



427 West 12800 South  
Draper, UT 84020

## Test Report Attachment

|                                  |                            |
|----------------------------------|----------------------------|
| <b>FCC ID</b>                    | SWX-E7CP                   |
| <b>ISED ID</b>                   | 6545A-E7CP                 |
| <b>Equipment Under Test</b>      | E7-Campus                  |
| <b>Test Report Serial Number</b> | TR9552_01                  |
| <b>Date of Test(s)</b>           | 8, 17 – 24 and 31 May 2024 |
| <b>Report Issue Date</b>         | November 25, 2024          |

## Test Personnel

|                             |                                           |
|-----------------------------|-------------------------------------------|
| <b>Testing performed by</b> | Evan Hartzell, Clay Allred, Kim Rodriguez |
|-----------------------------|-------------------------------------------|

## Test Location

Testing was performed at the Unified Compliance Laboratory located at 427 West 12800 South, Draper, UT 84020. Unified Compliance Laboratory is accredited by National Voluntary Laboratory Accreditation Program (NVLAP); NVLAP Code 600241-0 which is effective until 30 June 2025. This site has also been registered with Innovations, Science and Economic Development (ISED) department as was accepted under Appendix B, Phase 1 procedures of the APEC Tel MRA for Canadian recognition. ISED No.: 25346, effective until 30 June 2025. Unified Compliance Laboratory has been assigned Conformity Assessment Number US0223 by ISED and MRA US5037.



# 1 UNII-7 Band

## Summary

| Test                           | Frequency (MHz) | Nominal Power (dBm) | Nominal Bandwidth (MHz) | Result |
|--------------------------------|-----------------|---------------------|-------------------------|--------|
| Emission Bandwidth 26 dB       | 6535.000        | 24.0                | 20.000000               | PASS   |
| RF output power                | 6535.000        | 24.0                | 20.000000               | PASS   |
| Power Spectral Density (SA-2)  | 6535.000        | 24.0                | 20.000000               | PASS   |
| In-Band Emissions              | 6535.000        | 24.0                | 20.000000               | PASS   |
| Occupied Channel Bandwidth 99% | 6535.000        | 24.0                | 20.000000               | PASS   |
| Frequency Stability            | 6535.000        | 24.0                | 20.000000               | PASS   |
| Emission Bandwidth 26 dB       | 6695.000        | 24.0                | 20.000000               | PASS   |
| Power Spectral Density (SA-2)  | 6695.000        | 24.0                | 20.000000               | PASS   |
| In-Band Emissions              | 6695.000        | 24.0                | 20.000000               | PASS   |
| Occupied Channel Bandwidth 99% | 6695.000        | 24.0                | 20.000000               | PASS   |
| Emission Bandwidth 26 dB       | 6875.000        | 24.0                | 20.000000               | PASS   |
| Power Spectral Density (SA-2)  | 6875.000        | 24.0                | 20.000000               | PASS   |
| In-Band Emissions              | 6875.000        | 24.0                | 20.000000               | PASS   |
| Occupied Channel Bandwidth 99% | 6875.000        | 24.0                | 20.000000               | PASS   |
| Emission Bandwidth 26 dB       | 6525.000        | 24.0                | 40.000000               | PASS   |
| Power Spectral Density (SA-2)  | 6525.000        | 24.0                | 40.                     |        |

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|                                                          |                 |             |                   |             |
|----------------------------------------------------------|-----------------|-------------|-------------------|-------------|
| <b>In-Band Emissions</b>                                 | <b>6825.000</b> | <b>24.0</b> | <b>160.000000</b> | <b>PASS</b> |
| <b>Occupied Channel Bandwidth 99%</b>                    | <b>6825.000</b> | <b>24.0</b> | <b>160.000000</b> | <b>PASS</b> |
| <b>Tx Spurious Emission</b>                              | <b>6825.000</b> | <b>24.0</b> | <b>160.000000</b> | <b>PASS</b> |
| <b>Emissions in restricted frequency bands (Average)</b> | <b>6825.000</b> | <b>24.0</b> | <b>160.000000</b> | <b>PASS</b> |
| <b>Emissions in restricted frequency bands (Peak)</b>    | <b>6825.000</b> | <b>24.0</b> | <b>160.000000</b> | <b>PASS</b> |
| <b>Emission Bandwidth 26 dB</b>                          | <b>6585.000</b> | <b>24.0</b> | <b>320.000000</b> | <b>PASS</b> |
| <b>Power Spectral Density (SA-2)</b>                     | <b>6585.000</b> | <b>24.0</b> | <b>320.000000</b> | <b>PASS</b> |
| <b>In-Band Emissions</b>                                 | <b>6585.000</b> | <b>24.0</b> | <b>320.000000</b> | <b>PASS</b> |
| <b>Occupied Channel Bandwidth 99%</b>                    | <b>6585.000</b> | <b>24.0</b> | <b>320.000000</b> | <b>PASS</b> |
| <b>Tx Spurious Emission</b>                              | <b>6585.000</b> | <b>24.0</b> | <b>320.000000</b> | <b>PASS</b> |
| <b>Emissions in restricted frequency bands (Average)</b> | <b>6585.000</b> | <b>24.0</b> | <b>320.000000</b> | <b>PASS</b> |
| <b>Emissions in restricted frequency bands (Peak)</b>    | <b>6585.000</b> | <b>24.0</b> | <b>320.000000</b> | <b>PASS</b> |

## Emission Bandwidth 26 dB (6535 MHz; 24.000 dBm; 20 MHz)

Customized settings.

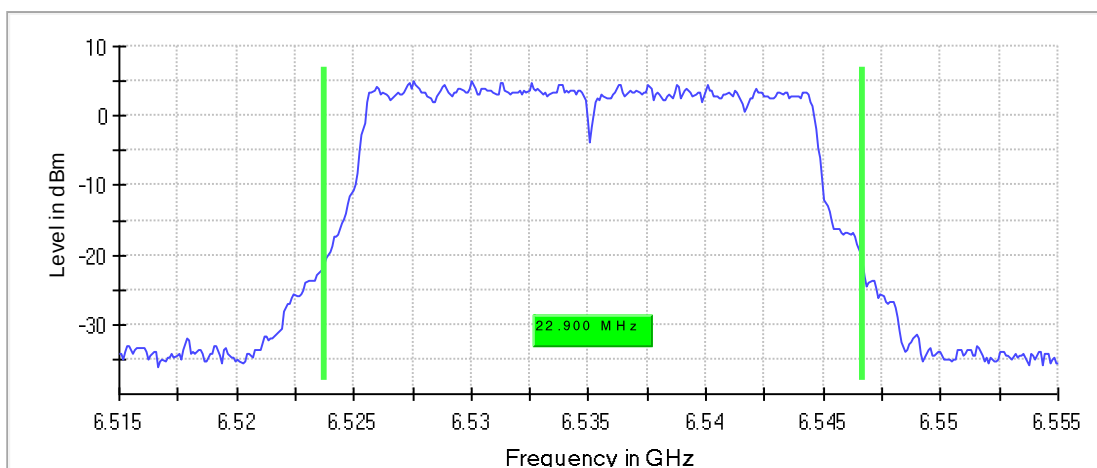
### 26 dB Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Limit Min BE L |
|---------------------|-----------------|-----------------|-----------------|----------------------|----------------|
| 6535.000000         | 22.900000       | ---             | 320.000000      | 6523.750000          | ---            |

(continuation of the "26 dB Bandwidth" table from column 6 ...)

| DUT Frequency (MHz) | Band Edge Right (MHz) | Limit Max BE R (MHz) | Max Level (dBm) | Result |
|---------------------|-----------------------|----------------------|-----------------|--------|
| 6535.000000         | 6546.650000           | ---                  | 5.1             | PASS   |

26 dB Bandwidth



Bandwidth



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**RF output power (6535 MHz; 24.000 dBm; 20 MHz)**

Customized settings.

**Result**

| DUT Frequency<br>(MHz) | Gated EIRP<br>(dBm) | Limit Max<br>(dBm) | Gated RMS<br>(dBm) | DutyCycle<br>(%) | Result |
|------------------------|---------------------|--------------------|--------------------|------------------|--------|
| 6535.000000            | 22.9                | 24.0               | 22.9               | 99.715           | PASS   |

**OSP PowerMeter settings**

| Setting          | Instrument<br>Value | Target<br>Value |
|------------------|---------------------|-----------------|
| Measurement Time | 1.000 s             | 1.000 s         |
| Points           | 1000000             | 1000000         |
| Time resolution  | 1.000 $\mu$ s       | 1.000 $\mu$ s   |

## Power Spectral Density (SA-2) (6535 MHz; 24.000 dBm; 20 MHz)

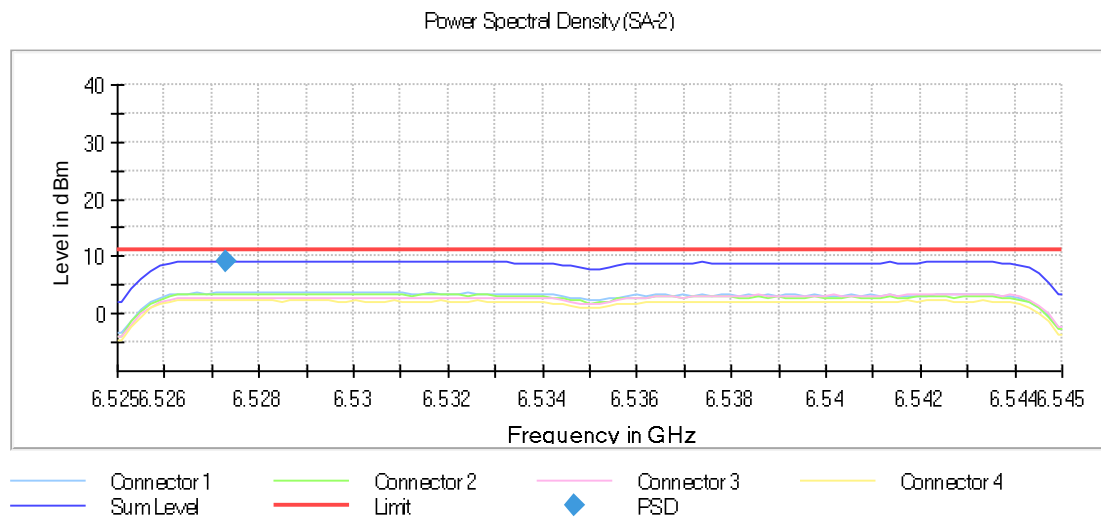
Customized settings.

### Result

| DUT Frequency (MHz) | Frequency (MHz) | PSD (dBm) | Limit Max (dBm) | Result |
|---------------------|-----------------|-----------|-----------------|--------|
| 6535.000000         | 6527.277228     | 9.184     | 11.0            | PASS   |

### Ports

| Port | State |
|------|-------|
| 1    | used  |
| 2    | used  |
| 3    | used  |
| 4    | used  |











## In-Band Emissions (6535 MHz; 24.000 dBm; 20 MHz)

Customized settings.

### Result

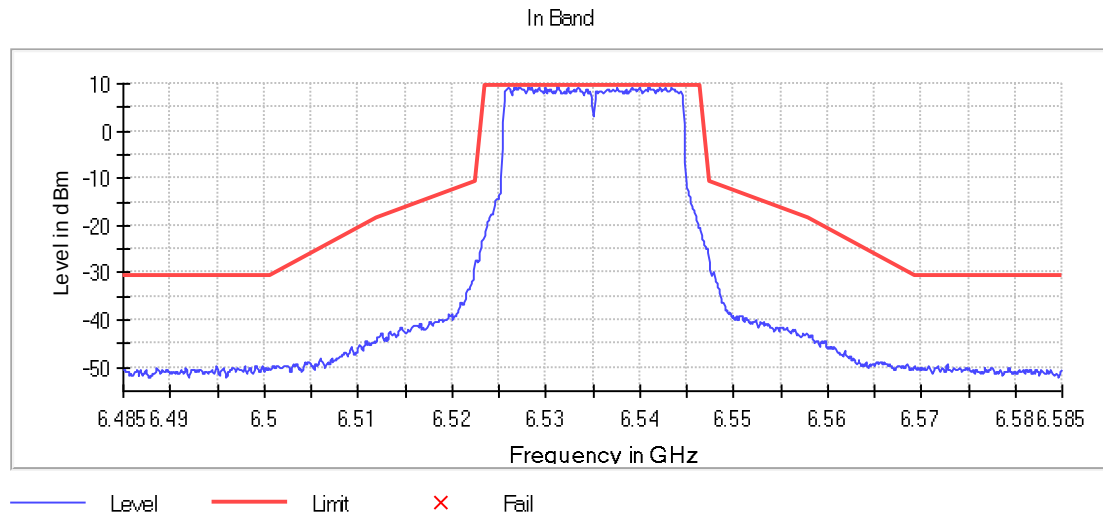
| DUT Frequency (MHz) | Result |
|---------------------|--------|
| 6535.000000         | PASS   |

### Inband Peak

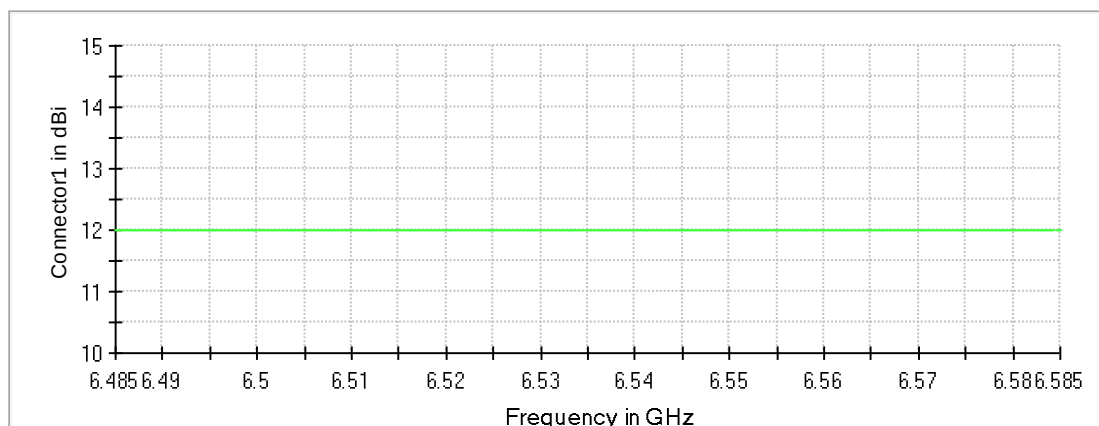
| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| 6531.250000     | 9.5         |

### Measurements

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) | Result |
|-----------------|-------------|-------------|-------------|--------|
| 6531.250000     | 9.5         | 0.0         | 9.5         | PASS   |
| 6527.250000     | 9.3         | 0.2         | 9.5         | PASS   |
| 6532.350000     | 9.3         | 0.2         | 9.5         | PASS   |
| 6528.150000     | 9.3         | 0.2         | 9.5         | PASS   |
| 6533.550000     | 9.2         | 0.3         | 9.5         | PASS   |
| 6542.150000     | 9.2         | 0.3         | 9.5         | PASS   |
| 6533.450000     | 9.2         | 0.3         | 9.5         | PASS   |
| 6525.950000     | 9.1         | 0.3         | 9.5         | PASS   |
| 6540.950000     | 9.1         | 0.3         | 9.5         | PASS   |
| 6526.050000     | 9.1         | 0.3         | 9.5         | PASS   |
| 6526.850000     | 9.1         | 0.4         | 9.5         | PASS   |
| 6543.350000     | 9.1         |             |             |        |

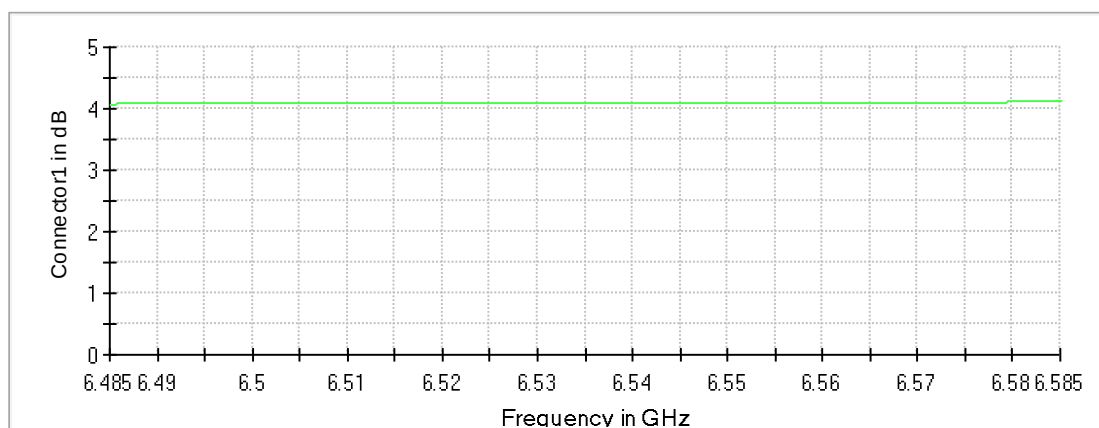


Gain



Connector1

Attenuation



Connector1

## Measurement 1

| Setting         | Instrument Value | Target Value  |
|-----------------|------------------|---------------|
| Start Frequency | 6.48500 GHz      | 6.48500 GHz   |
| Stop Frequency  | 6.58500 GHz      | 6.58500 GHz   |
| Span            | 100.000 MHz      | 100.000 MHz   |
| RBW             | 200.000 kHz      | ~ 200.000 kHz |
| VBW             | 500.000 kHz      | ~ 600.000 kHz |
| SweepPoints     | 1000             | ~ 1000        |
| Sweptime        | 1.050 ms         | AUTO          |
| Reference Level | 0.000 dBm        | 0.000 dBm     |
| Attenuation     | 20.000 dB        | 20.000 dB     |
| Detector        | RMS              | RMS           |
| SweepCount      | 100              |               |



## Occupied Channel Bandwidth 99% (6535 MHz; 24.000 dBm; 20 MHz)

Customized settings.

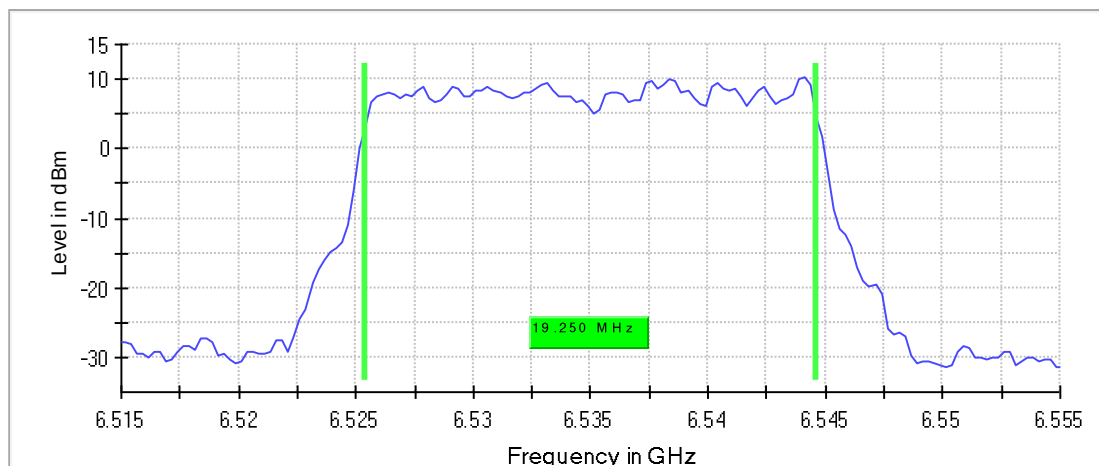
### 99 % Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Limit Min BE L (MHz) |
|---------------------|-----------------|-----------------|-----------------|----------------------|----------------------|
| 6535.000000         | 19.250000       | ---             | 320.000000      | 6525.375000          | 5925.000000          |

(continuation of the "99 % Bandwidth" table from column 6 ...)

| DUT Frequency (MHz) | Band Edge Right (MHz) | Limit Max BE R (MHz) | Result |
|---------------------|-----------------------|----------------------|--------|
| 6535.000000         | 6544.625000           | 7125.000000          | PASS   |

99 % Bandwidth



Bandwidth



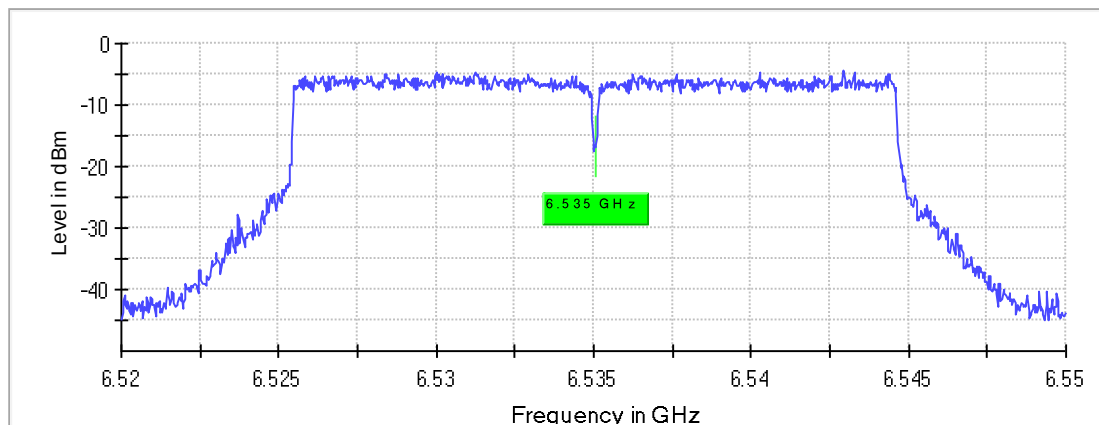
## Frequency Stability (6535 MHz; 24.000 dBm; 20 MHz)

Customized settings.

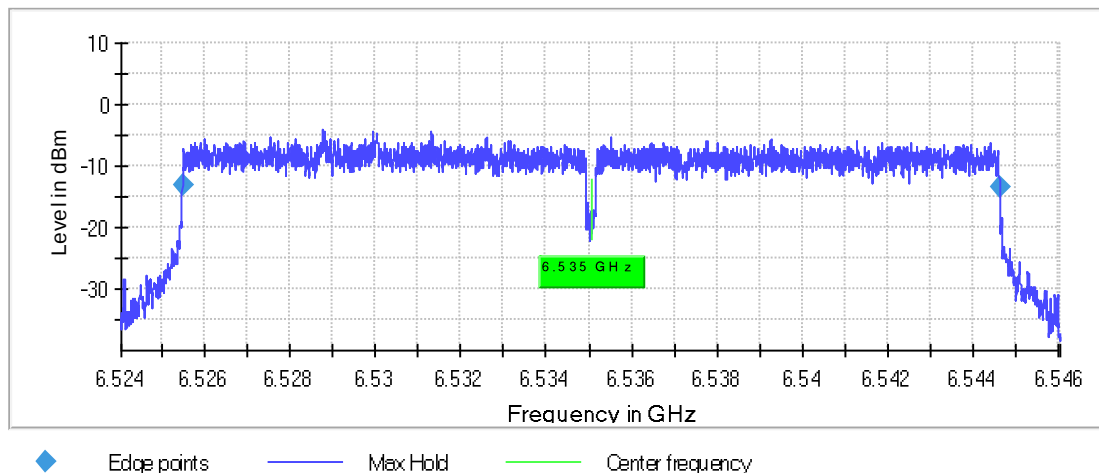
### Result

| DUT Frequency (MHz) | Frequency (MHz) | Difference (ppm) | Frequency Difference (kHz) | Limit Min (MHz) | Limit Max (MHz) | Result |
|---------------------|-----------------|------------------|----------------------------|-----------------|-----------------|--------|
| 6535.000000         | 6535.048255     | 7.384            | 48.254500                  | ---             | ---             | PASS   |

Frequency stability Pre



Frequency stability



### Measurement

| Setting         | Instrument Value | Target Value |
|-----------------|------------------|--------------|
| Start Frequency | 6.52404 GHz      | 6.52404 GHz  |

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|                 |                 |               |
|-----------------|-----------------|---------------|
| Stop Frequency  | 6.54604 GHz     | 6.54604 GHz   |
| Span            | 22.000 MHz      | 22.000 MHz    |
| RBW             | 20.000 kHz      | <= 22.000 kHz |
| VBW             | 100.000 kHz     | >= 60.000 kHz |
| SweepPoints     | 10001           | ~ 10001       |
| SweepTime       | 473.902 $\mu$ s | AUTO          |
| Reference Level | 10.000 dBm      | 10.000 dBm    |
| Attenuation     | 30.000 dB       | AUTO          |
| Detector        | MaxPeak         | MaxPeak       |
| SweepCount      | 50              | 50            |
| Filter          | 3 dB            | 3 dB          |
| Trace Mode      | Max Hold        | Max Hold      |
| SweepType       | FFT             | AUTO          |
| Preamp          | off             | off           |









