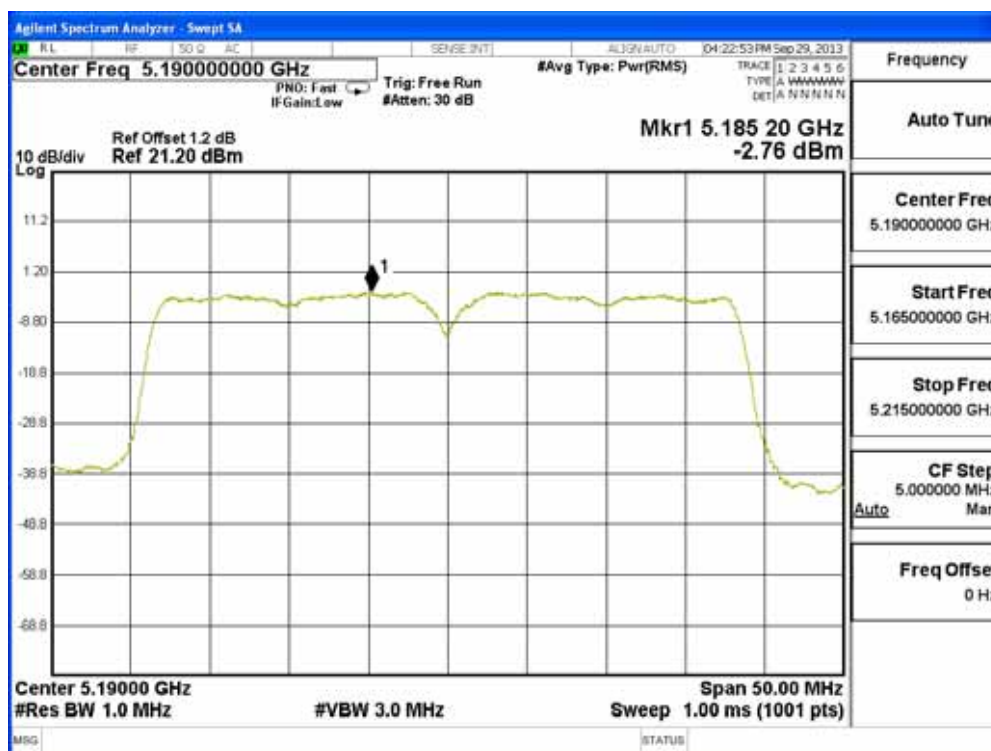


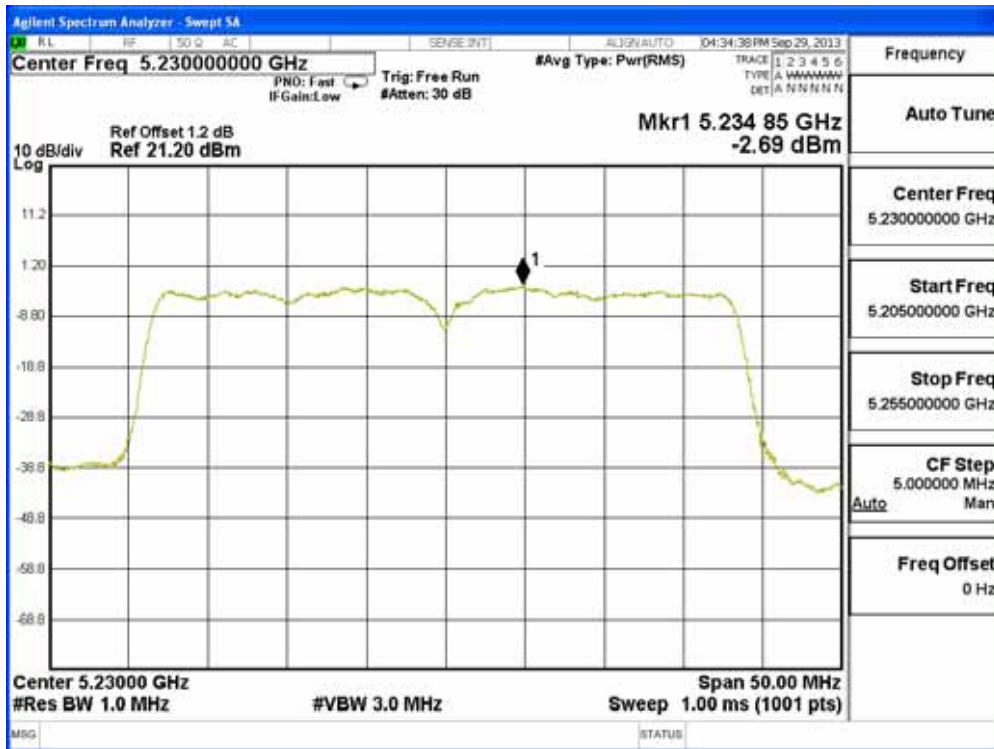
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 4: Transmit by 802.11n(40MHz) (Ant 0+2) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|-------|--------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 38 | 5190 | -2.760 | N/A | -1.560 | 0.892 | 3 | Pass |
| 46 | 5230 | -2.690 | N/A | -4.010 | -0.290 | 3 | Pass |

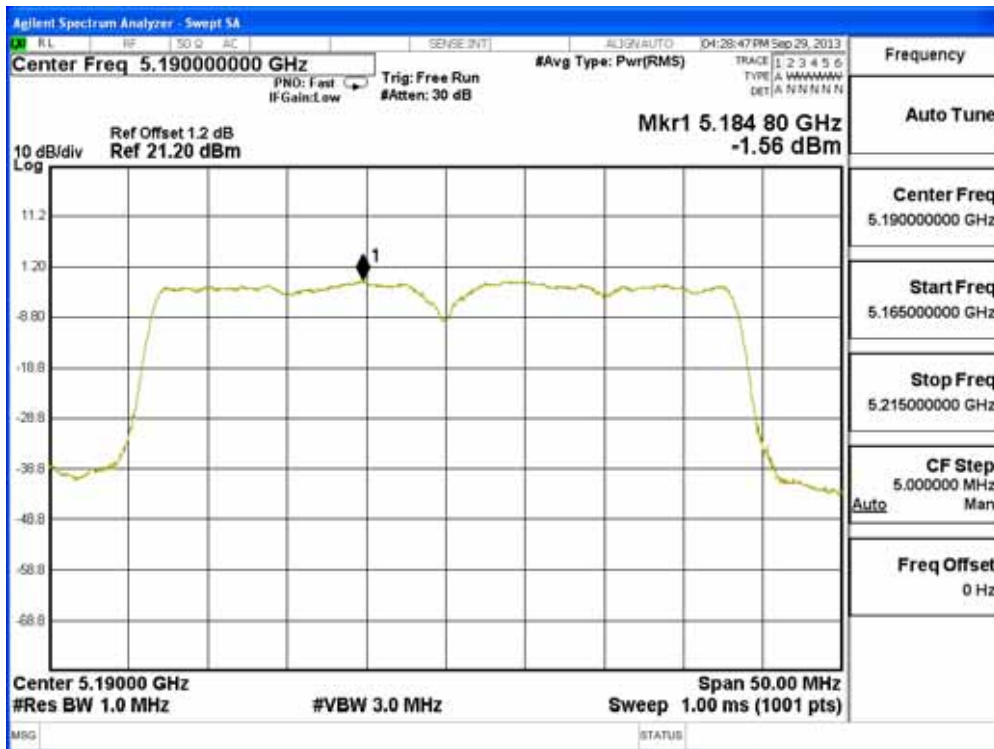
Channel 38 (5190MHz)-Ant 0



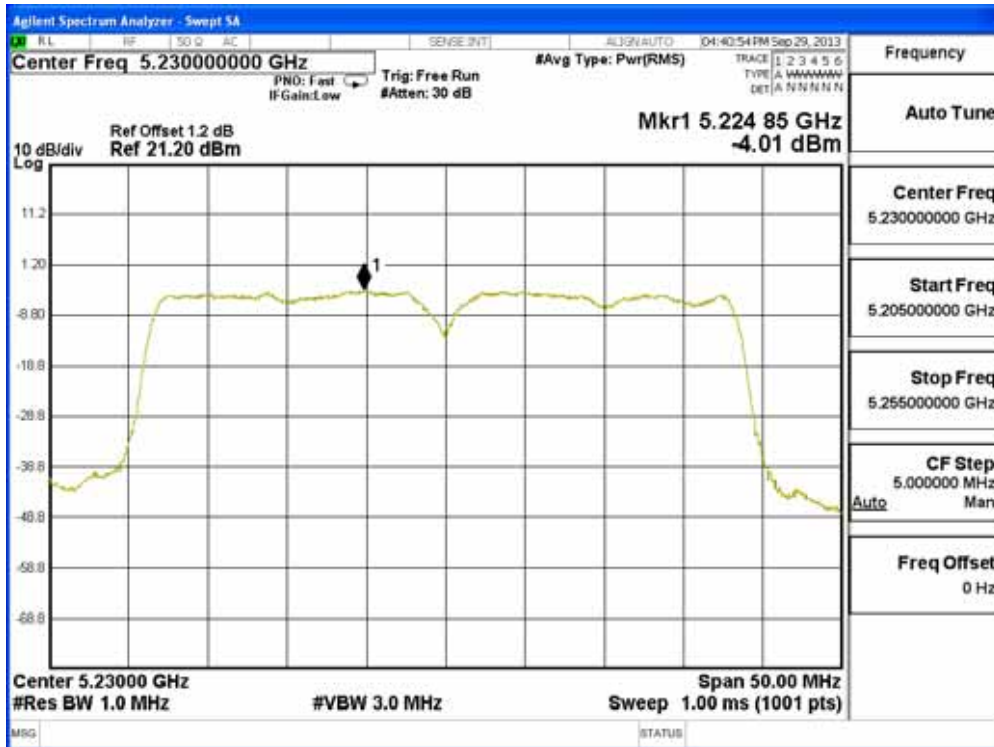
Channel 46 (5230MHz) -Ant 0



Channel 38 (5190MHz)-Ant 2



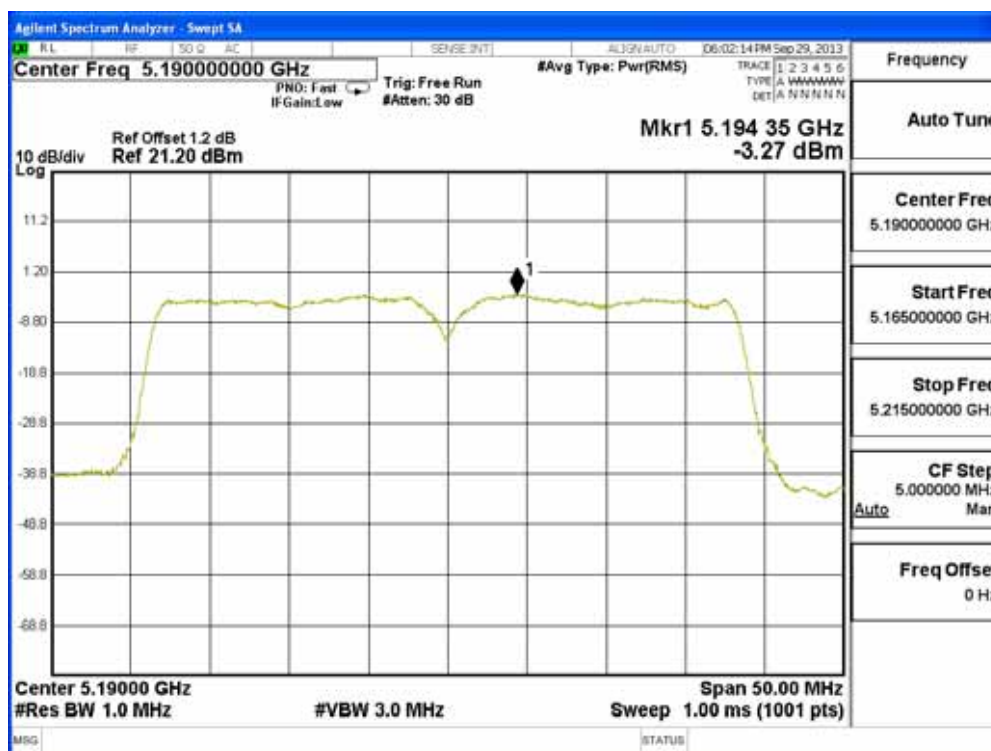
Channel 46 (5230MHz) -Ant 2



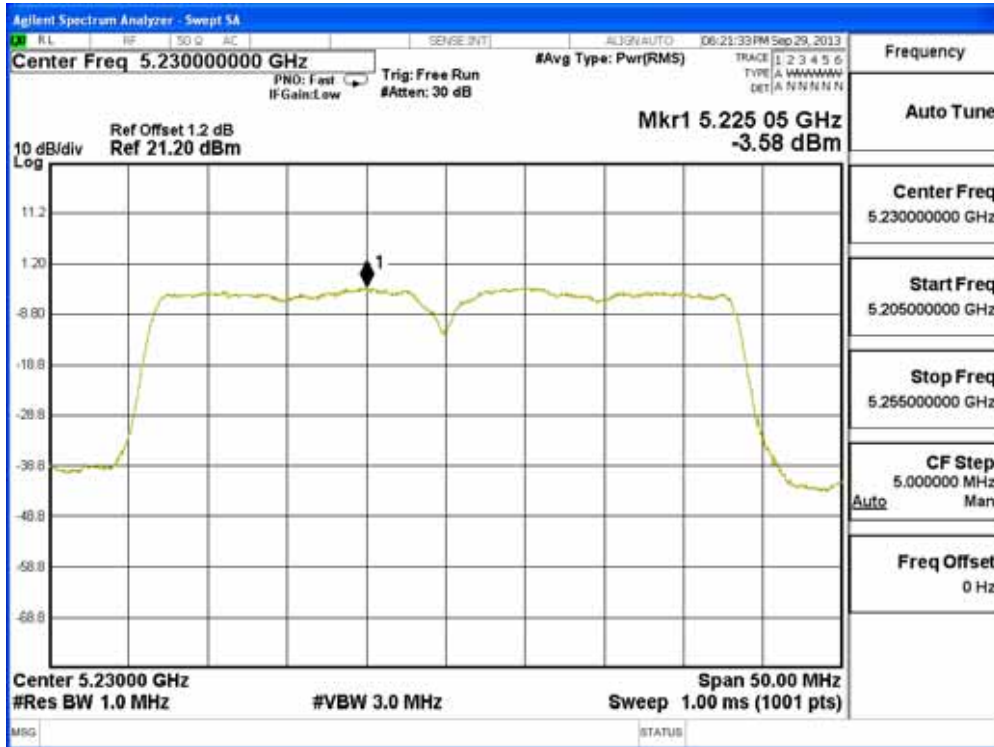
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 4: Transmit by 802.11n(40MHz) (Ant 0+1+2) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|--------|--------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 38 | 5190 | -3.270 | -3.120 | -1.490 | 2.222 | 3 | Pass |
| 46 | 5230 | -3.580 | -2.950 | -2.720 | 1.703 | 3 | Pass |

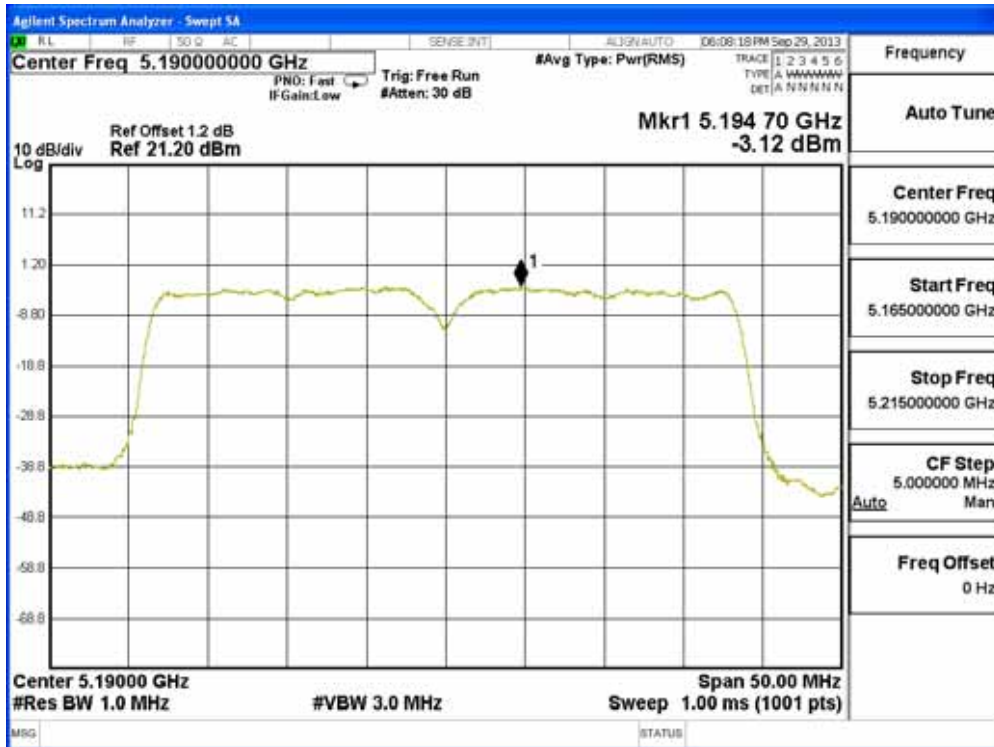
Channel 38 (5190MHz)-Ant 0



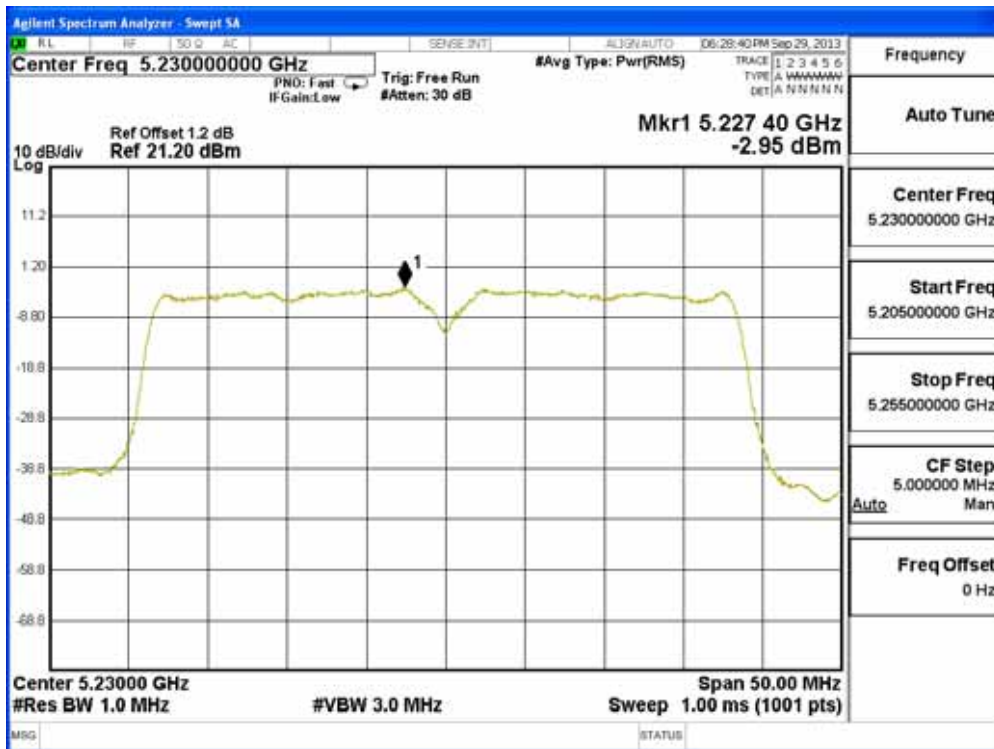
Channel 46 (5230MHz) -Ant 0



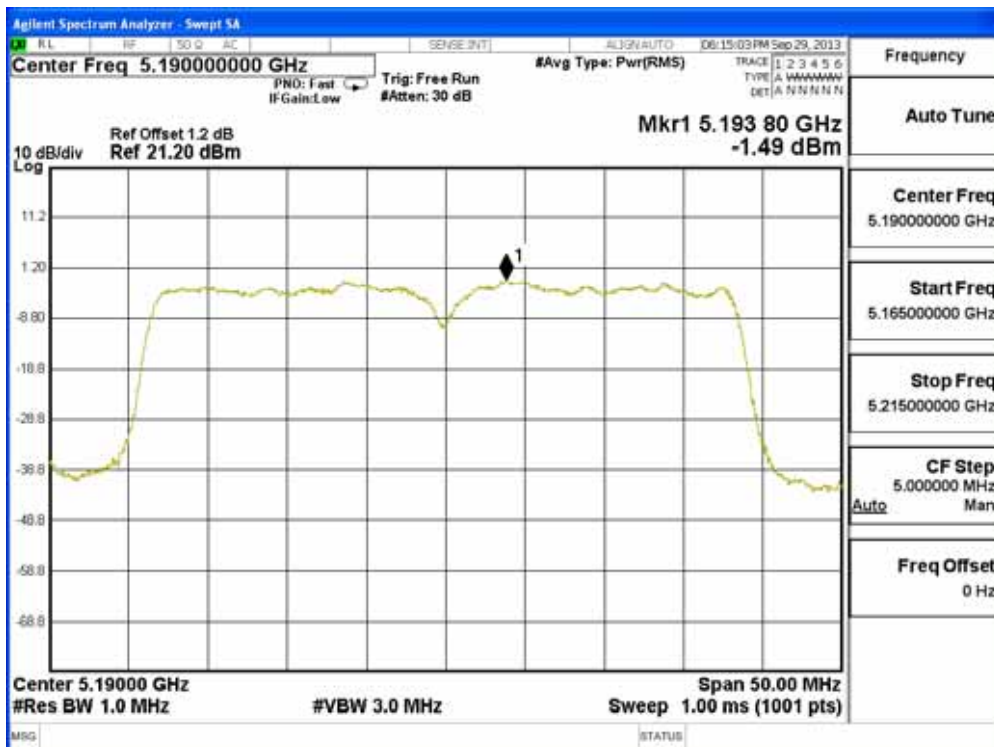
Channel 38 (5190MHz)-Ant 1



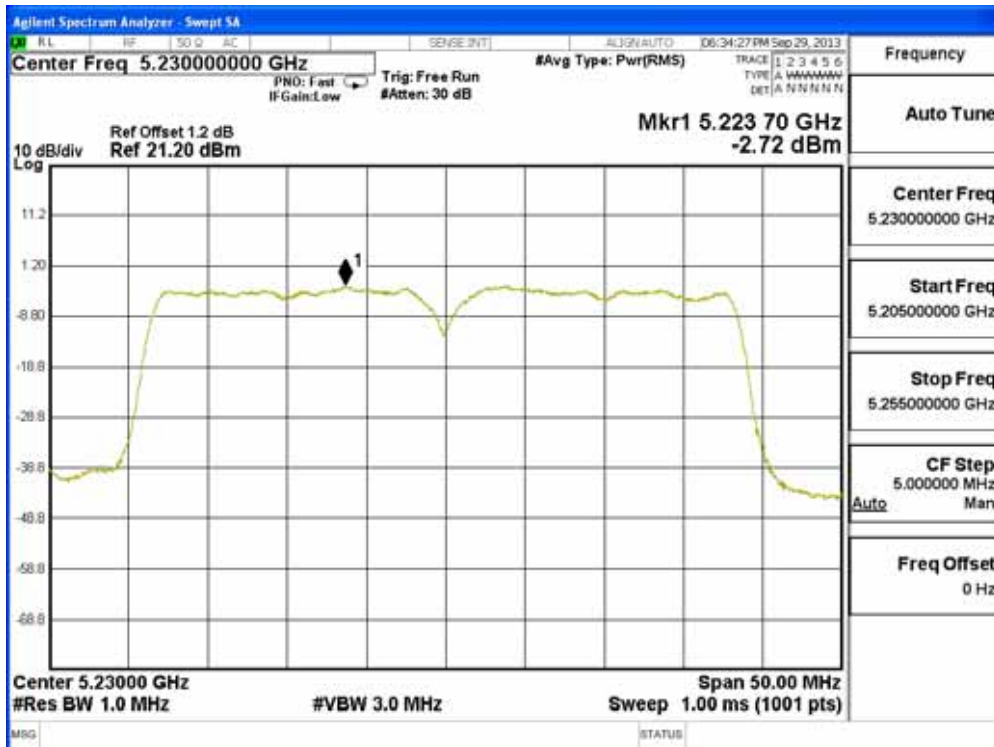
Channel 46 (5230MHz) -Ant 1



Channel 38 (5190MHz)-Ant 2



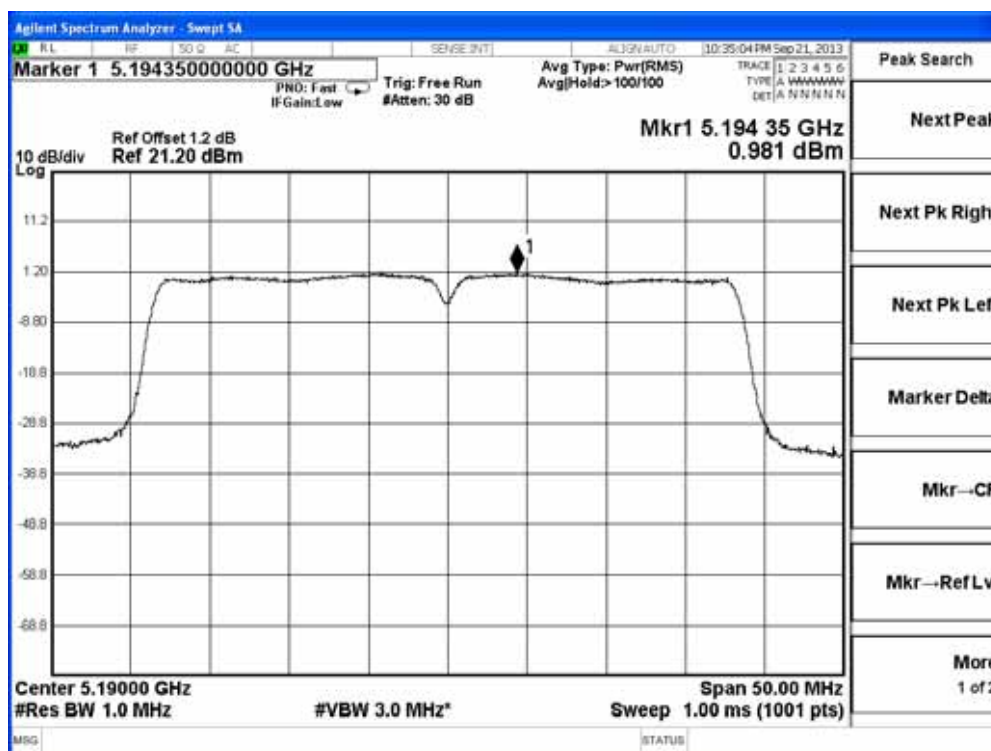
Channel 46 (5230MHz) -Ant 2



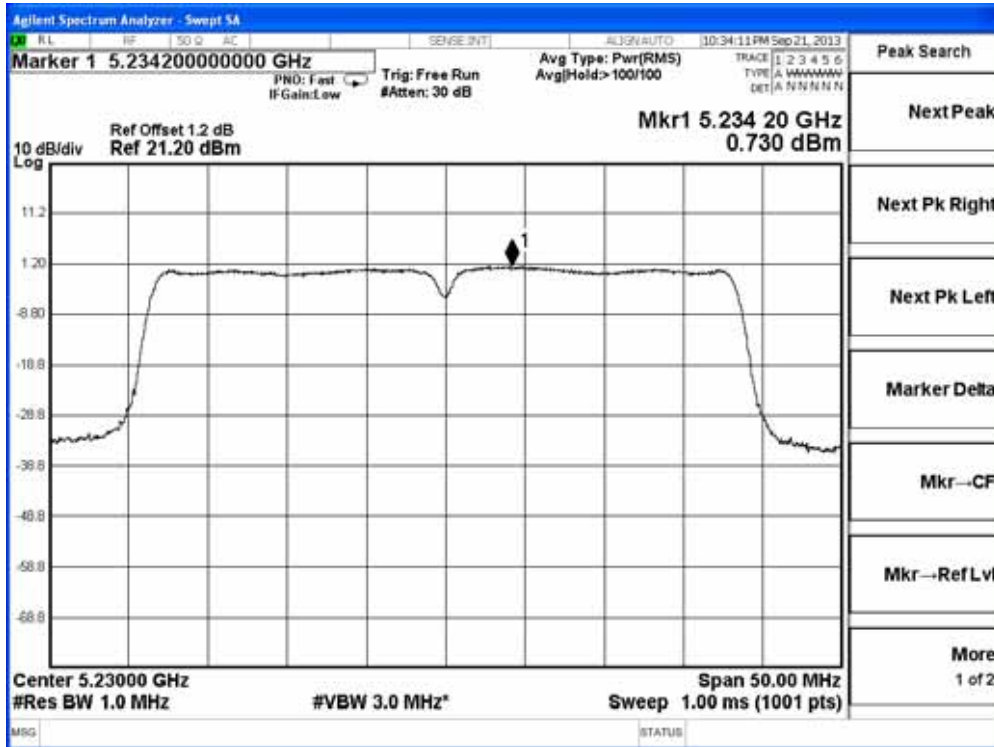
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 5: Transmit by 802.11ac(40MHz) (Ant 0) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|-------|-------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 38 | 5190 | 0.981 | N/A | N/A | 0.981 | 3 | Pass |
| 46 | 5230 | 0.730 | N/A | N/A | 0.730 | 3 | Pass |

Channel 38 (5190MHz)



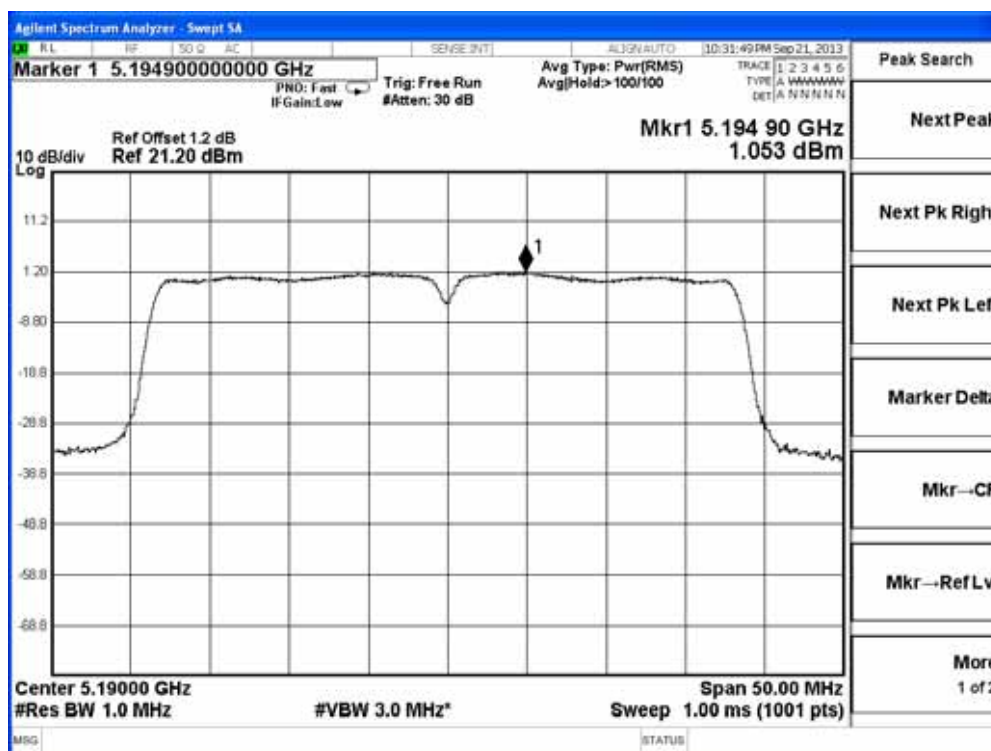
Channel 46 (5230MHz)



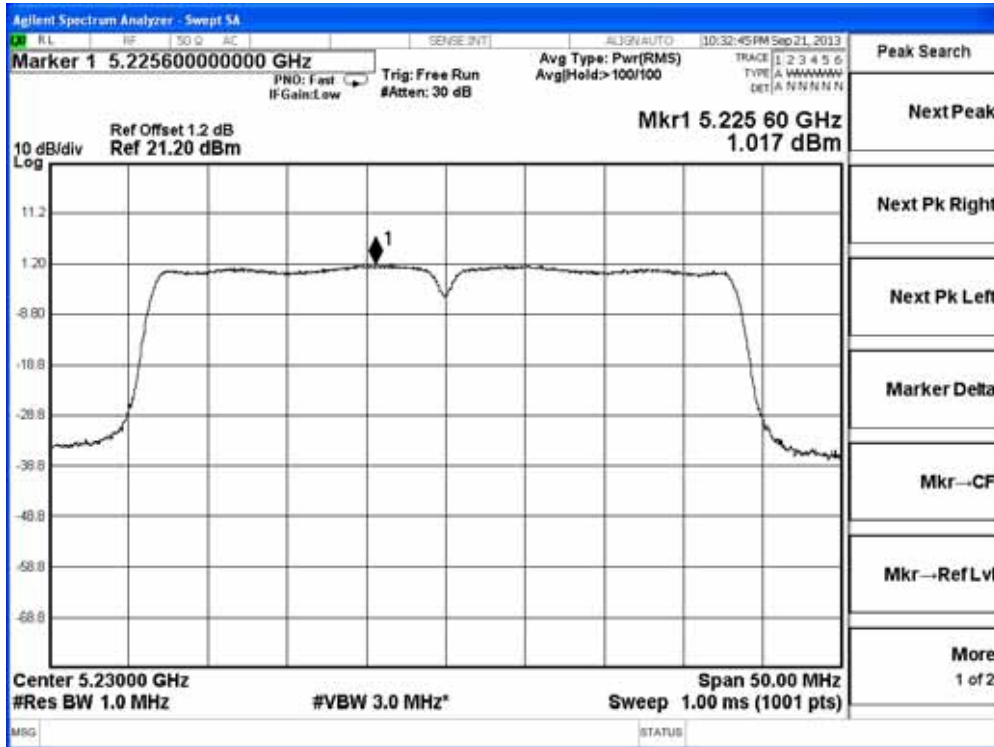
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 5: Transmit by 802.11ac(40MHz) (Ant 1) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|-------|-------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 38 | 5190 | N/A | 1.053 | N/A | 1.053 | 3 | Pass |
| 46 | 5230 | N/A | 1.017 | N/A | 1.017 | 3 | Pass |

Channel 38 (5190MHz)



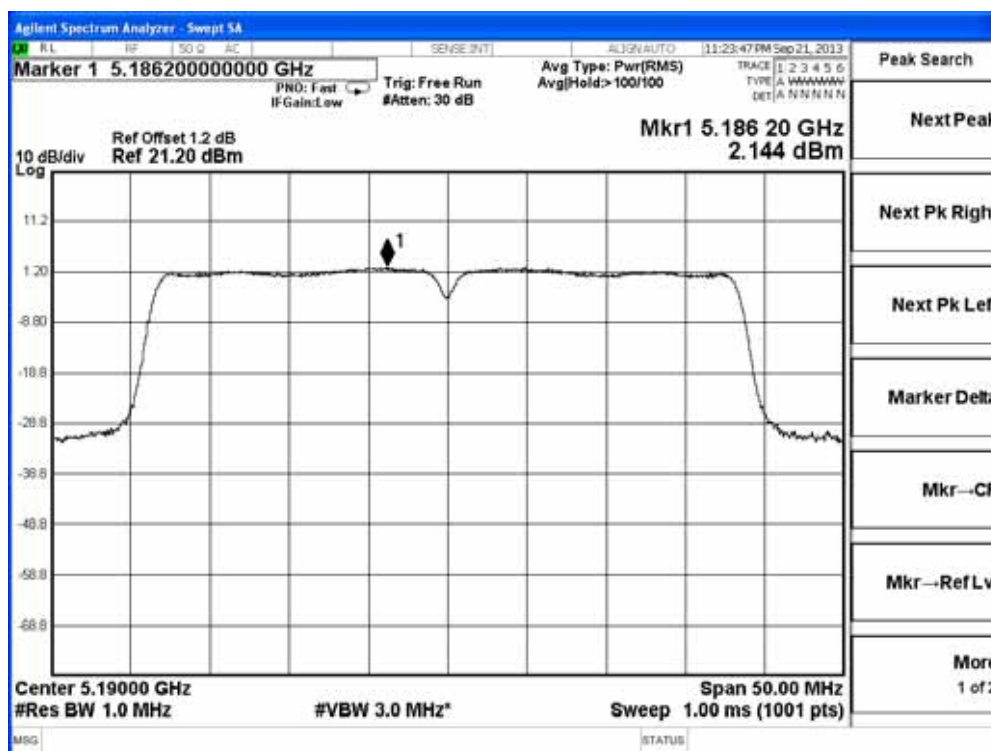
Channel 46 (5230MHz)



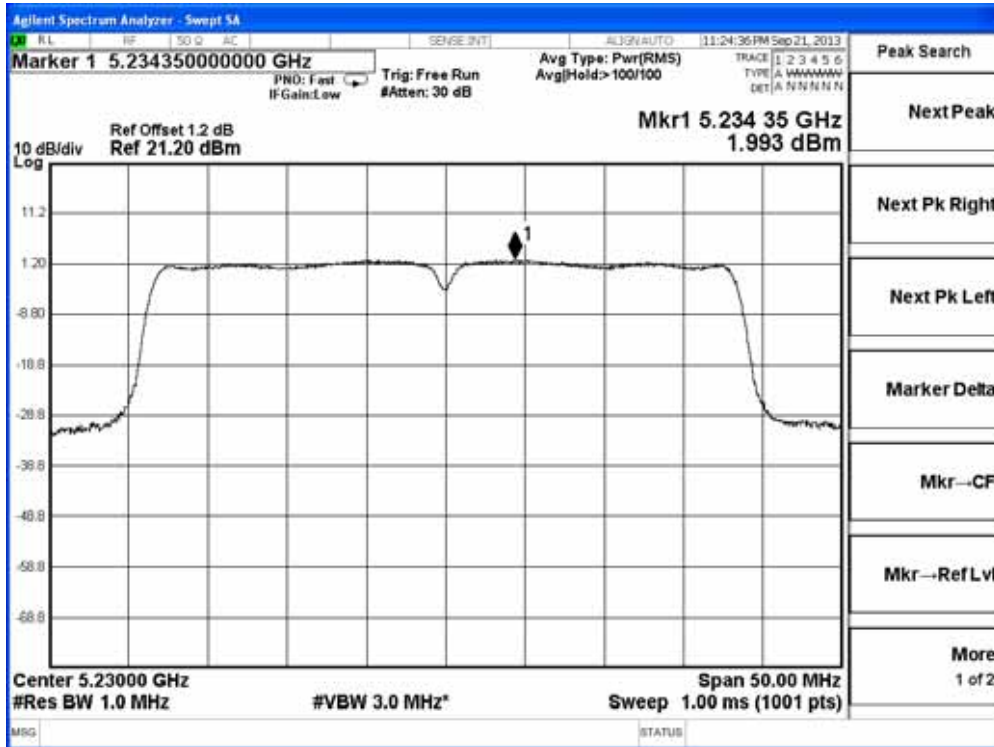
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 5: Transmit by 802.11ac(40MHz) (Ant 2) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|-------|-------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 38 | 5190 | N/A | N/A | 2.144 | 2.144 | 3 | Pass |
| 46 | 5230 | N/A | N/A | 1.993 | 1.993 | 3 | Pass |

Channel 38 (5190MHz)



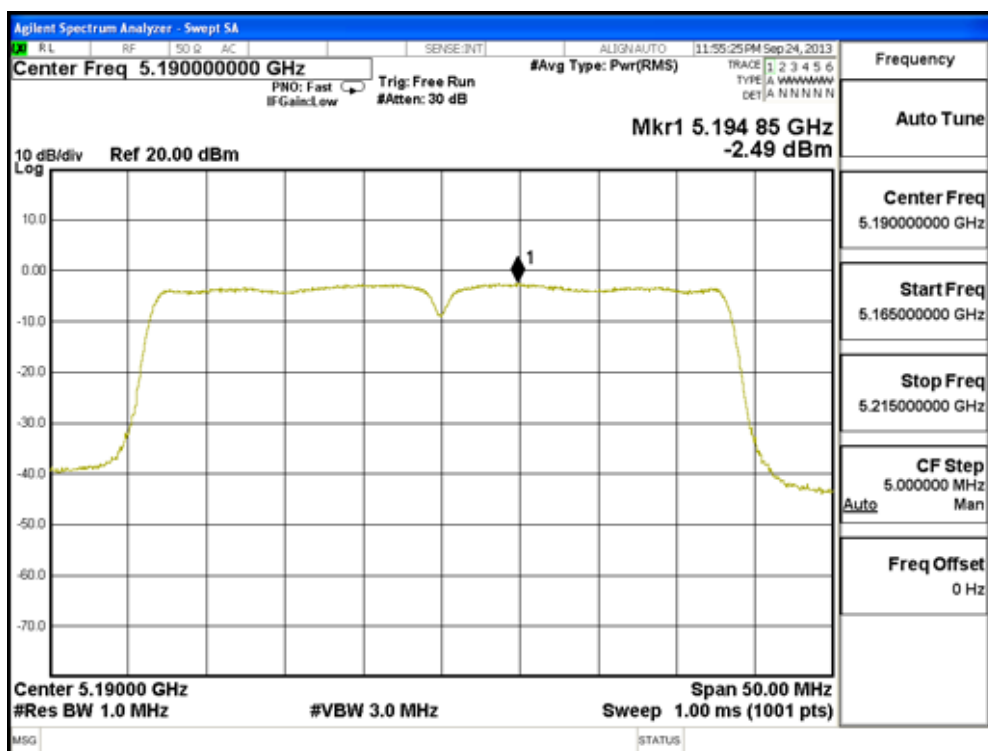
Channel 46 (5230MHz)



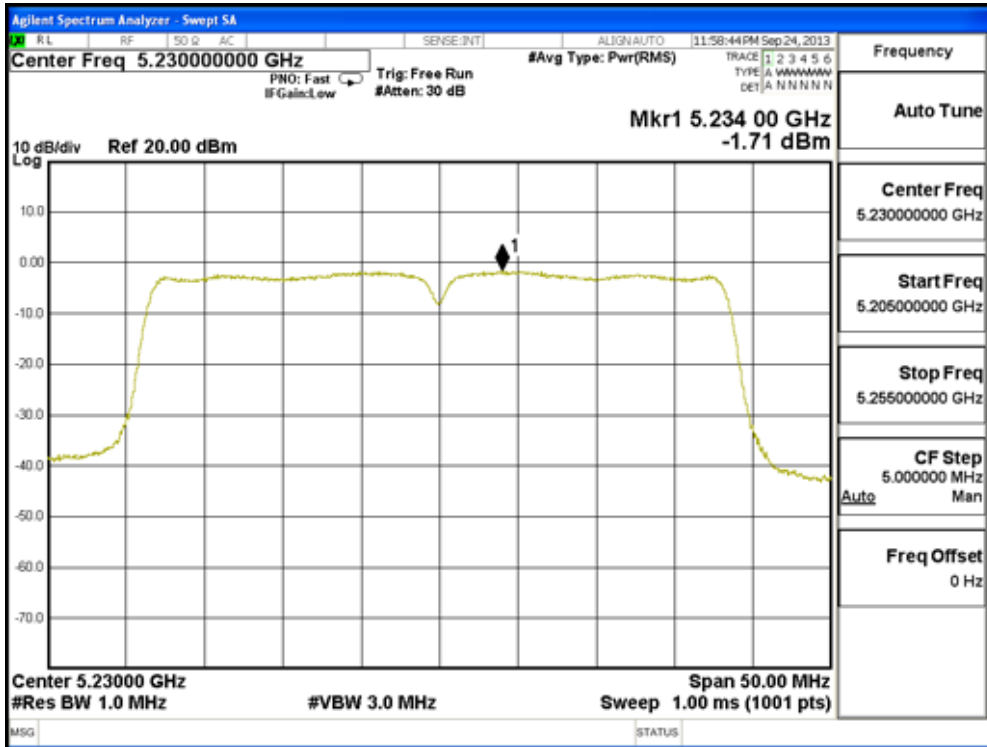
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 5: Transmit by 802.11ac(40MHz) (Ant 0+1) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|--------|-------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 38 | 5190 | -2.490 | -2.460 | N/A | 0.535 | 3 | Pass |
| 46 | 5230 | -1.710 | -1.100 | N/A | 1.616 | 3 | Pass |

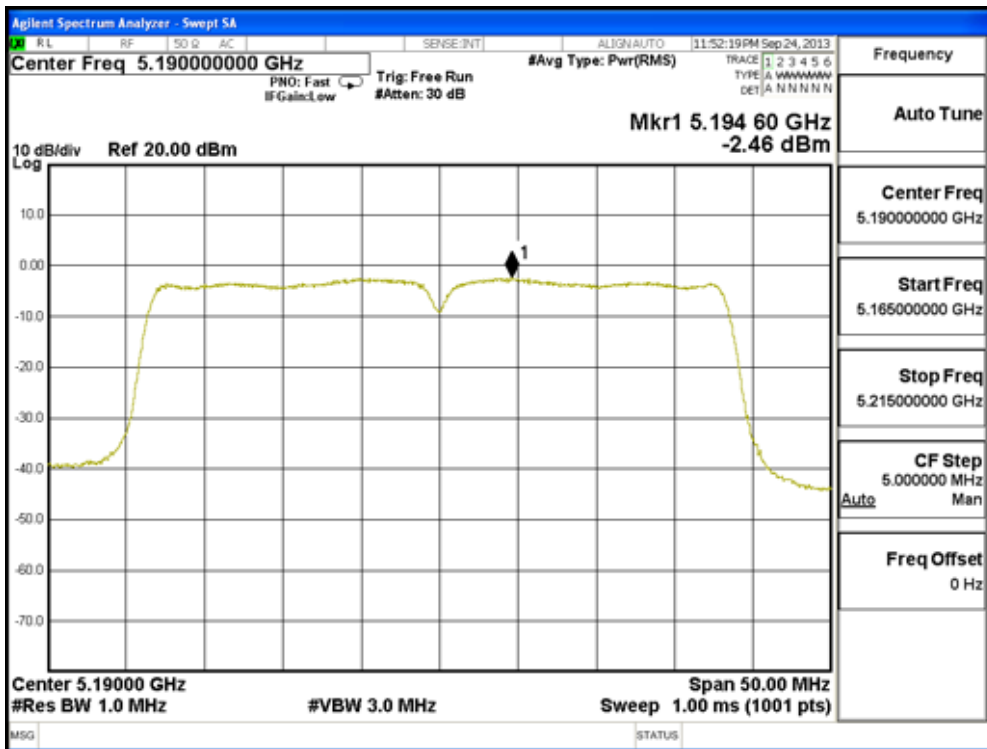
Channel 38 (5190MHz)-Ant 0



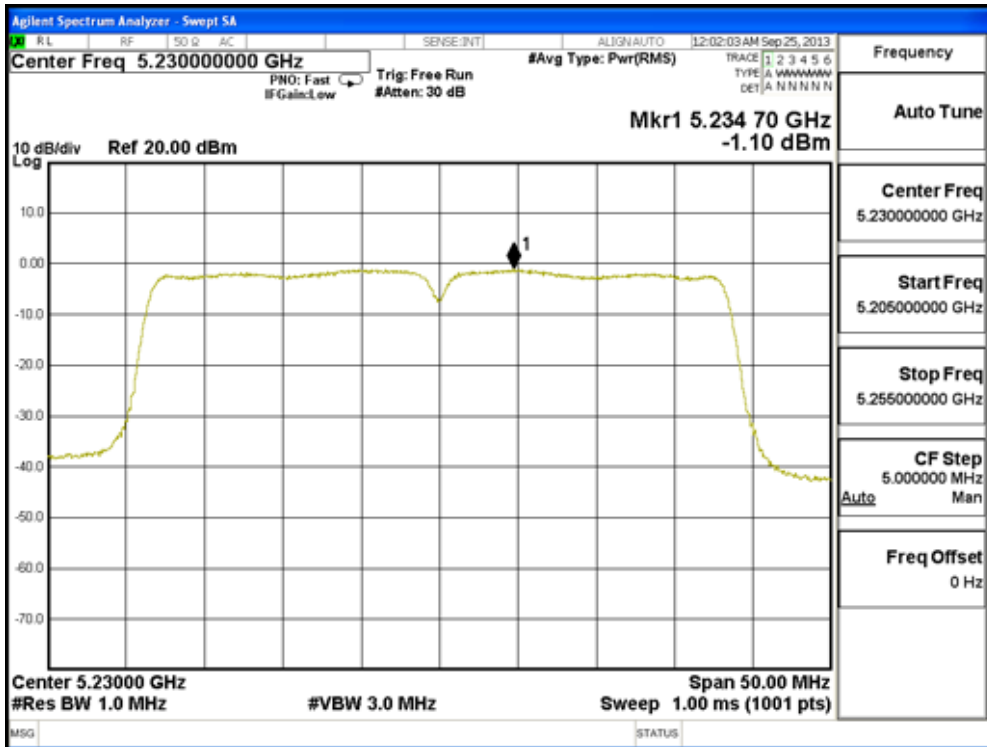
Channel 46 (5230MHz) -Ant 0



Channel 38 (5190MHz)-Ant 1



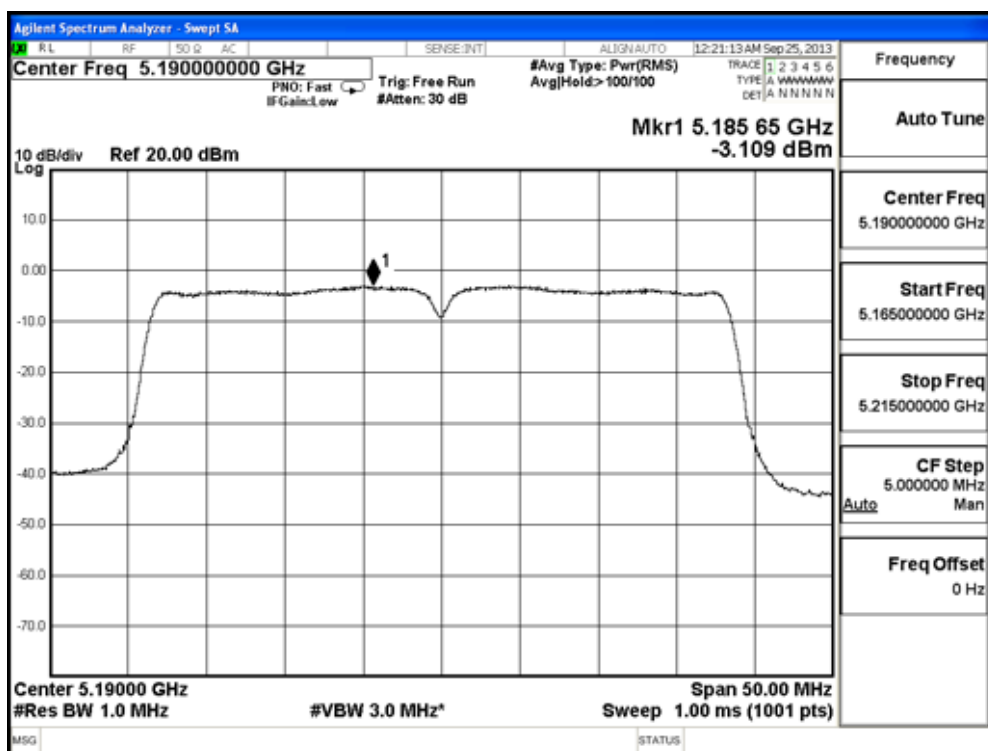
Channel 46 (5230MHz) -Ant 1



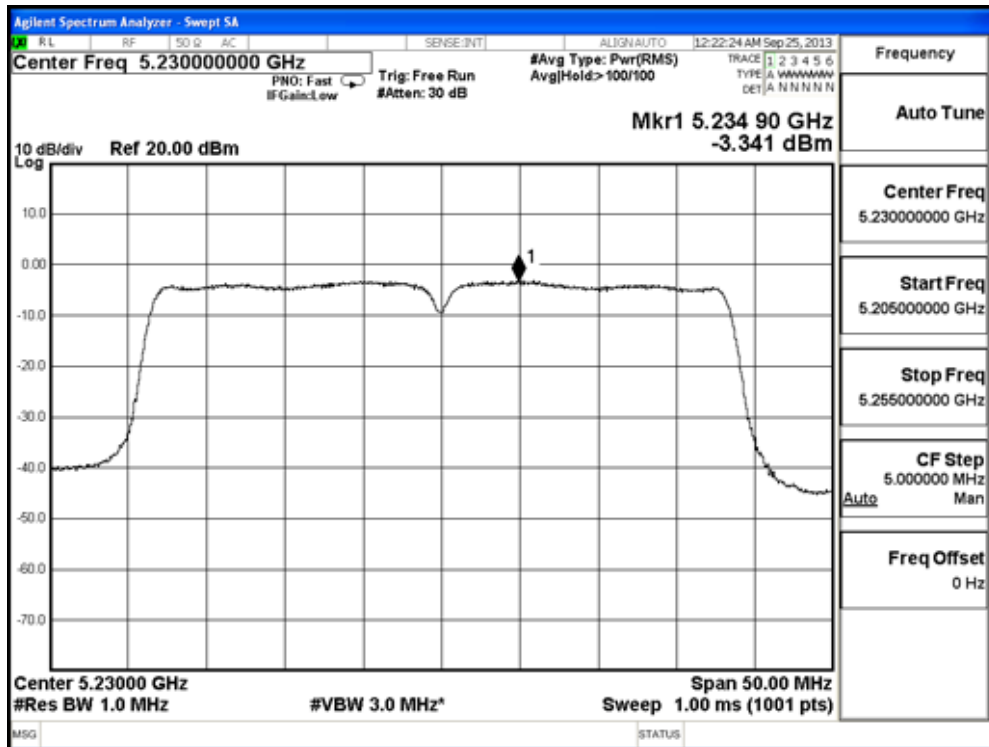
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 5: Transmit by 802.11ac(40MHz) (Ant 1+2) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|--------|--------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 38 | 5190 | N/A | -3.109 | -2.336 | 0.305 | 3 | Pass |
| 46 | 5230 | N/A | -3.341 | -2.304 | 0.219 | 3 | Pass |

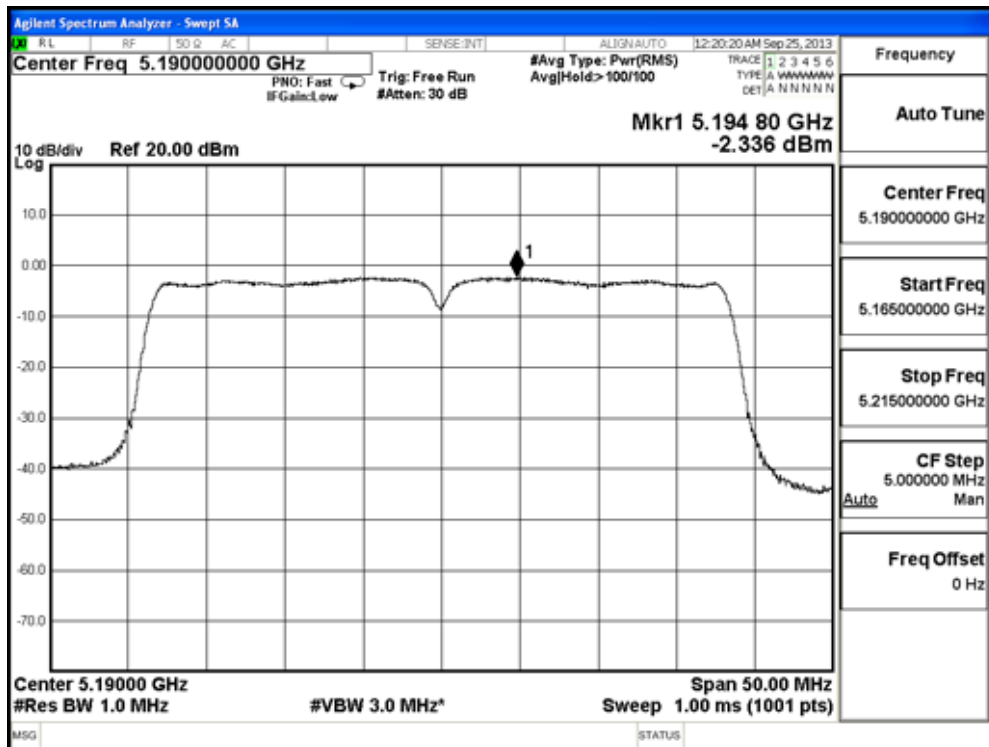
Channel 38 (5190MHz)-Ant 1



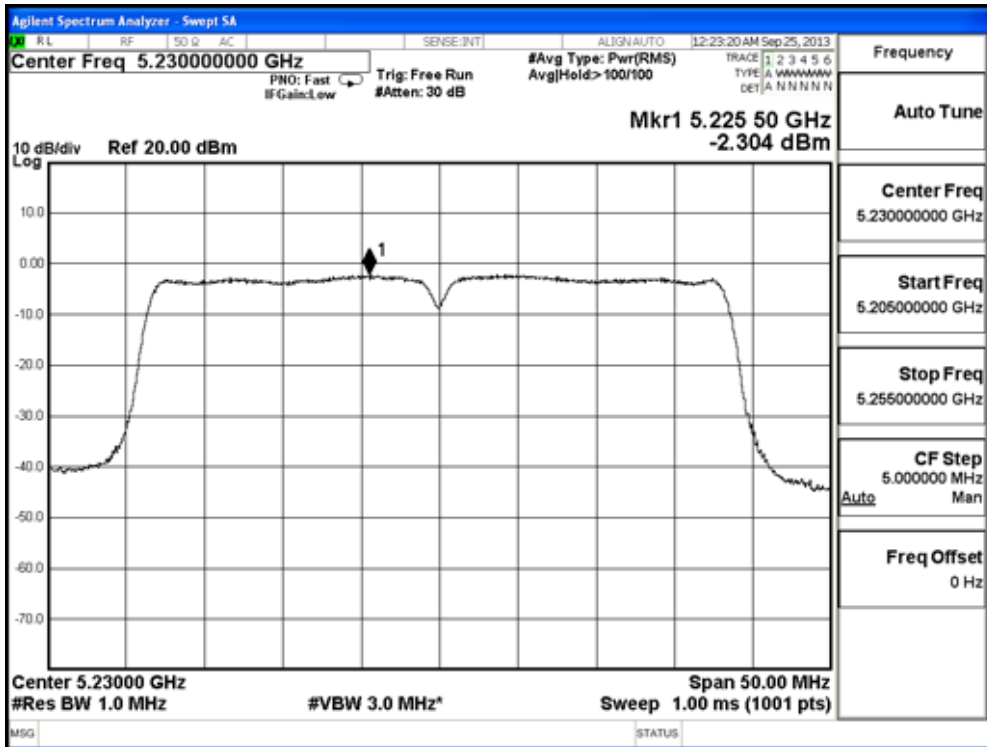
Channel 46 (5230MHz) -Ant 1



Channel 38 (5190MHz)-Ant 2



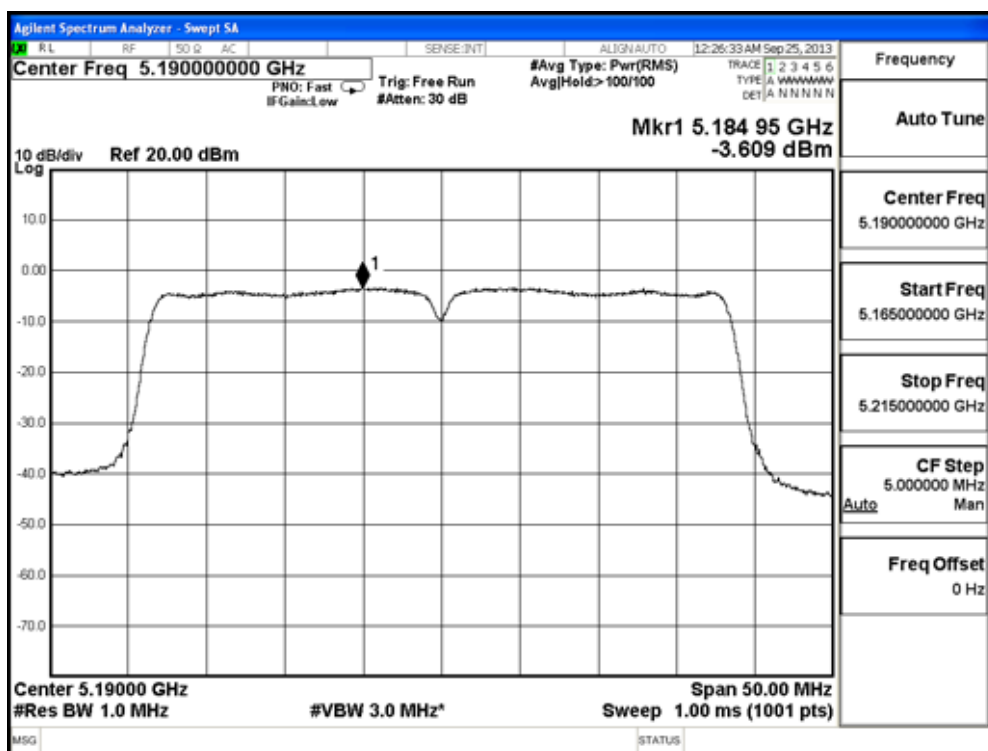
Channel 46 (5230MHz) -Ant 2



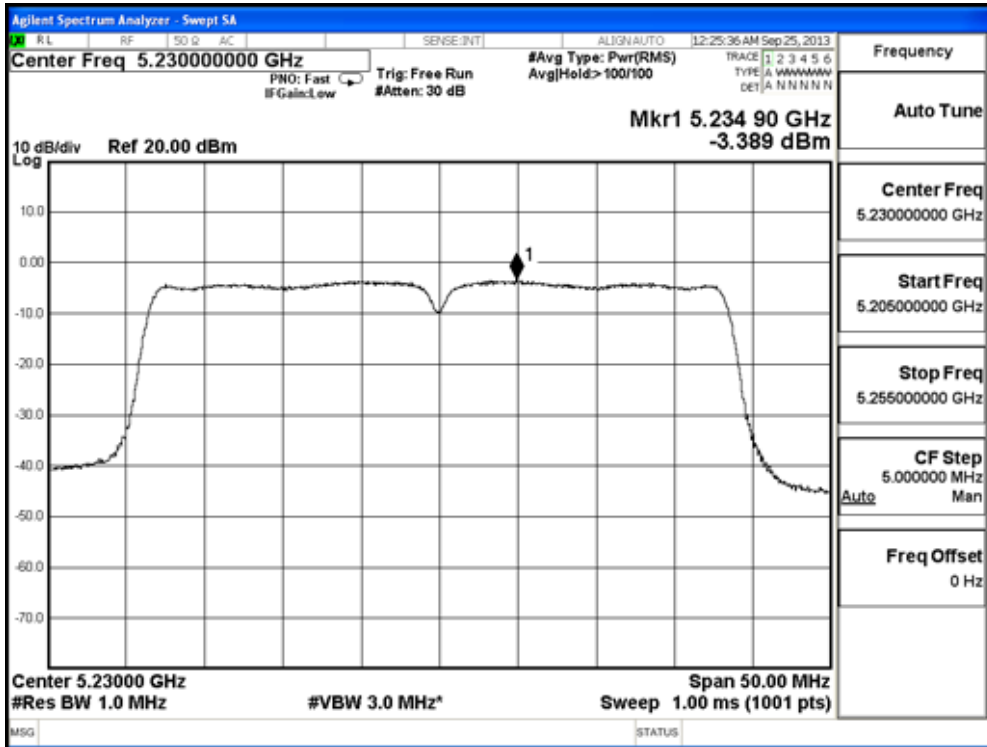
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 5: Transmit by 802.11ac(40MHz) (Ant 0+2) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|-------|--------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 38 | 5190 | -3.609 | N/A | -2.307 | 0.101 | 3 | Pass |
| 46 | 5230 | -3.389 | N/A | -2.396 | 0.146 | 3 | Pass |

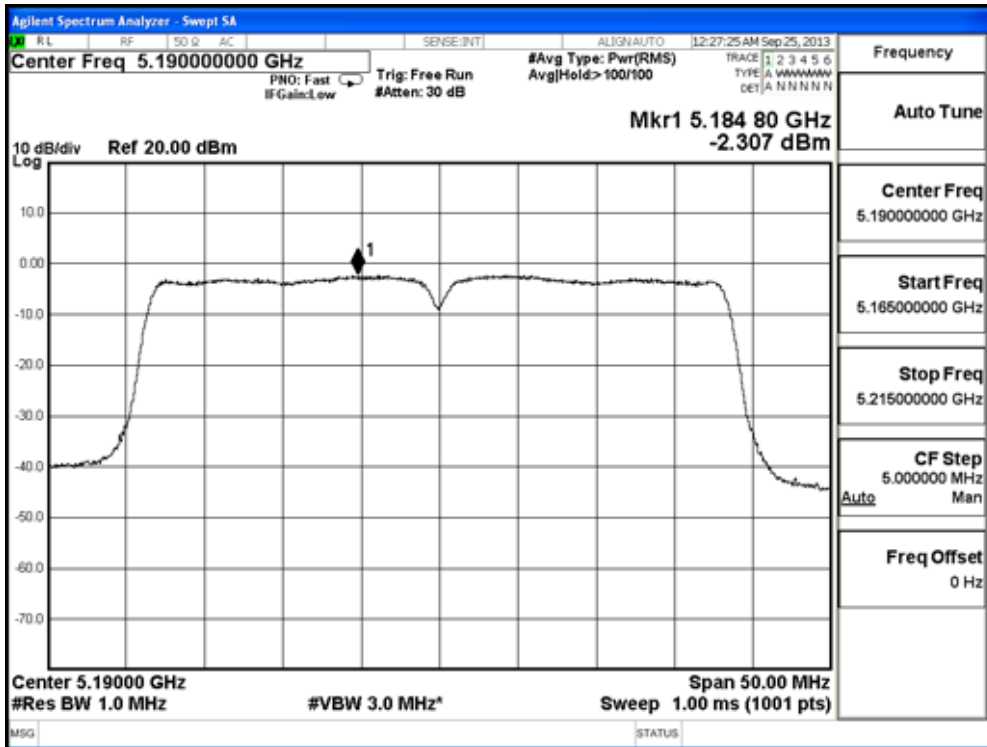
Channel 38 (5190MHz)-Ant 0



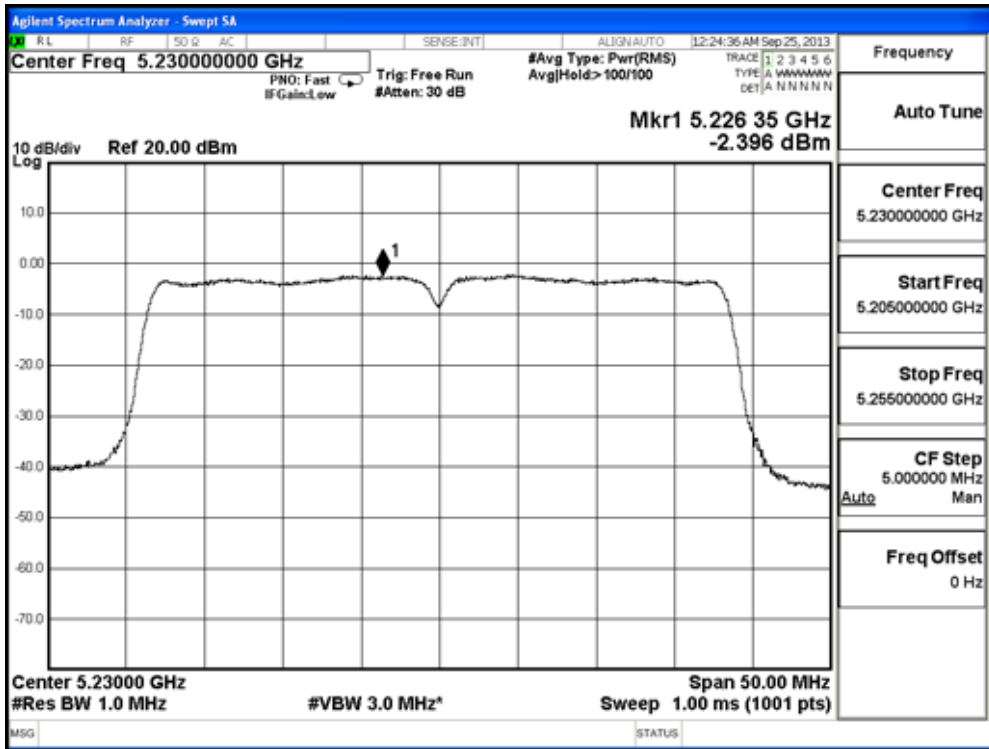
Channel 46 (5230MHz) -Ant 0



Channel 38 (5190MHz)-Ant 2



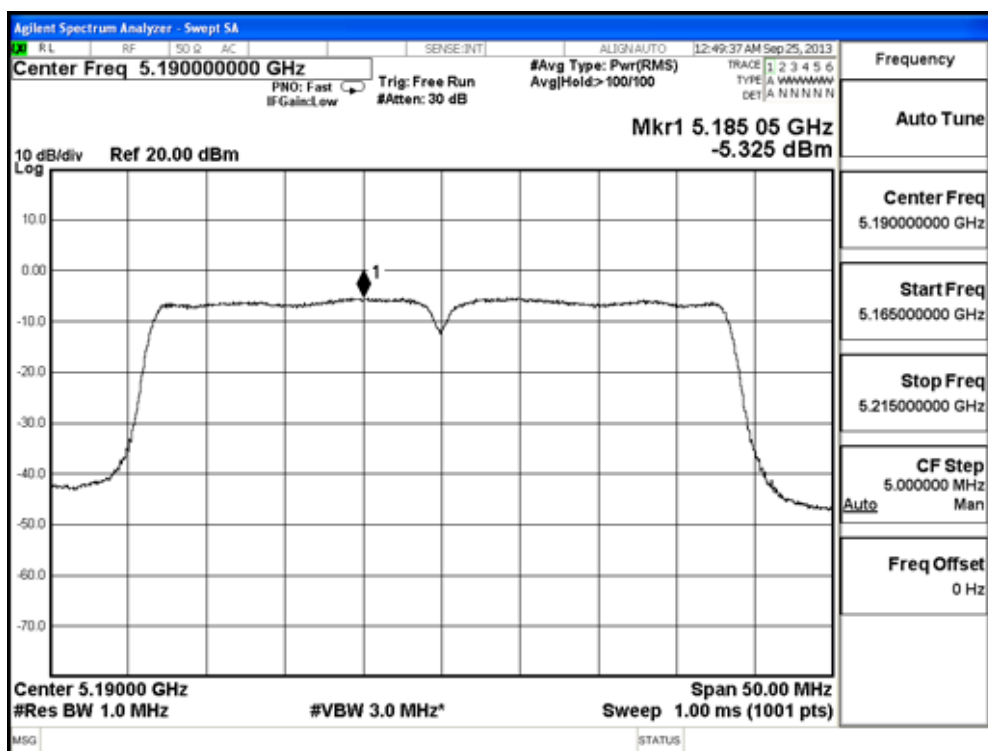
Channel 46 (5230MHz) -Ant 2



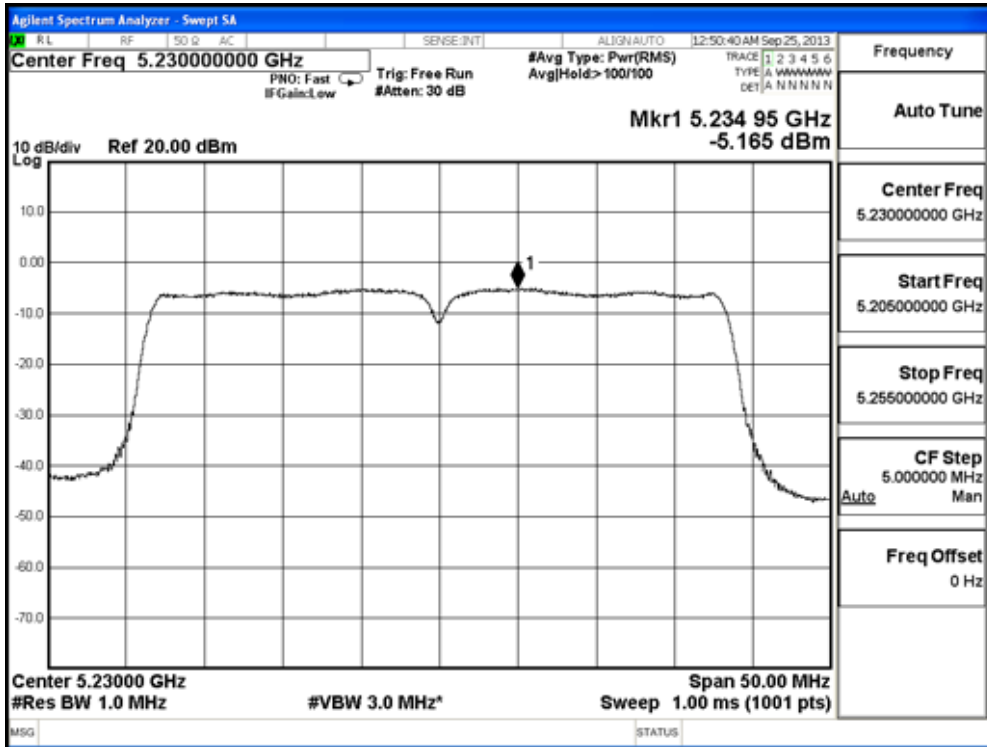
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 5: Transmit by 802.11ac(40MHz) (Ant 0+1+2) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|--------|--------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 38 | 5190 | -5.325 | -5.710 | -4.446 | -0.356 | 3 | Pass |
| 46 | 5230 | -5.165 | -5.216 | -3.971 | 0.026 | 3 | Pass |

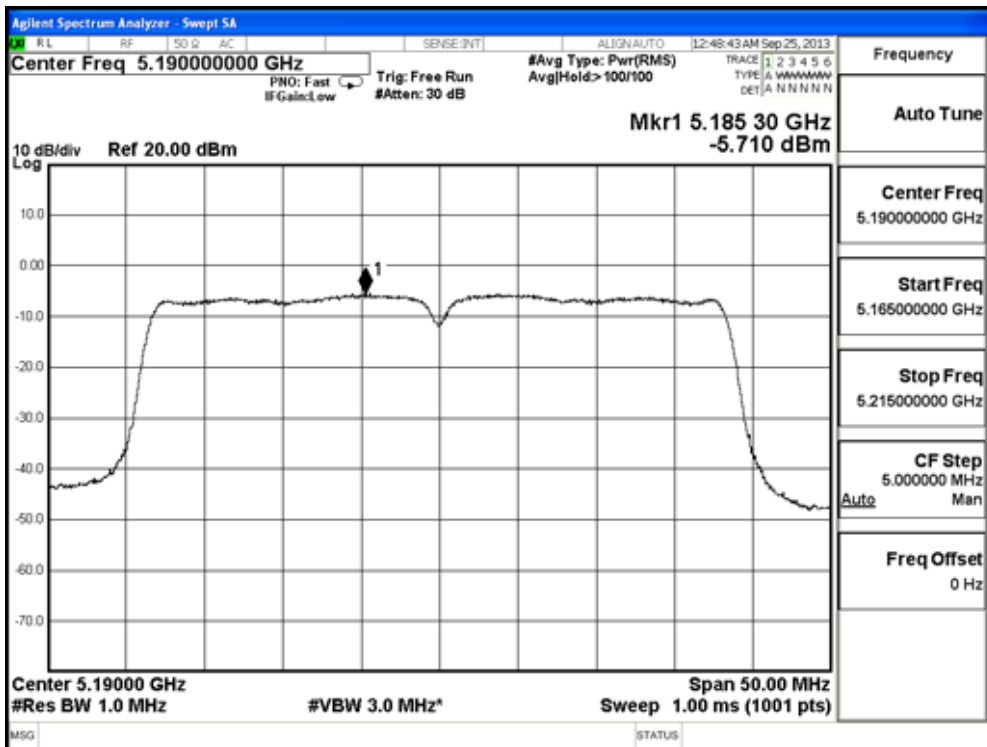
Channel 38 (5190MHz)-Ant 0



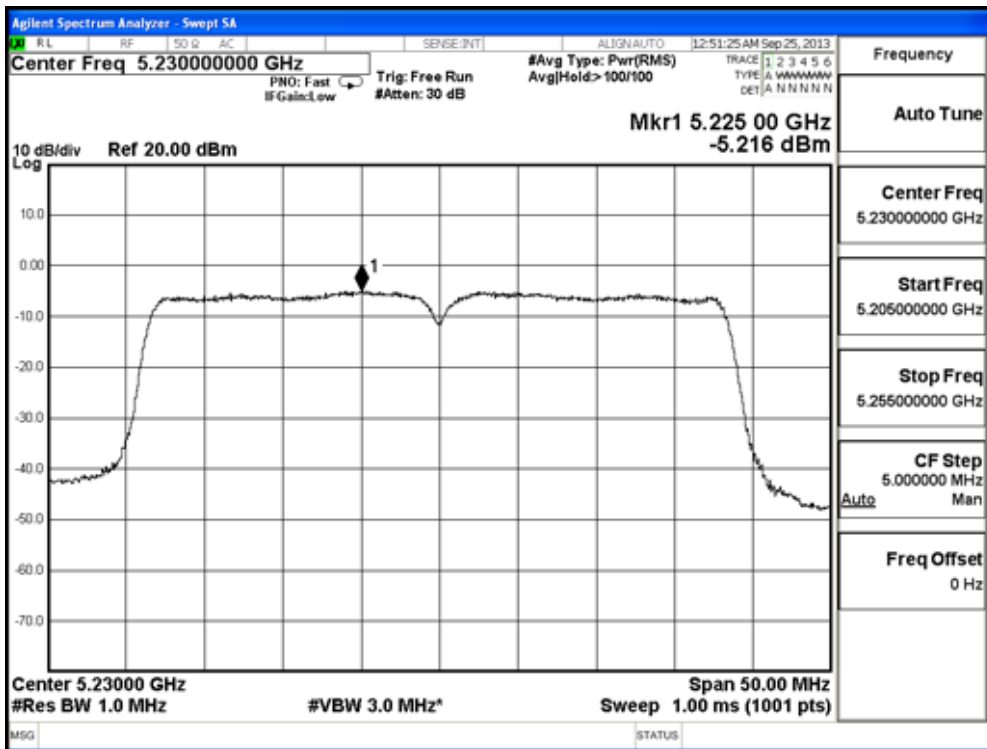
Channel 46 (5230MHz) -Ant 0



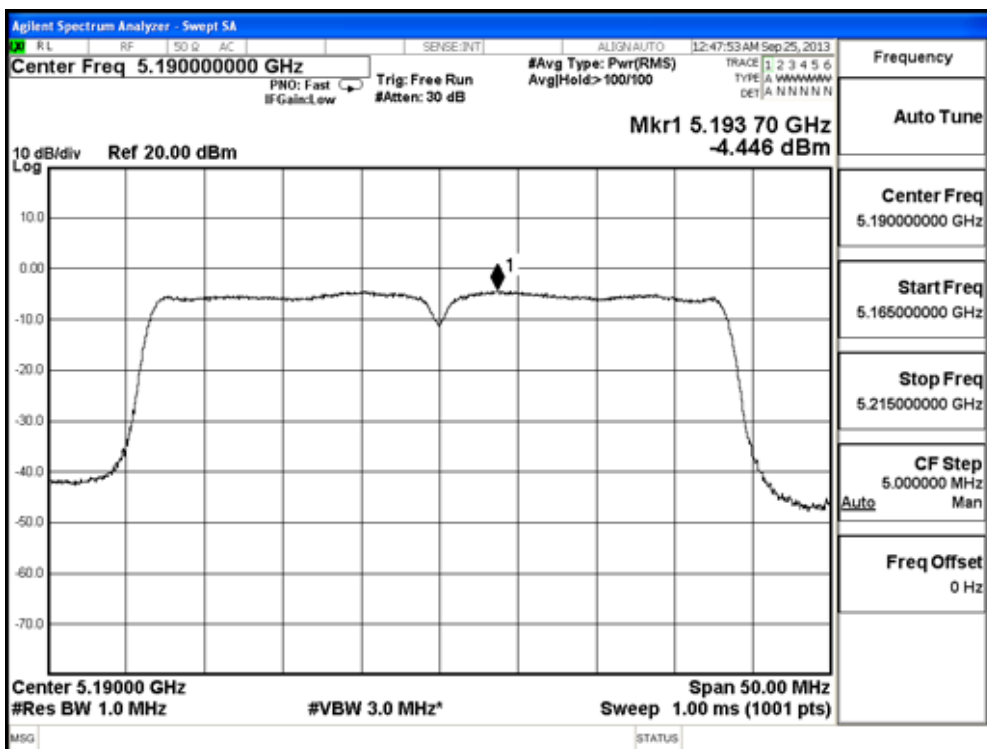
Channel 38 (5190MHz)-Ant 1



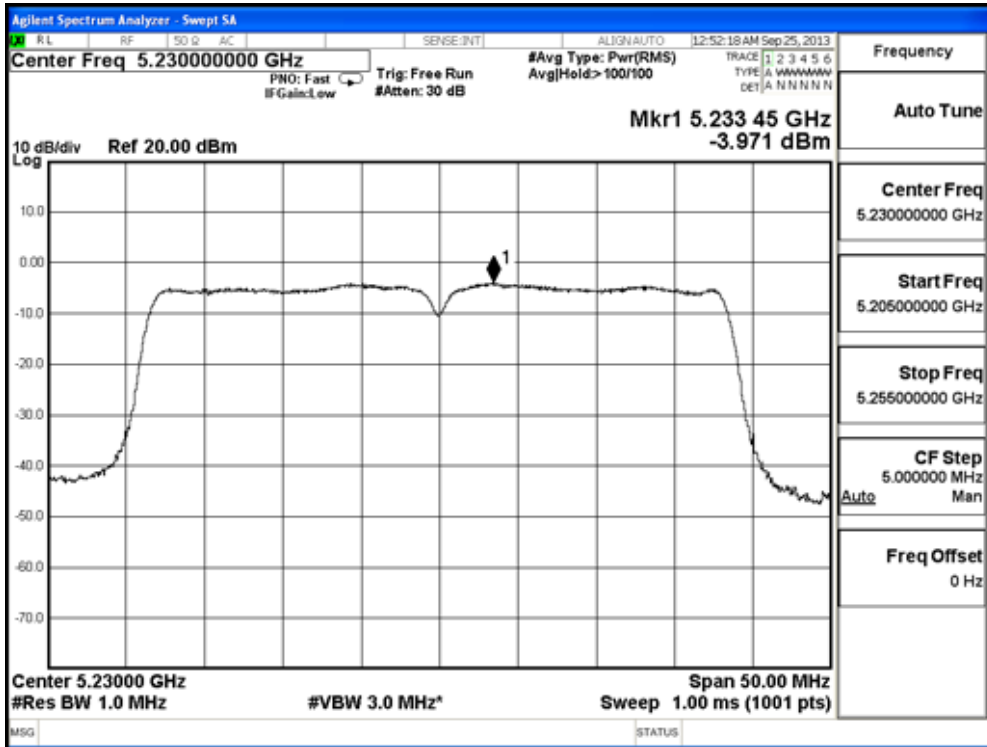
Channel 46 (5230MHz) -Ant 1



Channel 38 (5190MHz)-Ant 2



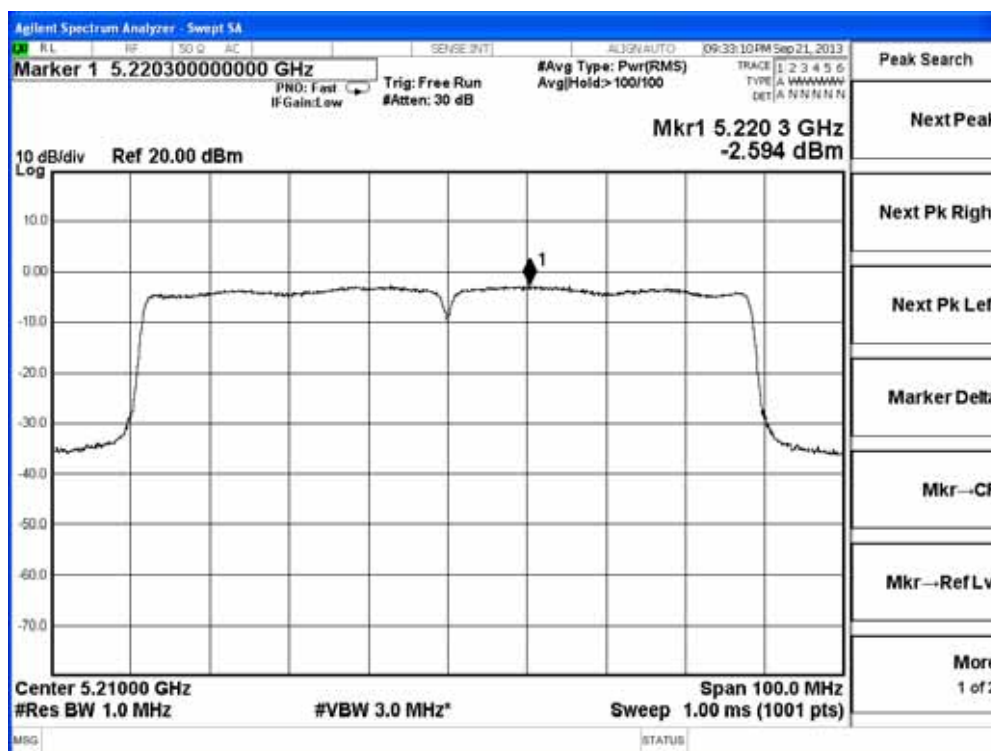
Channel 46 (5230MHz) -Ant 2



| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 6: Transmit by 802.11ac(80MHz) (Ant 0) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|-------|-------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 42 | 5210 | -2.594 | N/A | N/A | -2.594 | 3 | Pass |

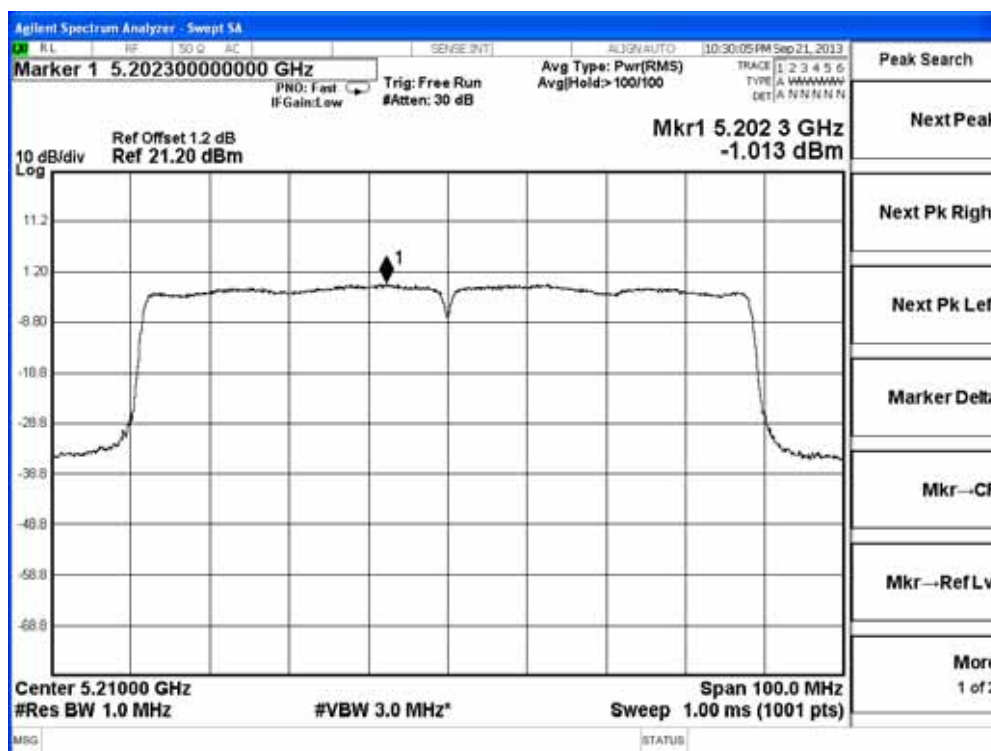
Channel 42 (5210MHz)



| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 6: Transmit by 802.11ac(80MHz) (Ant 1) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|--------|-------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 42 | 5210 | N/A | -1.013 | N/A | -1.013 | 3 | Pass |

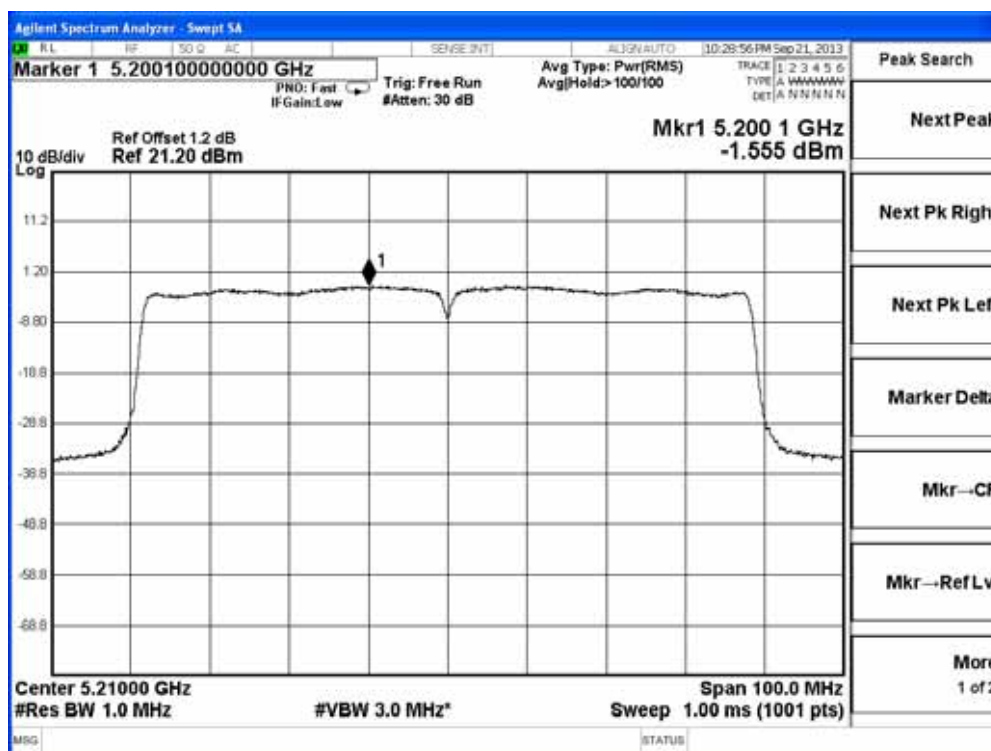
Channel 42 (5210MHz)



| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 6: Transmit by 802.11ac(80MHz) (Ant 2) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|-------|--------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 42 | 5210 | N/A | N/A | -1.555 | -1.555 | 3 | Pass |

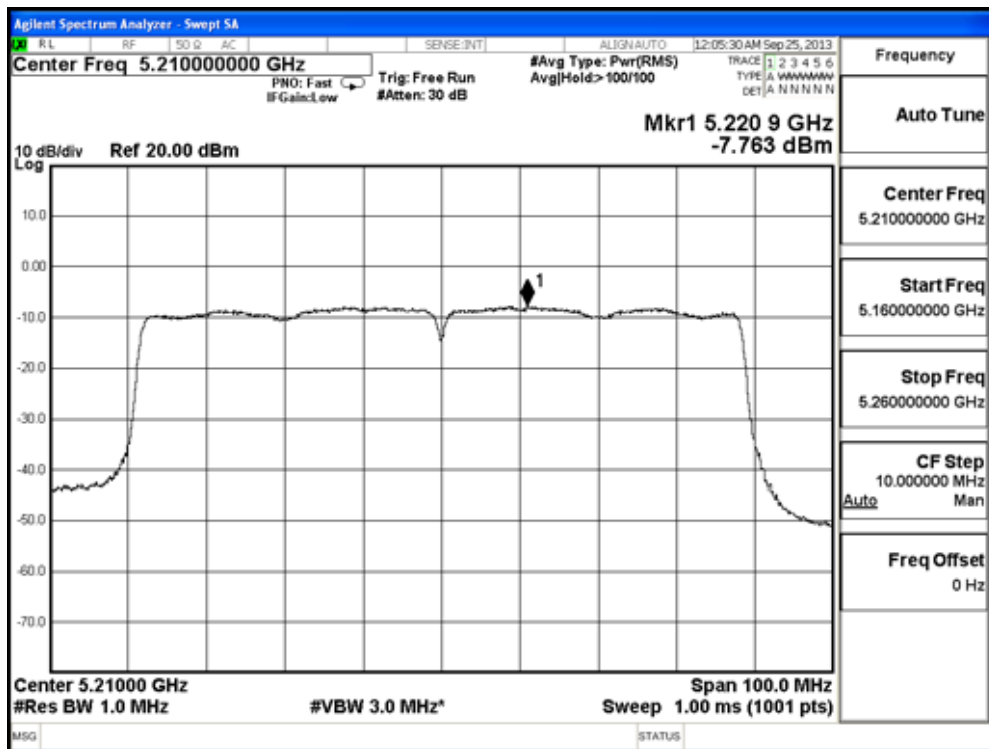
Channel 42 (5210MHz)



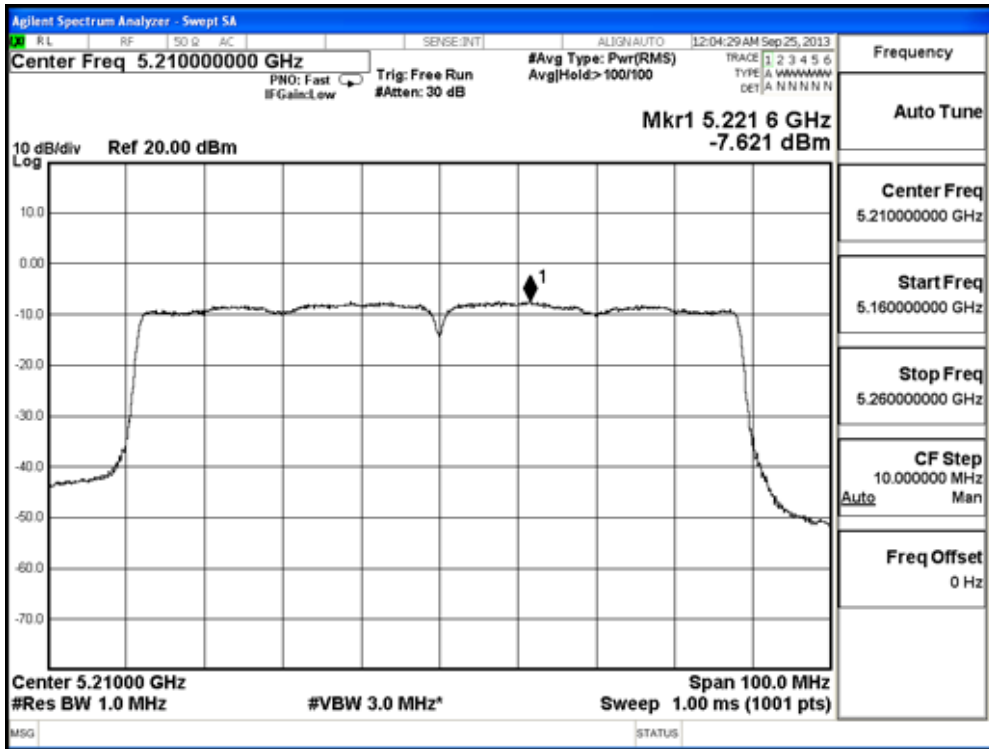
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 6: Transmit by 802.11ac(80MHz) (Ant 0+1) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|--------|-------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 42 | 5210 | -7.763 | -7.621 | N/A | -4.681 | 3 | Pass |

Channel 42 (5210MHz)-Ant 0



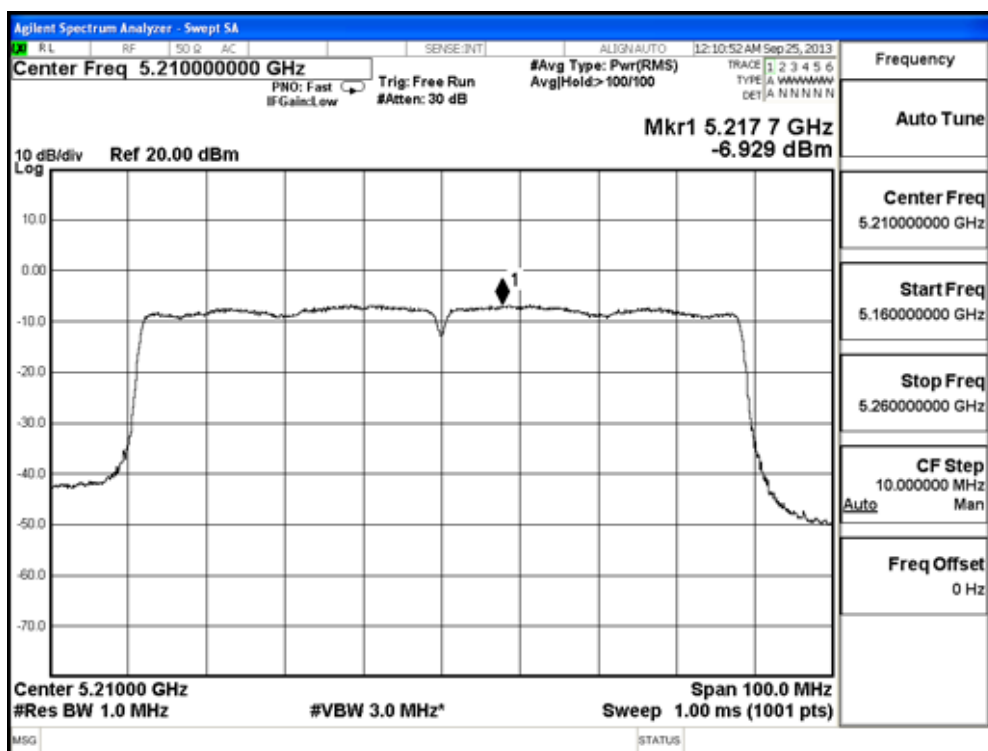
Channel 42 (5210MHz)-Ant 1



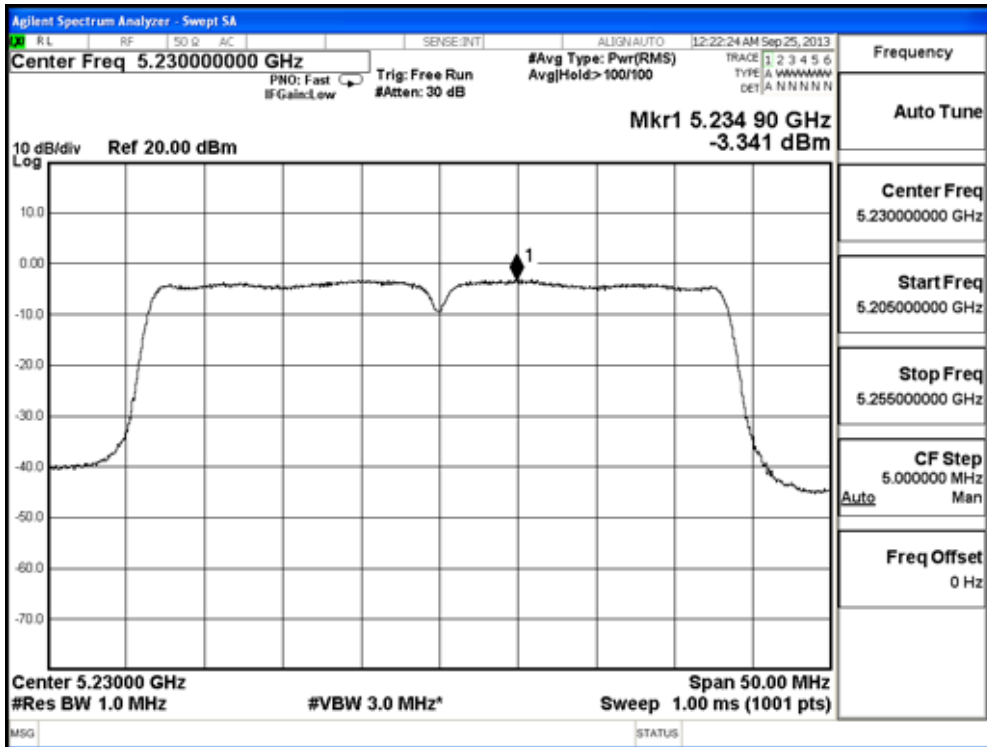
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 6: Transmit by 802.11ac(80MHz) (Ant 1+2) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|--------|--------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 42 | 5210 | N/A | -6.929 | -3.341 | -1.764 | 3 | Pass |

Channel 42 (5210MHz)-Ant 1



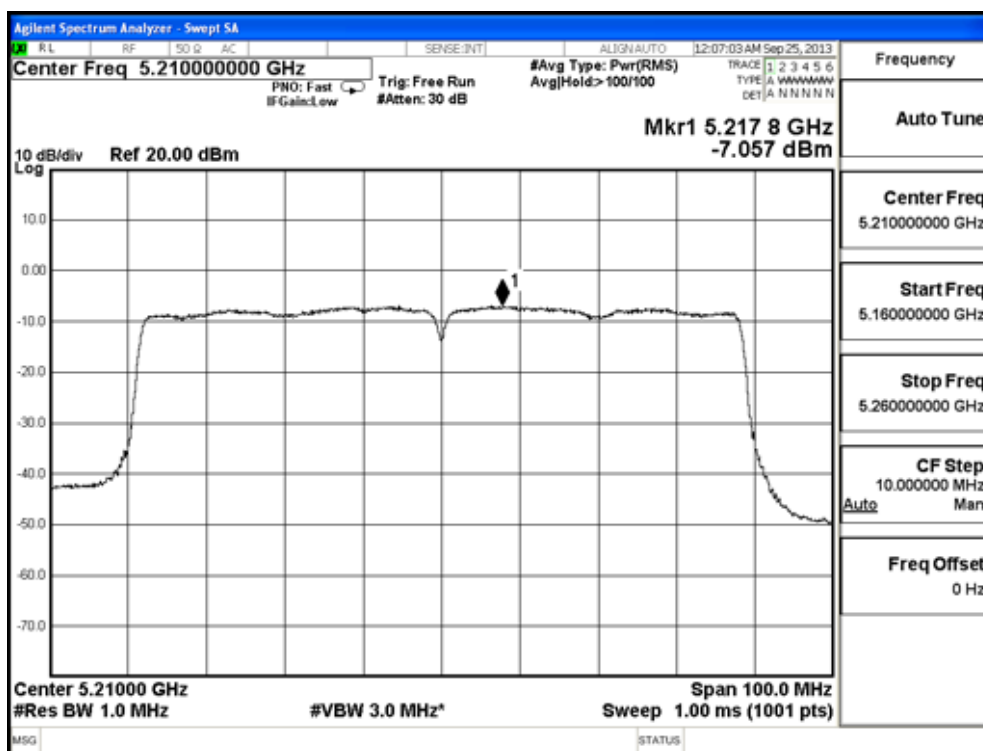
Channel 42 (5210MHz)-Ant 2



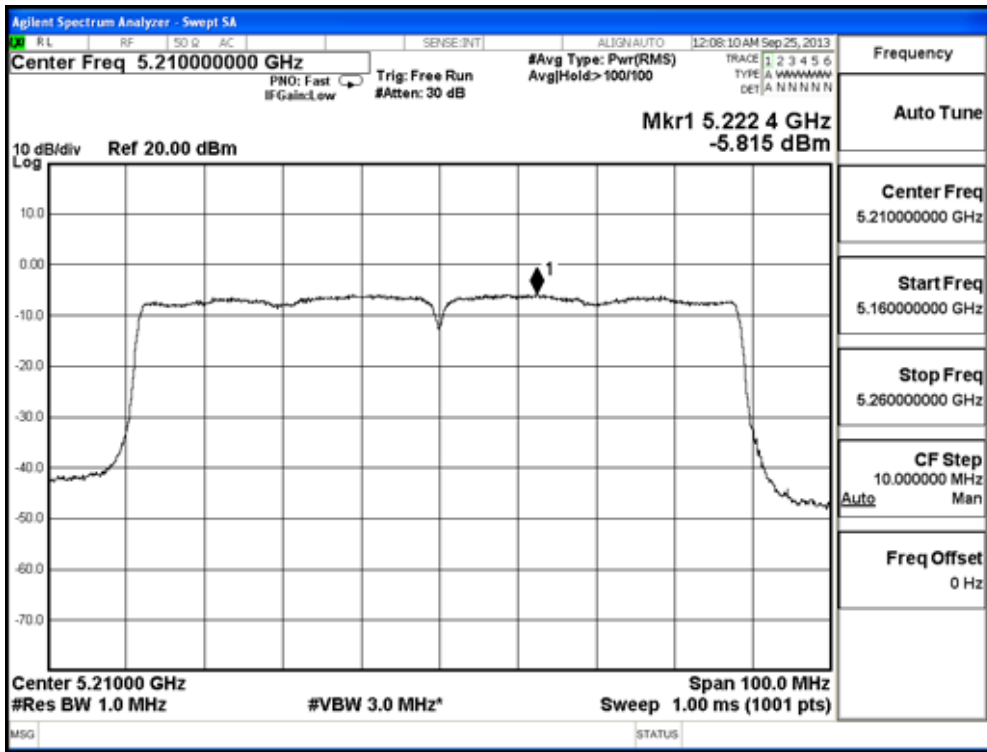
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 6: Transmit by 802.11ac(80MHz) (Ant 0+2) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|-------|--------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 42 | 5210 | -7.057 | N/A | -5.815 | -3.381 | 3 | Pass |

Channel 42 (5210MHz)-Ant 0



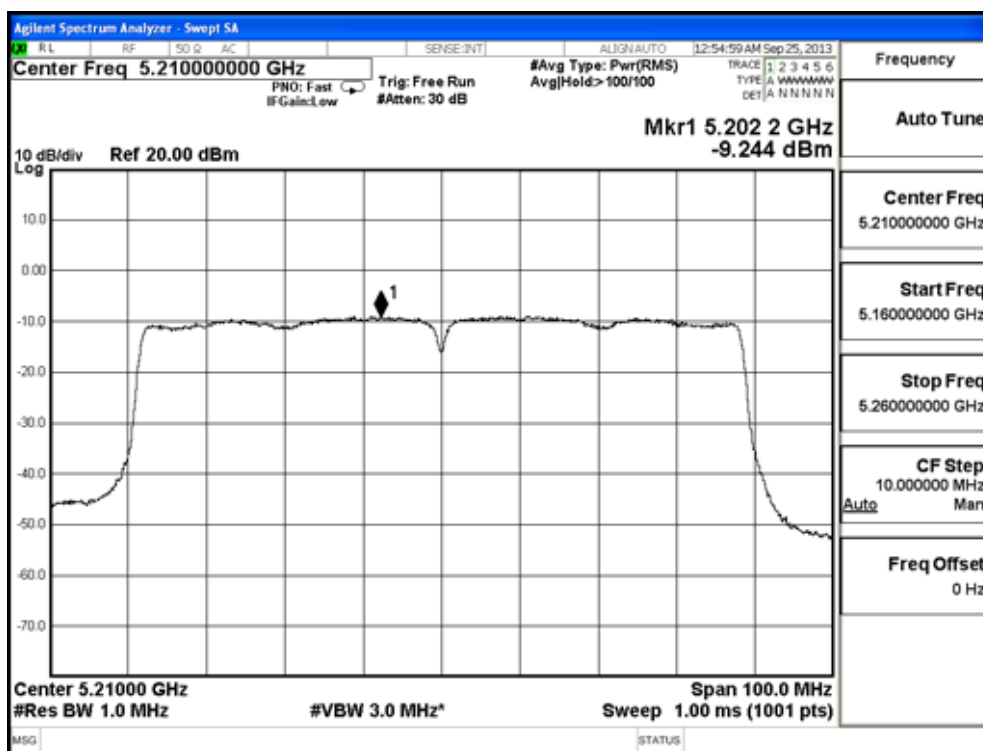
Channel 42 (5210MHz)-Ant 2



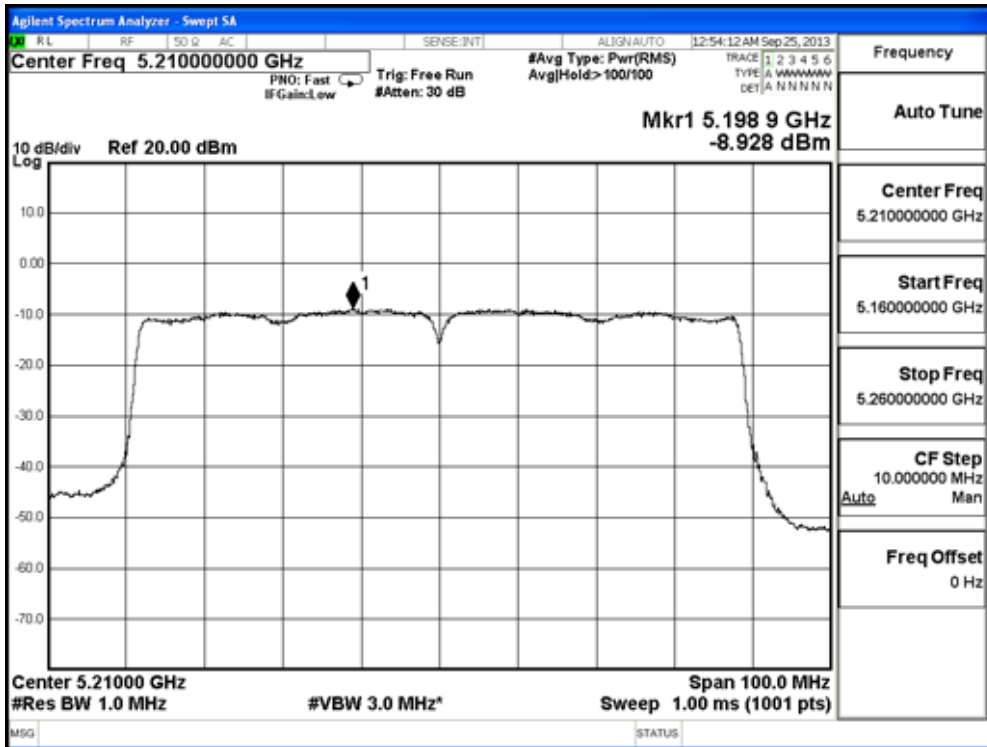
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Power Spectral Density |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 6: Transmit by 802.11ac(80MHz) (Ant 0+1+2) |

| Channel No. | Frequency (MHz) | Measurement PPSD (dBm/MHz) | | | Total PPSD (dBm/MHz) | Limit (dBm/MHz) | Result |
|-------------|-----------------|----------------------------|--------|--------|----------------------|-----------------|--------|
| | | Ant 0 | Ant 1 | Ant 2 | | | |
| 42 | 5210 | -9.244 | -8.928 | -7.914 | -3.886 | 3 | Pass |

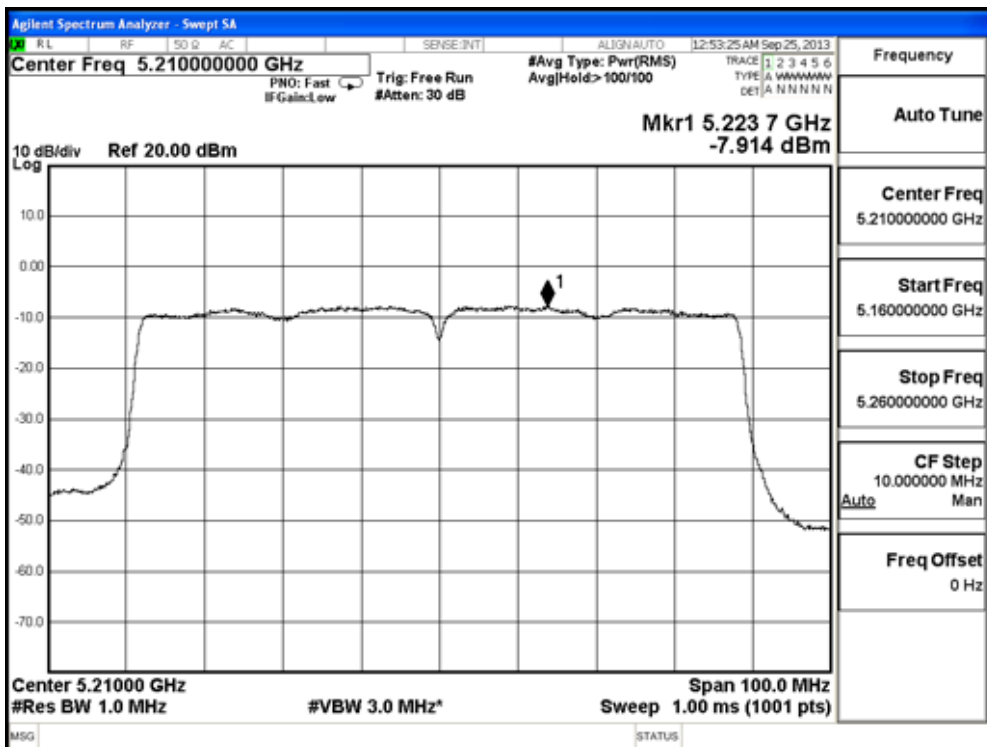
Channel 42 (5210MHz)-Ant 0



Channel 42 (5210MHz)-Ant 1



Channel 42 (5210MHz)-Ant 2



9. Peak Excursion

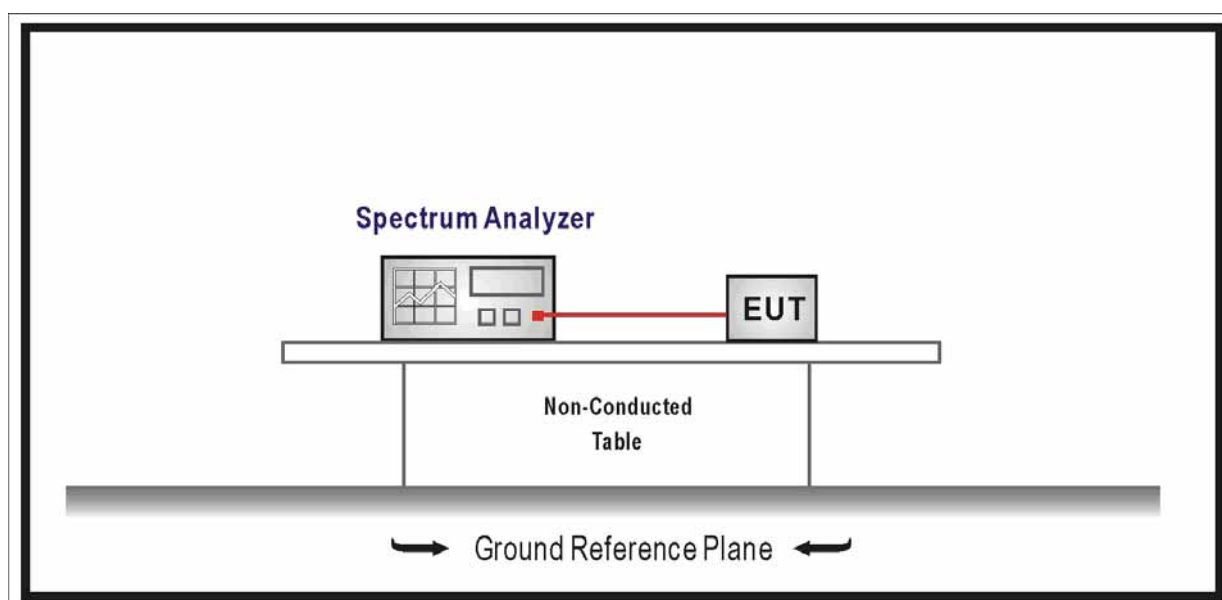
9.1. Test Equipment

Peak Excursion / TR-8

| Instrument | Manufacturer | Type No. | Serial No. | Cal. Date |
|----------------------------|--------------|----------|------------|------------|
| Spectrum Analyzer | Agilent | E4446A | MY45300103 | 2014.01.21 |
| Temperature/Humidity Meter | zhicheng | ZC1-2 | TR8-TH | 2014.05.07 |

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

9.2. Test Setup



9.3. Limit

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

9.4. Test Procedure

The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

Set the spectrum analyzer span to view the entire emission bandwidth. The largest difference between the following two traces must be ≤ 13 dB for all frequencies across the emission bandwidth.

- 1st Trace: Set RBW = 1 MHz, VBW ≥ 3 MHz with peak detector and max-hold settings.
- 2nd Trace: The result is the peak value of the PPSD.

9.5. Uncertainty

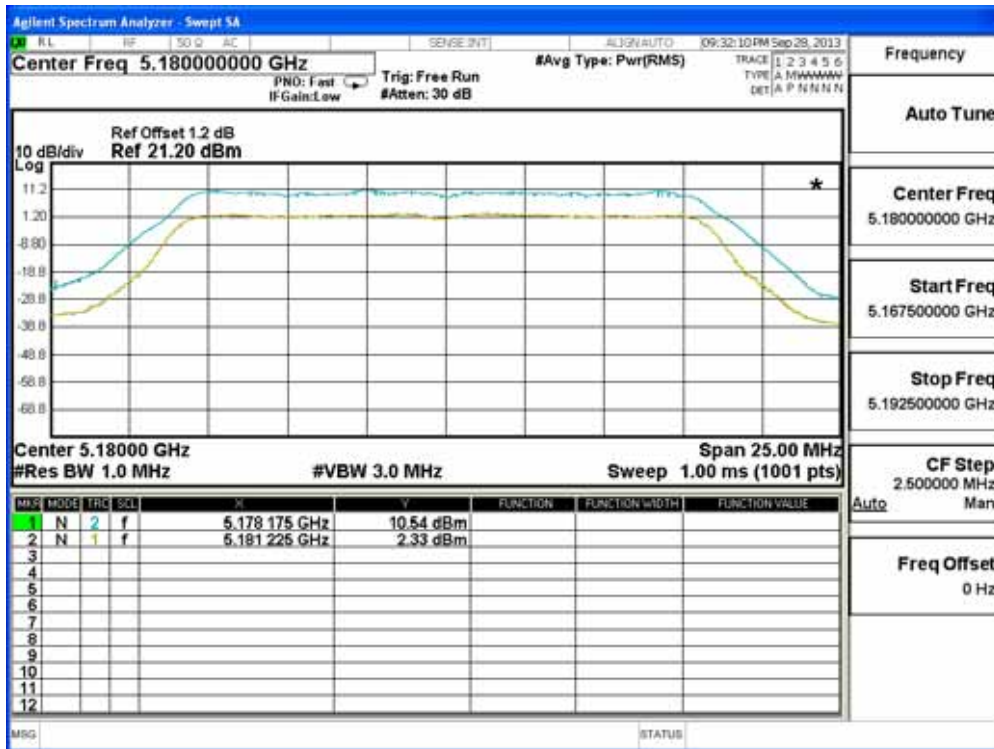
The measurement uncertainty is defined as ± 1.27 dB

9.6. Test Result

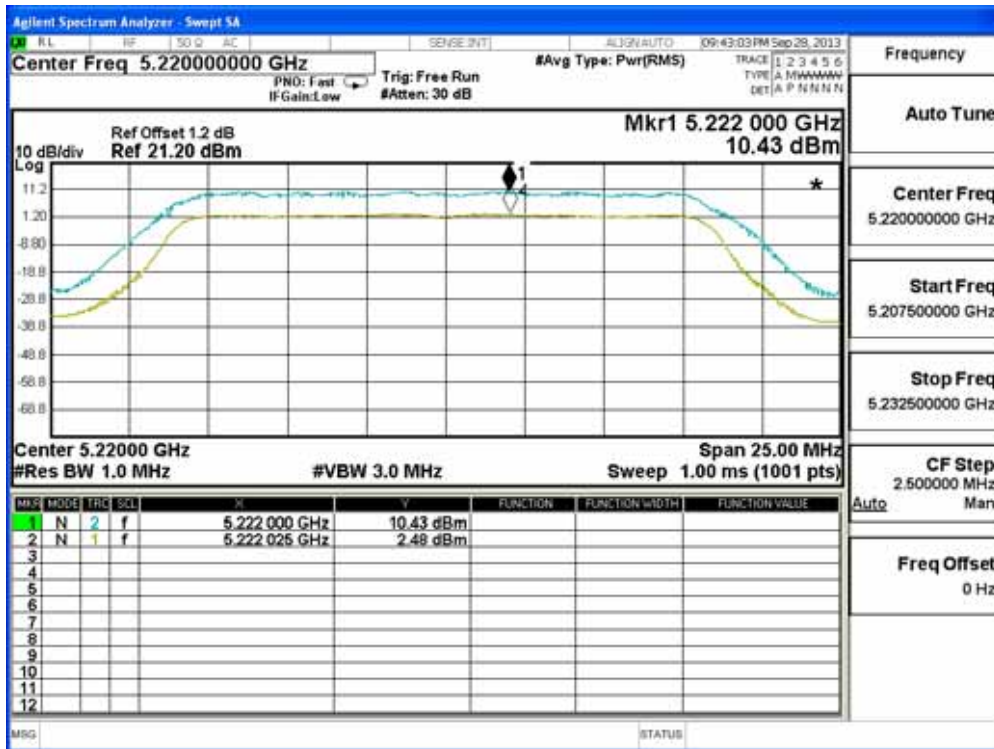
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 1: Transmit by 802.11a (Ant 0) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 36 | 5180 | 8.21 | 13 | Pass |
| 44 | 5220 | 7.95 | 13 | Pass |
| 48 | 5240 | 8.04 | 13 | Pass |

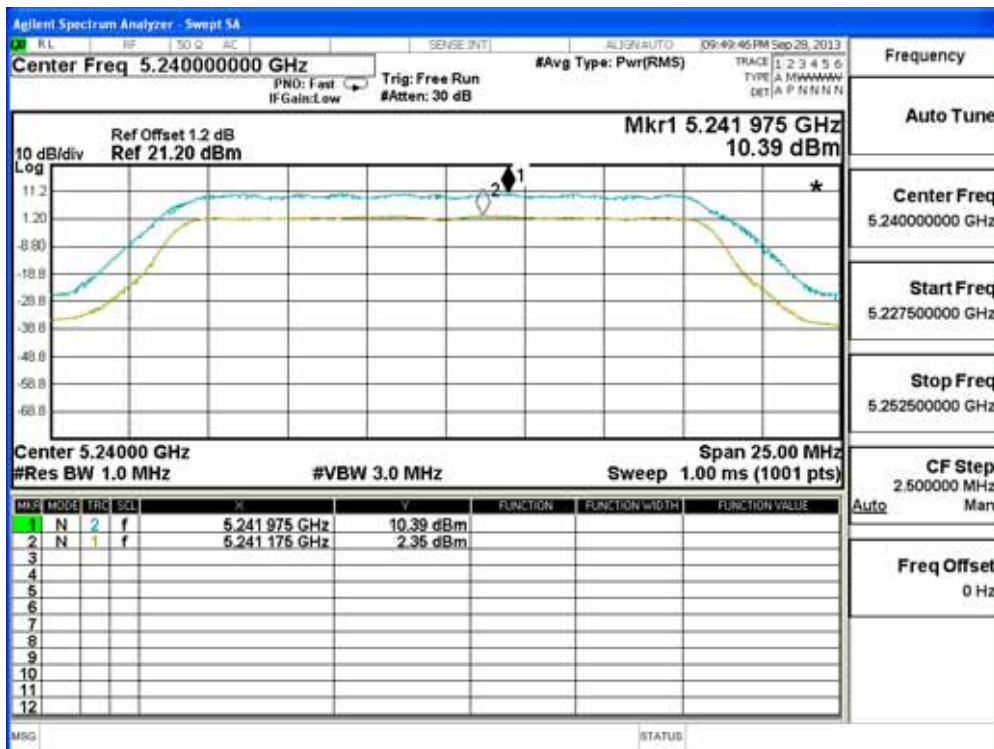
Channel 36 (5180MHz)



Channel 44 (5220MHz)



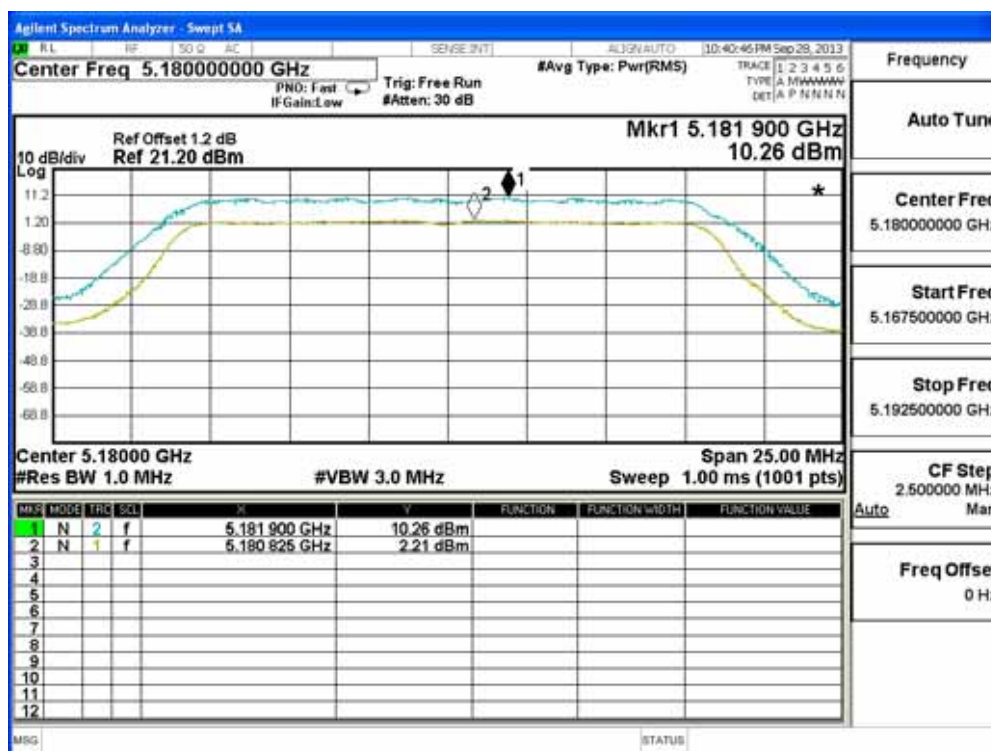
Channel 48 (5240MHz)



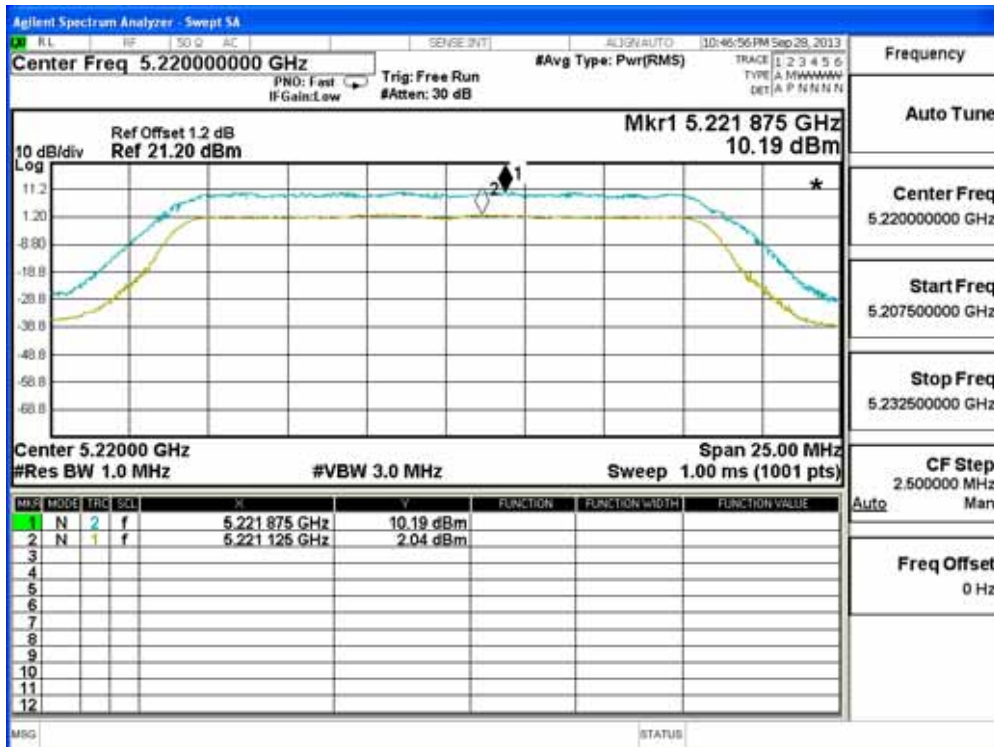
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 1: Transmit by 802.11a (Ant 1) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 36 | 5180 | 8.05 | 13 | Pass |
| 44 | 5220 | 8.15 | 13 | Pass |
| 48 | 5240 | 7.99 | 13 | Pass |

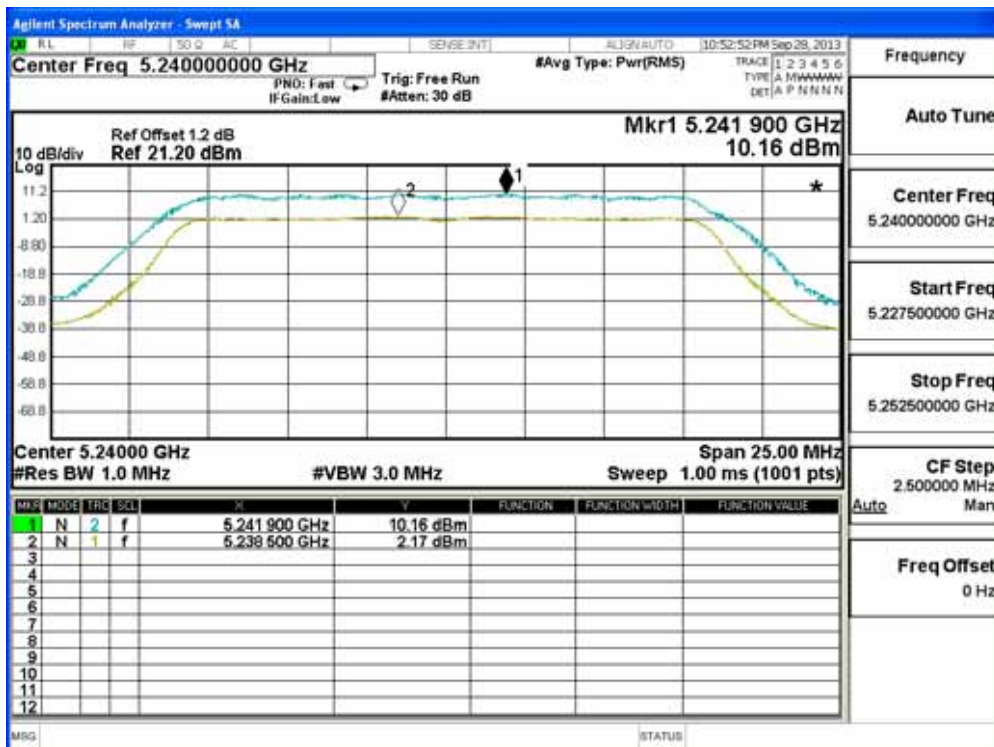
Channel 36 (5180MHz)



Channel 44 (5220MHz)



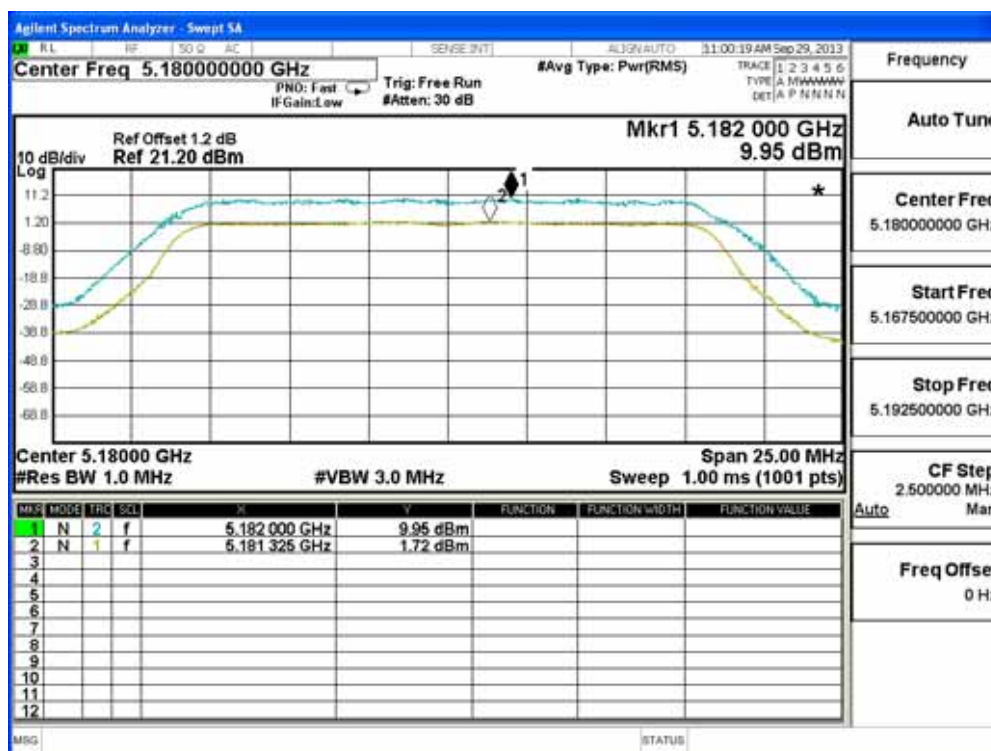
Channel 48 (5240MHz)



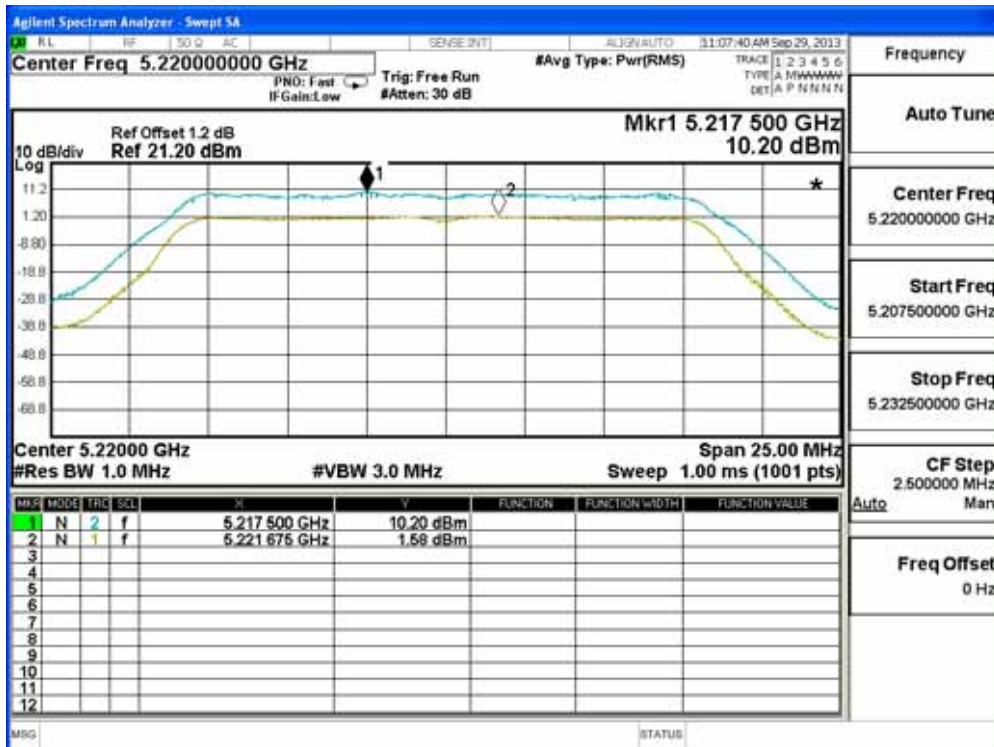
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 1: Transmit by 802.11a (Ant 2) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 36 | 5180 | 8.23 | 13 | Pass |
| 44 | 5220 | 8.62 | 13 | Pass |
| 48 | 5240 | 8.06 | 13 | Pass |

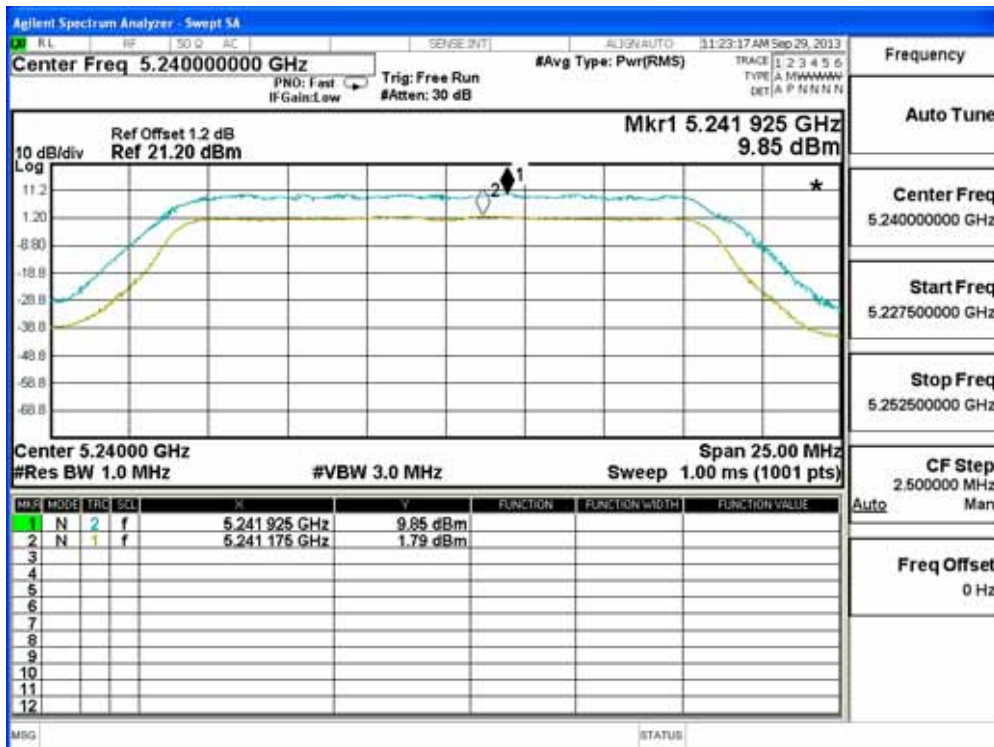
Channel 36 (5180MHz)



Channel 44 (5220MHz)



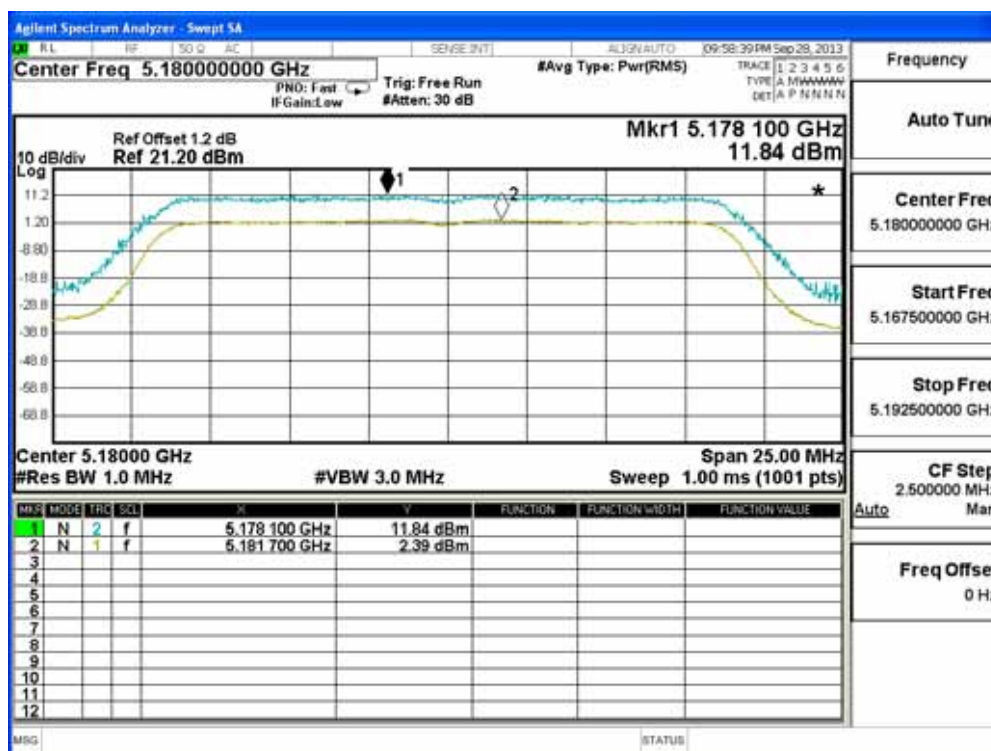
Channel 48 (5240MHz)



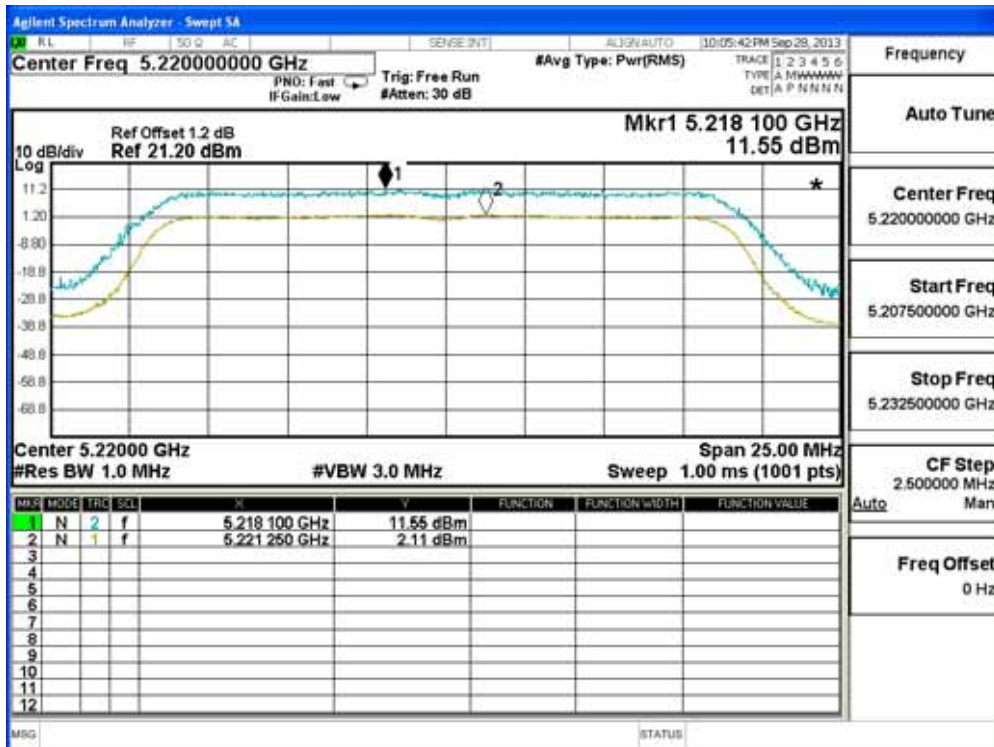
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 2: Transmit by 802.11n(20MHz) (Ant 0) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 36 | 5180 | 9.45 | 13 | Pass |
| 44 | 5220 | 9.44 | 13 | Pass |
| 48 | 5240 | 9.70 | 13 | Pass |

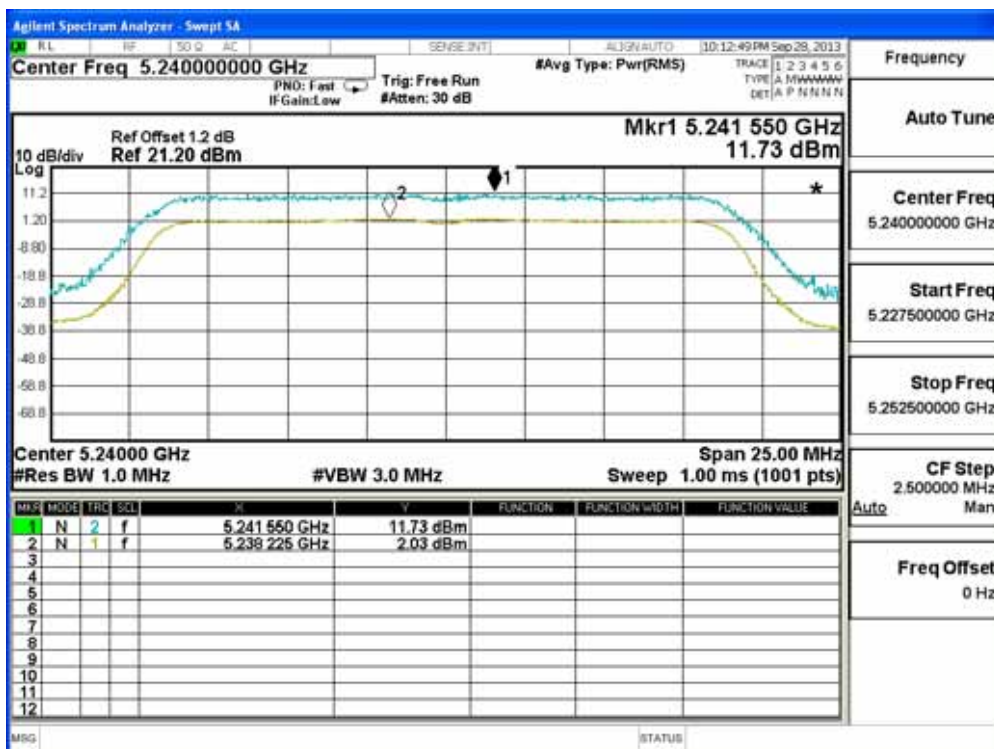
Channel 36 (5180MHz)



Channel 44 (5220MHz)



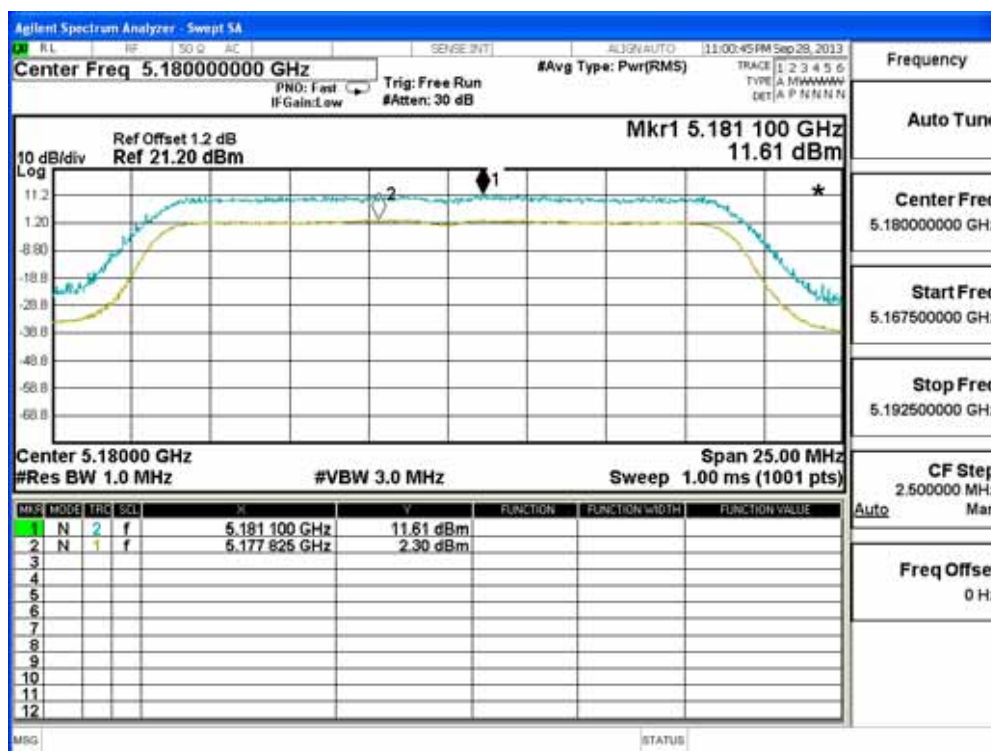
Channel 48 (5240MHz)



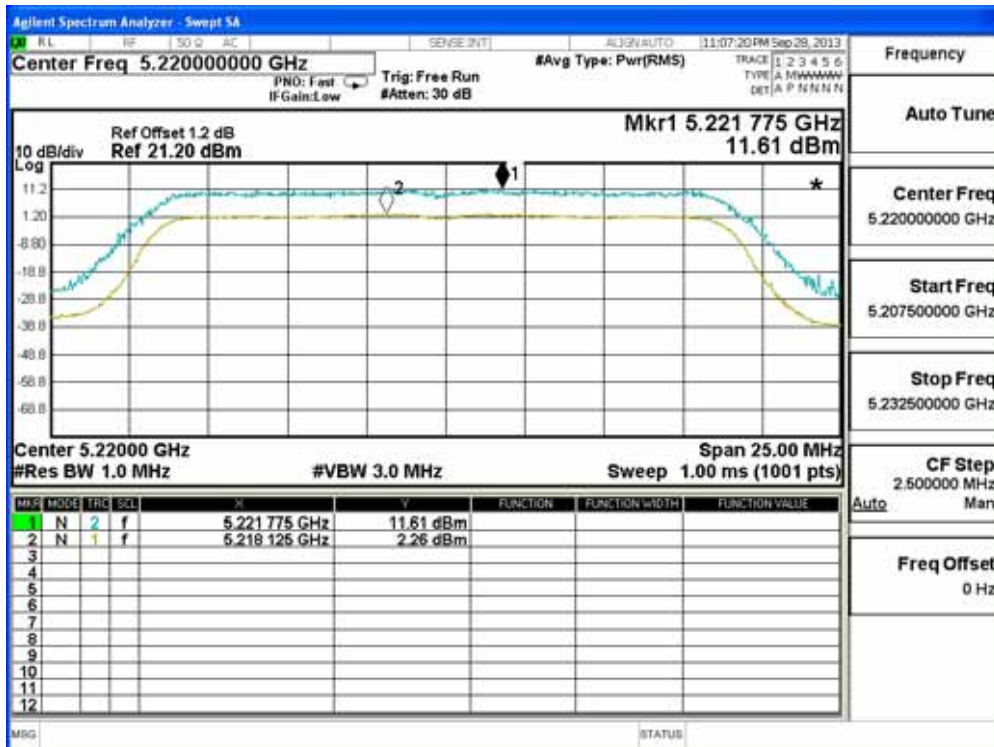
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 2: Transmit by 802.11n(20MHz) (Ant 1) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 36 | 5180 | 9.31 | 13 | Pass |
| 44 | 5220 | 9.35 | 13 | Pass |
| 48 | 5240 | 9.36 | 13 | Pass |

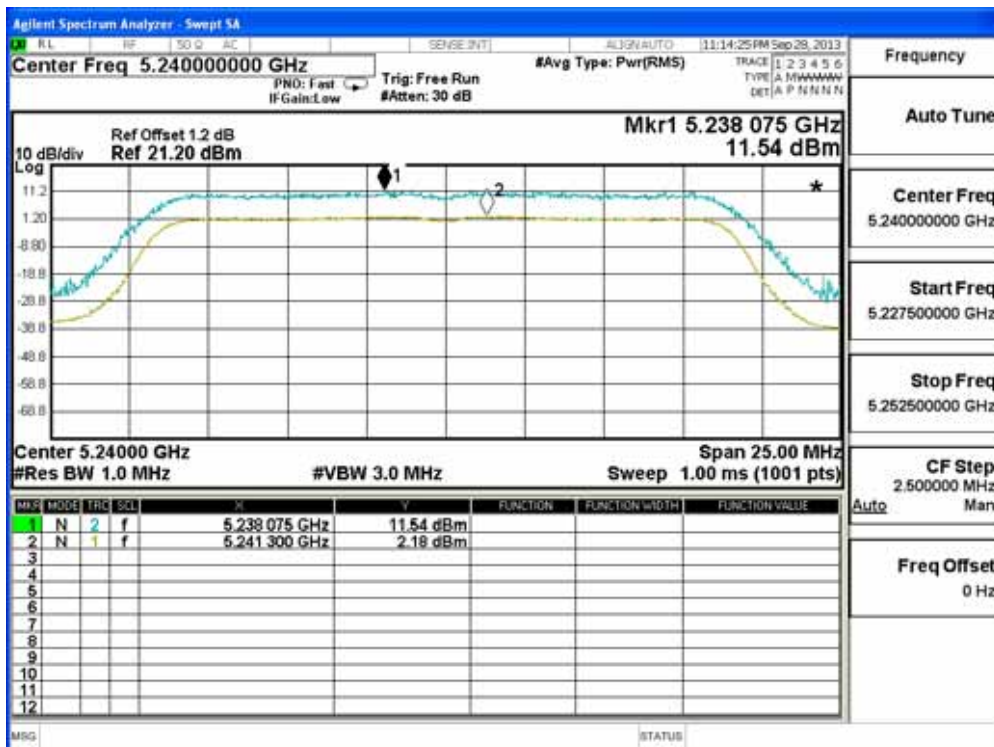
Channel 36 (5180MHz)



Channel 44 (5220MHz)



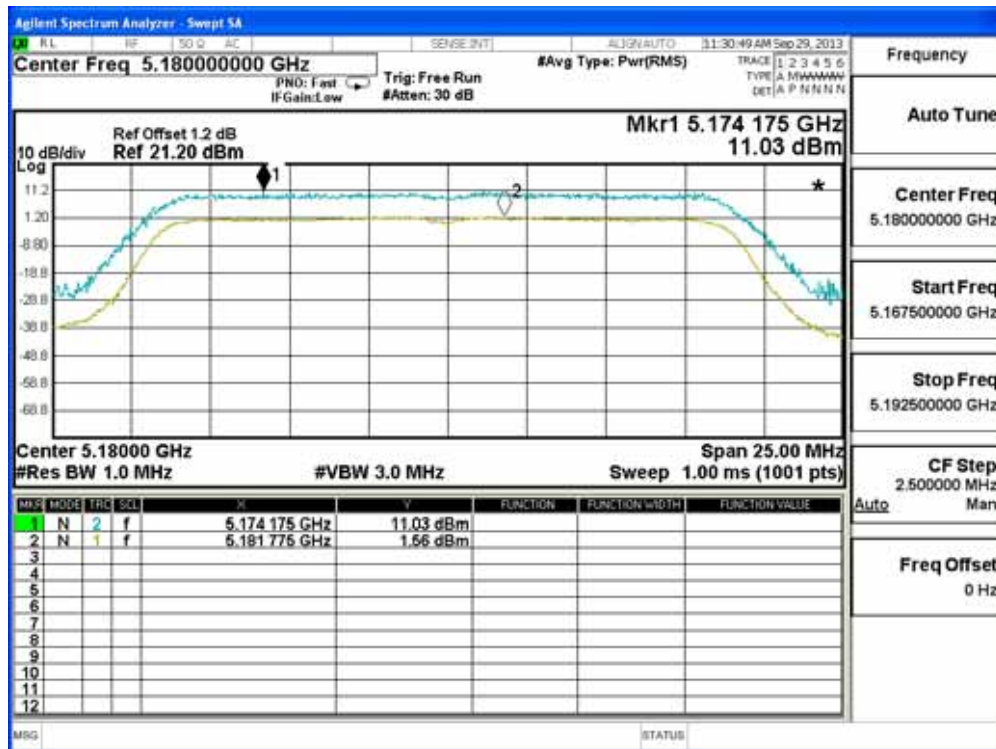
Channel 48 (5240MHz)



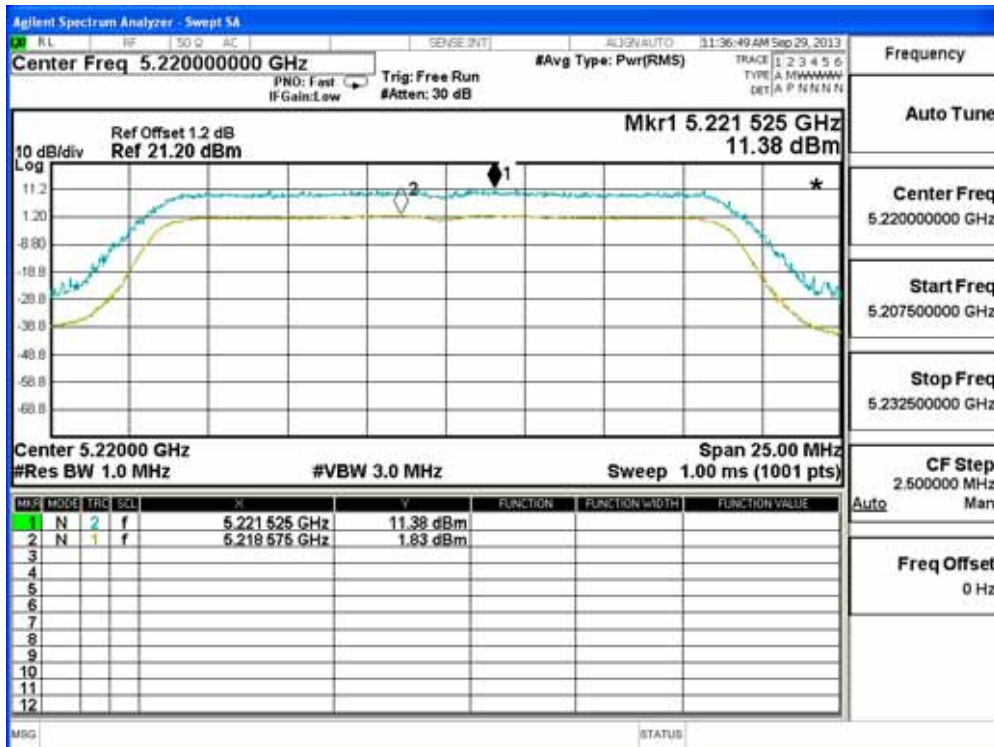
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 2: Transmit by 802.11n(20MHz) (Ant 2) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 36 | 5180 | 9.47 | 13 | Pass |
| 44 | 5220 | 9.55 | 13 | Pass |
| 48 | 5240 | 9.43 | 13 | Pass |

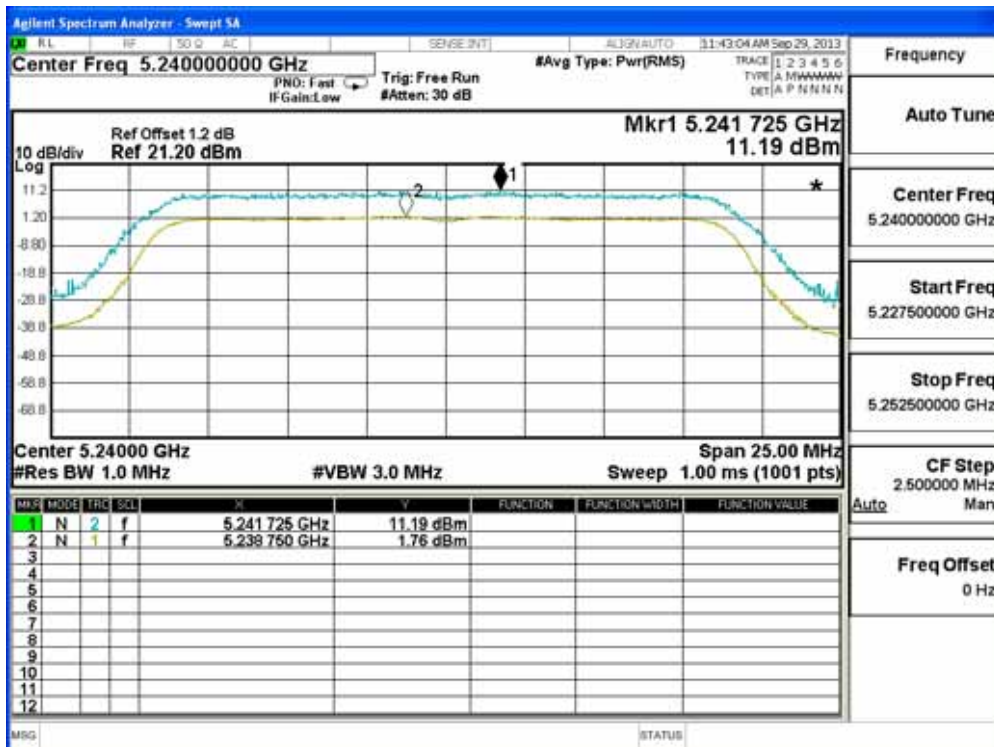
Channel 36 (5180MHz)



Channel 44 (5220MHz)



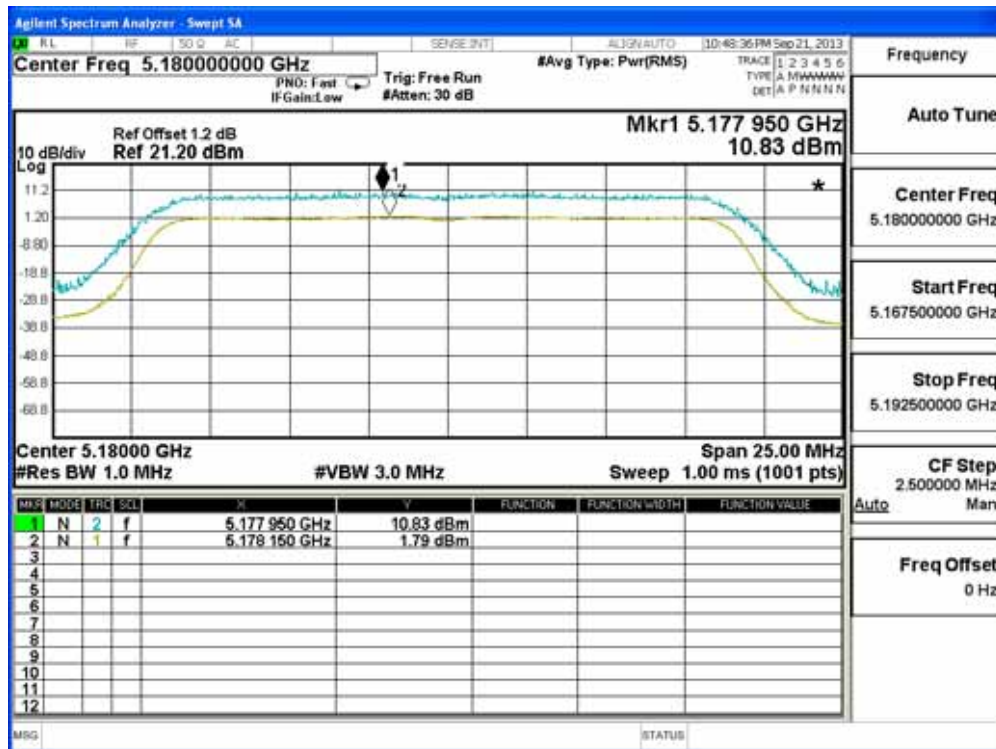
Channel 48 (5240MHz)



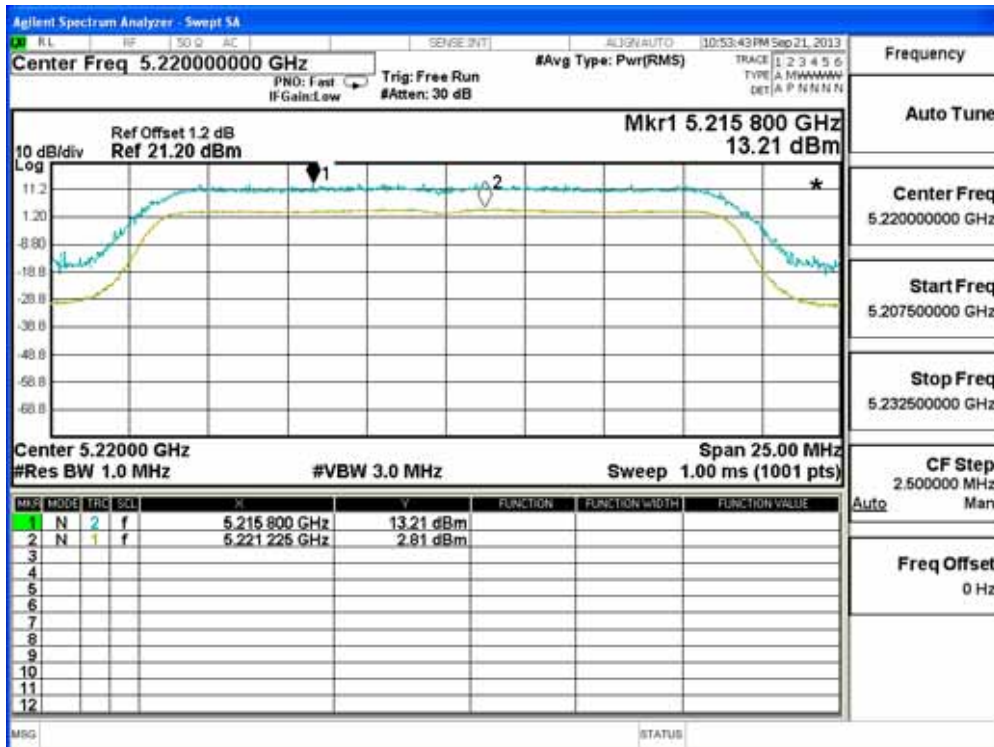
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 3: Transmit by 802.11ac(20MHz) (Ant 0) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 36 | 5180 | 9.04 | 13 | Pass |
| 44 | 5220 | 10.40 | 13 | Pass |
| 48 | 5240 | 10.49 | 13 | Pass |

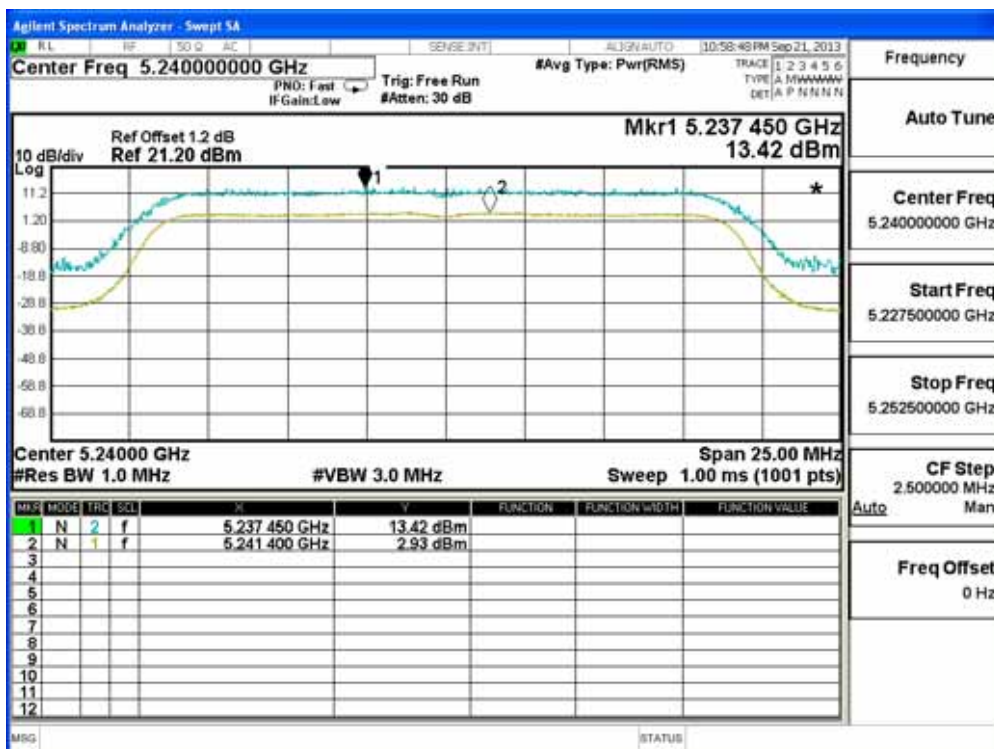
Channel 36 (5180MHz)



Channel 44 (5220MHz)



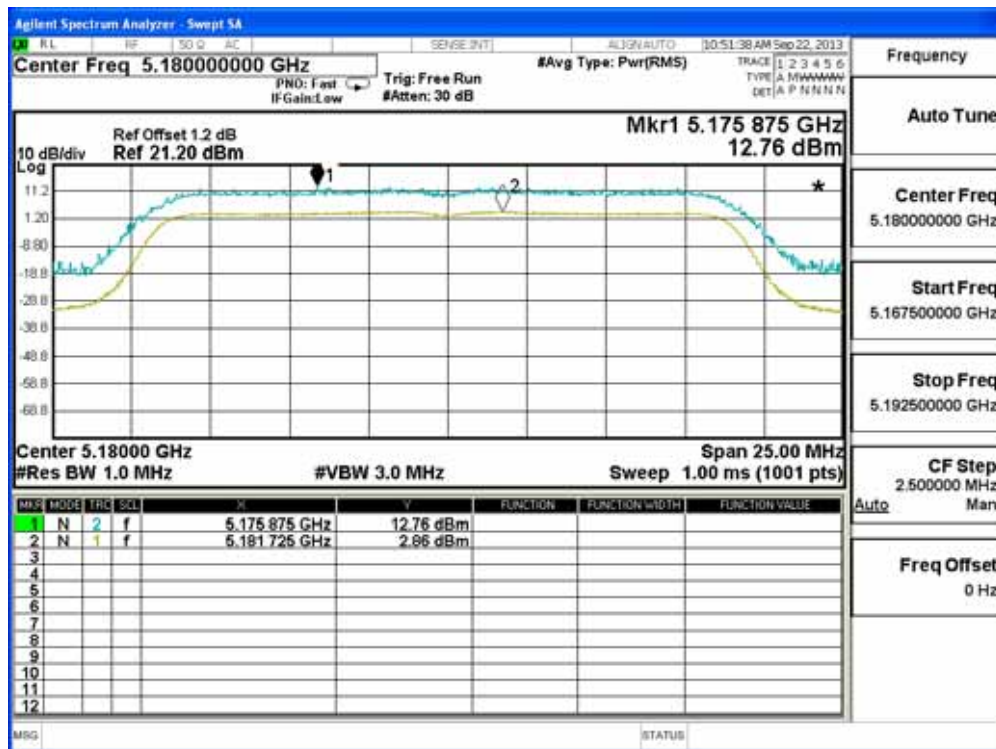
Channel 48 (5240MHz)



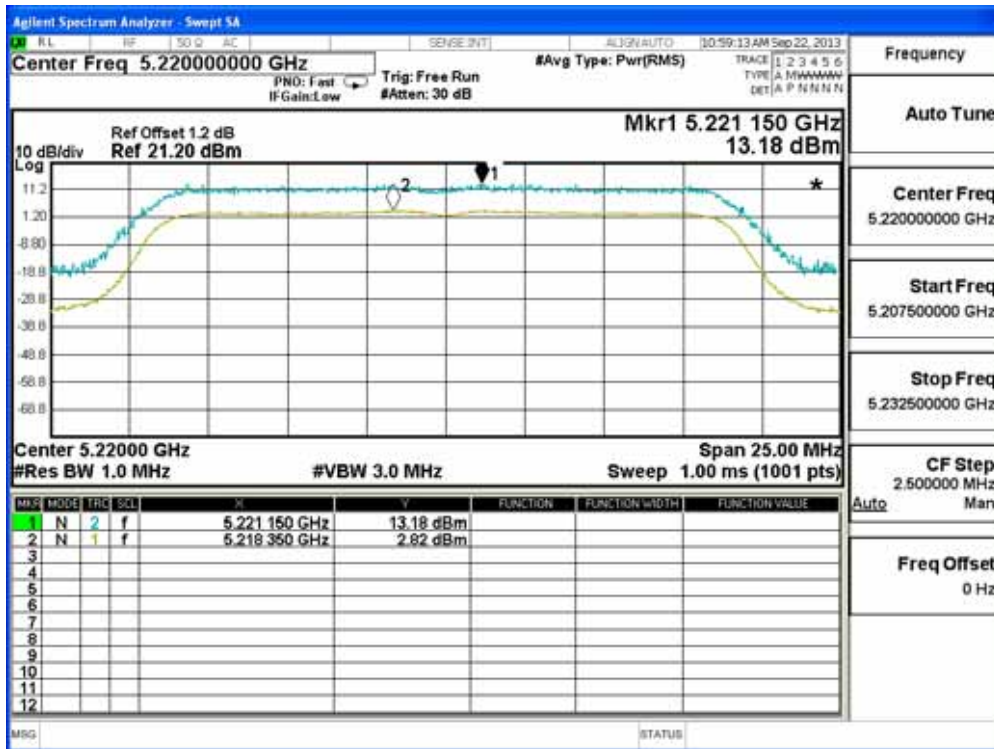
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 3: Transmit by 802.11ac(20MHz) (Ant 1) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 36 | 5180 | 9.90 | 13 | Pass |
| 44 | 5220 | 10.36 | 13 | Pass |
| 48 | 5240 | 9.99 | 13 | Pass |

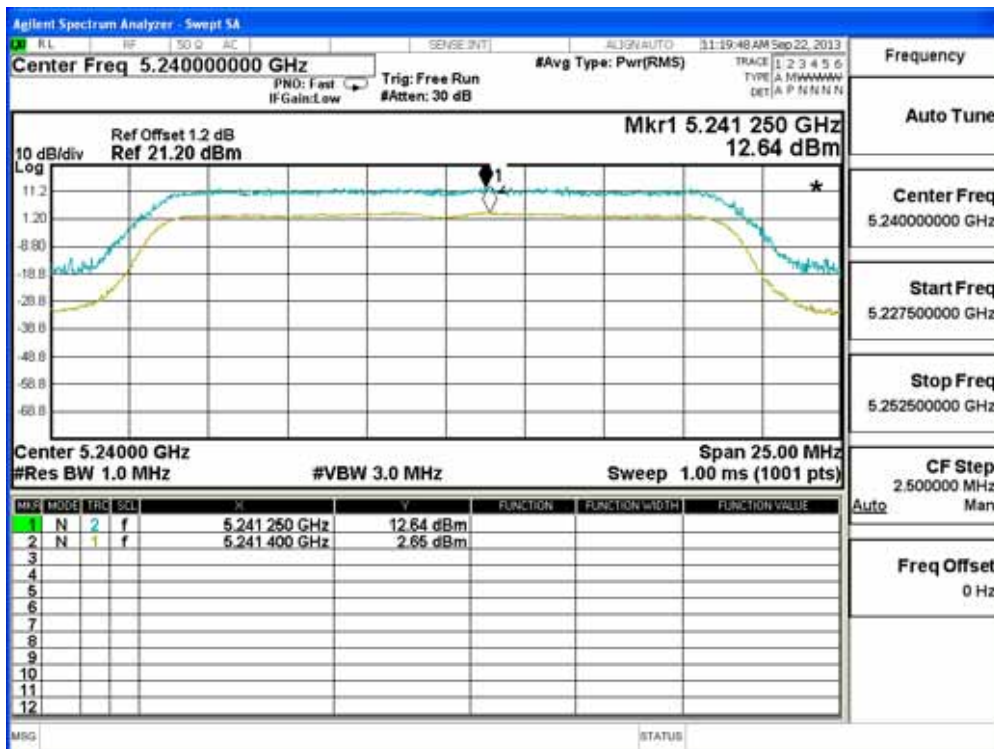
Channel 36 (5180MHz)



Channel 44 (5220MHz)



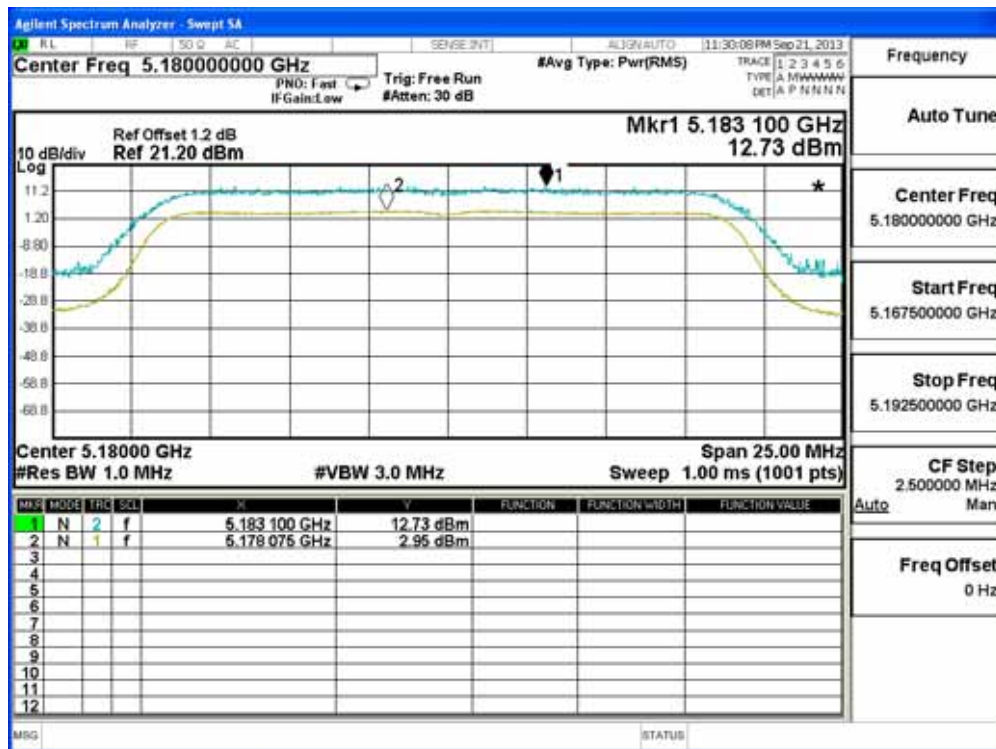
Channel 48 (5240MHz)



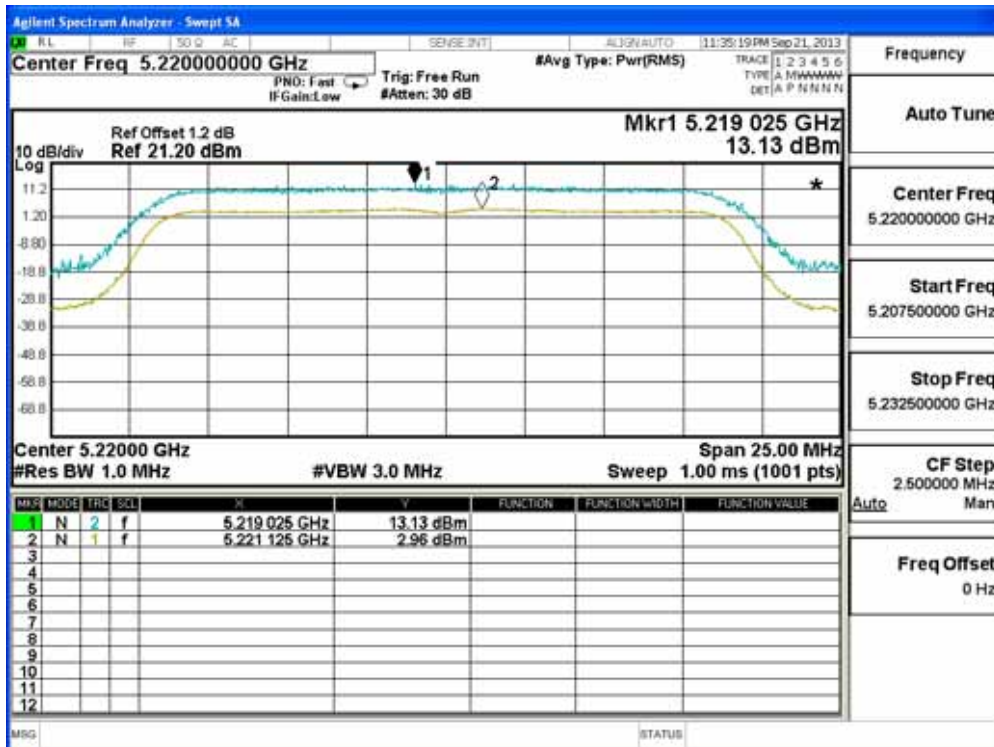
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 3: Transmit by 802.11ac(20MHz) (Ant 2) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 36 | 5180 | 9.78 | 13 | Pass |
| 44 | 5220 | 10.17 | 13 | Pass |
| 48 | 5240 | 9.96 | 13 | Pass |

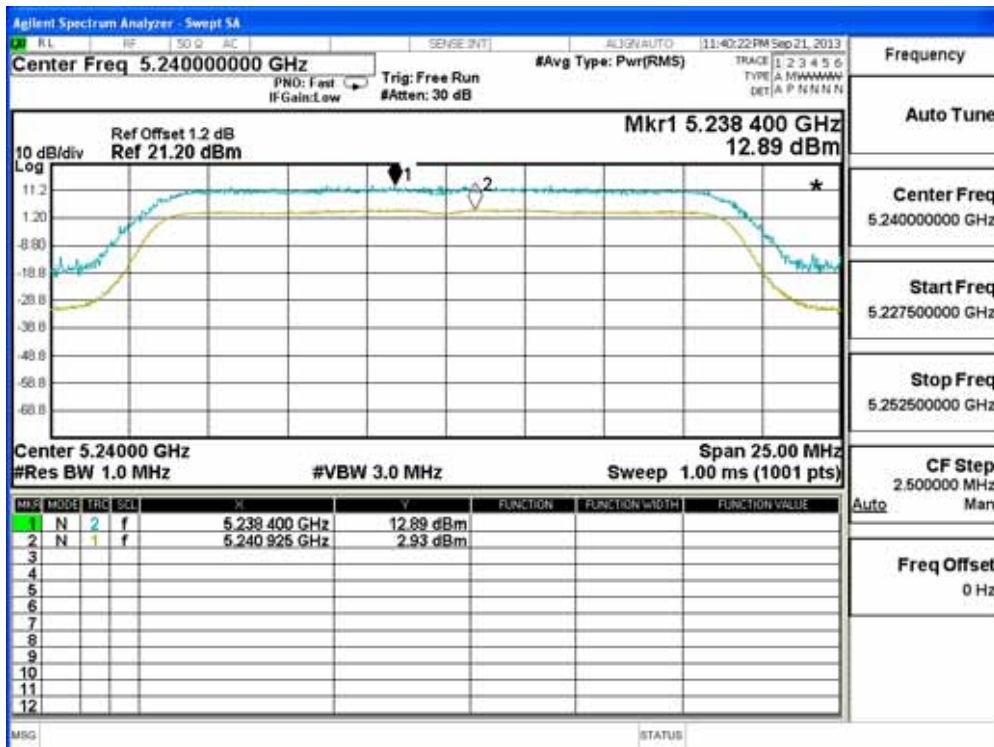
Channel 36 (5180MHz)



Channel 44 (5220MHz)



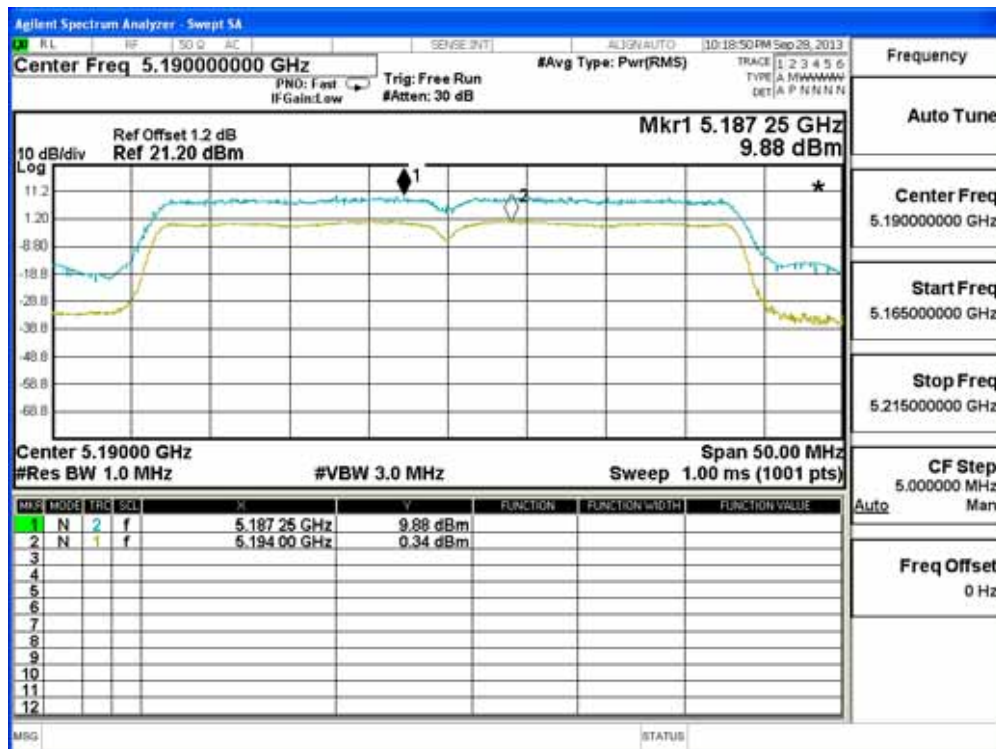
Channel 48 (5240MHz)



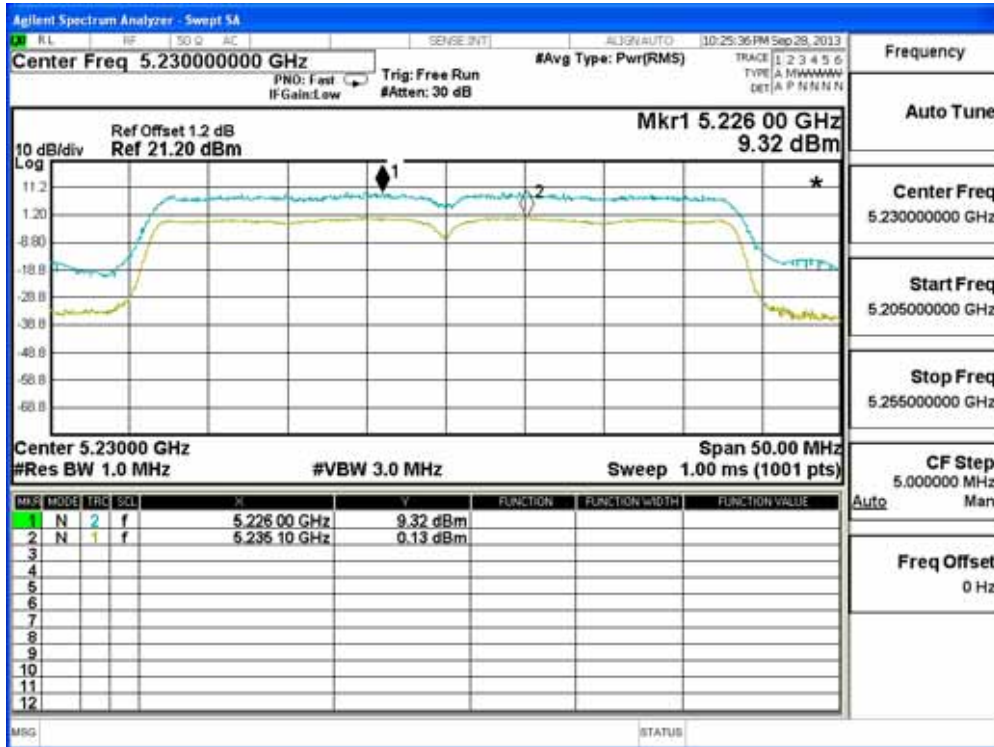
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 4: Transmit by 802.11n(40MHz) (Ant 0) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 38 | 5190 | 9.54 | 13 | Pass |
| 46 | 5230 | 9.19 | 13 | Pass |

Channel 38 (5190MHz)



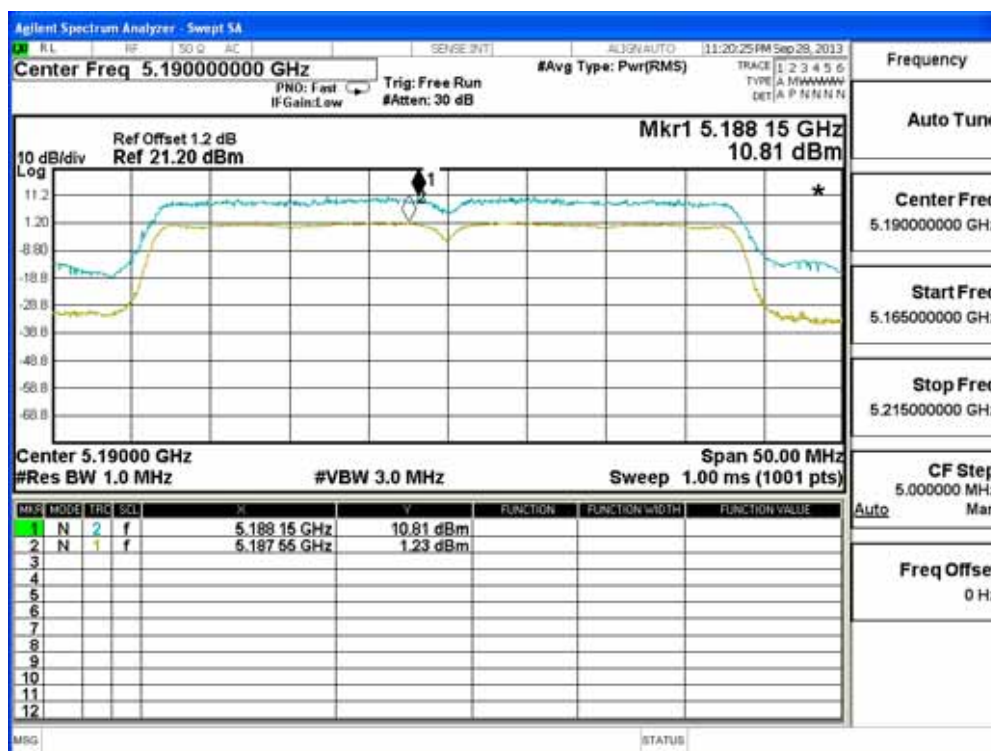
Channel 46 (5230MHz)



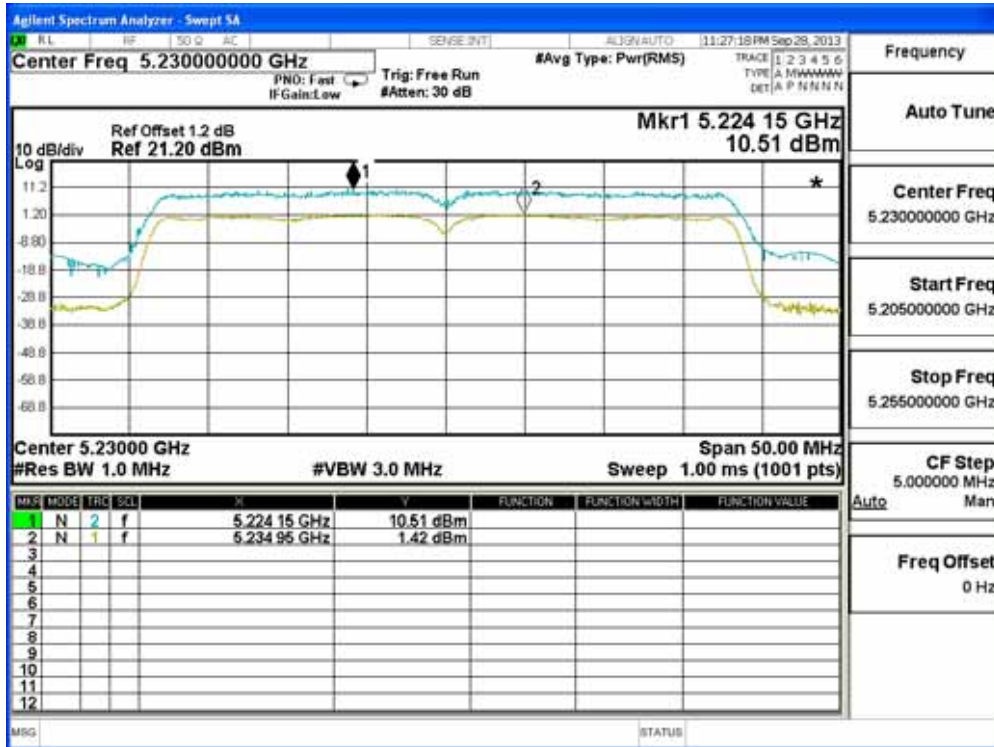
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 4: Transmit by 802.11n(40MHz) (Ant 1) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 38 | 5190 | 9.58 | 13 | Pass |
| 46 | 5230 | 9.09 | 13 | Pass |

Channel 38 (5190MHz)



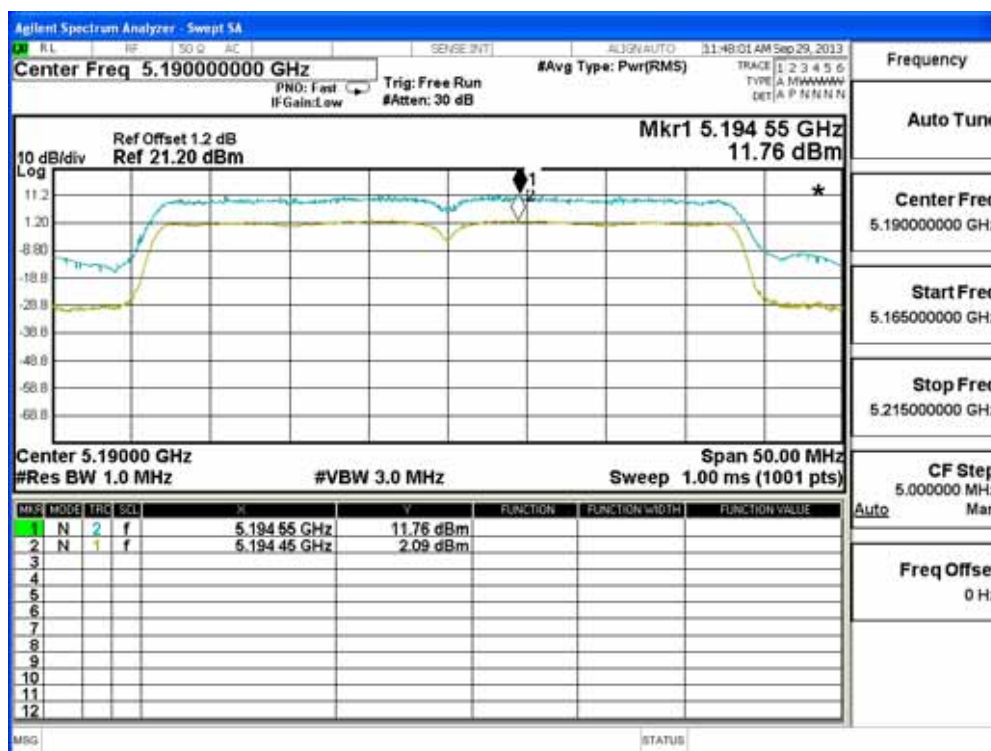
Channel 46 (5230MHz)



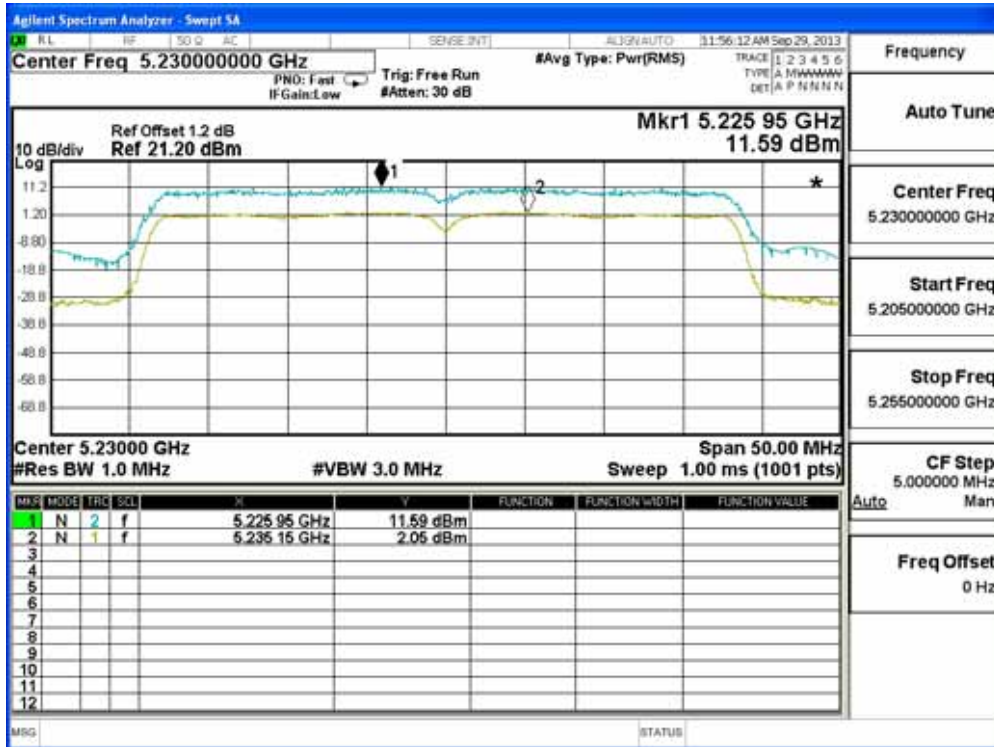
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 4: Transmit by 802.11n(40MHz) (Ant 2) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 38 | 5190 | 9.67 | 13 | Pass |
| 46 | 5230 | 9.54 | 13 | Pass |

Channel 38 (5190MHz)



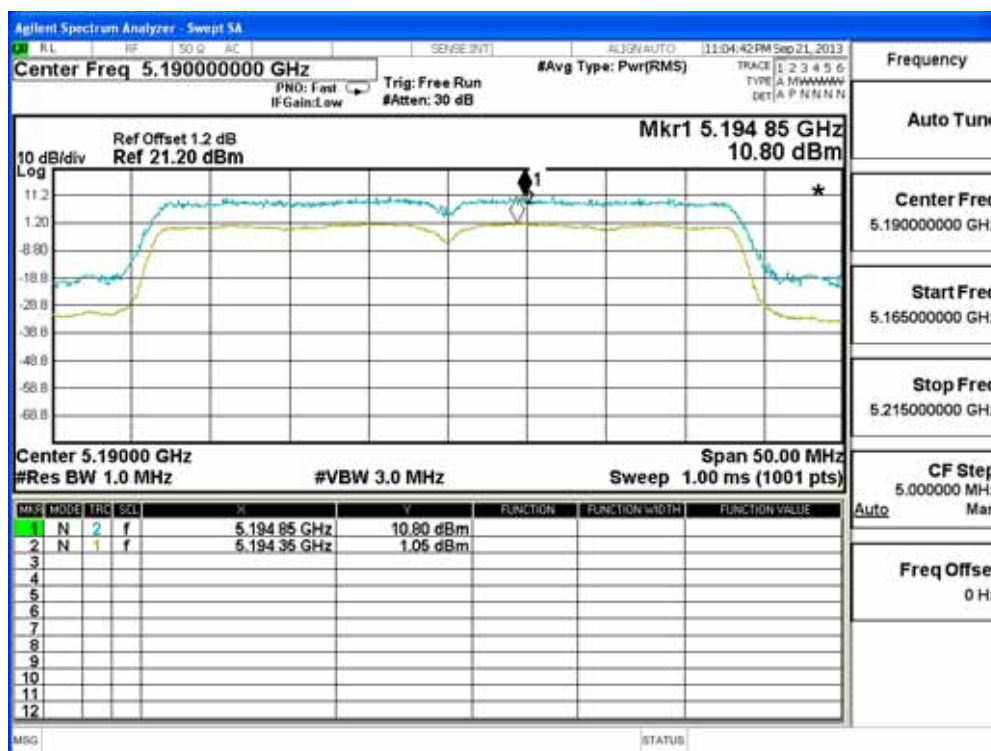
Channel 46 (5230MHz)



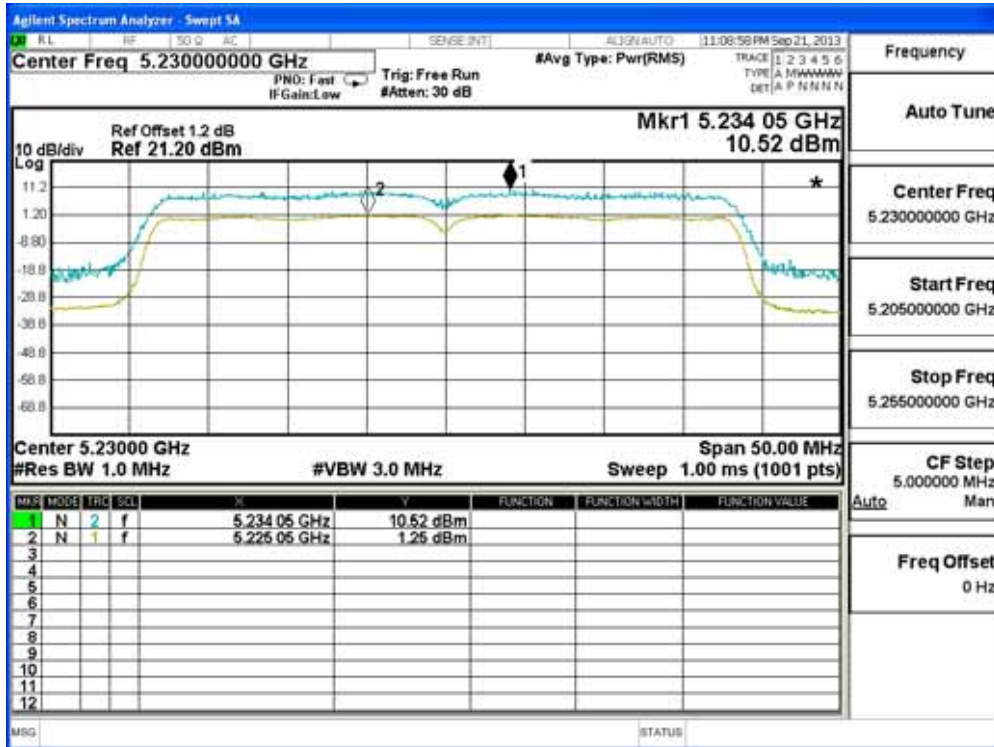
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 5: Transmit by 802.11ac(40MHz) (Ant 0) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 38 | 5190 | 9.75 | 13 | Pass |
| 46 | 5230 | 9.27 | 13 | Pass |

Channel 38 (5190MHz)



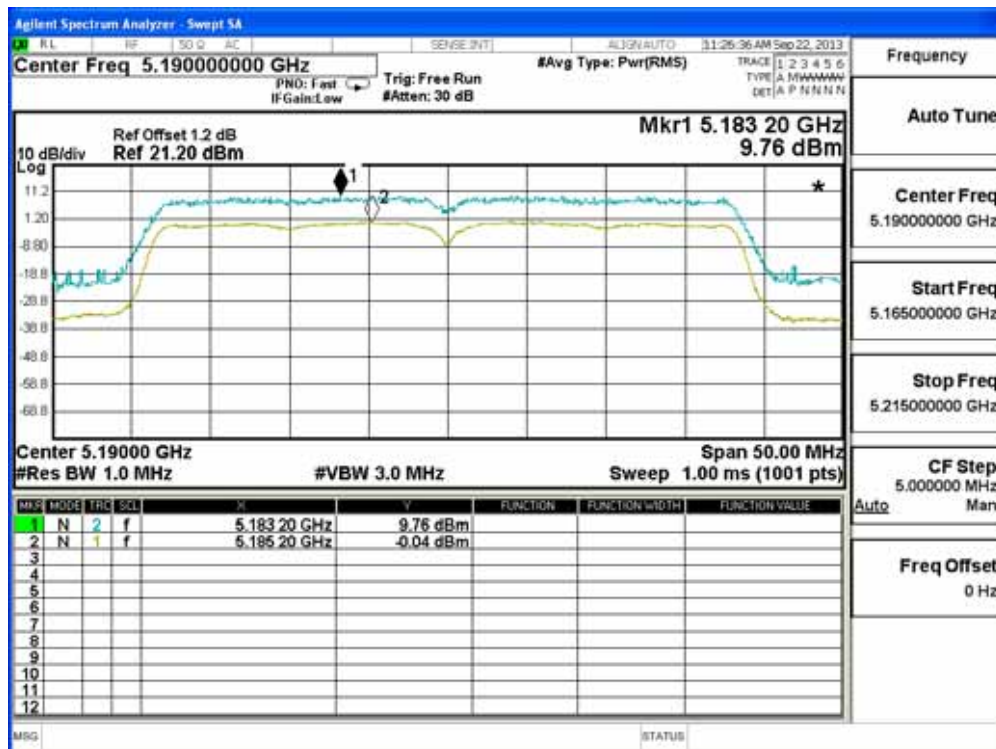
Channel 46 (5230MHz)



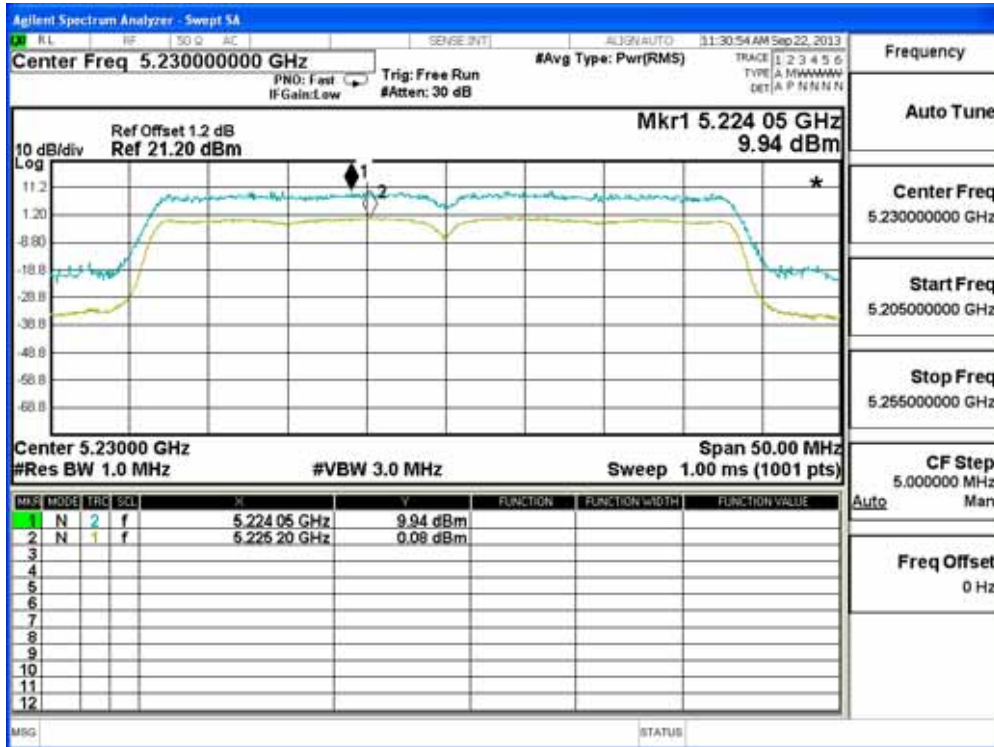
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 5: Transmit by 802.11ac(40MHz) (Ant 1) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 38 | 5190 | 9.80 | 13 | Pass |
| 46 | 5230 | 9.86 | 13 | Pass |

Channel 38 (5190MHz)



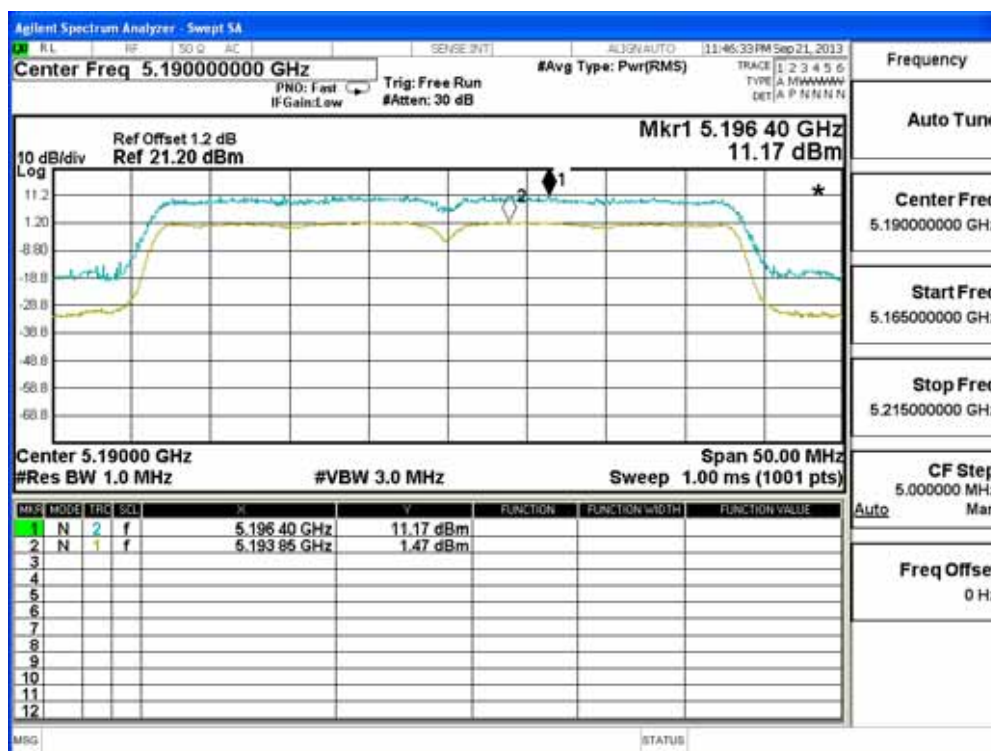
Channel 46 (5230MHz)



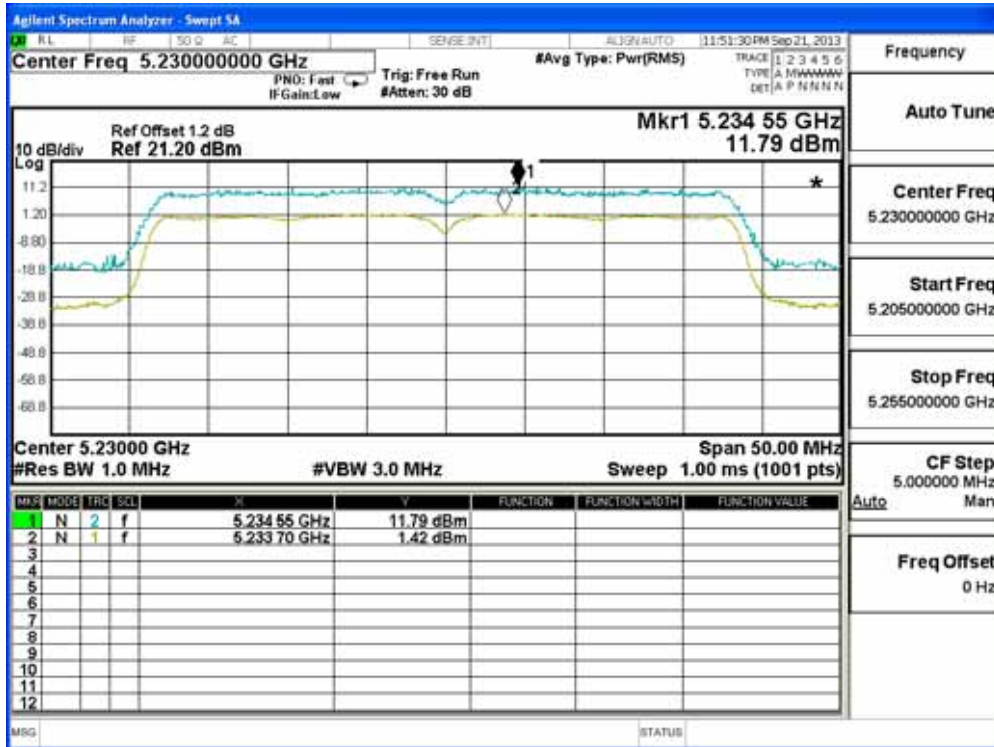
| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 5: Transmit by 802.11ac(40MHz) (Ant 2) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 38 | 5190 | 9.70 | 13 | Pass |
| 46 | 5230 | 10.37 | 13 | Pass |

Channel 38 (5190MHz)



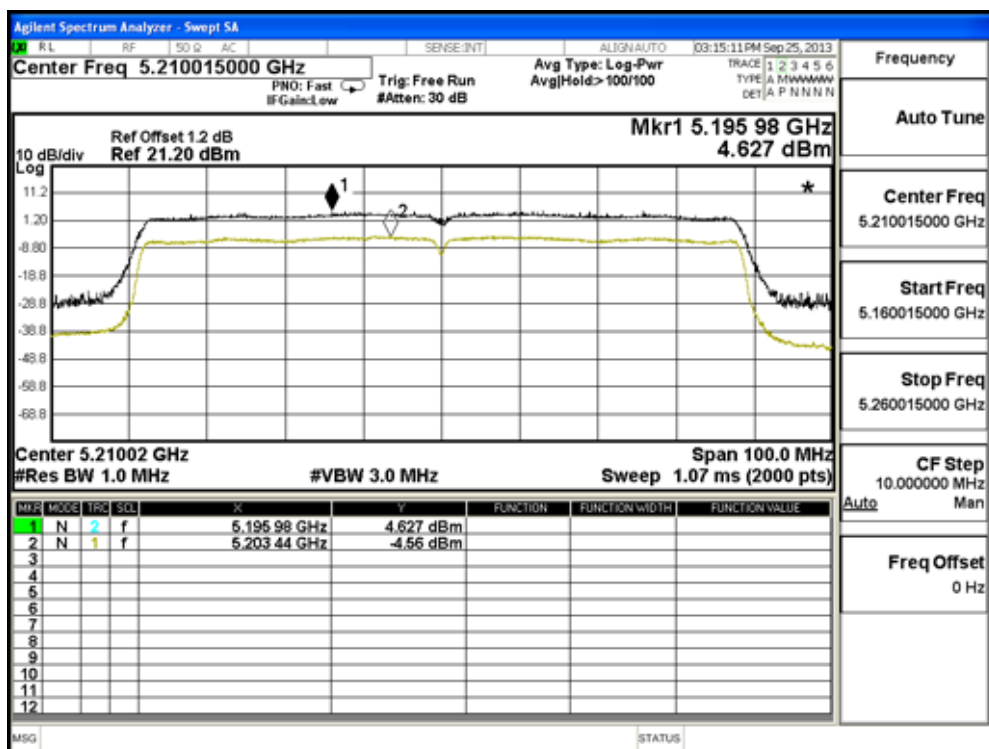
Channel 46 (5230MHz)



| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 6: Transmit by 802.11ac(80MHz) (Ant 0) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 46 | 5190 | 9.19 | 13 | Pass |

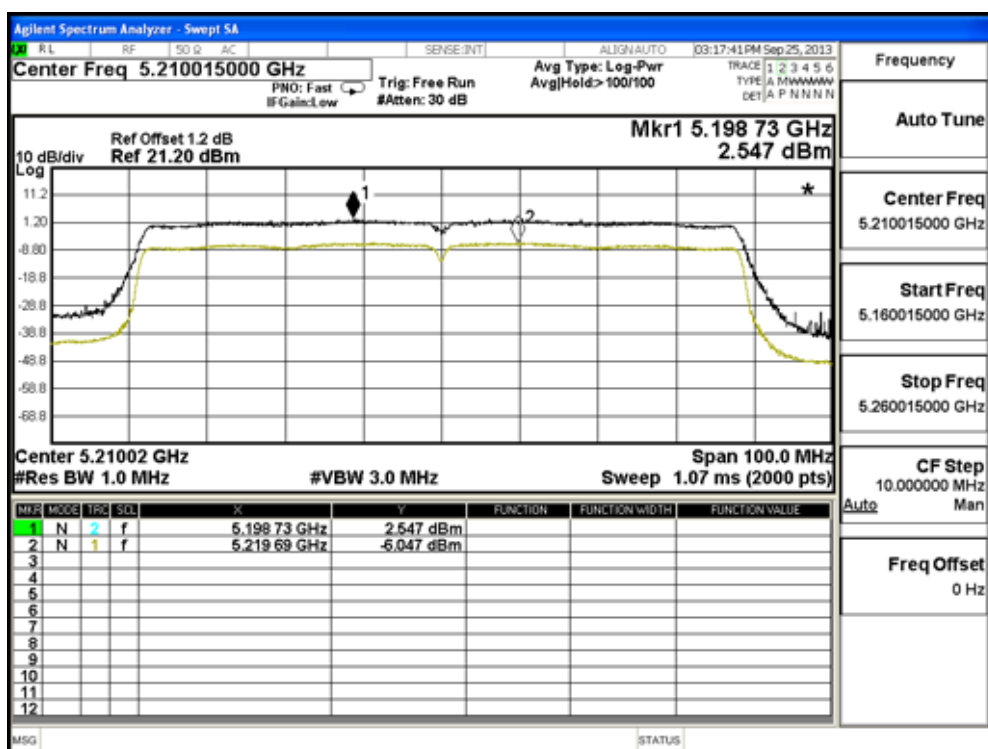
Channel 42 (5210MHz)



| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 6: Transmit by 802.11ac(80MHz) (Ant 1) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 46 | 5190 | 8.59 | 13 | Pass |

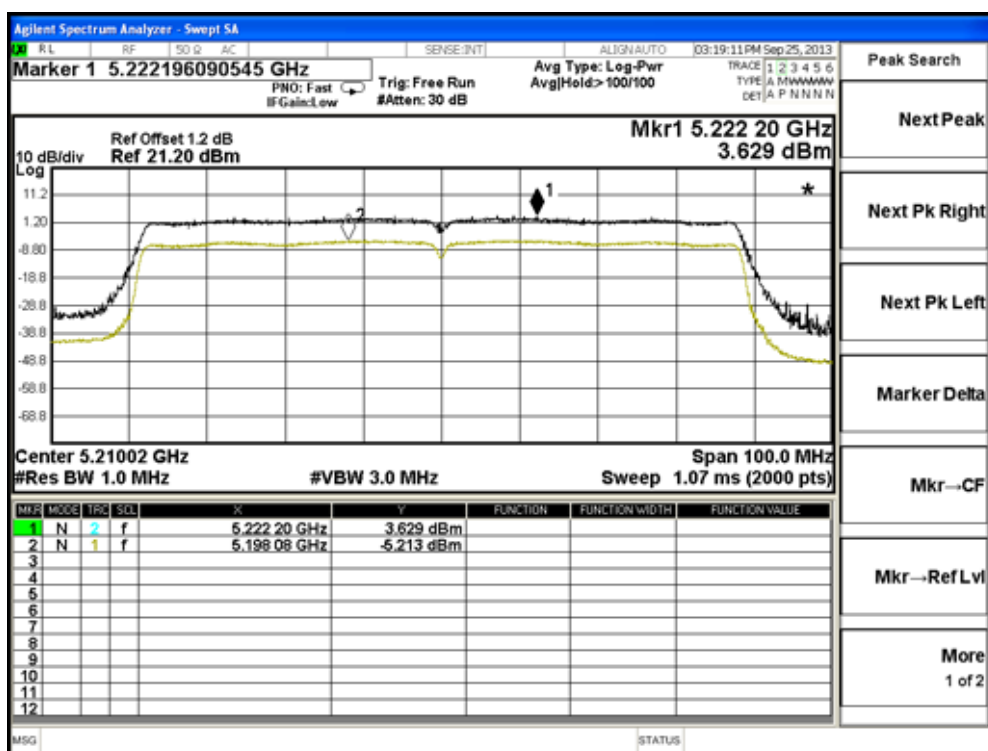
Channel 42 (5210MHz)



| | | |
|-----------|---|--|
| Product | : | Dual Band Wireless AC/N VDSL2 VoIP Combo WAN Gigabit IAD |
| Test Item | : | Peak Excursion |
| Test Site | : | TR-8 |
| Test Mode | : | Mode 6: Transmit by 802.11ac(80MHz) (Ant 2) |

| Channel No. | Frequency (MHz) | Peak Excursion (dB) | Limit (dB) | Result |
|-------------|-----------------|---------------------|------------|--------|
| 46 | 5190 | 8.84 | 13 | Pass |

Channel 42 (5210MHz)



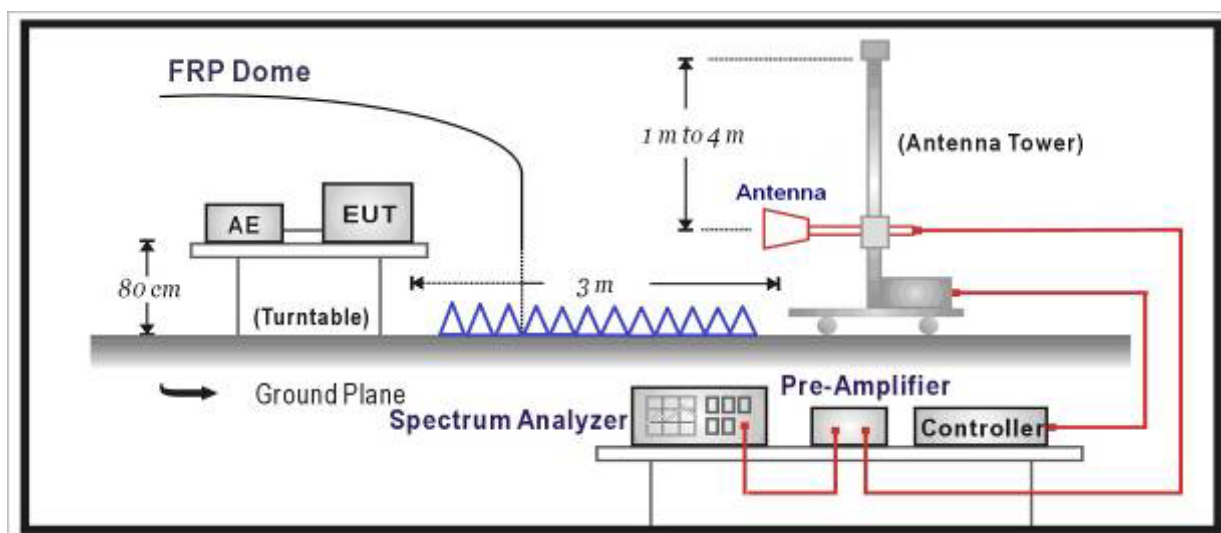
10. Radiated Emission Band Edge

10.1. Test Equipment

☒ Radiated Emission Band Edge / AC-5

| Instrument | Manufacturer | Type No. | Serial No. | Cali. Due Date |
|----------------------------|--------------|--------------|-------------|----------------|
| Spectrum Analyzer | Agilent | N9020A | MY49100159 | 2014.03.30 |
| Preamplifier | Miteq | NSP1800-25 | 1364185 | 2014.05.04 |
| Preamplifier | QuieTek | AP-040G | CHM-0906001 | 2014.05.04 |
| Bilog Antenna | Teseq GmbH | CBL6112D | 27612 | 2013.10.15 |
| DRG Horn | ETS-Lindgren | 3117 | 00123988 | 2014.01.21 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 106 | AC5-C1 | 2014.03.01 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 106 | AC5-C2 | 2014.03.01 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 102 | AC5-C3 | 2014.03.01 |
| EMI Receiver | Agilent | N9038A | MY51210196 | 2014.06.09 |
| Temperature/Humidity Meter | Zhichen | ZC1-2 | AC5-TH | 2014.01.11 |

10.2. Test Setup



10.3. Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

| MHz | MHz | MHz | GHz |
|----------------------------|-----------------------|-----------------|------------------|
| 0.090 - 0.110 | 16.42 - 16.423 | 399.9 - 410 | 4.5 - 5.15 |
| ¹ 0.495 - 0.505 | 16.69475 - 16.69525 | 608 - 614 | 5.35 - 5.46 |
| 2.1735 - 2.1905 | 16.80425 - 16.80475 | 960 - 1240 | 7.25 - 7.75 |
| 4.125 - 4.128 | 25.5 - 25.67 | 1300 - 1427 | 8.025 - 8.5 |
| 4.17725 - 4.17775 | 37.5 - 38.25 | 1435 - 1626.5 | 9.0 - 9.2 |
| 4.20725 - 4.20775 | 73 - 74.6 | 1645.5 - 1646.5 | 9.3 - 9.5 |
| 6.215 - 6.218 | 74.8 - 75.2 | 1660 - 1710 | 10.6 - 12.7 |
| 6.26775 - 6.26825 | 108 - 121.94 | 1718.8 - 1722.2 | 13.25 - 13.4 |
| 6.31175 - 6.31225 | 123 - 138 | 2200 - 2300 | 14.47 - 14.5 |
| 8.291 - 8.294 | 149.9 - 150.05 | 2310 - 2390 | 15.35 - 16.2 |
| 8.362 - 8.366 | 156.52475 - 156.52525 | 2483.5 - 2500 | 17.7 - 21.4 |
| 8.37625 - 8.38675 | 156.7 - 156.9 | 2690 - 2900 | 22.01 - 23.12 |
| 8.41425 - 8.41475 | 162.0125 - 167.17 | 3260 - 3267 | 23.6 - 24.0 |
| 12.29 - 12.293 | 167.72 - 173.2 | 3332 - 3339 | 31.2 - 31.8 |
| 12.51975 - 12.52025 | 240 - 285 | 3345.8 - 3358 | 36.43 - 36.5 |
| 12.57675 - 12.57725 | 322 - 335.4 | 3600 - 4400 | (²) |

For 15.407(b) requirement:

- For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

| Operating Frequency Band (MHz) | EIRP Limit (dBm/MHz) | Equivalent Field Strength at 3m (dBuV/m) |
|--------------------------------|----------------------|--|
| 5150 - 5250 | -27 | 68.3 |
| 5250 - 5350 | -27 | 68.3 |
| 5470 - 5725 | -27 | 68.3 |
| 5725 - 5825 | -27 [Note(1)] | 68.3 |
| | -17 [Note(2)] | 78.3 |

Note(1): Outside the frequency range 5715 - 5835MHz.

Note(2): Within the frequency range from the band edge to 10MHz below or above the band edge, 5715 – 5725MHz and 5825 - 5835MHz.

10.4. Test Procedure

The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4: 2009 on radiated measurement.

Note: When doing emission measurement above 1GHz, the horn Chainenna will be bended down a little (as horn Chainenna has the narrow beamwidth) in order to keeping the Chainenna in the "cone of radiation" of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

10.5. Uncertainty

The measurement uncertainty above 1GHz is defined as ± 3.9 dB