

# 802.11n\_HT40 (UNII 2A)

## ■ TEST RESULTS

### Conducted Output Power Measurements (802.11n\_HT40 Mode: 5270~5310)

| 802.11n_HT40 Mode |             | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---------------------------------------------|-------------|
| Frequency [MHz]   | Channel No. |           |                      |                        |                                             |             |
| 5270              | 54          | 0         | 8.62                 | 0.61                   | 9.24                                        | 23.98       |
|                   |             | 1         | 8.21                 | 1.09                   | 9.30                                        | 23.98       |
|                   |             | 2         | 7.84                 | 1.48                   | 9.32                                        | 23.98       |
|                   |             | 3         | 7.96                 | 1.80                   | 9.76                                        | 23.98       |
|                   |             | 4         | 7.40                 | 2.30                   | 9.70                                        | 23.98       |
|                   |             | 5         | 6.60                 | 2.72                   | 9.32                                        | 23.98       |
|                   |             | 6         | 6.60                 | 2.86                   | 9.46                                        | 23.98       |
|                   |             | 7         | 6.35                 | 3.03                   | 9.37                                        | 23.98       |
| 5310              | 62          | 0         | 8.92                 | 0.61                   | 9.53                                        | 23.98       |
|                   |             | 1         | 8.13                 | 1.09                   | 9.23                                        | 23.98       |
|                   |             | 2         | 7.70                 | 1.48                   | 9.19                                        | 23.98       |
|                   |             | 3         | 7.80                 | 1.80                   | 9.59                                        | 23.98       |
|                   |             | 4         | 7.36                 | 2.30                   | 9.66                                        | 23.98       |
|                   |             | 5         | 6.75                 | 2.72                   | 9.46                                        | 23.98       |
|                   |             | 6         | 6.86                 | 2.86                   | 9.72                                        | 23.98       |
|                   |             | 7         | 6.33                 | 3.03                   | 9.35                                        | 23.98       |

# 802.11n\_HT40 (UNII 2C)

## ■ TEST RESULTS

### Conducted Output Power Measurements (802.11n\_HT40 Mode: 5510~5710)

| 802.11n_HT40 Mode |             | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---------------------------------------------|-------------|
| Frequency [MHz]   | Channel No. |           |                      |                        |                                             |             |
| 5510              | 102         | 0         | 6.75                 | 0.61                   | 7.36                                        | 23.98       |
|                   |             | 1         | 6.13                 | 1.09                   | 7.22                                        | 23.98       |
|                   |             | 2         | 5.81                 | 1.48                   | 7.29                                        | 23.98       |
|                   |             | 3         | 5.56                 | 1.80                   | 7.36                                        | 23.98       |
|                   |             | 4         | 5.03                 | 2.30                   | 7.33                                        | 23.98       |
|                   |             | 5         | 4.61                 | 2.72                   | 7.32                                        | 23.98       |
|                   |             | 6         | 4.44                 | 2.86                   | 7.29                                        | 23.98       |
|                   |             | 7         | 4.25                 | 3.03                   | 7.27                                        | 23.98       |
| 5550              | 110         | 0         | 6.52                 | 0.61                   | 7.13                                        | 23.98       |
|                   |             | 1         | 6.19                 | 1.09                   | 7.28                                        | 23.98       |
|                   |             | 2         | 5.70                 | 1.48                   | 7.18                                        | 23.98       |
|                   |             | 3         | 5.34                 | 1.80                   | 7.14                                        | 23.98       |
|                   |             | 4         | 4.96                 | 2.30                   | 7.26                                        | 23.98       |
|                   |             | 5         | 4.59                 | 2.72                   | 7.31                                        | 23.98       |
|                   |             | 6         | 4.50                 | 2.86                   | 7.36                                        | 23.98       |
|                   |             | 7         | 4.25                 | 3.03                   | 7.27                                        | 23.98       |
| 5710              | 142         | 0         | 7.18                 | 0.61                   | 7.79                                        | 23.98       |
|                   |             | 1         | 6.52                 | 1.09                   | 7.61                                        | 23.98       |
|                   |             | 2         | 6.19                 | 1.48                   | 7.67                                        | 23.98       |
|                   |             | 3         | 5.97                 | 1.80                   | 7.77                                        | 23.98       |
|                   |             | 4         | 5.50                 | 2.30                   | 7.80                                        | 23.98       |
|                   |             | 5         | 5.05                 | 2.72                   | 7.76                                        | 23.98       |
|                   |             | 6         | 4.87                 | 2.86                   | 7.73                                        | 23.98       |
|                   |             | 7         | 4.67                 | 3.03                   | 7.70                                        | 23.98       |

# 802.11n\_HT40 (UNII 3)

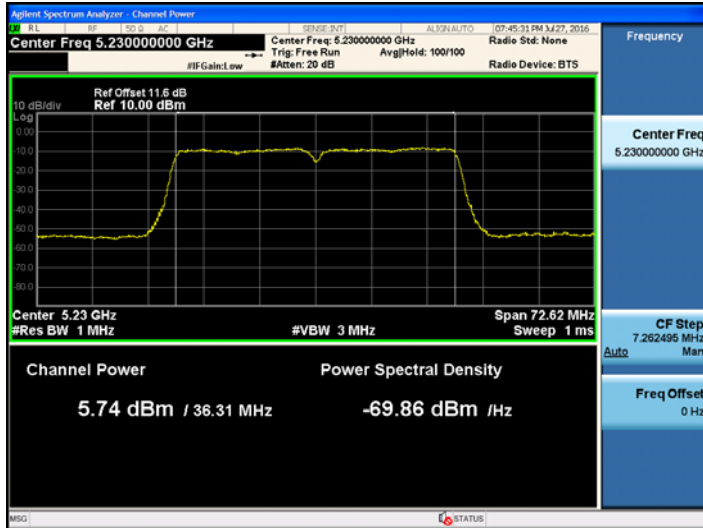
## ■ TEST RESULTS

### Conducted Output Power Measurements (802.11n\_HT40 Mode: 5755~5795)

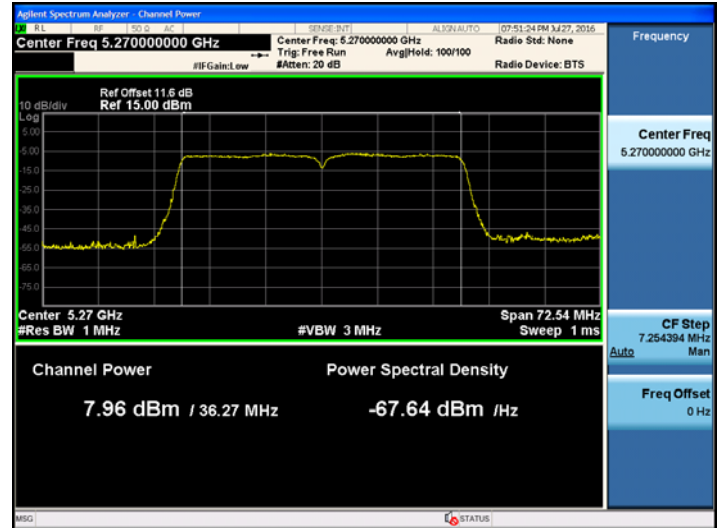
| 802.11n_HT40 Mode |             | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---------------------------------------------|-------------|
| Frequency [MHz]   | Channel No. |           |                      |                        |                                             |             |
| 5755              | 151         | 0         | 6.46                 | 0.61                   | 7.07                                        | 30          |
|                   |             | 1         | 6.06                 | 1.09                   | 7.16                                        | 30          |
|                   |             | 2         | 5.49                 | 1.48                   | 6.97                                        | 30          |
|                   |             | 3         | 5.28                 | 1.80                   | 7.08                                        | 30          |
|                   |             | 4         | 4.88                 | 2.30                   | 7.18                                        | 30          |
|                   |             | 5         | 4.47                 | 2.72                   | 7.19                                        | 30          |
|                   |             | 6         | 4.52                 | 2.86                   | 7.38                                        | 30          |
|                   |             | 7         | 3.98                 | 3.03                   | 7.01                                        | 30          |
| 5795              | 159         | 0         | 6.70                 | 0.61                   | 7.32                                        | 30          |
|                   |             | 1         | 6.23                 | 1.09                   | 7.32                                        | 30          |
|                   |             | 2         | 5.99                 | 1.48                   | 7.47                                        | 30          |
|                   |             | 3         | 5.74                 | 1.80                   | 7.54                                        | 30          |
|                   |             | 4         | 5.25                 | 2.30                   | 7.55                                        | 30          |
|                   |             | 5         | 4.79                 | 2.72                   | 7.51                                        | 30          |
|                   |             | 6         | 4.55                 | 2.86                   | 7.41                                        | 30          |
|                   |             | 7         | 4.47                 | 3.03                   | 7.50                                        | 30          |

■ TEST Plot \_802.11n\_HT40

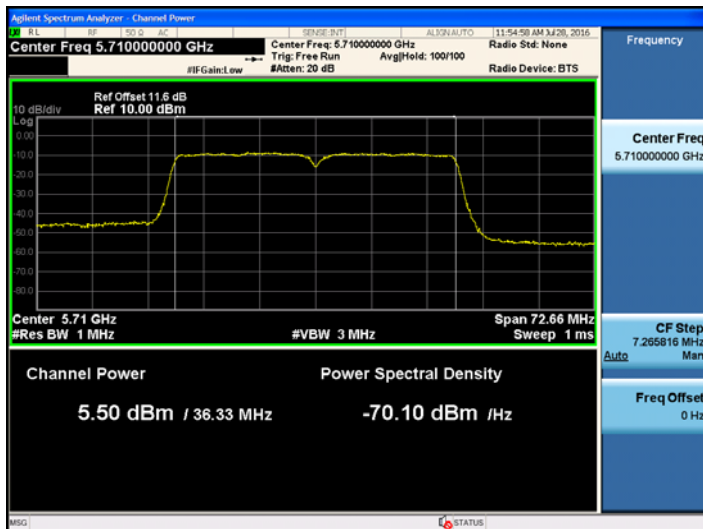
**802.11n\_HT40 UNII 1 BAND Average Power  
(5190 MHz ~5230 MHz) CH 46 MCS5**



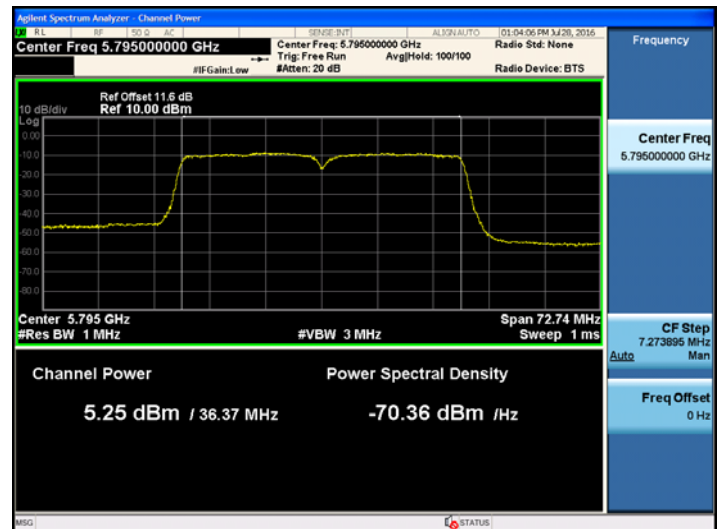
**802.11n\_HT40 UNII 2A BAND Average Power  
(5270 MHz ~5310 MHz) CH 54 MCS3**



**802.11n\_HT40 UNII 2C BAND Average Power  
(5510 MHz ~5710 MHz) CH 142 MCS4**



**802.11n\_HT40 UNII 3 BAND Average Power  
(5755 MHz ~5795 MHz) CH 151 MCS4**



# 802.11ac\_VHT40 (UNII 1)

## ■ TEST RESULTS

### Conducted Output Power Measurements (802.11ac\_VHT40 Mode: 5190~5230)

| 802.11ac_VHT40 Mode |             | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---------------------------------------------|-------------|
| Frequency [MHz]     | Channel No. |           |                      |                        |                                             |             |
| 5190                | 38          | 0         | 7.66                 | 0.61                   | 8.27                                        | 23.98       |
|                     |             | 1         | 7.05                 | 1.08                   | 8.13                                        | 23.98       |
|                     |             | 2         | 6.73                 | 1.46                   | 8.19                                        | 23.98       |
|                     |             | 3         | 6.50                 | 1.77                   | 8.27                                        | 23.98       |
|                     |             | 4         | 5.88                 | 2.26                   | 8.14                                        | 23.98       |
|                     |             | 5         | 5.68                 | 2.65                   | 8.33                                        | 23.98       |
|                     |             | 6         | 5.49                 | 2.79                   | 8.29                                        | 23.98       |
|                     |             | 7         | 5.24                 | 2.95                   | 8.20                                        | 23.98       |
|                     |             | 8         | 5.12                 | 3.13                   | 8.25                                        | 23.98       |
|                     |             | 9         | 4.97                 | 3.30                   | 8.28                                        | 23.98       |
| 5230                | 46          | 0         | 7.64                 | 0.61                   | 8.25                                        | 23.98       |
|                     |             | 1         | 7.19                 | 1.08                   | 8.27                                        | 23.98       |
|                     |             | 2         | 6.73                 | 1.46                   | 8.19                                        | 23.98       |
|                     |             | 3         | 6.42                 | 1.77                   | 8.20                                        | 23.98       |
|                     |             | 4         | 5.95                 | 2.26                   | 8.21                                        | 23.98       |
|                     |             | 5         | 5.63                 | 2.65                   | 8.28                                        | 23.98       |
|                     |             | 6         | 5.51                 | 2.79                   | 8.30                                        | 23.98       |
|                     |             | 7         | 5.30                 | 2.95                   | 8.26                                        | 23.98       |
|                     |             | 8         | 5.10                 | 3.13                   | 8.23                                        | 23.98       |
|                     |             | 9         | 4.99                 | 3.30                   | 8.30                                        | 23.98       |

# 802.11ac\_VHT40 (UNII 2A)

## ■ TEST RESULTS

### Conducted Output Power Measurements (802.11ac\_VHT40 Mode: 5270~5310)

| 802.11ac_VHT40 Mode |             | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---------------------------------------------|-------------|
| Frequency [MHz]     | Channel No. |           |                      |                        |                                             |             |
| 5270                | 54          | 0         | 8.70                 | 0.61                   | 9.32                                        | 23.98       |
|                     |             | 1         | 8.37                 | 1.08                   | 9.45                                        | 23.98       |
|                     |             | 2         | 7.99                 | 1.46                   | 9.46                                        | 23.98       |
|                     |             | 3         | 7.60                 | 1.77                   | 9.37                                        | 23.98       |
|                     |             | 4         | 7.10                 | 2.26                   | 9.37                                        | 23.98       |
|                     |             | 5         | 6.71                 | 2.65                   | 9.36                                        | 23.98       |
|                     |             | 6         | 6.55                 | 2.79                   | 9.35                                        | 23.98       |
|                     |             | 7         | 6.46                 | 2.95                   | 9.42                                        | 23.98       |
|                     |             | 8         | 6.20                 | 3.13                   | 9.33                                        | 23.98       |
|                     |             | 9         | 6.05                 | 3.30                   | 9.35                                        | 23.98       |
| 5310                | 62          | 0         | 8.90                 | 0.61                   | 9.52                                        | 23.98       |
|                     |             | 1         | 8.09                 | 1.08                   | 9.17                                        | 23.98       |
|                     |             | 2         | 7.79                 | 1.46                   | 9.25                                        | 23.98       |
|                     |             | 3         | 7.78                 | 1.77                   | 9.56                                        | 23.98       |
|                     |             | 4         | 7.29                 | 2.26                   | 9.55                                        | 23.98       |
|                     |             | 5         | 6.92                 | 2.65                   | 9.58                                        | 23.98       |
|                     |             | 6         | 6.77                 | 2.79                   | 9.56                                        | 23.98       |
|                     |             | 7         | 6.62                 | 2.95                   | 9.58                                        | 23.98       |
|                     |             | 8         | 6.56                 | 3.13                   | 9.69                                        | 23.98       |
|                     |             | 9         | 6.24                 | 3.30                   | 9.54                                        | 23.98       |

# 802.11ac\_VHT40 (UNII 2C)

## ■ TEST RESULTS

### Conducted Output Power Measurements (802.11ac\_VHT40 Mode: 5510~5710)

| 802.11ac_VHT40 Mode |             | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---------------------------------------------|-------------|
| Frequency [MHz]     | Channel No. |           |                      |                        |                                             |             |
| 5510                | 102         | 0         | 6.54                 | 0.61                   | 7.15                                        | 23.98       |
|                     |             | 1         | 6.17                 | 1.08                   | 7.25                                        | 23.98       |
|                     |             | 2         | 5.66                 | 1.46                   | 7.12                                        | 23.98       |
|                     |             | 3         | 5.57                 | 1.77                   | 7.34                                        | 23.98       |
|                     |             | 4         | 4.97                 | 2.26                   | 7.24                                        | 23.98       |
|                     |             | 5         | 4.47                 | 2.65                   | 7.13                                        | 23.98       |
|                     |             | 6         | 4.35                 | 2.79                   | 7.14                                        | 23.98       |
|                     |             | 7         | 4.20                 | 2.95                   | 7.15                                        | 23.98       |
|                     |             | 8         | 4.04                 | 3.13                   | 7.17                                        | 23.98       |
|                     |             | 9         | 3.81                 | 3.30                   | 7.11                                        | 23.98       |
| 5550                | 110         | 0         | 6.43                 | 0.61                   | 7.04                                        | 23.98       |
|                     |             | 1         | 5.99                 | 1.08                   | 7.07                                        | 23.98       |
|                     |             | 2         | 5.38                 | 1.46                   | 6.84                                        | 23.98       |
|                     |             | 3         | 5.27                 | 1.77                   | 7.04                                        | 23.98       |
|                     |             | 4         | 4.79                 | 2.26                   | 7.06                                        | 23.98       |
|                     |             | 5         | 4.39                 | 2.65                   | 7.04                                        | 23.98       |
|                     |             | 6         | 4.46                 | 2.79                   | 7.25                                        | 23.98       |
|                     |             | 7         | 4.31                 | 2.95                   | 7.26                                        | 23.98       |
|                     |             | 8         | 4.13                 | 3.13                   | 7.26                                        | 23.98       |
|                     |             | 9         | 3.78                 | 3.30                   | 7.08                                        | 23.98       |
| 5710                | 142         | 0         | 6.95                 | 0.61                   | 7.57                                        | 23.98       |
|                     |             | 1         | 6.51                 | 1.08                   | 7.60                                        | 23.98       |
|                     |             | 2         | 6.06                 | 1.46                   | 7.52                                        | 23.98       |
|                     |             | 3         | 5.89                 | 1.77                   | 7.67                                        | 23.98       |
|                     |             | 4         | 5.39                 | 2.26                   | 7.66                                        | 23.98       |
|                     |             | 5         | 5.00                 | 2.65                   | 7.66                                        | 23.98       |
|                     |             | 6         | 4.96                 | 2.79                   | 7.76                                        | 23.98       |
|                     |             | 7         | 4.82                 | 2.95                   | 7.77                                        | 23.98       |
|                     |             | 8         | 4.54                 | 3.13                   | 7.66                                        | 23.98       |
|                     |             | 9         | 4.40                 | 3.30                   | 7.70                                        | 23.98       |

# 802.11ac\_VHT40 (UNII 3)

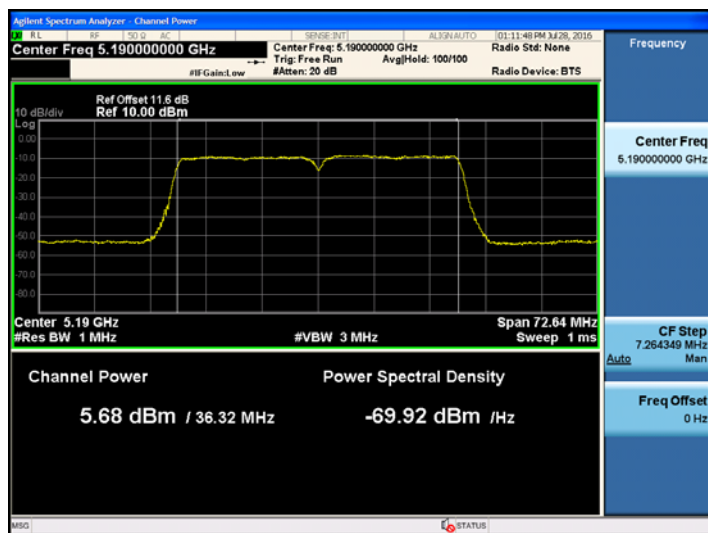
## ■ TEST RESULTS

### Conducted Output Power Measurements (802.11ac\_VHT40 Mode: 5755~5795)

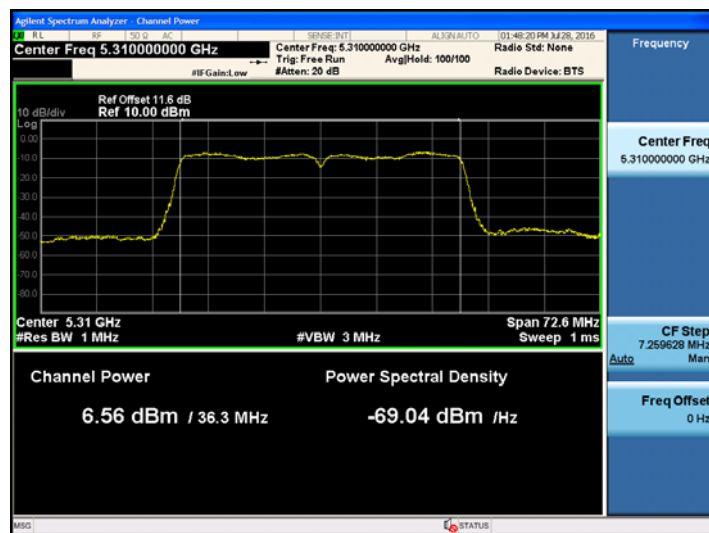
| 802.11ac_VHT40 Mode |             | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---------------------------------------------|-------------|
| Frequency [MHz]     | Channel No. |           |                      |                        |                                             |             |
| 5755                | 151         | 0         | 6.41                 | 0.61                   | 7.02                                        | 30          |
|                     |             | 1         | 5.97                 | 1.08                   | 7.06                                        | 30          |
|                     |             | 2         | 5.50                 | 1.46                   | 6.96                                        | 30          |
|                     |             | 3         | 5.35                 | 1.77                   | 7.12                                        | 30          |
|                     |             | 4         | 4.91                 | 2.26                   | 7.17                                        | 30          |
|                     |             | 5         | 4.48                 | 2.65                   | 7.14                                        | 30          |
|                     |             | 6         | 4.38                 | 2.79                   | 7.17                                        | 30          |
|                     |             | 7         | 4.30                 | 2.95                   | 7.25                                        | 30          |
|                     |             | 8         | 3.80                 | 3.13                   | 6.92                                        | 30          |
|                     |             | 9         | 3.81                 | 3.30                   | 7.11                                        | 30          |
| 5795                | 159         | 0         | 6.70                 | 0.61                   | 7.31                                        | 30          |
|                     |             | 1         | 6.27                 | 1.08                   | 7.35                                        | 30          |
|                     |             | 2         | 5.77                 | 1.46                   | 7.24                                        | 30          |
|                     |             | 3         | 5.61                 | 1.77                   | 7.38                                        | 30          |
|                     |             | 4         | 5.17                 | 2.26                   | 7.44                                        | 30          |
|                     |             | 5         | 4.78                 | 2.65                   | 7.43                                        | 30          |
|                     |             | 6         | 4.71                 | 2.79                   | 7.51                                        | 30          |
|                     |             | 7         | 4.63                 | 2.95                   | 7.59                                        | 30          |
|                     |             | 8         | 4.24                 | 3.13                   | 7.37                                        | 30          |
|                     |             | 9         | 4.34                 | 3.30                   | 7.64                                        | 30          |

■ TEST Plot \_802.11ac\_VHT40

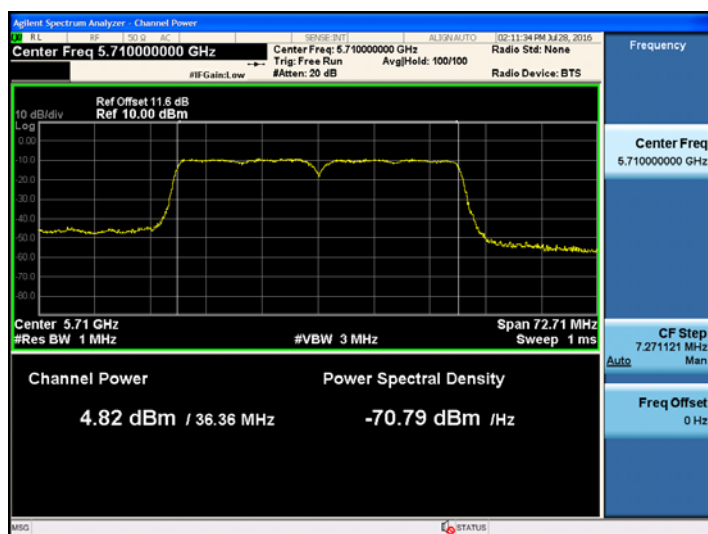
**802.11ac\_VHT40 UNII 1 BAND Average Power  
(5190 MHz ~5230 MHz) CH 38 MCS5**



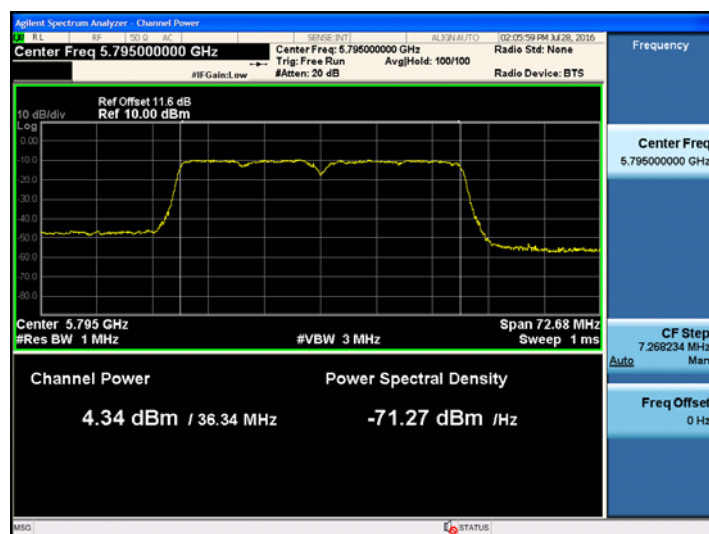
**802.11ac\_VHT40 UNII 2A BAND Average Power  
(5270 MHz ~5310 MHz) CH 62 MCS8**



**802.11ac\_VHT40 UNII 2C BAND Average Power  
(5510 MHz ~5710 MHz) CH 142 MCS7**



**802.11ac\_VHT40 UNII 3 BAND Average Power  
(5755 MHz ~5795 MHz) CH 159 MCS9**



## 802.11ac\_VHT80 (UNII 1)

### ■ TEST RESULTS

#### Conducted Output Power Measurements (802.11ac\_VHT80 Mode: 5210)

| 802.11ac_VHT80 Mode |             | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---------------------------------------------|-------------|
| Frequency [MHz]     | Channel No. |           |                      |                        |                                             |             |
| 5210                | 42          | 0         | 6.81                 | 1.15                   | 7.96                                        | 22.09       |
|                     |             | 1         | 4.52                 | 3.66                   | 8.17                                        | 22.09       |
|                     |             | 2         | 5.51                 | 2.36                   | 7.88                                        | 22.09       |
|                     |             | 3         | 5.52                 | 2.72                   | 8.24                                        | 22.09       |
|                     |             | 4         | 5.09                 | 3.21                   | 8.31                                        | 22.09       |
|                     |             | 5         | 4.70                 | 3.54                   | 8.24                                        | 22.09       |
|                     |             | 6         | 4.51                 | 3.67                   | 8.18                                        | 22.09       |
|                     |             | 7         | 4.44                 | 3.81                   | 8.25                                        | 22.09       |
|                     |             | 8         | 3.78                 | 3.96                   | 7.75                                        | 22.09       |
|                     |             | 9         | 4.04                 | 4.11                   | 8.15                                        | 22.09       |

# 802.11ac\_VHT80 (UNII 2A)

## ■ TEST RESULTS

### Conducted Output Power Measurements (802.11ac\_VHT80 Mode: 5290)

| 802.11ac_VHT80 Mode |             | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---------------------------------------------|-------------|
| Frequency [MHz]     | Channel No. |           |                      |                        |                                             |             |
| 5290                | 58          | 0         | 7.80                 | 1.15                   | 8.95                                        | 23.98       |
|                     |             | 1         | 5.01                 | 3.66                   | 8.67                                        | 23.98       |
|                     |             | 2         | 6.45                 | 2.36                   | 8.81                                        | 23.98       |
|                     |             | 3         | 5.98                 | 2.72                   | 8.70                                        | 23.98       |
|                     |             | 4         | 5.44                 | 3.21                   | 8.65                                        | 23.98       |
|                     |             | 5         | 5.11                 | 3.54                   | 8.65                                        | 23.98       |
|                     |             | 6         | 5.03                 | 3.67                   | 8.70                                        | 23.98       |
|                     |             | 7         | 4.85                 | 3.81                   | 8.66                                        | 23.98       |
|                     |             | 8         | 4.71                 | 3.96                   | 8.67                                        | 23.98       |
|                     |             | 9         | 4.58                 | 4.11                   | 8.69                                        | 23.98       |

# 802.11ac\_VHT80 (UNII 2C)

## ■ TEST RESULTS

### Conducted Output Power Measurements (802.11ac\_VHT80 Mode: 5530 ~ 5690 MHz)

| 802.11ac_VHT80 Mode |             | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---------------------------------------------|-------------|
| Frequency [MHz]     | Channel No. |           |                      |                        |                                             |             |
| 5530                | 106         | 0         | 5.62                 | 1.15                   | 6.77                                        | 23.98       |
|                     |             | 1         | 3.18                 | 3.66                   | 6.84                                        | 23.98       |
|                     |             | 2         | 4.32                 | 2.36                   | 6.68                                        | 23.98       |
|                     |             | 3         | 4.25                 | 2.72                   | 6.97                                        | 23.98       |
|                     |             | 4         | 3.74                 | 3.21                   | 6.95                                        | 23.98       |
|                     |             | 5         | 3.46                 | 3.54                   | 7.00                                        | 23.98       |
|                     |             | 6         | 3.26                 | 3.67                   | 6.93                                        | 23.98       |
|                     |             | 7         | 3.06                 | 3.81                   | 6.87                                        | 23.98       |
|                     |             | 8         | 2.87                 | 3.96                   | 6.83                                        | 23.98       |
|                     |             | 9         | 2.74                 | 4.11                   | 6.85                                        | 23.98       |
| 5690                | 138         | 0         | 5.71                 | 1.15                   | 6.86                                        | 23.98       |
|                     |             | 1         | 3.68                 | 3.66                   | 7.34                                        | 23.98       |
|                     |             | 2         | 4.62                 | 2.36                   | 6.98                                        | 23.98       |
|                     |             | 3         | 4.58                 | 2.72                   | 7.31                                        | 23.98       |
|                     |             | 4         | 4.05                 | 3.21                   | 7.27                                        | 23.98       |
|                     |             | 5         | 3.62                 | 3.54                   | 7.16                                        | 23.98       |
|                     |             | 6         | 3.57                 | 3.67                   | 7.24                                        | 23.98       |
|                     |             | 7         | 3.51                 | 3.81                   | 7.32                                        | 23.98       |
|                     |             | 8         | 3.34                 | 3.96                   | 7.31                                        | 23.98       |
|                     |             | 9         | 3.14                 | 4.11                   | 7.25                                        | 23.98       |

# 802.11ac\_VHT80 (UNII 3)

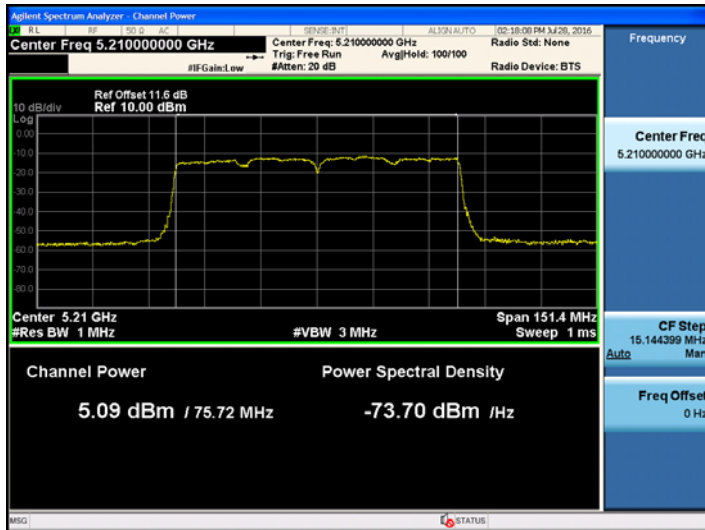
## ■ TEST RESULTS

### Conducted Output Power Measurements (802.11ac\_VHT80 Mode: 5775 MHz)

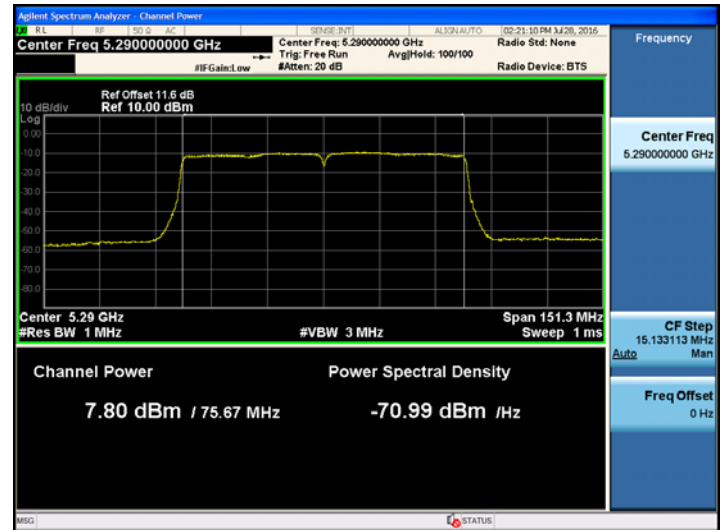
| 802.11ac_VHT80 Mode |             | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---------------------------------------------|-------------|
| Frequency [MHz]     | Channel No. |           |                      |                        |                                             |             |
| 5775                | 155         | 0         | 5.84                 | 1.15                   | 6.99                                        | 30          |
|                     |             | 1         | 3.60                 | 3.66                   | 7.26                                        | 30          |
|                     |             | 2         | 4.62                 | 2.36                   | 6.98                                        | 30          |
|                     |             | 3         | 4.62                 | 2.72                   | 7.34                                        | 30          |
|                     |             | 4         | 4.07                 | 3.21                   | 7.29                                        | 30          |
|                     |             | 5         | 3.68                 | 3.54                   | 7.21                                        | 30          |
|                     |             | 6         | 3.61                 | 3.67                   | 7.28                                        | 30          |
|                     |             | 7         | 3.41                 | 3.81                   | 7.22                                        | 30          |
|                     |             | 8         | 3.40                 | 3.96                   | 7.36                                        | 30          |
|                     |             | 9         | 3.13                 | 4.11                   | 7.24                                        | 30          |

■ TEST Plot for 802.11ac\_VHT80

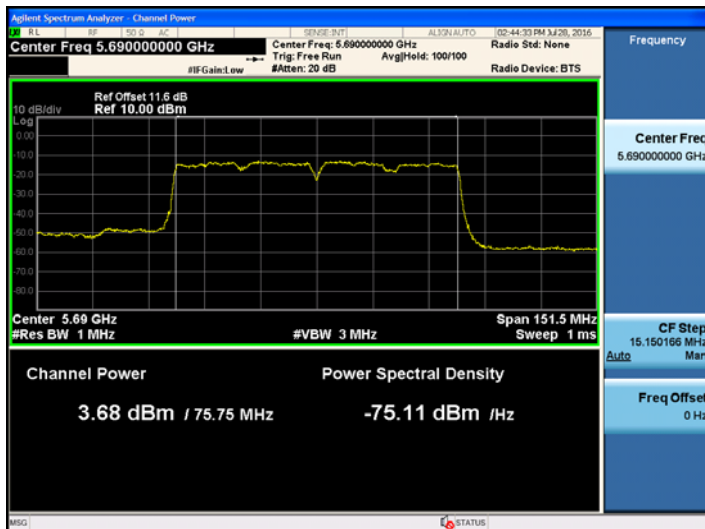
**802.11ac\_VHT80 UNII 1 BAND Average Power  
(5210 MHz) CH 42 MCS4**



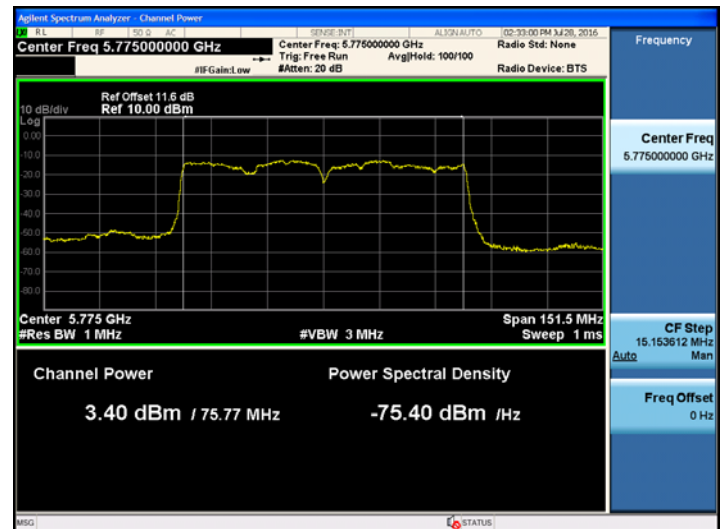
**802.11ac\_VHT80 UNII 2A BAND Average Power  
(5290 MHz) CH 58 MCS0**



**802.11ac\_VHT80 UNII 2C BAND Average Power  
(5530 ~ 5690 MHz) CH 138 MCS1**



**802.11ac\_VHT80 UNII 3 BAND Average Power  
(5775 MHz) CH 155 MCS8**



# Straddle channels TEST RESULTS

Conducted Output Power Measurements (802.11a/n\_HT20/ac\_VHT20 Mode: UNII 2C Band 5720MHz)

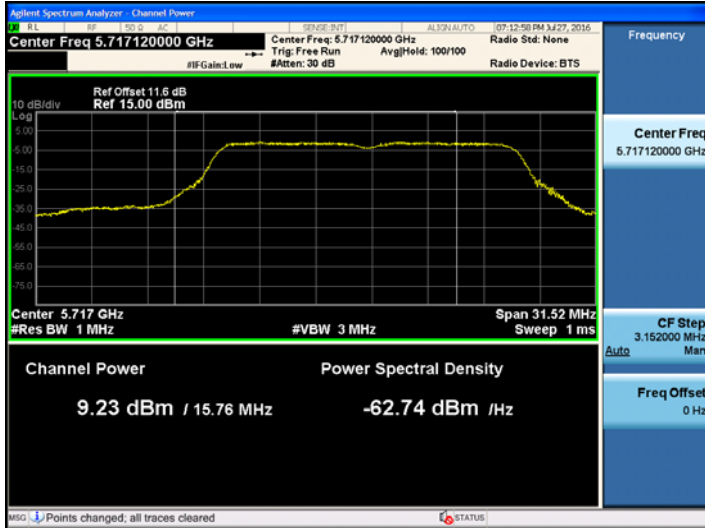
| Mode     | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---------------------------------------------|-------------|
| 802.11a  | 5720            | 144         | 9.23                 | 1.805                  | 11.04                                       | 22.60       |
| 802.11n  |                 |             | 8.84                 | 2.352                  | 11.19                                       | 22.58       |
| 802.11ac |                 |             | 8.83                 | 2.005                  | 10.83                                       | 22.62       |

Conducted Output Power Measurements (802.11a/n\_HT20/ac\_VHT20 Mode: UNII 3 Band 5720MHz)

| Mode     | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---------------------------------------------|-------------|
| 802.11a  | 5720            | 144         | 3.07                 | 1.805                  | 4.88                                        | 24.34       |
| 802.11n  |                 |             | 3.14                 | 2.352                  | 5.49                                        | 24.40       |
| 802.11ac |                 |             | 3.22                 | 2.005                  | 5.22                                        | 24.29       |

☐ Straddle channels TEST Plot for 802.11a/n\_HT20

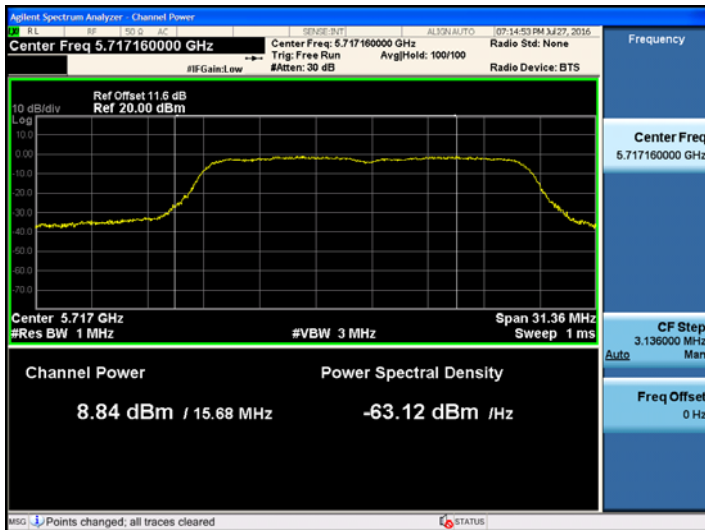
802.11a UNII 2C Band Average Power CH.144



802.11a UNII 3 Band Average Power CH.144



802.11n\_HT20 UNII 2C Band Average Power CH.144

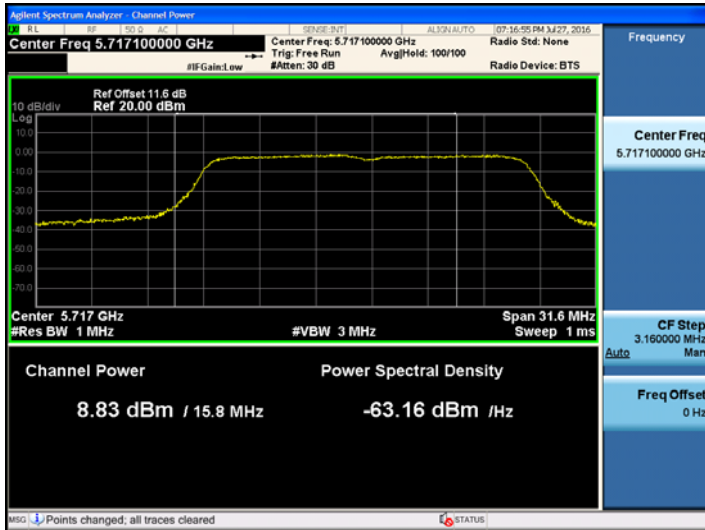


802.11n\_HT20 UNII 3 Band Average Power CH.144

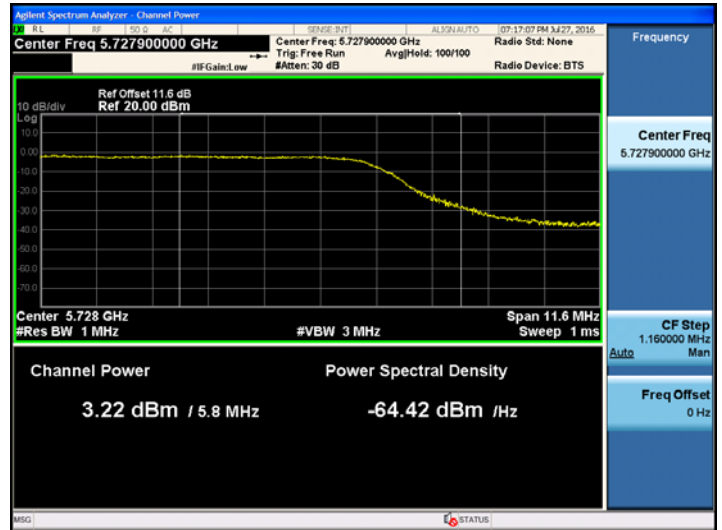


■ Straddle channels TEST Plot for 802.11ac\_VHT20

802.11ac\_VHT20 UNII 2C Band Average Power CH.144



802.11ac\_VHT20 UNII 3 Band Average Power CH.144



# Straddle channels TEST RESULTS

Conducted Output Power Measurements (802.11n\_HT40/ac\_VHT40 Mode: UNII 2C Band 5710MHz)

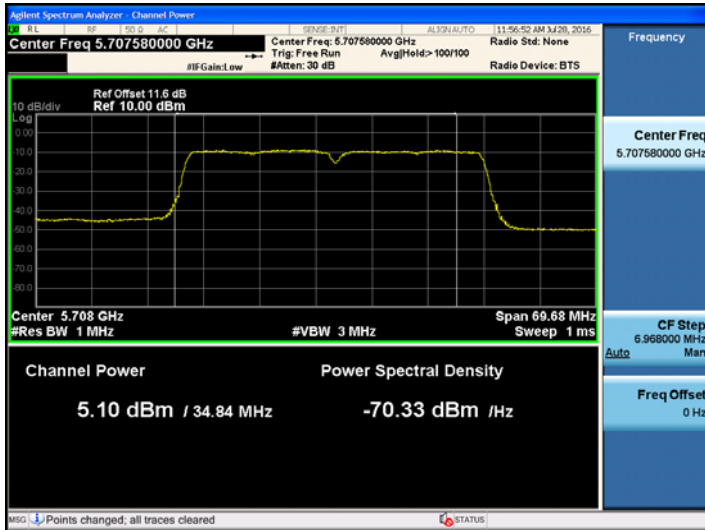
| Mode     | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---------------------------------------------|-------------|
| 802.11n  | 5710            | 142         | 5.10                 | 2.302                  | 7.40                                        | 23.45       |
| 802.11ac |                 |             | 4.31                 | 2.955                  | 7.26                                        | 23.41       |

Conducted Output Power Measurements (802.11n\_HT40/ac\_VHT40 Mode: UNII 3 Band 5710MHz)

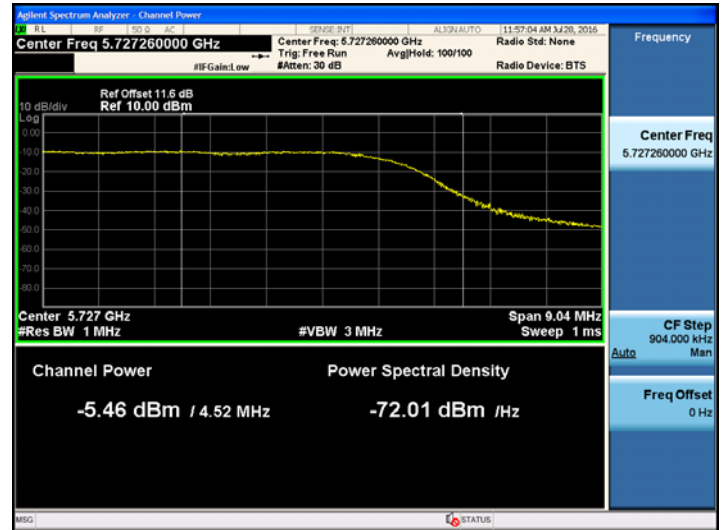
| Mode     | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---------------------------------------------|-------------|
| 802.11n  | 5710            | 142         | -5.46                | 2.302                  | -3.16                                       | 20.60       |
| 802.11ac |                 |             | -6.07                | 2.955                  | -3.12                                       | 20.87       |

☐ Straddle channels TEST Plot for 802.11n\_HT40/ac\_VHT40

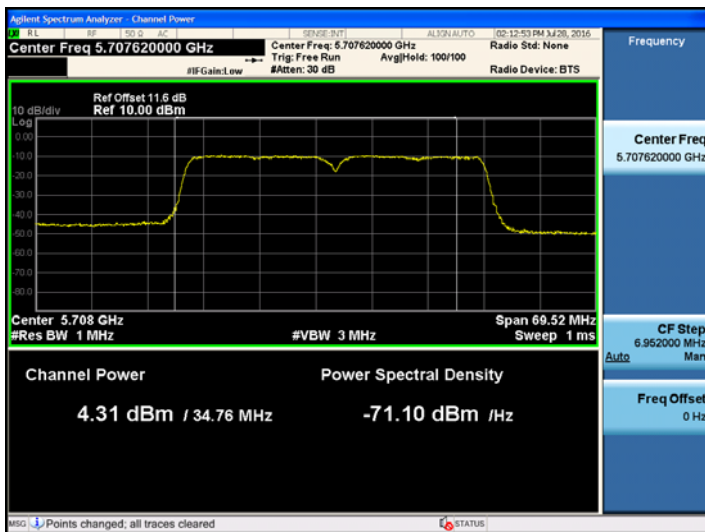
802.11n\_HT40 UNII 2C Band Average Power CH.142



802.11n\_HT40 UNII 3 Band Average Power CH.142



802.11ac\_VHT40 UNII 2C Band Average Power CH.142



802.11ac\_VHT40 UNII 3 Band Average Power CH.142



## Straddle channels TEST RESULTS

### Conducted Output Power Measurements (802.11ac\_VHT80 Mode: UNII 2C Band 5690MHz)

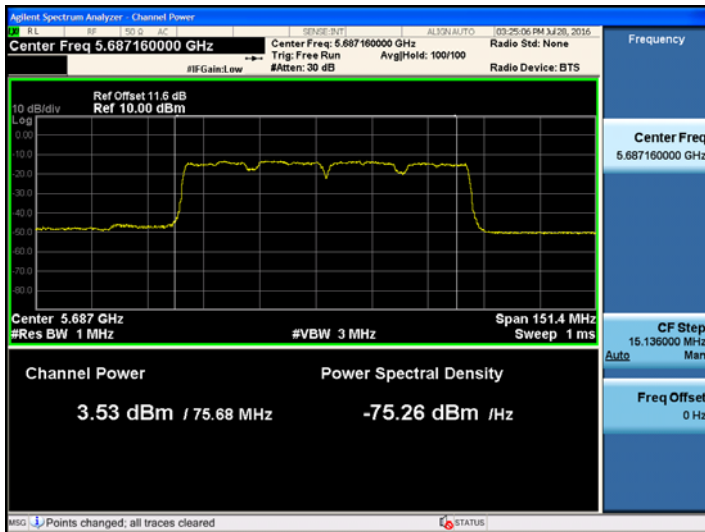
| Mode     | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---------------------------------------------|-------------|
| 802.11ac | 5690            | 138         | 3.53                 | 3.658                  | 7.19                                        | 23.67       |

### Conducted Output Power Measurements (802.11ac\_VHT80 Mode: UNII 3 Band 5690MHz)

| Mode     | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---------------------------------------------|-------------|
| 802.11ac | 5690            | 138         | -10.94               | 3.658                  | -7.28                                       | 18.44       |

## Straddle channels TEST Plot for 802.11ac\_VHT80

### 802.11ac\_VHT80 UNII 2C Band Average Power CH.138



### 802.11ac\_VHT80 UNII 3 Band Average Power CH.138



## 9.4 POWER SPECTRAL DENSITY

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies. The maximum permissible peak power spectral density is 11 dBm/ MHz for UNII 1,2A, 2C and 30 dBm/500 kHz for UNII 3.

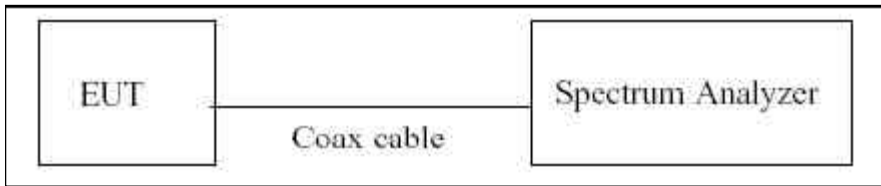
### ■ Limit

#### Power Spectral Density

| Band    | Mode          | Limit          |
|---------|---------------|----------------|
| UNII 1  | 802.11 a,n,ac | 11 dBm/MHz     |
| UNII 2A | 802.11a,n,ac  | 11 dBm/MHz     |
| UNII 2C | 802.11a,n,ac  | 11 dBm/MHz     |
| UNII 3  | 802.11a,n,ac  | 30 dBm/500 kHz |

Note : Note : According to KDB644545 D03 v01, emission for straddle channels in each band shall comply with the PSD limits applicable to that band under the appropriate rule section.

## ■ TEST CONFIGURATION



## ■ TEST PROCEDURE

We tested according to Method in KDB 789033 D02 v01r02.

The spectrum analyzer is set to :

1. Set span to encompass the entire emission bandwidth(EBW) of the signal.
2. RBW = 1 MHz(510 kHz for UNII 3)
3. VBW  $\geq$  3 MHz
4. Number of points in sweep  $\geq 2 \times \text{span} / \text{RBW}$ .
5. Sweep time = auto.
6. Detector = RMS(i.e., power averaging), if available. Otherwise, use sample detector mode.
7. Do not use sweep triggering. Allow the sweep to “free run”.
8. Trace average at least 100 traces in power averaging(RMS) mode
9. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
10. If Method SA-2 was used, add  $10 \log(1/x)$ , where x is the duty cycle, to the peak of the spectrum.

## ■ Sample Calculation

PSD = Reading Value + ATT loss + Cable loss(1 ea) + Duty Cycle Factor

Output Power = 5 dBm + 10 dB + 0.8 dB + 0.21 dB = 16.01 dBm

Note :

1. Spectrum reading values are not plot data. The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Spectrum offset = Attenuator loss + Cable loss
3. We apply to the offset in the 5.2 GHz, 5.3 GHz and 5.6 GHz range that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table.

| Band               | Loss(dB) |
|--------------------|----------|
| UNII 1, 2A , 2C, 3 | 11.1     |

(Actual value of loss for the attenuator and cable combination)

# 802.11a

## TEST RESULTS

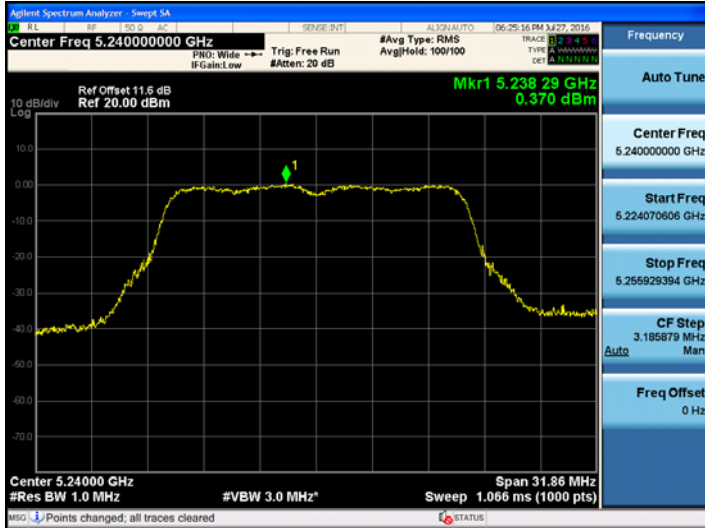
### Conducted Power Density Measurements

| Frequency<br>(MHz) | Channel<br>No. | Mode    | Test Result                           |                              |                                                                |                |           |
|--------------------|----------------|---------|---------------------------------------|------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |         | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5180               | 36             | 802.11a | 0.210                                 | 1.950                        | 2.160                                                          | 11             | Pass      |
| 5200               | 40             |         | -0.155                                | 1.805                        | 1.650                                                          |                | Pass      |
| 5240               | 48             |         | 0.370                                 | 1.805                        | 2.175                                                          |                | Pass      |
| 5260               | 52             |         | 0.317                                 | 1.805                        | 2.122                                                          | 11             | Pass      |
| 5300               | 60             |         | 0.590                                 | 1.805                        | 2.395                                                          |                | Pass      |
| 5320               | 64             |         | 0.995                                 | 1.034                        | 2.029                                                          |                | Pass      |
| 5500               | 100            |         | -1.399                                | 1.950                        | 0.551                                                          | 11             | Pass      |
| 5580               | 116            |         | -0.730                                | 1.805                        | 1.075                                                          |                | Pass      |
| 5745               | 149            |         | -4.204                                | 1.950                        | -2.254                                                         | 30             | Pass      |
| 5785               | 157            |         | -3.337                                | 1.805                        | -1.532                                                         |                | Pass      |
| 5825               | 165            |         | -2.975                                | 1.805                        | -1.170                                                         |                | Pass      |

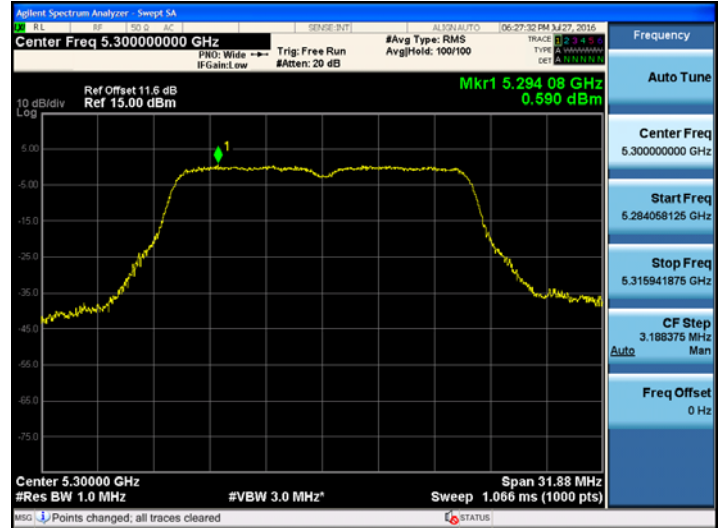
Note : Please refer to the straddle channels test results for the measurements of ch.144

■ TEST Plot for 802.11a

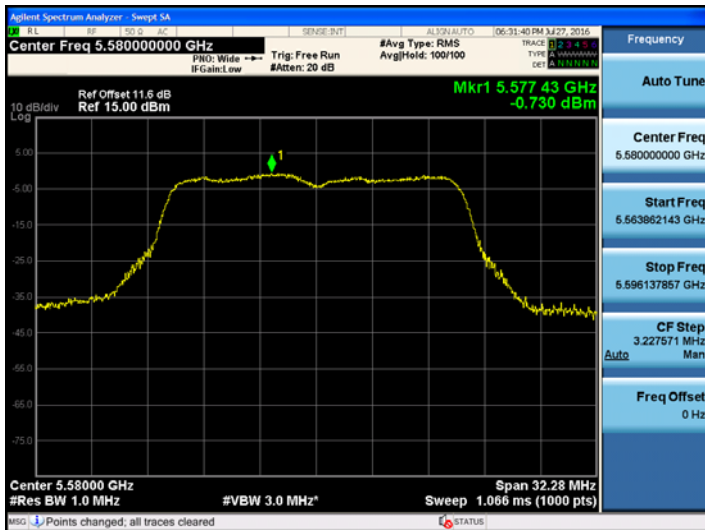
802.11a UNII 1 BAND PSD CH 48



802.11a UNII 2A BAND PSD CH 60



802.11a UNII 2C BAND PSD CH 116



802.11a UNII 3 BAND PSD CH 165



# 802.11n\_HT20

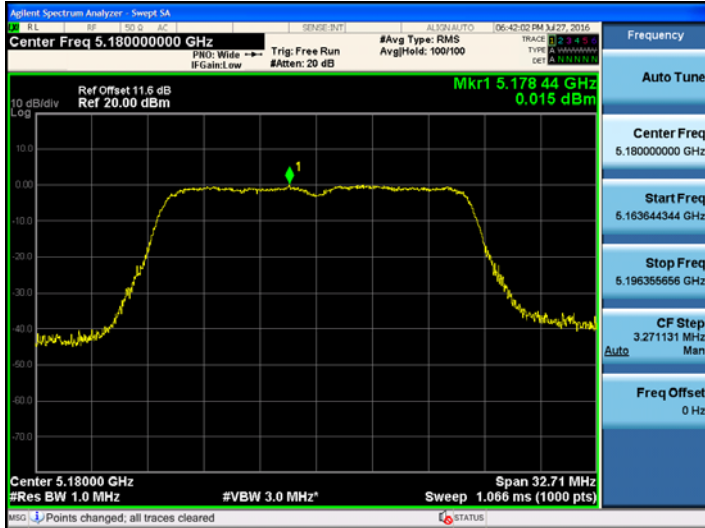
## TEST RESULTS

### Conducted Power Density Measurements

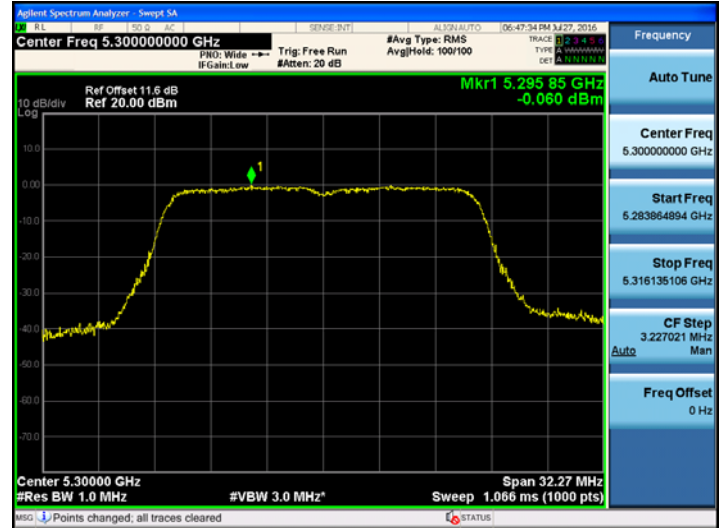
| Frequency<br>(MHz) | Channel<br>No. | Mode             | Test Result                           |                              |                                                                |                |           |
|--------------------|----------------|------------------|---------------------------------------|------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |                  | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5180               | 36             | 802.11n<br>_HT20 | 0.015                                 | 1.790                        | 1.805                                                          | 11             | Pass      |
| 5200               | 40             |                  | -0.359                                | 1.900                        | 1.541                                                          |                | Pass      |
| 5240               | 48             |                  | -0.245                                | 1.790                        | 1.545                                                          |                | Pass      |
| 5260               | 52             |                  | -0.129                                | 2.352                        | 2.223                                                          | 11             | Pass      |
| 5300               | 60             |                  | -0.060                                | 2.352                        | 2.292                                                          |                | Pass      |
| 5320               | 64             |                  | -0.163                                | 2.352                        | 2.189                                                          |                | Pass      |
| 5500               | 100            |                  | -1.584                                | 2.352                        | 0.768                                                          | 11             | Pass      |
| 5580               | 116            |                  | -1.736                                | 2.352                        | 0.616                                                          |                | Pass      |
| 5745               | 149            |                  | -4.460                                | 2.352                        | -2.108                                                         | 30             | Pass      |
| 5785               | 157            |                  | -3.468                                | 2.352                        | -1.116                                                         |                | Pass      |
| 5825               | 165            |                  | -3.503                                | 2.352                        | -1.151                                                         |                | Pass      |

■ TEST Plot for 802.11n\_HT20

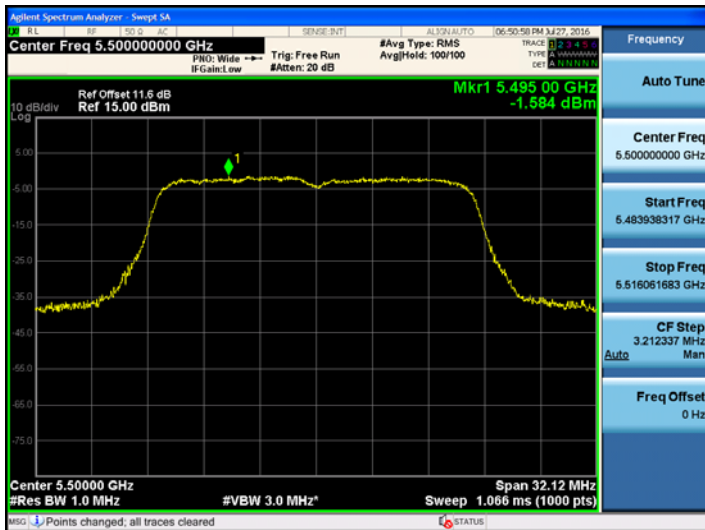
802.11n\_HT20 UNII 1 BAND PSD CH 36



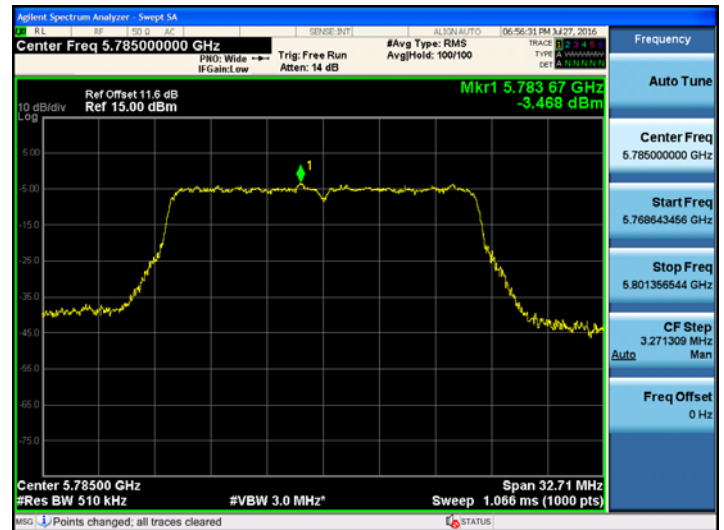
802.11n\_HT20 UNII 2A BAND PSD CH 60



802.11n\_HT20 UNII 2C BAND PSD CH 100



802.11n\_HT20 UNII 3 BAND PSD CH 157



# 802.11ac\_VHT20

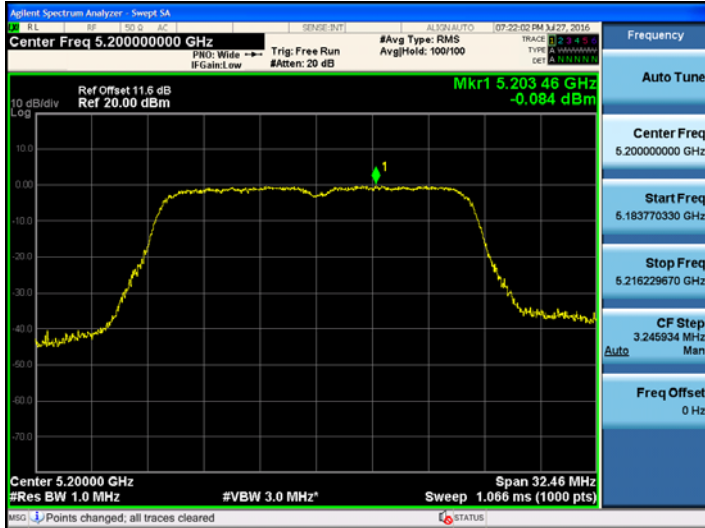
## TEST RESULTS

### Conducted Power Density Measurements

| Frequency<br>(MHz) | Channel<br>No. | Mode               | Test Result                           |                              |                                                                |                |           |
|--------------------|----------------|--------------------|---------------------------------------|------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |                    | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5180               | 36             | 802.11ac<br>_VHT20 | -0.090                                | 1.743                        | 1.653                                                          | 11             | Pass      |
| 5200               | 40             |                    | -0.084                                | 1.867                        | 1.783                                                          |                | Pass      |
| 5240               | 48             |                    | -0.003                                | 1.743                        | 1.740                                                          |                | Pass      |
| 5260               | 52             |                    | -0.141                                | 1.867                        | 1.726                                                          | 11             | Pass      |
| 5300               | 60             |                    | 0.730                                 | 1.053                        | 1.783                                                          |                | Pass      |
| 5320               | 64             |                    | 0.235                                 | 1.425                        | 1.660                                                          |                | Pass      |
| 5500               | 100            |                    | -0.557                                | 1.053                        | 0.496                                                          | 11             | Pass      |
| 5580               | 116            |                    | -0.974                                | 1.743                        | 0.769                                                          |                | Pass      |
| 5745               | 149            |                    | -4.231                                | 1.867                        | -2.364                                                         | 30             | Pass      |
| 5785               | 157            |                    | -3.504                                | 1.743                        | -1.761                                                         |                | Pass      |
| 5825               | 165            |                    | -3.022                                | 1.425                        | -1.597                                                         |                | Pass      |

■ TEST Plot for 802.11ac\_VHT20

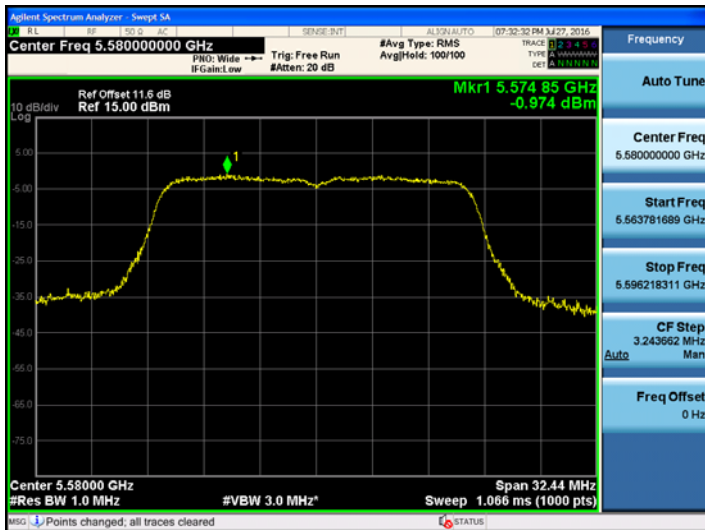
802.11ac\_VHT20 UNII 1 BAND PSD CH 40



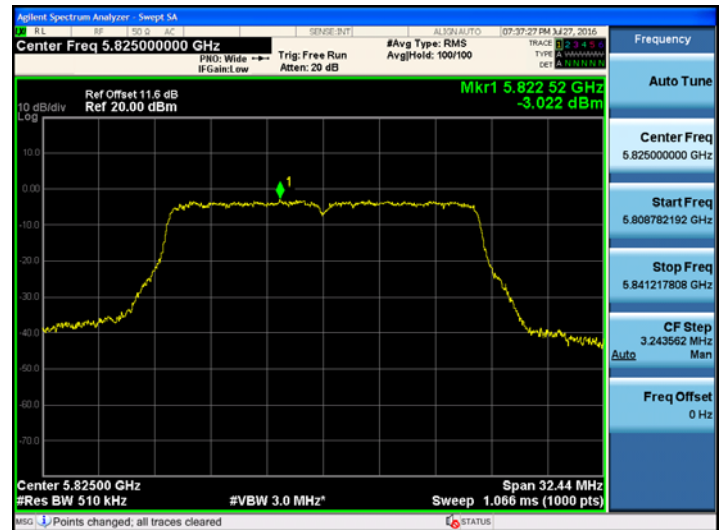
802.11ac\_VHT20 UNII 2A BAND PSD CH 60



802.11ac\_VHT20 UNII 2C BAND PSD CH 116



802.11ac\_VHT20 UNII 3 BAND PSD CH 165



# 802.11n\_HT40

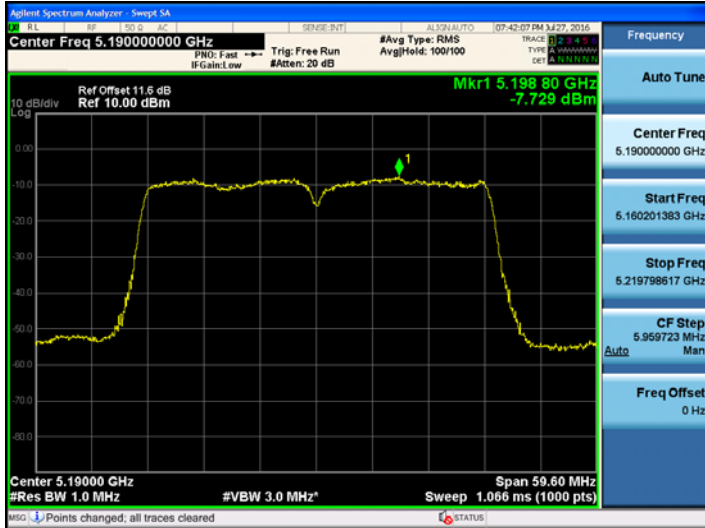
## TEST RESULTS

### Conducted Power Density Measurements

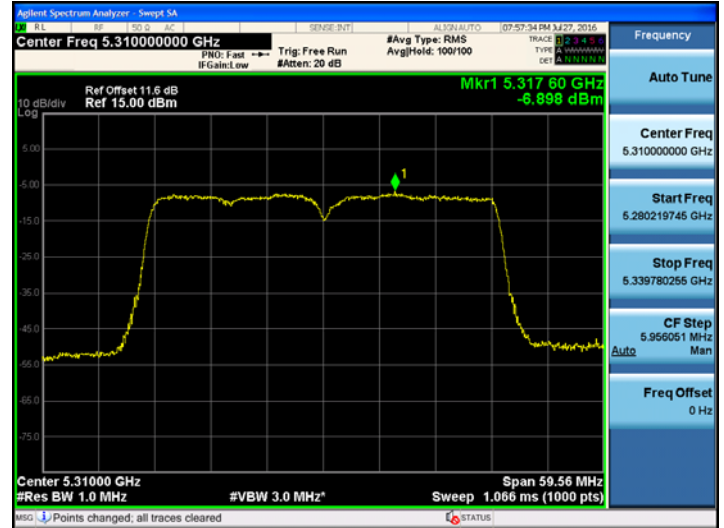
| Frequency<br>(MHz) | Channel<br>No. | Mode             | Test Result                           |                              |                                                                |                |           |
|--------------------|----------------|------------------|---------------------------------------|------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |                  | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5190               | 38             | 802.11n<br>_HT40 | -7.729                                | 2.859                        | -4.870                                                         | 11             | Pass      |
| 5230               | 46             |                  | -8.075                                | 2.715                        | -5.360                                                         |                | Pass      |
| 5270               | 54             |                  | -6.336                                | 1.800                        | -4.536                                                         | 11             | Pass      |
| 5310               | 62             |                  | -6.898                                | 2.859                        | -4.039                                                         |                | Pass      |
| 5510               | 102            |                  | -7.577                                | 0.614                        | -6.963                                                         | 11             | Pass      |
| 5550               | 110            |                  | -9.272                                | 2.859                        | -6.413                                                         |                | Pass      |
| 5755               | 151            |                  | -12.061                               | 2.859                        | -9.202                                                         | 30             | Pass      |
| 5795               | 159            |                  | -11.142                               | 2.302                        | -8.840                                                         |                | Pass      |

■ TEST Plot for 802.11n\_HT40

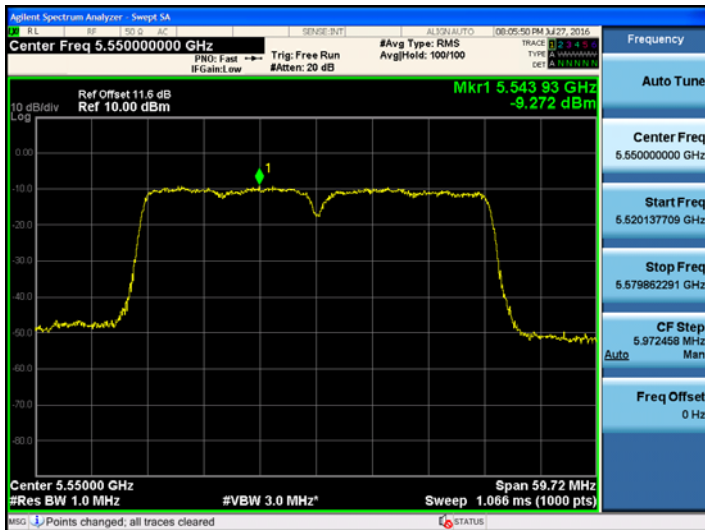
802.11n\_HT40 UNII 1 BAND PSD CH 38



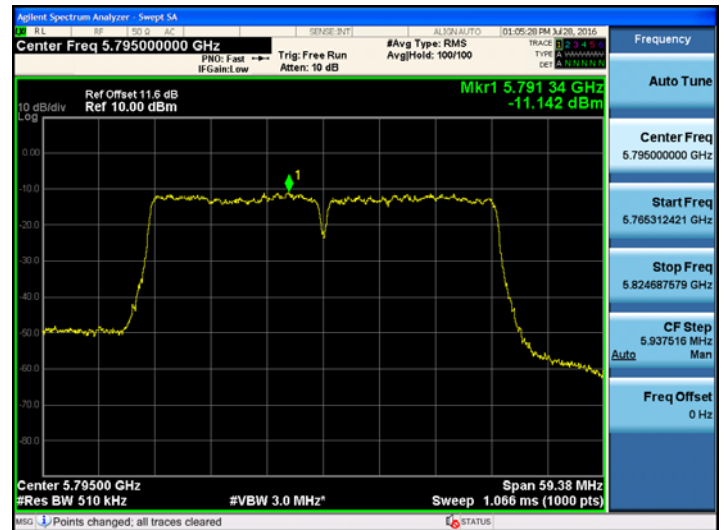
802.11n\_HT40 UNII 2A BAND PSD CH 62



802.11n\_HT40 UNII 2C BAND PSD CH 110



802.11n\_HT40 UNII 3 BAND PSD CH 159



# 802.11ac\_VHT40

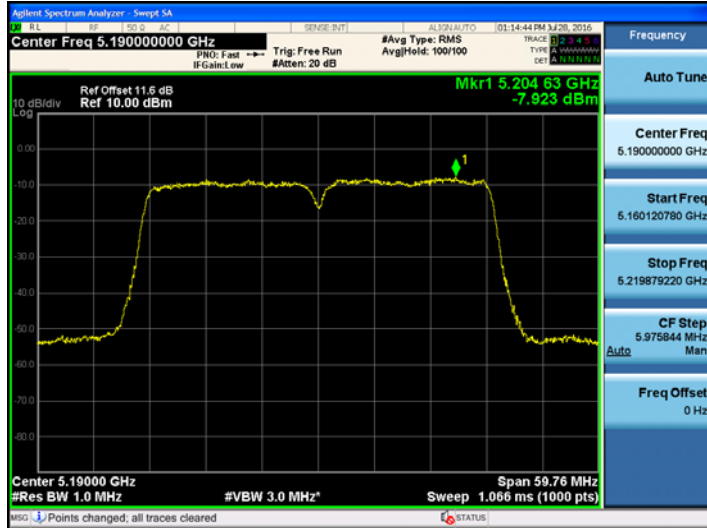
## TEST RESULTS

### Conducted Power Density Measurements

| Frequency<br>(MHz) | Channel<br>No. | Mode               | Test Result                           |                              |                                                                |                |           |
|--------------------|----------------|--------------------|---------------------------------------|------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |                    | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5190               | 38             | 802.11ac<br>_VHT40 | -7.923                                | 2.654                        | -5.269                                                         | 11             | Pass      |
| 5230               | 46             |                    | -8.384                                | 2.792                        | -5.592                                                         |                | Pass      |
| 5270               | 54             |                    | -6.200                                | 1.461                        | -4.739                                                         | 11             | Pass      |
| 5310               | 62             |                    | -7.520                                | 3.128                        | -4.392                                                         |                | Pass      |
| 5510               | 102            |                    | -8.385                                | 1.772                        | -6.613                                                         | 11             | Pass      |
| 5550               | 110            |                    | -9.513                                | 2.955                        | -6.558                                                         |                | Pass      |
| 5755               | 151            |                    | -12.032                               | 2.955                        | -9.077                                                         | 30             | Pass      |
| 5795               | 159            |                    | -11.657                               | 3.303                        | -8.354                                                         |                | Pass      |

■ TEST Plot for 802.11ac\_VHT40

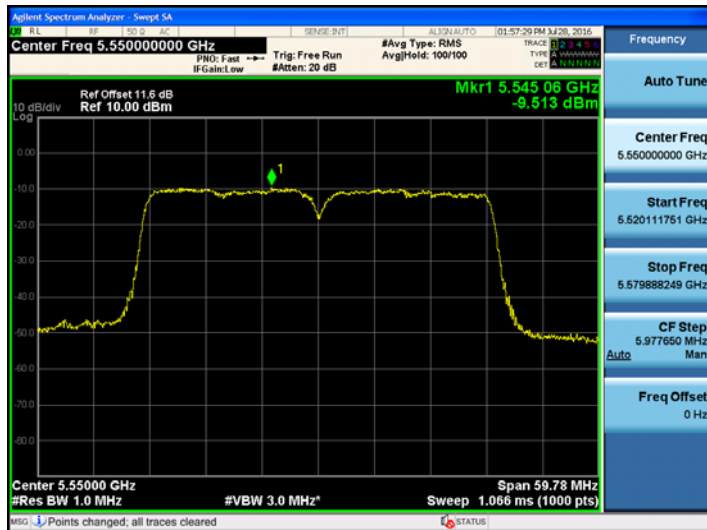
802.11ac\_VHT40 UNII 1 BAND PSD CH 38



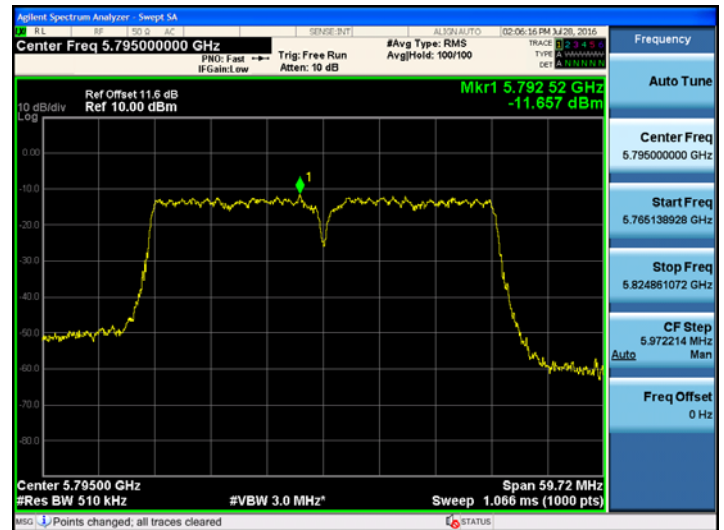
802.11ac\_VHT40 UNII 2A BAND PSD CH 62



802.11ac\_VHT40 UNII 2C BAND PSD CH 110



802.11ac\_VHT40 UNII 3 BAND PSD CH 159



# 802.11ac\_VHT80

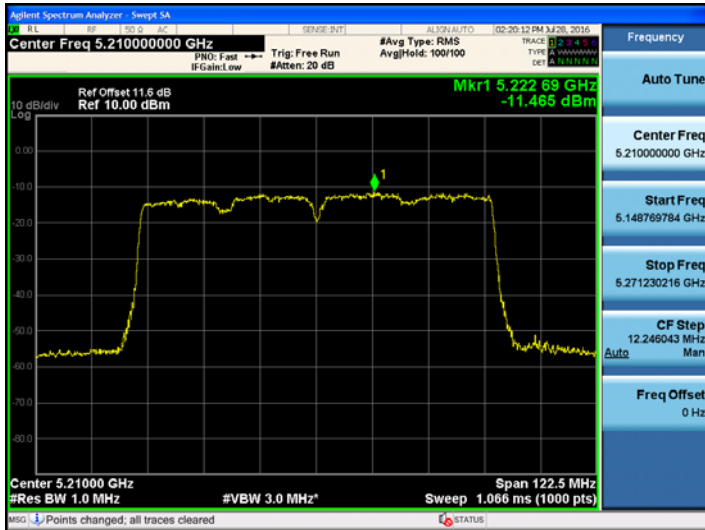
## TEST RESULTS

### Conducted Power Density Measurements

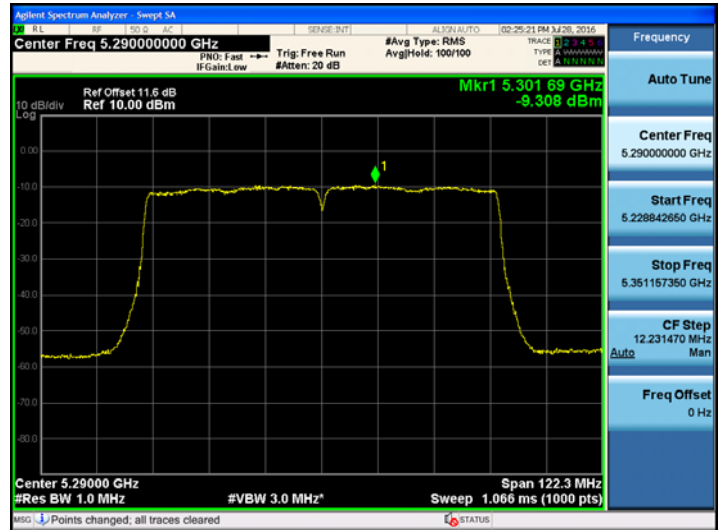
| Frequency<br>(MHz) | Channel<br>No. | Mode               | Test Result                           |                              |                                                                |                |           |
|--------------------|----------------|--------------------|---------------------------------------|------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |                    | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5210               | 42             | 802.11ac<br>_VHT80 | -11.465                               | 3.214                        | -8.251                                                         | 11             | Pass      |
| 5290               | 58             |                    | -9.308                                | 1.149                        | -8.159                                                         |                | Pass      |
| 5530               | 106            |                    | -13.010                               | 3.538                        | -9.472                                                         |                | Pass      |
| 5775               | 155            |                    | -15.663                               | 3.965                        | -11.698                                                        | 30             | Pass      |

■ TEST Plot for 802.11ac\_VHT80

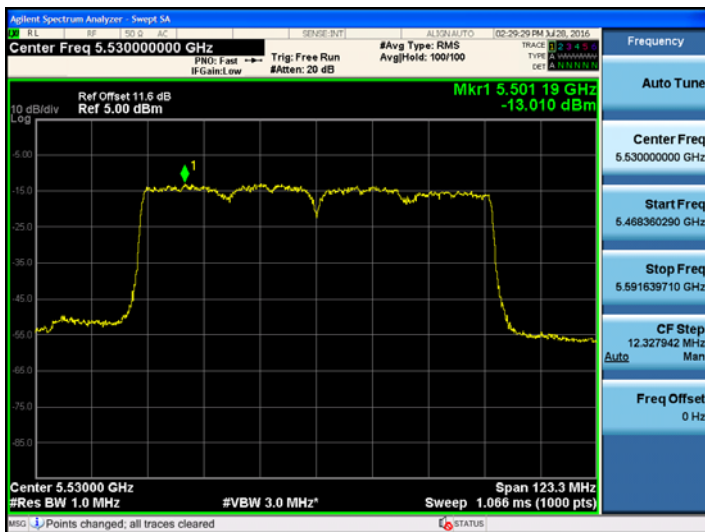
802.11ac\_VHT80 UNII 1 BAND PSD CH 42



802.11ac\_VHT80 UNII 2A BAND PSD CH 58



802.11ac\_VHT80 UNII 2C BAND PSD CH 106



802.11ac\_VHT80 UNII 3 BAND PSD CH 155



# Straddle channels TEST RESULTS for 802.11a/n\_HT20/ac\_VHT20

## Conducted Power Density Measurements (UNII 2C Band 5720MHz)

| Frequency<br>(MHz) | Channel<br>No. | Mode     | Test Result                           |                              |                                                                |                |           |
|--------------------|----------------|----------|---------------------------------------|------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |          | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5720               | 144            | 802.11a  | -0.105                                | 1.805                        | 1.700                                                          | 11             | Pass      |
|                    |                | 802.11n  | -0.776                                | 2.352                        | 1.576                                                          | 11             | Pass      |
|                    |                | 802.11ac | -1.119                                | 2.005                        | 0.886                                                          | 11             | Pass      |

## Conducted Power Density Measurements (UNII 3 Band 5720MHz)

| Frequency<br>(MHz) | Channel<br>No. | Mode     | Test Result                           |                              |                                                                |                |           |
|--------------------|----------------|----------|---------------------------------------|------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |          | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5720               | 144            | 802.11a  | -3.684                                | 1.805                        | -1.879                                                         | 30             | Pass      |
|                    |                | 802.11n  | -3.895                                | 2.352                        | -1.543                                                         | 30             | Pass      |
|                    |                | 802.11ac | -4.031                                | 2.005                        | -2.026                                                         | 30             | Pass      |