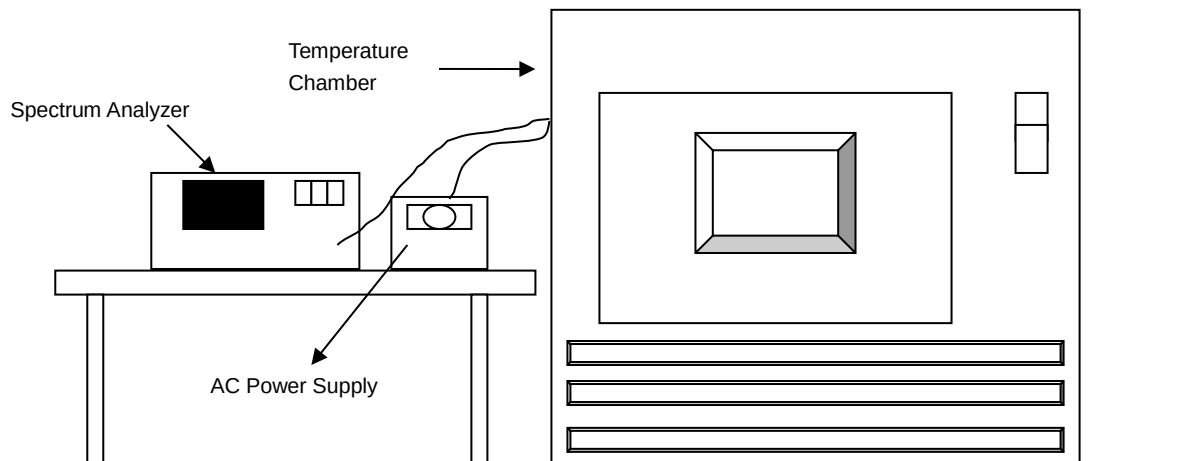


## 4.8 Frequency Stability Measurement

### 4.8.1 Limits of Frequency Stability Measurement

The frequency of the carrier signal shall be maintained within band of operation

### 4.8.2 Test Setup



### 4.8.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.8.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
- Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed..
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

### 4.8.5 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

#### 4.8.6 Test Results

##### 802.11ax (HE20)

| Frequency Stability Versus Temp. |                          |                                |           |                                |           |                                |           |                                |           |
|----------------------------------|--------------------------|--------------------------------|-----------|--------------------------------|-----------|--------------------------------|-----------|--------------------------------|-----------|
| Operating Frequency: 5955MHz     |                          |                                |           |                                |           |                                |           |                                |           |
| TEMP.<br>(°C)                    | Power<br>Supply<br>(Vdc) | 0 Minute                       |           | 2 Minute                       |           | 5 Minute                       |           | 10 Minute                      |           |
|                                  |                          | Measured<br>Frequency<br>(MHz) | Pass/Fail | Measured<br>Frequency<br>(MHz) | Pass/Fail | Measured<br>Frequency<br>(MHz) | Pass/Fail | Measured<br>Frequency<br>(MHz) | Pass/Fail |
| 70                               | 3.3                      | 5955.0214                      | Pass      | 5955.0168                      | Pass      | 5955.0166                      | Pass      | 5955.0213                      | Pass      |
| 60                               | 3.3                      | 5954.9945                      | Pass      | 5954.9959                      | Pass      | 5954.9908                      | Pass      | 5954.9905                      | Pass      |
| 50                               | 3.3                      | 5954.9881                      | Pass      | 5954.9839                      | Pass      | 5954.9882                      | Pass      | 5954.9838                      | Pass      |
| 40                               | 3.3                      | 5955.0007                      | Pass      | 5954.9983                      | Pass      | 5954.9967                      | Pass      | 5955.0009                      | Pass      |
| 30                               | 3.3                      | 5955.0034                      | Pass      | 5955.0085                      | Pass      | 5955.0062                      | Pass      | 5955.0075                      | Pass      |
| 20                               | 3.3                      | 5955.0189                      | Pass      | 5955.0214                      | Pass      | 5955.0215                      | Pass      | 5955.0222                      | Pass      |
| 10                               | 3.3                      | 5954.9817                      | Pass      | 5954.9814                      | Pass      | 5954.9824                      | Pass      | 5954.9805                      | Pass      |
| 0                                | 3.3                      | 5954.9887                      | Pass      | 5954.9879                      | Pass      | 5954.9854                      | Pass      | 5954.9865                      | Pass      |
| -10                              | 3.3                      | 5955.0123                      | Pass      | 5955.0144                      | Pass      | 5955.0152                      | Pass      | 5955.0139                      | Pass      |

| Frequency Stability Versus Voltage |                          |                                |           |                                |           |                                |           |                                |           |
|------------------------------------|--------------------------|--------------------------------|-----------|--------------------------------|-----------|--------------------------------|-----------|--------------------------------|-----------|
| Operating Frequency: 5955MHz       |                          |                                |           |                                |           |                                |           |                                |           |
| TEMP.<br>(°C)                      | Power<br>Supply<br>(Vdc) | 0 Minute                       |           | 2 Minute                       |           | 5 Minute                       |           | 10 Minute                      |           |
|                                    |                          | Measured<br>Frequency<br>(MHz) | Pass/Fail | Measured<br>Frequency<br>(MHz) | Pass/Fail | Measured<br>Frequency<br>(MHz) | Pass/Fail | Measured<br>Frequency<br>(MHz) | Pass/Fail |
| 20                                 | 3.795                    | 5955.0197                      | Pass      | 5955.0204                      | Pass      | 5955.0203                      | Pass      | 5955.0218                      | Pass      |
|                                    | 3.3                      | 5955.0189                      | Pass      | 5955.0214                      | Pass      | 5955.0215                      | Pass      | 5955.0222                      | Pass      |
|                                    | 2.805                    | 5955.02                        | Pass      | 5955.0223                      | Pass      | 5955.0207                      | Pass      | 5955.0225                      | Pass      |

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| Frequency Stability Versus Temp. |                          |                                |           |                                |           |                                |           |                                |           |
|----------------------------------|--------------------------|--------------------------------|-----------|--------------------------------|-----------|--------------------------------|-----------|--------------------------------|-----------|
| Operating Frequency: 5985MHz     |                          |                                |           |                                |           |                                |           |                                |           |
| TEMP.<br>(°C)                    | Power<br>Supply<br>(Vdc) | 0 Minute                       |           | 2 Minute                       |           | 5 Minute                       |           | 10 Minute                      |           |
|                                  |                          | Measured<br>Frequency<br>(MHz) | Pass/Fail | Measured<br>Frequency<br>(MHz) | Pass/Fail | Measured<br>Frequency<br>(MHz) | Pass/Fail | Measured<br>Frequency<br>(MHz) | Pass/Fail |
| 70                               | 3.3                      | 5984.9834                      | Pass      | 5984.9817                      | Pass      | 5984.9786                      | Pass      | 5984.9803                      | Pass      |
| 60                               | 3.3                      | 5984.9832                      | Pass      | 5984.9877                      | Pass      | 5984.9855                      | Pass      | 5984.9883                      | Pass      |
| 50                               | 3.3                      | 5985.0097                      | Pass      | 5985.0084                      | Pass      | 5985.0097                      | Pass      | 5985.0083                      | Pass      |
| 40                               | 3.3                      | 5984.9895                      | Pass      | 5984.99                        | Pass      | 5984.9914                      | Pass      | 5984.9926                      | Pass      |
| 30                               | 3.3                      | 5985.0311                      | Pass      | 5985.0273                      | Pass      | 5985.028                       | Pass      | 5985.0263                      | Pass      |
| 20                               | 3.3                      | 5985.0138                      | Pass      | 5985.0132                      | Pass      | 5985.0104                      | Pass      | 5985.014                       | Pass      |
| 10                               | 3.3                      | 5985.0034                      | Pass      | 5985.006                       | Pass      | 5985.004                       | Pass      | 5985.0051                      | Pass      |
| 0                                | 3.3                      | 5984.9774                      | Pass      | 5984.9796                      | Pass      | 5984.98                        | Pass      | 5984.9782                      | Pass      |
| -10                              | 3.3                      | 5984.9742                      | Pass      | 5984.9733                      | Pass      | 5984.977                       | Pass      | 5984.9727                      | Pass      |

| Frequency Stability Versus Voltage |                          |                                |           |                                |           |                                |           |                                |           |
|------------------------------------|--------------------------|--------------------------------|-----------|--------------------------------|-----------|--------------------------------|-----------|--------------------------------|-----------|
| Operating Frequency: 5985MHz       |                          |                                |           |                                |           |                                |           |                                |           |
| TEMP.<br>(°C)                      | Power<br>Supply<br>(Vdc) | 0 Minute                       |           | 2 Minute                       |           | 5 Minute                       |           | 10 Minute                      |           |
|                                    |                          | Measured<br>Frequency<br>(MHz) | Pass/Fail | Measured<br>Frequency<br>(MHz) | Pass/Fail | Measured<br>Frequency<br>(MHz) | Pass/Fail | Measured<br>Frequency<br>(MHz) | Pass/Fail |
| 20                                 | 3.795                    | 5985.0143                      | PASS      | 5985.0143                      | PASS      | 5985.0113                      | PASS      | 5985.0133                      | PASS      |
|                                    | 3.3                      | 5985.0138                      | PASS      | 5985.0132                      | PASS      | 5985.0104                      | PASS      | 5985.014                       | PASS      |
|                                    | 2.805                    | 5985.0134                      | PASS      | 5985.0126                      | PASS      | 5985.0105                      | PASS      | 5985.0152                      | PASS      |

#### **4.9 Operational Restrictions for 6 GHz U-NII Devices**

##### **4.9.1 Limits of Operational Restrictions for 6 GHz U-NII Devices**

In the 5.925-7.125 GHz band, client devices, except fixed client devices, must operate under the control of a standard power access point, indoor access point or subordinate devices; Subordinate devices must operate under the control of an indoor access point.

##### **4.9.2 Test Setup**

N/A

##### **4.9.3 Test Instruments**

N/A

##### **4.9.4 Test Procedure**

N/A.

##### **4.9.5 Test Results**

Device is an indoor client device under the control of a low power indoor access point. Please refer to the declaration letter exhibit supplied within this application.

## 5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

## Appendix A– Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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**Email:** [service.adt@tw.bureauveritas.com](mailto:service.adt@tw.bureauveritas.com)

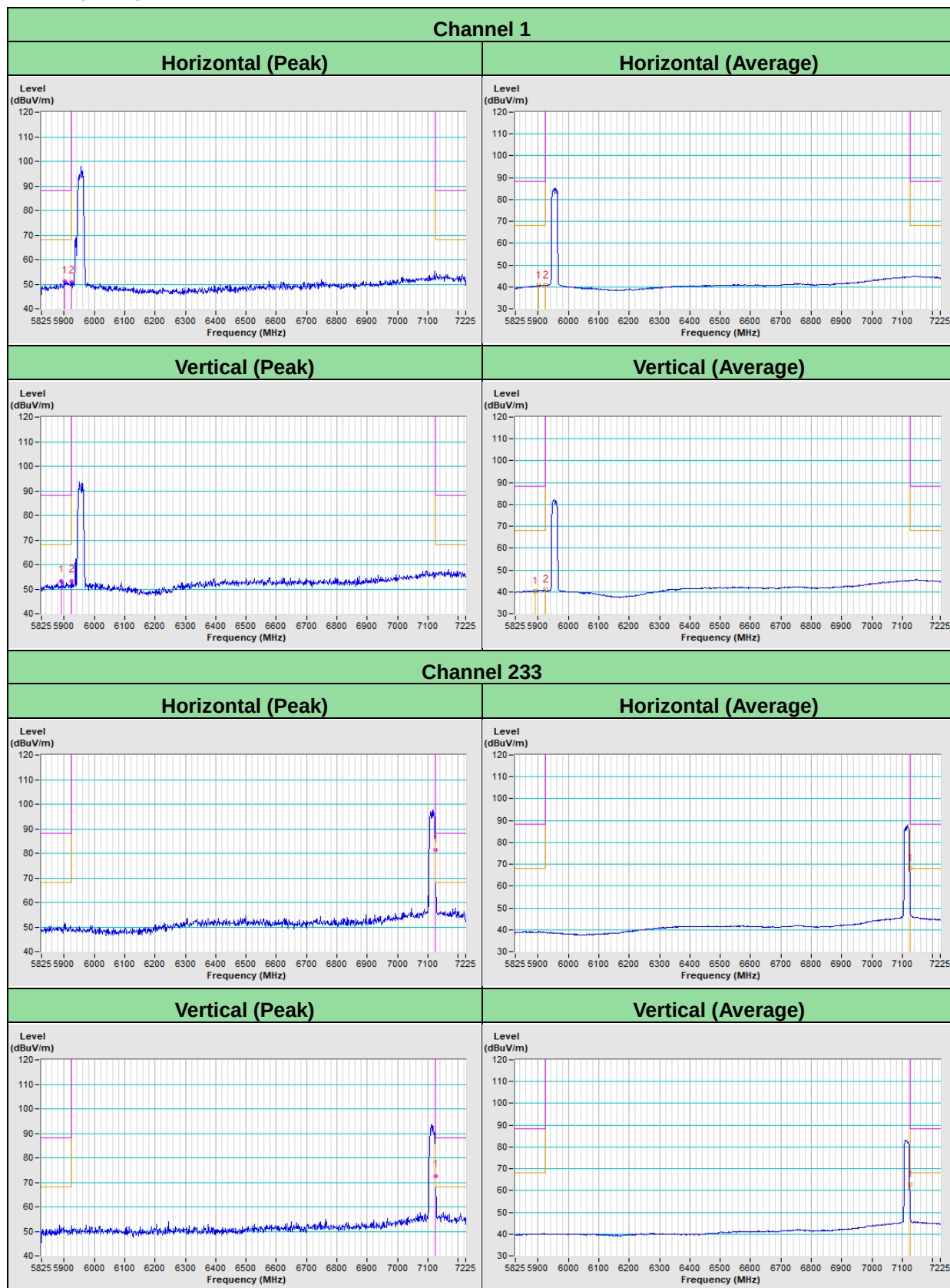
**Web Site:** [www.bureauveritas-adt.com](http://www.bureauveritas-adt.com)

The address and road map of all our labs can be found in our web site also.

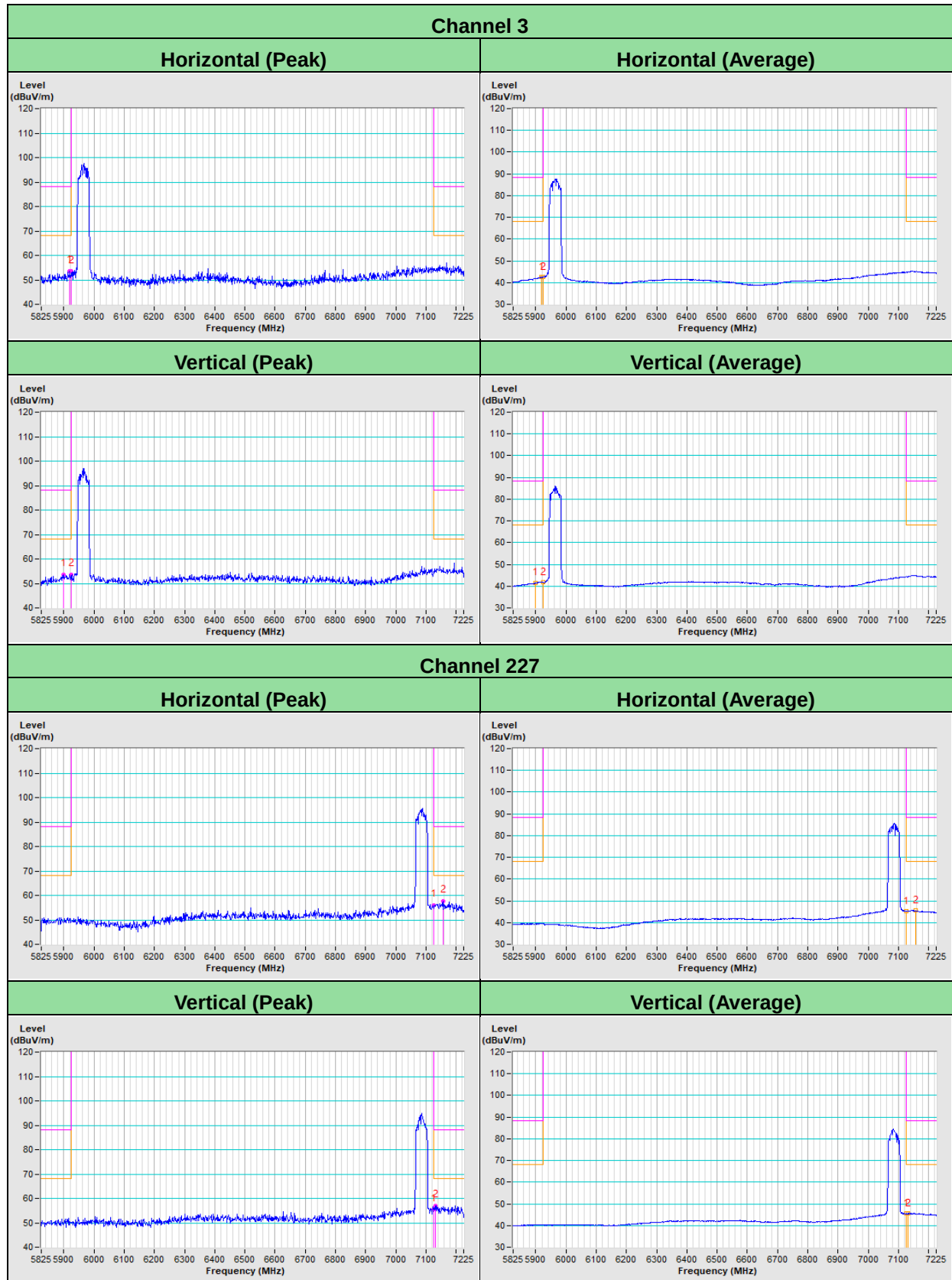
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## Annex B - Band-Edge Measurement

### 802.11ax (HE20)



## 802.11ax (HE40)



## 802.11ax (HE80)

