RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5210	-4.61	-4.61	24.00	11.00

Duty Cycle CF (dB)	0.20	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5210	14.88	14.88	24.00	-9.12

PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5210	0.212	0.41	11.00	-10.59

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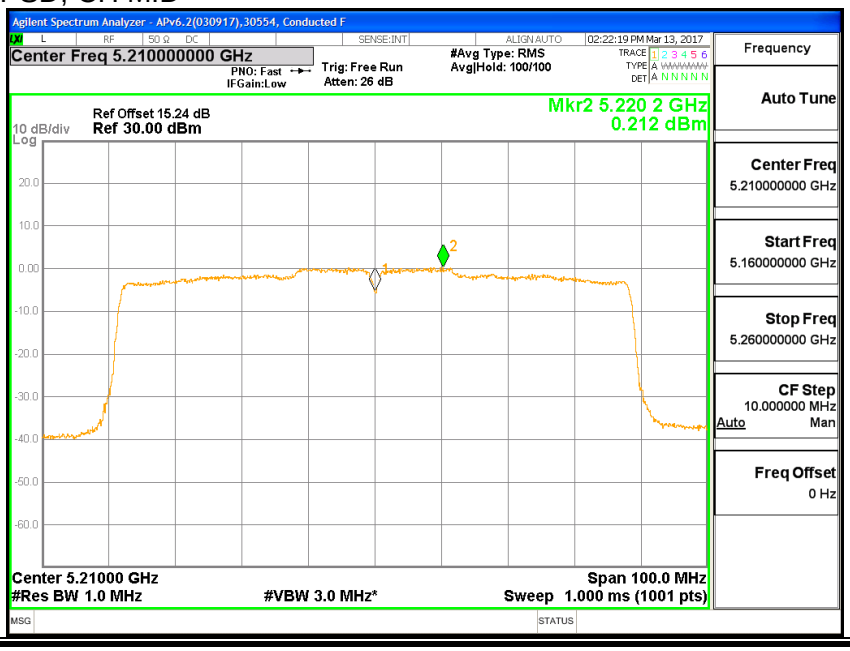
PSD, CH MID



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8.8. 11ac HT80 LAT 3 SISO MODE IN THE 5.2GHz BAND

8.8.1. 26 dB BANDWIDTH

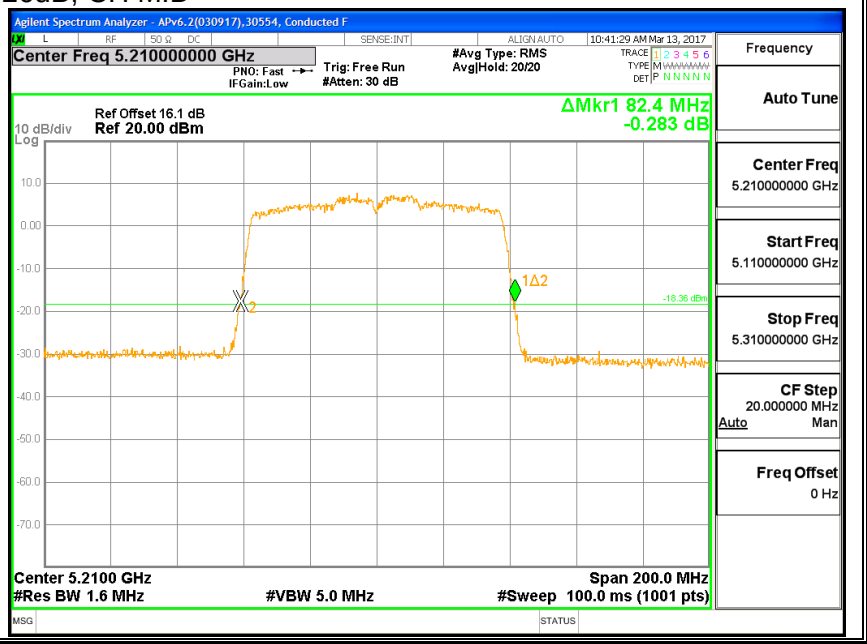
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW LAT 3 (MHz)
Mid	5210	82.4

26dB, CH MID



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8.8.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Mid	5210	75.680

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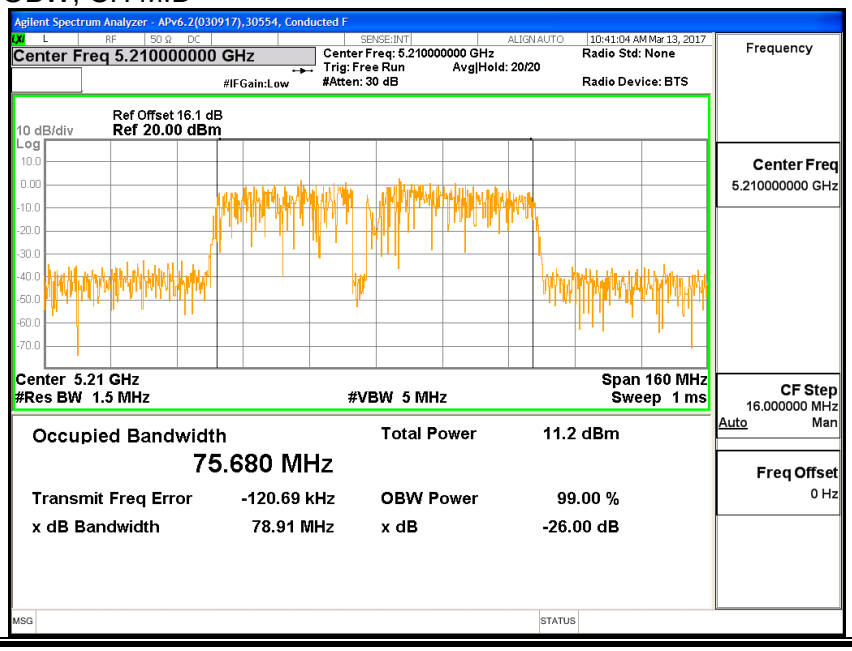
OBW, CH MID



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8.8.3. AVERAGE POWER

ID:	30554	Date:	6/12/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power LAT 3 (dBm)
Mid	5210	14.8

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8.8.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz 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.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz 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

Measurements perform 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 the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required. However, PSD measurement was measured by Spectrum Analyzer and duty cycle factor is required

DIRECTIONAL ANTENNA GAIN

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

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RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5210	-0.98	-0.98	24.00	11.00

Duty Cycle CF (dB)	0.20	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5210	14.80	14.80	24.00	-9.20

PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5210	-0.094	0.11	11.00	-10.89

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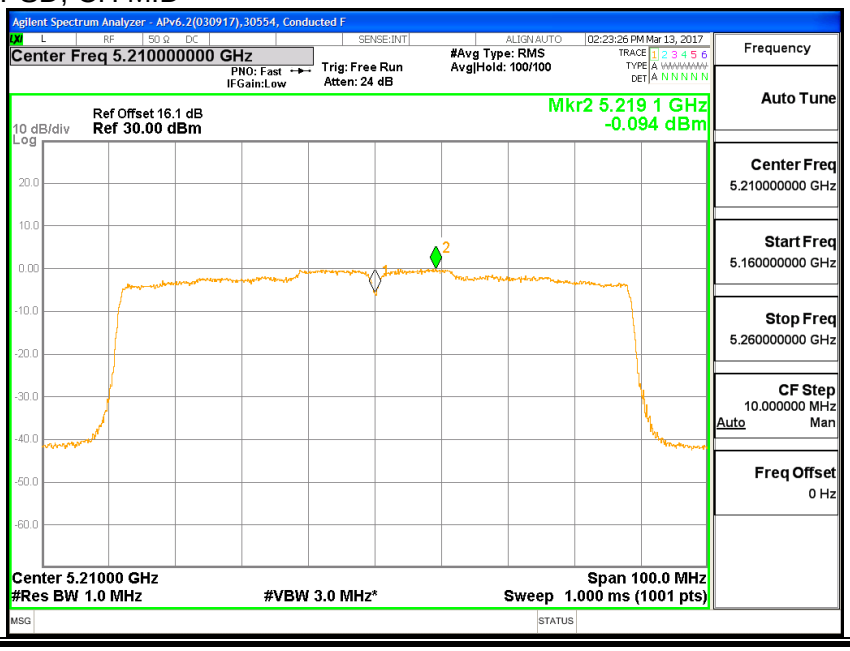
PSD, CH MID



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8.9. 11ac HT80 2TX CDD MIMO MODE IN THE 5.2GHz BAND

8.9.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Mid	5210	82.6	82.2

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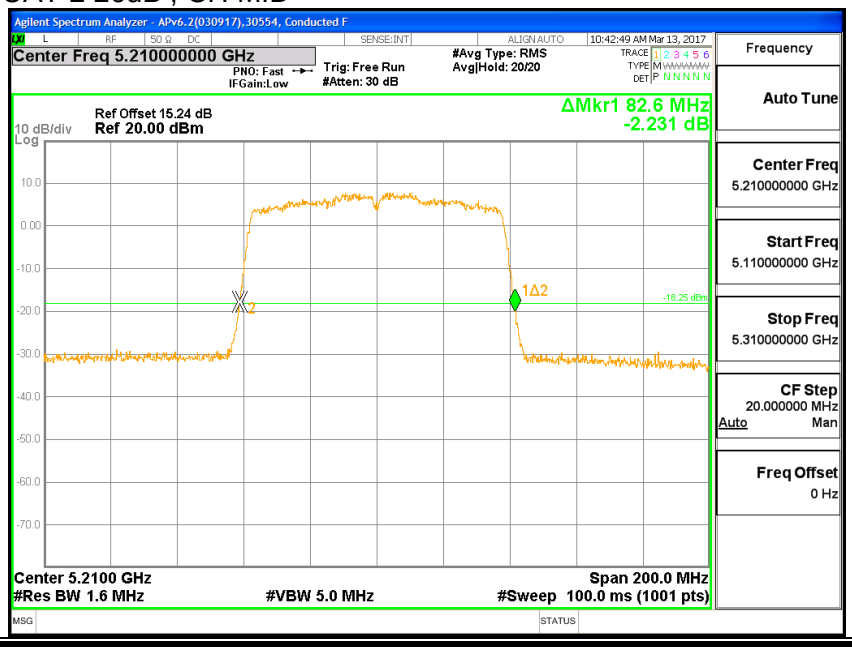
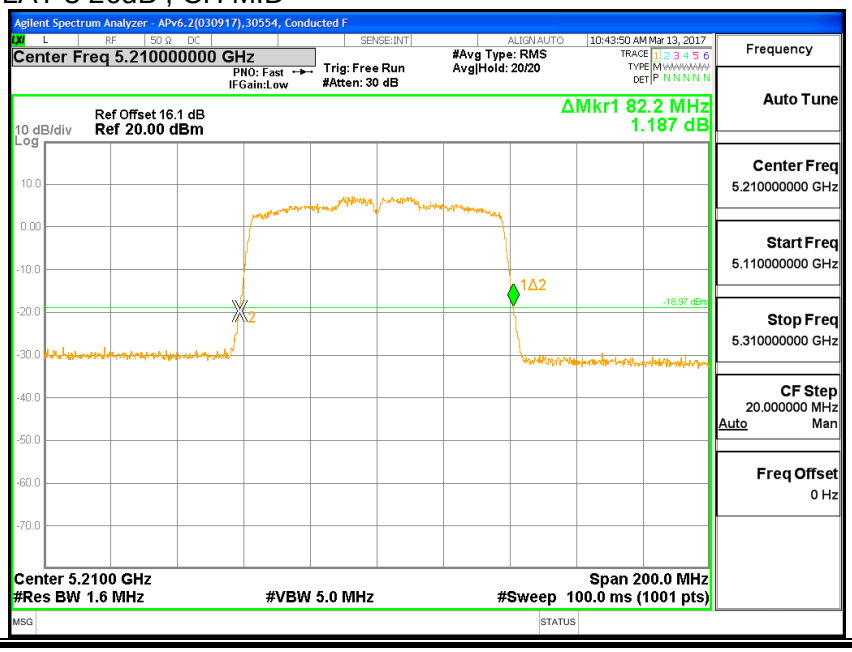
UAT 2 26dB , CH MID



LAT 3 26dB , CH MID



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8.9.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Mid	5210	75.465	75.708

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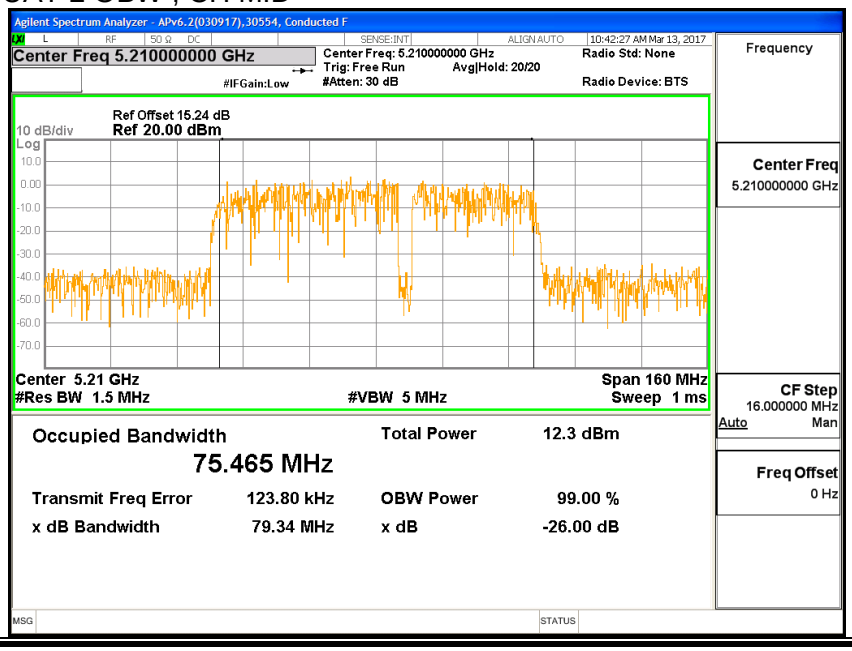
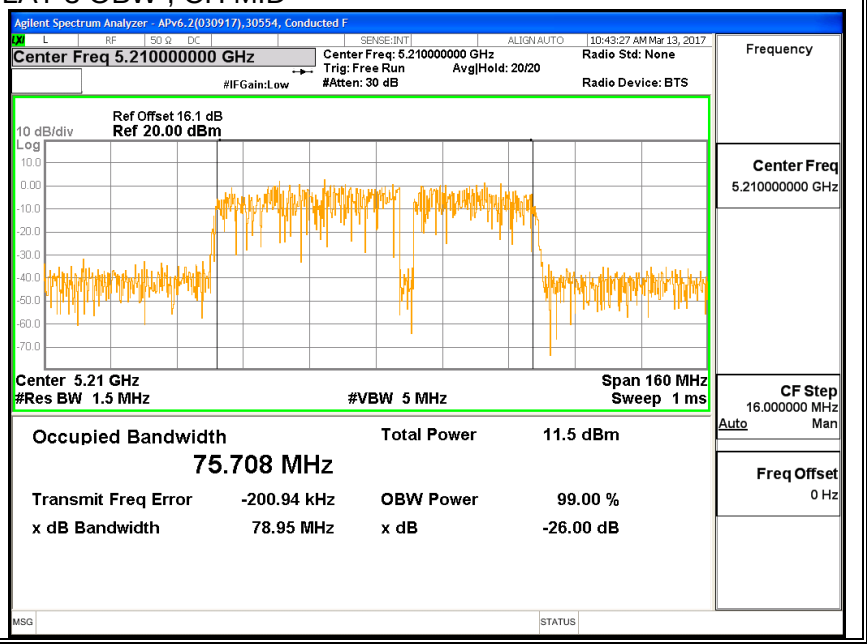
UAT 2 OBW , CH MID



LAT 3 OBW , CH MID



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8.9.3. AVERAGE POWER

ID:	30554	Date:	6/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency (MHz)	UAT 2 Power (dBm)	LAT 3 Power (dBm)	Total Power (dBm)
Mid	5210	13.40	13.44	16.43

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8.9.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz 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.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz 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

Measurements perform 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 the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required. However, PSD measurement was measured by Spectrum Analyzer and duty cycle factor is required

DIRECTIONAL ANTENNA GAIN

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

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UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-4.61	-0.98	-2.43

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-4.61	-0.98	0.40

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RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5210	-2.43	0.40	24.00	11.00

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd PSD

Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5210	13.40	13.44	16.43	24.00	-7.57

PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5210	-1.904	-1.696	1.41	11.00	-9.59

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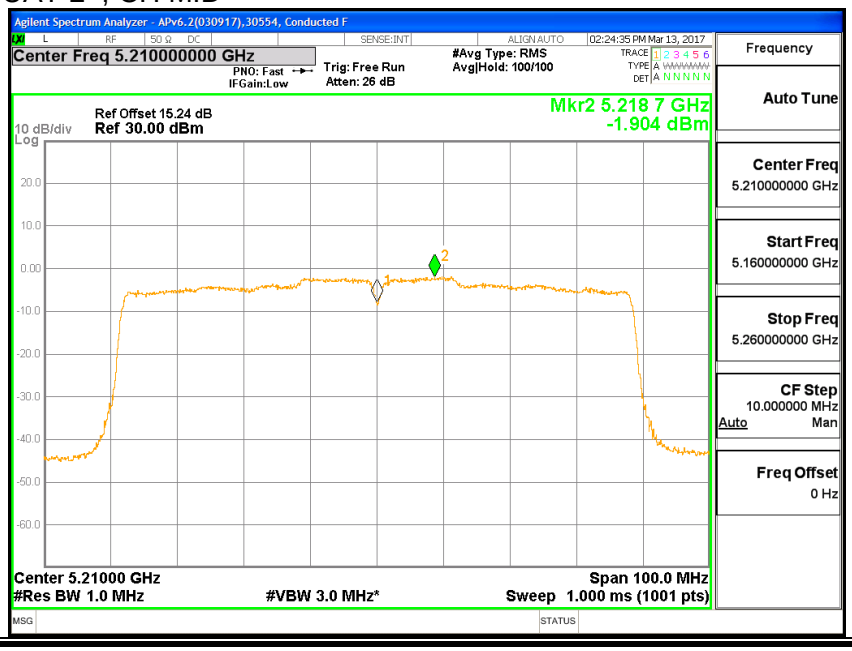
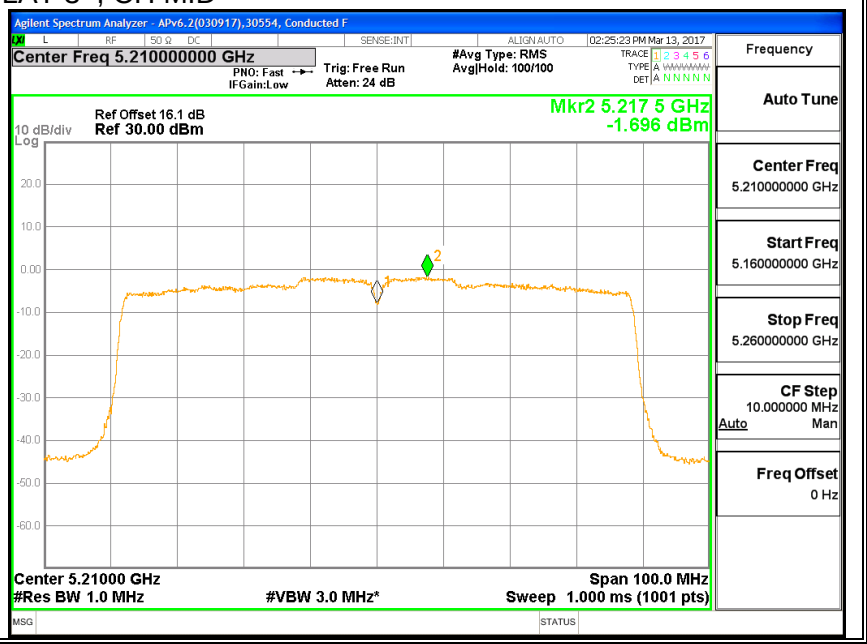
UAT 2 , CH MID



LAT 3 , CH MID



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8.10. 11n HT20 UAT 2 SISO MODE IN THE 5.3GHz BAND

8.10.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Low	5260	22.10
Mid	5300	21.85
High	5320	22.05

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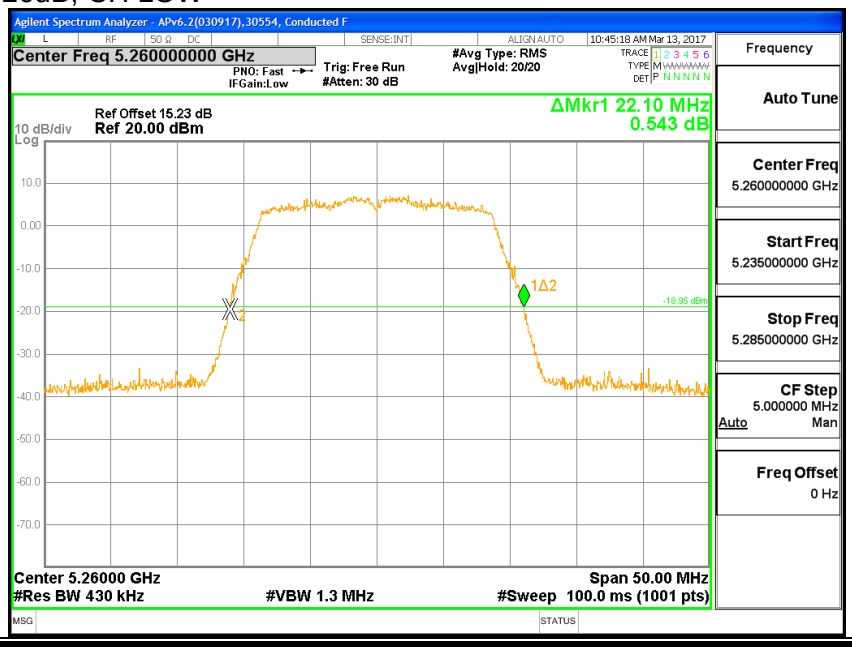
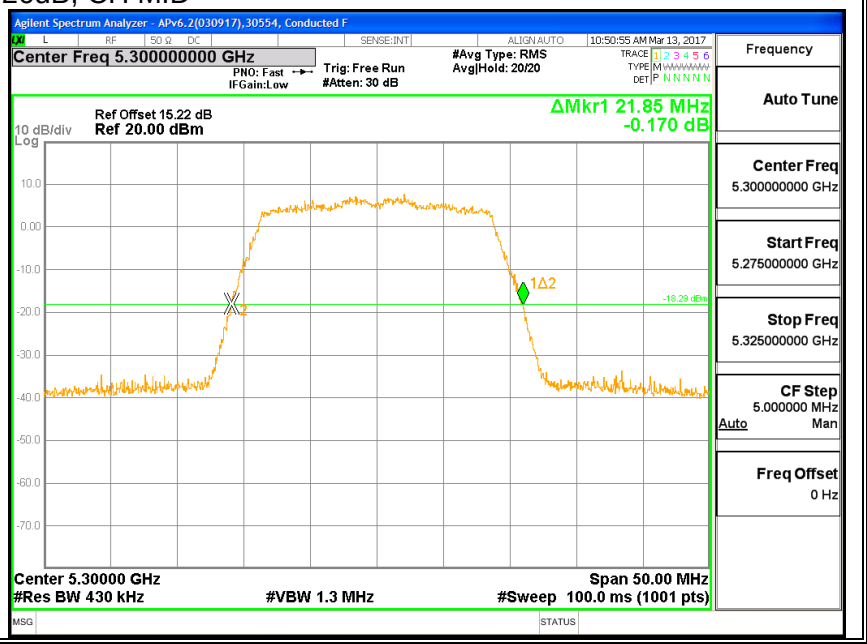
26dB, CH LOW



26dB, CH MID



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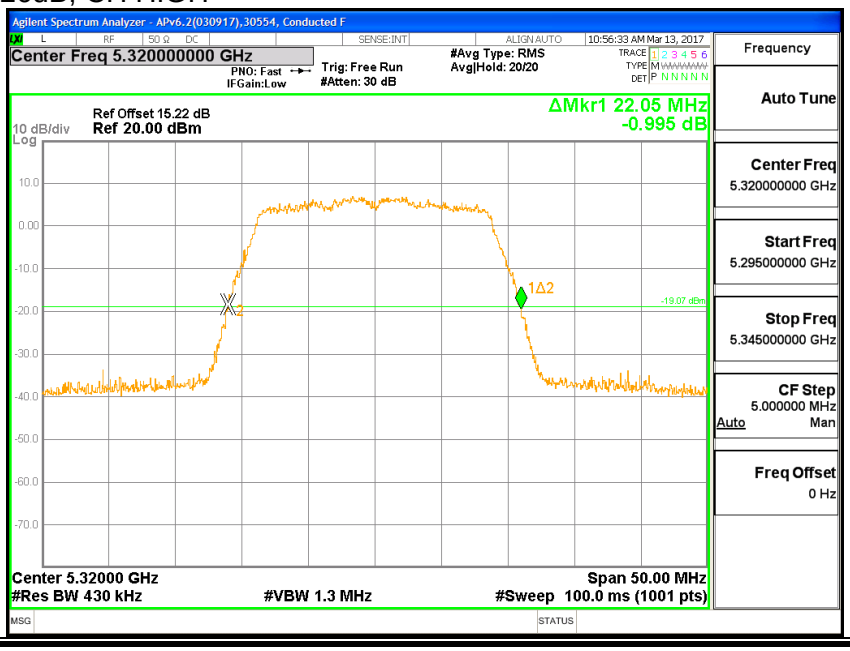
26dB, CH HIGH



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8.10.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)
Low	5260	17.716
Mid	5300	17.733
High	5320	17.764

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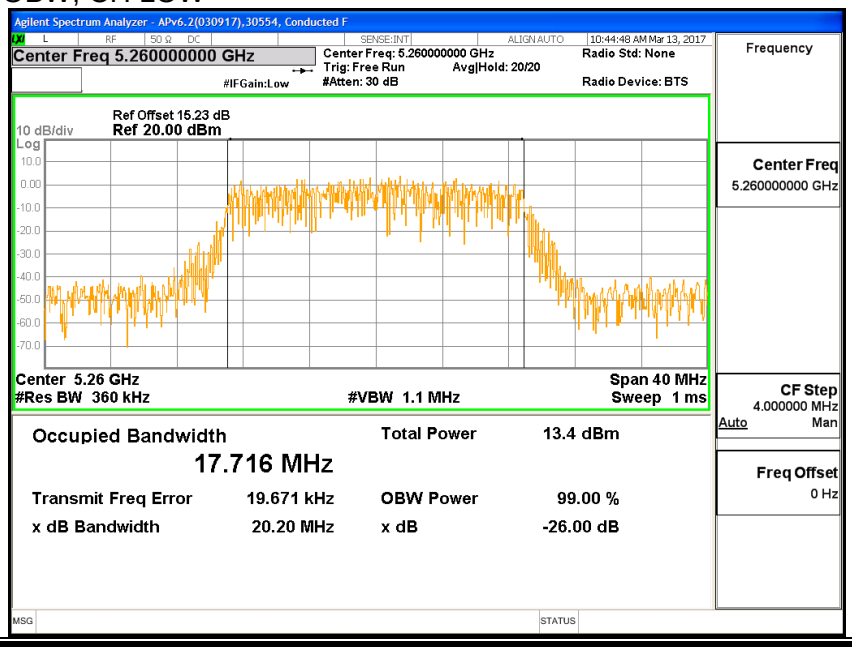
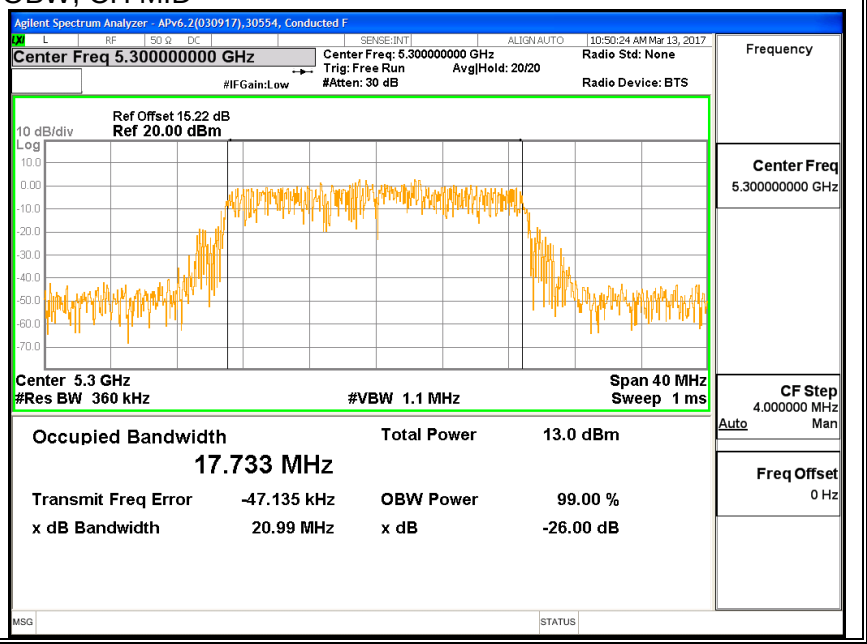
OBW, CH LOW



OBW, CH MID



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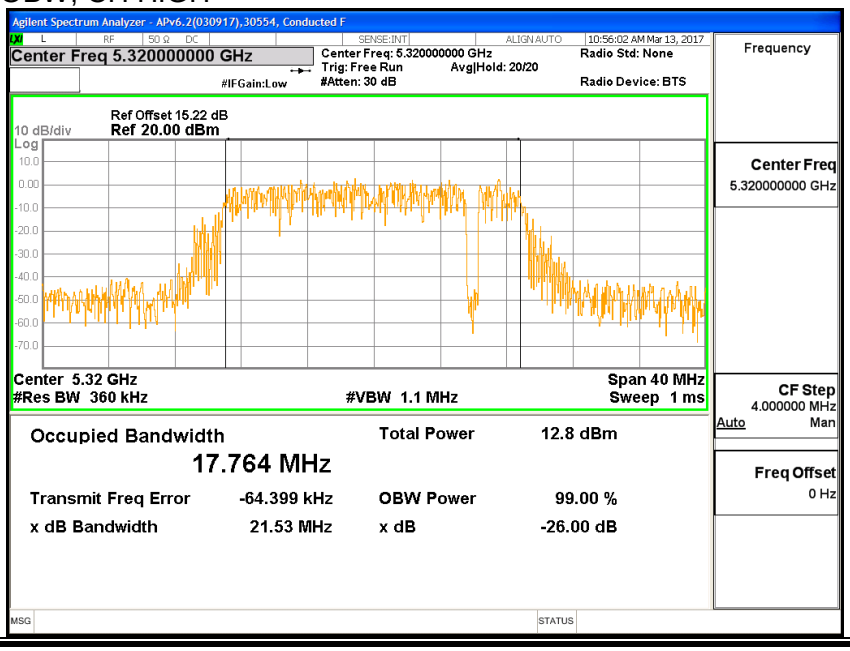
OBW, CH HIGH



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8.10.3. AVERAGE POWER

ID:	30554	Date:	6/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power UAT 2 (dBm)
Low	5260	20.95
Mid	5300	19.46
High	5320	16.81

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8.10.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 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

Measurements perform 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 the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

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

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RESULTS

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5260	22.100	17.716	-3.74	23.48	11.00
Mid	5300	21.850	17.733	-3.74	23.49	11.00
High	5320	22.050	17.764	-3.74	23.50	11.00

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

Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	20.95	20.95	23.48	-2.53
Mid	5300	19.46	19.46	23.49	-4.03
High	5320	16.81	16.81	23.50	-6.69

PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5260	10.821	10.82	11.00	-0.18
Mid	5300	9.952	9.95	11.00	-1.05
High	5320	7.164	7.16	11.00	-3.84

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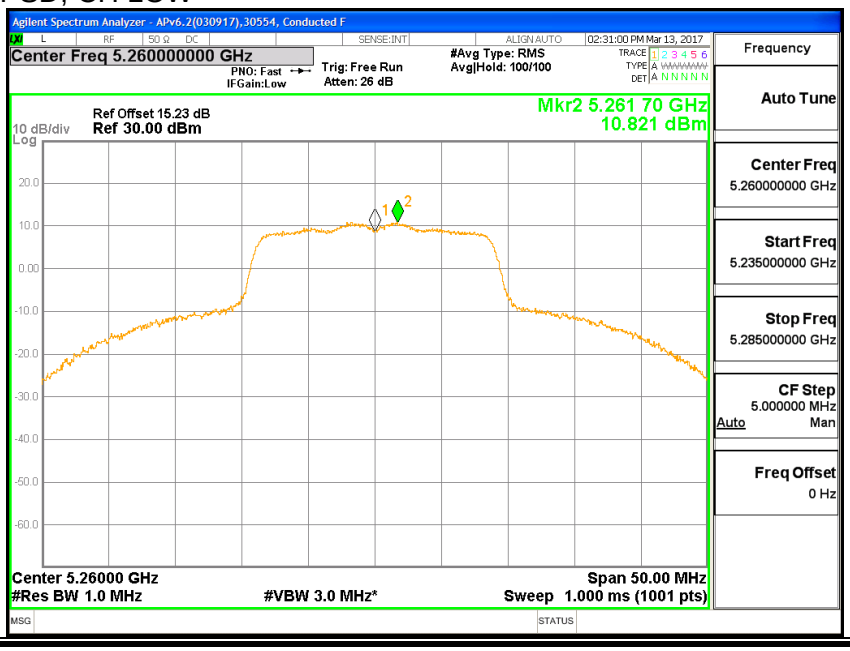
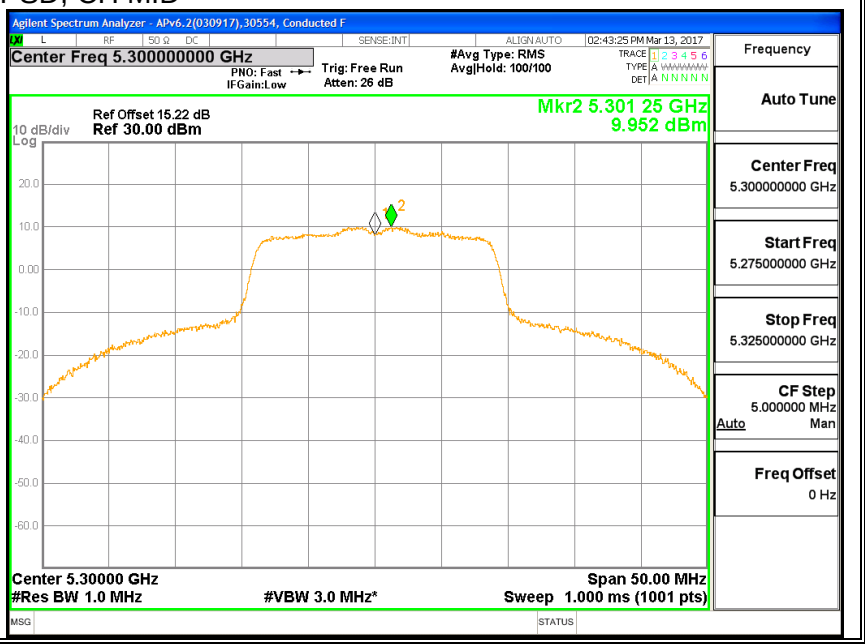
PSD, CH LOW



PSD, CH MID



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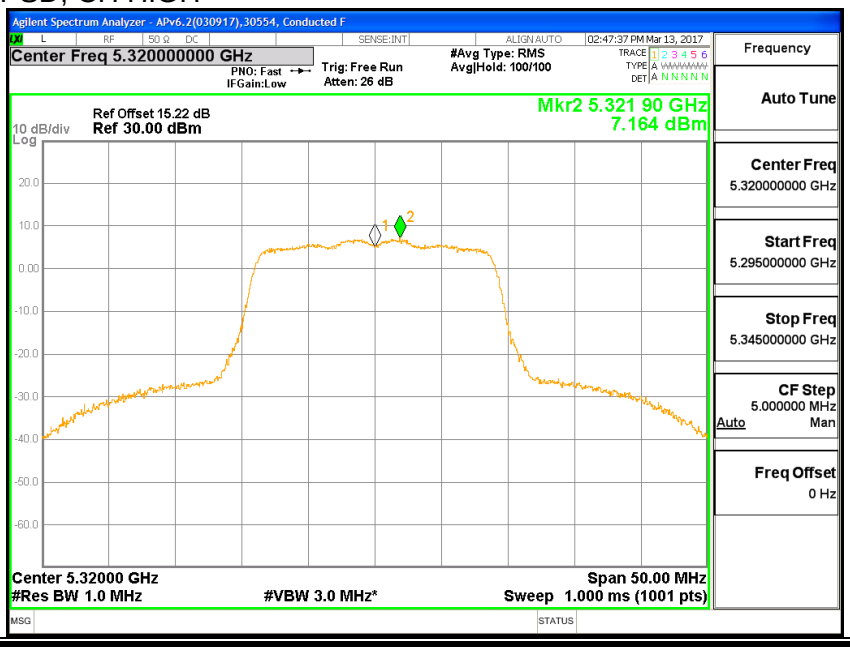
PSD, CH HIGH



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8.11. 11n HT20 LAT 3 SISO MODE IN THE 5.3GHz BAND

8.11.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW LAT 3 (MHz)
Low	5260	22.15
Mid	5300	22.00
High	5320	22.05

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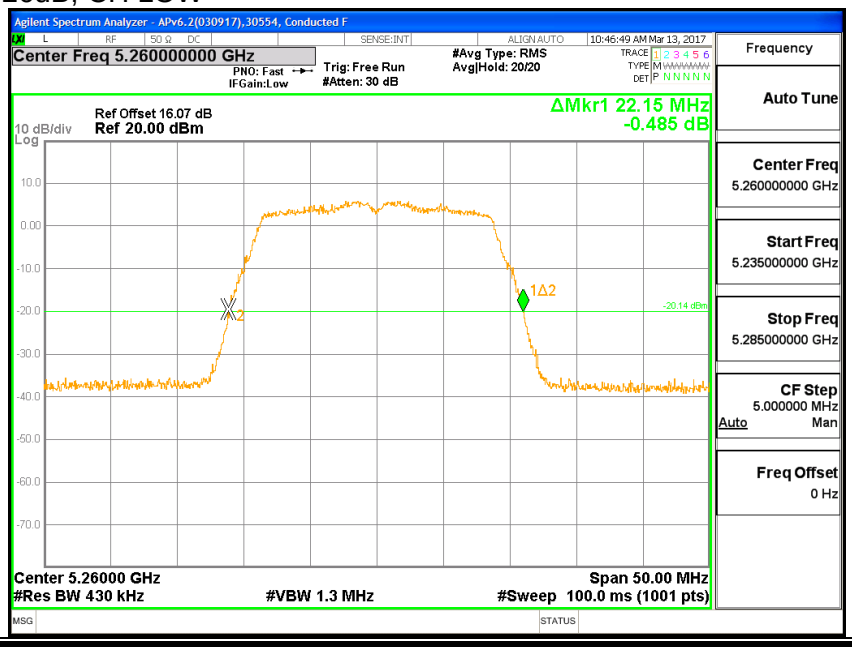
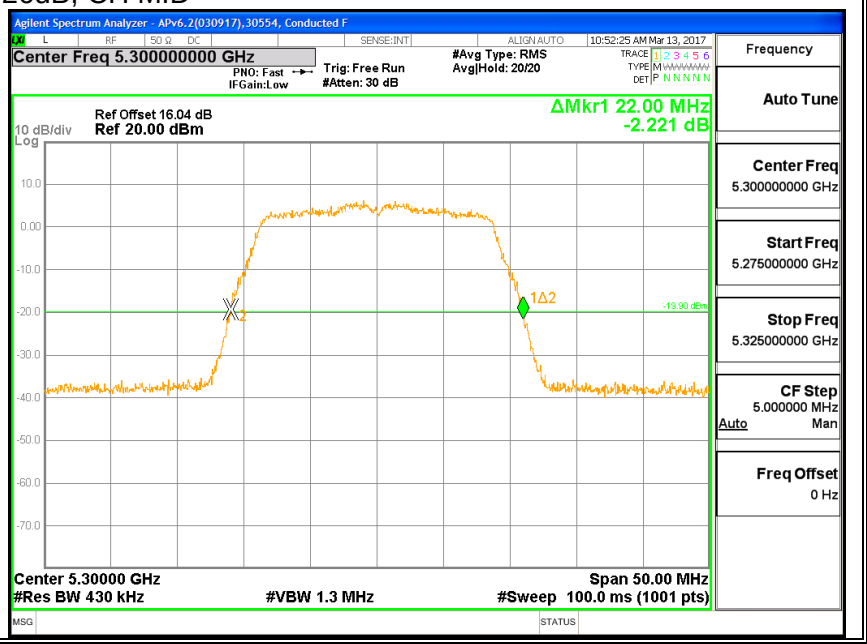
26dB, CH LOW



26dB, CH MID



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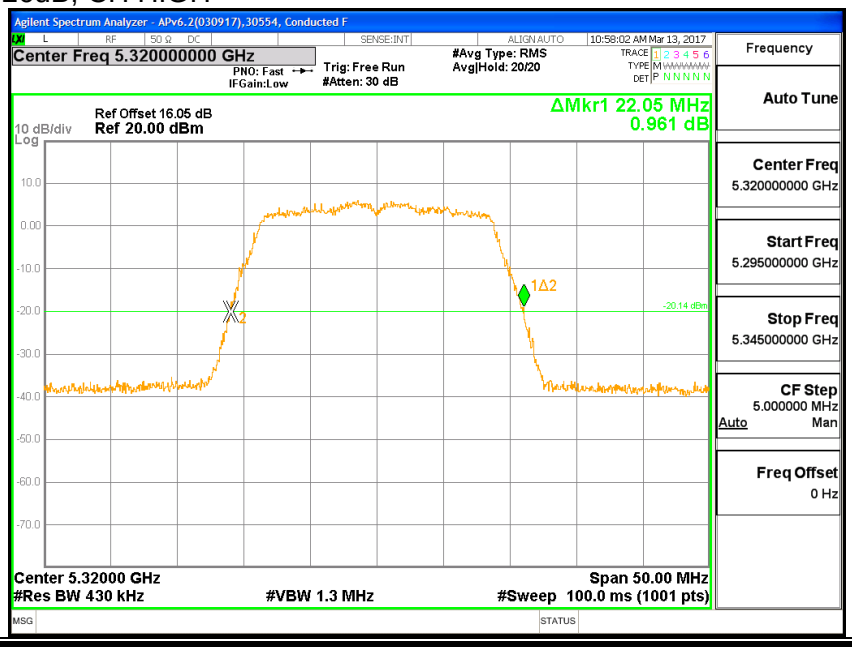
26dB, CH HIGH



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8.11.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Low	5260	17.648
Mid	5300	17.688
High	5320	17.628

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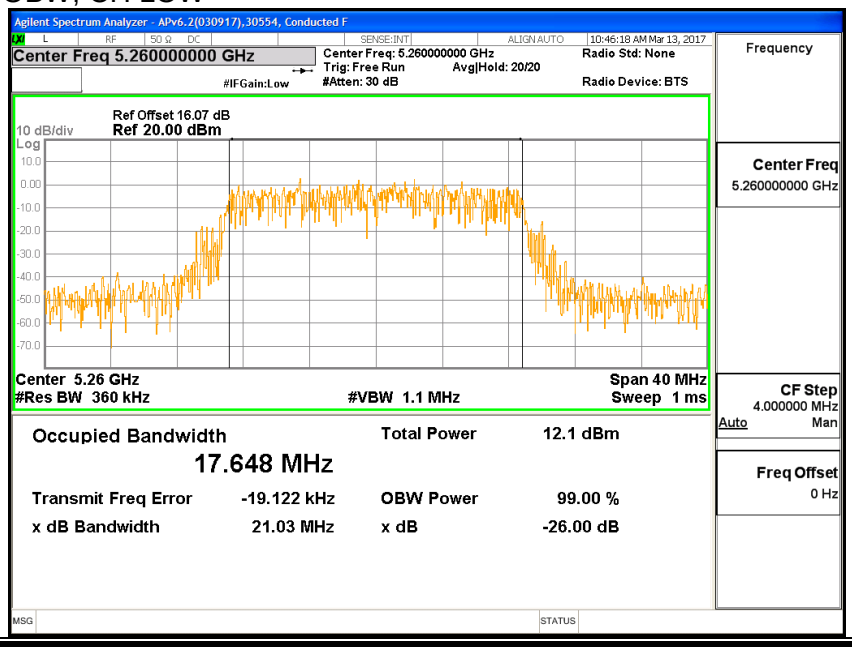
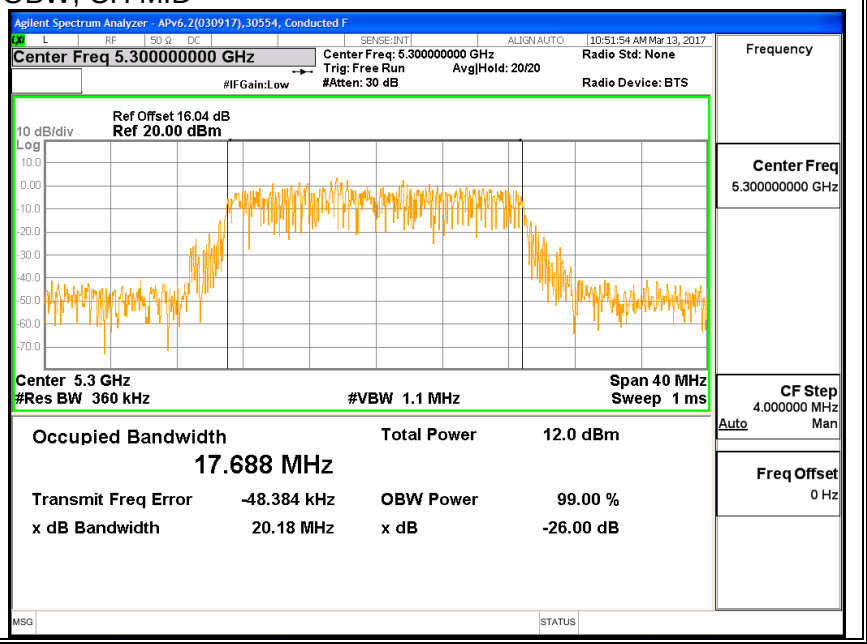
OBW, CH LOW



OBW, CH MID



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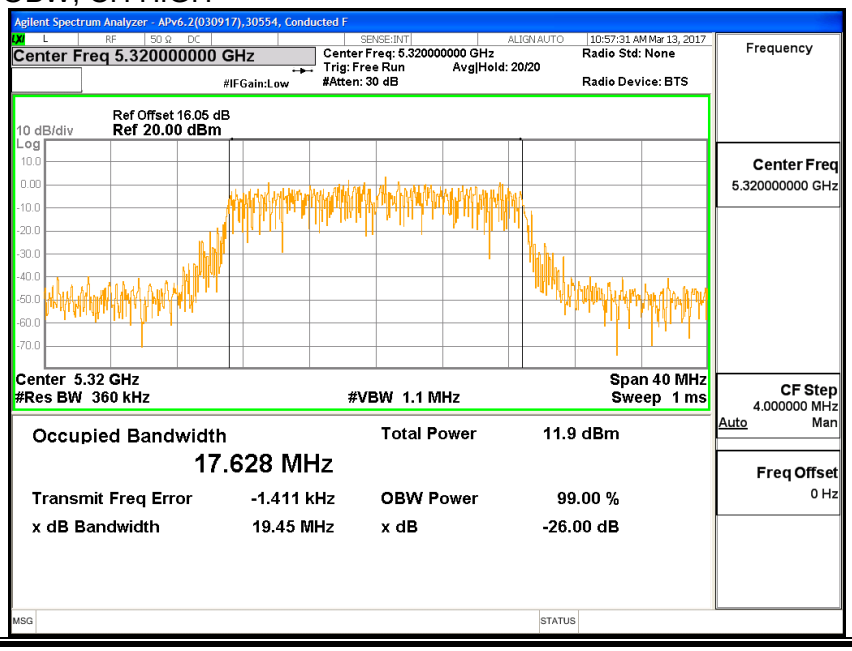
OBW, CH HIGH



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8.11.3. AVERAGE POWER

ID:	30554	Date:	6/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power LAT 3 (dBm)
Low	5260	20.94
Mid	5300	19.43
High	5320	16.82

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8.11.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 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

Measurements perform 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 the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

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

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RESULTS

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5260	22.150	17.648	-1.09	23.47	11.00
Mid	5300	22.000	17.688	-1.09	23.48	11.00
High	5320	22.050	17.628	-1.09	23.46	11.00

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

Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	20.94	20.94	23.47	-2.53
Mid	5300	19.43	19.43	23.48	-4.05
High	5320	16.82	16.82	23.46	-6.64

PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5260	10.366	10.37	11.00	-0.63
Mid	5300	9.289	9.29	11.00	-1.71
High	5320	6.543	6.54	11.00	-4.46

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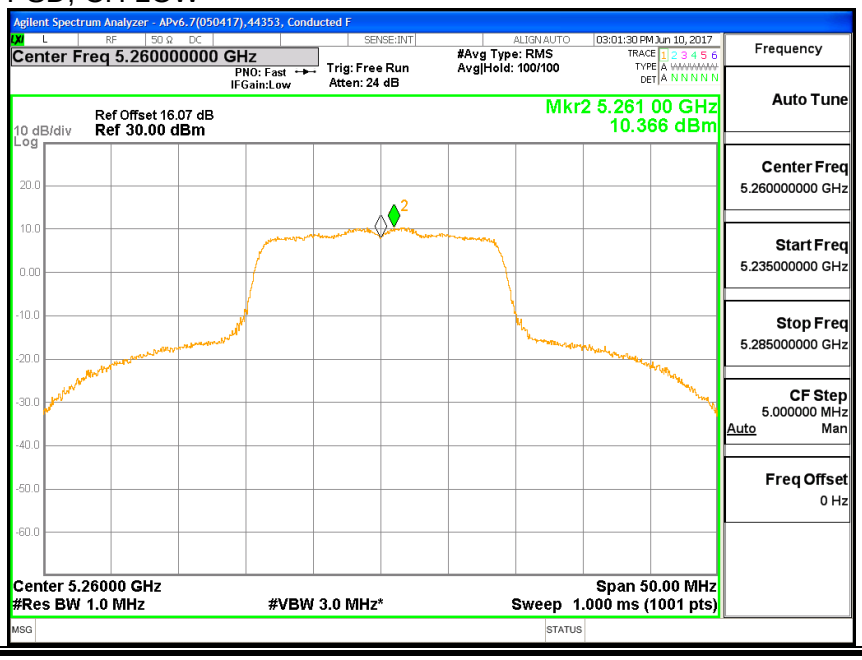
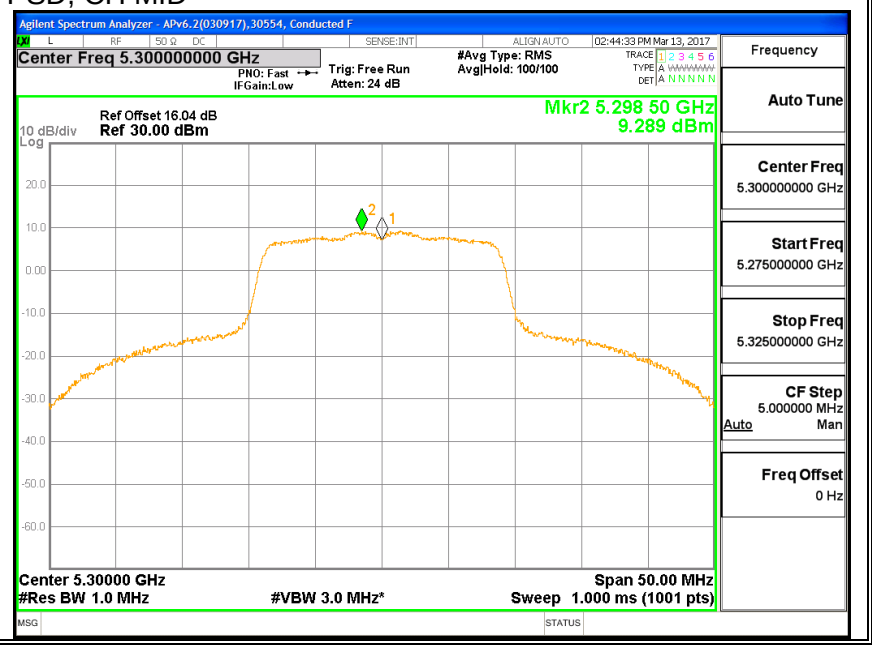
PSD, CH LOW



PSD, CH MID



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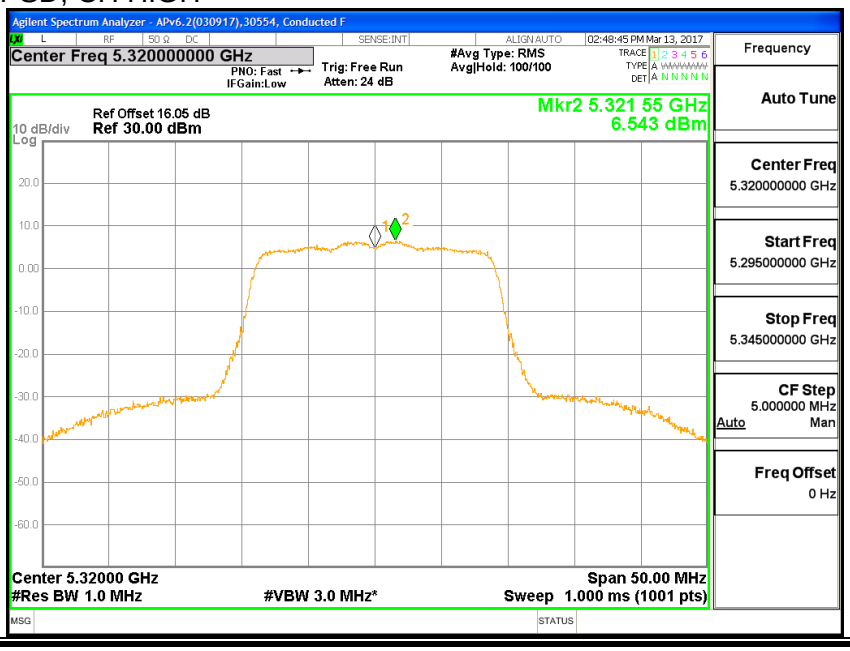
PSD, CH HIGH



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8.12. 11n HT20 2TX CDD MIMO MODE IN THE 5.3GHz BAND

8.12.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Low	5260	22.15	21.80
Mid	5300	22.10	21.75
High	5320	22.00	21.70

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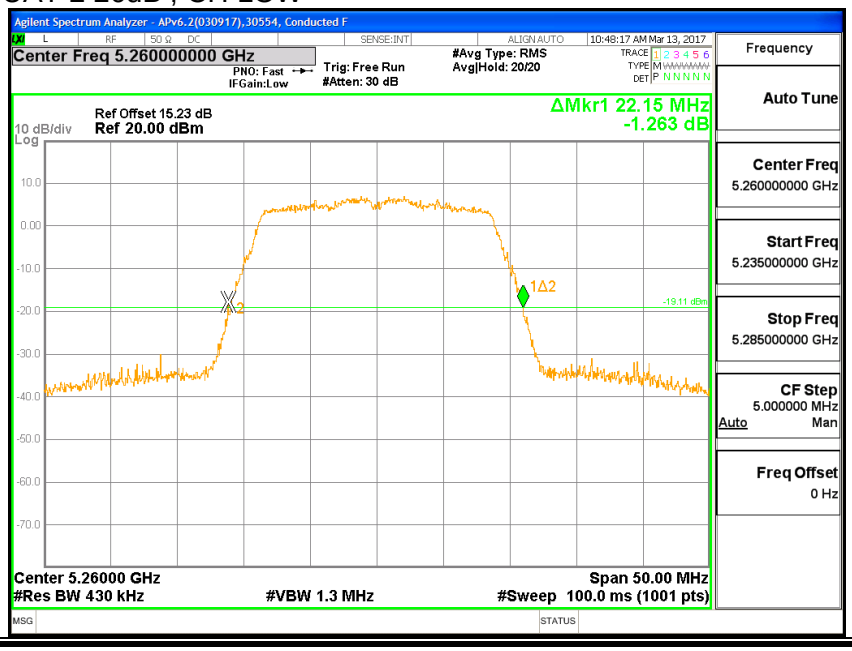
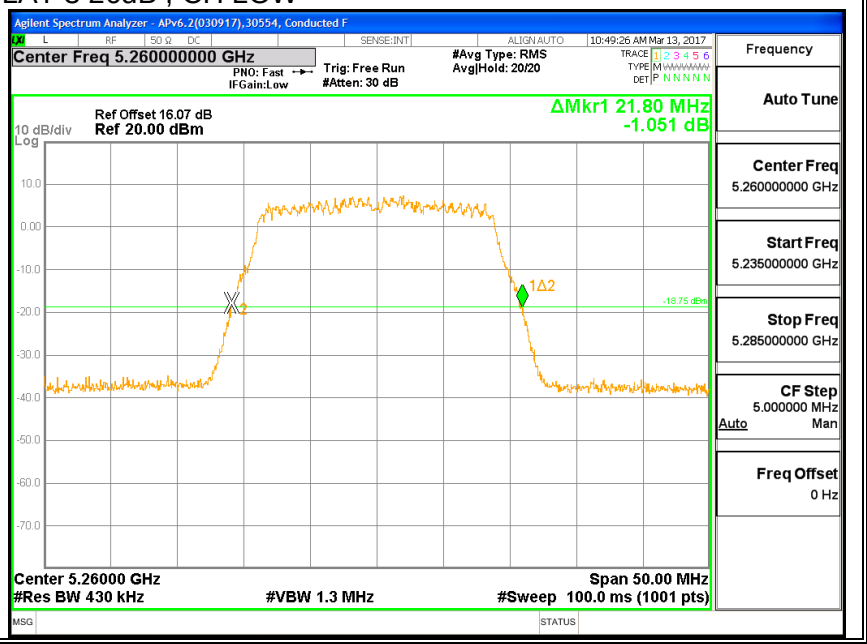
UAT 2 26dB , CH LOW



LAT 3 26dB , CH LOW



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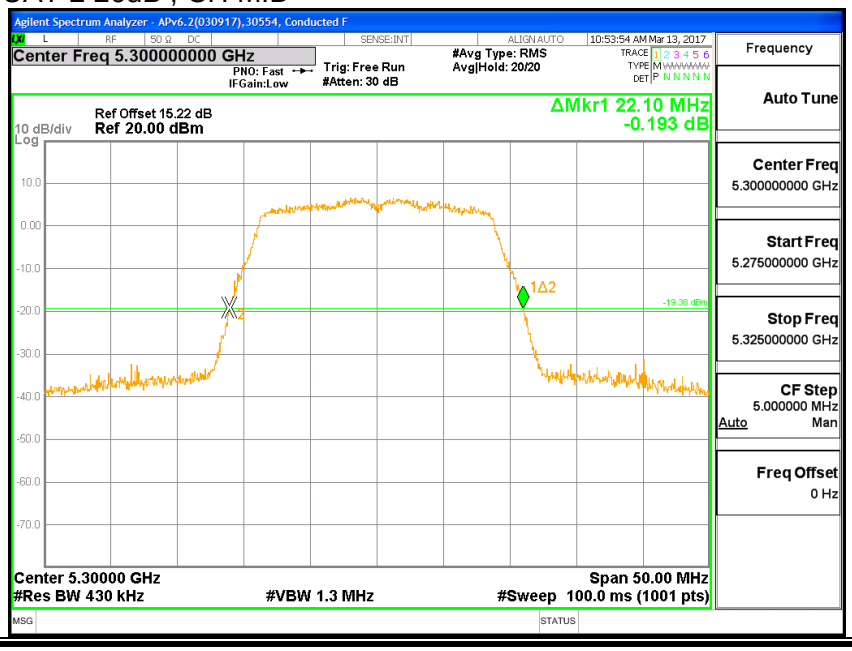
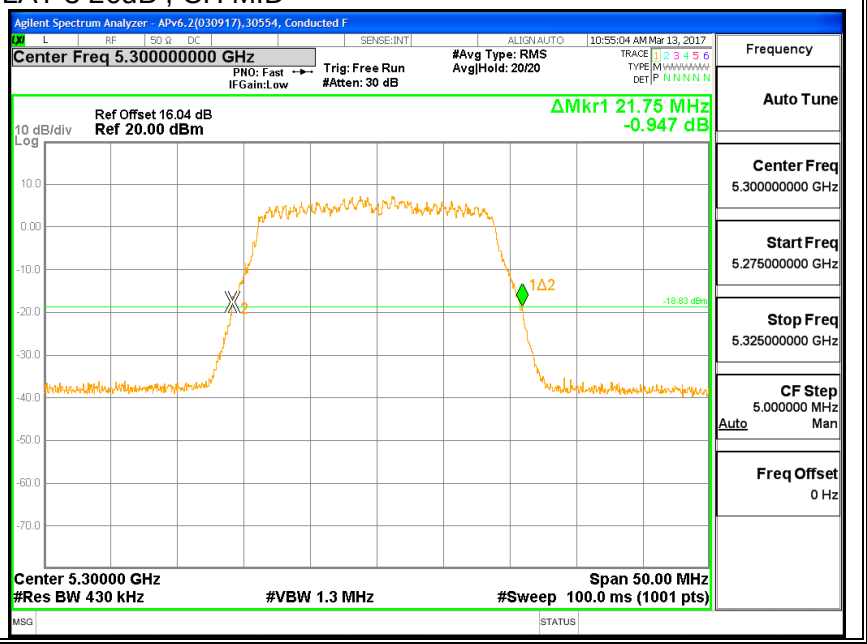
UAT 2 26dB , CH MID



LAT 3 26dB , CH MID



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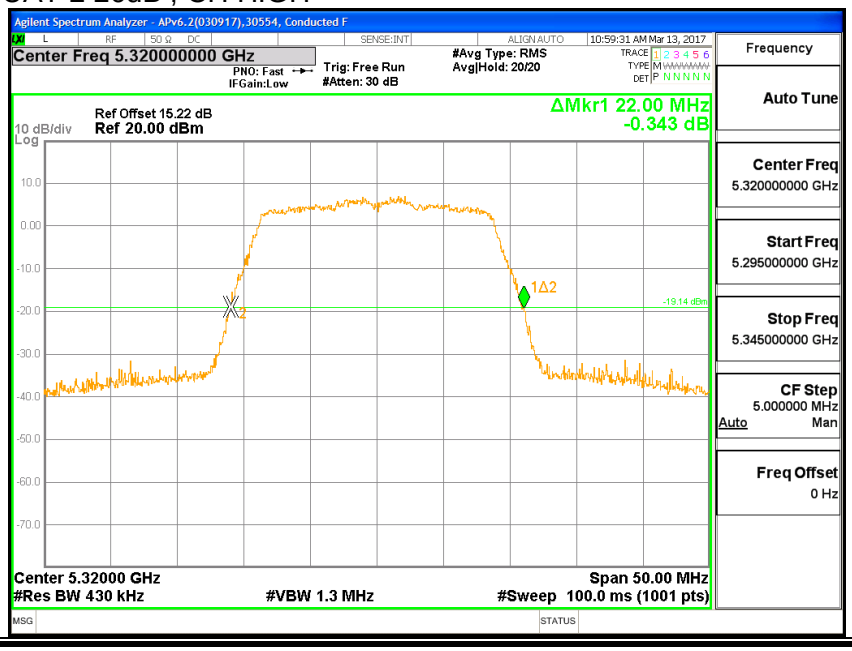
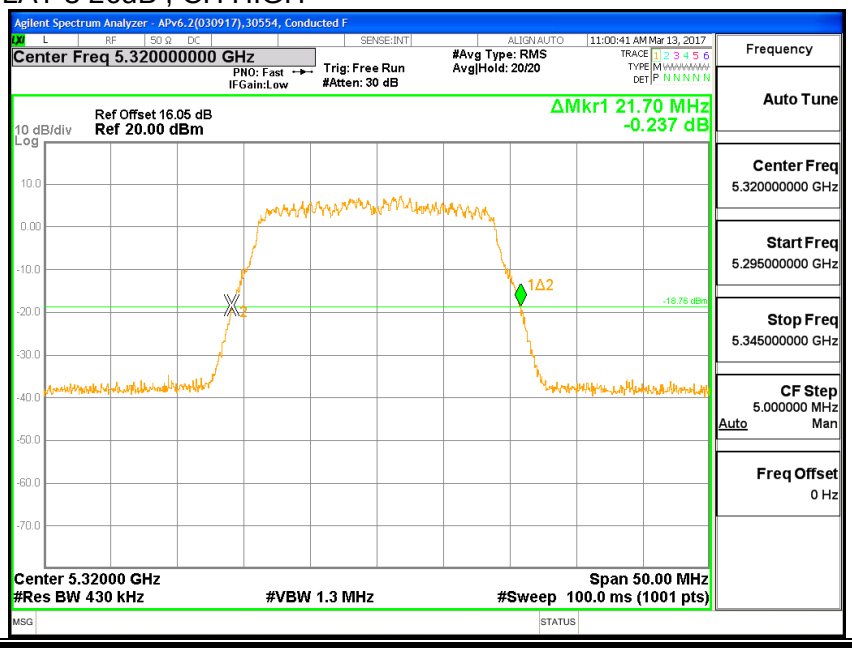
UAT 2 26dB , CH HIGH



LAT 3 26dB , CH HIGH



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8.12.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Low	5260	17.876	17.716
Mid	5300	17.798	17.744
High	5320	17.746	17.620

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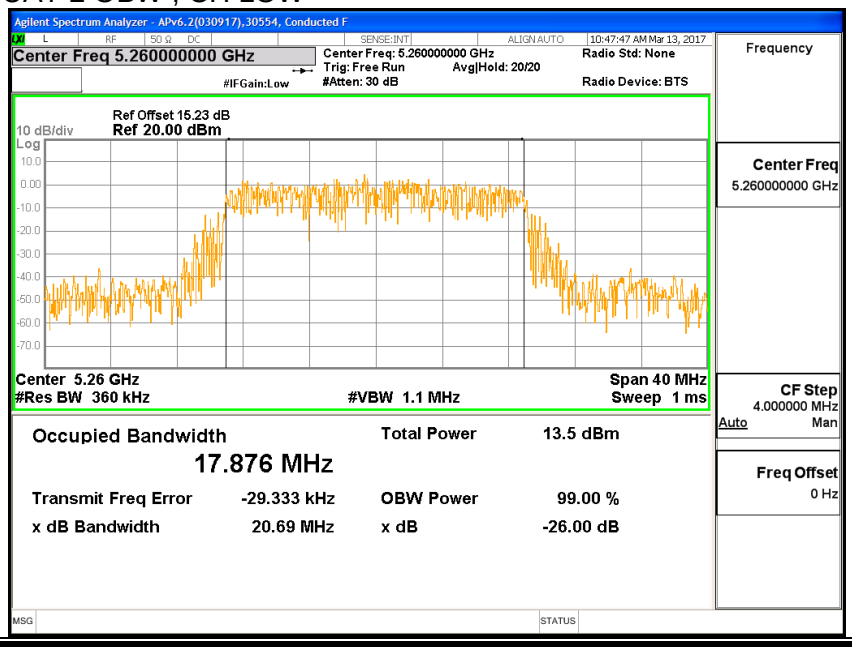
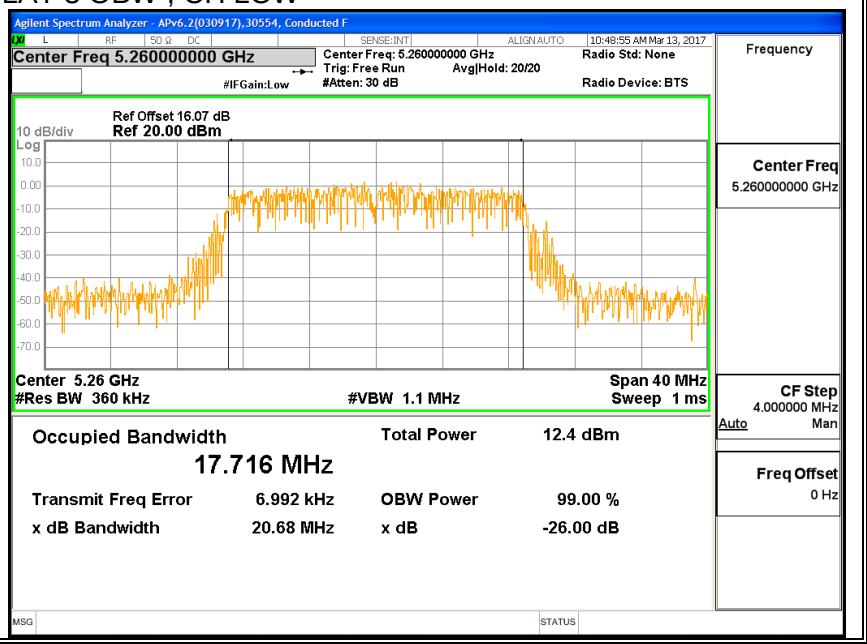
UAT 2 OBW , CH LOW



LAT 3 OBW , CH LOW



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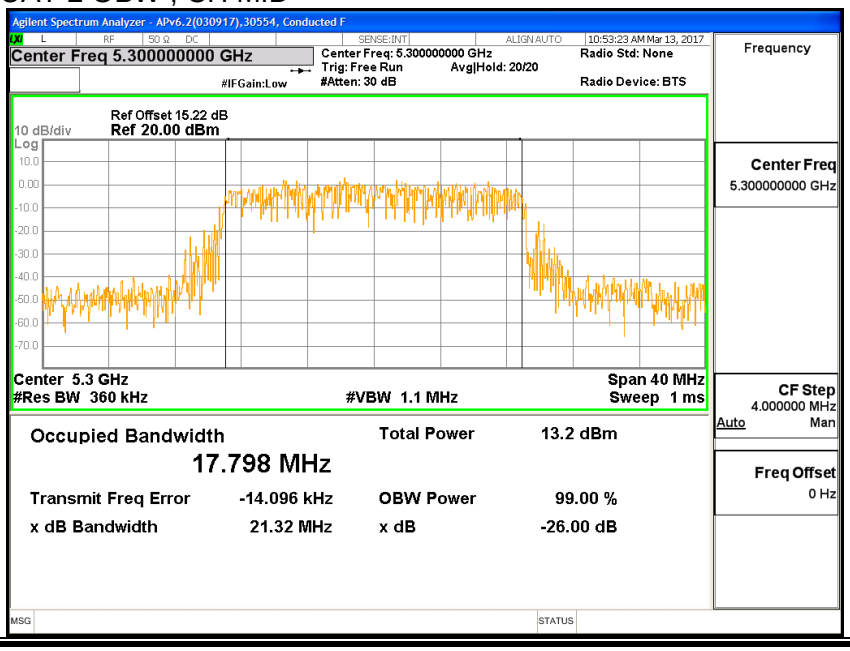
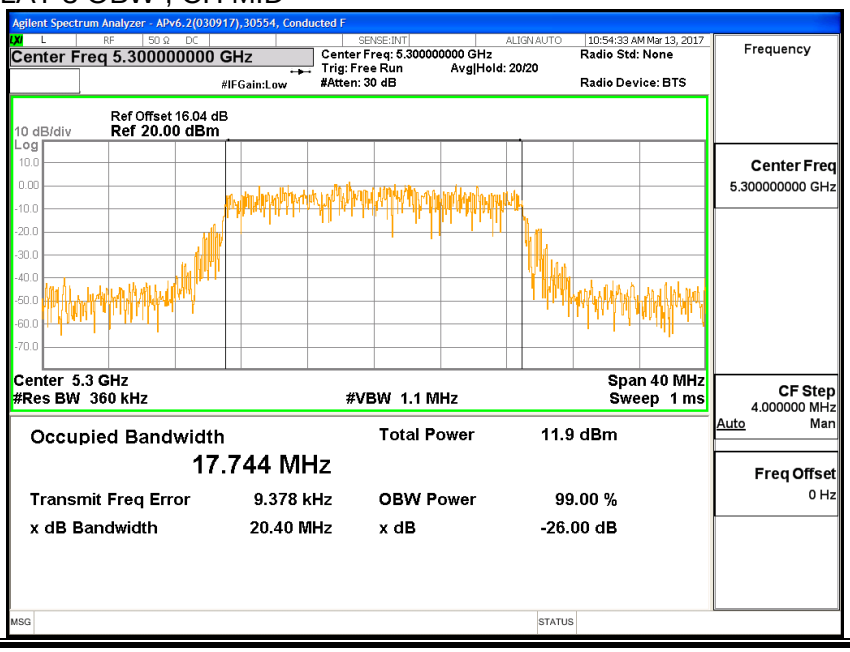
UAT 2 OBW , CH MID



LAT 3 OBW , CH MID



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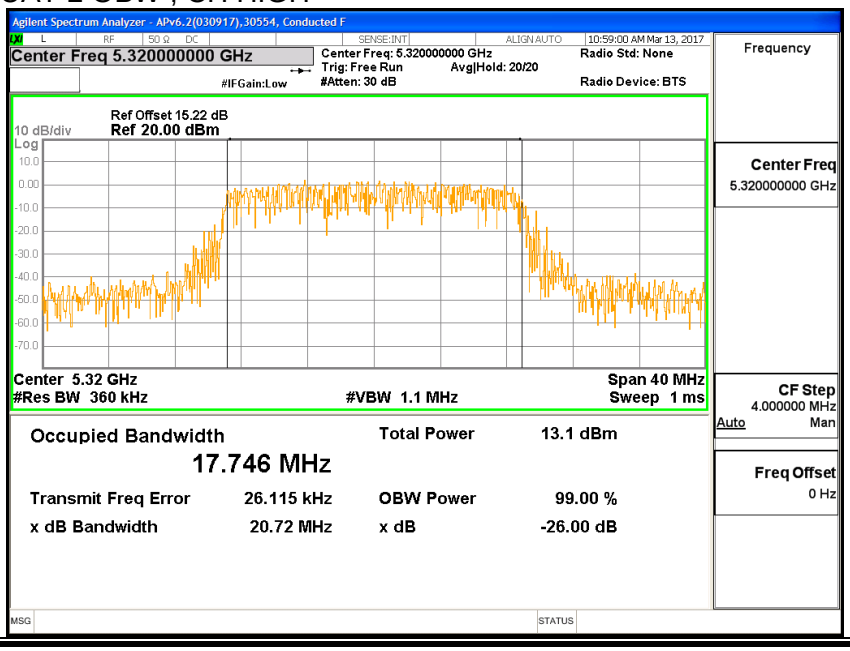
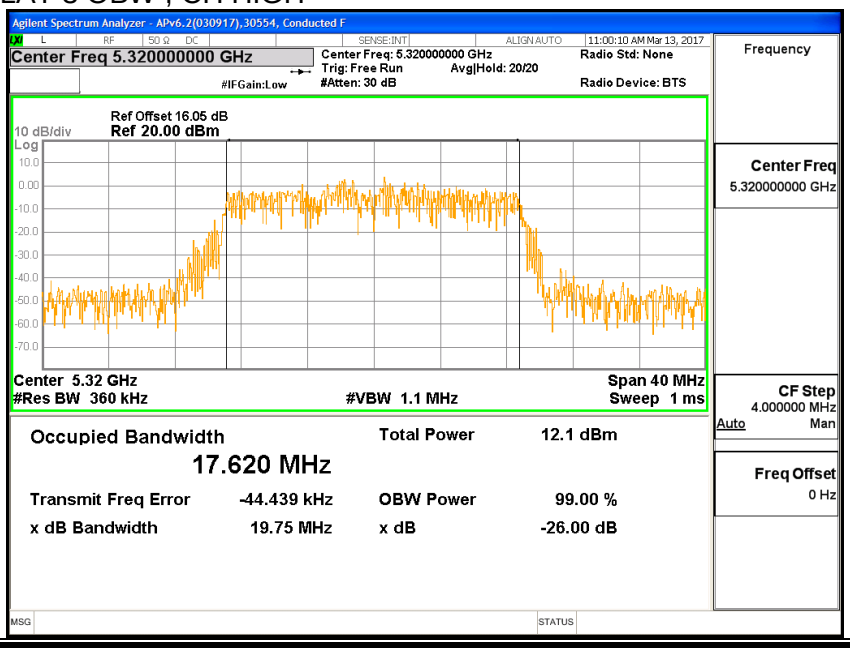
UAT 2 OBW , CH HIGH



LAT 3 OBW , CH HIGH



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8.12.3. AVERAGE POWER

ID:	30554	Date:	6/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Average Power Results

Channel	Frequency (MHz)	UAT 2 Power (dBm)	LAT 3 Power (dBm)	Total Power (dBm)
Low	5260	17.72	17.70	20.72
Mid	5300	17.73	17.69	20.72
High	5320	16.92	16.96	19.95

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8.12.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 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

Measurements perform 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 the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-3.74	-1.09	-2.22

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-3.74	-1.09	0.70

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RESULTS

Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5260	21.80	17.716	-2.22	0.70	23.48	11.00
Mid	5300	21.75	17.744	-2.22	0.70	23.49	11.00
High	5320	21.70	17.62	-2.22	0.70	23.46	11.00

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

Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	17.72	17.70	20.72	23.48	-2.76
Mid	5300	17.73	17.69	20.72	23.49	-2.77
High	5320	16.92	16.96	19.95	23.46	-3.51

PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5260	6.905	7.483	10.21	11.00	-0.79
Mid	5300	6.808	7.148	9.99	11.00	-1.01
High	5320	6.520	6.633	9.59	11.00	-1.41

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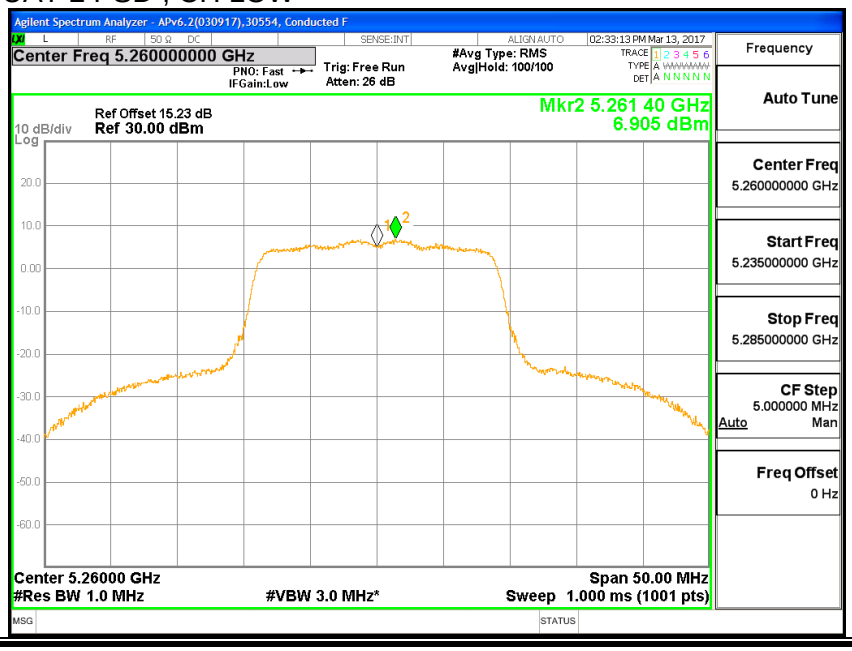
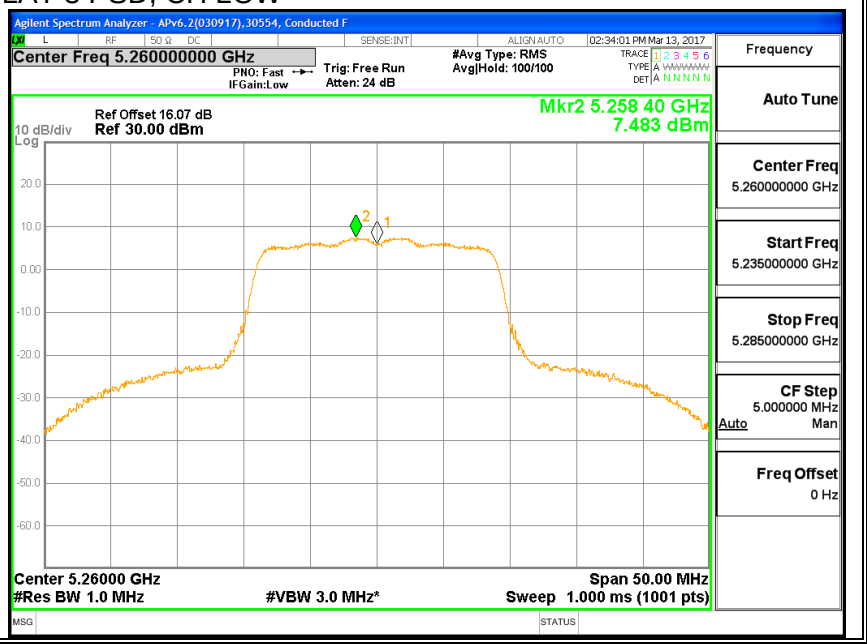
UAT 2 PSD , CH LOW



LAT 3 PSD, CH LOW



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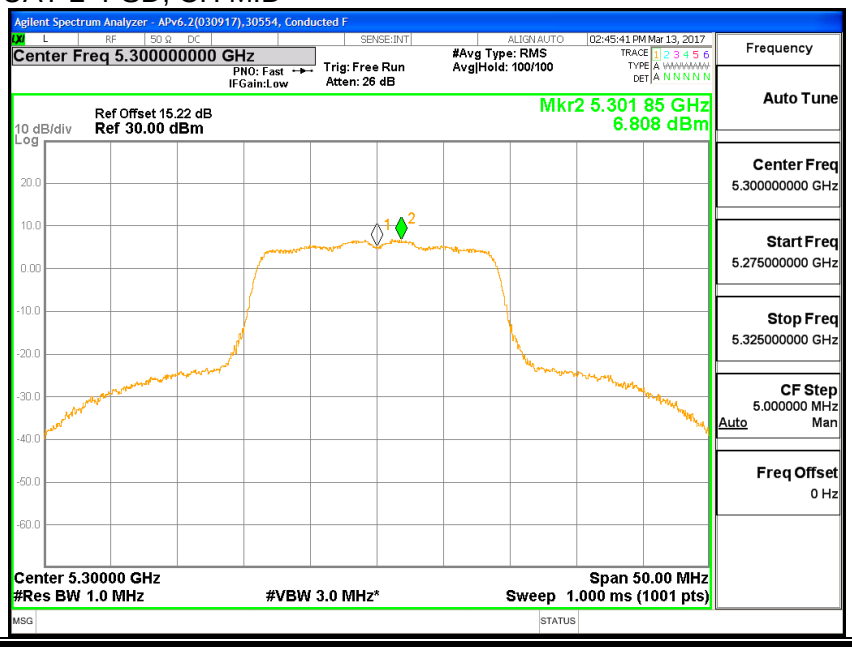
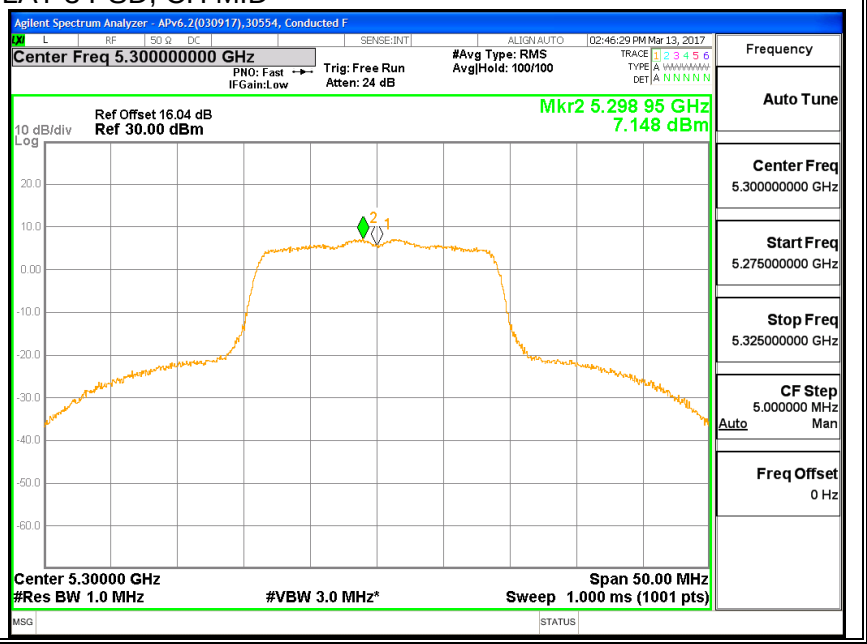
UAT 2 PSD, CH MID



LAT 3 PSD, CH MID



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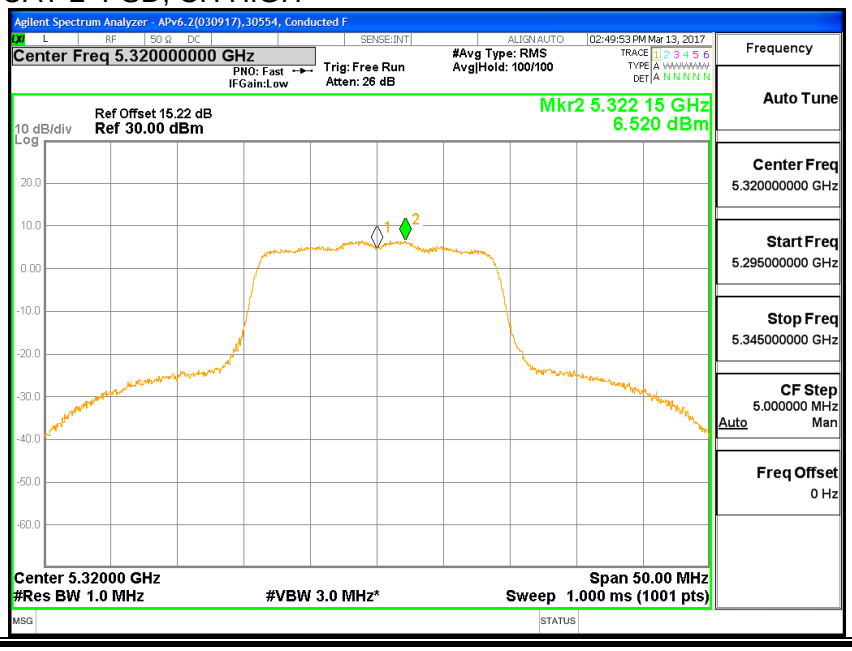
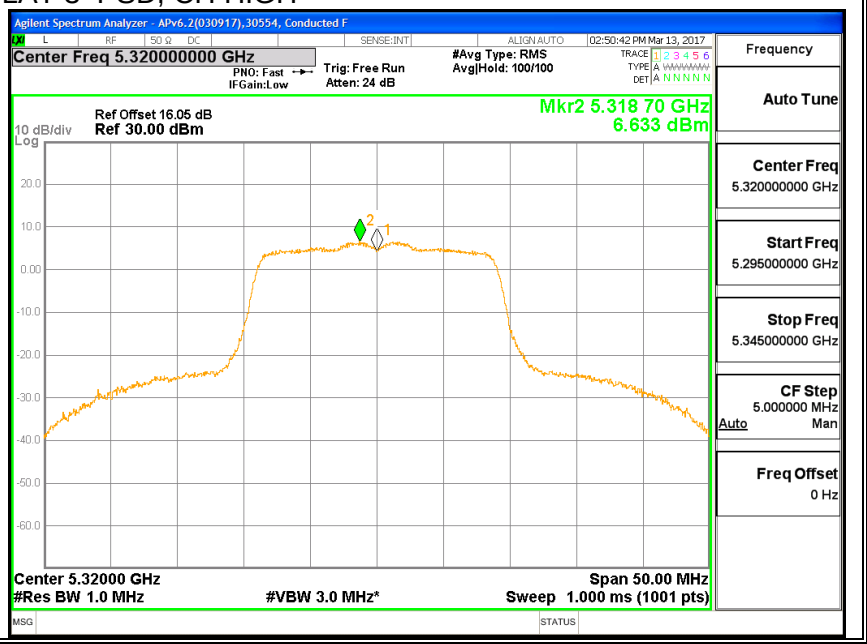
UAT 2 PSD, CH HIGH



LAT 3 PSD, CH HIGH



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8.13. 11n HT40 UAT 2 SISO MODE IN THE 5.3GHz BAND

8.13.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Low	5270	40.5
High	5310	40.6

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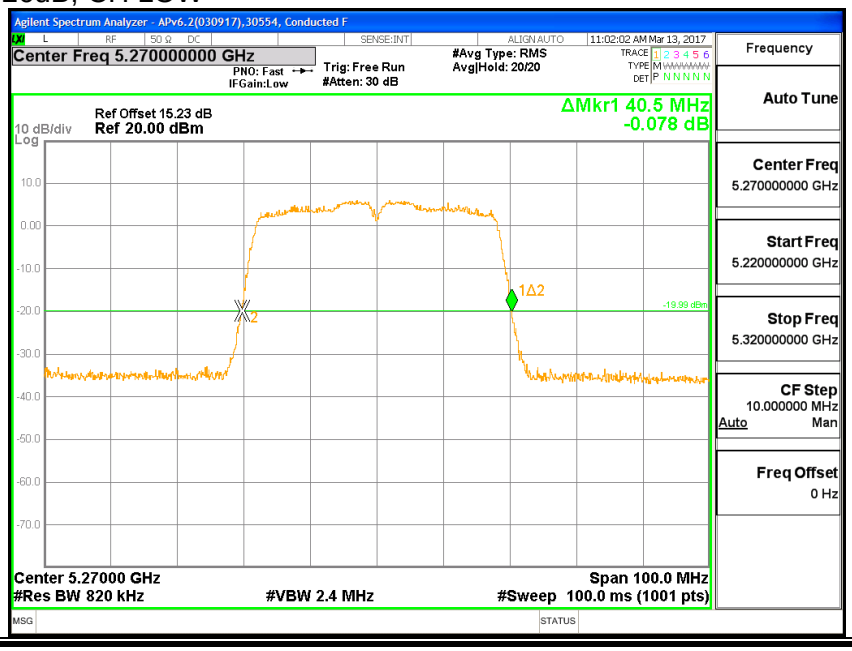
26dB, CH LOW



26dB, CH HIGH

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8.13.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)
Low	5270	35.535
High	5310	36.119

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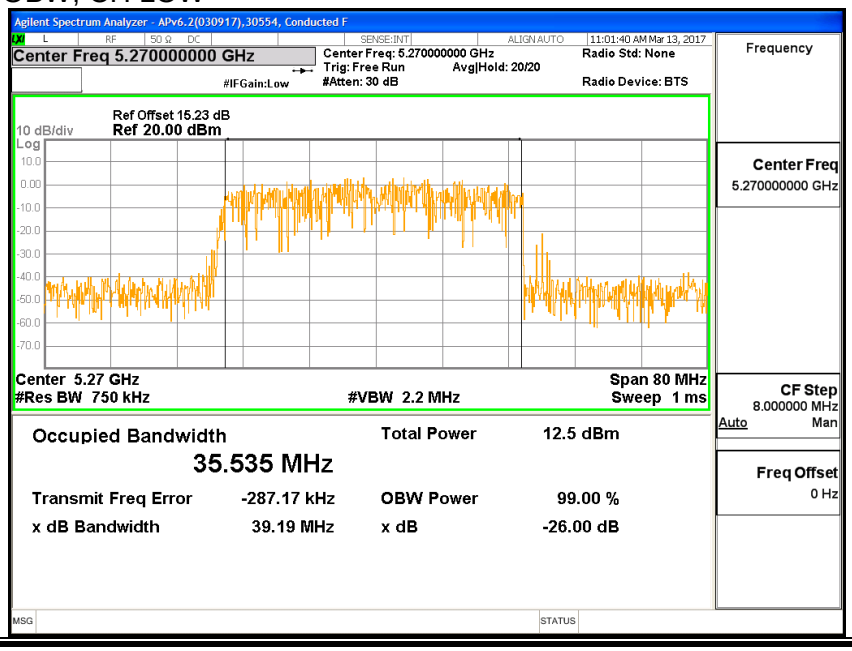
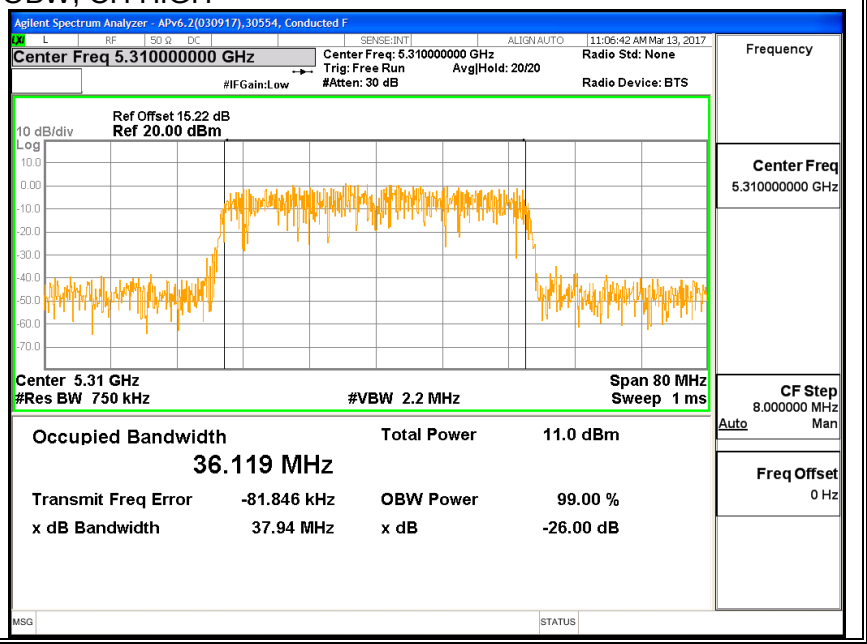
OBW, CH LOW



OBW, CH HIGH



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8.13.3. AVERAGE POWER

ID:	30554	Date:	6/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power UAT 2 (dBm)
Low	5270	18.47
High	5310	15.32

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8.13.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 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

Measurements perform 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 the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required. However, PSD measurement was measured by Spectrum Analyzer and duty cycle factor is required

DIRECTIONAL ANTENNA GAIN

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

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RESULTS

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.50	35.54	-3.74	24.00	11.00
High	5310	40.60	36.12	-3.74	24.00	11.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd PSD

Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	18.47	18.47	24.00	-5.53
High	5310	15.32	15.32	24.00	-8.68

PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	6.435	6.535	11.00	-4.47
High	5310	2.069	2.169	11.00	-8.83

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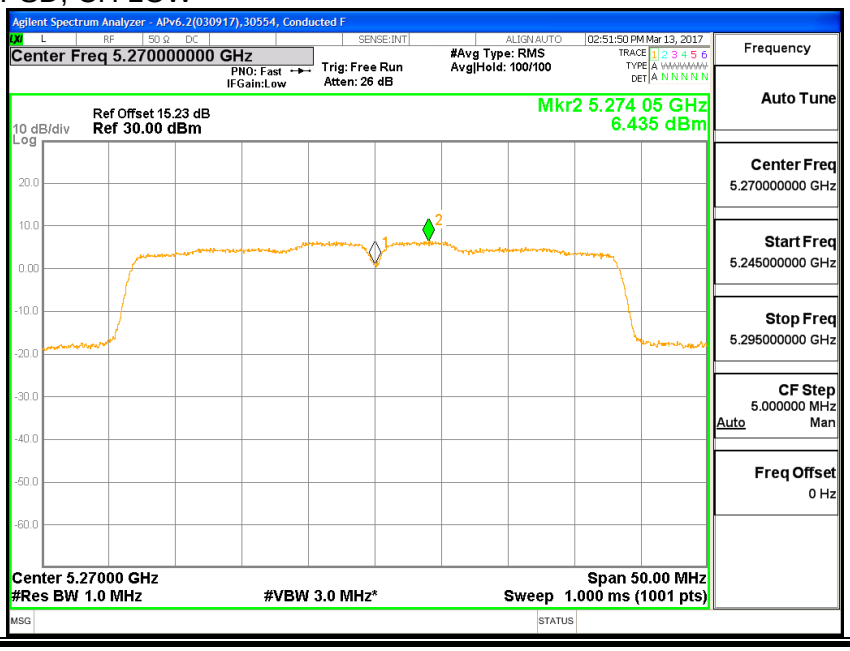
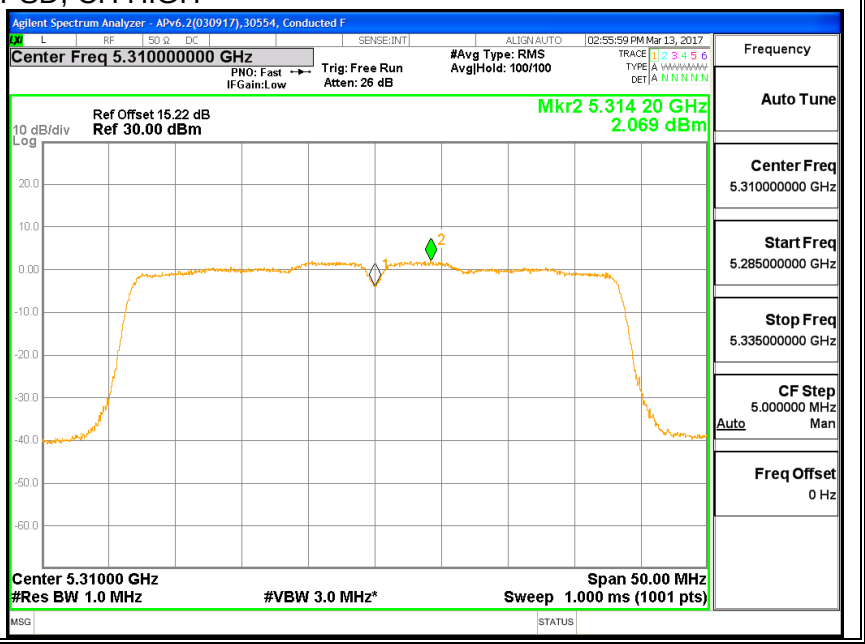
PSD, CH LOW



PSD, CH HIGH



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8.14. 11n HT40 LAT 3 SISO MODE IN THE 5.3GHz BAND

8.14.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW LAT 3 (MHz)
Low	5270	40.5
High	5310	40.5

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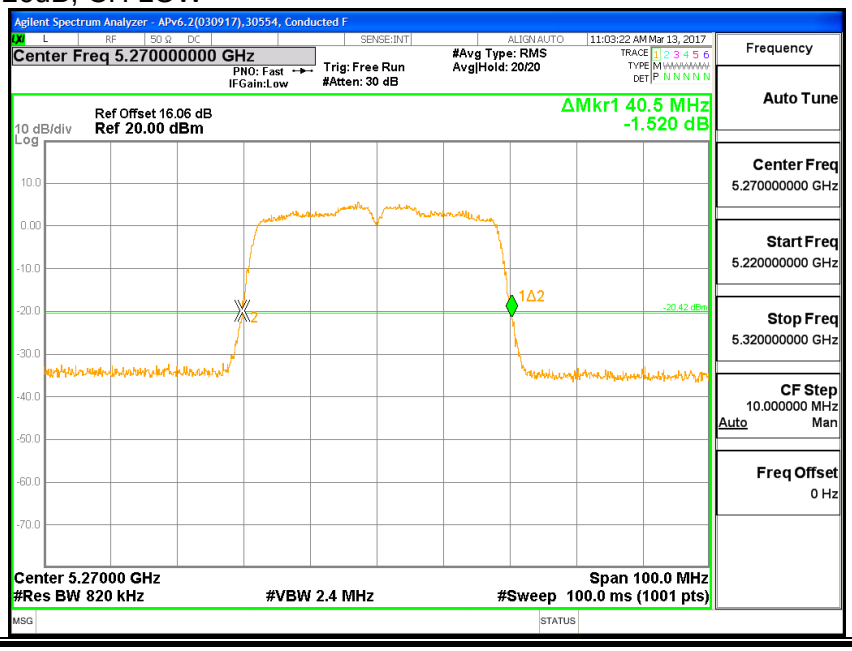
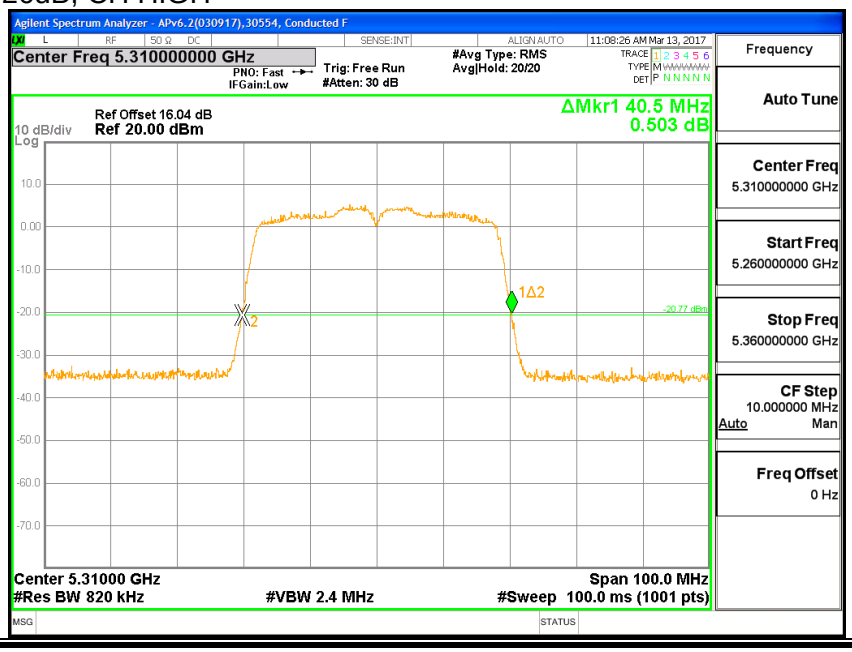
26dB, CH LOW



26dB, CH HIGH



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8.14.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Low	5270	36.257
High	5310	36.169

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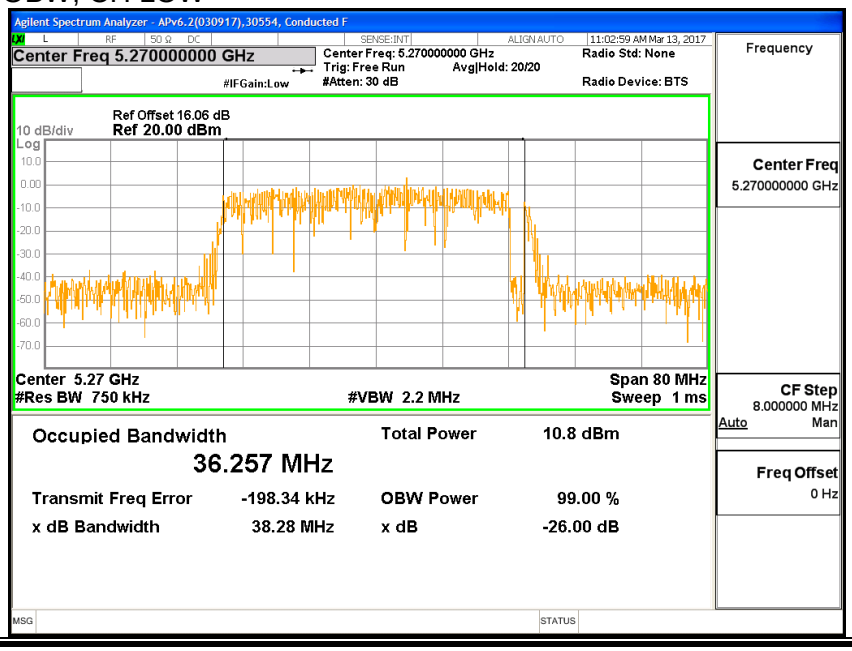
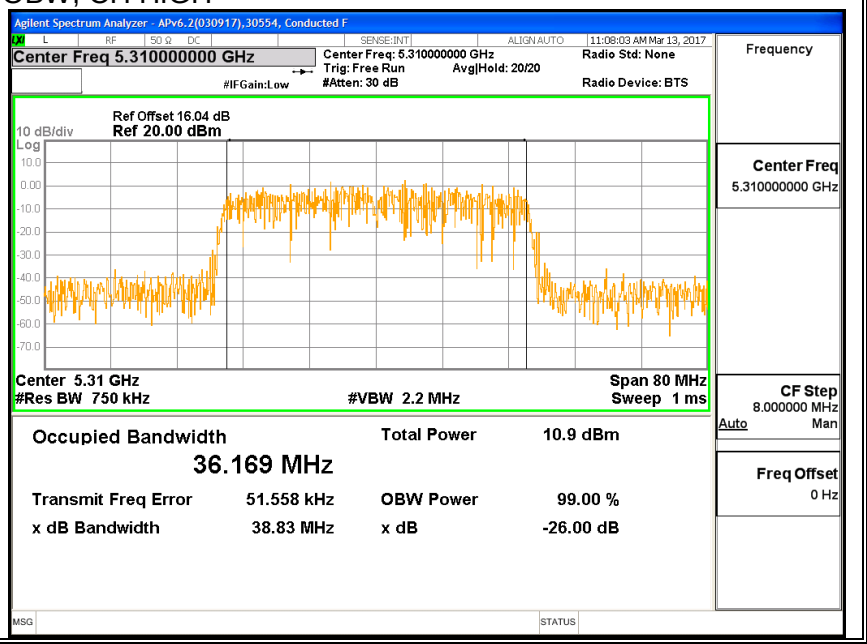
OBW, CH LOW



OBW, CH HIGH



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8.14.3. AVERAGE POWER

ID:	30554	Date:	6/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power LAT 3 (dBm)
Low	5270	18.46
High	5310	15.27

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8.14.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 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

Measurements perform 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 the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required. However, PSD measurement was measured by Spectrum Analyzer and duty cycle factor is required

DIRECTIONAL ANTENNA GAIN

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

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RESULTS

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.50	36.26	-1.09	24.00	11.00
High	5310	40.50	36.17	-1.09	24.00	11.00

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	18.46	18.46	24.00	-5.54
High	5310	15.27	15.27	24.00	-8.73

PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	6.123	6.223	11.00	-4.78
High	5310	1.548	1.648	11.00	-9.35

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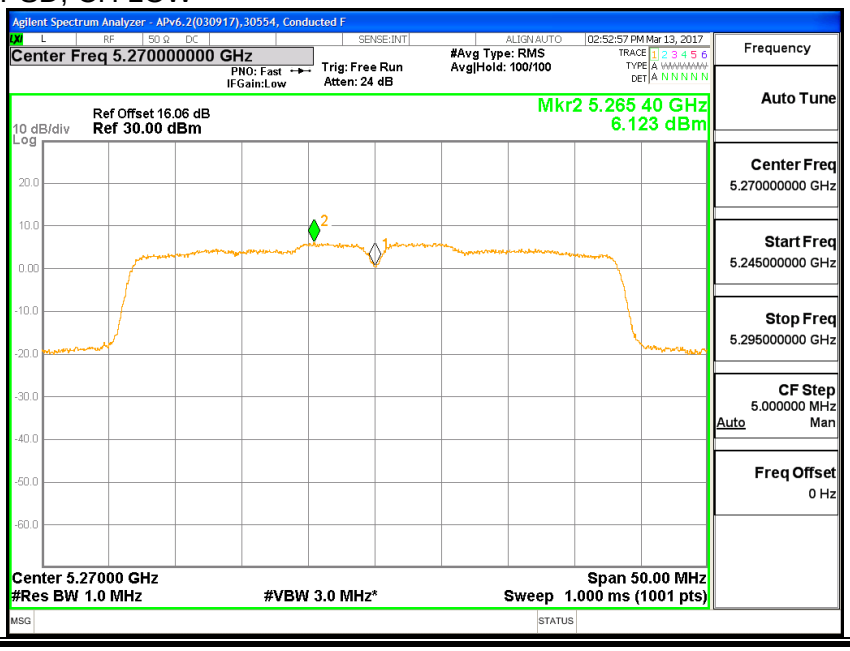
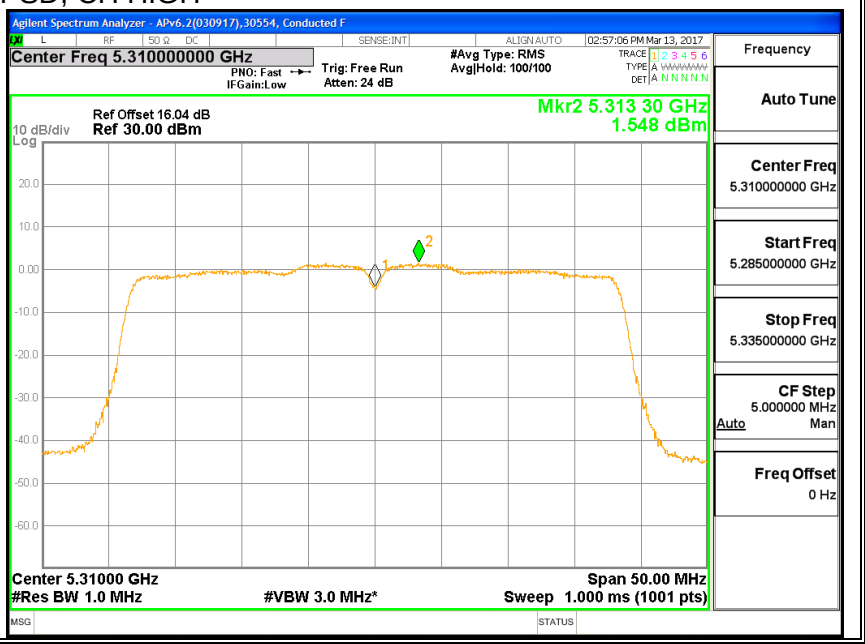


PSD, CH HIGH



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8.15. 11n HT40 2TX CDD MIMO MODE IN THE 5.3GHz BAND

8.15.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Low	5270	40.5	40.2
High	5310	40.5	40.0

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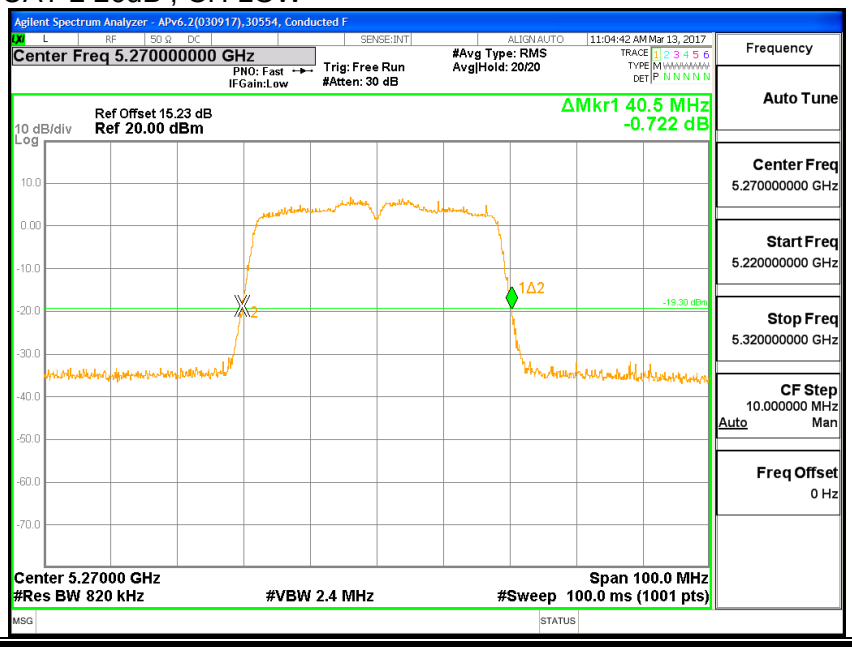
UAT 2 26dB , CH LOW



LAT 3 26dB , CH LOW

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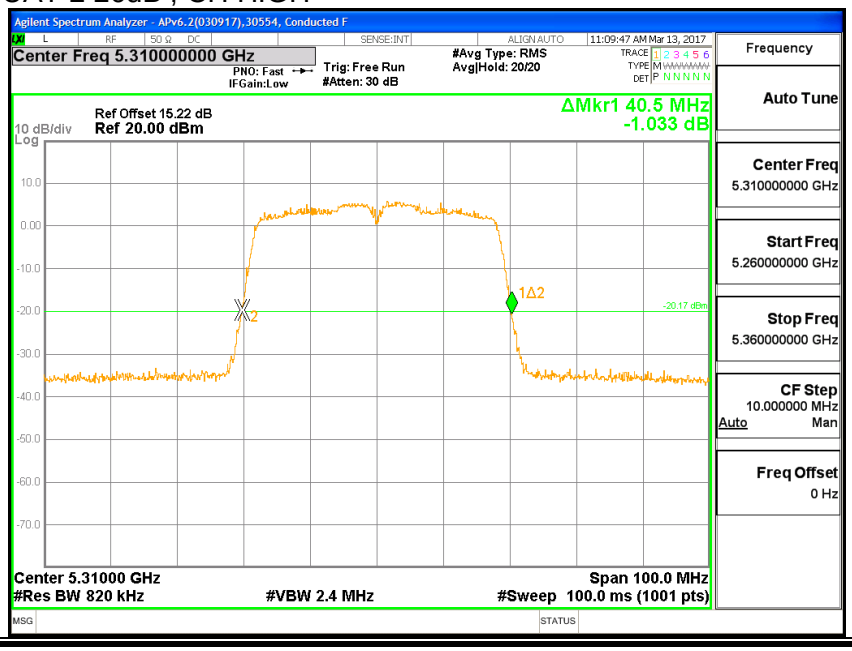
UAT 2 26dB , CH HIGH



LAT 3 26dB , CH HIGH

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8.15.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Low	5270	36.23	36.249
High	5310	36.27	36.194

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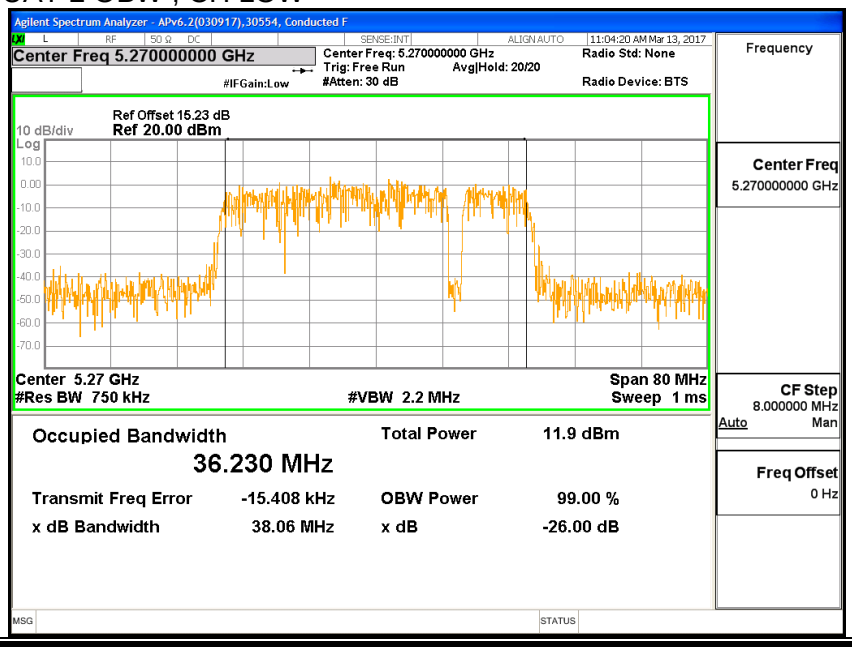
UAT 2 OBW , CH LOW



LAT 3 OBW , CH LOW

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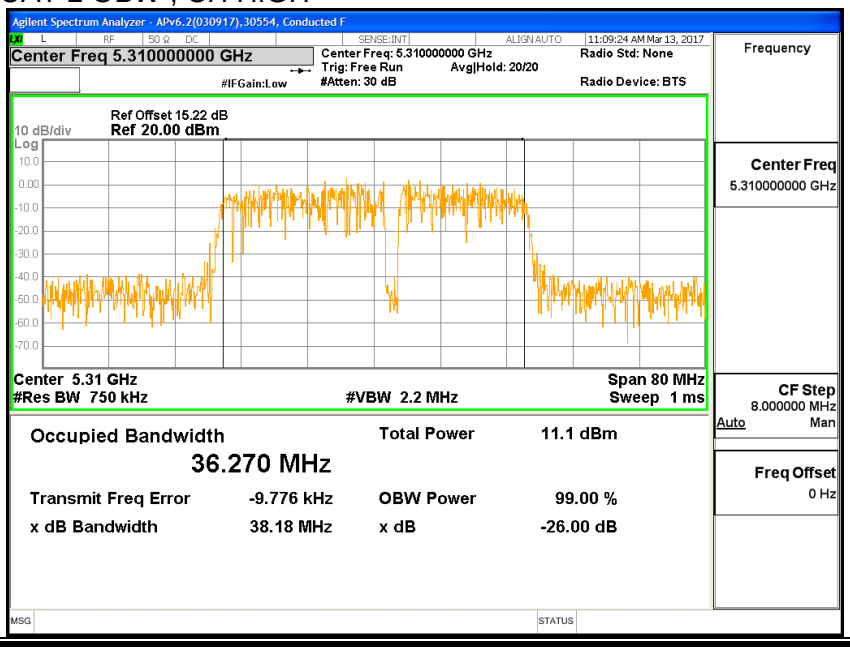
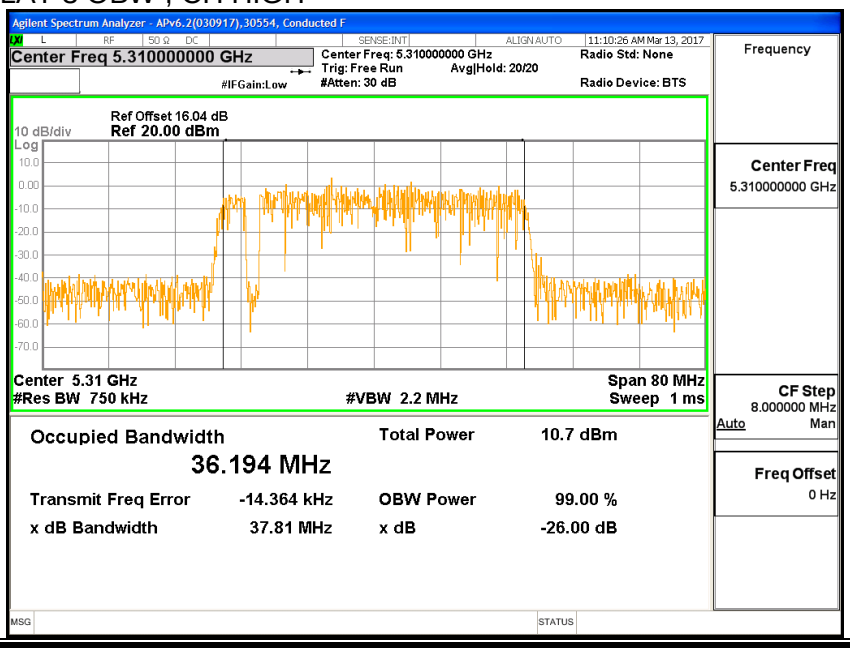
UAT 2 OBW , CH HIGH



LAT 3 OBW , CH HIGH



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8.15.3. AVERAGE POWER

ID:	30554	Date:	6/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Average Power Results

Channel	Frequency (MHz)	UAT 2 Power (dBm)	LAT 3 Power (dBm)	Total Power (dBm)
Low	5270	18.38	18.44	21.42
High	5310	14.86	14.92	17.90

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8.15.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 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

Measurements perform 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 the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required. However, PSD measurement was measured by Spectrum Analyzer and duty cycle factor is required

DIRECTIONAL ANTENNA GAIN

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-3.74	-1.09	-2.22

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-3.74	-1.09	0.70

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RESULTS

Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.200	36.230	-2.22	0.70	24.00	11.00
High	5310	40.000	36.194	-2.22	0.70	24.00	11.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd PSD

Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	18.38	18.44	21.42	24.00	-2.58
High	5310	14.86	14.92	17.90	24.00	-6.10

PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	5.406	5.545	8.59	11.00	-2.41
High	5310	1.223	1.373	4.41	11.00	-6.59

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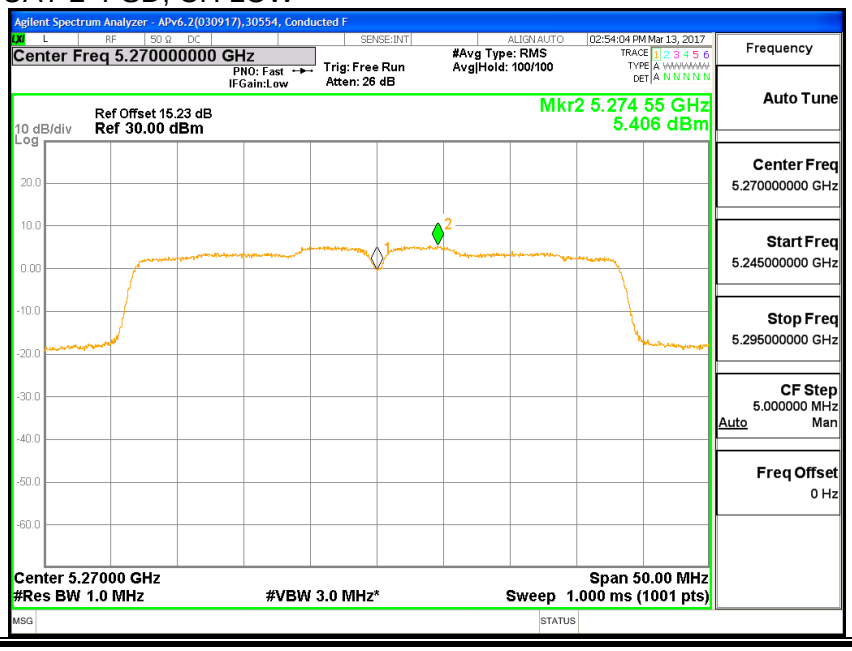
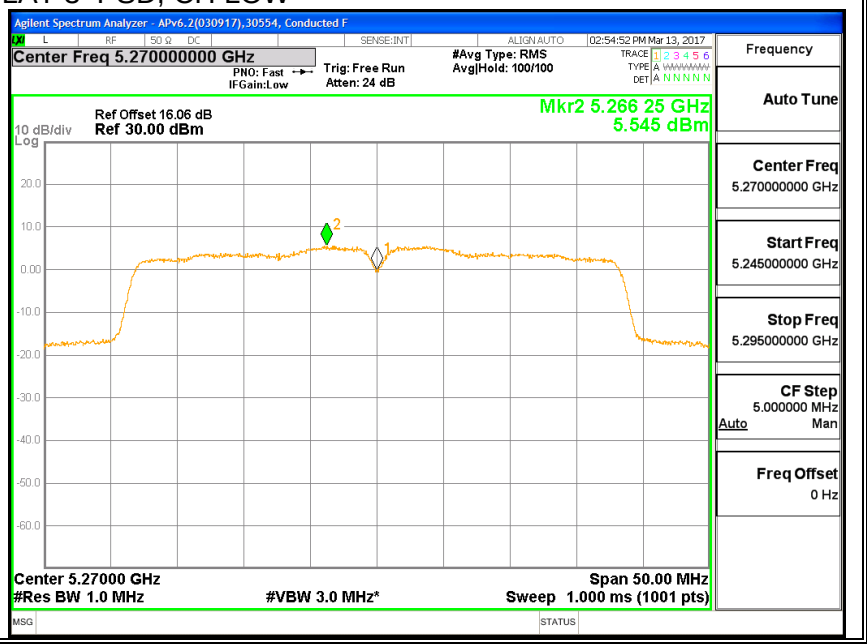
UAT 2 PSD, CH LOW



LAT 3 PSD, CH LOW



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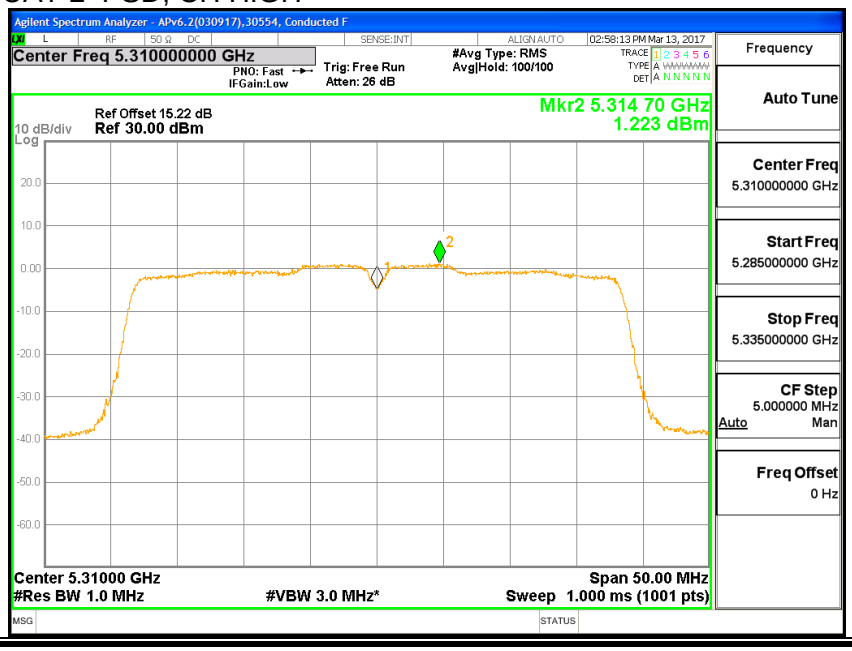
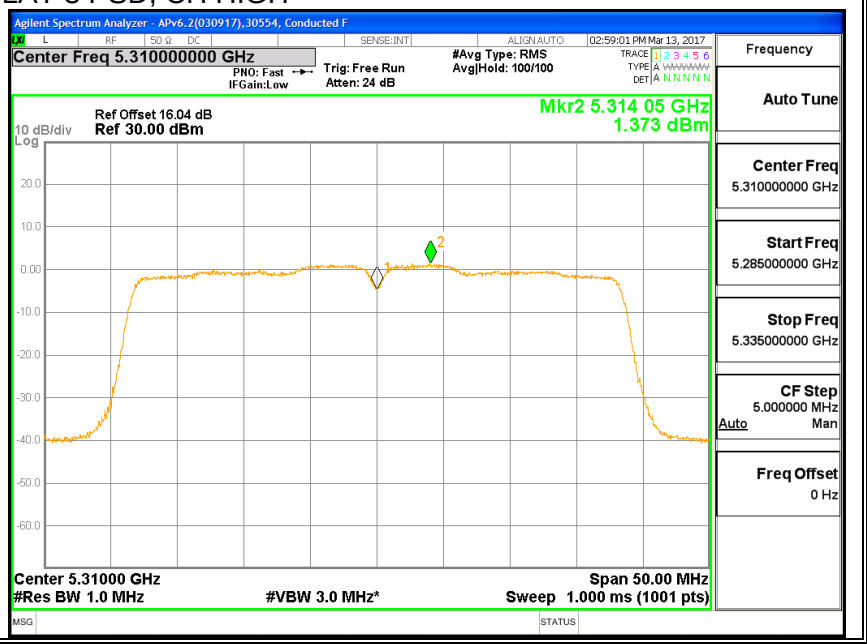
UAT 2 PSD, CH HIGH



LAT 3 PSD, CH HIGH



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8.16. 11ac HT80 UAT 2 SISO MODE IN THE 5.3GHz BAND

8.16.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Mid	5290	82.4

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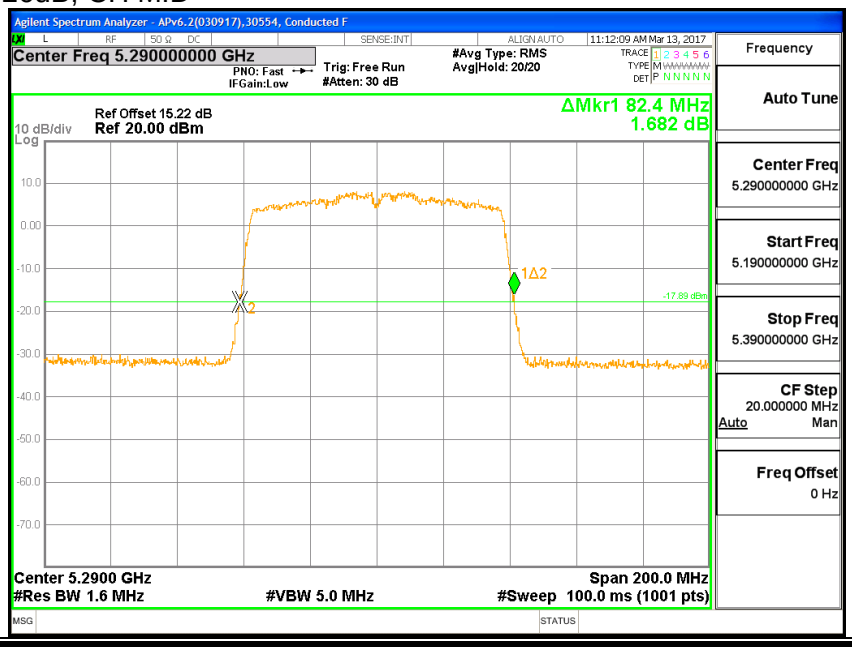
26dB, CH MID



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8.16.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)
Mid	5290	75.571

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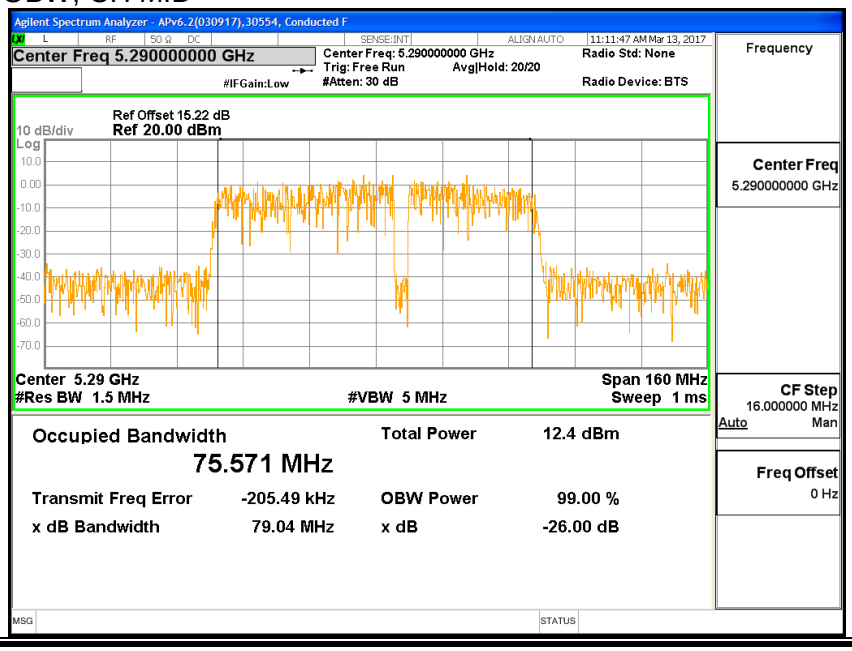
OBW, CH MID



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8.16.3. AVERAGE POWER

ID:	30554	Date:	6/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power UAT 2 (dBm)
Mid	5290	14.93

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8.16.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 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

Measurements perform 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 the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required. However, PSD measurement was measured by Spectrum Analyzer and duty cycle factor is required

DIRECTIONAL ANTENNA GAIN

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

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RESULTS

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5290	82.40	75.57	-3.74	24.00	11.00

Duty Cycle CF (dB)	0.20	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	14.93	14.93	24.00	-9.07

PPSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-0.64	-0.44	11.00	-11.44

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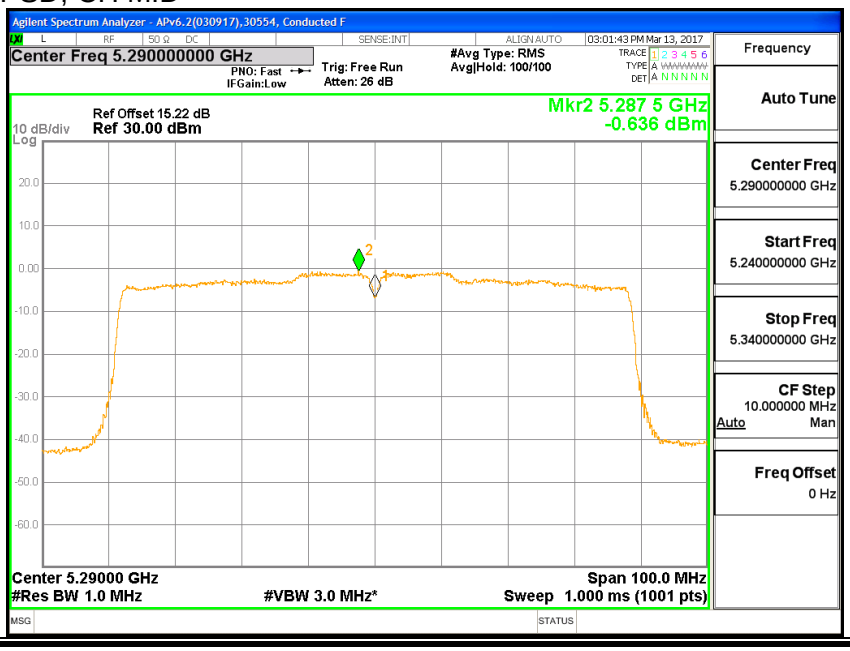
PSD, CH MID



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8.17. 11ac HT80 LAT 3 SISO MODE IN THE 5.3GHz BAND

8.17.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW LAT 3 (MHz)
Mid	5290	82.4

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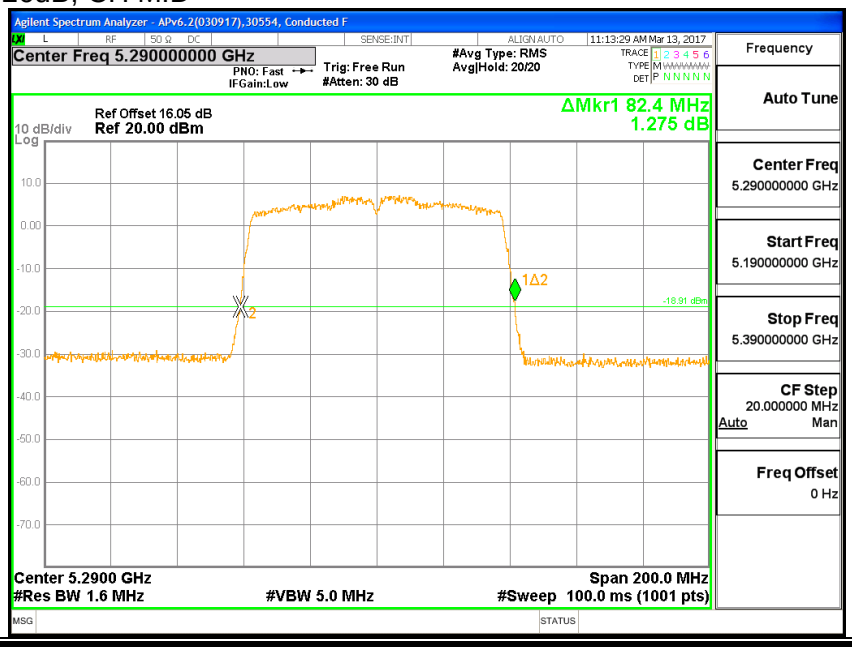
26dB, CH MID



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8.17.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Mid	5290	75.349

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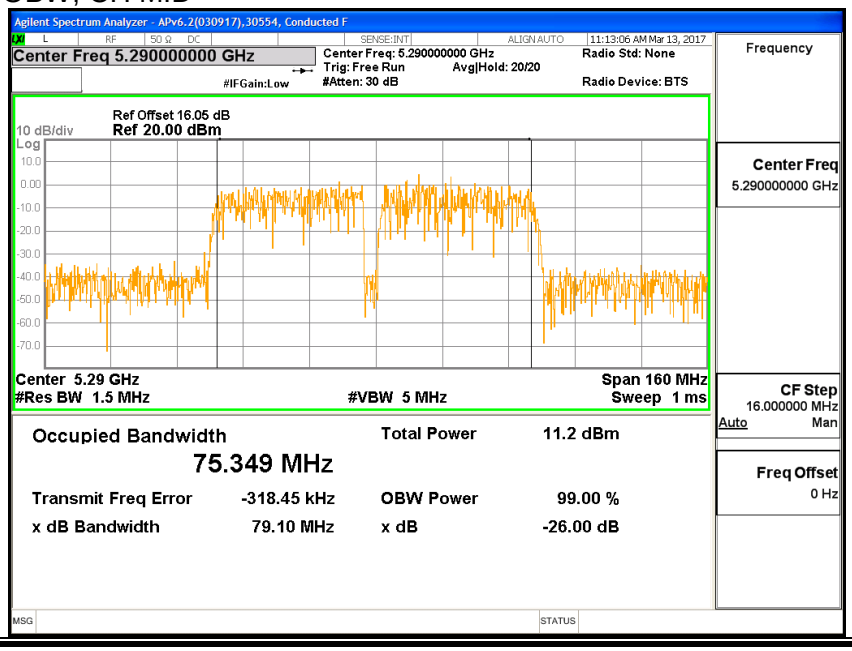
OBW, CH MID



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8.17.3. AVERAGE POWER

ID:	30554	Date:	6/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power LAT 3 (dBm)
Mid	5290	14.87

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8.17.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 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

Measurements perform 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 the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required. However, PSD measurement was measured by Spectrum Analyzer and duty cycle factor is required

DIRECTIONAL ANTENNA GAIN

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

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RESULTS

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5290	82.40	95.35	-1.09	24.00	11.00

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd PSD

Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	14.87	14.87	24.00	-9.13

PPSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-1.17	-0.97	11.00	-11.97

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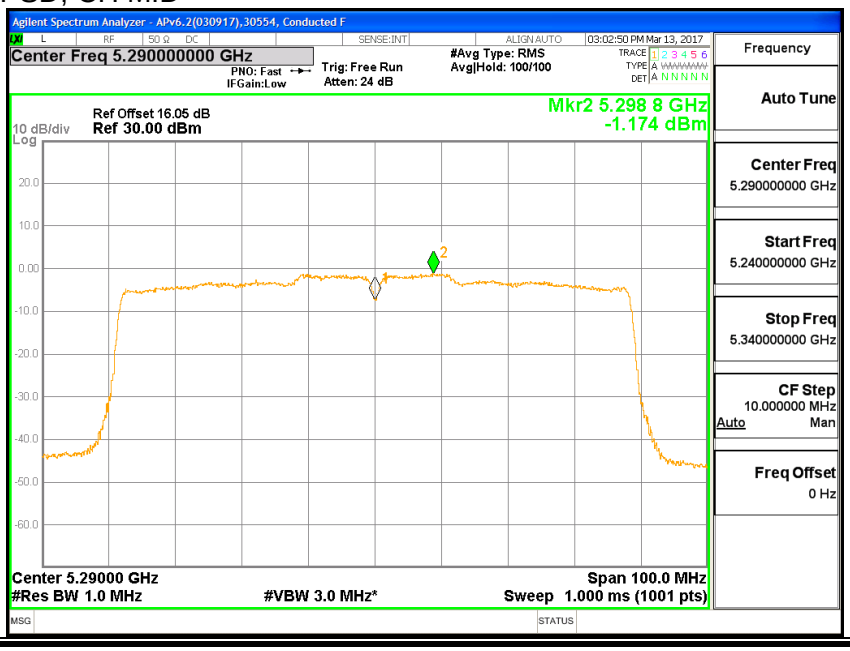
PSD, CH MID



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8.18. 11ac HT80 2TX CDD MIMO MODE IN THE 5.3GHz BAND

8.18.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Mid	5290	82.4	82.2

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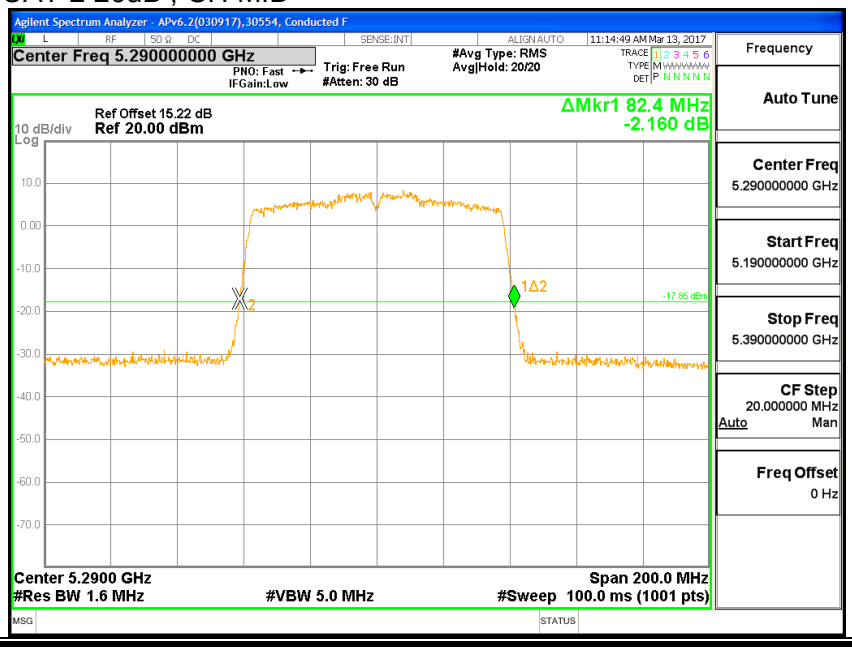
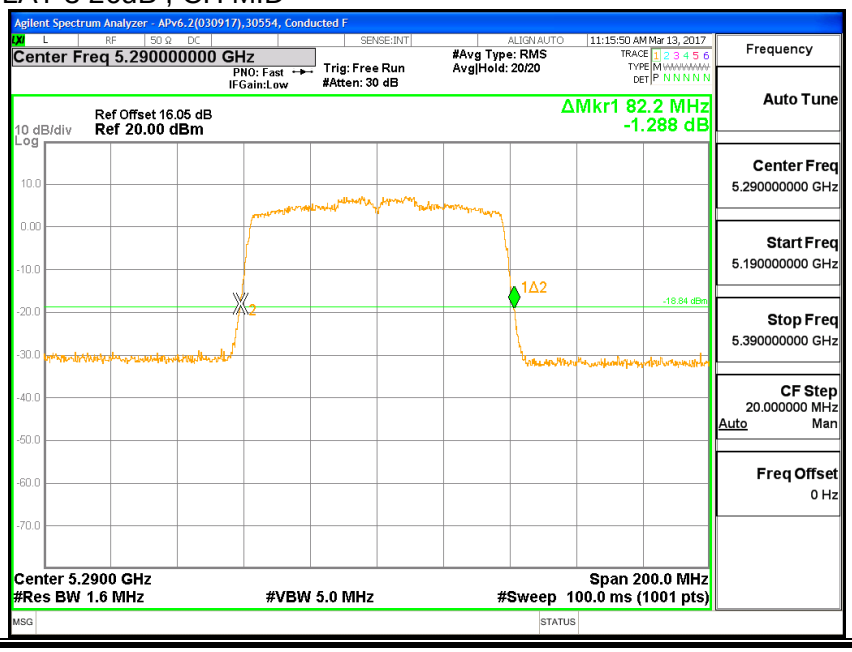
UAT 2 26dB , CH MID



LAT 3 26dB , CH MID



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8.18.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Mid	5290	75.142	75.494

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