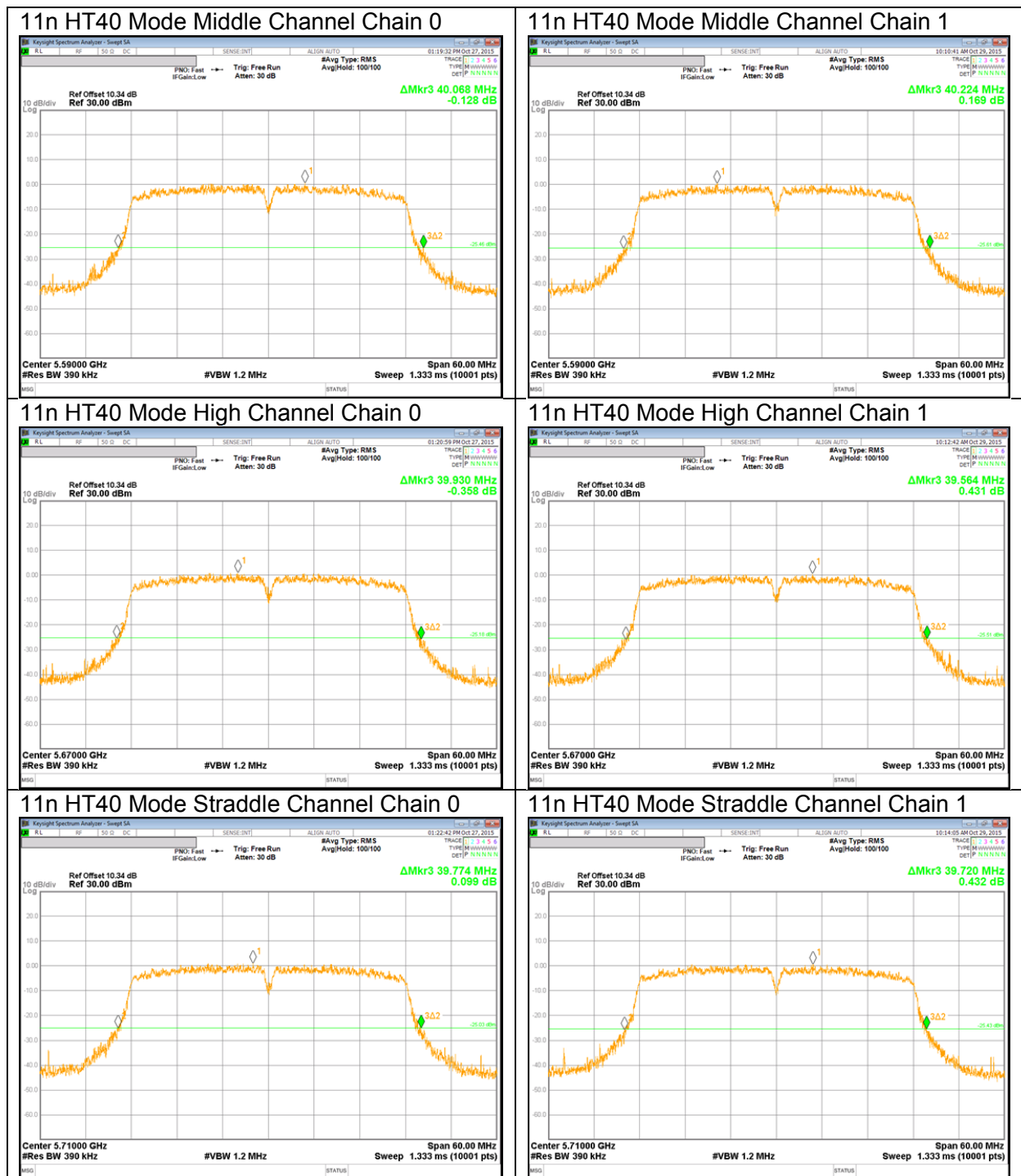
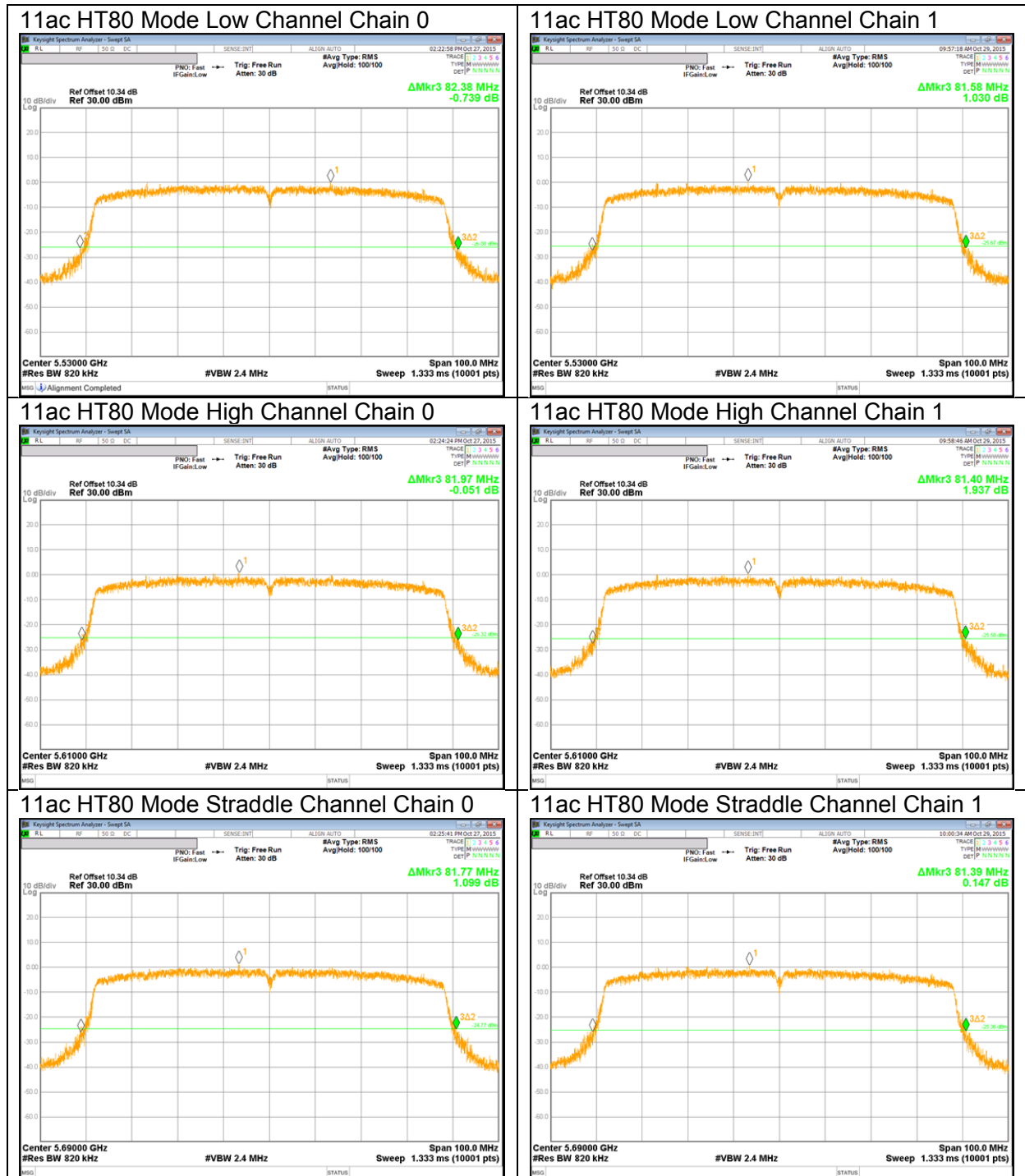
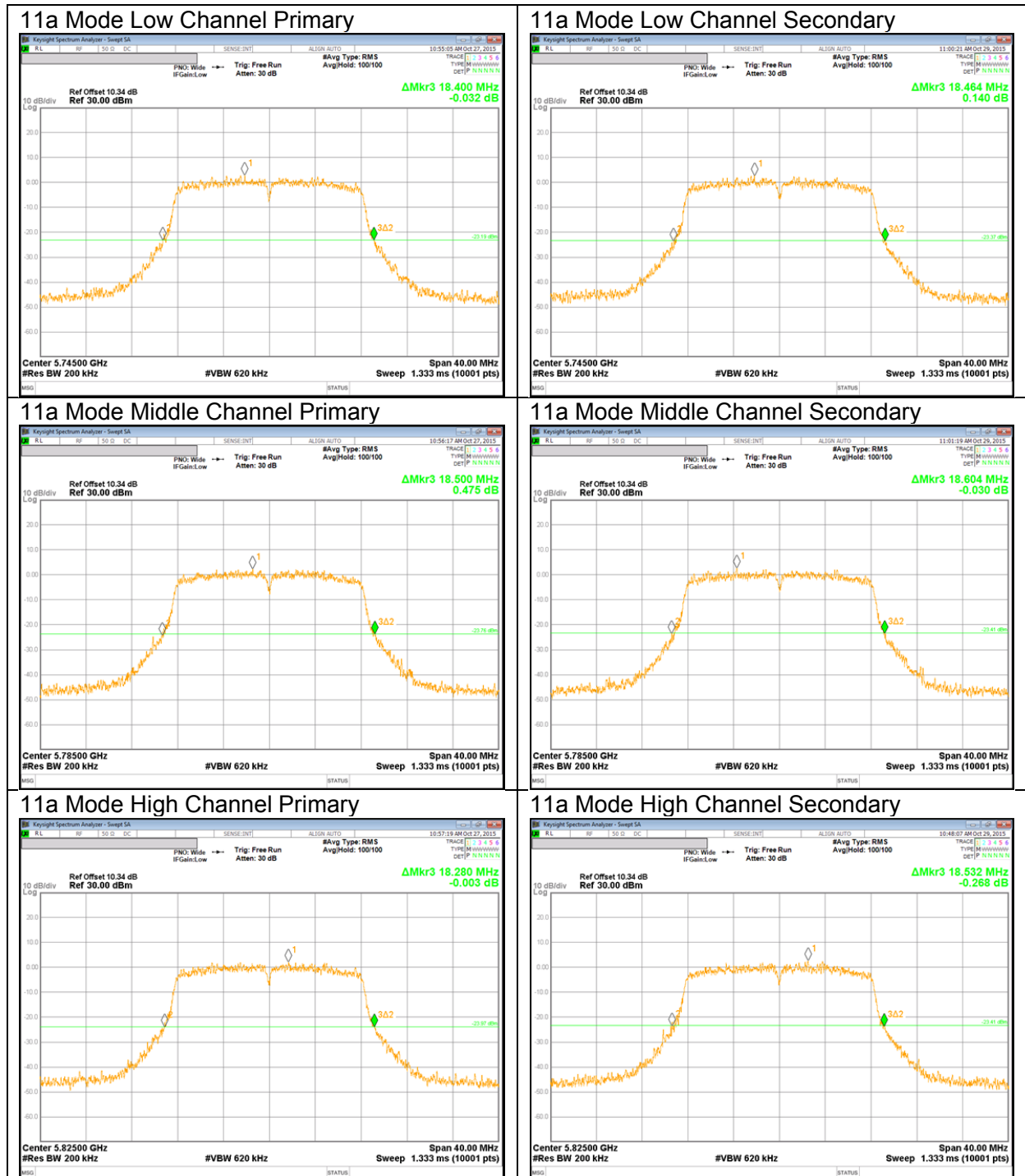




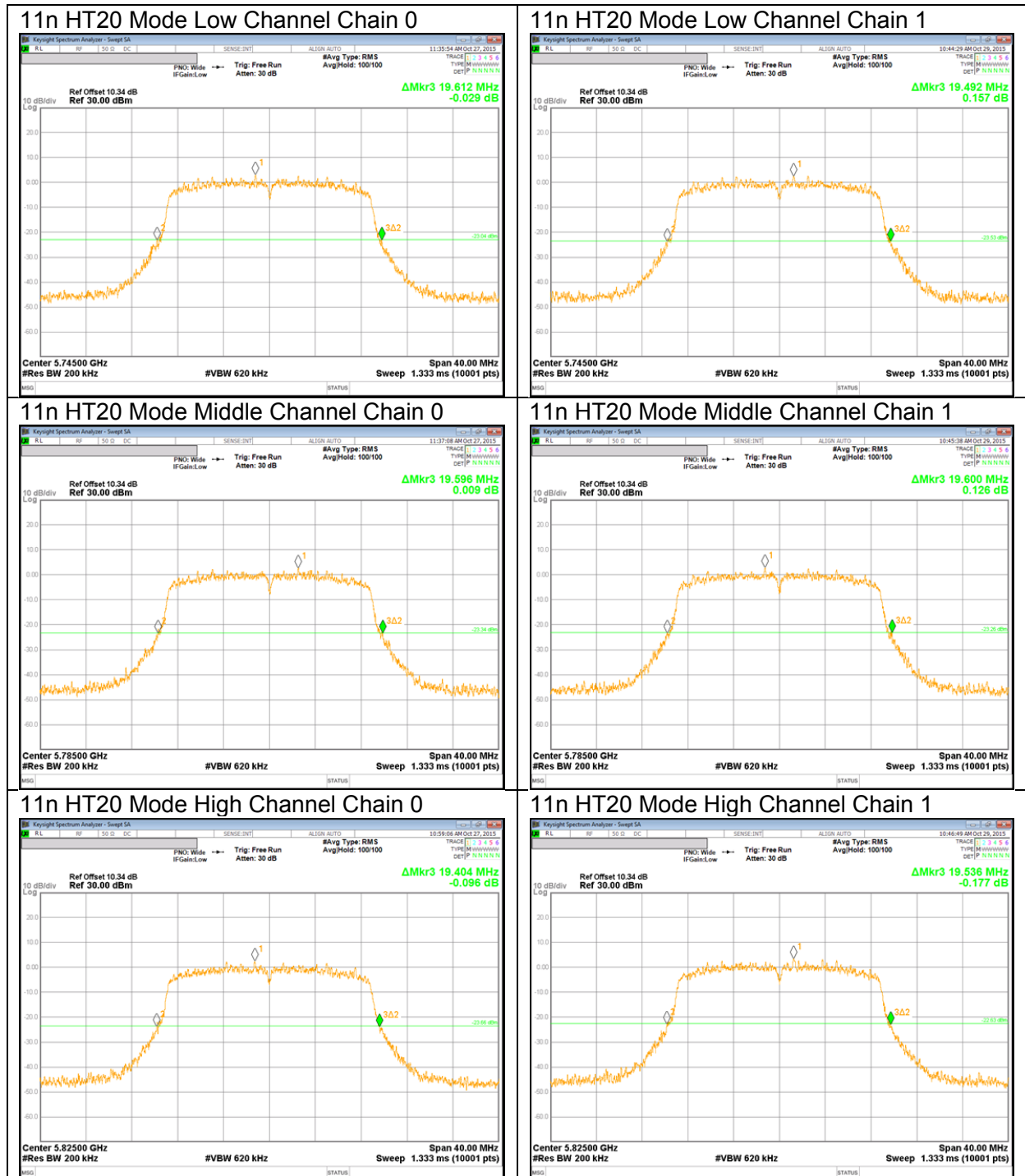
# **UNII 5.5 GHz IEEE 802.11ac VHT80 mode**



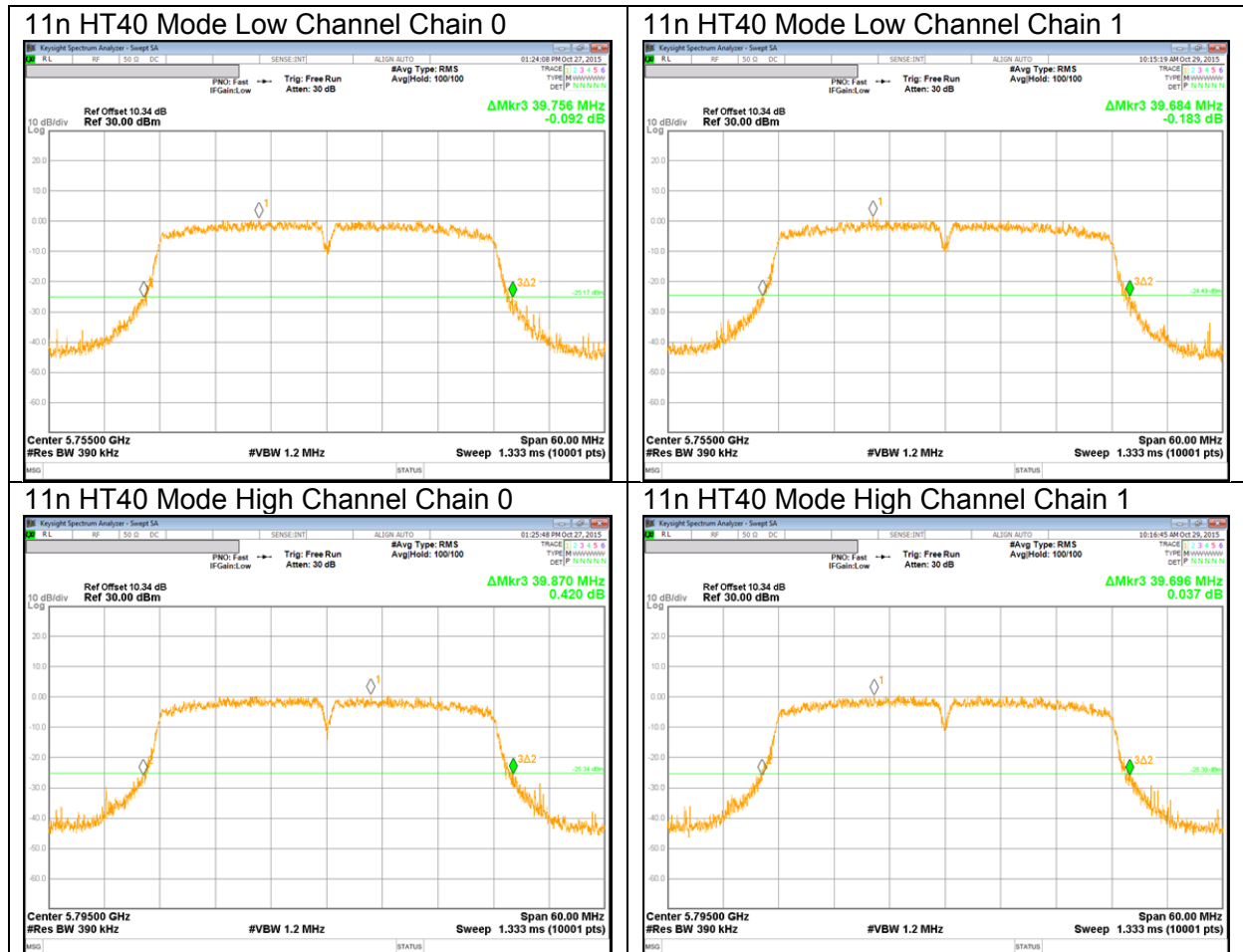
## UNII 5.8 GHz IEEE 802.11a mode



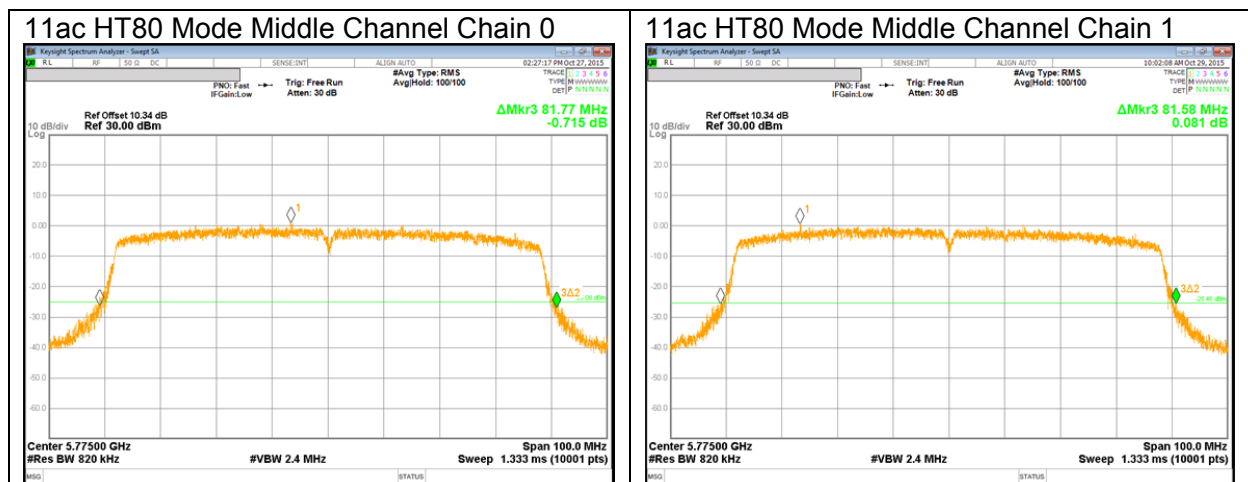
# **UNII 5.8 GHz IEEE 802.11n HT20 mode**



## UNII 5.8 GHz IEEE 802.11n HT40 mode



## UNII 5.8 GHz IEEE 802.11ac VHT80 mode



### 10.3. 99% BANDWIDTH

#### LIMITS

None; for reporting purposes only.

#### RESULTS

- Calculation for 99% Bandwidth of UNII-2C and UNII-3 Straddle Channel

ex) 802.11a mode

- o Fundamental frequency : 5720MHz
- o 99% BW : 16.459MHz
- o Turning Frequency : 5725MHz
- o 99% Bandwidth of UNII-2C band Portion  
 $= (5725 - (5720 - (16.459 / 2))) = 13.229 \text{ MHz}$
- o 99% Bandwidth of UNII-3 band Portion  
 $= (5720 + (16.459 / 2) - 5725) = 3.230 \text{ MHz}$

### 10.3.1. 802.11a MODE IN THE 5.2 GHz BAND

| Channel | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |           |
|---------|--------------------|------------------------|-----------|
|         |                    | Primary                | Secondary |
| Low     | 5180               | 16.304                 | 16.317    |
| Mid     | 5200               | 16.316                 | 16.306    |
| High    | 5240               | 16.330                 | 16.307    |
| Worst   |                    | 16.330                 |           |

### 10.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

| Channel | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |         |
|---------|--------------------|------------------------|---------|
|         |                    | Chain 0                | Chain 1 |
| Low     | 5180               | 17.456                 | 17.473  |
| Mid     | 5200               | 17.445                 | 17.492  |
| High    | 5240               | 17.480                 | 17.495  |
| Worst   |                    | 17.495                 |         |

### 10.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

| Channel | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |         |
|---------|--------------------|------------------------|---------|
|         |                    | Chain 0                | Chain 1 |
| Low     | 5190               | 35.837                 | 35.937  |
| High    | 5230               | 35.905                 | 35.855  |
| Worst   |                    | 35.937                 |         |

### 10.3.4. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

| Channel | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |         |
|---------|--------------------|------------------------|---------|
|         |                    | Chain 0                | Chain 1 |
| Middle  | 5210               | 75.044                 | 74.912  |
| Worst   |                    | 75.044                 |         |

### 10.3.5. 802.11a MODE IN THE 5.3 GHz BAND

| Channel | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |           |
|---------|--------------------|------------------------|-----------|
|         |                    | Primary                | Secondary |
| Low     | 5260               | 16.306                 | 16.294    |
| Mid     | 5300               | 16.320                 | 16.337    |
| High    | 5320               | 16.312                 | 16.289    |
| Worst   |                    | 16.337                 |           |

### 10.3.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

| Channel | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |         |
|---------|--------------------|------------------------|---------|
|         |                    | Chain 0                | Chain 1 |
| Low     | 5260               | 17.456                 | 17.511  |
| Mid     | 5300               | 17.452                 | 17.436  |
| High    | 5320               | 17.500                 | 17.484  |
| Worst   |                    | 17.511                 |         |

### 10.3.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

| Channel | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |         |
|---------|--------------------|------------------------|---------|
|         |                    | Chain 0                | Chain 1 |
| Low     | 5270               | 35.867                 | 35.880  |
| High    | 5310               | 35.836                 | 35.782  |
| Worst   |                    | 35.880                 |         |

### 10.3.8. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND

| Channel | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |         |
|---------|--------------------|------------------------|---------|
|         |                    | Chain 0                | Chain 1 |
| Middle  | 5290               | 74.937                 | 75.104  |
| Worst   |                    | 75.104                 |         |

### 10.3.9. 802.11a MODE IN THE 5.5 GHz BAND

| Channel  | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |           |
|----------|--------------------|------------------------|-----------|
|          |                    | Primary                | Secondary |
| Low      | 5500               | 16.291                 | 16.331    |
| Mid      | 5580               | 16.323                 | 16.298    |
| High     | 5700               | 16.309                 | 16.307    |
| Straddle | 5720               | 13.154                 | 13.160    |
| Worst    |                    | 16.331                 |           |

### 10.3.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

| Channel  | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |         |
|----------|--------------------|------------------------|---------|
|          |                    | Chain 0                | Chain 1 |
| Low      | 5500               | 17.471                 | 17.475  |
| Mid      | 5580               | 17.426                 | 17.448  |
| High     | 5700               | 17.505                 | 17.412  |
| Straddle | 5720               | 13.715                 | 13.755  |
| Worst    |                    | 17.505                 |         |

### 10.3.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

| Channel  | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |         |
|----------|--------------------|------------------------|---------|
|          |                    | Chain 0                | Chain 1 |
| Low      | 5510               | 35.806                 | 35.870  |
| Mid      | 5550               | 35.829                 | 35.953  |
| High     | 5670               | 35.828                 | 35.846  |
| Straddle | 5710               | 32.920                 | 32.876  |
| Worst    |                    | 35.953                 |         |

### 10.3.12. 802.11ac VHT80 MODE IN THE 5.5 GHz BAND

| Channel  | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |         |
|----------|--------------------|------------------------|---------|
|          |                    | Chain 0                | Chain 1 |
| Low      | 5530               | 75.014                 | 74.893  |
| High     | 5610               | 75.188                 | 74.827  |
| Straddle | 5690               | 72.472                 | 72.559  |
| Worst    |                    | 75.188                 |         |

### 10.3.13. 802.11a MODE IN THE 5.8 GHz BAND

| Channel  | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |           |
|----------|--------------------|------------------------|-----------|
|          |                    | Primary                | Secondary |
| Straddle | 5720               | 3.154                  | 3.160     |
| Low      | 5745               | 16.314                 | 16.309    |
| Mid      | 5785               | 16.335                 | 16.316    |
| High     | 5825               | 16.302                 | 16.322    |
| Worst    |                    | 16.335                 |           |

### 10.3.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

| Channel  | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |         |
|----------|--------------------|------------------------|---------|
|          |                    | Chain 0                | Chain 1 |
| Straddle | 5720               | 3.716                  | 3.755   |
| Low      | 5745               | 17.464                 | 17.498  |
| Mid      | 5785               | 17.487                 | 17.468  |
| High     | 5825               | 17.500                 | 17.477  |
| Worst    |                    | 17.500                 |         |

### 10.3.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

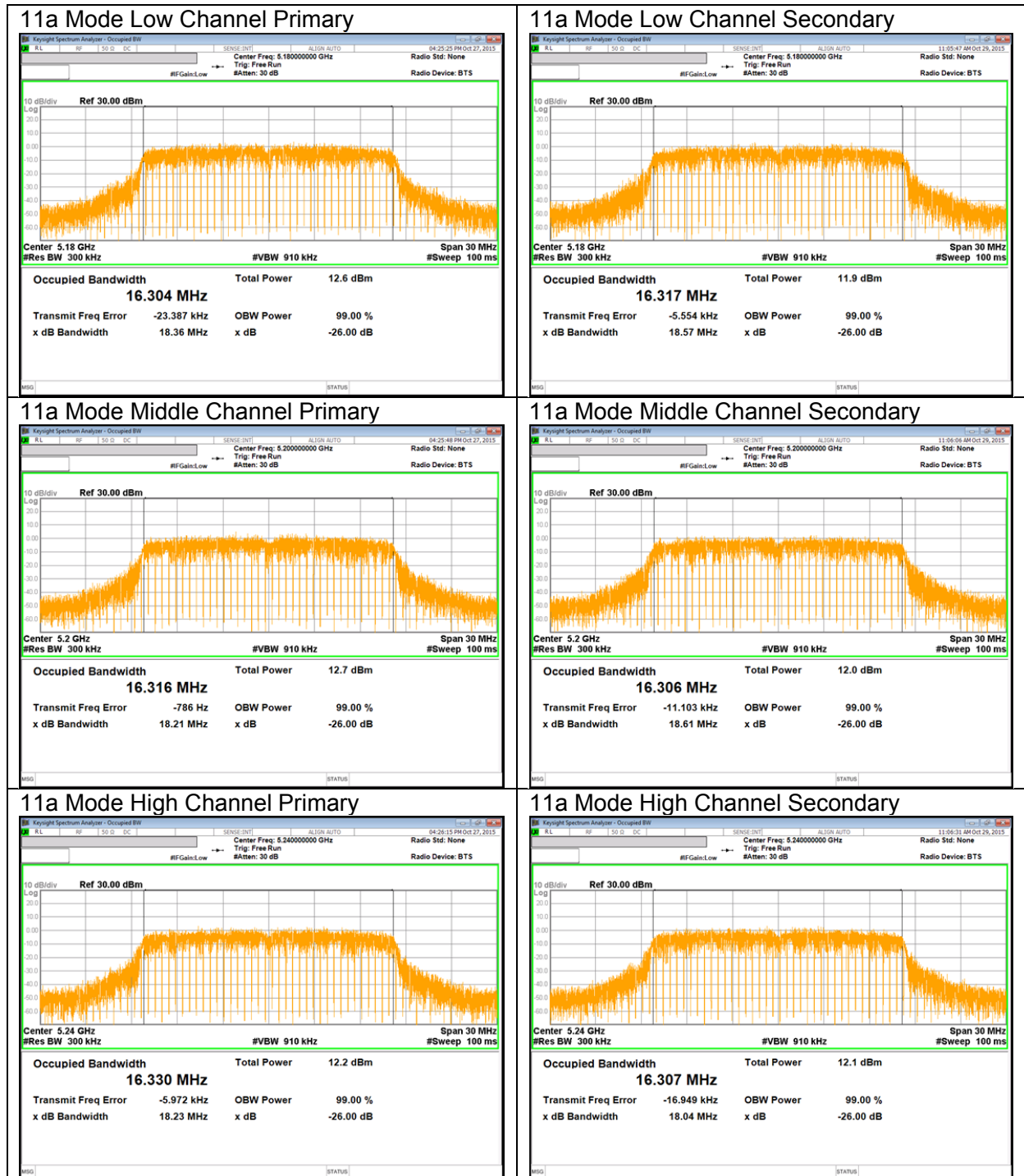
| Channel  | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |         |
|----------|--------------------|------------------------|---------|
|          |                    | Chain 0                | Chain 1 |
| Straddle | 5710               | 2.919                  | 2.876   |
| Low      | 5755               | 35.930                 | 35.713  |
| High     | 5795               | 35.850                 | 35.939  |
| Worst    |                    | 35.939                 |         |

### 10.3.16. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

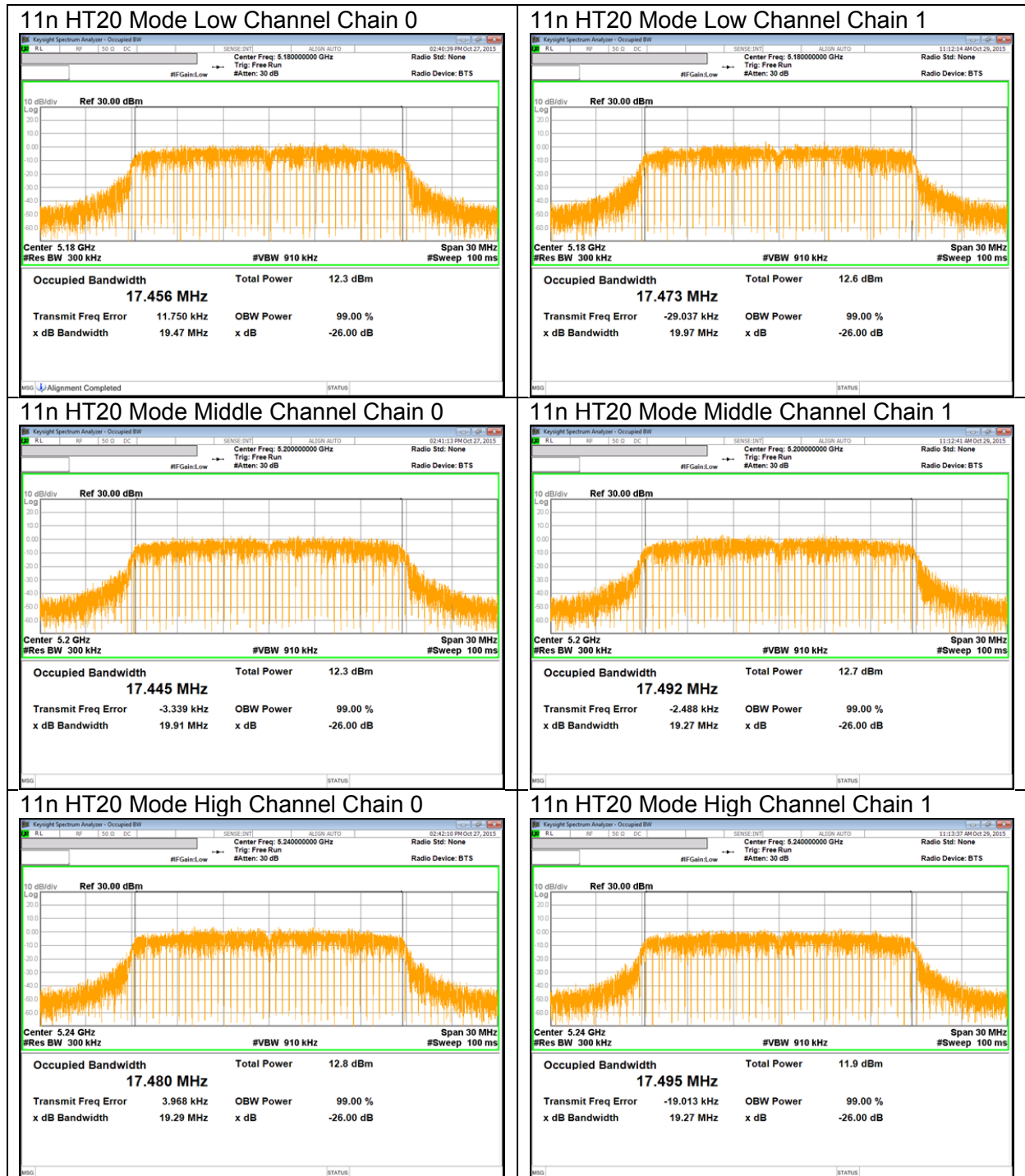
| Channel  | Frequency<br>[MHz] | 99% Bandwidth<br>[MHz] |         |
|----------|--------------------|------------------------|---------|
|          |                    | Chain 0                | Chain 1 |
| Straddle | 5690               | 2.471                  | 2.560   |
| Middle   | 5775               | 75.118                 | 74.942  |
| Worst    |                    | 75.118                 |         |

## 10.3.17. 99% BANDWIDTH PLOTS

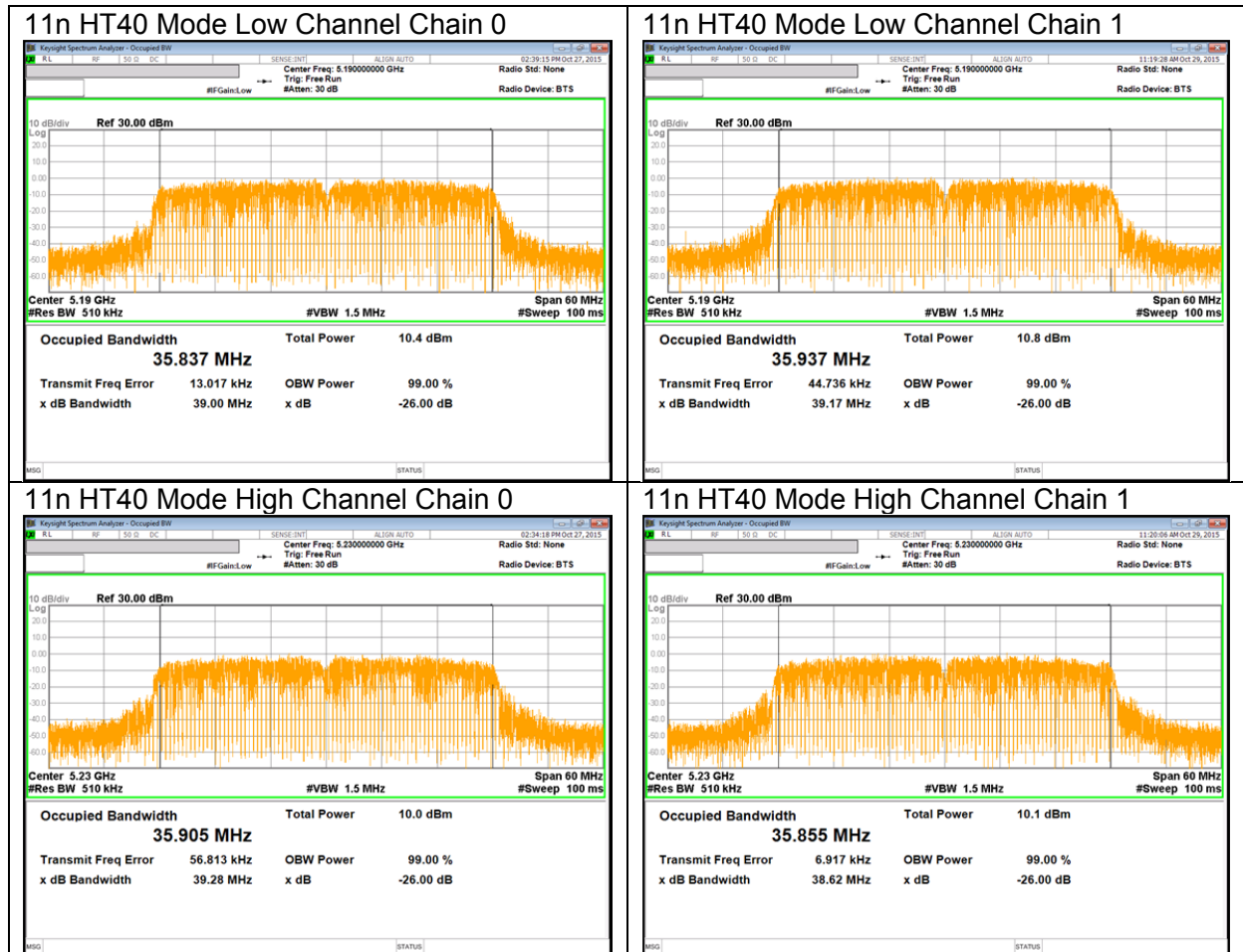
### UNII 5.2 GHz IEEE 802.11a mode



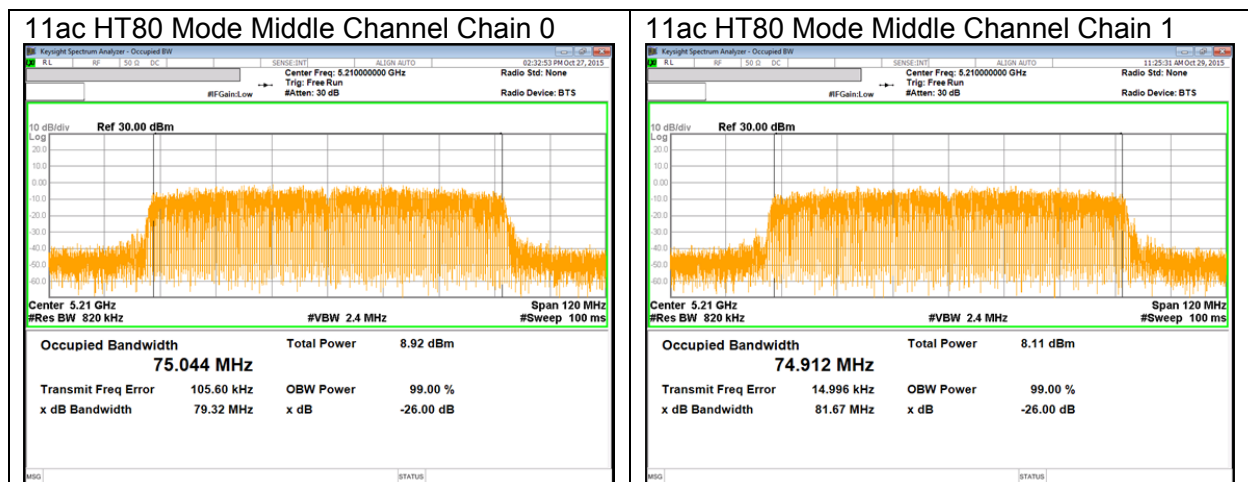
## UNII 5.2 GHz IEEE 802.11n HT20 mode



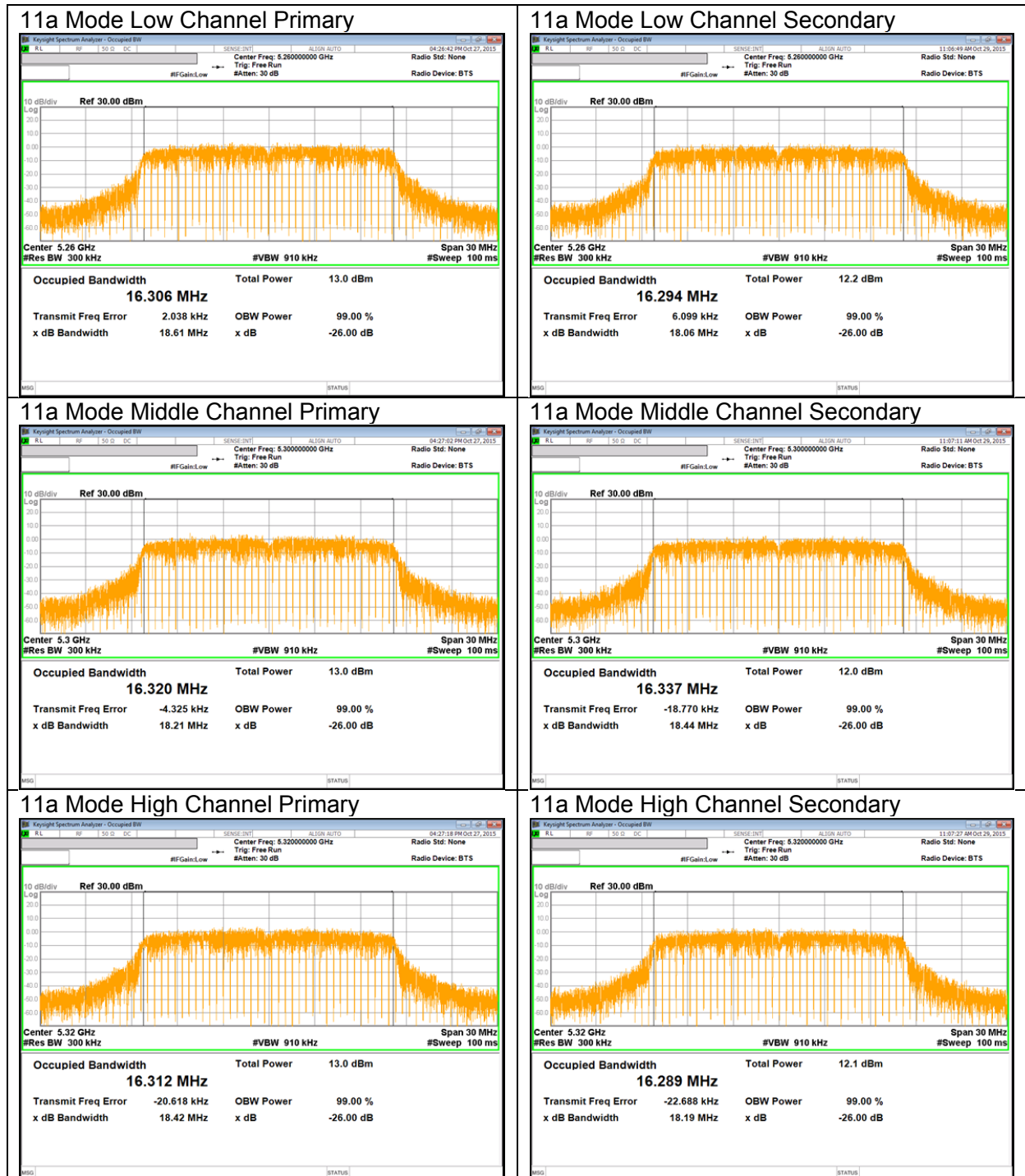
## UNII 5.2 GHz IEEE 802.11n HT40 mode



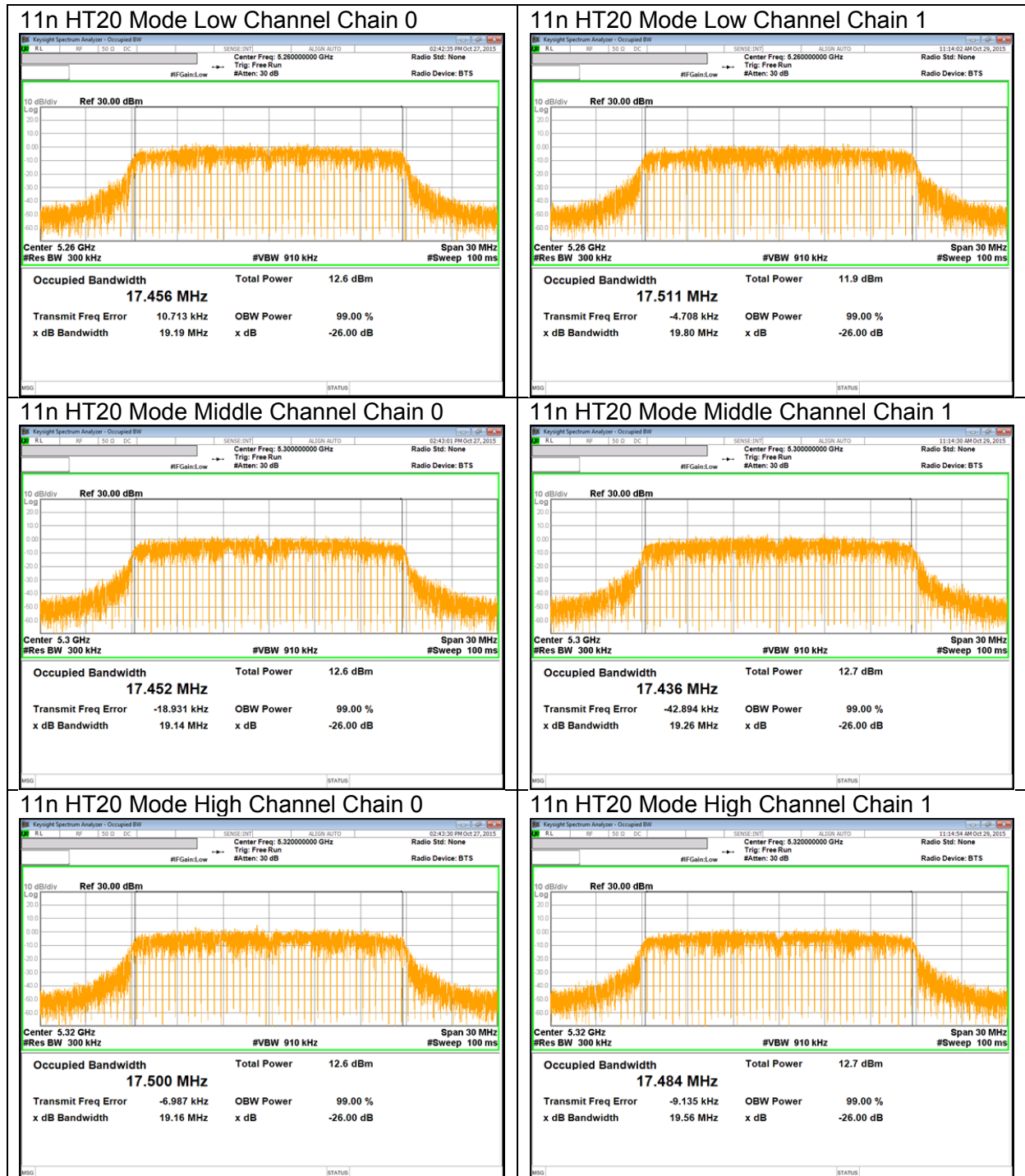
## UNII 5.2 GHz IEEE 802.11ac VHT80 mode



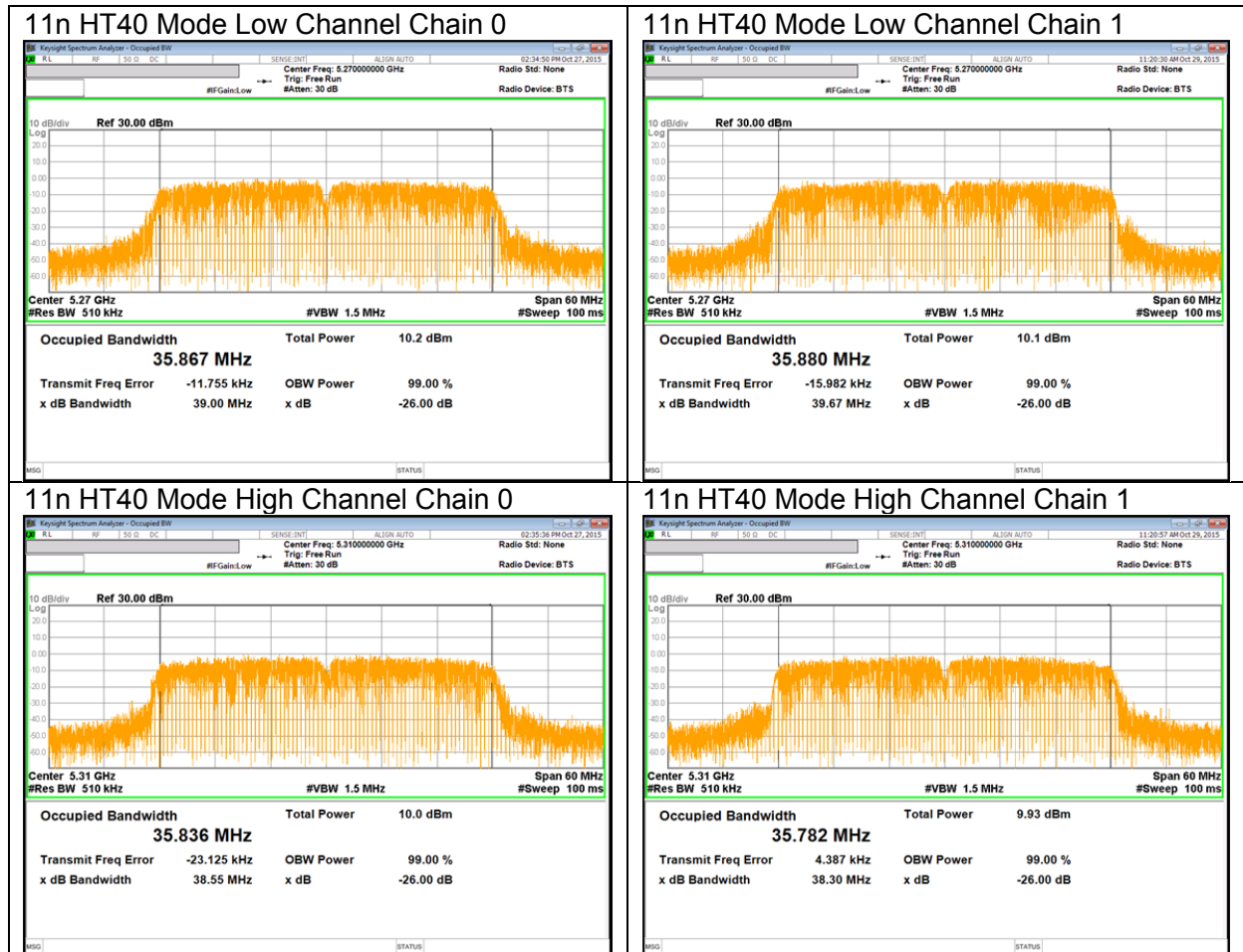
## UNII 5.3 GHz IEEE 802.11a mode



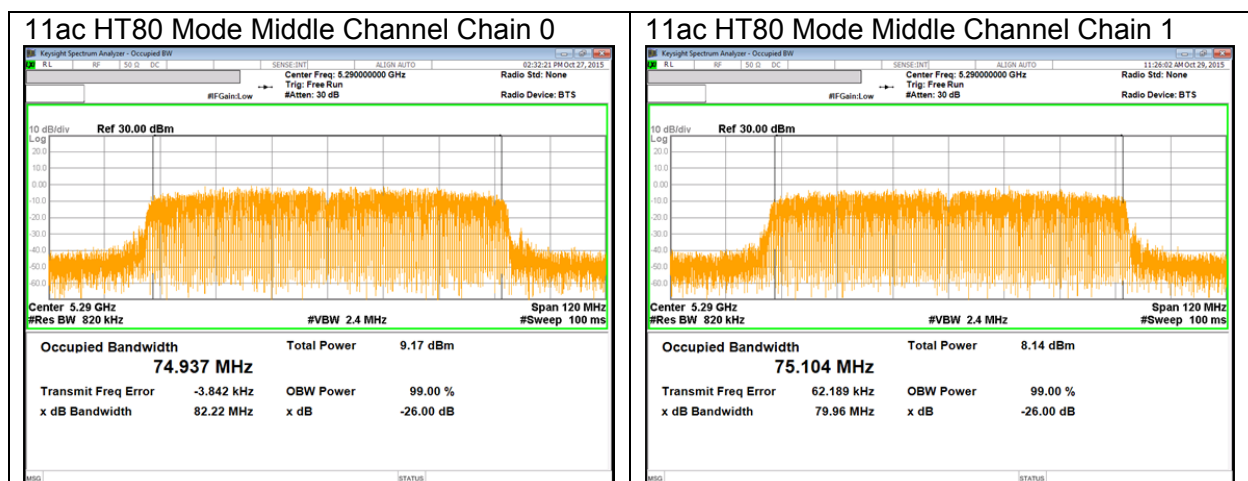
## UNII 5.3 GHz IEEE 802.11n HT20 mode



## UNII 5.3 GHz IEEE 802.11n HT40 mode



## UNII 5.3 GHz IEEE 802.11ac VHT80 mode



## UNII 5.5 GHz IEEE 802.11a mode

