10. DUAL CLIENT TEST/ CLIENT DEVICE - POWER ADJUSTMENT

LIMITS

FCC §15.407(a) (7), (8)

(7) For client devices, except for fixed client devices as defined in this subpart, operating under the control of a standard power access point in 5.925–6.425 GHz and 6.525–6.875 GHz bands, the maximum power spectral density must not exceed 17 dBm e.i.r.p. in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm and the device must limit its power to no more than 6 dB below its associated standard power access point's authorized transmit power.

(8) For client devices operating under the control of an indoor access point in the 5.925–7.125 GHz bands, the maximum power spectral density must not exceed −1 dBm e.i.r.p. in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 24 dBm.

(II) (K) . Dual Client Test, Demonstration of Proper Power Adjustment based on Associated AP
A client device may connect to a Standard Power AP with a maximum power level of 30 dBm EIRP. A client may also connect to a Low Power indoor AP, but the power level is limited to a maximum of 24 dBm EIRP. If a client has the flexibility to connect to both APs, verification is needed to show that it can distinguish between the two configurations and then control the power levels accordingly.

(II) (L). Proper Power Adjustment, Client Devices Connected to a Standard Power Access Point
A client device that connects to a Standard Power AP must limit its power to a minimum of 6 dB lower than its associated Standard Power access point's authorized transmit power. The term "authorized" means the AFC-approved power level for the AP to use on a particular channel.

TEST PROCEDURE

Per KDB 987594 D02 (II) (K) and (II) (L)

SET UP

The following setup shown in section 6.6 was used as an alternate method to meet requirements for sections (II)(K) and (II)(L) for a dual client device. It verifies EUT ability to distinguish between an LPI AP and SP AP and operate at the power level permitted for each.

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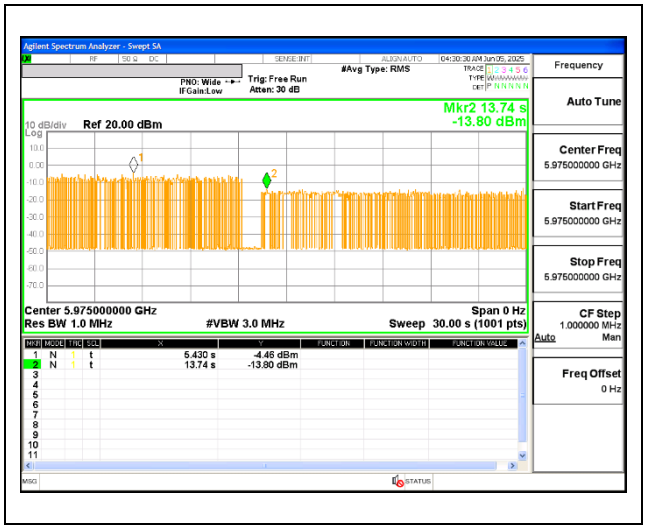
RESULTS FOR DUAL CLIENT TEST

Tested By:	GA 12485
Date:	2025-05-30

EUT Frequency (MHz)	AFC Authorized EIRP Power for AP (dBm)	Dual Client MIMO EIRP (dBm)	Results (Pass/Fail) (EUT-AFC Authorized AP Power <= -6dB)
5975	36	18.45	Pass
	28	18.30	Pass
	21	13.71	Pass

The plot below demonstrates the EUT's ability to distinguish between SP mode and LP mode connections, and to reduce power when transitioning from standard client mode to LPI client mode.

The EUT is connected to an AP simulator as an SP client. After 12 seconds, the simulator switches to LP AP mode. The EUT's power is measured in SP client mode at Marker 1, and again after transitioning to LP client mode at Marker 2. The delta between Marker 2 and Marker 1 is ≥ -6 dB, demonstrating the EUT's ability to reduce power when switching from SP mode to LP mode.



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11. VERY LOW POWER TRANSMIT POWER CONTROL (TPC)

LIMITS

FCC §15.407 (d) (10)

(10) Very low power devices operating in the 5.925-6.425 and 6.525-6.875 GHz bands shall employ a transmit power control (TPC) mechanism. A very low power device is required to have the capability to operate at least 6 dB below the maximum EIRP power spectral density (PSD) value of −5 dBm/MHz.

PROCEDURE

1. Configure EUT and companion device for peer-to-peer communication (refer to section 6.6)
2. Set variable attenuator to 0dB (noise free spectral environment, high RSSI simulation)
3. Establish a link and start communication between EUT and companion device
4. Capture PSD spectrum analyzer trace (2)
5. Set variable attenuator to 40dB (noisy spectral environment, low RSSI simulation)
6. Capture PSD spectrum analyzer trace (1)
7. For MIMO operations use the sum of the highest PSD from each individual antenna

SA Settings: 1MHz RBW/ 3MHz VBW
Span: 240MHz
Sweep: 1ms, trace averaging enabled for 100 sweeps with rms detector enabled.

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RESULTS

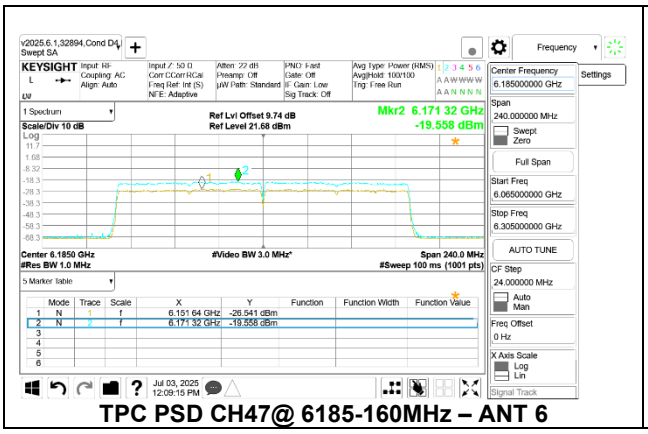
Tested By:	GA 12485
Date:	2025-06-03

2TX	UNII-5 band
Correlated Chains Directional Gain (dBi)	1.45
DCCF (dB)	0

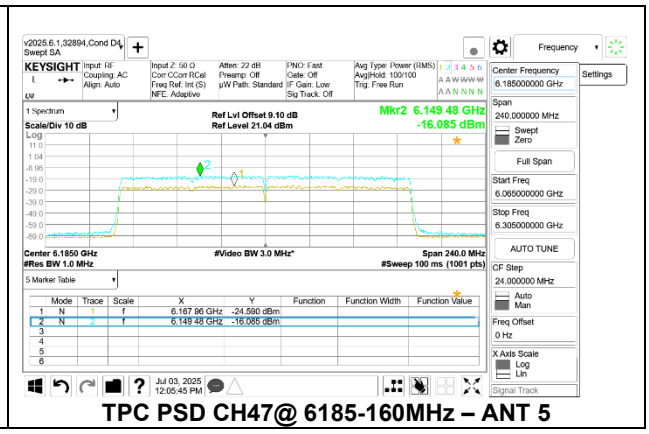
BW (MHz)	Frequency (MHz)	ANT 6		ANT 5		ANT 6 + ANT 5	
		Trace 2 High RSSI PSD (dBm/MHz)	Trace 1 Low RSSI PSD (dBm/MHz)	Trace 2 High RSSI PSD (dBm/MHz)	Trace 1 Low RSSI PSD (dBm/MHz)	2Tx High RSSI EIRP PSD (dBm/MHz)	2Tx Low RSSI EIRP PSD (dBm/MHz)
160	6185 (CH47)	-19.558	-26.541	-16.085	-24.59	-13.02	-21.00

Device complies because it can operate at a power less than -11dBm/MHz.

VLP TPC POWER LEVEL REDUCTION



TPC PSD CH47@ 6185-160MHz – ANT 6



TPC PSD CH47@ 6185-160MHz – ANT 5

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12. SETUP PHOTOS

Refer to 15496277-EP1V1 FCC IC Setup_Photo for setup photos.

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