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8.4. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

RSS-247 6.2.4.1

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

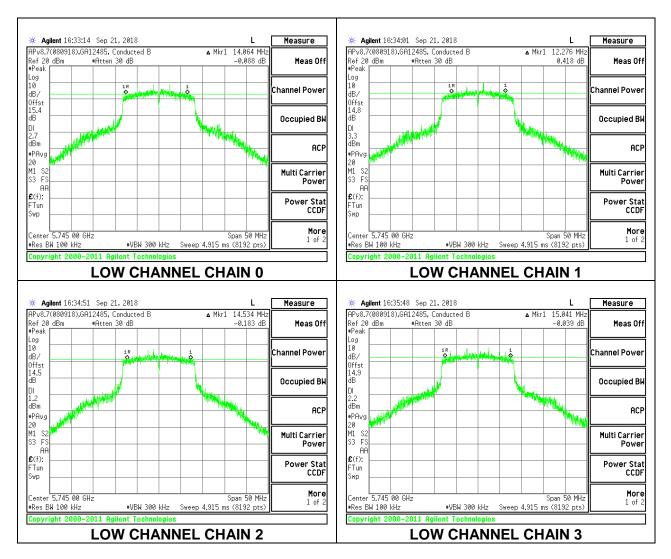
RESULTS

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8.4.1 RADIO 0

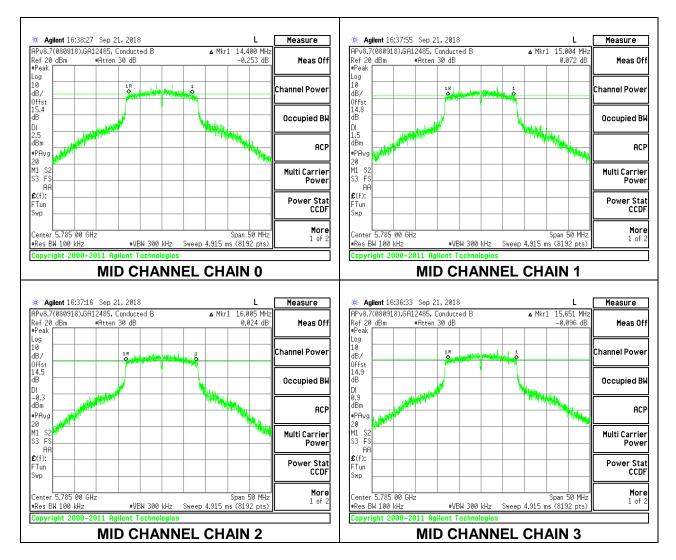
8.4.1.1. 802.11a MODE IN THE 5.8 GHz BAND

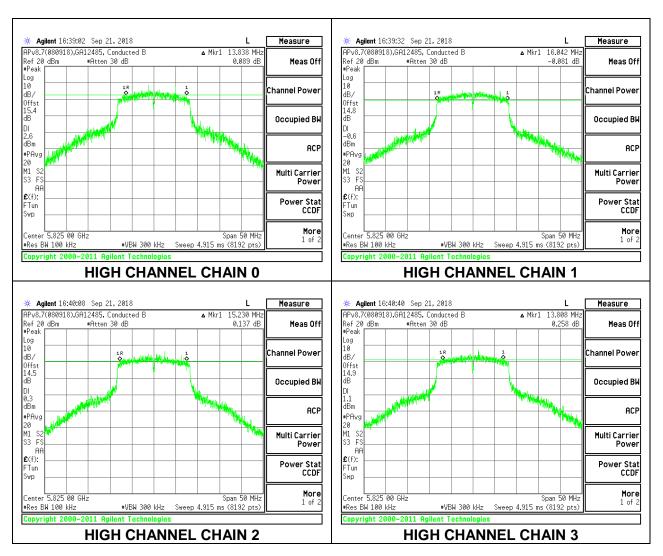
| Channe | I Frequency | 6 dB BW | 6 dB BW | 6 dB BW | 6 dB BW | Minimum |
|--------|-------------|---------|---------|---------|---------|---------|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Limit |
| | (MHz) | (MHz) | (MHz) | (MHz) | (MHz) | (MHz) |
| Low | 5745 | 14.0640 | 12.2760 | 14.5340 | 15.0410 | 0.5 |
| Mid | 5785 | 14.4000 | 15.0040 | 16.0050 | 15.6510 | 0.5 |
| High | 5825 | 13.8380 | 16.0420 | 15.2300 | 13.8080 | 0.5 |



LOW CHANNEL

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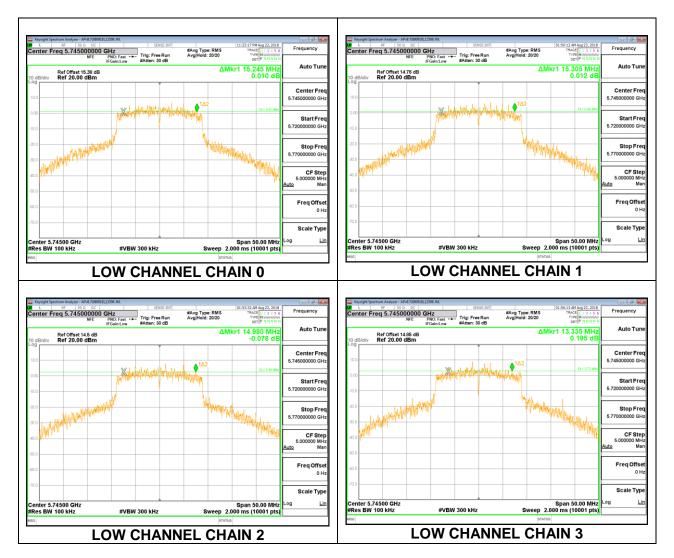


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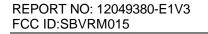
8.4.1.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND

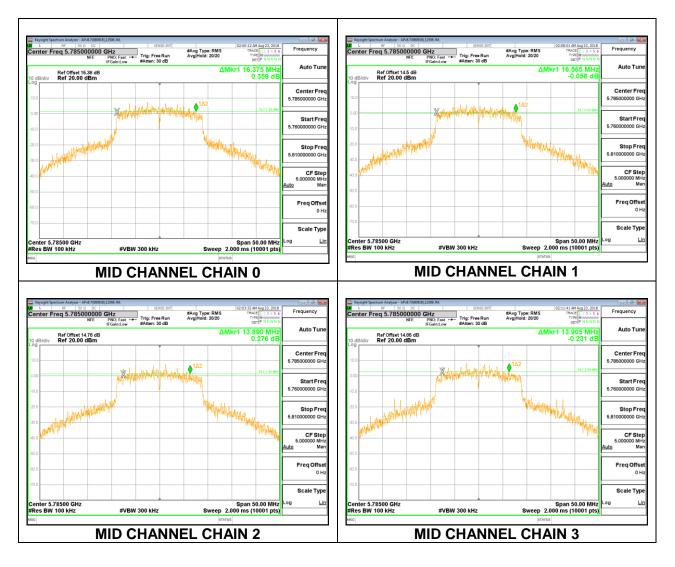
| Channel | Frequency | 6 dB BW | 6 dB BW | 6 dB BW | 6 dB BW | Minimum |
|---------|-----------|---------|---------|---------|---------|---------|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Limit |
| | (MHz) | (MHz) | (MHz) | (MHz) | (MHz) | (MHz) |
| Low | 5745 | 15.2450 | 15.3050 | 14.9800 | 13.3350 | 0.5 |
| Mid | 5785 | 16.3750 | 13.8900 | 16.5650 | 13.9050 | 0.5 |
| High | 5825 | 13.8700 | 15.6000 | 13.7800 | 13.8750 | 0.5 |

LOW CHANNEL

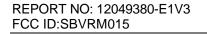


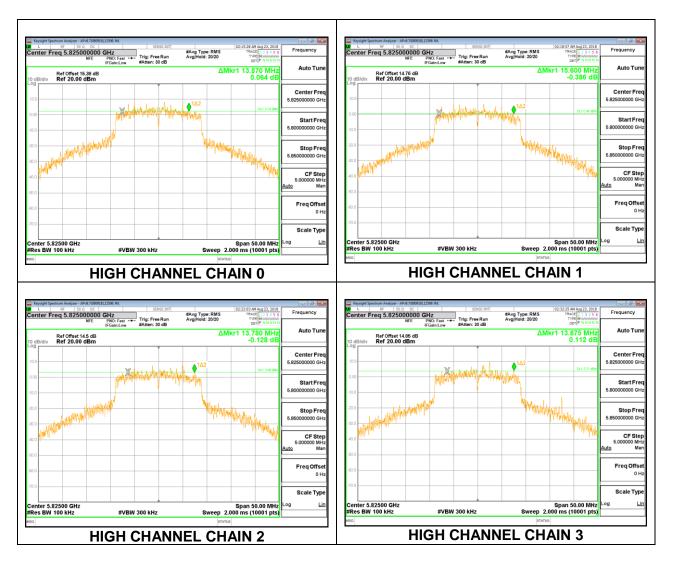
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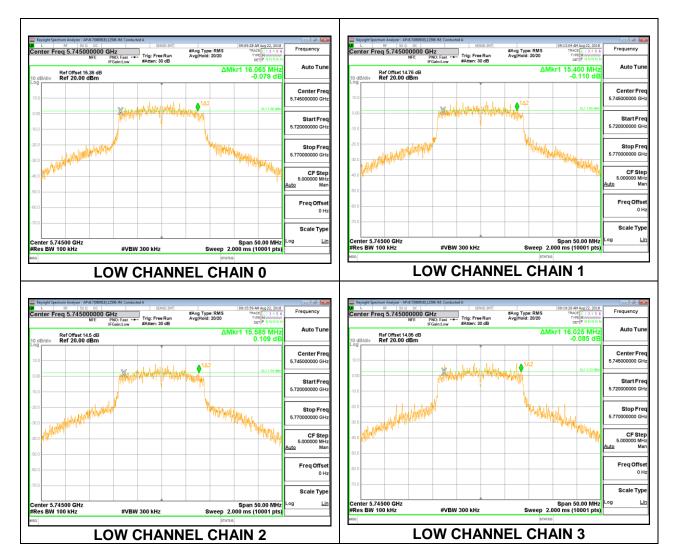


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8.4.2 RADIO 1

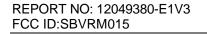
8.4.2.1. 802.11n HT20 MODE IN THE 5.8 GHz BAND

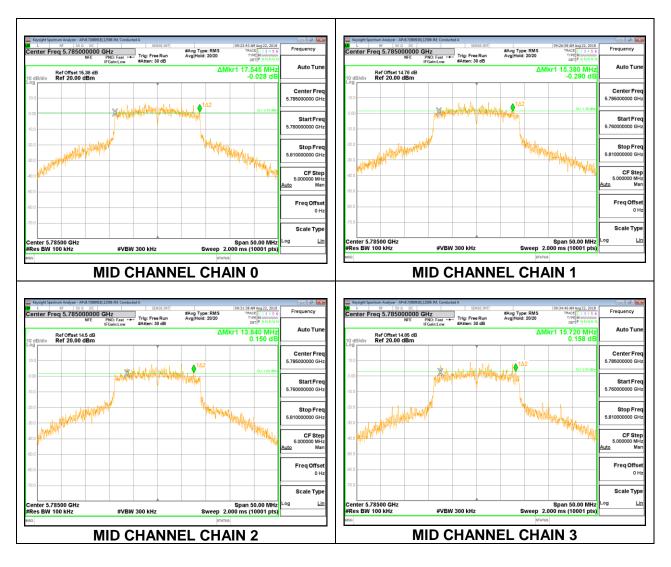
| Channel | Frequency | 6 dB BW | 6 dB BW | 6 dB BW | 6 dB BW | Minimum |
|---------|-----------|---------|---------|---------|---------|---------|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Limit |
| | (MHz) | (MHz) | (MHz) | (MHz) | (MHz) | (MHz) |
| Low | 5745 | 16.0650 | 15.4000 | 15.5850 | 16.0250 | 0.5 |
| Mid | 5785 | 17.5450 | 15.3800 | 13.8400 | 15.7200 | 0.5 |
| High | 5825 | 16.3300 | 15.0850 | 11.6200 | 14.8350 | 0.5 |



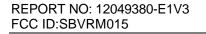
LOW CHANNEL

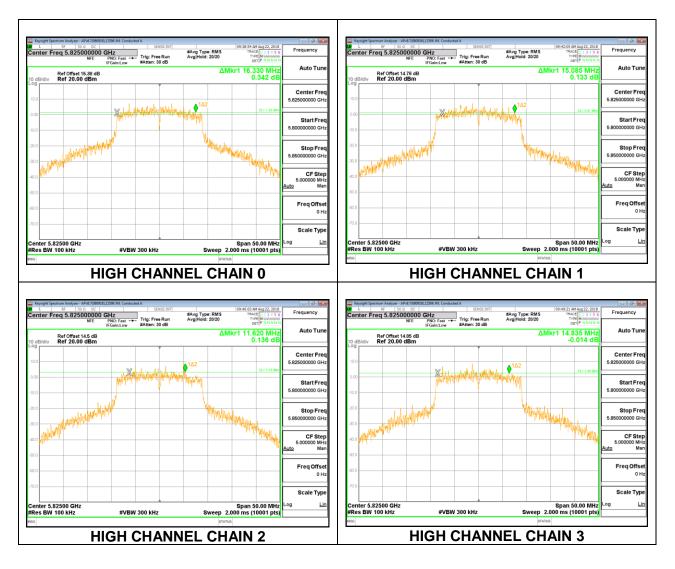
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8.5. OUTPUT POWER AND PSD

<u>LIMITS</u>

FCC §15.407

Band 5.15–5.25 GHz (pick the section that applies to your product)

(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. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. 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.

(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.

Bands 5.25-5.35 GHz and 5.47-5.725 GHz

The maximum conducted output power over the frequency bands 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 megahertz. 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.

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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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information.

RSS-247

Band 5.15-5.25 GHz

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

Band 5.25-5.35 GHz

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Bands 5.47-5.6 GHz and 5.65-5.725 GHz

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Band 5.725-5.85 GHz

The maximum conducted output power shall not exceed 1 W. The 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 power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

TEST PROCEDURE

The measurement method used for output power is KDB 789033 D02 v02r01, Section E.3.b (Method PM-G) and for straddles channels KDB 789033 D02 v02r01, Section E.2.b (Method SA-1) was used.

The measurement method used for power spectral density is KDB 789033 D02 v02r01, Section F.

DIRECTIONAL ANTENNA GAIN

Tx chains are uncorrelated for power and correlated for PSD due to the device supporting CDD in all MIMO modes. The directional gains are as follows:

Radio 0

Horizontal Polarity (Worst Case)

| | Chain 0 | Chain 1 | Uncorrelated Chains | Correlated Chains |
|-------|---------|---------|----------------------------|--------------------------|
| | Antenna | Antenna | Directional | Directional |
| Band | Gain | Gain | Gain | Gain |
| (GHz) | (dBi) | (dBi) | (dBi) | (dBi) |
| 5 | 4.62 | 4.19 | 4.41 | 7.42 |

Vertical Polarity

| | Chain 2 | Chain 3 | Uncorrelated Chains | Correlated Chains |
|-------|---------|---------|----------------------------|--------------------------|
| | Antenna | Antenna | Directional | Directional |
| Band | Gain | Gain | Gain | Gain |
| (GHz) | (dBi) | (dBi) | (dBi) | (dBi) |
| 5 | 3.85 | 3.70 | 3.78 | 6.79 |

Radio 1

Horizontal Polarity (Worst Case)

| | Chain 2 | Chain 3 | Uncorrelated Chains | Correlated Chains |
|-------|---------|---------|----------------------------|--------------------------|
| | Antenna | Antenna | Directional | Directional |
| Band | Gain | Gain | Gain | Gain |
| (GHz) | (dBi) | (dBi) | (dBi) | (dBi) |
| 5 | 4.19 | 4.62 | 4.41 | 7.42 |

Vertical Polarity

| | Chain 0 | Chain 1 | Uncorrelated Chains | Correlated Chains |
|-------|---------|---------|----------------------------|--------------------------|
| | Antenna | Antenna | Directional | Directional |
| Band | Gain | Gain | Gain | Gain |
| (GHz) | (dBi) | (dBi) | (dBi) | (dBi) |
| 5 | 3.70 | 3.85 | 3.78 | 6.79 |

<u>RESULTS</u>

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8.5.1 RADIO 0

8.5.1.1. 802.11a MODE IN THE 5.2 GHz BAND

<u>IC</u>

Bandwidth and Antenna Gain

| Channel | Frequency | Min |
|---------|-----------|---------|
| | | 99% |
| | | BW |
| | (MHz) | (MHz) |
| Low | 5180 | 17.6510 |
| Mid | 5200 | 17.5540 |
| High | 5240 | 17.5460 |

Limits

| Channel | Frequency | ISED | ISED |
|---------|-----------|-------|-------|
| | | EIRP | eirp |
| | | Limit | PSD |
| | | | Limit |
| | (MHz) | (dBm) | (dBm/ |
| | | | 1MHz) |
| Low | 5180 | 22.47 | 10.00 |
| Mid | 5200 | 22.44 | 10.00 |
| High | 5240 | 22.44 | 10.00 |

Duty Cycle CF (dB)

0.00 Included in Calculations of Corr'd PSD

Output Power Results

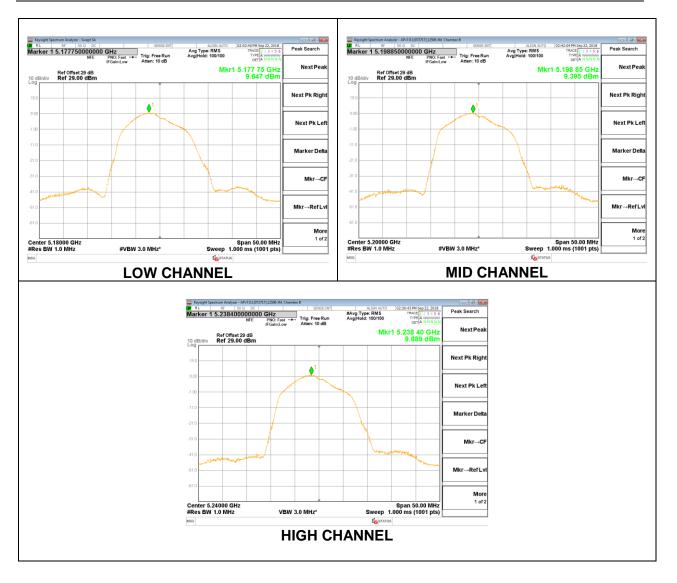
| Channel | Frequency | Total | Power | Power |
|---------|-----------|--------|-------|--------|
| | | Corr'd | Limit | Margin |
| | | Power | | |
| | (MHz) | (dBm) | (dBm) | (dB) |
| Low | 5180 | 19.46 | 22.47 | -3.01 |
| Mid | 5200 | 19.25 | 22.44 | -3.19 |
| High | 5240 | 19.49 | 22.44 | -2.95 |

PSD Results

| Channel | Frequency | Total | PSD | PSD |
|---------|-----------|--------|-------|--------|
| | | Corr'd | Limit | Margin |
| | | PSD | | |
| | (MHz) | (dBm/ | (dBm/ | (dB) |
| | | 1MHz) | 1MHz) | |
| Low | 5180 | 9.65 | 10.00 | -0.35 |
| Mid | 5200 | 9.40 | 10.00 | -0.61 |
| High | 5240 | 9.89 | 10.00 | -0.11 |

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REPORT NO: 12049380-E1V3 FCC ID:SBVRM015



FCC

Bandwidth and Antenna Gain

| Channel | Frequency | Min | Directional | Directional |
|---------|-----------|---------|-------------|-------------|
| | | 99% | Gain | Gain |
| | | BW | for Power | for PSD |
| | (MHz) | (MHz) | (dBi) | (dBi) |
| Low | 5180 | 16.4664 | 4.41 | 7.42 |
| Mid | 5200 | 16.4403 | 4.41 | 7.42 |
| High | 5240 | 16.5384 | 4.41 | 7.42 |

0.00

Limits

| Channel | Frequency | FCC | ISED | Max | Power | FCC | ISED | PSD |
|---------|-----------|-------|-------|-------|-------|-------------|-------|-------|
| | | Power | EIRP | ISED | Limit | PSD | eirp | Limit |
| | | Limit | Limit | Power | | Limit | PSD | |
| | | | | | | | Limit | |
| | (MHz) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm/ 1MHz) | (dBm/ | (dBm/ |
| | | | | | | | 1MHz) | 1MHz) |
| Low | 5180 | 24.00 | 22.17 | 17.76 | 24.00 | 9.58 | 10.00 | 9.58 |
| Mid | 5200 | 24.00 | 22.16 | 17.75 | 24.00 | 9.58 | 10.00 | 9.58 |
| High | 5240 | 24.00 | 22.18 | 17.77 | 24.00 | 9.58 | 10.00 | 9.58 |

Duty Cycle CF (dB)

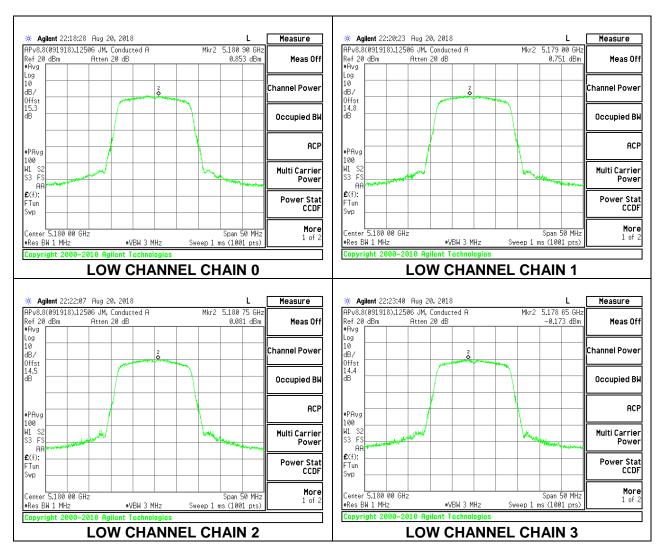
Included in Calculations of Corr'd PSD

Output Power Results

| Channel | Frequency | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Total | Power | Power |
|---------|-----------|---------|---------|---------|---------|--------|-------|--------|
| | | Meas | Meas | Meas | Meas | Corr'd | Limit | Margin |
| | | Power | Power | Power | Power | Power | | |
| | (MHz) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dB) |
| Low | 5180 | 10.44 | 10.87 | 10.59 | 10.16 | 16.54 | 24.00 | -7.46 |
| Mid | 5200 | 10.98 | 11.32 | 11.05 | 10.73 | 17.05 | 24.00 | -6.95 |
| High | 5240 | 10.15 | 10.43 | 10.67 | 9.75 | 16.28 | 24.00 | -7.72 |

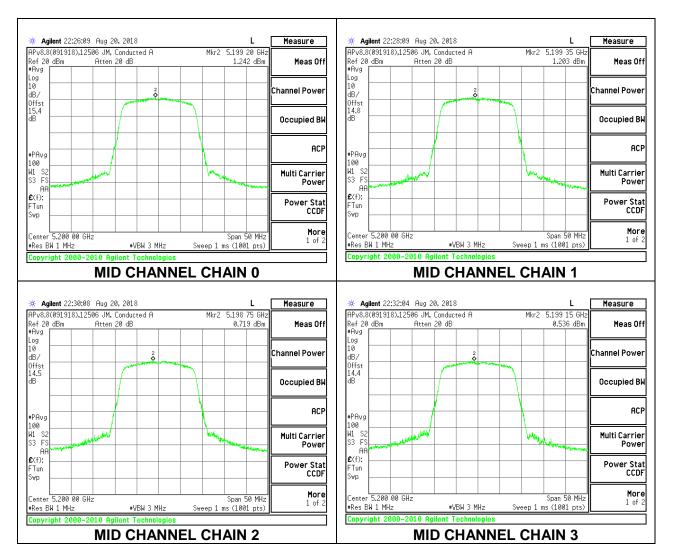
PSD Results

| Channel | Frequency | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Total | PSD | PSD |
|---------|-----------|-------------|-------------|-------------|-------------|-------------|-------|--------|
| | | Meas | Meas | Meas | Meas | Corr'd | Limit | Margin |
| | | PSD | PSD | PSD | PSD | PSD | | |
| | (MHz) | (dBm/ 1MHz) | (dBm/ | (dB) |
| | | | | | | | 1MHz) | |
| Low | 5180 | 0.85 | 0.75 | 0.08 | -0.17 | 6.42 | 9.58 | -3.16 |
| Mid | 5200 | 1.24 | 1.20 | 0.72 | 0.54 | 6.96 | 9.58 | -2.62 |
| High | 5240 | 0.72 | 0.63 | 0.32 | -0.55 | 6.33 | 9.58 | -3.25 |

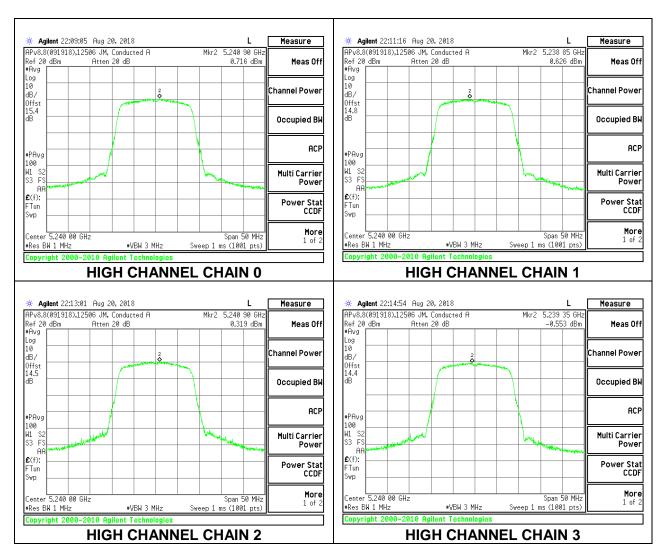


LOW CHANNEL

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8.5.1.2. 802.11a MODE IN THE 5.3 GHz BAND

FCC+IC

Bandwidth, Antenna Gain, and Limits

| Channel | Frequency | Min | Direction | Direction | Power | PSD |
|---------|-----------|---------|-----------|-----------|-------|----------------|
| | | 26 dB | Gain | Gain | Limit | Limit |
| | | BW | for | for PSD | | |
| | | (8411_) | Power | | | (10 |
| | (MHz) | (MHz) | (dBi) | (dBi) | (dBm) | (dBm/ 1MHz) |
| | | | | | | |
| Low | 5260 | 20.25 | 4.41 | 7.42 | 24.00 | 9.58 |
| Mid | 5300 | 20.30 | 4.41 | 7.42 | 24.00 | 9.58 |
| High | 5320 | 20.45 | 4.41 | 7.42 | 24.00 | 9.58 |

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

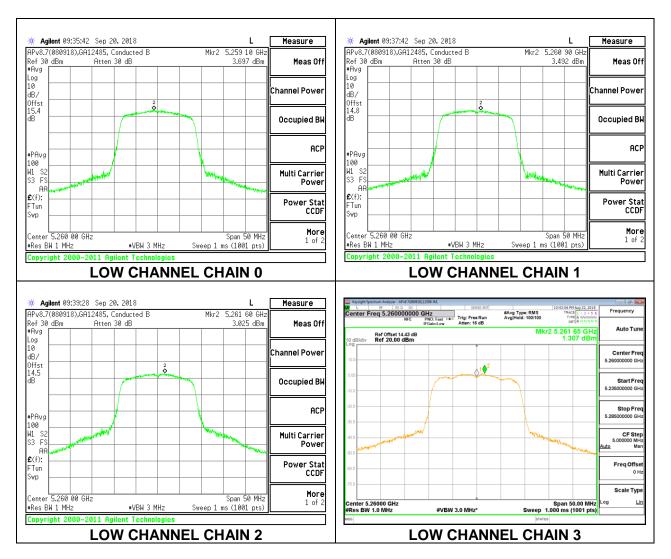
Output Power Results

| Channel | Frequency | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Total | Power | Power |
|---------|-----------|---------|---------|---------|---------|--------|-------|--------|
| | | Meas | Meas | Meas | Meas | Corr'd | Limit | Margin |
| | | Power | Power | Power | Power | Power | | |
| | (MHz) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dB) |
| Low | 5260 | 14.28 | 14.44 | 14.21 | 13.93 | 20.24 | 24.00 | -3.76 |
| Mid | 5300 | 13.29 | 13.41 | 13.11 | 12.79 | 19.18 | 24.00 | -4.82 |
| High | 5320 | 13.23 | 13.42 | 13.25 | 12.77 | 19.19 | 24.00 | -4.81 |

PSD Results

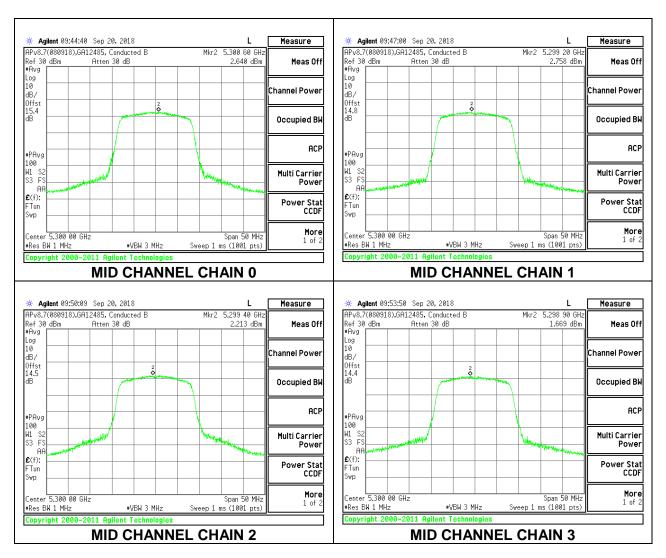
| Channel | Frequency | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Total | PSD | PSD |
|---------|-----------|---------|---------|---------|---------|--------|-------|--------|
| | | Meas | Meas | Meas | Meas | Corr'd | Limit | Margin |
| | | PSD | PSD | PSD | PSD | PSD | | |
| | (MHz) | (dBm/ | (dBm/ | (dBm/ | (dBm/ | (dBm/ | (dBm/ | (dB) |
| | | 1MHz) | 1MHz) | 1MHz) | 1MHz) | 1MHz) | 1MHz) | |
| Low | 5260 | 3.70 | 3.49 | 3.03 | 1.31 | 9.00 | 9.58 | -0.58 |
| Mid | 5300 | 2.64 | 2.76 | 2.21 | 1.67 | 8.36 | 9.58 | -1.22 |
| High | 5320 | 3.41 | 2.68 | 2.28 | 1.67 | 8.57 | 9.58 | -1.01 |

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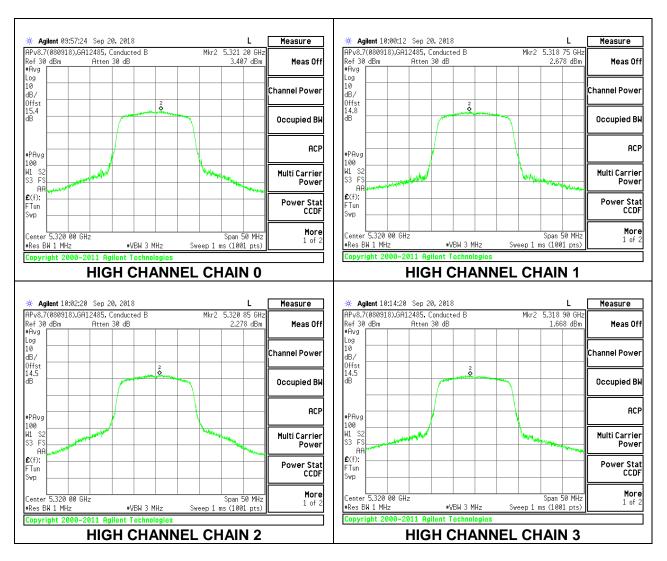


LOW CHANNEL

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8.5.1.3. 802.11a MODE IN THE 5.6 GHz BAND

FCC+IC

Bandwidth and Antenna Gain

| Channel | Frequency | Min | Min | Direction | Direction |
|---------|-----------|---------|------------|-----------|-----------|
| | | 26 dB | 99% | Gain | Gain |
| | | BW | BW | for | for PSD |
| | (MHz) | (MHz) | (MHz) | (dBi) | (dBi) |
| Low | 5500 | 20.3000 | 17.4780 | 4.41 | 7.42 |
| Mid | 5580 | 20.4500 | 17.5630 | 4.41 | 7.42 |
| High | 5700 | 20.3000 | 17.5050 | 4.41 | 7.42 |

Limits

| Channel | Frequency | FCC | ISED | ISED | Power | FCC | ISED | PSD |
|---------|-----------|-------|-------|-------|-------|-------|-------|-------|
| | | Power | Power | EIRP | Limit | PSD | PSD | Limit |
| | | Limit | Limit | Limit | | Limit | Limit | |
| | (MHz) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm/ | (dBm/ | (dBm/ |
| Low | 5500 | 24.00 | 23.42 | 29.42 | 23.42 | 9.58 | 11.00 | 9.58 |
| Mid | 5580 | 24.00 | 23.45 | 29.45 | 23.45 | 9.58 | 11.00 | 9.58 |
| High | 5700 | 24.00 | 23.43 | 29.43 | 23.43 | 9.58 | 11.00 | 9.58 |

Duty Cycle CF (dB) 0.00

Included in Calculations of Corr'd Power & PSD

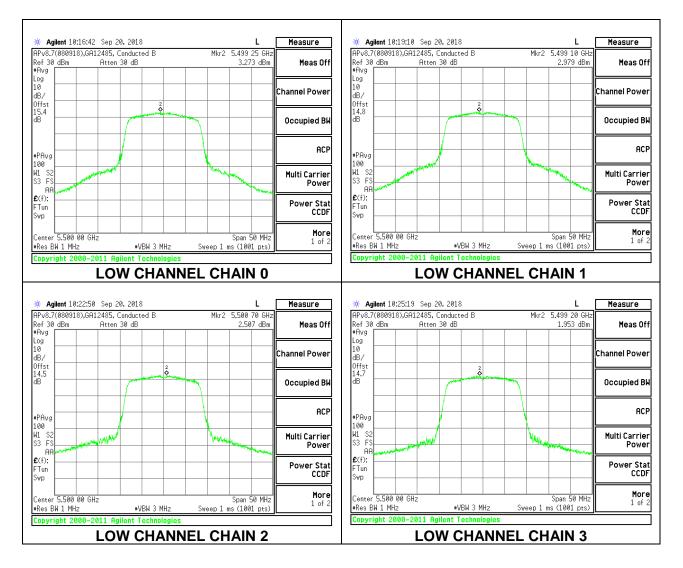
Output Power Results

| Channel | Frequency | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Total | Power | Power |
|---------|-----------|---------|---------|---------|---------|--------|-------|--------|
| | | Meas | Meas | Meas | Meas | Corr'd | Limit | Margin |
| | | Power | Power | Power | Power | Power | | |
| | (MHz) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dB) |
| Low | 5500 | 13.32 | 13.75 | 13.28 | 12.74 | 19.31 | 23.42 | -4.12 |
| Mid | 5580 | 12.22 | 12.66 | 12.47 | 12.28 | 18.43 | 23.45 | -5.01 |
| High | 5700 | 12.51 | 12.55 | 12.36 | 12.52 | 18.51 | 23.43 | -4.93 |

PSD Results

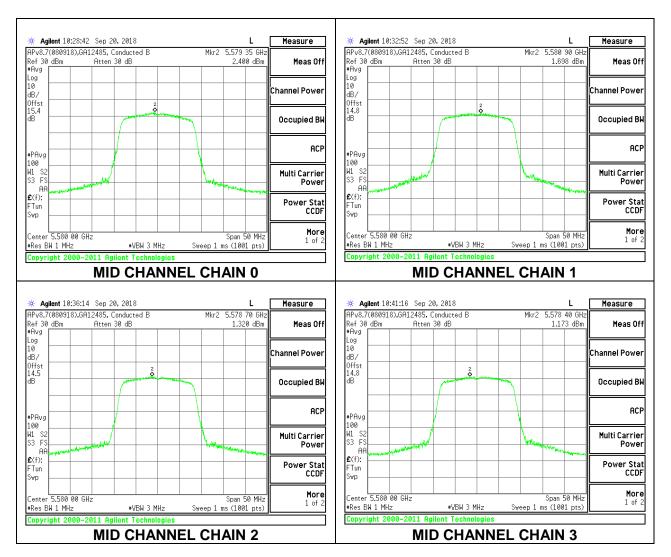
| Channel | Frequency | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Total | PSD | PSD |
|---------|-----------|---------|---------|---------|---------|--------|-------|--------|
| | | Meas | Meas | Meas | Meas | Corr'd | Limit | Margin |
| | | PSD | PSD | PSD | PSD | PSD | | |
| | (MHz) | (dBm/ | (dBm/ | (dBm/ | (dBm/ | (dBm/ | (dBm/ | (dB) |
| | | 1MHz) | 1MHz) | 1MHz) | 1MHz) | 1MHz) | 1MHz) | |
| Low | 5500 | 3.273 | 2.979 | 2.507 | 1.953 | 8.727 | 9.58 | -0.85 |
| Mid | 5580 | 2.400 | 1.698 | 1.320 | 1.173 | 7.695 | 9.58 | -1.89 |
| High | 5700 | 2.473 | 1.603 | 1.239 | 1.623 | 7.779 | 9.58 | -1.80 |

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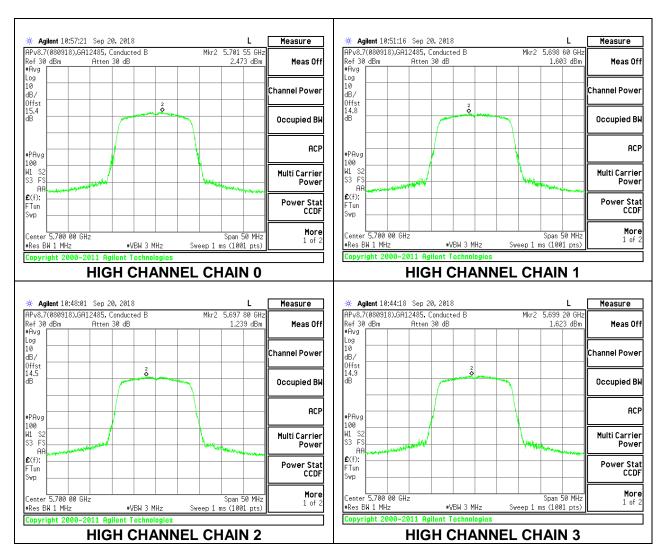


LOW CHANNEL

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8.5.1.4. 802.11a MODE IN THE 5.8 GHz BAND

FCC+IC

Antenna Gain and Limit

| Channel | Frequency | Directiona | Directiona | FCC/ISED | FCC/ISED |
|---------|-----------|------------|------------|----------|----------|
| | | Gain | Gain | Power | PSD |
| | | for Power | for PSD | Limit | Limit |
| | (MHz) | (dBi) | (dBm) | (dBm) | (dBm/ |
| | | | | | 1MHz) |
| Low | 5745 | 4.41 | 7.42 | 30.00 | 28.58 |
| Mid | 5785 | 4.41 | 7.42 | 30.00 | 28.58 |
| High | 5825 | 4.41 | 7.42 | 30.00 | 28.58 |

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

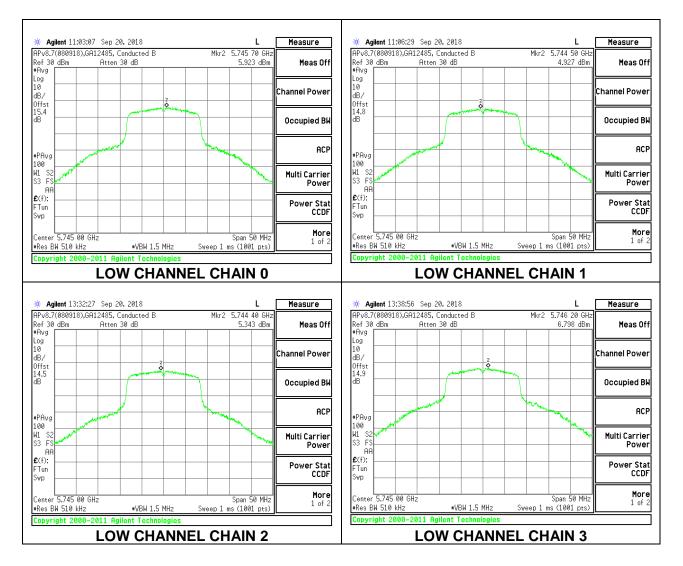
Output Power Results

| Channel | Frequency | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Total | Power | Power |
|---------|-----------|---------|---------|---------|---------|--------|-------|--------|
| | | Meas | Meas | Meas | Meas | Corr'd | Limit | Margin |
| | | Power | Power | Power | Power | Power | | |
| | (MHz) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dB) |
| Low | 5745 | 18.77 | 18.64 | 18.33 | 18.81 | 24.66 | 30.00 | -5.34 |
| Mid | 5785 | 18.72 | 18.44 | 18.11 | 18.77 | 24.54 | 30.00 | -5.46 |
| High | 5825 | 18.96 | 18.34 | 18.22 | 18.44 | 24.52 | 30.00 | -5.48 |

PSD Results

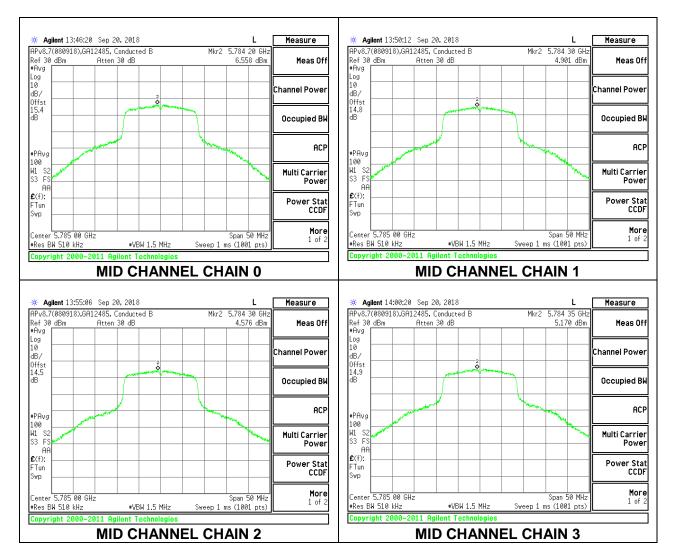
| Channel | Frequency | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Total | PSD | PSD |
|---------|-----------|---------|---------|---------|---------|--------|-------|--------|
| | | Meas | Meas | Meas | Meas | Corr'd | Limit | Margin |
| | | PSD | PSD | PSD | PSD | PSD | | |
| | (MHz) | (dBm/ | (dBm/ | (dBm/ | (dBm/ | (dBm/ | (dBm/ | (dB) |
| | | 1MHz) | 1MHz) | 1MHz) | 1MHz) | 1MHz) | 1MHz) | |
| Low | 5745 | 5.923 | 4.927 | 5.343 | 6.798 | 11.826 | 28.58 | -16.75 |
| Mid | 5785 | 6.558 | 4.901 | 4.576 | 5.170 | 11.391 | 28.58 | -17.19 |
| High | 5825 | 6.697 | 4.824 | 4.920 | 5.169 | 11.493 | 28.58 | -17.09 |

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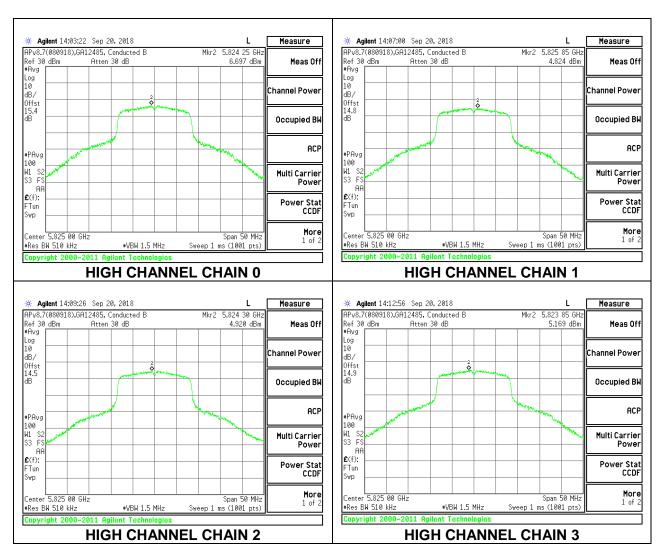


LOW CHANNEL

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8.5.1.5. 802.11n HT20 MODE IN THE 5.2 GHz BAND

<u>IC</u>

Bandwidth and Antenna Gain

| Channel | Frequency | Min |
|---------|-----------|---------|
| | | 99% |
| | | BW |
| | (MHz) | (MHz) |
| Low | 5180 | 17.6510 |
| Mid | 5200 | 17.5540 |
| High | 5240 | 17.5460 |

Limits

| Channel | Frequency | ISED | ISED |
|---------|-----------|-------|-------|
| | | EIRP | eirp |
| | | Limit | PSD |
| | | | Limit |
| | (MHz) | (dBm) | (dBm/ |
| | | | 1MHz) |
| Low | 5180 | 22.47 | 10.00 |
| Mid | 5200 | 22.44 | 10.00 |
| High | 5240 | 22.44 | 10.00 |

Duty Cycle CF (dB)

Included in Calculations of Corr'd PSD

Output Power Results

| Channel | Frequency | Total | Power | Power |
|---------|-----------|--------|-------|--------|
| | | Corr'd | Limit | Margin |
| | | Power | | |
| | (MHz) | (dBm) | (dBm) | (dB) |
| Low | 5180 | 19.46 | 22.47 | -3.01 |
| Mid | 5200 | 19.25 | 22.44 | -3.19 |
| High | 5240 | 19.49 | 22.44 | -2.95 |

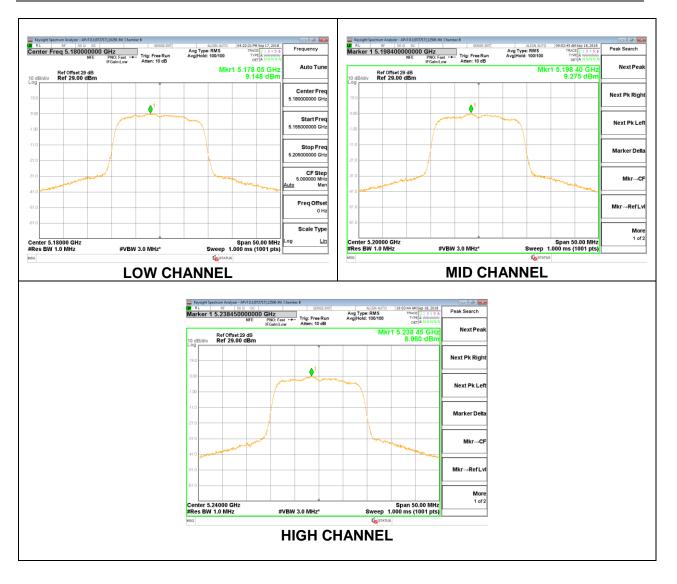
0.46

PSD Results

| Channel | Frequency | Total | PSD | PSD |
|---------|-----------|--------|-------|--------|
| | | Corr'd | Limit | Margin |
| | | PSD | | |
| | (MHz) | (dBm/ | (dBm/ | (dB) |
| | | 1MHz) | 1MHz) | |
| Low | 5180 | 9.15 | 10.00 | -0.85 |
| Mid | 5200 | 9.28 | 10.00 | -0.73 |
| High | 5240 | 8.96 | 10.00 | -1.04 |

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FCC

Bandwidth and Antenna Gain

| Channel | Frequency | Min | Directional | Directional |
|---------|-----------|---------|-------------|-------------|
| | | 99% | Gain | Gain |
| | | BW | for Power | for PSD |
| | (MHz) | (MHz) | (dBi) | (dBi) |
| Low | 5180 | 17.5776 | 4.41 | 7.42 |
| Mid | 5200 | 17.5513 | 4.41 | 7.42 |
| High | 5240 | 17.6405 | 4.41 | 7.42 |

0.46

Limits

| Channel | Frequency | FCC | ISED | Max | Power | FCC | ISED | PSD |
|---------|-----------|-------|-------|-------|-------|-------|-------|-------|
| | | Power | EIRP | ISED | Limit | PSD | eirp | Limit |
| | | Limit | Limit | Power | | Limit | PSD | |
| | | | | | | | Limit | |
| | (MHz) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm/ | (dBm/ | (dBm/ |
| | | | | | | 1MHz) | 1MHz) | 1MHz) |
| Low | 5180 | 24.00 | 22.45 | 18.04 | 24.00 | 9.58 | 10.00 | 9.58 |
| Mid | 5200 | 24.00 | 22.44 | 18.03 | 24.00 | 9.58 | 10.00 | 9.58 |
| High | 5240 | 24.00 | 22.47 | 18.06 | 24.00 | 9.58 | 10.00 | 9.58 |

Duty Cycle CF (dB)

Included in Calculations of Corr'd PSD

Output Power Results

| Channel | Frequency | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Total | Power | Power |
|---------|-----------|---------|---------|---------|---------|--------|-------|----------------|
| | | Meas | Meas | Meas | Meas | Corr'd | Limit | Margin |
| | | Bowor | Power | Power | Power | Power | | |
| | | Power | Power | Power | Power | Power | | |
| | (MHz) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dB) |
| Low | 5180 | 13.45 | 13.89 | 13.90 | 12.92 | 10 59 | 24.00 | 4 4 2 |
| LOW | 5160 | 13.45 | 13.09 | 13.90 | 12.92 | 19.58 | 24.00 | -4.42 |
| Mid | 5200 | 13.45 | 13.95 | 13.90 | 12.92 | 19.58 | 24.00 | -4.42 -4.37 |

PSD Results

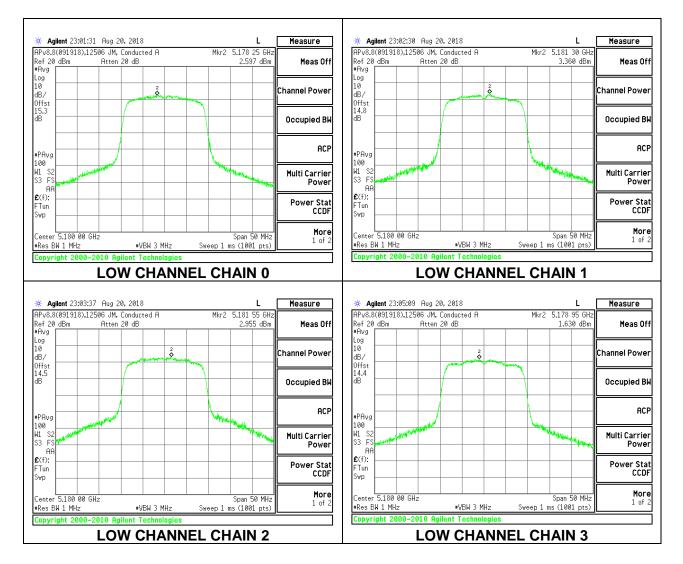
| Channel | Frequency | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Total | PSD | PSD |
|---------|-----------|--------------|--------------|--------------|--------------|--------------|-------|--------|
| | | Meas | Meas | Meas | Meas | Corr'd | Limit | Margin |
| | (MHz) | PSD (dBm/ | PSD (dBm/ | PSD (dBm/ | PSD (dBm/ | PSD (dBm/ | (dBm/ | (dB) |
| | | 1MHz) | 1MHz) | 1MHz) | 1MHz) | 1MHz) | 1MHz) | |
| Low | 5180 | 2.60 | 3.36 | 2.96 | 1.63 | 9.16 | 9.58 | -0.42 |
| Mid | 5200 | 2.79 | 2.94 | 3.12 | 1.83 | 9.18 | 9.58 | -0.40 |
| High | 5240 | 3.03 | 2.63 | 3.52 | 1.39 | 9.19 | 9.58 | -0.39 |

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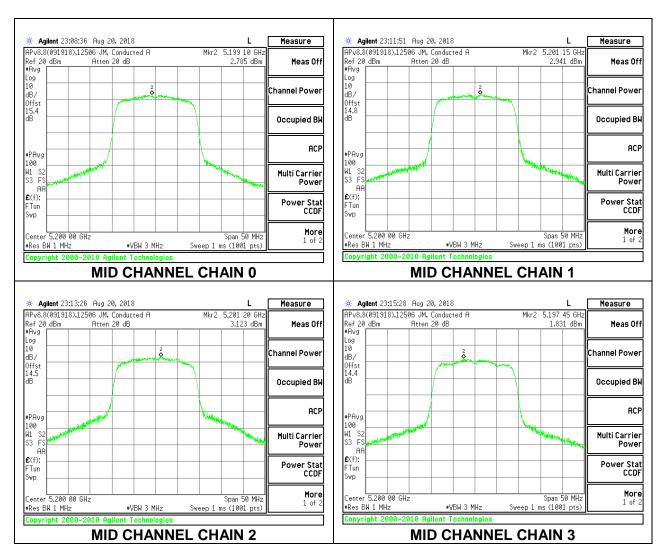
REPORT NO: 12049380-E1V3 FCC ID:SBVRM015

FCC

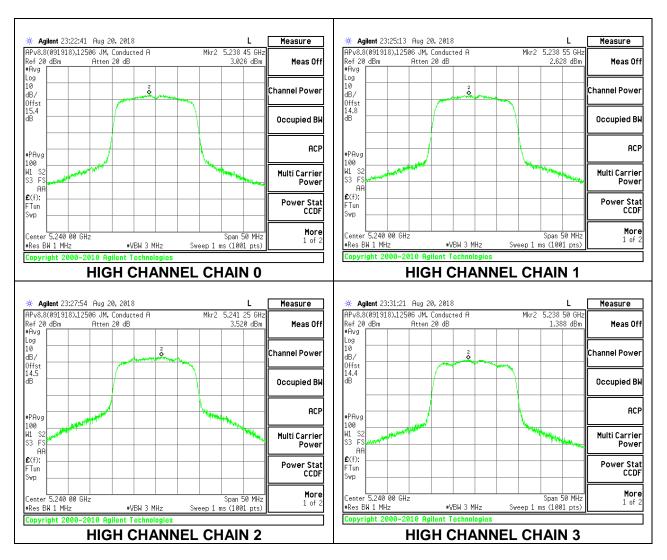
LOW CHANNEL



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8.5.1.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

FCC+IC

Bandwidth, Antenna Gain, and Limits

| Channel | Frequency | Min | Direction | Direction | Power | PSD |
|---------|-------------------|--------------------|-----------|-----------|-----------|--------|
| | | 26 dB | Gain | Gain | Limit | Limit |
| | | BW | for | for PSD | | |
| | (1 -1-1-) | (1 1 1 1 1 | Power | | <i></i> . | (I.) |
| | (MHz) | (MHz) | (dBi) | (dBi) | (dBm) | (dBm/ |
| | | | | | | 1MHz) |
| Low | 5260 | 20.25 | 4.41 | 7.42 | 24.00 | 9.58 |
| Mid | 5300 | 20.30 | 4.41 | 7.42 | 24.00 | 9.58 |
| High | 5320 | 20.45 | 4.41 | 7.42 | 24.00 | 9.58 |

| | Duty Cycle CF (dB) | 0.46 | Included in Calculations of Corr'd PSD |
|--|--------------------|------|--|
|--|--------------------|------|--|

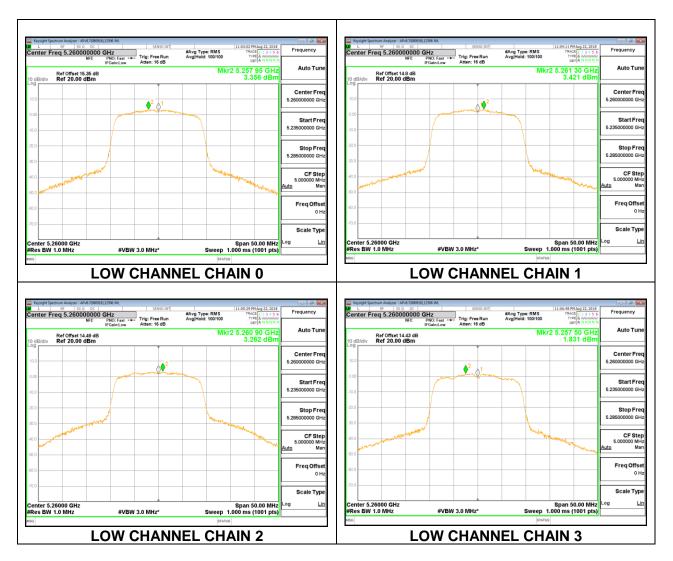
Output Power Results

| Channel | Frequency | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Total | Power | Power |
|---------|-----------|---------|---------|---------|---------|--------|-------|--------|
| | | Meas | Meas | Meas | Meas | Corr'd | Limit | Margin |
| | | Power | Power | Power | Power | Power | | |
| | (MHz) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dB) |
| Low | 5260 | 14.69 | 14.91 | 15.29 | 13.81 | 20.73 | 24.00 | -3.27 |
| Mid | 5300 | 13.79 | 14.05 | 14.49 | 12.62 | 19.81 | 24.00 | -4.19 |
| High | 5320 | 13.32 | 13.45 | 14.02 | 12.33 | 19.34 | 24.00 | -4.66 |

PSD Results

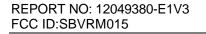
| Channel | Frequency | Chain 0 | Chain 1 | Chain 2 | Chain 3 | Total | PSD | PSD |
|---------|-----------|---------|---------|---------|---------|--------|-------|--------|
| | | Meas | Meas | Meas | Meas | Corr'd | Limit | Margin |
| | | PSD | PSD | PSD | PSD | PSD | | |
| | (MHz) | (dBm/ | (dBm/ | (dBm/ | (dBm/ | (dBm/ | (dBm/ | (dB) |
| | | 1MHz) | 1MHz) | 1MHz) | 1MHz) | 1MHz) | 1MHz) | |
| Low | 5260 | 3.36 | 3.42 | 3.26 | 1.83 | 9.50 | 9.58 | -0.08 |
| Mid | 5300 | 3.08 | 3.19 | 3.43 | 1.49 | 9.34 | 9.58 | -0.24 |
| High | 5320 | 3.24 | 3.17 | 2.70 | 1.37 | 9.16 | 9.58 | -0.42 |

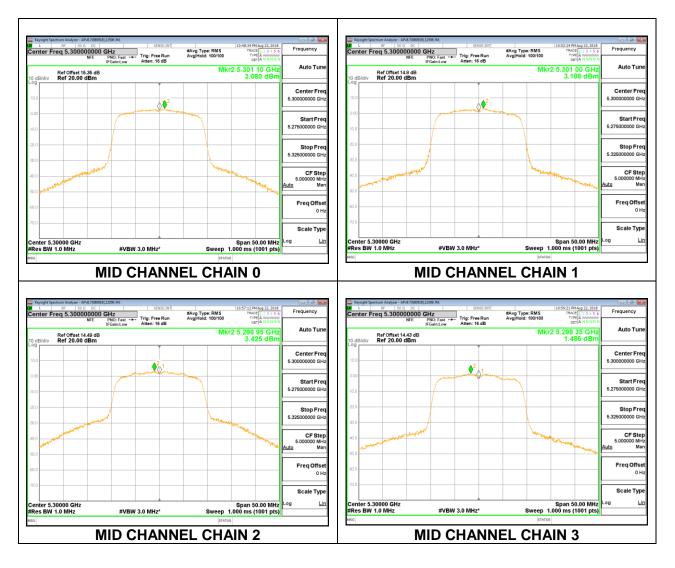
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LOW CHANNEL

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