

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.

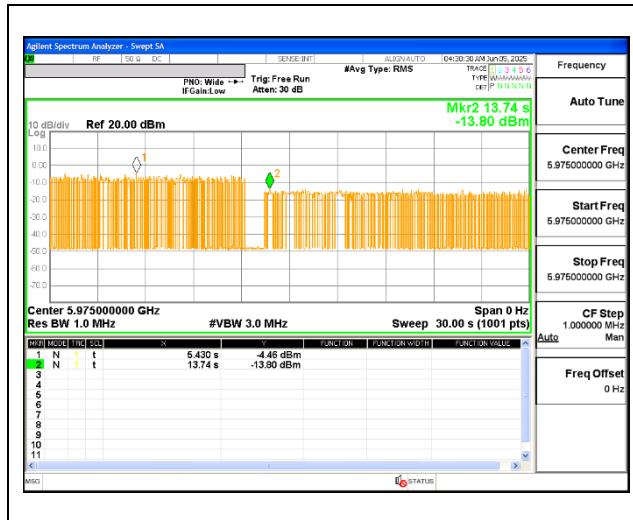
RESULTS FOR DUAL CLIENT TEST

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.



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

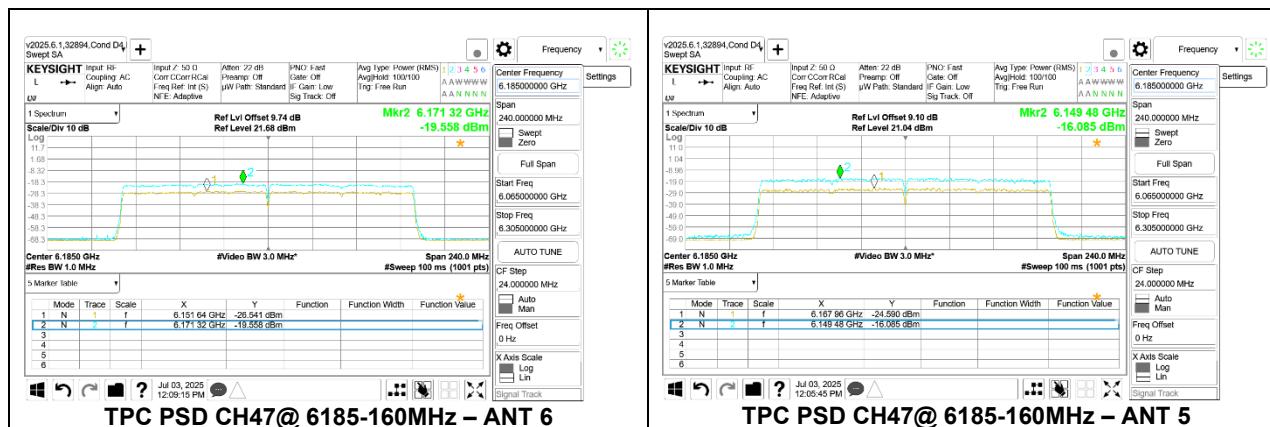
Sweep: 1ms, trace averaging enabled for 100 sweeps with rms detector enabled.

RESULTS

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

2TX	UNII-5 band	ANT 6		ANT 5		ANT 6 + ANT 5	
Correlated Chains	Directional Gain (dBi)	2.78					
DCCF (dB)		0					
BW (MHz)	Frequency (MHz)	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	-11.69	-19.67

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

VLP TPC POWER LEVEL REDUCTION

12. SETUP PHOTOS

Refer to 15496278-EP1 FCC IC Setup_Photo for setup photos.

13. APPENDIX A – SPOT CHECK EVALUATION

MODEL DIFFERENCES

The manufacturer hereby declares the following for models A3258, A3519, A3520 and A3521.

These models have the same PCB layout, design, common components, antennas, antenna locations and housing cases, except for FR2 is removed from variants which caused antenna gain changed as documented in section 6.5.4 of the report and disabled/enabled cellular bands via software as shown below.

Model	FCC ID	IC ID	Feature Difference	Sim Support	Reference Model
A3258	BCG-E8947A	579C-E8947A	-With FR2 -No B11/21 -No UL MIMO	eSIM	-
A3519	BCG-E8951A	579C-E8951A	-Without FR2 -Added B11/21 -No UL MIMO	eSIM	A3258
A3520	BCG-E8952A	579C-E8952A	-Without FR2 -No B14, B29, B71, B11/21 -No UL MIMO	eSIM+pSIM	A3258 and A3519
A3521	BCG-E8953A	579C-E8953A	-Without FR2 -No B14, B29, B71, B11/21, B53 -No UL MIMO, MSS	pSIM+pSIM	

The spot check plan allows for data reuse from the reference model where the variant model data meets the limits and has not changed by more than the criteria from KDB 484596 D01 equation (4).

$$d_{dB} = | V_{dB} - R_{dB} | \quad (1)$$

$$d_{dB} \leq d_{dBmax} \quad (2)$$

$$d_{dBmax}(M_{dB}) = \begin{cases} (3 + M_{dB} / 20) \text{ dB} & , \text{ for } 0 \leq M_{dB} \leq 60 \text{ dB} \\ 6 \text{ dB} & , \text{ for } M_{dB} > 60 \text{ dB} \end{cases} \quad (4)$$

Where d_{dB} is deviation between the variant and the reference model, V_{dB} is variant spot check level, R_{dB} is the corresponding reference measurement level, d_{dBmax} is the maximum deviation d_{dB} allowed, and M_{dB} is the margin in dB.

13.1. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3519

Equipment Class / Technology	Frequency (GHz)	Mode	Data Rate	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3258	Sub Model: A3519	Delta (dB)	Margin	Remarks
								FCC ID : BCG-E8947A IC : 579C-E8947A	FCC ID : BCG-E8951A IC : 579C-E8951A			
6CD / 6VL (UNII-5/6/7/8)	6.875 - 7.125 UNII-8	11be EHT160 SU LP (ANT 6)	MCS0	EIRP Power (dBm)	Fundamental LP	207	6.985	18.24	17.98	-0.26	-5.76	Note 1
	6.525 - 6.875 UNII-7	11be EHT20 SU SP (CDD)	MCS0	EIRP Power (dBm)	Fundamental SP (FCC)	153	6.715	21.75	21.69	-0.06	-2.25	Note 1
	6.875 - 7.125 UNII-8	11be EHT160 SU VLP (ANT 5)	MCS0	EIRP Power (dBm)	Fundamental	207	6.985	12.96	12.94	-0.02	-1.04	Note 1
	5.925 - 6.425 UNII-5	11be EHT160 SU (ANT 5)	MCS11	Radiated Bandedge (dBm)	Horizontal Low Bandedge	15	5.898335	-37.55	-35.60	1.95	-10.55	Note 1
	6.875 - 7.125 UNII-8	11be EHT40 SU (ANT 5)	MCS11	Radiated Bandedge (dBm)	Horizontal High Bandedge	227	7.125612	-29.69	-28.54	1.15	-2.69	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

13.2. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3520

Equipment Class / Technology	Frequency (GHz)	Mode	Data Rate	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3258	Sub Model: A3520	Delta (dB)	Margin	Remarks
								FCC ID : BCG-E8947A IC : 579C-E8947A	FCC ID : BCG-E8952A IC : 579C-E8952A			
6CD / 6VL (UNII-5/6/7/8)	6.875 - 7.125 UNII-8	11be EHT160 SU LP (ANT 6)	MCS0	EIRP Power (dBm)	Fundamental LP	207	6.985	18.24	17.96	-0.28	-5.76	Note 1
	6.525 - 6.875 UNII-7	11be EHT20 SU SP (CDD)	MCS0	EIRP Power (dBm)	Fundamental SP (FCC)	153	6.715	21.75	21.67	-0.08	-2.25	Note 1
	6.875 - 7.125 UNII-8	11be EHT160 SU VLP (ANT 5)	MCS0	EIRP Power (dBm)	Fundamental	207	6.985	12.96	12.91	-0.05	-1.04	Note 1
	5.925 - 6.425 UNII-5	11be EHT160 SU (ANT 5)	MCS11	Radiated Bandedge (dBm)	Horizontal Low Bandedge	15	5.898335	-37.55	-34.71	2.84	-10.55	Note 1
	6.875 - 7.125 UNII-8	11be EHT40 SU (ANT 5)	MCS11	Radiated Bandedge (dBm)	Horizontal High Bandedge	227	7.125612	-29.69	-28.62	1.07	-2.69	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

Equipment Class / Technology	Frequency (GHz)	Mode	Data Rate	Test Item		Channel	Measured Frequency (GHz)	Sub Model: A3519	Sub Model: A3520	Delta (dB)	Margin	Remarks
								FCC ID : BCG-E8951A IC : 579C-E8951A	FCC ID : BCG-E8952A IC : 579C-E8952A			
6CD / 6VL (UNII-5/6/7/8)	5.925 - 6.425 UNII-5	11be EHT160 SU LP (ANT 6)	MCS0	EIRP Power (dBm)	Fundamental	47	6.185	18.11	18.03	-0.08	-5.89	Note 1
	6.525 - 6.875 UNII-7	11be EHT20 SU SP (SDM)	MCS0	EIRP Power (dBm)	Fundamental SP (FCC)	117	6.535	21.73	21.64	-0.09	-8.27	Note 1
	6.425 - 6.525 UNII-6	11be EHT160 SU VLP (ANT 6)	MCS0	EIRP Power (dBm)	Fundamental	79	6.345	12.93	12.87	-0.06	-1.07	Note 1
	5.925 - 6.425 UNII-5	11be EHT40 SU (CDD)	MCS11	Radiated Bandedge (dBm)	Vertical Low Bandedge	3	5.924468	-30.04	-31.64	-1.60	-3.04	Note 1
	6.425 - 6.525 UNII-6	11be EHT20 106T (CDD)	MCS0	RSE (dBuV/m) Avg	1 to 18	97	15.800957	42.33	42.09	-0.24	-11.67	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

13.3. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3521

Equipment Class / Technology	Frequency (GHz)	Mode	Data Rate	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3258	Sub Model: A3521	Delta (dB)	Margin	Remarks
								FCC ID : BCG-E8947A IC : 579C-E8947A	FCC ID : BCG-E8953A IC : 579C-E8953A			
6CD / 6VL (UNII-5/6/7/8)	6.875 - 7.125 UNII-8	11be EHT160 SU LP (ANT 6)	MCS0	EIRP Power (dBm)	Fundamental LP	207	6.985	18.24	17.99	-0.25	-5.76	Note 1
	6.525 - 6.875 UNII-7	11be EHT20 SU SP (CDD)	MCS0	EIRP Power (dBm)	Fundamental SP (FCC)	153	6.715	21.75	21.70	-0.05	-2.25	Note 1
	6.875 - 7.125 UNII-8	11be EHT160 SU VLP (ANT 5)	MCS0	EIRP Power (dBm)	Fundamental	207	6.985	12.96	12.89	-0.07	-1.04	Note 1
	5.925 - 6.425 UNII-5	11be EHT160 SU (ANT 5)	MCS11	Radiated Bandedge (dBm)	Horizontal Low Bandedge	15	5.898335	-37.55	-37.96	-0.41	-10.55	Note 1
	6.875 - 7.125 UNII-8	11be EHT40 SU (ANT 5)	MCS11	Radiated Bandedge (dBm)	Horizontal High Bandedge	227	7.125612	-29.69	-29.47	0.22	-2.69	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

Equipment Class / Technology	Frequency (GHz)	Mode	Data Rate	Test Item		Channel	Measured Frequency (GHz)	Sub Model: A3519	Sub Model: A3521	Delta (dB)	Margin	Remarks
								FCC ID : BCG-E8951A IC : 579C-E8951A	FCC ID : BCG-E8953A IC : 579C-E8953A			
6CD / 6VL (UNII-5/6/7/8)	5.925 - 6.425 UNII-5	11be EHT160 SU LP (ANT 6)	MCS0	EIRP Power (dBm)	Fundamental	47	6.185	18.11	18.02	-0.09	-5.89	Note 1
	6.525 - 6.875 UNII-7	11be EHT20 SU SP (SDM)	MCS0	EIRP Power (dBm)	Fundamental SP (FCC)	117	6.535	21.73	21.67	-0.06	-8.27	Note 1
	6.425 - 6.525 UNII-6	11be EHT160 SU VLP (ANT 6)	MCS0	EIRP Power (dBm)	Fundamental	79	6.345	12.93	12.88	-0.05	-1.07	Note 1
	5.925 - 6.425 UNII-5	11be EHT40 SU (CDD)	MCS11	Radiated Bandedge (dBm)	Vertical Low Bandedge	3	5.924468	-30.04	-31.79	-1.75	-3.04	Note 1
	6.425 - 6.525 UNII-6	11be EHT20 106T (CDD)	MCS0	RSE (dBuV/m) Avg	1 to 18	97	15.800957	42.33	42.35	0.02	-11.67	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

END OF REPORT