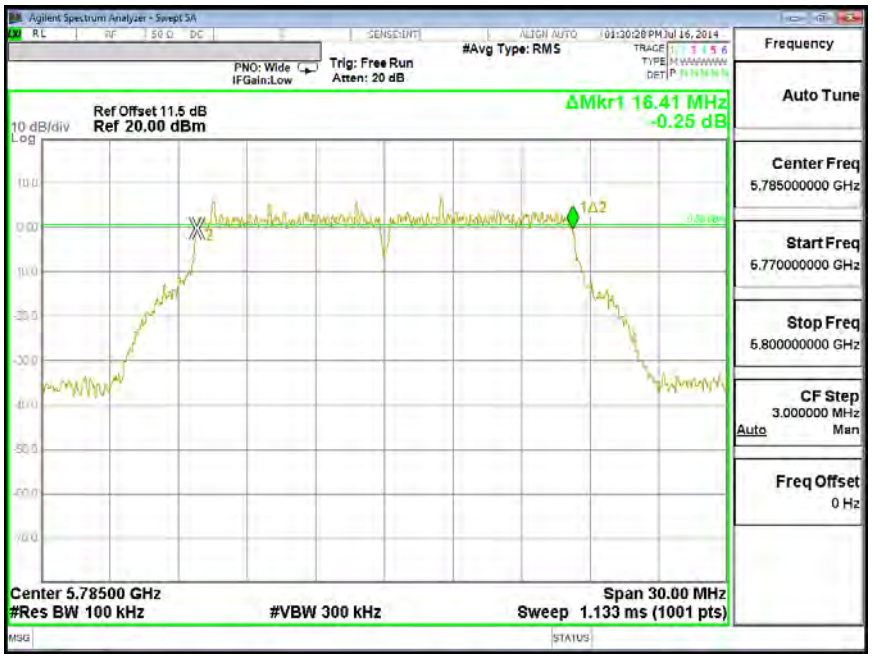
Channel	Frequency (MHz)	6 dB BW (MHz)	Minimum Limit (MHz)
Low	5745	16.380	0.5
Mid	5785	16.410	0.5
High	5825	16.380	0.5

6 dB BANDWIDTH

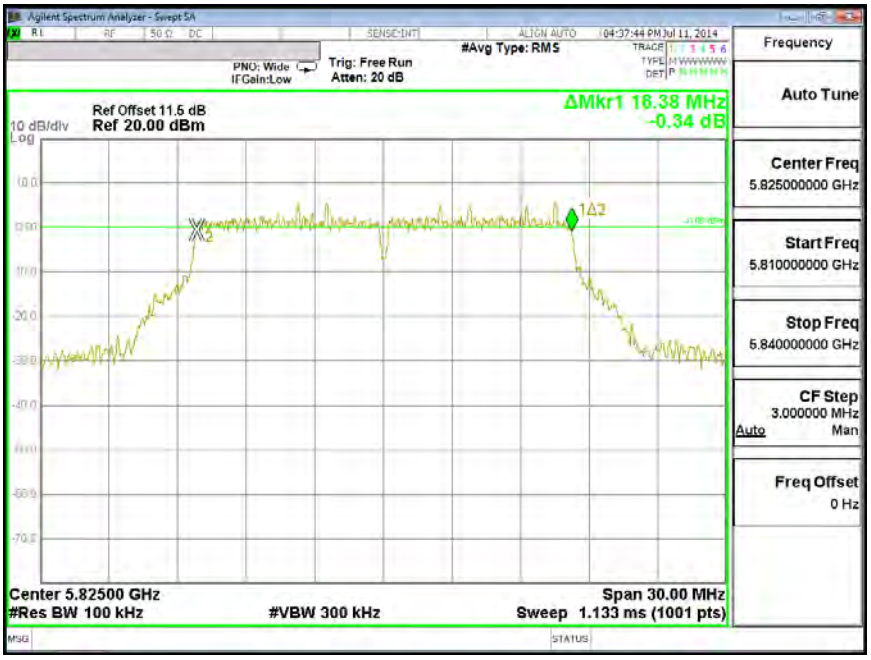
6 dB BANDWIDTH LOW CH



6 dB BANDWIDTH MID CH



6 dB BANDWIDTH HIGH CH



9.28.2. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

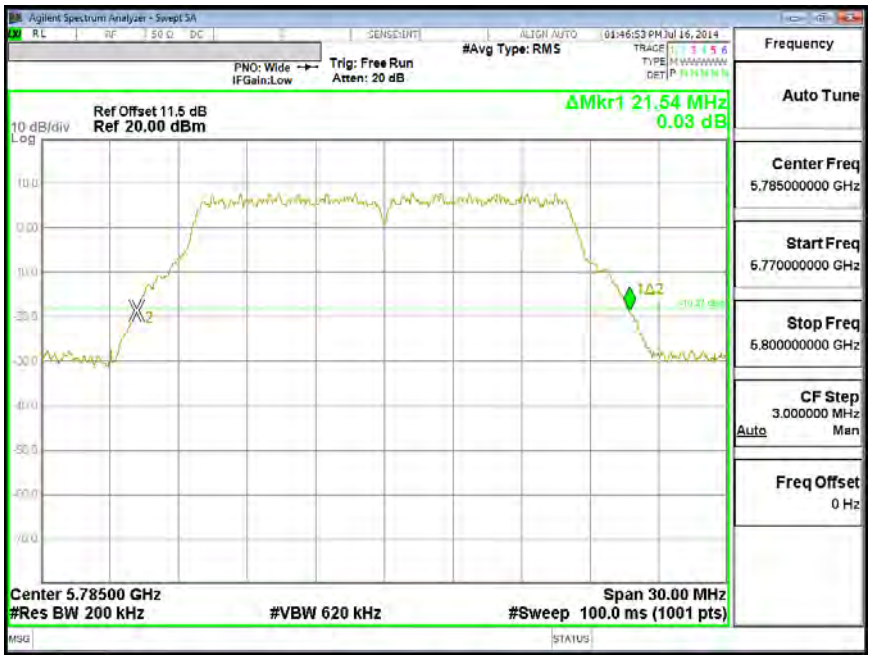
RESULTS

Channel	Frequency (MHz)	26 dB BW (MHz)
Low	5745	21.84
Mid	5785	21.54
High	5825	21.69

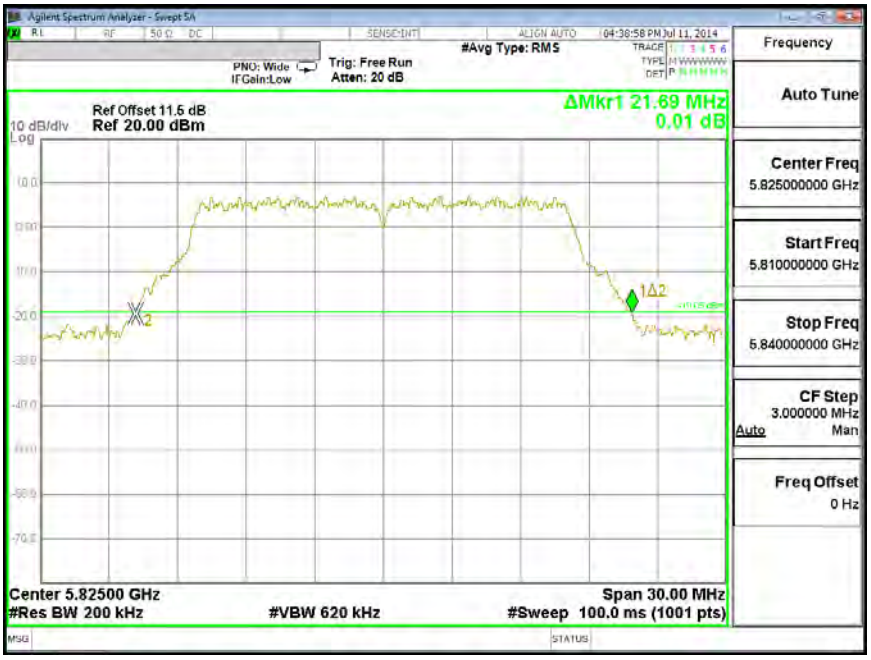
26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH MID CH



BANDWIDTH HIGH CH



9.28.3. 99% BANDWIDTH

LIMITS

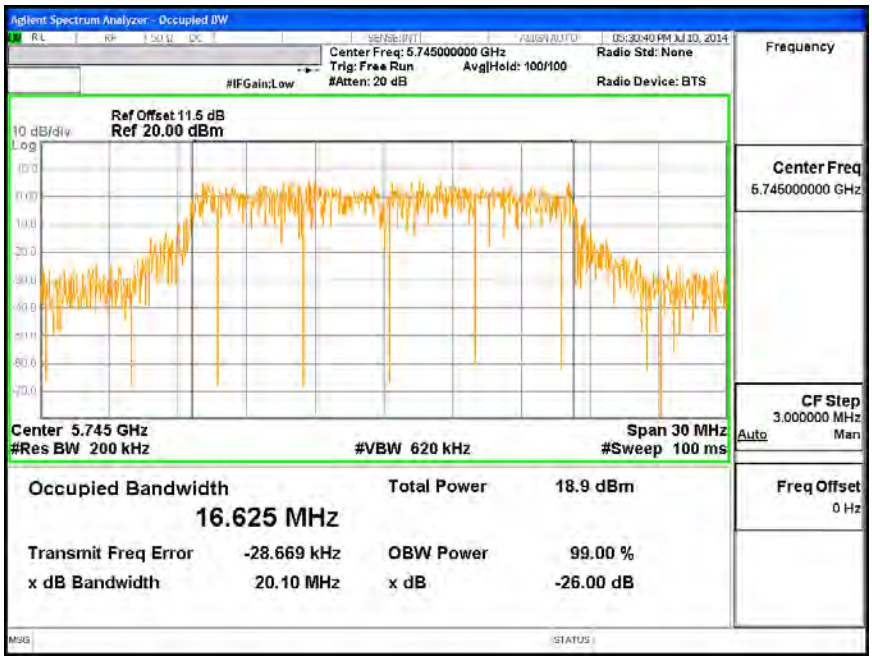
None; for reporting purposes only.

RESULTS

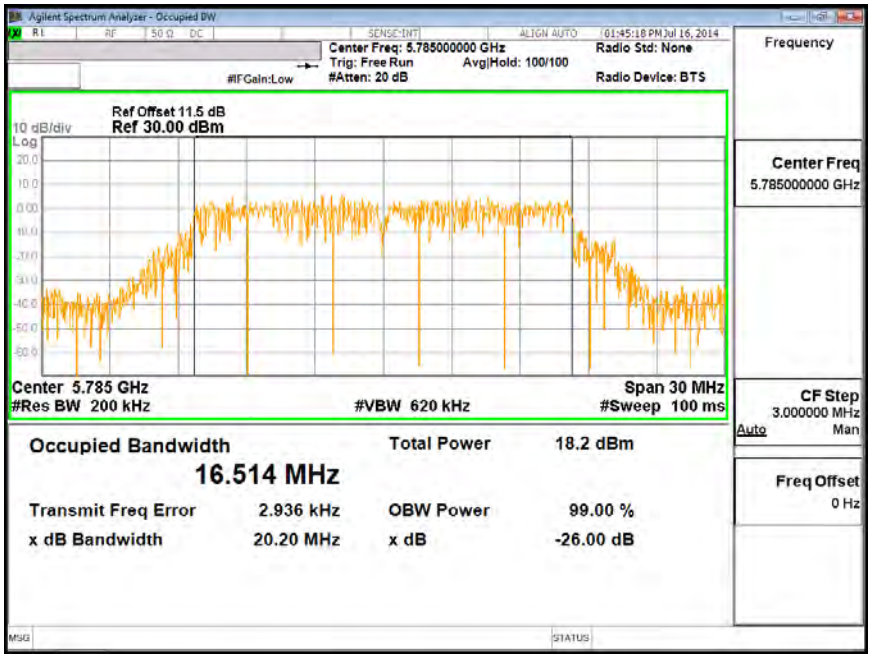
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	16.625
Mid	5785	16.514
High	5825	16.513

99% BANDWIDTH

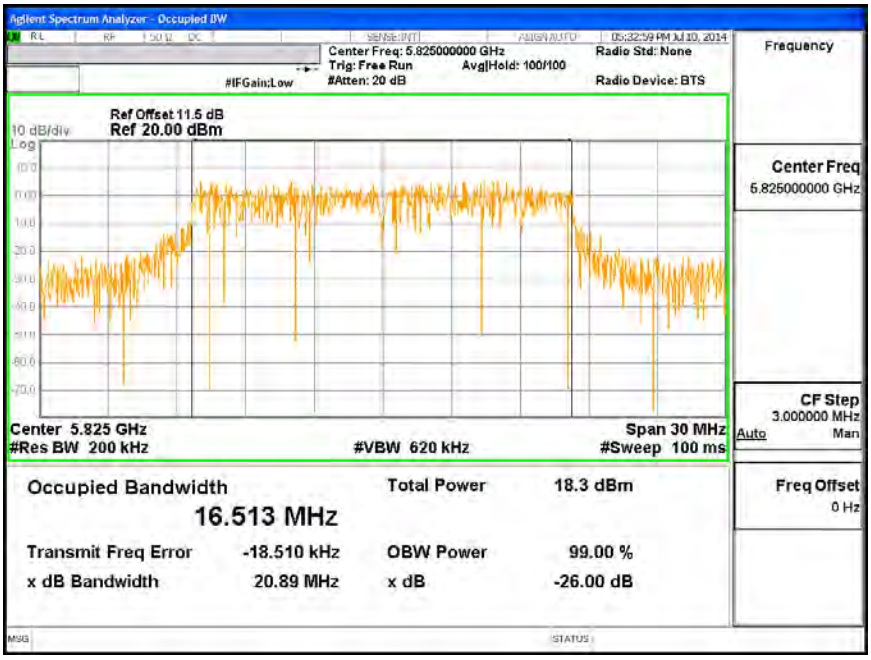
99% BANDWIDTH LOW CH



99% BANDWIDTH MID CH



99% BANDWIDTH HIGH CH



9.28.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter was setup for a gated power measurement.

The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz) (MHz)	Antenna A Power (dBm)	Antenna B Power (dBm)
Low	5745	14.82	14.88
Mid	5785	16.80	17.94
High	5825	15.87	15.93

9.28.5. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W or 30 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 30 dBm in any 500kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter was setup for a gated power measurement.

The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

ANTENNA A

Antenna Gain (dBi)
4.34

ANTENNA B

Antenna Gain (dBi)
4.28

ANTENNA A RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	4.34	30.00
Mid	5785	4.34	30.00
High	5825	4.34	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power

Output Power Results

Channel	Frequency (MHz)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	14.82	14.82	30.00	-15.18
Mid	5785	16.80	16.80	30.00	-13.20
High	5825	15.87	15.87	30.00	-14.13

ANTENNA B RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	4.28	30.00
Mid	5785	4.28	30.00
High	5825	4.28	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power

Output Power Results

Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	14.88	14.88	30.00	-15.12
Mid	5785	17.94	17.94	30.00	-12.06
High	5825	15.93	15.93	30.00	-14.07

9.28.1. MAXIMUM POWER SPECTRAL DENSITY (PSD)

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

ANTENNA A

Antenna Gain (dBi)
4.34

ANTENNA B

Antenna Gain (dBi)
4.28

RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	4.34	30.00
Mid	5785	4.34	30.00
High	5825	4.34	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

Channel	Frequency (MHz)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	2.52	2.52	30.00	-27.48
Mid	5785	4.57	4.57	30.00	-25.43
High	5825	3.46	3.46	30.00	-26.54

PSD, ANTENNA A

PSD, ANTENNA A LOW CH

PSD, ANTENNA A MID CH

PSD, ANTENNA A HIGH CH

RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	4.28	30.00
Mid	5785	4.28	30.00
High	5825	4.28	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	2.25	2.25	30.00	-27.76
Mid	5785	5.53	5.53	30.00	-24.47
High	5825	3.63	3.63	30.00	-26.38

PSD, ANTENNA B

PSD, ANTENNA B LOW CH

PSD, ANTENNA B MID CH

PSD, ANTENNA B HIGH CH

9.29. 802.11n HT20 2TX CDD MODE IN THE 5.8 GHz BAND

9.29.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

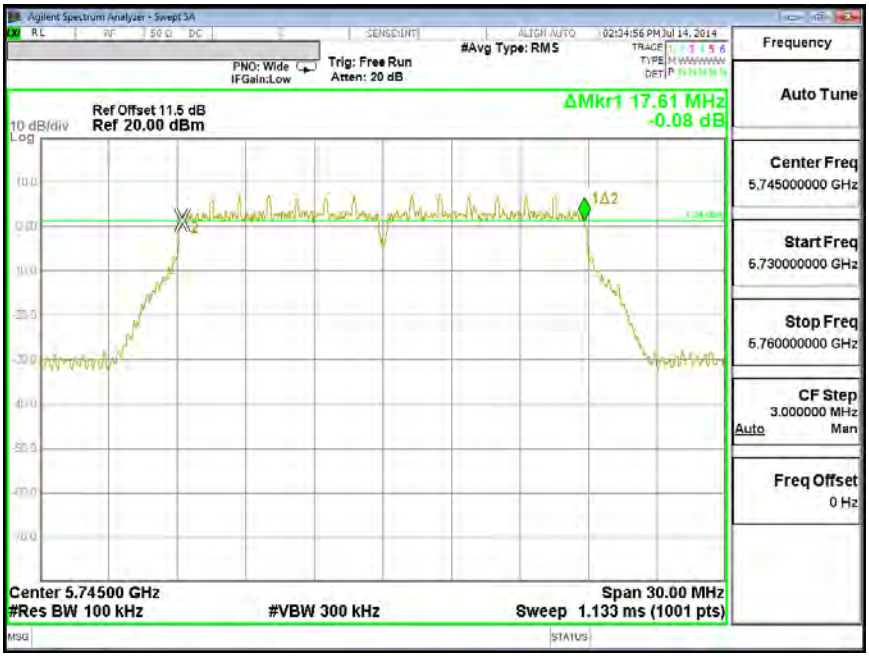
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

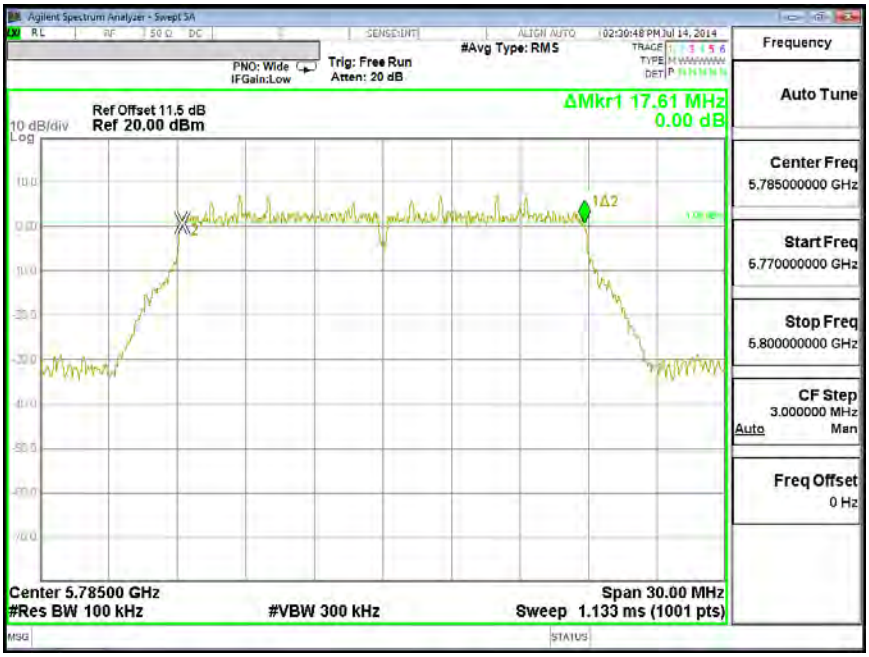
Channel	Frequency (MHz)	6 dB BW Antenna A (MHz)	6 dB BW Antenna B (MHz)	Minimum Limit (MHz)
Low	5745	17.610	17.610	0.5
Mid	5785	17.610	17.640	0.5
High	5825	17.850	17.670	0.5

6 dB BANDWIDTH, ANTENNA A

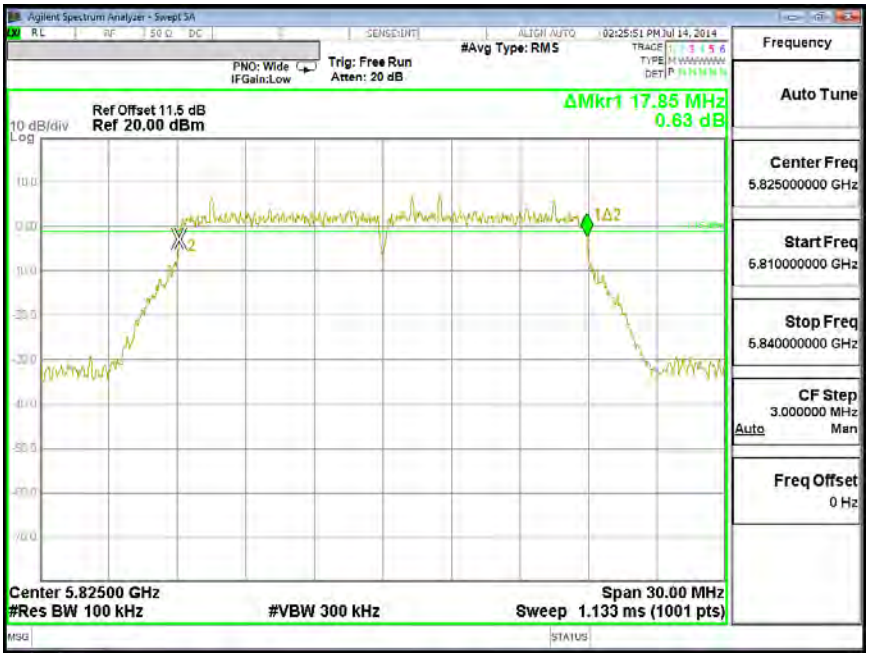
6 dB BANDWIDTH ANTENNA A LOW CH



6 dB BANDWIDTH ANTENNA A MID CH

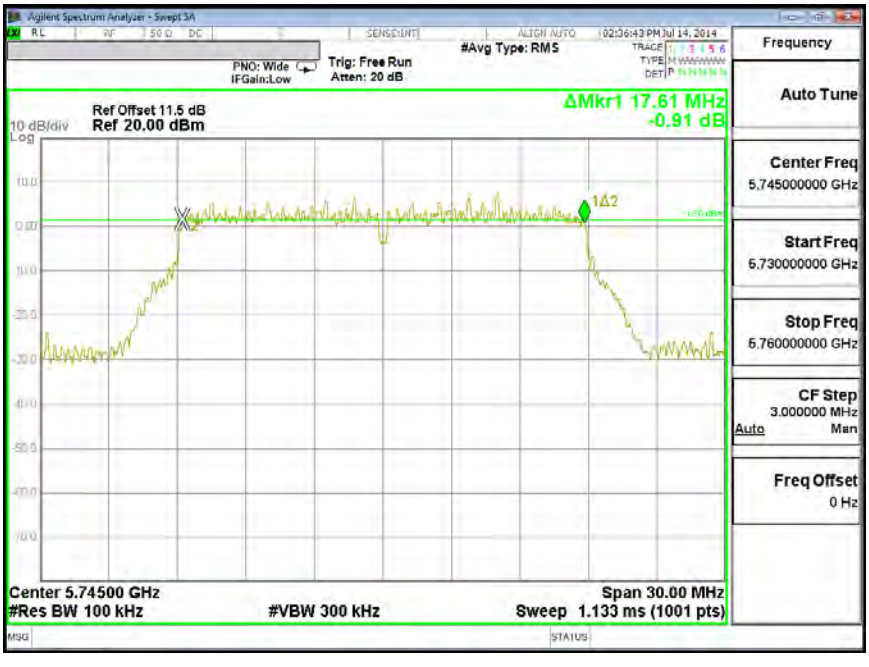


6 dB BANDWIDTH ANTENNA A HIGH CH

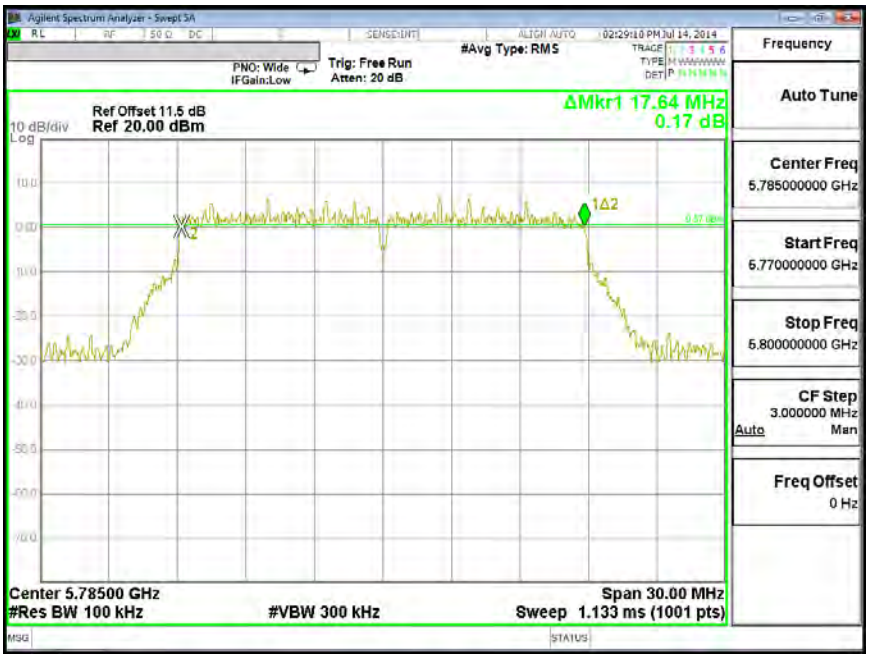


6 dB BANDWIDTH, ANTENNA B

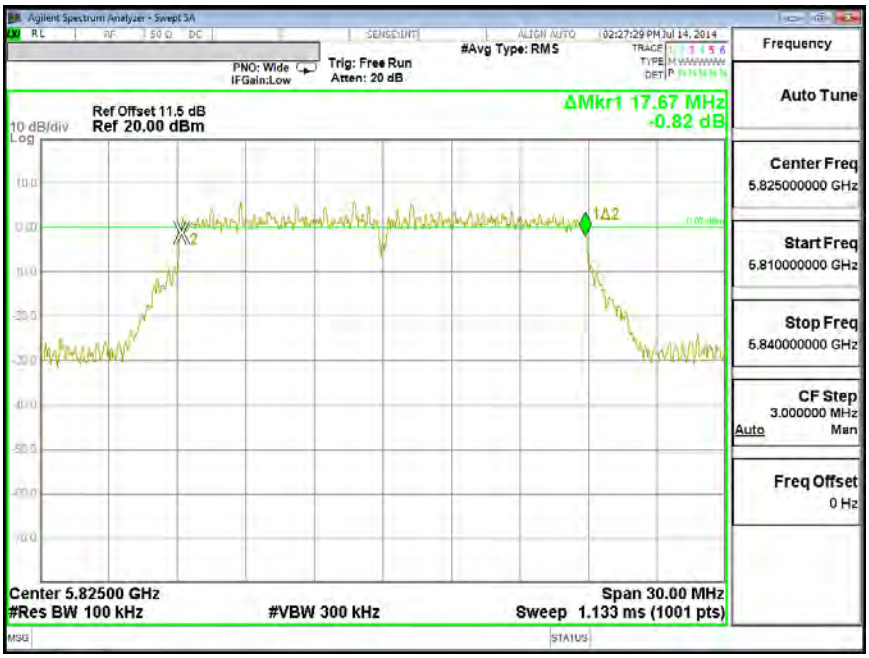
6 dB BANDWIDTH ANTENNA B LOW CH



6 dB BANDWIDTH ANTENNA B MID CH



6 dB BANDWIDTH ANTENNA B HIGH CH



9.29.2. 26 dB BANDWIDTH

LIMITS

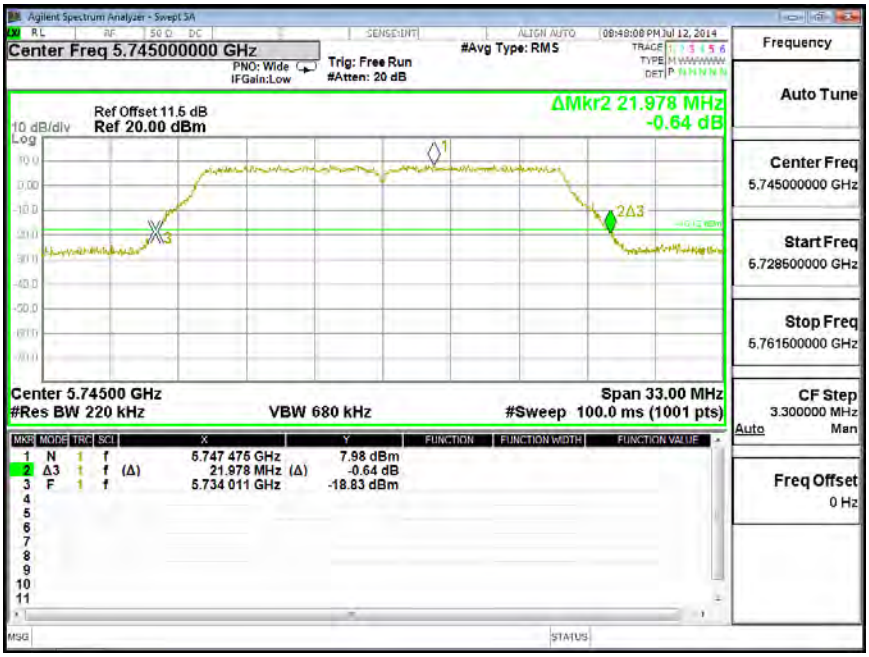
None; for reporting purposes only.

RESULTS

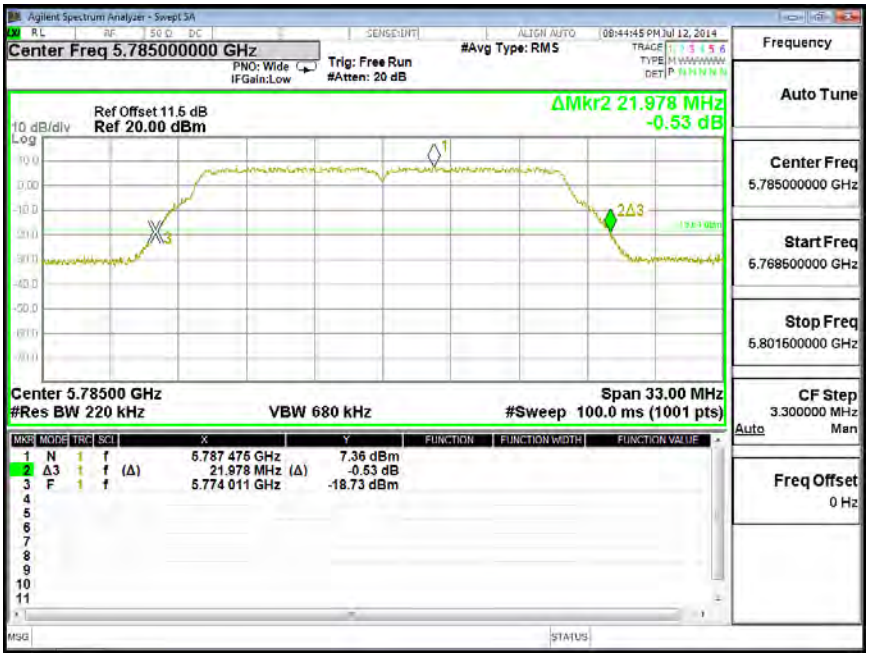
Channel	Frequency (MHz)	26 dB BW Antenna A (MHz)	26 dB BW Antenna B (MHz)
Low	5745	21.98	21.91
Mid	5785	21.98	21.85
High	5825	21.98	21.91

26 dB BANDWIDTH, ANTENNA A

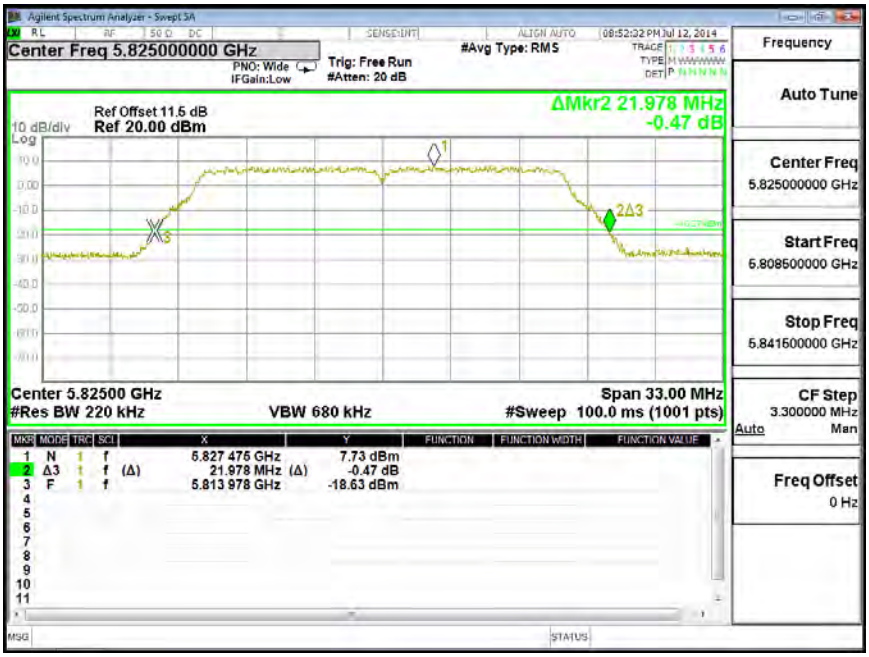
BANDWIDTH ANTENNA A LOW CH



BANDWIDTH ANTENNA A MID CH



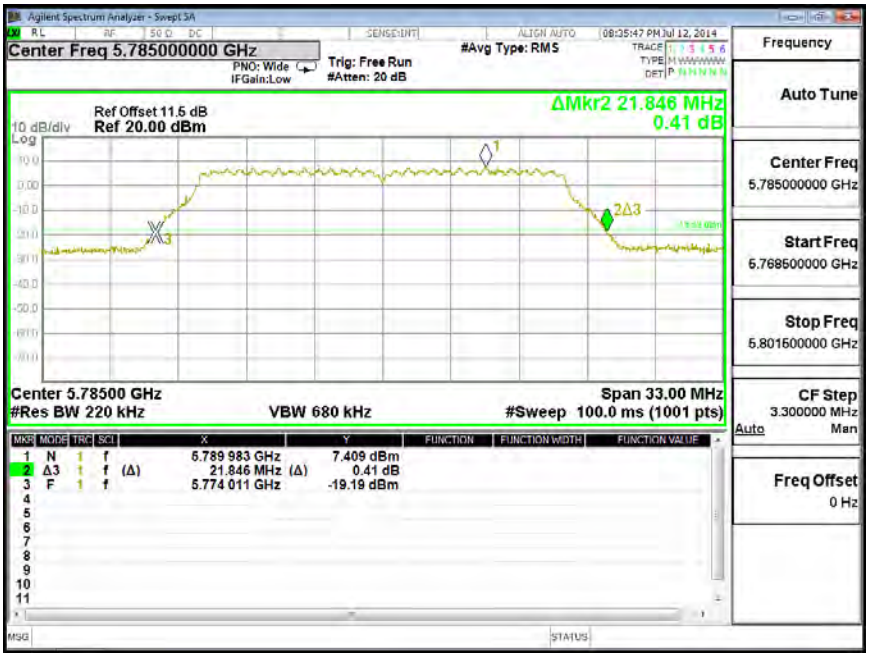
BANDWIDTH ANTENNA A HIGH CH



26 dB BANDWIDTH, ANTENNA B

BANDWIDTH ANTENNA B LOW CH

BANDWIDTH ANTENNA B MID CH



BANDWIDTH ANTENNA B HIGH CH

9.29.3. 99% BANDWIDTH

LIMITS

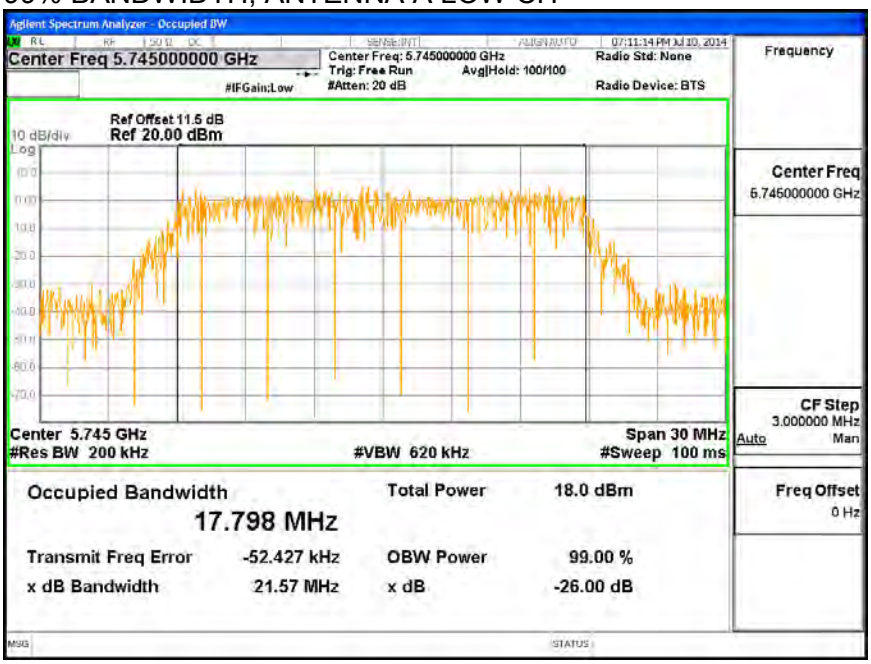
None; for reporting purposes only.

RESULTS

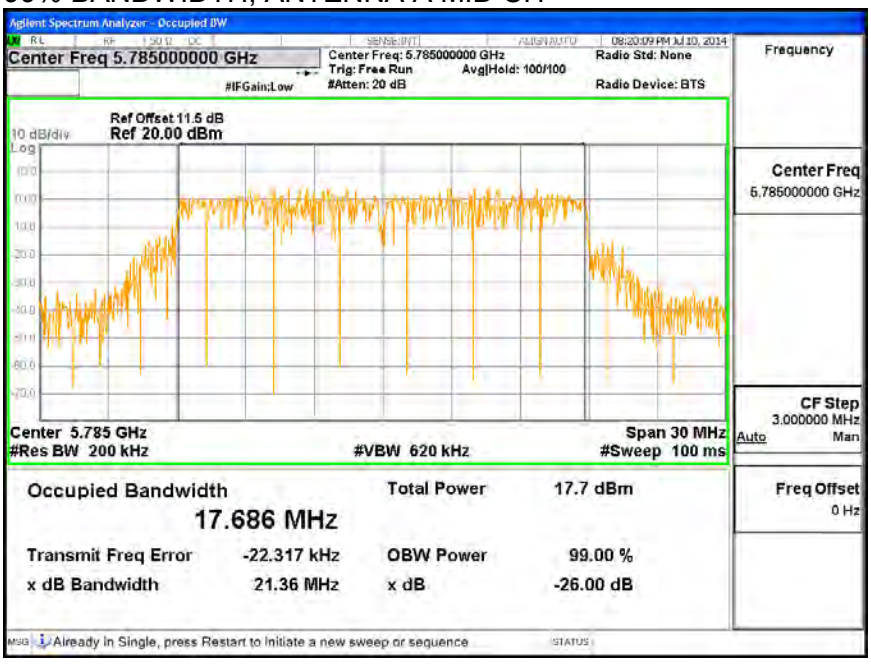
Channel	Frequency (MHz)	99% BW Antenna A (MHz)	99% BW Antenna B (MHz)
Low	5745	17.798	17.777
Mid	5785	17.686	17.734
High	5825	17.683	17.870

99% BANDWIDTH, ANTENNA A

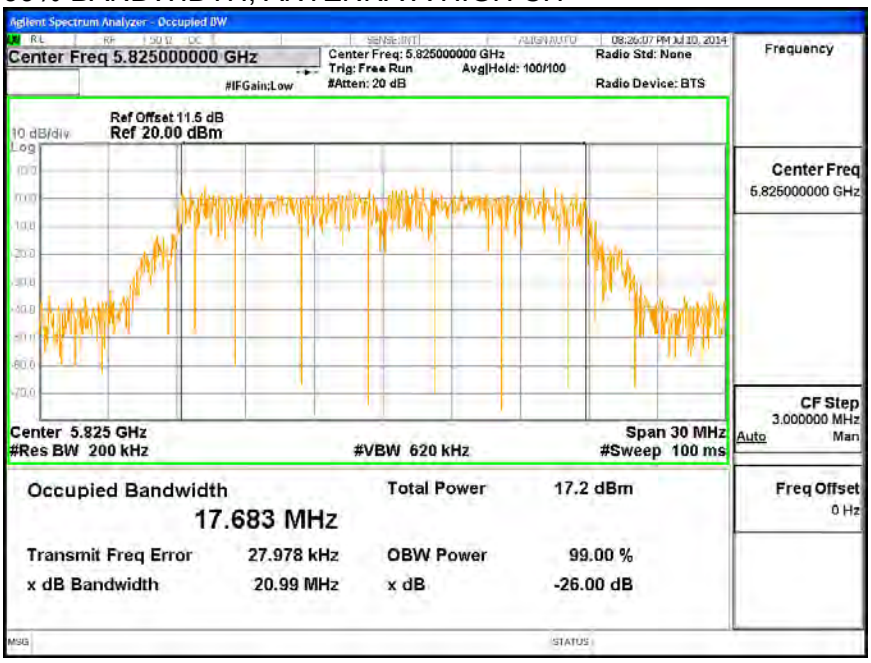
99% BANDWIDTH, ANTENNA A LOW CH



99% BANDWIDTH, ANTENNA A MID CH

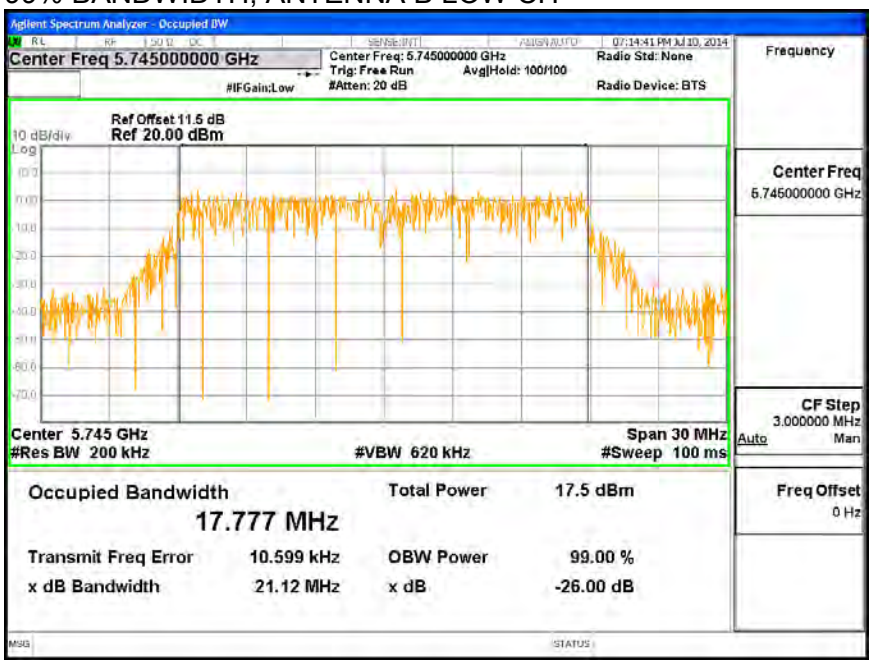


99% BANDWIDTH, ANTENNA A HIGH CH

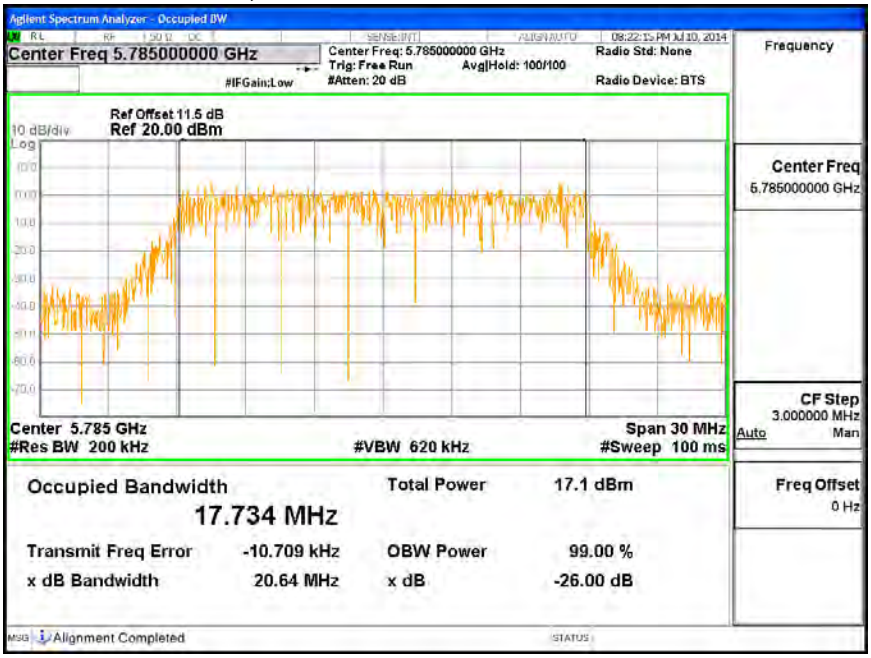


99% BANDWIDTH, ANTENNA B

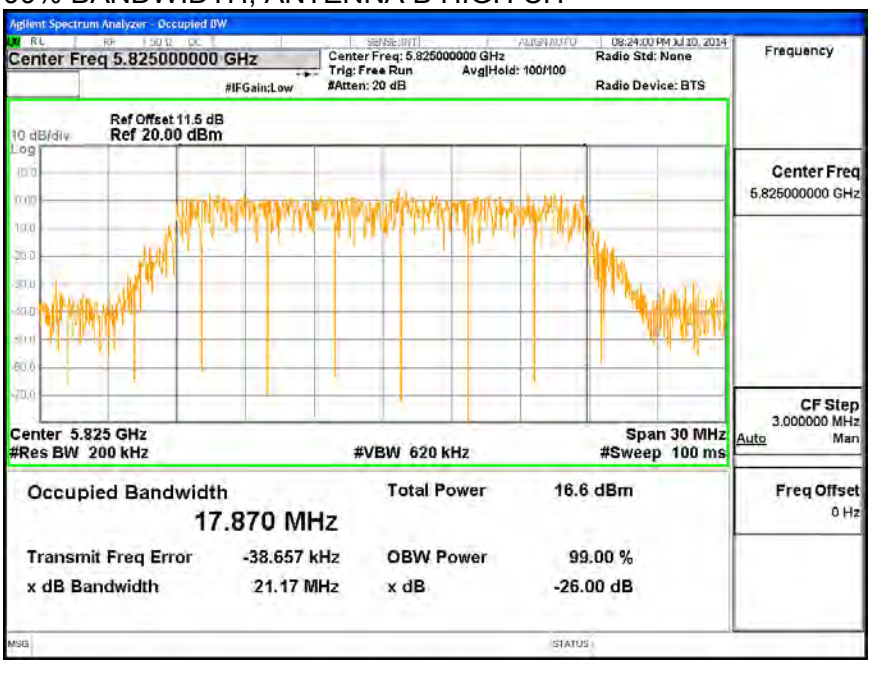
99% BANDWIDTH, ANTENNA B LOW CH



99% BANDWIDTH, ANTENNA B MID CH



99% BANDWIDTH, ANTENNA B HIGH CH



9.29.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter was setup for a gated power measurement.

The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Average Power Results

Channel	Frequency (MHz)	Antenna A Power (dBm)	Antenna B Power (dBm)	Total Power (dBm)
Low	5745	13.95	13.86	16.92
Mid	5785	16.85	17.99	20.47
High	5825	14.96	14.95	17.97

9.29.5. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter was setup for a gated power measurement.

The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Antenna A Gain (dBi)	Antenna B Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
4.34	4.28	4.31

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Antenna A Gain (dBi)	Antenna B Gain (dBi)	Correlated Chains Directional Gain (dBi)
4.34	4.28	7.32

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	4.31	30.00
Mid	5785	4.31	30.00
High	5825	4.31	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power

Output Power Results

Channel	Frequency (MHz)	Antenna A Meas Power (dBm)	Antenna B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	13.95	13.86	16.92	30.00	-13.08
Mid	5785	16.85	17.99	20.47	30.00	-9.53
High	5825	14.96	14.95	17.97	30.00	-12.03

9.29.6. MAXIMUM POWER SPECTRAL DENSITY (PSD)

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Antenna A Gain (dBi)	Antenna B Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
4.34	4.28	4.31

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Antenna A Gain (dBi)	Antenna B Gain (dBi)	Correlated Chains Directional Gain (dBi)
4.34	4.28	7.32

RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	7.32	28.68
Mid	5785	7.32	28.68
High	5825	7.32	28.68

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

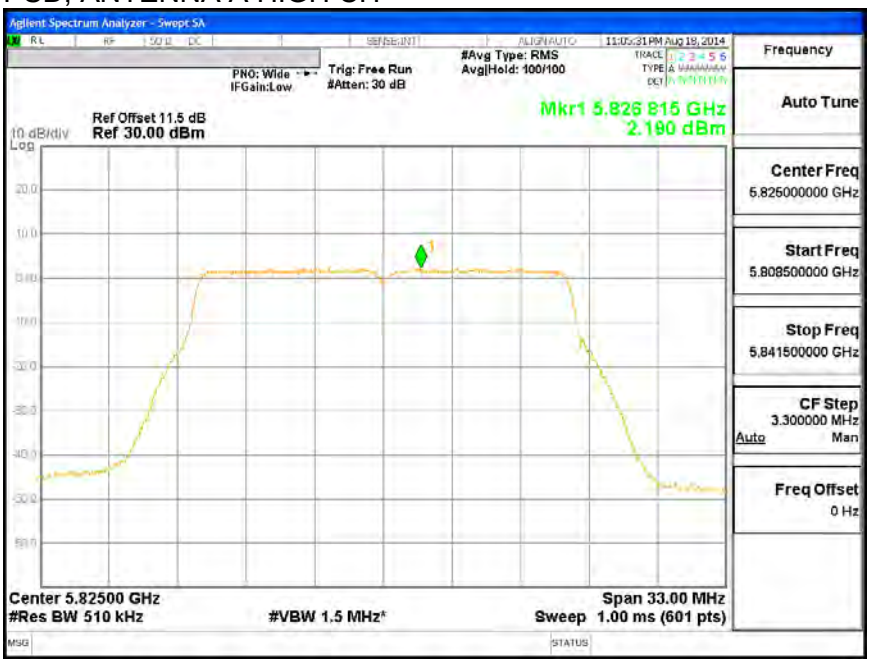
Channel	Frequency (MHz)	Antenna A Meas PSD (dBm)	Antenna B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	0.98	1.01	4.00	28.68	-24.68
Mid	5785	4.41	5.47	7.98	28.68	-20.70
High	5825	2.19	1.91	5.06	28.68	-23.62

PSD, ANTENNA A

PSD, ANTENNA A LOW CH

PSD, ANTENNA A MID CH

PSD, ANTENNA A HIGH CH



PSD, ANTENNA B

PSD, ANTENNA B LOW CH

PSD, ANTENNA B MID CH

PSD, ANTENNA B HIGH CH

9.30. 802.11n HT20 2TX STBC MODE IN THE 5.8 GHz BAND

Refer to Section 9.29, 802.11n HT20 2TX CDD MODE IN THE 5.8 GHz BAND.

9.31. 802.11n HT40 MODE IN THE 5.8 GHz BAND

9.31.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

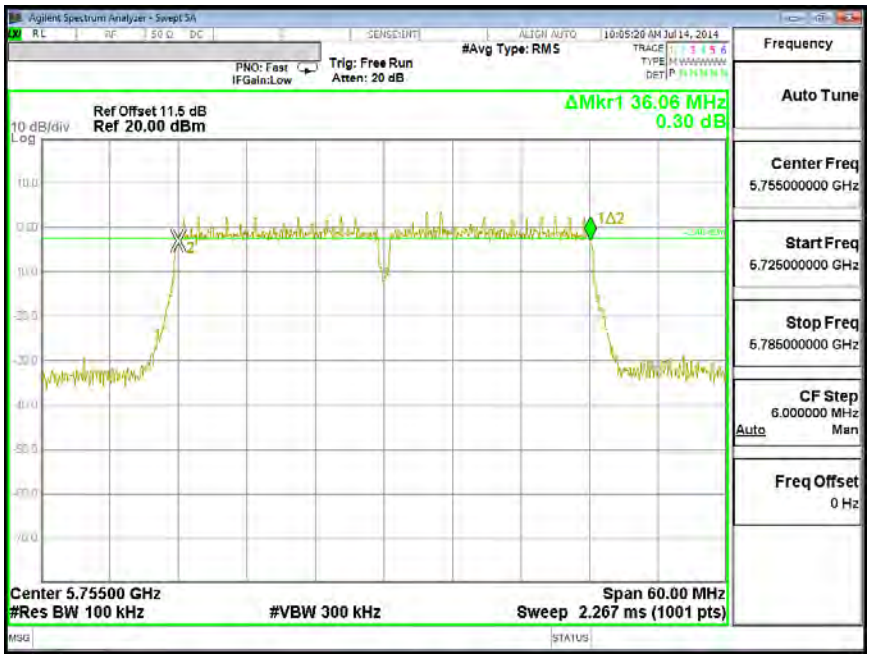
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

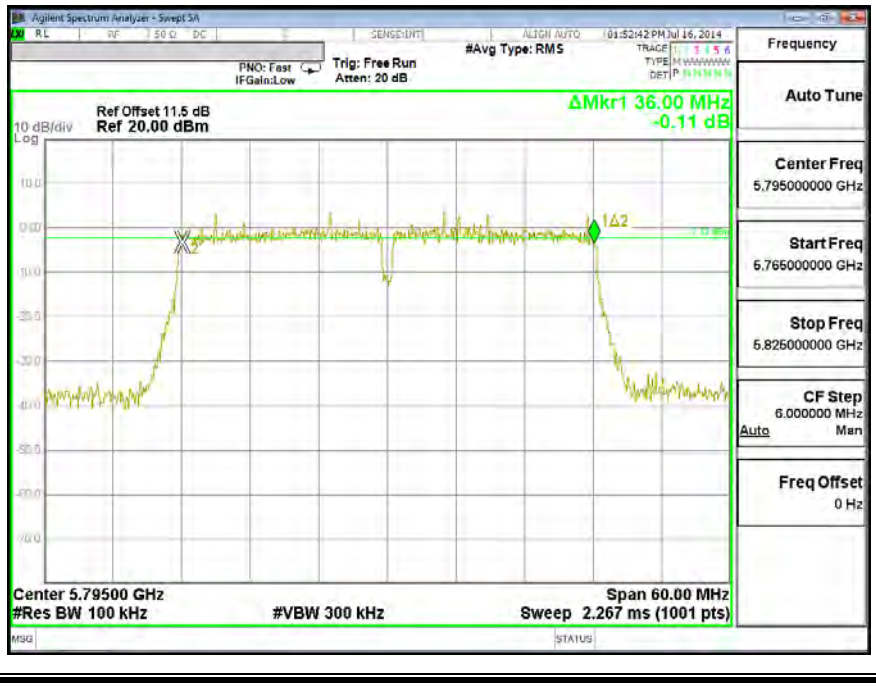
Channel	Frequency (MHz)	6 dB BW (MHz)	Minimum Limit (MHz)
Low	5755	36.060	0.5
High	5795	36.000	0.5

6 dB BANDWIDTH

6 dB BANDWIDTH LOW CH



6 dB BANDWIDTH HIGH CH



9.31.2. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

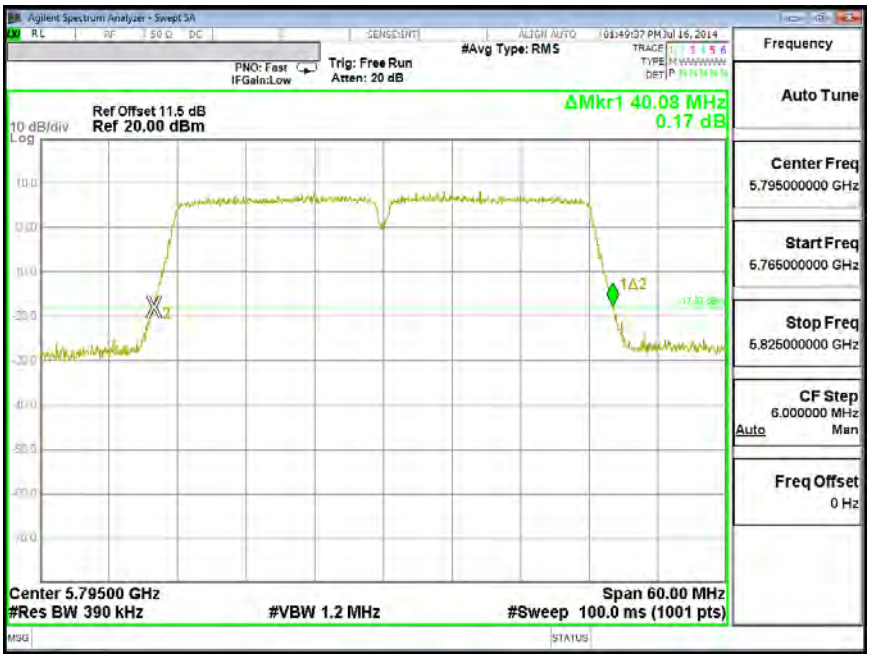
RESULTS

Channel	Frequency (MHz)	26 dB BW (MHz)
Low	5755	39.96
High	5795	40.08

26 dB BANDWIDTH

BANDWIDTH LOW CH

BANDWIDTH HIGH CH



9.31.3. 99% BANDWIDTH

LIMITS

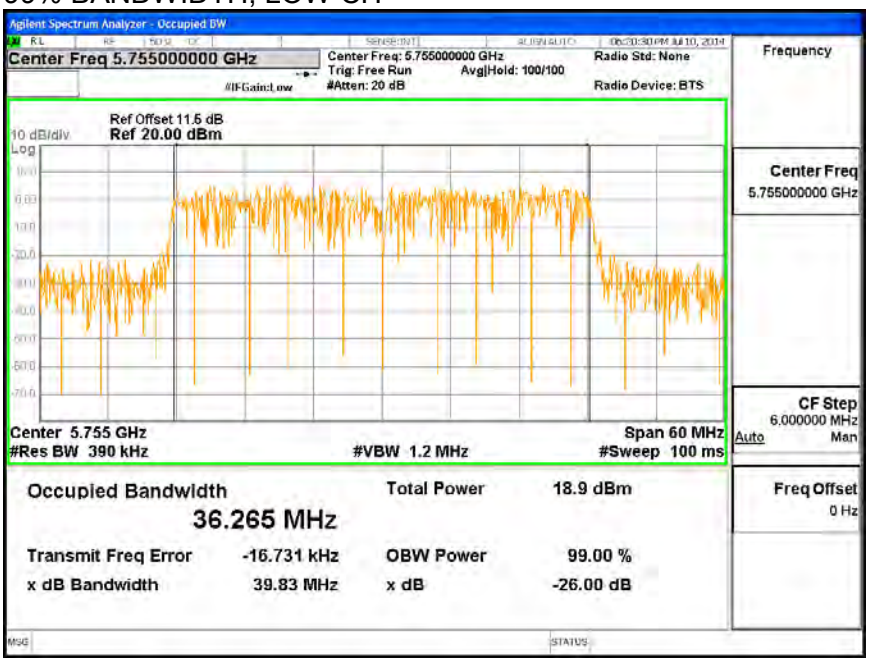
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	36.265
High	5795	36.197

99% BANDWIDTH

99% BANDWIDTH, LOW CH



99% BANDWIDTH, HIGH CH

9.31.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter was setup for a gated power measurement.

The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Antenna A Power (dBm)	Antenna B Power (dBm)
Low	5755	13.81	13.83
High	5795	15.85	15.84

9.31.5. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter was setup for a gated power measurement.

The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

ANTENNA A

Antenna Gain (dBi)
4.34

ANTENNA B

Antenna Gain (dBi)
4.28

ANTENNA A RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5755	4.34	30.00
High	5795	4.34	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power

Output Power Results

Channel	Frequency (MHz)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	13.81	13.81	30.00	-16.19
High	5795	15.85	15.85	30.00	-14.15

ANTENNA B RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5755	4.28	30.00
High	5795	4.28	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power

Output Power Results

Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	13.83	13.83	30.00	-16.17
High	5795	15.84	15.84	30.00	-14.16

9.31.6. MAXIMUM POWER SPECTRAL DENSITY (PSD)

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

ANTENNA A

Antenna Gain (dBi)
4.34

ANTENNA B

Antenna Gain (dBi)
4.28

ANTENNA A RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5755	4.34	30.00
High	5795	4.34	30.00

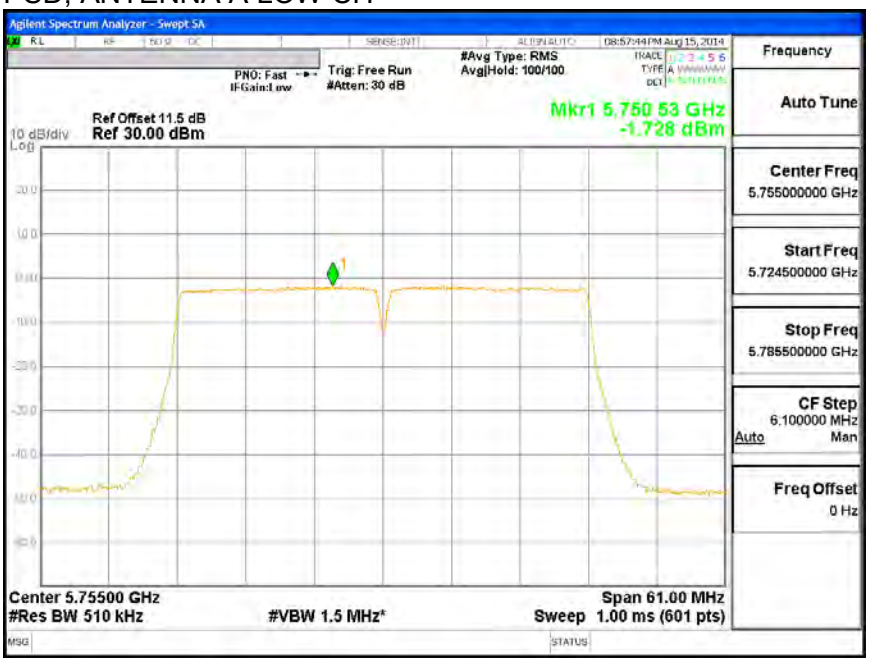
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

Channel	Frequency (MHz)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	-1.73	-1.73	30.00	-31.73
High	5795	0.33	0.33	30.00	-29.68

PSD, ANTENNA A

PSD, ANTENNA A LOW CH



PSD, ANTENNA A HIGH CH

ANTENNA B RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5755	4.34	30.00
High	5795	4.34	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

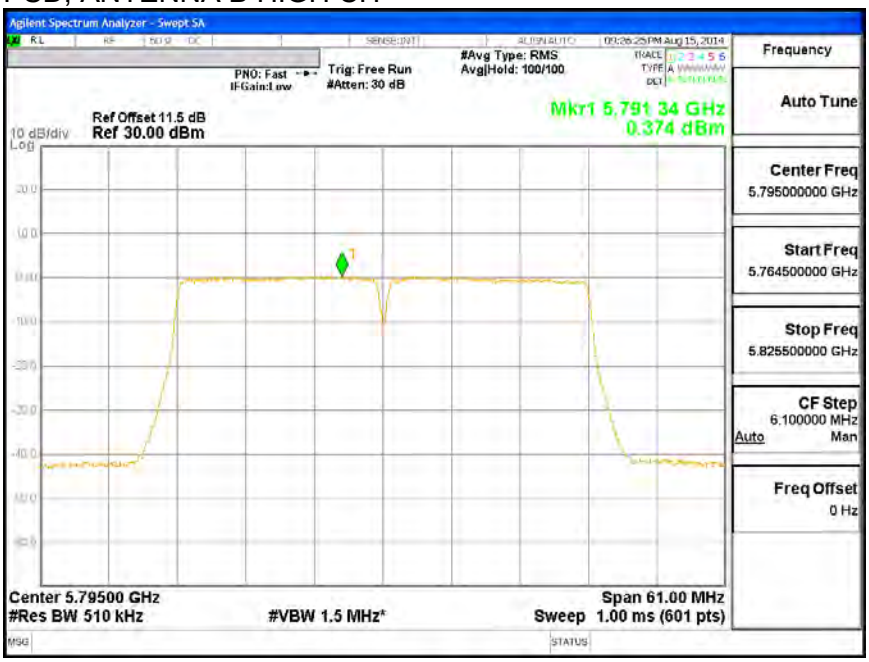
PSD Results

Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	-1.80	-1.80	30.00	-31.80
High	5795	0.37	0.37	30.00	-29.63

PSD, ANTENNA B

PSD, ANTENNA B LOW CH

PSD, ANTENNA B HIGH CH



9.32. 802.11n HT40 2TX CDD MODE IN THE 5.8 GHz BAND

9.32.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

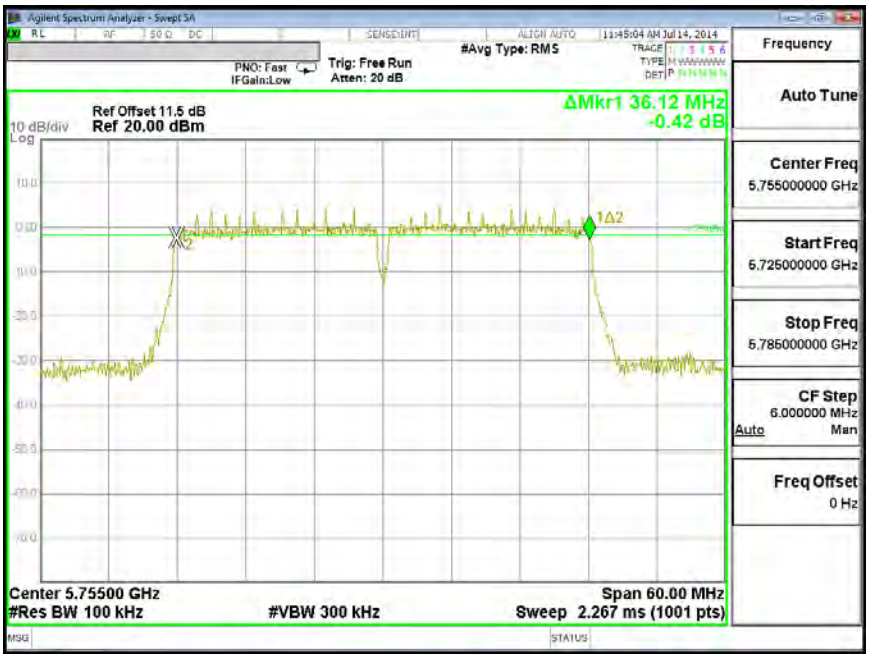
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

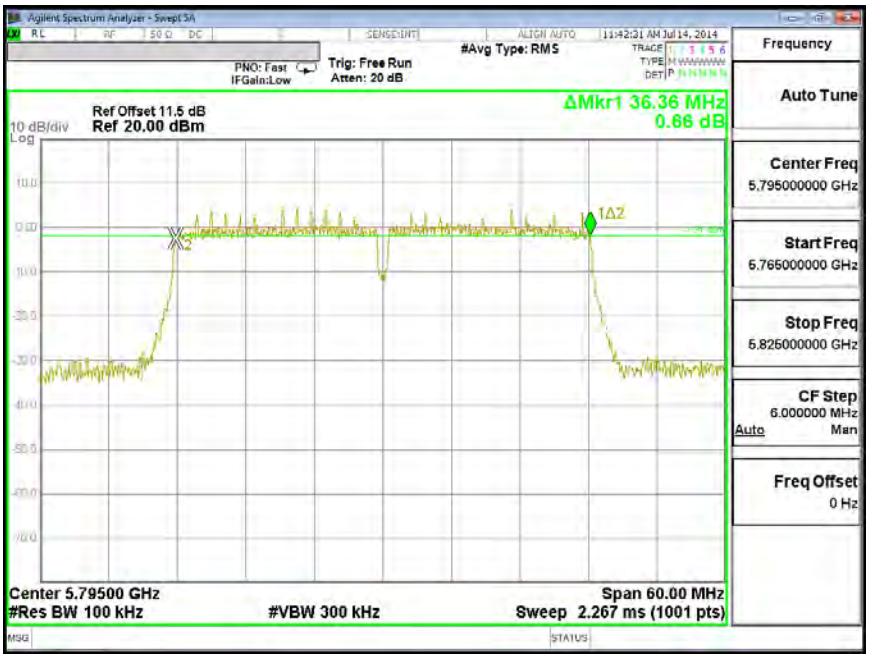
Channel	Frequency (MHz)	6 dB BW Antenna A (MHz)	6 dB BW Antenna B (MHz)	Minimum Limit (MHz)
Low	5755	36.12	36.24	0.5
High	5795	36.36	36.24	0.5

6 dB BANDWIDTH, ANTENNA A

6 dB BANDWIDTH ANTENNA A LOW CH

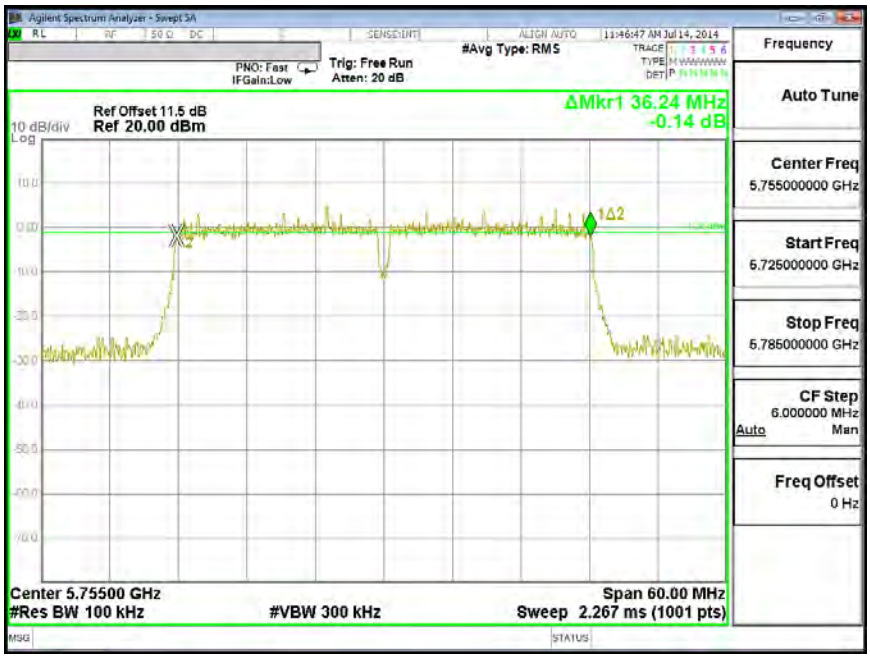


6 dB BANDWIDTH ANTENNA A HIGH CH

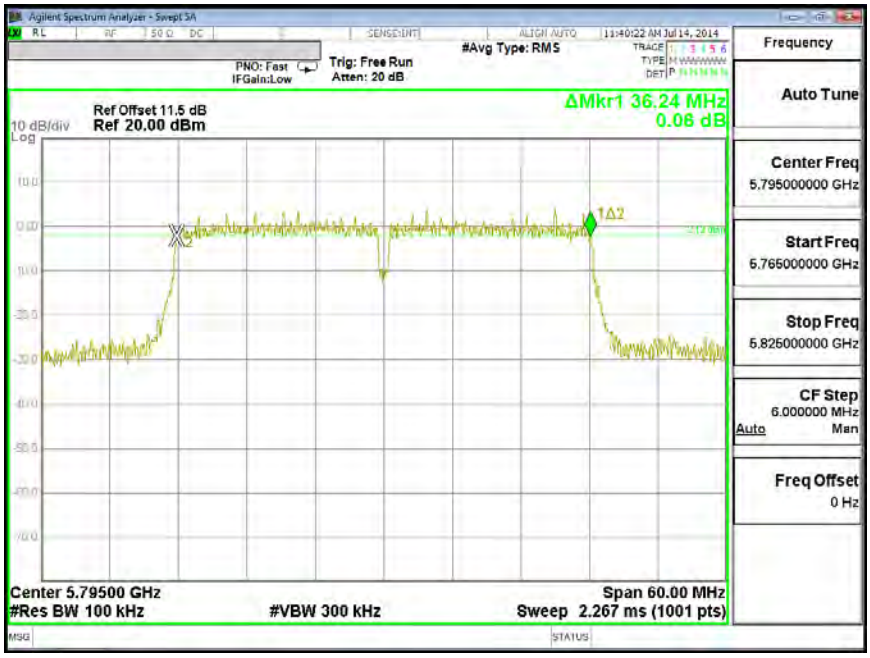


6 dB BANDWIDTH, ANTENNA B

6 dB BANDWIDTH ANTENNA B LOW CH



6 dB BANDWIDTH ANTENNA B HIGH CH



9.32.2. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB BW Antenna A (MHz)	26 dB BW Antenna B (MHz)
Low	5755	40.20	39.72
High	5795	40.32	40.50

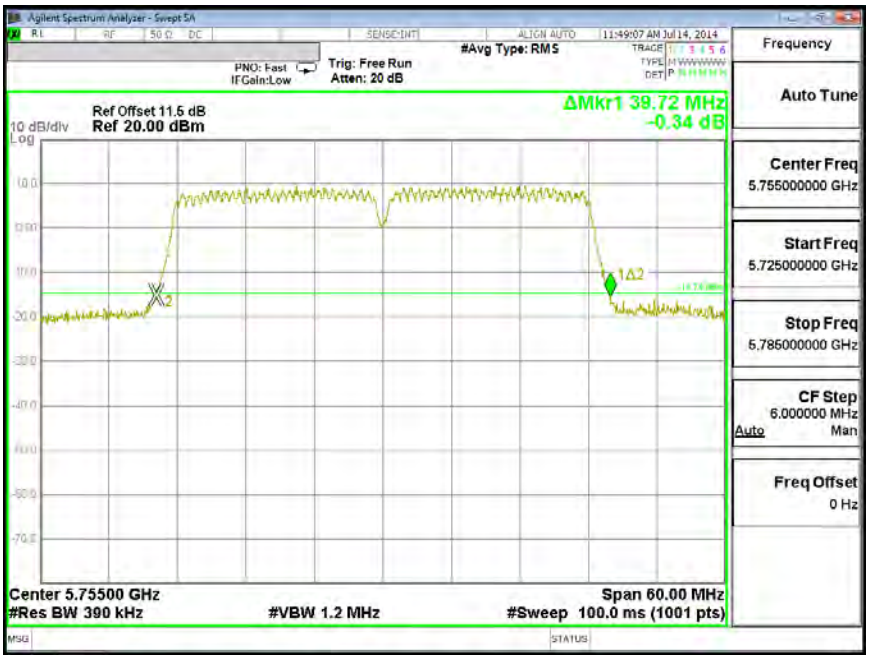
26 dB BANDWIDTH, ANTENNA A

BANDWIDTH ANTENNA A LOW CH

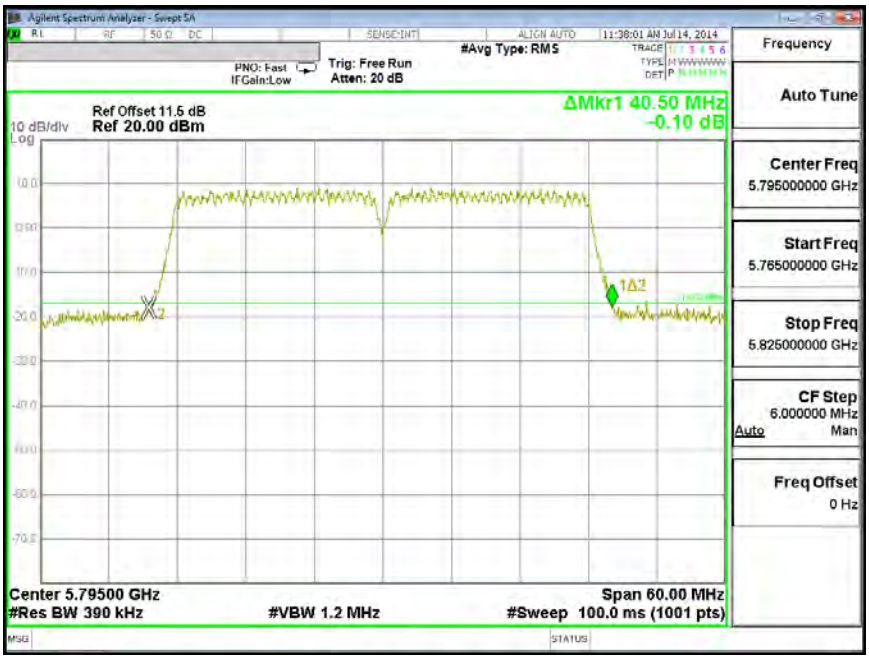
BANDWIDTH ANTENNA A HIGH CH

26 dB BANDWIDTH, ANTENNA B

BANDWIDTH ANTENNA B LOW CH



BANDWIDTH ANTENNA B HIGH CH



9.32.3. 99% BANDWIDTH

LIMITS

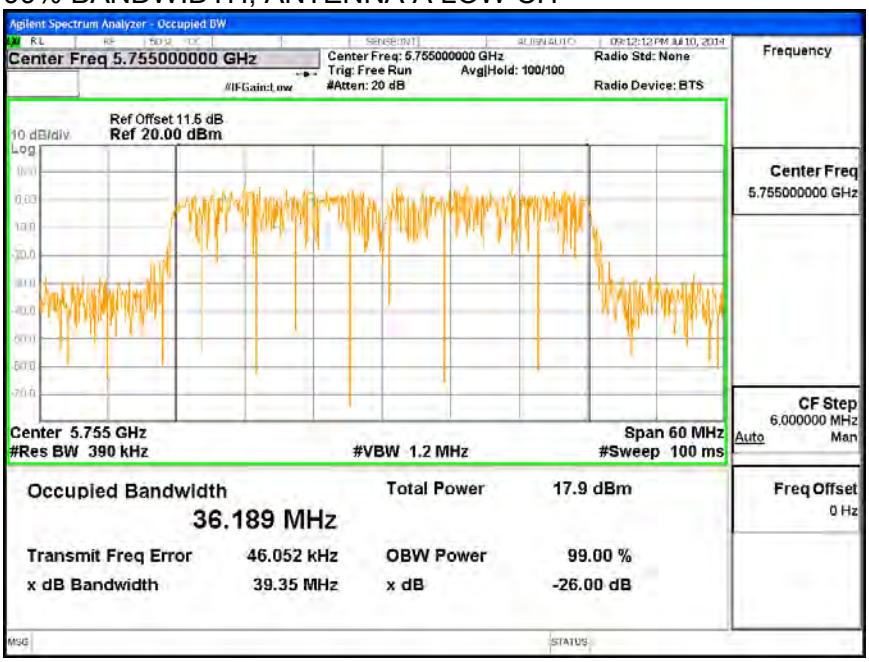
None; for reporting purposes only.

RESULTS

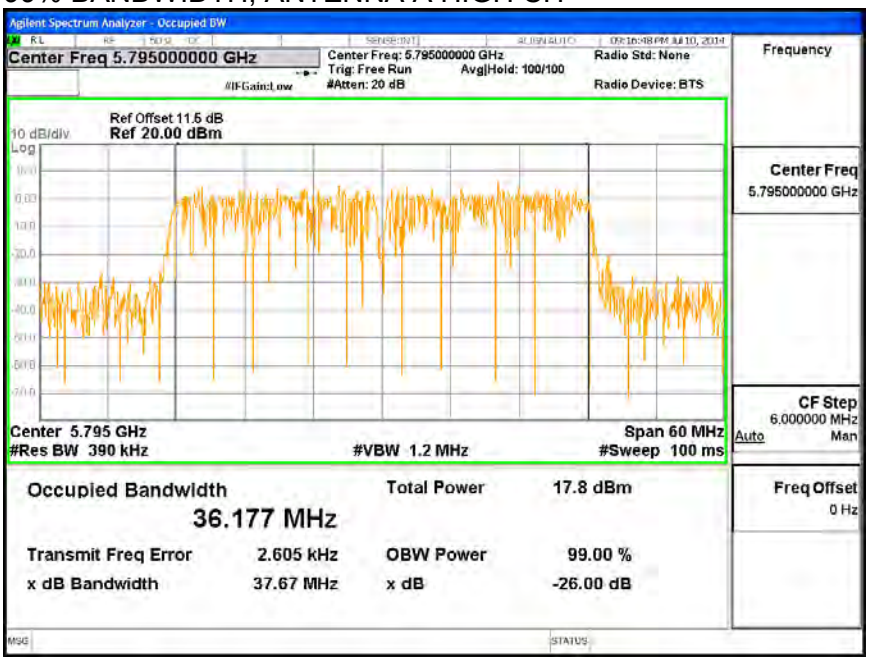
Channel	Frequency (MHz)	99% BW Antenna A (MHz)	99% BW Antenna B (MHz)
Low	5755	36.189	36.164
High	5795	36.177	36.184

99% BANDWIDTH, ANTENNA A

99% BANDWIDTH, ANTENNA A LOW CH

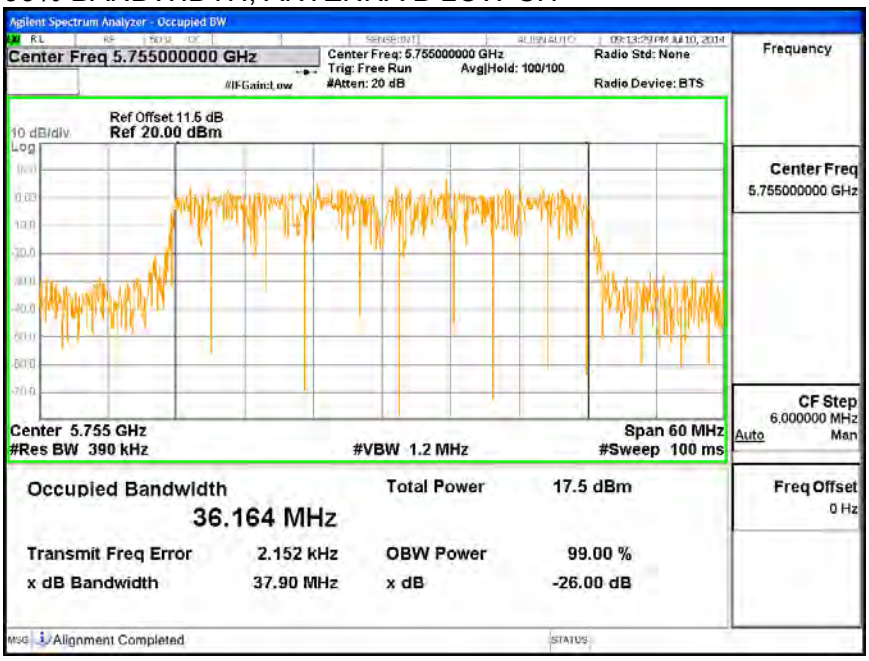


99% BANDWIDTH, ANTENNA A HIGH CH

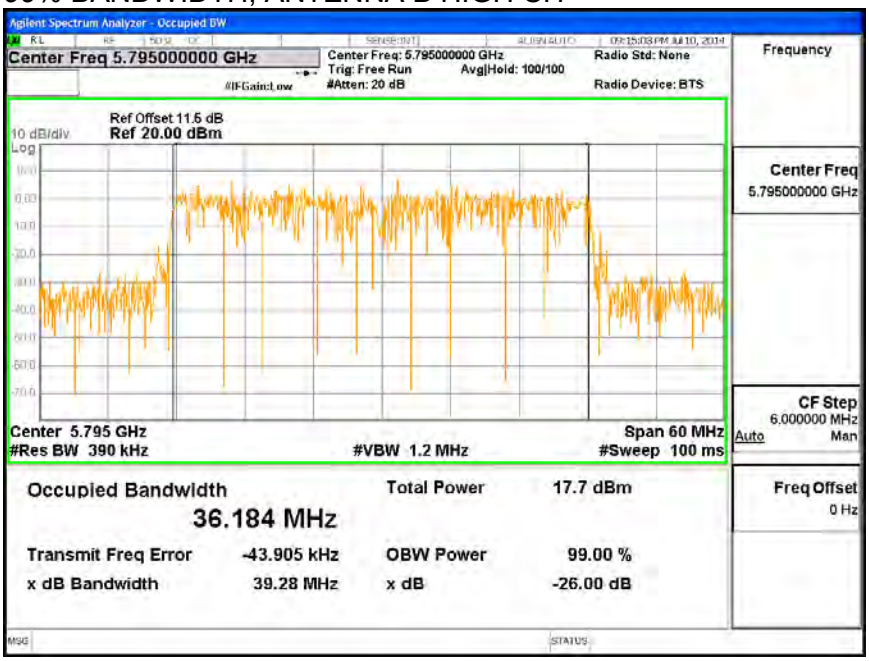


99% BANDWIDTH, ANTENNA B

99% BANDWIDTH, ANTENNA B LOW CH



99% BANDWIDTH, ANTENNA B HIGH CH



9.32.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter was setup for a gated power measurement.

The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Average Power Results

Channel	Frequency (MHz)	Antenna A Power (dBm)	Antenna B Power (dBm)	Total Power (dBm)
Low	5755	12.81	12.87	15.85
High	5955	15.00	14.85	17.93

9.32.5. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter was setup for a gated power measurement.

The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Antenna A Gain (dBi)	Antenna B Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
4.34	4.28	4.31

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Antenna A Gain (dBi)	Antenna B Gain (dBi)	Correlated Chains Directional Gain (dBi)
4.34	4.28	7.32

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5755	4.31	30.00
High	5795	4.31	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power

Output Power Results

Channel	Frequency (MHz)	Antenna A Meas Power (dBm)	Antenna B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	12.81	12.87	15.85	30.00	-14.15
High	5795	15.00	14.85	17.93	30.00	-12.07

9.32.6. MAXIMUM POWER SPECTRAL DENSITY (PSD)

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Antenna A Gain (dBi)	Antenna B Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
4.34	4.28	4.31

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Antenna A Gain (dBi)	Antenna B Gain (dBi)	Correlated Chains Directional Gain (dBi)
4.34	4.28	7.32

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5755	7.32	28.68
High	5795	7.32	28.68

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

Channel	Frequency (MHz)	Antenna A Meas PSD (dBm)	Antenna B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	-2.80	-2.69	0.26	28.68	-28.42
High	5795	-0.45	0.05	2.82	28.68	-25.86

PSD, ANTENNA A

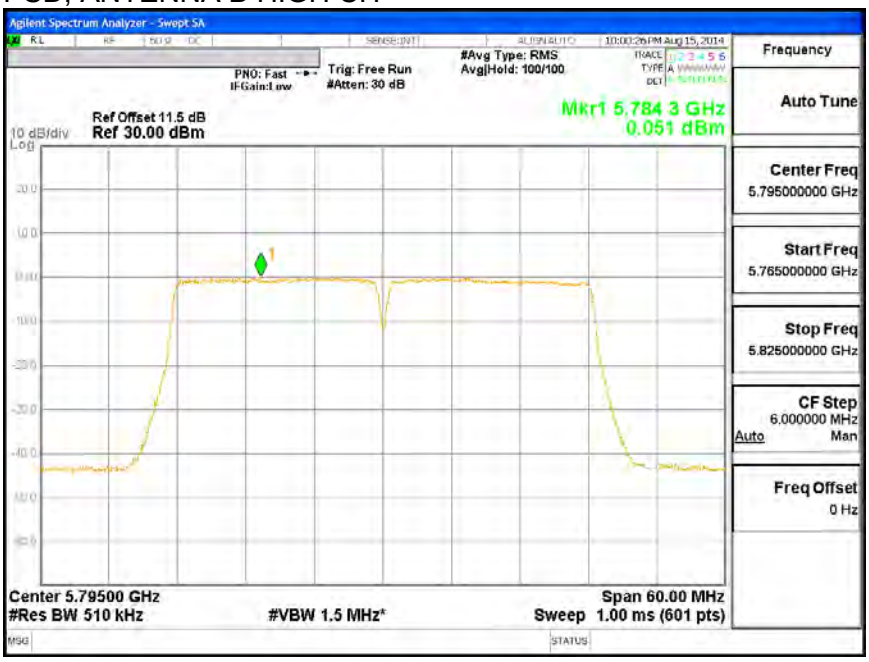
PSD, ANTENNA A LOW CH

PSD, ANTENNA A HIGH CH

PSD, ANTENNA B

PSD, ANTENNA B LOW CH

PSD, ANTENNA B HIGH CH



9.33. 802.11n HT40 2TX STBC MODE IN THE 5.8 GHz BAND

Refer to Section 9.32, 802.11n HT40 2TX CDD MODE IN THE 5.8 GHz BAND.

9.34. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

9.34.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

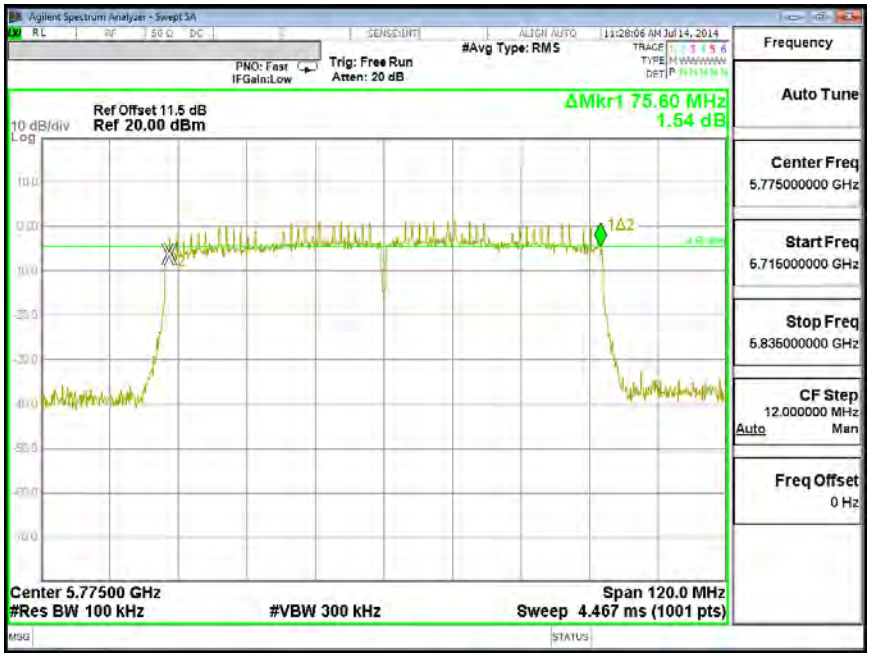
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Mid	5775	75.6000	0.5

6 dB BANDWIDTH

6 dB BANDWIDTH MID CH



9.34.2. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB BW (MHz)
Mid	5775	81.60

26 dB BANDWIDTH

BANDWIDTH LOW CH

9.34.3. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Mid	5775	75.1960

99% BANDWIDTH

BANDWIDTH MID CH

9.34.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter was setup for a gated power measurement.

The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Power (dBm) Antenna A	Power (dBm) Antenna B
Mid	5775	13.48	13.48

9.34.5. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

The transmitter output is connected to a power meter. The power meter was setup for a gated power measurement.

The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

ANTENNA A

Antenna Gain (dBi)
4.34

ANTENNA B

Antenna Gain (dBi)
4.28

ANTENNA A RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Mid	5775	4.34	30.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power

Output Power Results

Channel	Frequency (MHz)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5775	13.48	13.69	30.00	-16.31

ANTENNA B RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Mid	5775	4.34	30.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power

Output Power Results

Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5775	13.48	13.69	30.00	-16.31

9.34.6. MAXIMUM POWER SPECTRAL DENSITY (PSD)

LIMITS

FCC §15.407 (a) (3)
For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

ANTENNA A

Antenna Gain (dBi)
4.34

ANTENNA B

Antenna Gain (dBi)
4.28

ANTENNA A RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Mid	5755	4.34	30.00

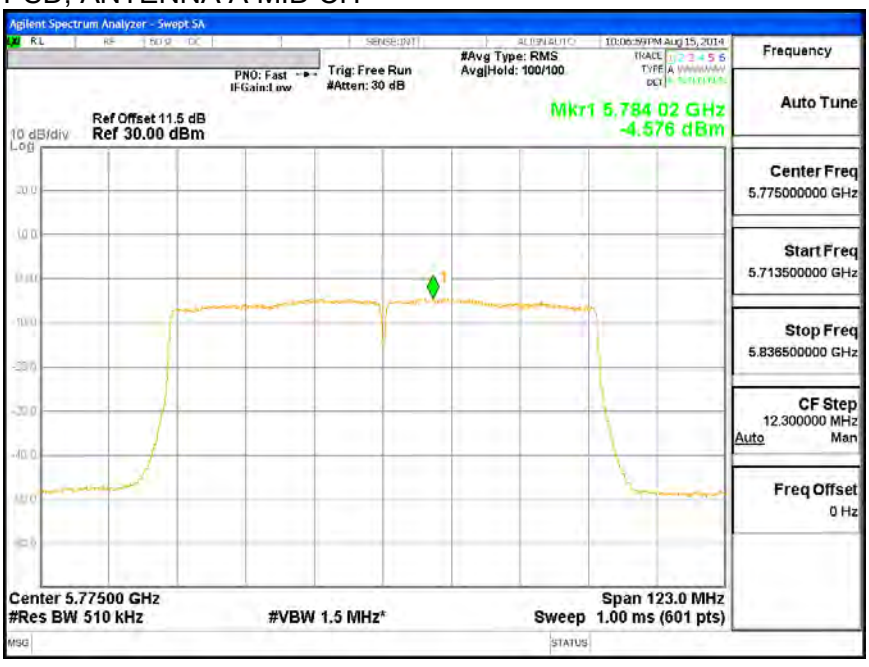
Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd PSD

PSD Results

Channel	Frequency (MHz)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5755	-4.58	-4.37	30.00	-34.37

PSD, ANTENNA A

PSD, ANTENNA A MID CH



ANTENNA B RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Mid	5755	4.34	30.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd PSD

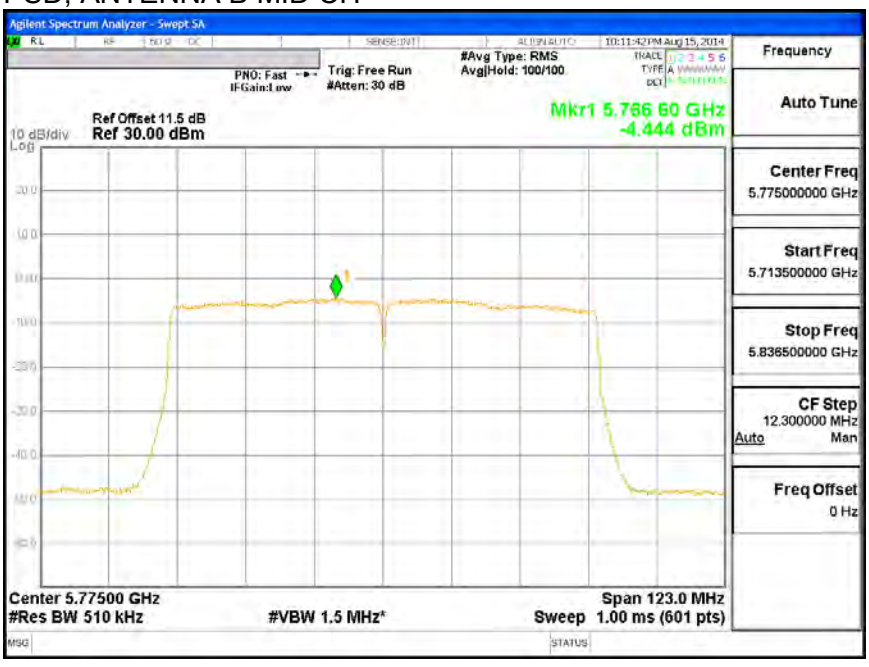
3

PSD Results

Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5755	-4.44	-4.23	30.00	-34.23

PSD, ANTENNA B

PSD, ANTENNA B MID CH



9.35. 802.11ac VHT80 2TX CDD MODE IN THE 5.8 GHz BAND

9.35.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB BW Antenna A (MHz)	6 dB BW Antenna B (MHz)	Minimum Limit (MHz)
Mid	5775	75.600	75.600	0.5