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Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 16-Jan-19			
Temperature: 25 °C	Relative Humidity: 46 %	Air Pressure: 1009 hPa	Power: 48 VDC
Remarks:			

Table 7.3.9 EIRP test results

ASSIGNED FREQUENCY RANGE: 5.725 - 5.850 GHz
DETECTOR USED: Average
METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
MIMO CONFIGURATION: 1 carrier, 1 sector (4 ports to 2 dual slant antennas), non-coherent signal

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm		Total output power*, dBm	Antenna array gain, dB	Single antenna gain, dBi	Total EIRP**, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT1	ANT2							
10	QPSK	5730	13.50	13.48	16.49	3.0	16.50	35.99	36.0	-0.01	Pass
		5788	13.41	13.35	16.38	3.0	16.50	35.88	36.0	-0.12	Pass
		5845	13.48	13.42	16.45	3.0	16.50	35.95	36.0	-0.05	Pass
	16QAM	5730	13.49	13.49	16.49	3.0	16.50	35.99	36.0	-0.01	Pass
		5788	13.40	13.36	16.38	3.0	16.50	35.88	36.0	-0.12	Pass
		5845	13.49	13.40	16.45	3.0	16.50	35.95	36.0	-0.05	Pass
	64QAM	5730	13.50	13.49	16.50	3.0	16.50	36.00	36.0	-0.00	Pass
		5788	13.43	13.36	16.40	3.0	16.50	35.90	36.0	-0.10	Pass
		5845	13.49	13.41	16.45	3.0	16.50	35.95	36.0	-0.05	Pass
15	QPSK	5732.5	13.41	13.42	16.42	3.0	16.50	35.92	36.0	-0.08	Pass
		5788	13.50	13.41	16.46	3.0	16.50	35.96	36.0	-0.04	Pass
		5842.5	13.36	13.34	16.35	3.0	16.50	35.85	36.0	-0.15	Pass
	16QAM	5732.5	13.41	13.45	16.43	3.0	16.50	35.93	36.0	-0.07	Pass
		5788	13.51	13.41	16.46	3.0	16.50	35.96	36.0	-0.04	Pass
		5842.5	13.50	13.34	16.42	3.0	16.50	35.92	36.0	-0.08	Pass
	64QAM	5732.5	13.40	13.43	16.42	3.0	16.50	35.92	36.0	-0.08	Pass
		5788	13.49	13.39	16.44	3.0	16.50	35.94	36.0	-0.06	Pass
		5842.5	13.33	13.35	16.34	3.0	16.50	35.84	36.0	-0.16	Pass
20	QPSK	5735	13.39	13.44	16.42	3.0	16.50	35.92	36.0	-0.08	Pass
		5788	13.41	13.25	16.33	3.0	16.50	35.83	36.0	-0.17	Pass
		5840	13.35	13.39	16.37	3.0	16.50	35.87	36.0	-0.13	Pass
	16QAM	5735	13.30	13.42	16.36	3.0	16.50	35.86	36.0	-0.14	Pass
		5788	13.43	13.27	16.35	3.0	16.50	35.85	36.0	-0.15	Pass
		5840	13.35	13.38	16.37	3.0	16.50	35.87	36.0	-0.13	Pass
	64QAM	5735	13.28	13.43	16.34	3.0	16.50	35.84	36.0	-0.16	Pass
		5788	13.44	13.28	16.36	3.0	16.50	35.86	36.0	-0.14	Pass
		5840	13.35	13.38	16.37	3.0	16.50	35.87	36.0	-0.13	Pass

* Total output power = $(10 \cdot \log(10^{(\text{Output power ANT1}/10)} + 10^{(\text{Output power ANT2}/10)}))$

** Total EIRP = Total output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit



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Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 16-Jan-19			
Temperature: 25 °C	Relative Humidity: 46 %	Air Pressure: 1009 hPa	Power: 48 VDC
Remarks:			

Table 7.3.10 EIRP test results (continued)

ASSIGNED FREQUENCY RANGE: 5.725 - 5.850 GHz
DETECTOR USED: Average
METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
MIMO CONFIGURATION: 1 carrier, 1 sector (4 ports to 2 dual slant antennas), non-coherent signal

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm		Total output power*, dBm	Antenna array gain, dB	Single antenna gain, dBi	Total EIRP**, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT3	ANT4							
10	QPSK	5730	13.37	13.29	16.33	3.0	16.50	35.83	36.0	-0.17	Pass
		5788	13.28	13.26	16.27	3.0	16.50	35.77	36.0	-0.23	Pass
		5845	13.44	13.29	16.37	3.0	16.50	35.87	36.0	-0.13	Pass
	16QAM	5730	13.34	13.27	16.31	3.0	16.50	35.81	36.0	-0.19	Pass
		5788	13.30	13.28	16.29	3.0	16.50	35.79	36.0	-0.21	Pass
		5845	13.46	13.31	16.39	3.0	16.50	35.89	36.0	-0.11	Pass
	64QAM	5730	13.37	13.26	16.32	3.0	16.50	35.82	36.0	-0.18	Pass
		5788	13.27	13.29	16.28	3.0	16.50	35.78	36.0	-0.22	Pass
		5845	13.46	13.31	16.39	3.0	16.50	35.89	36.0	-0.11	Pass
15	QPSK	5732.5	13.29	13.35	16.32	3.0	16.50	35.82	36.0	-0.18	Pass
		5788	13.38	13.22	16.30	3.0	16.50	35.80	36.0	-0.20	Pass
		5842.5	13.49	13.21	16.35	3.0	16.50	35.85	36.0	-0.15	Pass
	16QAM	5732.5	13.28	13.35	16.32	3.0	16.50	35.82	36.0	-0.18	Pass
		5788	13.35	13.22	16.29	3.0	16.50	35.79	36.0	-0.21	Pass
		5842.5	13.50	13.21	16.36	3.0	16.50	35.86	36.0	-0.14	Pass
	64QAM	5732.5	13.25	13.35	16.30	3.0	16.50	35.80	36.0	-0.20	Pass
		5788	13.36	13.22	16.29	3.0	16.50	35.79	36.0	-0.21	Pass
		5842.5	13.49	13.20	16.35	3.0	16.50	35.85	36.0	-0.15	Pass
20	QPSK	5735	13.29	13.31	16.30	3.0	16.50	35.80	36.0	-0.20	Pass
		5788	13.33	13.20	16.27	3.0	16.50	35.77	36.0	-0.23	Pass
		5840	13.40	13.26	16.33	3.0	16.50	35.83	36.0	-0.17	Pass
	16QAM	5735	13.29	13.37	16.33	3.0	16.50	35.83	36.0	-0.17	Pass
		5788	13.35	13.20	16.28	3.0	16.50	35.78	36.0	-0.22	Pass
		5840	13.43	13.23	16.33	3.0	16.50	35.83	36.0	-0.17	Pass
	64QAM	5735	13.28	13.37	16.33	3.0	16.50	35.83	36.0	-0.17	Pass
		5788	13.32	13.20	16.26	3.0	16.50	35.76	36.0	-0.24	Pass
		5840	13.44	13.23	16.34	3.0	16.50	35.84	36.0	-0.16	Pass

* Total output power = (10*LOG (10^(Output power ANT3/10) + 10^(Output power ANT4/10)))

** Total EIRP = Total output power + Antenna array gain + Single antenna gain

*** Margin = Total output power – specification limit



HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4

Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 16-Jan-19			
Temperature: 25 °C	Relative Humidity: 46 %	Air Pressure: 1009 hPa	Power: 48 VDC
Remarks:			

Table 7.3.11 EIRP test results

ASSIGNED FREQUENCY RANGE:

5.725 - 5.850 GHz

DETECTOR USED:

Average

METHOD OF POWER MEASUREMENTS:

PM-G (789033 D02)

MIMO CONFIGURATION:

(2carriers 2sectors) – isolated sectors, therefore the carriers may use similar or different frequencies (4 ports: 2 sectors x 2 dual slant antenna, no carrier aggregation and no antenna gain aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm		Total output power*, dBm	Antenna array gain, dB	Single antenna gain, dBi	Total EIRP**, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT1	ANT2							
10	QPSK	5730	13.50	13.48	16.49	0	16.50	32.99	36.0	-3.01	Pass
		5788	13.41	13.35	16.38	0	16.50	32.88	36.0	-3.12	Pass
		5845	13.48	13.42	16.45	0	16.50	32.95	36.0	-3.05	Pass
	16QAM	5730	13.49	13.49	16.49	0	16.50	32.99	36.0	-3.01	Pass
		5788	13.40	13.36	16.38	0	16.50	32.88	36.0	-3.12	Pass
		5845	13.49	13.40	16.45	0	16.50	32.95	36.0	-3.05	Pass
	64QAM	5730	13.50	13.49	16.50	0	16.50	33.00	36.0	-3.00	Pass
		5788	13.43	13.36	16.40	0	16.50	32.90	36.0	-3.10	Pass
		5845	13.49	13.41	16.45	0	16.50	32.95	36.0	-3.05	Pass
15	QPSK	5732.5	13.41	13.42	16.42	0	16.50	32.92	36.0	-3.08	Pass
		5788	13.50	13.41	16.46	0	16.50	32.96	36.0	-3.04	Pass
		5842.5	13.36	13.34	16.35	0	16.50	32.85	36.0	-3.15	Pass
	16QAM	5732.5	13.41	13.45	16.43	0	16.50	32.93	36.0	-3.07	Pass
		5788	13.51	13.41	16.46	0	16.50	32.96	36.0	-3.04	Pass
		5842.5	13.50	13.34	16.42	0	16.50	32.92	36.0	-3.08	Pass
	64QAM	5732.5	13.40	13.43	16.42	0	16.50	32.92	36.0	-3.08	Pass
		5788	13.49	13.39	16.44	0	16.50	32.94	36.0	-3.06	Pass
		5842.5	13.33	13.35	16.34	0	16.50	32.84	36.0	-3.16	Pass
20	QPSK	5735	13.39	13.44	16.42	0	16.50	32.92	36.0	-3.08	Pass
		5788	13.41	13.25	16.33	0	16.50	32.83	36.0	-3.17	Pass
		5840	13.35	13.39	16.37	0	16.50	32.87	36.0	-3.13	Pass
	16QAM	5735	13.30	13.42	16.36	0	16.50	32.86	36.0	-3.14	Pass
		5788	13.43	13.27	16.35	0	16.50	32.85	36.0	-3.15	Pass
		5840	13.35	13.38	16.37	0	16.50	32.87	36.0	-3.13	Pass
	64QAM	5735	13.28	13.43	16.34	0	16.50	32.84	36.0	-3.16	Pass
		5788	13.44	13.28	16.36	0	16.50	32.86	36.0	-3.14	Pass
		5840	13.35	13.38	16.37	0	16.50	32.87	36.0	-3.13	Pass

* Total output power = (10*LOG (10^(Output power ANT1/10) + 10^(Output power ANT2/10)))

** Total EIRP = Total output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit



HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4

Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 16-Jan-19			
Temperature: 25 °C	Relative Humidity: 46 %	Air Pressure: 1009 hPa	Power: 48 VDC
Remarks:			

Table 7.3.12 EIRP test results (continued)

ASSIGNED FREQUENCY RANGE:

5.725 - 5.850 GHz

DETECTOR USED:

Average

METHOD OF POWER MEASUREMENTS:

PM-G (789033 D02)

MIMO CONFIGURATION:

(2carriers 2sectors) – isolated sectors, therefore the carriers may use similar or different frequencies (4 ports: 2 sectors x 2 dual slant antenna, no carrier aggregation and no antenna gain aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm		Total output power*, dBm	Antenna array gain, dB	Single antenna gain, dBi	Total EIRP**, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT3	ANT4							
10	QPSK	5730	13.37	13.29	16.33	0	16.50	32.83	36.0	-3.17	Pass
		5788	13.28	13.26	16.27	0	16.50	32.77	36.0	-3.23	Pass
		5845	13.44	13.29	16.37	0	16.50	32.87	36.0	-3.13	Pass
	16QAM	5730	13.34	13.27	16.31	0	16.50	32.81	36.0	-3.19	Pass
		5788	13.30	13.28	16.29	0	16.50	32.79	36.0	-3.21	Pass
		5845	13.46	13.31	16.39	0	16.50	32.89	36.0	-3.11	Pass
	64QAM	5730	13.37	13.26	16.32	0	16.50	32.82	36.0	-3.18	Pass
		5788	13.27	13.29	16.28	0	16.50	32.78	36.0	-3.22	Pass
		5845	13.46	13.31	16.39	0	16.50	32.89	36.0	-3.11	Pass
15	QPSK	5732.5	13.29	13.35	16.32	0	16.50	32.82	36.0	-3.18	Pass
		5788	13.38	13.22	16.30	0	16.50	32.80	36.0	-3.20	Pass
		5842.5	13.49	13.21	16.35	0	16.50	32.85	36.0	-3.15	Pass
	16QAM	5732.5	13.28	13.35	16.32	0	16.50	32.82	36.0	-3.18	Pass
		5788	13.35	13.22	16.29	0	16.50	32.79	36.0	-3.21	Pass
		5842.5	13.50	13.21	16.36	0	16.50	32.86	36.0	-3.14	Pass
	64QAM	5732.5	13.25	13.35	16.30	0	16.50	32.80	36.0	-3.20	Pass
		5788	13.36	13.22	16.29	0	16.50	32.79	36.0	-3.21	Pass
		5842.5	13.49	13.20	16.35	0	16.50	32.85	36.0	-3.15	Pass
20	QPSK	5735	13.29	13.31	16.30	0	16.50	32.80	36.0	-3.20	Pass
		5788	13.33	13.20	16.27	0	16.50	32.77	36.0	-3.23	Pass
		5840	13.40	13.26	16.33	0	16.50	32.83	36.0	-3.17	Pass
	16QAM	5735	13.29	13.37	16.33	0	16.50	32.83	36.0	-3.17	Pass
		5788	13.35	13.20	16.28	0	16.50	32.78	36.0	-3.22	Pass
		5840	13.43	13.23	16.33	0	16.50	32.83	36.0	-3.17	Pass
	64QAM	5735	13.28	13.37	16.33	0	16.50	32.83	36.0	-3.17	Pass
		5788	13.32	13.20	16.26	0	16.50	32.76	36.0	-3.24	Pass
		5840	13.44	13.23	16.34	0	16.50	32.84	36.0	-3.16	Pass

* Total output power = (10*LOG (10^(Output power ANT3/10) + 10^(Output power ANT4/10)))

** Total EIRP = Total output power + Antenna array gain + Single antenna gain

*** Margin = Total output power – specification limit



Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 16-Jan-19			
Temperature: 25 °C	Relative Humidity: 46 %	Air Pressure: 1009 hPa	Power: 48 VDC
Remarks:			

Table 7.3.13 EIRP test results

ASSIGNED FREQUENCY RANGE: 5.725 - 5.850 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: 2 Bands 2carriers 1sector- different frequencies and different Bands(4 ports: 2 dual slant antennas- no power aggregation as 2 carriers are in different bands and 2 Bands, no antenna gains aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power, dBm	Antenna array gain, dB	Single antenna gain, dBi	Total EIRP*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT1						
10	QPSK	5730	16.33	0	16.50	32.83	36.0	-3.17	Pass
		5788	16.37	0	16.50	32.87	36.0	-3.13	Pass
		5845	16.36	0	16.50	32.86	36.0	-3.14	Pass
	16QAM	5730	16.32	0	16.50	32.82	36.0	-3.18	Pass
		5788	16.39	0	16.50	32.89	36.0	-3.11	Pass
		5845	16.37	0	16.50	32.87	36.0	-3.13	Pass
	64QAM	5730	16.34	0	16.50	32.84	36.0	-3.16	Pass
		5788	16.39	0	16.50	32.89	36.0	-3.11	Pass
		5845	16.38	0	16.50	32.88	36.0	-3.12	Pass
15	QPSK	5732.5	16.49	0	16.50	32.99	36.0	-3.01	Pass
		5788	16.44	0	16.50	32.94	36.0	-3.06	Pass
		5842.5	16.43	0	16.50	32.93	36.0	-3.07	Pass
	16QAM	5732.5	16.47	0	16.50	32.97	36.0	-3.03	Pass
		5788	16.42	0	16.50	32.92	36.0	-3.08	Pass
		5842.5	16.45	0	16.50	32.95	36.0	-3.05	Pass
	64QAM	5732.5	16.45	0	16.50	32.95	36.0	-3.05	Pass
		5788	16.42	0	16.50	32.92	36.0	-3.08	Pass
		5842.5	16.42	0	16.50	32.92	36.0	-3.08	Pass
20	QPSK	5735	16.32	0	16.50	32.82	36.0	-3.18	Pass
		5788	16.17	0	16.50	32.67	36.0	-3.33	Pass
		5840	16.46	0	16.50	32.96	36.0	-3.04	Pass
	16QAM	5735	16.32	0	16.50	32.82	36.0	-3.18	Pass
		5788	16.16	0	16.50	32.66	36.0	-3.34	Pass
		5840	16.45	0	16.50	32.95	36.0	-3.05	Pass
	64QAM	5735	16.33	0	16.50	32.83	36.0	-3.17	Pass
		5788	16.14	0	16.50	32.64	36.0	-3.36	Pass
		5840	16.45	0	16.50	32.95	36.0	-3.05	Pass

* Total EIRP = Output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit



Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 16-Jan-19			
Temperature: 25 °C	Relative Humidity: 46 %	Air Pressure: 1009 hPa	Power: 48 VDC
Remarks:			

Table 7.3.14 EIRP test results (continued)

ASSIGNED FREQUENCY RANGE: 5.725 - 5.850 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: 2 Bands 2carriers 1sector- different frequencies and different Bands(4 ports: 2 dual slant antennas- no power aggregation as 2 carriers are in different bands and 2 Bands, no antenna gains aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power, dBm	Antenna array gain, dB	Single antenna gain, dBi	Total EIRP*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT2						
10	QPSK	5730	16.34	0	16.50	32.84	36.0	-3.16	Pass
		5788	16.28	0	16.50	32.78	36.0	-3.22	Pass
		5845	16.35	0	16.50	32.85	36.0	-3.15	Pass
	16QAM	5730	16.35	0	16.50	32.85	36.0	-3.15	Pass
		5788	16.28	0	16.50	32.78	36.0	-3.22	Pass
		5845	16.35	0	16.50	32.85	36.0	-3.15	Pass
	64QAM	5730	16.38	0	16.50	32.88	36.0	-3.12	Pass
		5788	16.27	0	16.50	32.77	36.0	-3.23	Pass
		5845	16.35	0	16.50	32.85	36.0	-3.15	Pass
15	QPSK	5732.5	16.33	0	16.50	32.83	36.0	-3.17	Pass
		5788	16.40	0	16.50	32.90	36.0	-3.10	Pass
		5842.5	16.32	0	16.50	32.82	36.0	-3.18	Pass
	16QAM	5732.5	16.33	0	16.50	32.83	36.0	-3.17	Pass
		5788	16.40	0	16.50	32.90	36.0	-3.10	Pass
		5842.5	16.31	0	16.50	32.81	36.0	-3.19	Pass
	64QAM	5732.5	16.32	0	16.50	32.82	36.0	-3.18	Pass
		5788	16.41	0	16.50	32.91	36.0	-3.09	Pass
		5842.5	16.28	0	16.50	32.78	36.0	-3.22	Pass
20	QPSK	5735	16.38	0	16.50	32.88	36.0	-3.12	Pass
		5788	16.26	0	16.50	32.76	36.0	-3.24	Pass
		5840	16.42	0	16.50	32.92	36.0	-3.08	Pass
	16QAM	5735	16.37	0	16.50	32.87	36.0	-3.13	Pass
		5788	16.27	0	16.50	32.77	36.0	-3.23	Pass
		5840	16.42	0	16.50	32.92	36.0	-3.08	Pass
	64QAM	5735	16.38	0	16.50	32.88	36.0	-3.12	Pass
		5788	16.28	0	16.50	32.78	36.0	-3.22	Pass
		5840	16.42	0	16.50	32.92	36.0	-3.08	Pass

* Total EIRP = Output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit



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Report ID: TelRad_FCC_31832_rev4

Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 16-Jan-19			
Temperature: 25 °C	Relative Humidity: 46 %	Air Pressure: 1009 hPa	Power: 48 VDC
Remarks:			

Table 7.3.15 EIRP test results (continued)

ASSIGNED FREQUENCY RANGE: 5.725 - 5.850 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: 2 Bands 2carriers 1sector- different frequencies and different Bands(4 ports: 2 dual slant antennas- no power aggregation as 2 carriers are in different bands and 2 Bands, no antenna gains aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power, dBm	Antenna gain array, dB	Single antenna gain, dBi	Total EIRP*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT3						
10	QPSK	5730	16.26	0	16.50	32.76	36.0	-3.24	Pass
		5788	16.25	0	16.50	32.75	36.0	-3.25	Pass
		5845	16.27	0	16.50	32.77	36.0	-3.23	Pass
	16QAM	5730	16.26	0	16.50	32.76	36.0	-3.24	Pass
		5788	16.24	0	16.50	32.74	36.0	-3.26	Pass
		5845	16.28	0	16.50	32.78	36.0	-3.22	Pass
	64QAM	5730	16.28	0	16.50	32.78	36.0	-3.22	Pass
		5788	16.27	0	16.50	32.77	36.0	-3.23	Pass
		5845	16.32	0	16.50	32.82	36.0	-3.18	Pass
15	QPSK	5732.5	16.45	0	16.50	32.95	36.0	-3.05	Pass
		5788	16.28	0	16.50	32.78	36.0	-3.22	Pass
		5842.5	16.33	0	16.50	32.83	36.0	-3.17	Pass
	16QAM	5732.5	16.43	0	16.50	32.93	36.0	-3.07	Pass
		5788	16.29	0	16.50	32.79	36.0	-3.21	Pass
		5842.5	16.34	0	16.50	32.84	36.0	-3.16	Pass
	64QAM	5732.5	16.41	0	16.50	32.91	36.0	-3.09	Pass
		5788	16.29	0	16.50	32.79	36.0	-3.21	Pass
		5842.5	16.31	0	16.50	32.81	36.0	-3.19	Pass
20	QPSK	5735	16.15	0	16.50	32.65	36.0	-3.35	Pass
		5788	16.40	0	16.50	32.9	36.0	-3.10	Pass
		5840	16.29	0	16.50	32.79	36.0	-3.21	Pass
	16QAM	5735	16.14	0	16.50	32.64	36.0	-3.36	Pass
		5788	16.41	0	16.50	32.91	36.0	-3.09	Pass
		5840	16.29	0	16.50	32.79	36.0	-3.21	Pass
	64QAM	5735	16.12	0	16.50	32.62	36.0	-3.38	Pass
		5788	16.38	0	16.50	32.88	36.0	-3.12	Pass
		5840	16.32	0	16.50	32.82	36.0	-3.18	Pass

* Total EIRP = Output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit



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Report ID: TelRad_FCC_31832_rev4

Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 16-Jan-19			
Temperature: 25 °C	Relative Humidity: 46 %	Air Pressure: 1009 hPa	Power: 48 VDC
Remarks:			

Table 7.3.16 EIRP test results (continued)

ASSIGNED FREQUENCY RANGE: 5.725 - 5.850 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: 2 Bands 2carriers 1sector- different frequencies and different Bands(4 ports: 2 dual slant antennas- no power aggregation as 2 carriers are in different bands and 2 Bands, no antenna gains aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power, dBm	Antenna gain array, dB	Single antenna gain, dBi	Total EIRP*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT4						
10	QPSK	5730	16.38	0	16.50	32.88	36.0	-3.12	Pass
		5788	16.25	0	16.50	32.75	36.0	-3.25	Pass
		5845	16.30	0	16.50	32.80	36.0	-3.20	Pass
	16QAM	5730	16.36	0	16.50	32.86	36.0	-3.14	Pass
		5788	16.24	0	16.50	32.74	36.0	-3.26	Pass
		5845	16.31	0	16.50	32.81	36.0	-3.19	Pass
	64QAM	5730	16.35	0	16.50	32.85	36.0	-3.15	Pass
		5788	16.25	0	16.50	32.75	36.0	-3.25	Pass
		5845	16.30	0	16.50	32.80	36.0	-3.20	Pass
15	QPSK	5732.5	16.31	0	16.50	32.81	36.0	-3.19	Pass
		5788	16.19	0	16.50	32.69	36.0	-3.31	Pass
		5842.5	16.45	0	16.50	32.95	36.0	-3.05	Pass
	16QAM	5732.5	16.31	0	16.50	32.81	36.0	-3.19	Pass
		5788	16.20	0	16.50	32.7	36.0	-3.30	Pass
		5842.5	16.45	0	16.50	32.95	36.0	-3.05	Pass
	64QAM	5732.5	16.30	0	16.50	32.80	36.0	-3.20	Pass
		5788	16.20	0	16.50	32.70	36.0	-3.30	Pass
		5842.5	16.43	0	16.50	32.93	36.0	-3.07	Pass
20	QPSK	5735	16.37	0	16.50	32.87	36.0	-3.13	Pass
		5788	16.26	0	16.50	32.76	36.0	-3.24	Pass
		5840	16.32	0	16.50	32.82	36.0	-3.18	Pass
	16QAM	5735	16.37	0	16.50	32.87	36.0	-3.13	Pass
		5788	16.29	0	16.50	32.79	36.0	-3.21	Pass
		5840	16.33	0	16.50	32.83	36.0	-3.17	Pass
	64QAM	5735	16.37	0	16.50	32.87	36.0	-3.13	Pass
		5788	16.26	0	16.50	32.76	36.0	-3.24	Pass
		5840	16.32	0	16.50	32.82	36.0	-3.18	Pass

* Total EIRP = Output power + Antenna gain array + Single antenna gain

** Margin = Total output power – specification limit

Reference numbers of test equipment used

HL 3301	HL 3901						
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Full description is given in Appendix A.



Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

7.4 Peak output power at 5150 – 5250 MHz range

7.4.1 General

This test was performed to measure the maximum peak output power at the transmitter RF antenna connector. Specification test limits are given in Table 7.4.1.

Table 7.4.1 Peak output power limits

Assigned frequency range, MHz	Conducted output power limit	EIRP limit
5150 - 5250	1 W (30 dBm)	36 dBm

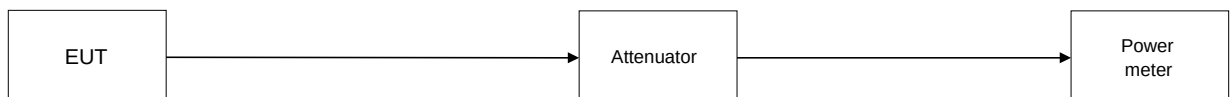
7.4.2 Test procedure

7.4.2.1 The EUT was set up as shown in Figure 7.4.1, energized and its proper operation was checked.

7.4.2.2 The EUT was adjusted to produce maximum available for end user RF output power.

7.4.2.3 The measurements were performed in continuous transmission mode of operation for carrier (channel) frequency at low, mid and high edges with a peak detector. The power was computed by integrating the spectrum across the 26 dB bandwidth of the signal as provided in the associated tables and plots.

Figure 7.4.1 Peak output power test setup





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Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.2 Peak output power test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
DETECTOR USED: Average
METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
MIMO CONFIGURATION: 1 carrier, 1 sector (4 ports to 2 dual slant antennas), coherent signal

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm				Total output power*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT1	ANT2	ANT3	ANT4				
10	QPSK	5160	4.00	3.54	3.53	3.63	9.68	16.5	-6.82	Pass
		5200	9.30	8.81	8.84	8.82	14.95	16.5	-1.55	Pass
		5245	7.99	8.89	8.89	8.86	14.67	16.5	-1.83	Pass
	16QAM	5160	3.99	3.53	3.55	3.61	9.67	16.5	-6.83	Pass
		5200	9.28	8.81	8.83	8.81	14.94	16.5	-1.56	Pass
		5245	8.00	8.90	8.89	8.86	14.68	16.5	-1.82	Pass
	64QAM	5160	3.98	3.55	3.56	3.61	9.68	16.5	-6.82	Pass
		5200	9.29	8.81	8.84	8.80	14.94	16.5	-1.56	Pass
		5245	7.98	8.91	8.89	8.86	14.68	16.5	-1.82	Pass
15	QPSK	5165	4.20	3.56	3.58	3.54	9.73	16.5	-6.77	Pass
		5200	10.00	10.00	9.99	10.00	16.00	16.5	-0.50	Pass
		5240	9.99	10.00	9.90	10.00	15.97	16.5	-0.53	Pass
	16QAM	5165	4.18	3.56	3.55	3.54	9.72	16.5	-6.78	Pass
		5200	9.98	9.97	9.99	9.98	15.98	16.5	-0.52	Pass
		5240	9.97	9.98	9.89	9.97	15.95	16.5	-0.55	Pass
	64QAM	5165	4.19	3.56	3.48	3.53	9.70	16.5	-6.80	Pass
		5200	9.99	9.96	9.97	9.99	15.98	16.5	-0.52	Pass
		5240	10.00	9.99	9.91	9.99	15.97	16.5	-0.53	Pass
20	QPSK	5165	3.20	3.19	3.19	3.20	9.20	16.5	-7.30	Pass
		5200	9.97	9.99	10.00	9.90	15.97	16.5	-0.53	Pass
		5240	10.00	9.92	10.00	10.00	15.98	16.5	-0.52	Pass
	16QAM	5165	3.19	3.17	3.20	3.19	9.19	16.5	-7.31	Pass
		5200	10.00	10.00	9.99	9.95	15.99	16.5	-0.51	Pass
		5240	9.98	9.95	10.00	9.98	15.98	16.5	-0.52	Pass
	64QAM	5165	3.18	3.18	3.20	3.20	9.19	16.5	-7.31	Pass
		5200	9.99	9.98	10.00	9.96	15.98	16.5	-0.52	Pass
		5240	10.00	9.93	9.99	9.99	15.98	16.5	-0.52	Pass

* Total output power = (10*LOG (10^(Output power ANT1/10) + 10^(Output power ANT2/10) + 10^(Output power ANT3/10) + 10^(Output power ANT4/10)))

** Margin = Total output power – specification limit



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Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.3 Peak output power test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: 1 carrier, 1 sector (4 ports to 2 dual slant antennas), non-coherent signal

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm				Total output power*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT1	ANT2	ANT3	ANT4				
10	QPSK	5160	4.31	4.29	4.24	4.30	10.29	19.5	-9.21	Pass
		5200	9.30	9.26	9.29	9.29	15.29	19.5	-4.21	Pass
		5245	8.00	8.00	8.01	7.95	13.99	19.5	-5.51	Pass
	16QAM	5160	4.31	4.28	4.25	4.31	10.29	19.5	-9.21	Pass
		5200	9.30	9.25	9.29	9.29	15.28	19.5	-4.22	Pass
		5245	7.99	7.98	8.01	7.93	13.98	19.5	-5.52	Pass
	64QAM	5160	4.30	4.29	4.25	4.30	10.29	19.5	-9.21	Pass
		5200	9.30	9.26	9.29	9.30	15.29	19.5	-4.21	Pass
		5245	7.98	7.99	7.99	7.92	13.97	19.5	-5.53	Pass
15	QPSK	5165	4.20	4.18	4.18	4.19	10.19	19.5	-9.31	Pass
		5200	11.25	11.24	11.24	11.21	17.24	19.5	-2.26	Pass
		5240	11.30	11.31	11.29	11.31	17.30	19.5	-2.20	Pass
	16QAM	5165	4.18	4.17	4.15	4.18	10.17	19.5	-9.33	Pass
		5200	11.26	11.24	11.24	11.22	17.24	19.5	-2.26	Pass
		5240	11.31	11.32	11.29	11.30	17.30	19.5	-2.20	Pass
	64QAM	5165	4.19	4.19	4.15	4.17	10.18	19.5	-9.32	Pass
		5200	11.26	11.24	11.26	11.20	17.24	19.5	-2.26	Pass
		5240	11.31	11.32	11.29	11.31	17.31	19.5	-2.19	Pass
20	QPSK	5165	3.19	3.15	3.16	3.18	9.17	19.5	-10.33	Pass
		5200	10.69	10.68	10.69	10.64	16.68	19.5	-2.82	Pass
		5240	10.41	10.42	10.40	10.36	16.40	19.5	-3.10	Pass
	16QAM	5165	3.19	3.13	3.17	3.17	9.17	19.5	-10.33	Pass
		5200	10.69	10.68	10.68	10.65	16.67	19.5	-2.83	Pass
		5240	10.42	10.42	10.39	10.36	16.40	19.5	-3.10	Pass
	64QAM	5165	3.20	3.15	3.17	3.20	9.18	19.5	-10.32	Pass
		5200	10.70	10.67	10.70	10.65	16.68	19.5	-2.82	Pass
		5240	10.41	10.43	10.41	10.36	16.41	19.5	-3.09	Pass

* Total output power = (10*LOG (10^(Output power ANT1/10) + 10^(Output power ANT2/10) + 10^(Output power ANT3/10) + 10^(Output power ANT4/10)))

** Margin = Total output power – specification limit



Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.4 Peak output power test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: (2carriers 2sectors) – isolated sectors, therefore the carriers may use similar or different frequencies (4 ports: 2 sectors x 2 dual slant antenna, no carrier aggregation and no antenna gain aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm				Total output power*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT1	ANT2	ANT3	ANT4				
10	QPSK	5160	4.31	4.29	4.24	4.30	10.29	19.5	-9.21	Pass
		5200	9.30	9.26	9.29	9.29	15.29	19.5	-4.21	Pass
		5245	8.00	8.00	8.01	7.95	13.99	19.5	-5.51	Pass
	16QAM	5160	4.31	4.28	4.25	4.31	10.29	19.5	-9.21	Pass
		5200	9.30	9.25	9.29	9.29	15.28	19.5	-4.22	Pass
		5245	7.99	7.98	8.01	7.93	13.98	19.5	-5.52	Pass
	64QAM	5160	4.30	4.29	4.25	4.30	10.29	19.5	-9.21	Pass
		5200	9.30	9.26	9.29	9.30	15.29	19.5	-4.21	Pass
		5245	7.98	7.99	7.99	7.92	13.97	19.5	-5.53	Pass
15	QPSK	5165	4.20	4.18	4.18	4.19	10.19	19.5	-9.31	Pass
		5200	11.25	11.24	11.24	11.21	17.24	19.5	-2.26	Pass
		5240	11.30	11.31	11.29	11.31	17.30	19.5	-2.20	Pass
	16QAM	5165	4.18	4.17	4.15	4.18	10.17	19.5	-9.33	Pass
		5200	11.26	11.24	11.24	11.22	17.24	19.5	-2.26	Pass
		5240	11.31	11.32	11.29	11.30	17.30	19.5	-2.20	Pass
	64QAM	5165	4.19	4.19	4.15	4.17	10.18	19.5	-9.32	Pass
		5200	11.26	11.24	11.26	11.20	17.24	19.5	-2.26	Pass
		5240	11.31	11.32	11.29	11.31	17.31	19.5	-2.19	Pass
20	QPSK	5165	3.19	3.15	3.16	3.18	9.17	19.5	-10.33	Pass
		5200	10.69	10.68	10.69	10.64	16.68	19.5	-2.82	Pass
		5240	10.41	10.42	10.40	10.36	16.40	19.5	-3.10	Pass
	16QAM	5165	3.19	3.13	3.17	3.17	9.17	19.5	-10.33	Pass
		5200	10.69	10.68	10.68	10.65	16.67	19.5	-2.83	Pass
		5240	10.42	10.42	10.39	10.36	16.40	19.5	-3.10	Pass
	64QAM	5165	3.20	3.15	3.17	3.20	9.18	19.5	-10.32	Pass
		5200	10.70	10.67	10.70	10.65	16.68	19.5	-2.82	Pass
		5240	10.41	10.43	10.41	10.36	16.41	19.5	-3.09	Pass

* Total output power = (10*LOG (10^(Output power ANT1/10) + 10^(Output power ANT2/10) + 10^(Output power ANT3/10) + 10^(Output power ANT4/10)))

** Margin = Total output power – specification limit



Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.5 Peak output power test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: 2 Bands 2carriers 1sector- different frequencies and different Bands(4 ports: 2 dual slant antennas- no power aggregation as 2 carriers are in different bands and 2 Bands, no antenna gains aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm		Total output power*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT1	ANT3				
10	QPSK	5160	6.20	6.15	9.18	19.5	-10.32	Pass
		5200	15.50	15.47	18.49	19.5	-1.01	Pass
		5245	15.35	15.31	18.33	19.5	-1.17	Pass
	16QAM	5160	6.19	6.16	9.18	19.5	-10.32	Pass
		5200	15.51	15.46	18.48	19.5	-1.02	Pass
		5245	15.35	15.32	18.34	19.5	-1.16	Pass
	64QAM	5160	6.18	6.15	9.17	19.5	-10.33	Pass
		5200	15.51	15.47	18.49	19.5	-1.01	Pass
		5245	15.36	15.32	18.34	19.5	-1.16	Pass
15	QPSK	5165	7.59	7.50	10.55	19.5	-8.95	Pass
		5200	14.46	14.45	17.47	19.5	-2.03	Pass
		5240	14.48	14.44	17.47	19.5	-2.03	Pass
	16QAM	5165	7.60	7.57	10.59	19.5	-8.91	Pass
		5200	14.46	14.45	17.47	19.5	-2.03	Pass
		5240	14.48	14.44	17.47	19.5	-2.03	Pass
	64QAM	5165	7.59	7.59	10.59	19.5	-8.91	Pass
		5200	14.46	14.43	17.46	19.5	-2.04	Pass
		5240	14.47	14.42	17.46	19.5	-2.04	Pass
20	QPSK	5165	5.58	5.56	8.57	19.5	-10.93	Pass
		5200	15.31	15.32	18.32	19.5	-1.18	Pass
		5240	16.35	16.30	19.32	19.5	-0.18	Pass
	16QAM	5165	5.58	5.54	8.56	19.5	-10.94	Pass
		5200	15.31	15.33	18.32	19.5	-1.18	Pass
		5240	16.35	16.28	19.31	19.5	-0.19	Pass
	64QAM	5165	5.58	5.57	8.58	19.5	-10.92	Pass
		5200	15.31	15.31	18.31	19.5	-1.19	Pass
		5240	16.34	16.29	19.31	19.5	-0.19	Pass

* Total output power = $10 \cdot \log(10^{(\text{Output power ANT1}/10)} + 10^{(\text{Output power ANT3}/10)})$

** Margin = Total output power – specification limit



Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.6 Peak output power test results (continued)

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
DETECTOR USED: Average
METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
MIMO CONFIGURATION: 2 Bands 2carriers 1sector- different frequencies and different Bands(4 ports: 2 dual slant antennas- no power aggregation as 2 carriers are in different bands and 2 Bands, no antenna gains aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm		Total output power*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT2	ANT4				
10	QPSK	5160	6.20	6.18	9.19	19.5	-10.31	Pass
		5200	15.50	15.48	18.49	19.5	-1.01	Pass
		5245	15.33	15.35	18.34	19.5	-1.16	Pass
	16QAM	5160	6.18	6.18	9.18	19.5	-10.32	Pass
		5200	15.48	15.47	18.48	19.5	-1.02	Pass
		5245	15.32	15.33	18.33	19.5	-1.17	Pass
	64QAM	5160	6.18	6.19	9.19	19.5	-10.31	Pass
		5200	15.49	15.48	18.49	19.5	-1.01	Pass
		5245	15.32	15.35	18.34	19.5	-1.16	Pass
15	QPSK	5165	7.55	7.56	10.56	19.5	-8.94	Pass
		5200	14.43	14.43	17.43	19.5	-2.07	Pass
		5240	14.45	14.44	17.45	19.5	-2.05	Pass
	16QAM	5165	7.59	7.58	10.59	19.5	-8.91	Pass
		5200	14.44	14.44	17.44	19.5	-2.06	Pass
		5240	14.45	14.43	17.44	19.5	-2.06	Pass
	64QAM	5165	7.59	7.58	10.59	19.5	-8.91	Pass
		5200	14.43	14.43	17.43	19.5	-2.07	Pass
		5240	14.45	14.43	17.44	19.5	-2.06	Pass
20	QPSK	5165	5.59	5.56	8.58	19.5	-10.92	Pass
		5200	15.30	15.29	18.29	19.5	-1.21	Pass
		5240	16.35	16.36	19.36	19.5	-0.14	Pass
	16QAM	5165	5.60	5.55	8.58	19.5	-10.92	Pass
		5200	15.30	15.28	18.29	19.5	-1.21	Pass
		5240	16.35	16.37	19.36	19.5	-0.14	Pass
	64QAM	5165	5.60	5.58	8.59	19.5	-10.91	Pass
		5200	15.30	15.29	18.30	19.5	-1.20	Pass
		5240	16.36	16.36	19.36	19.5	-0.14	Pass

* Total output power = $(10 \cdot \log(10^{(\text{Output power ANT2}/10)} + 10^{(\text{Output power ANT4}/10)})$

** Margin = Total output power – specification limit



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Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.7 EIRP test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
DETECTOR USED: Average
METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
MIMO CONFIGURATION: 1 carrier, 1 sector (4 ports to 2 dual slant antennas), coherent signal

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm		Total output power*, dBm	Antenna gain array, dB	Single antenna gain, dBi	Total EIRP**, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT1	ANT2							
10	QPSK	5160	4.00	3.54	6.78	6.0	16.50	29.28	36.0	-6.72	Pass
		5200	9.30	8.81	12.06	6.0	16.50	34.56	36.0	-1.44	Pass
		5245	7.99	8.89	11.46	6.0	16.50	33.96	36.0	-2.04	Pass
	16QAM	5160	3.99	3.53	6.77	6.0	16.50	29.27	36.0	-6.73	Pass
		5200	9.28	8.81	12.05	6.0	16.50	34.55	36.0	-1.45	Pass
		5245	8.00	8.90	11.47	6.0	16.50	33.97	36.0	-2.03	Pass
	64QAM	5160	3.98	3.55	6.77	6.0	16.50	29.27	36.0	-6.73	Pass
		5200	9.29	8.81	12.06	6.0	16.50	34.56	36.0	-1.44	Pass
		5245	7.98	8.91	11.47	6.0	16.50	33.97	36.0	-2.03	Pass
15	QPSK	5165	4.20	3.56	6.89	6.0	16.50	29.39	36.0	-6.61	Pass
		5200	10.00	10.00	13.00	6.0	16.50	35.50	36.0	-0.50	Pass
		5240	9.99	10.00	13.00	6.0	16.50	35.50	36.0	-0.50	Pass
	16QAM	5165	4.18	3.56	6.88	6.0	16.50	29.38	36.0	-6.62	Pass
		5200	9.98	9.97	12.98	6.0	16.50	35.48	36.0	-0.52	Pass
		5240	9.97	9.98	12.98	6.0	16.50	35.48	36.0	-0.52	Pass
	64QAM	5165	4.19	3.56	6.89	6.0	16.50	29.39	36.0	-6.61	Pass
		5200	9.99	9.96	12.98	6.0	16.50	35.48	36.0	-0.52	Pass
		5240	10.00	9.99	13.00	6.0	16.50	35.50	36.0	-0.50	Pass
20	QPSK	5165	3.20	3.19	6.20	6.0	16.50	28.70	36.0	-7.30	Pass
		5200	9.97	9.99	12.98	6.0	16.50	35.48	36.0	-0.52	Pass
		5240	10.00	9.92	12.96	6.0	16.50	35.46	36.0	-0.54	Pass
	16QAM	5165	3.19	3.17	6.18	6.0	16.50	28.68	36.0	-7.32	Pass
		5200	10.00	10.00	13.00	6.0	16.50	35.50	36.0	-0.50	Pass
		5240	9.98	9.95	12.97	6.0	16.50	35.47	36.0	-0.53	Pass
	64QAM	5165	3.18	3.18	6.18	6.0	16.50	28.68	36.0	-7.32	Pass
		5200	9.99	9.98	12.99	6.0	16.50	35.49	36.0	-0.51	Pass
		5240	10.00	9.93	12.97	6.0	16.50	35.47	36.0	-0.53	Pass

* Total output power = (10*LOG (10^(Output power ANT1/10) + 10^(Output power ANT2/10)))

** Total EIRP = Total output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit



HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.8 EIRP test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
DETECTOR USED: Average
METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
MIMO CONFIGURATION: 1 carrier, 1 sector (4 ports to 2 dual slant antennas), coherent signal

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm		Total output power*, dBm	Antenna gain array, dB	Single antenna gain, dBi	Total EIRP**, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT3	ANT4							
10	QPSK	5160	3.53	3.63	6.58	6.0	16.50	29.08	36.0	-6.92	Pass
		5200	8.84	8.82	11.83	6.0	16.50	34.33	36.0	-1.67	Pass
		5245	8.89	8.86	11.88	6.0	16.50	34.38	36.0	-1.62	Pass
	16QAM	5160	3.55	3.61	6.58	6.0	16.50	29.08	36.0	-6.92	Pass
		5200	8.83	8.81	11.82	6.0	16.50	34.32	36.0	-1.68	Pass
		5245	8.89	8.86	11.88	6.0	16.50	34.38	36.0	-1.62	Pass
	64QAM	5160	3.56	3.61	6.59	6.0	16.50	29.09	36.0	-6.91	Pass
		5200	8.84	8.80	11.82	6.0	16.50	34.32	36.0	-1.68	Pass
		5245	8.89	8.86	11.88	6.0	16.50	34.38	36.0	-1.62	Pass
15	QPSK	5165	3.58	3.54	6.56	6.0	16.50	29.06	36.0	-6.94	Pass
		5200	9.99	10.00	13.00	6.0	16.50	35.50	36.0	-0.50	Pass
		5240	9.90	10.00	12.95	6.0	16.50	35.45	36.0	-0.55	Pass
	16QAM	5165	3.55	3.54	6.55	6.0	16.50	29.05	36.0	-6.95	Pass
		5200	9.99	9.98	12.99	6.0	16.50	35.49	36.0	-0.51	Pass
		5240	9.89	9.97	12.93	6.0	16.50	35.43	36.0	-0.57	Pass
	64QAM	5165	3.48	3.53	6.51	6.0	16.50	29.01	36.0	-6.99	Pass
		5200	9.97	9.99	12.98	6.0	16.50	35.48	36.0	-0.52	Pass
		5240	9.91	9.99	12.95	6.0	16.50	35.45	36.0	-0.55	Pass
20	QPSK	5165	3.19	3.20	6.20	6.0	16.50	28.70	36.0	-7.30	Pass
		5200	10.00	9.90	12.95	6.0	16.50	35.45	36.0	-0.55	Pass
		5240	10.00	10.00	13.00	6.0	16.50	35.50	36.0	-0.50	Pass
	16QAM	5165	3.20	3.19	6.20	6.0	16.50	28.70	36.0	-7.30	Pass
		5200	9.99	9.95	12.97	6.0	16.50	35.47	36.0	-0.53	Pass
		5240	10.00	9.98	12.99	6.0	16.50	35.49	36.0	-0.51	Pass
	64QAM	5165	3.20	3.20	6.20	6.0	16.50	28.70	36.0	-7.30	Pass
		5200	10.00	9.96	12.98	6.0	16.50	35.48	36.0	-0.52	Pass
		5240	9.99	9.99	12.99	6.0	16.50	35.49	36.0	-0.51	Pass

* Total output power = (10*LOG (10^(Output power ANT1/10) + 10^(Output power ANT2/10)))

** Total EIRP = Total output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit



HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.9 EIRP test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: 1 carrier, 1 sector (4 ports to 2 dual slant antennas), non-coherent signal

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm		Total output power*, dBm	Antenna gain array, dB	Single antenna gain, dBi	Total EIRP**, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT1	ANT2							
10	QPSK	5160	4.31	4.29	7.30	3.0	16.50	26.80	36.0	-9.20	Pass
		5200	9.30	9.26	12.28	3.0	16.50	31.78	36.0	-4.22	Pass
		5245	8.00	8.00	11.00	3.0	16.50	30.50	36.0	-5.50	Pass
	16QAM	5160	4.31	4.28	7.30	3.0	16.50	26.80	36.0	-9.20	Pass
		5200	9.30	9.25	12.28	3.0	16.50	31.78	36.0	-4.22	Pass
		5245	7.99	7.98	10.99	3.0	16.50	30.49	36.0	-5.51	Pass
	64QAM	5160	4.30	4.29	7.30	3.0	16.50	26.80	36.0	-9.20	Pass
		5200	9.30	9.26	12.28	3.0	16.50	31.78	36.0	-4.22	Pass
		5245	7.98	7.99	10.99	3.0	16.50	30.49	36.0	-5.51	Pass
15	QPSK	5165	4.20	4.18	7.19	3.0	16.50	26.69	36.0	-9.31	Pass
		5200	11.25	11.24	14.25	3.0	16.50	33.75	36.0	-2.25	Pass
		5240	11.30	11.31	14.31	3.0	16.50	33.81	36.0	-2.19	Pass
	16QAM	5165	4.18	4.17	7.18	3.0	16.50	26.68	36.0	-9.32	Pass
		5200	11.26	11.24	14.25	3.0	16.50	33.75	36.0	-2.25	Pass
		5240	11.31	11.32	14.32	3.0	16.50	33.82	36.0	-2.18	Pass
	64QAM	5165	4.19	4.19	7.19	3.0	16.50	26.69	36.0	-9.31	Pass
		5200	11.26	11.24	14.25	3.0	16.50	33.75	36.0	-2.25	Pass
		5240	11.31	11.32	14.32	3.0	16.50	33.82	36.0	-2.18	Pass
20	QPSK	5165	3.19	3.15	6.17	3.0	16.50	25.67	36.0	-10.33	Pass
		5200	10.69	10.68	13.69	3.0	16.50	33.19	36.0	-2.81	Pass
		5240	10.41	10.42	13.42	3.0	16.50	32.92	36.0	-3.08	Pass
	16QAM	5165	3.19	3.13	6.16	3.0	16.50	25.66	36.0	-10.34	Pass
		5200	10.69	10.68	13.69	3.0	16.50	33.19	36.0	-2.81	Pass
		5240	10.42	10.42	13.42	3.0	16.50	32.92	36.0	-3.08	Pass
	64QAM	5165	3.20	3.15	6.18	3.0	16.50	25.68	36.0	-10.32	Pass
		5200	10.70	10.67	13.69	3.0	16.50	33.19	36.0	-2.81	Pass
		5240	10.41	10.43	13.42	3.0	16.50	32.92	36.0	-3.08	Pass

* Total output power = (10*LOG (10^(Output power ANT1/10) + 10^(Output power ANT2/10)))

** Total EIRP = Total output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit



HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.10 EIRP test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: 1 carrier, 1 sector (4 ports to 2 dual slant antennas), non-coherent signal

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm		Total output power*, dBm	Antenna gain array, dB	Single antenna gain, dBi	Total EIRP**, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT3	ANT4							
10	QPSK	5160	4.24	4.30	7.27	3.0	16.50	26.77	36.0	-9.23	Pass
		5200	9.29	9.29	12.29	3.0	16.50	31.79	36.0	-4.21	Pass
		5245	8.01	7.95	10.98	3.0	16.50	30.48	36.0	-5.52	Pass
	16QAM	5160	4.25	4.31	7.28	3.0	16.50	26.78	36.0	-9.22	Pass
		5200	9.29	9.29	12.29	3.0	16.50	31.79	36.0	-4.21	Pass
		5245	8.01	7.93	10.97	3.0	16.50	30.47	36.0	-5.53	Pass
	64QAM	5160	4.25	4.30	7.28	3.0	16.50	26.78	36.0	-9.22	Pass
		5200	9.29	9.30	12.30	3.0	16.50	31.80	36.0	-4.20	Pass
		5245	7.99	7.92	10.96	3.0	16.50	30.46	36.0	-5.54	Pass
15	QPSK	5165	4.18	4.19	7.19	3.0	16.50	26.69	36.0	-9.31	Pass
		5200	11.24	11.21	14.23	3.0	16.50	33.73	36.0	-2.27	Pass
		5240	11.29	11.31	14.30	3.0	16.50	33.80	36.0	-2.20	Pass
	16QAM	5165	4.15	4.18	7.17	3.0	16.50	26.67	36.0	-9.33	Pass
		5200	11.24	11.22	14.23	3.0	16.50	33.73	36.0	-2.27	Pass
		5240	11.29	11.30	14.30	3.0	16.50	33.80	36.0	-2.2	Pass
	64QAM	5165	4.15	4.17	7.16	3.0	16.50	26.66	36.0	-9.34	Pass
		5200	11.26	11.20	14.23	3.0	16.50	33.73	36.0	-2.27	Pass
		5240	11.29	11.31	14.30	3.0	16.50	33.80	36.0	-2.20	Pass
20	QPSK	5165	3.16	3.18	6.17	3.0	16.50	25.67	36.0	-10.33	Pass
		5200	10.69	10.64	13.67	3.0	16.50	33.17	36.0	-2.83	Pass
		5240	10.40	10.36	13.38	3.0	16.50	32.88	36.0	-3.12	Pass
	16QAM	5165	3.17	3.17	6.17	3.0	16.50	25.67	36.0	-10.33	Pass
		5200	10.68	10.65	13.67	3.0	16.50	33.17	36.0	-2.83	Pass
		5240	10.39	10.36	13.38	3.0	16.50	32.88	36.0	-3.12	Pass
	64QAM	5165	3.17	3.20	6.19	3.0	16.50	25.69	36.0	-10.31	Pass
		5200	10.70	10.65	13.68	3.0	16.50	33.18	36.0	-2.82	Pass
		5240	10.41	10.36	13.39	3.0	16.50	32.89	36.0	-3.11	Pass

* Total output power = (10*LOG (10^(Output power ANT3/10) + 10^(Output power ANT4/10)))

** Total EIRP = Total output power + Antenna array gain + Single antenna gain

*** Margin = Total output power – specification limit



HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.11 EIRP test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
DETECTOR USED: Average
METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
MIMO CONFIGURATION: (2carriers 2sectors) – isolated sectors, therefore the carriers may use similar or different frequencies (4 ports: 2 sectors x 2 dual slant antenna, no carrier aggregation and no antenna gain aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm		Total output power*, dBm	Antenna gain array, dB	Single antenna gain, dBi	Total EIRP**, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT1	ANT2							
10	QPSK	5160	4.31	4.29	7.30	0	16.50	23.80	36.0	-12.20	Pass
		5200	9.30	9.26	12.28	0	16.50	28.78	36.0	-7.22	Pass
		5245	8.00	8.00	11.00	0	16.50	27.50	36.0	-8.50	Pass
	16QAM	5160	4.31	4.28	7.30	0	16.50	23.80	36.0	-12.2	Pass
		5200	9.30	9.25	12.28	0	16.50	28.78	36.0	-7.22	Pass
		5245	7.99	7.98	10.99	0	16.50	27.49	36.0	-8.51	Pass
	64QAM	5160	4.30	4.29	7.30	0	16.50	23.80	36.0	-12.20	Pass
		5200	9.30	9.26	12.28	0	16.50	28.78	36.0	-7.22	Pass
		5245	7.98	7.99	10.99	0	16.50	27.49	36.0	-8.51	Pass
15	QPSK	5165	4.20	4.18	7.19	0	16.50	23.69	36.0	-12.31	Pass
		5200	11.25	11.24	14.25	0	16.50	30.75	36.0	-5.25	Pass
		5240	11.30	11.31	14.31	0	16.50	30.81	36.0	-5.19	Pass
	16QAM	5165	4.18	4.17	7.18	0	16.50	23.68	36.0	-12.32	Pass
		5200	11.26	11.24	14.25	0	16.50	30.75	36.0	-5.25	Pass
		5240	11.31	11.32	14.32	0	16.50	30.82	36.0	-5.18	Pass
	64QAM	5165	4.19	4.19	7.19	0	16.50	23.69	36.0	-12.31	Pass
		5200	11.26	11.24	14.25	0	16.50	30.75	36.0	-5.25	Pass
		5240	11.31	11.32	14.32	0	16.50	30.82	36.0	-5.18	Pass
20	QPSK	5165	3.19	3.15	6.17	0	16.50	22.67	36.0	-13.33	Pass
		5200	10.69	10.68	13.69	0	16.50	30.19	36.0	-5.81	Pass
		5240	10.41	10.42	13.42	0	16.50	29.92	36.0	-6.08	Pass
	16QAM	5165	3.19	3.13	6.16	0	16.50	22.66	36.0	-13.34	Pass
		5200	10.69	10.68	13.69	0	16.50	30.19	36.0	-5.81	Pass
		5240	10.42	10.42	13.42	0	16.50	29.92	36.0	-6.08	Pass
	64QAM	5165	3.20	3.15	6.18	0	16.50	22.68	36.0	-13.32	Pass
		5200	10.70	10.67	13.69	0	16.50	30.19	36.0	-5.81	Pass
		5240	10.41	10.43	13.42	0	16.50	29.92	36.0	-6.08	Pass

* Total output power = (10*LOG (10^(Output power ANT1/10) + 10^(Output power ANT2/10)))

** Total EIRP = Total output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit



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Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.12 EIRP test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
DETECTOR USED: Average
METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
MIMO CONFIGURATION: (2carriers 2sectors) – isolated sectors, therefore the carriers may use similar or different frequencies (4 ports: 2 sectors x 2 dual slant antenna, no carrier aggregation and no antenna gain aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power per port, dBm		Total output power*, dBm	Antenna gain array, dB	Single antenna gain, dBi	Total EIRP**, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT3	ANT4							
10	QPSK	5160	4.24	4.30	7.27	0	16.50	23.77	36.0	-12.23	Pass
		5200	9.29	9.29	12.29	0	16.50	28.79	36.0	-7.21	Pass
		5245	8.01	7.95	10.98	0	16.50	27.48	36.0	-8.52	Pass
	16QAM	5160	4.25	4.31	7.28	0	16.50	23.78	36.0	-12.22	Pass
		5200	9.29	9.29	12.29	0	16.50	28.79	36.0	-7.21	Pass
		5245	8.01	7.93	10.97	0	16.50	27.47	36.0	-8.53	Pass
	64QAM	5160	4.25	4.30	7.28	0	16.50	23.78	36.0	-12.22	Pass
		5200	9.29	9.30	12.30	0	16.50	28.80	36.0	-7.20	Pass
		5245	7.99	7.92	10.96	0	16.50	27.46	36.0	-8.54	Pass
15	QPSK	5165	4.18	4.19	7.19	0	16.50	23.69	36.0	-12.31	Pass
		5200	11.24	11.21	14.23	0	16.50	30.73	36.0	-5.27	Pass
		5240	11.29	11.31	14.30	0	16.50	30.80	36.0	-5.20	Pass
	16QAM	5165	4.15	4.18	7.17	0	16.50	23.67	36.0	-12.33	Pass
		5200	11.24	11.22	14.23	0	16.50	30.73	36.0	-5.27	Pass
		5240	11.29	11.30	14.30	0	16.50	30.80	36.0	-5.20	Pass
	64QAM	5165	4.15	4.17	7.16	0	16.50	23.66	36.0	-12.34	Pass
		5200	11.26	11.20	14.23	0	16.50	30.73	36.0	-5.27	Pass
		5240	11.29	11.31	14.30	0	16.50	30.80	36.0	-5.20	Pass
20	QPSK	5165	3.16	3.18	6.17	0	16.50	22.67	36.0	-13.33	Pass
		5200	10.69	10.64	13.67	0	16.50	30.17	36.0	-5.83	Pass
		5240	10.40	10.36	13.38	0	16.50	29.88	36.0	-6.12	Pass
	16QAM	5165	3.17	3.17	6.17	0	16.50	22.67	36.0	-13.33	Pass
		5200	10.68	10.65	13.67	0	16.50	30.17	36.0	-5.83	Pass
		5240	10.39	10.36	13.38	0	16.50	29.88	36.0	-6.12	Pass
	64QAM	5165	3.17	3.20	6.19	0	16.50	22.69	36.0	-13.31	Pass
		5200	10.70	10.65	13.68	0	16.50	30.18	36.0	-5.82	Pass
		5240	10.41	10.36	13.39	0	16.50	29.89	36.0	-6.11	Pass

* Total output power = (10*LOG (10^(Output power ANT3/10) + 10^(Output power ANT4/10)))

** Total EIRP = Total output power + Antenna array gain + Single antenna gain

*** Margin = Total output power – specification limit



Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.13 EIRP test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: 2 Bands 2carriers 1sector- different frequencies and different Bands(4 ports: 2 dual slant antennas- no power aggregation as 2 carriers are in different bands and 2 Bands, no antenna gains aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power, dBm	Antenna gain array, dB	Single antenna gain, dBi	Total EIRP*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT1						
10	QPSK	5160	6.20	0	16.50	22.70	36.0	-13.30	Pass
		5200	15.50	0	16.50	32.00	36.0	-4.00	Pass
		5245	15.35	0	16.50	31.85	36.0	-4.15	Pass
	16QAM	5160	6.19	0	16.50	22.69	36.0	-13.31	Pass
		5200	15.51	0	16.50	32.01	36.0	-3.99	Pass
		5245	15.35	0	16.50	31.85	36.0	-4.15	Pass
	64QAM	5160	6.18	0	16.50	22.68	36.0	-13.32	Pass
		5200	15.51	0	16.50	32.01	36.0	-3.99	Pass
		5245	15.36	0	16.50	31.86	36.0	-4.14	Pass
15	QPSK	5165	7.59	0	16.50	24.09	36.0	-11.91	Pass
		5200	14.46	0	16.50	30.96	36.0	-5.04	Pass
		5240	14.48	0	16.50	30.98	36.0	-5.02	Pass
	16QAM	5165	7.60	0	16.50	24.10	36.0	-11.90	Pass
		5200	14.46	0	16.50	30.96	36.0	-5.04	Pass
		5240	14.48	0	16.50	30.98	36.0	-5.02	Pass
	64QAM	5165	7.59	0	16.50	24.09	36.0	-11.91	Pass
		5200	14.46	0	16.50	30.96	36.0	-5.04	Pass
		5240	14.47	0	16.50	30.97	36.0	-5.03	Pass
20	QPSK	5165	5.58	0	16.50	22.08	36.0	-13.92	Pass
		5200	15.31	0	16.50	31.81	36.0	-4.19	Pass
		5240	16.35	0	16.50	32.85	36.0	-3.15	Pass
	16QAM	5165	5.58	0	16.50	22.08	36.0	-13.92	Pass
		5200	15.31	0	16.50	31.81	36.0	-4.19	Pass
		5240	16.35	0	16.50	32.85	36.0	-3.15	Pass
	64QAM	5165	5.58	0	16.50	22.08	36.0	-13.92	Pass
		5200	15.31	0	16.50	31.81	36.0	-4.19	Pass
		5240	16.34	0	16.50	32.84	36.0	-3.16	Pass

* Total EIRP = Output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit



Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.14 EIRP test results (continued)

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: 2 Bands 2carriers 1sector- different frequencies and different Bands(4 ports: 2 dual slant antennas- no power aggregation as 2 carriers are in different bands and 2 Bands, no antenna gains aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power, dBm	Antenna gain array, dB	Single antenna gain, dBi	Total EIRP*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT2						
10	QPSK	5160	6.20	0	16.50	22.70	36.0	-13.30	Pass
		5200	15.50	0	16.50	32.00	36.0	-4.21	Pass
		5245	15.33	0	16.50	31.83	36.0	-5.52	Pass
	16QAM	5160	6.18	0	16.50	22.68	36.0	-9.22	Pass
		5200	15.48	0	16.50	31.98	36.0	-4.21	Pass
		5245	15.32	0	16.50	31.82	36.0	-5.53	Pass
	64QAM	5160	6.18	0	16.50	22.68	36.0	-9.22	Pass
		5200	15.49	0	16.50	31.99	36.0	-4.20	Pass
		5245	15.32	0	16.50	31.82	36.0	-5.54	Pass
15	QPSK	5165	7.55	0	16.50	24.05	36.0	-9.31	Pass
		5200	14.43	0	16.50	30.93	36.0	-2.27	Pass
		5240	14.45	0	16.50	30.95	36.0	-2.2	Pass
	16QAM	5165	7.59	0	16.50	24.09	36.0	-9.33	Pass
		5200	14.44	0	16.50	30.94	36.0	-2.27	Pass
		5240	14.45	0	16.50	30.95	36.0	-2.2	Pass
	64QAM	5165	7.59	0	16.50	24.09	36.0	-9.34	Pass
		5200	14.43	0	16.50	30.93	36.0	-2.27	Pass
		5240	14.45	0	16.50	30.95	36.0	-2.20	Pass
20	QPSK	5165	5.59	0	16.50	22.09	36.0	-10.33	Pass
		5200	15.30	0	16.50	31.8	36.0	-2.83	Pass
		5240	16.35	0	16.50	32.85	36.0	-3.12	Pass
	16QAM	5165	5.60	0	16.50	22.10	36.0	-10.33	Pass
		5200	15.30	0	16.50	31.80	36.0	-2.83	Pass
		5240	16.35	0	16.50	32.85	36.0	-3.12	Pass
	64QAM	5165	5.60	0	16.50	22.10	36.0	-10.31	Pass
		5200	15.30	0	16.50	31.80	36.0	-2.82	Pass
		5240	16.36	0	16.50	32.86	36.0	-3.11	Pass

* Total EIRP = Output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit



Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.15 EIRP test results (continued)

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: 2 Bands 2carriers 1sector- different frequencies and different Bands(4 ports: 2 dual slant antennas- no power aggregation as 2 carriers are in different bands and 2 Bands, no antenna gains aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power, dBm	Antenna gain array, dB	Single antenna gain, dBi	Total EIRP*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT3						
10	QPSK	5160	6.15	0	16.50	22.65	36.0	-9.23	Pass
		5200	15.47	0	16.50	31.97	36.0	-4.21	Pass
		5245	15.31	0	16.50	31.81	36.0	-5.52	Pass
	16QAM	5160	6.16	0	16.50	22.66	36.0	-9.22	Pass
		5200	15.46	0	16.50	31.96	36.0	-4.21	Pass
		5245	15.32	0	16.50	31.82	36.0	-5.53	Pass
	64QAM	5160	6.15	0	16.50	22.65	36.0	-9.22	Pass
		5200	15.47	0	16.50	31.97	36.0	-4.20	Pass
		5245	15.32	0	16.50	31.82	36.0	-5.54	Pass
15	QPSK	5165	7.50	0	16.50	24.00	36.0	-9.31	Pass
		5200	14.45	0	16.50	30.95	36.0	-2.27	Pass
		5240	14.44	0	16.50	30.94	36.0	-2.2	Pass
	16QAM	5165	7.57	0	16.50	24.07	36.0	-9.33	Pass
		5200	14.45	0	16.50	30.95	36.0	-2.27	Pass
		5240	14.44	0	16.50	30.94	36.0	-2.20	Pass
	64QAM	5165	7.59	0	16.50	24.09	36.0	-9.34	Pass
		5200	14.43	0	16.50	30.93	36.0	-2.27	Pass
		5240	14.42	0	16.50	30.92	36.0	-2.20	Pass
20	QPSK	5165	5.56	0	16.50	22.06	36.0	-10.33	Pass
		5200	15.32	0	16.50	31.82	36.0	-2.83	Pass
		5240	16.30	0	16.50	32.80	36.0	-3.12	Pass
	16QAM	5165	5.54	0	16.50	22.04	36.0	-10.33	Pass
		5200	15.33	0	16.50	31.83	36.0	-2.83	Pass
		5240	16.28	0	16.50	32.78	36.0	-3.12	Pass
	64QAM	5165	5.57	0	16.50	22.07	36.0	-10.31	Pass
		5200	15.31	0	16.50	31.81	36.0	-2.82	Pass
		5240	16.29	0	16.50	32.79	36.0	-3.11	Pass

* Total EIRP = Output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit



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Test specification: FCC section 15.407(a)(1-3), Peak output power			
Test procedure: FCC section 15.407(a)(4); KDB 662911, KDB 789033, ANSI C63.10, section 12.3.3			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.4.16 EIRP test results (continued)

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
 DETECTOR USED: Average
 METHOD OF POWER MEASUREMENTS: PM-G (789033 D02)
 MIMO CONFIGURATION: 2 Bands 2carriers 1sector- different frequencies and different Bands(4 ports: 2 dual slant antennas- no power aggregation as 2 carriers are in different bands and 2 Bands, no antenna gains aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	Output power, dBm	Antenna gain array, dB	Single antenna gain, dBi	Total EIRP*, dBm	Limit, dBm	Margin**, dB	Verdict
			ANT4						
10	QPSK	5160	6.18	0	16.50	22.68	36.0	-13.32	Pass
		5200	15.48	0	16.50	31.98	36.0	-4.02	Pass
		5245	15.35	0	16.50	31.85	36.0	-4.15	Pass
	16QAM	5160	6.18	0	16.50	22.68	36.0	-13.32	Pass
		5200	15.47	0	16.50	31.97	36.0	-4.03	Pass
		5245	15.33	0	16.50	31.83	36.0	-4.17	Pass
	64QAM	5160	6.19	0	16.50	22.69	36.0	-13.31	Pass
		5200	15.48	0	16.50	31.98	36.0	-4.02	Pass
		5245	15.35	0	16.50	31.85	36.0	-4.15	Pass
15	QPSK	5165	7.56	0	16.50	24.06	36.0	-11.94	Pass
		5200	14.43	0	16.50	30.93	36.0	-5.07	Pass
		5240	14.44	0	16.50	30.94	36.0	-5.06	Pass
	16QAM	5165	7.58	0	16.50	24.08	36.0	-11.92	Pass
		5200	14.44	0	16.50	30.94	36.0	-5.06	Pass
		5240	14.43	0	16.50	30.93	36.0	-5.07	Pass
	64QAM	5165	7.58	0	16.50	24.08	36.0	-11.92	Pass
		5200	14.43	0	16.50	30.93	36.0	-5.07	Pass
		5240	14.43	0	16.50	30.93	36.0	-5.07	Pass
20	QPSK	5165	5.56	0	16.50	22.06	36.0	-13.94	Pass
		5200	15.29	0	16.50	31.79	36.0	-4.21	Pass
		5240	16.36	0	16.50	32.86	36.0	-3.14	Pass
	16QAM	5165	5.55	0	16.50	22.05	36.0	-13.95	Pass
		5200	15.28	0	16.50	31.78	36.0	-4.22	Pass
		5240	16.37	0	16.50	32.87	36.0	-3.13	Pass
	64QAM	5165	5.58	0	16.50	22.08	36.0	-13.92	Pass
		5200	15.29	0	16.50	31.79	36.0	-4.21	Pass
		5240	16.36	0	16.50	32.86	36.0	-3.14	Pass

* Total EIRP = Output power + Antenna array gain + Single antenna gain

** Margin = Total output power – specification limit

Reference numbers of test equipment used

HL 3301	HL 3901					
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Full description is given in Appendix A.



Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

7.5 Peak spectral power density at 5150 – 5250 MHz range

7.5.1 General

This test was performed to measure the peak spectral power density at the transmitter RF antenna connector. Specification test limits are given in Table 7.5.1.

Table 7.5.1 Peak spectral power density limits

Assigned frequency range, MHz	Peak power spectral density, dBm/MHz	EIRP spectral density, dBm/MHz
5150 - 5250	17	23.0

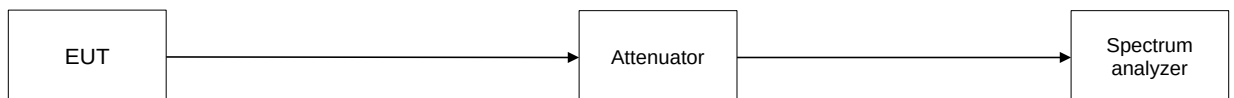
7.5.2 Test procedure

7.5.2.1 The EUT was set up as shown in Figure 7.5.1, energized and its proper operation was checked.

7.5.2.2 The EUT was adjusted to produce maximum available to end user RF output power.

7.5.2.3 The peak power spectral density was measured using a average detector and power averaging mode to find the highest level across the emission in any 1-MHz band more than 100 sweeps of averaging. The worst cased antennas output are provided in the associated tables and plots.

Figure 7.5.1 Peak spectral power density test setup





Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.5.2 Power spectral density test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
 DETECTOR USED: RMS
 METHOD OF POWER MEASUREMENTS: SA-2 (789033 D02)
 MIMO CONFIGURATION: 1 carrier, 1 sector (4 ports to 2 dual slant antennas), coherent signal

Channel bandwidth, MHz	Modulation	Frequency, MHz	SA reading, dBm	Antenna gain array*, dB	Total power spectral density**, dBm	Limit, dBm	Margin***, dB	Verdict
10	QPSK	5160	-6.99	6.0	1.48	3.5	-2.02	Pass
		5200	-5.29	6.0	3.18	3.5	-0.32	Pass
		5245	-5.49	6.0	2.98	3.5	-0.52	Pass
	16QAM	5160	-6.87	6.0	1.60	3.5	-1.90	Pass
		5200	-5.42	6.0	3.05	3.5	-0.45	Pass
		5245	-5.91	6.0	2.56	3.5	-0.94	Pass
	64QAM	5160	-6.84	6.0	1.63	3.5	-1.87	Pass
		5200	-5.38	6.0	3.09	3.5	-0.41	Pass
		5245	-5.81	6.0	2.66	3.5	-0.84	Pass
15	QPSK	5165	-9.01	6.0	-0.54	3.5	-4.04	Pass
		5200	-5.66	6.0	2.81	3.5	-0.69	Pass
		5240	-5.91	6.0	2.56	3.5	-0.94	Pass
	16QAM	5165	-8.99	6.0	-0.52	3.5	-4.02	Pass
		5200	-5.36	6.0	3.11	3.5	-0.39	Pass
		5240	-5.81	6.0	2.66	3.5	-0.84	Pass
	64QAM	5165	-8.96	6.0	-0.49	3.5	-3.99	Pass
		5200	-5.53	6.0	2.94	3.5	-0.56	Pass
		5240	-5.90	6.0	2.57	3.5	-0.93	Pass
20	QPSK	5165	-11.10	6.0	-2.63	3.5	-6.13	Pass
		5200	-5.47	6.0	3.00	3.5	-0.50	Pass
		5240	-5.71	6.0	2.76	3.5	-0.74	Pass
	16QAM	5165	-11.06	6.0	-2.59	3.5	-6.09	Pass
		5200	-5.58	6.0	2.89	3.5	-0.61	Pass
		5240	-5.51	6.0	2.96	3.5	-0.54	Pass
	64QAM	5165	-10.64	6.0	-2.17	3.5	-5.67	Pass
		5200	-5.37	6.0	3.10	3.5	-0.40	Pass
		5240	-5.62	6.0	2.85	3.5	-0.65	Pass

Antenna gain array = $10 \cdot \log(N_{\text{ant}})$, where $N_{\text{ant}} = 4$

* Total power spectral density = SA reading + Antenna gain array + Duty cycle factor (2.47 dB)

** Margin = Total power spectral density – specification limit



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Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.5.3 Power spectral density test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
DETECTOR USED: RMS
METHOD OF POWER MEASUREMENTS: SA-2 (789033 D02)
MIMO CONFIGURATION: 1 carrier, 1 sector (4 ports to 2 dual slant antennas), non-coherent signal

Channel bandwidth, MHz	Modulation	Frequency, MHz	SA reading, dBm	Antenna array gain, dB	Total power spectral density**, dBm	Limit, dBm	Margin***, dB	Verdict
10	QPSK	5160	-6.99	6.0	1.48	6.5	-5.02	Pass
		5200	-2.05	6.0	6.42	6.5	-0.08	Pass
		5245	-3.09	6.0	5.38	6.5	-1.12	Pass
	16QAM	5160	-6.87	6.0	1.60	6.5	-4.90	Pass
		5200	-2.07	6.0	6.40	6.5	-0.10	Pass
		5245	-3.25	6.0	5.22	6.5	-1.28	Pass
	64QAM	5160	-6.84	6.0	1.63	6.5	-4.87	Pass
		5200	-2.19	6.0	6.28	6.5	-0.22	Pass
		5245	-4.24	6.0	4.23	6.5	-2.27	Pass
15	QPSK	5165	-9.02	6.0	-0.55	6.5	-7.05	Pass
		5200	-2.05	6.0	6.42	6.5	-0.08	Pass
		5240	-2.03	6.0	6.44	6.5	-0.06	Pass
	16QAM	5165	-9.00	6.0	-0.53	6.5	-7.03	Pass
		5200	-2.02	6.0	6.45	6.5	-0.05	Pass
		5240	-2.03	6.0	6.44	6.5	-0.06	Pass
	64QAM	5165	-8.97	6.0	-0.50	6.5	-7.00	Pass
		5200	-2.03	6.0	6.44	6.5	-0.06	Pass
		5240	-2.02	6.0	6.45	6.5	-0.05	Pass
20	QPSK	5165	-11.10	6.0	-2.63	6.5	-9.13	Pass
		5200	-3.38	6.0	5.09	6.5	-1.41	Pass
		5240	-3.71	6.0	4.76	6.5	-1.74	Pass
	16QAM	5165	-11.06	6.0	-2.59	6.5	-9.09	Pass
		5200	-2.97	6.0	5.50	6.5	-1.00	Pass
		5240	-3.71	6.0	4.76	6.5	-1.74	Pass
	64QAM	5165	-10.64	6.0	-2.17	6.5	-8.67	Pass
		5200	-2.51	6.0	5.96	6.5	-0.54	Pass
		5240	-3.57	6.0	4.90	6.5	-1.60	Pass

* Antenna gain array = $10 \cdot \log(N_{ant})$, where $N_{ant} = 4$

* Total power spectral density = SA reading + Antenna array gain + Duty cycle factor (2.49 dB)

** Margin = Total power spectral density – specification limit



Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.5.4 Power spectral density test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
DETECTOR USED: RMS
METHOD OF POWER MEASUREMENTS: SA-2 (789033 D02)
MIMO CONFIGURATION: (2carriers 2sectors) – isolated sectors, therefore the carriers may use similar or different frequencies (4 ports: 2 sectors x 2 dual slant antenna, no carrier aggregation and no antenna gain aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	SA reading, dBm	Antenna array gain*, dB	Total power spectral density**, dBm	Limit, dBm	Margin***, dB	Verdict
10	QPSK	5160	-6.99	3.0	-1.52	6.5	-8.02	Pass
		5200	-2.05	3.0	3.42	6.5	-3.08	Pass
		5245	-3.09	3.0	2.38	6.5	-4.12	Pass
	16QAM	5160	-6.87	3.0	-1.40	6.5	-7.90	Pass
		5200	-2.07	3.0	3.40	6.5	-3.10	Pass
		5245	-3.25	3.0	2.22	6.5	-4.28	Pass
	64QAM	5160	-6.84	3.0	-1.37	6.5	-7.87	Pass
		5200	-2.19	3.0	3.28	6.5	-3.22	Pass
		5245	-4.24	3.0	1.23	6.5	-5.27	Pass
15	QPSK	5165	-9.02	3.0	-3.55	6.5	-10.05	Pass
		5200	-2.05	3.0	3.42	6.5	-3.08	Pass
		5240	-2.03	3.0	3.44	6.5	-3.06	Pass
	16QAM	5165	-9.00	3.0	-3.53	6.5	-10.03	Pass
		5200	-2.02	3.0	3.45	6.5	-3.05	Pass
		5240	-2.03	3.0	3.44	6.5	-3.06	Pass
	64QAM	5165	-8.97	3.0	-3.50	6.5	-10.00	Pass
		5200	-2.03	3.0	3.44	6.5	-3.06	Pass
		5240	-2.02	3.0	3.45	6.5	-3.05	Pass
20	QPSK	5165	-11.10	3.0	-5.63	6.5	-12.13	Pass
		5200	-3.38	3.0	2.09	6.5	-4.41	Pass
		5240	-3.71	3.0	1.76	6.5	-4.74	Pass
	16QAM	5165	-11.06	3.0	-5.59	6.5	-12.09	Pass
		5200	-2.97	3.0	2.50	6.5	-4.00	Pass
		5240	-3.71	3.0	1.76	6.5	-4.74	Pass
	64QAM	5165	-10.64	3.0	-5.17	6.5	-11.67	Pass
		5200	-2.51	3.0	2.96	6.5	-3.54	Pass
		5240	-3.57	3.0	1.90	6.5	-4.60	Pass

* Antenna gain array = $10 \cdot \log(N_{ant})$, where $N_{ant} = 4$

* Total power spectral density = SA reading + Antenna array gain + Duty cycle factor (2.49 dB)

** Margin = Total power spectral density – specification limit



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Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.5.5 Power spectral density test results

ASSIGNED FREQUENCY RANGE: 5.15 – 5.25 GHz
DETECTOR USED: RMS
METHOD OF POWER MEASUREMENTS: SA-2 (789033 D02)
MIMO CONFIGURATION: 2 Bands 2carriers 1sector- different frequencies and different Bands(4 ports: 2 dual slant antennas- no power aggregation as 2 carriers are in different bands and 2 Bands, no antenna gains aggregation)

Channel bandwidth, MHz	Modulation	Frequency, MHz	SA reading, dBm	Antenna array gain*, dB	Total power spectral density**, dBm	Limit, dBm	Margin***, dB	Verdict
10	QPSK	5160	-5.17	3.0	0.30	6.5	-6.20	Pass
		5200	1.00	3.0	6.47	6.5	-0.03	Pass
		5245	0.99	3.0	6.46	6.5	-0.04	Pass
	16QAM	5160	-5.10	3.0	0.37	6.5	-6.13	Pass
		5200	0.98	3.0	6.45	6.5	-0.05	Pass
		5245	0.90	3.0	6.37	6.5	-0.13	Pass
	64QAM	5160	-5.15	3.0	0.32	6.5	-6.18	Pass
		5200	0.97	3.0	6.44	6.5	-0.06	Pass
		5245	0.87	3.0	6.34	6.5	-0.16	Pass
15	QPSK	5165	-6.88	3.0	-1.41	6.5	-7.91	Pass
		5200	0.99	3.0	6.46	6.5	-0.04	Pass
		5240	0.94	3.0	6.41	6.5	-0.09	Pass
	16QAM	5165	-6.97	3.0	-1.50	6.5	-8.00	Pass
		5200	0.98	3.0	6.45	6.5	-0.05	Pass
		5240	0.95	3.0	6.42	6.5	-0.08	Pass
	64QAM	5165	-7.00	3.0	-1.53	6.5	-8.03	Pass
		5200	1.00	3.0	6.47	6.5	-0.03	Pass
		5240	0.91	3.0	6.38	6.5	-0.12	Pass
20	QPSK	5165	-8.10	3.0	-2.63	6.5	-9.13	Pass
		5200	0.98	3.0	6.45	6.5	-0.05	Pass
		5240	0.94	3.0	6.41	6.5	-0.09	Pass
	16QAM	5165	-7.97	3.0	-2.50	6.5	-9.00	Pass
		5200	0.95	3.0	6.42	6.5	-0.08	Pass
		5240	0.92	3.0	6.39	6.5	-0.11	Pass
	64QAM	5165	-8.07	3.0	-2.60	6.5	-9.10	Pass
		5200	0.99	3.0	6.46	6.5	-0.04	Pass
		5240	0.92	3.0	6.39	6.5	-0.11	Pass

* Antenna gain array = $10 \cdot \log(N_{ant})$, where $N_{ant} = 4$

* Total power spectral density = SA reading + Antenna array gain + Duty cycle factor (2.49 dB)

** Margin = Total power spectral density – specification limit



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Report ID: TelRad_FCC_31832_rev4

Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Table 7.5.6 Duty cycle factor calculation

Burst duration, ms	Burst period, ms	Duty cycle*	Duty cycle factor**, dB
2.83	5.00	0.566	2.47

*- Duty cycle = Burst duration / Burst period

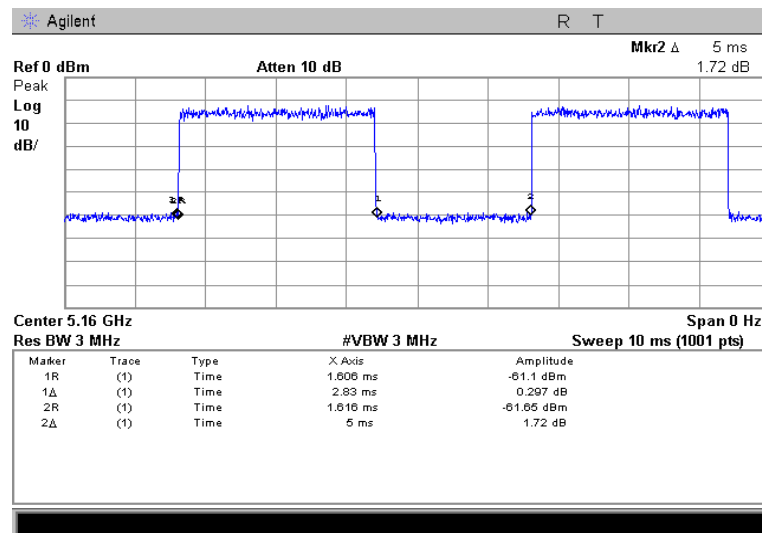
**- Duty cycle factor = $10\log(1/\text{Duty cycle})$

Reference numbers of test equipment used

HL 3901	HL 3818	HL 4355					
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Full description is given in Appendix A.

Plot 7.5.1 Duty cycle





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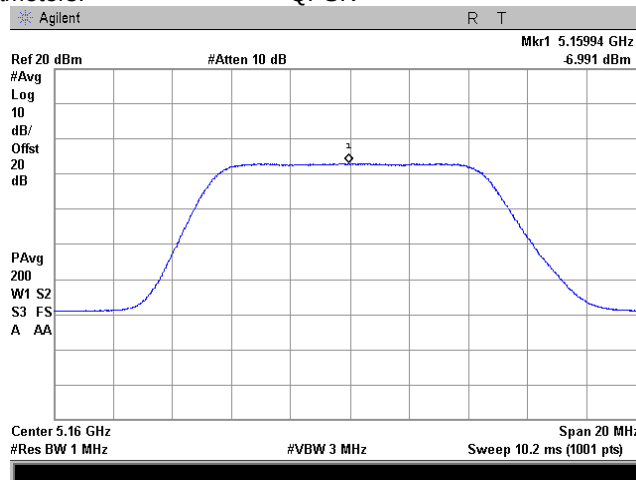
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Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

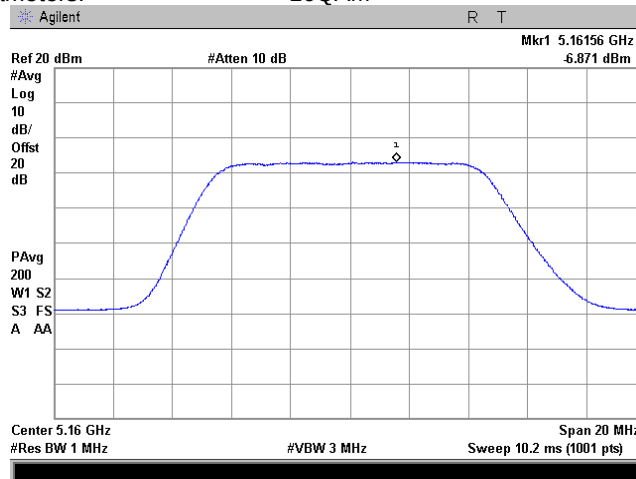
Plot 7.5.2 Peak power spectral density test results

Frequency: 5.160 GHz
Channel BW: 10 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
coherent signal

Modulation parameters: QPSK



Modulation parameters: 16QAM



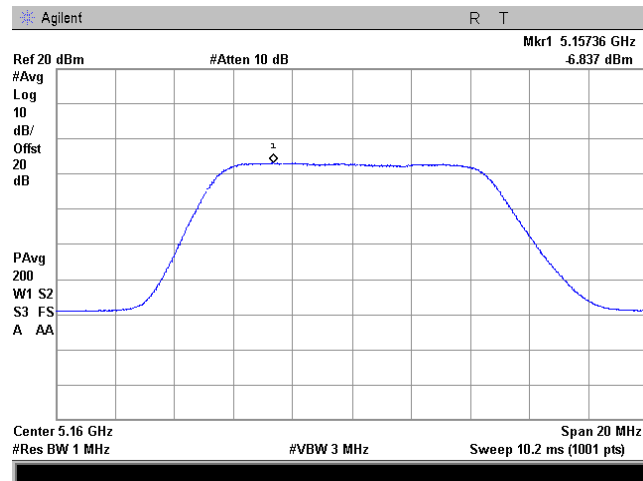


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Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters: 64QAM





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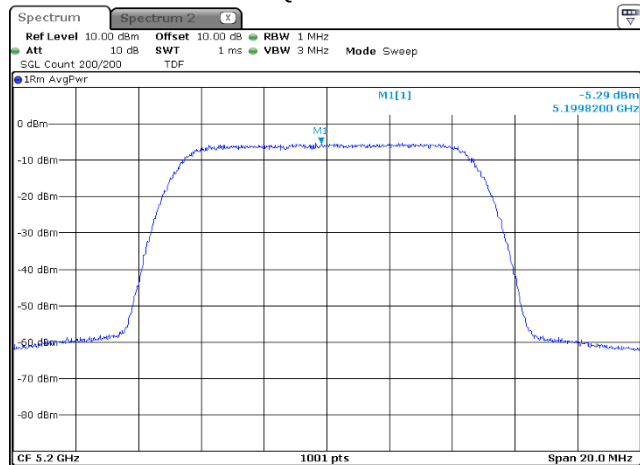
Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

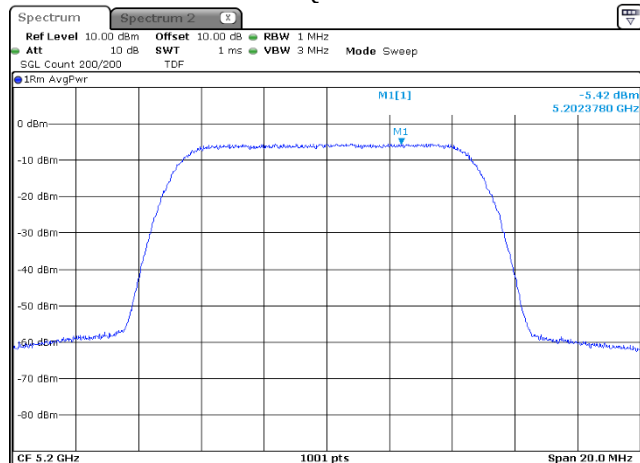
Plot 7.5.3 Peak power spectral density test results

Frequency: 5.200 GHz
Channel BW: 10 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
coherent signal

Modulation parameters: QPSK



Modulation parameters: 16QAM





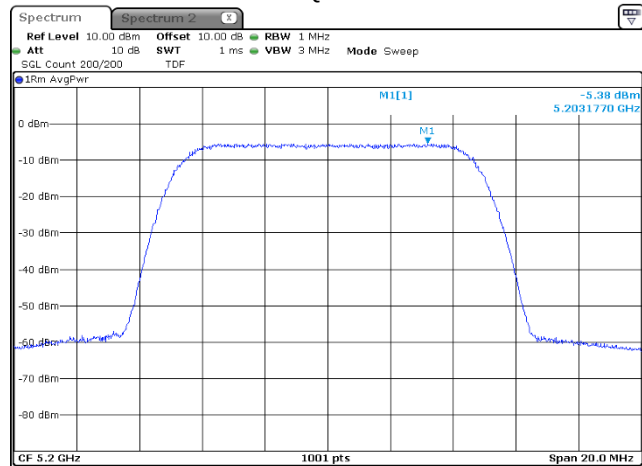
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Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters:

64QAM





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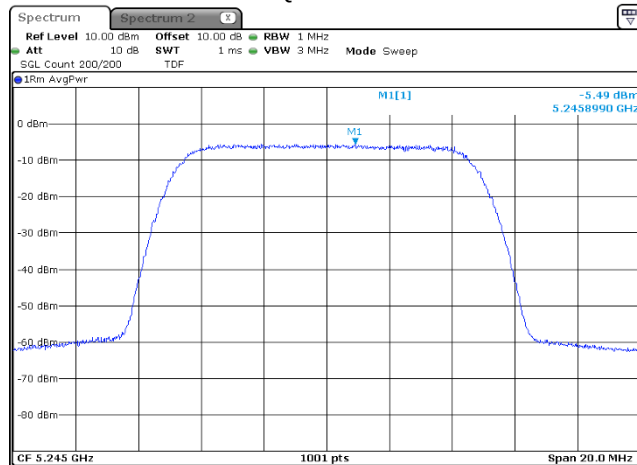
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Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

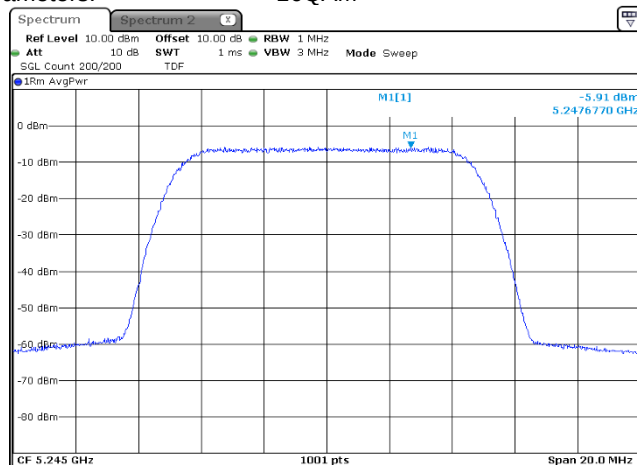
Plot 7.5.4 Peak power spectral density test results

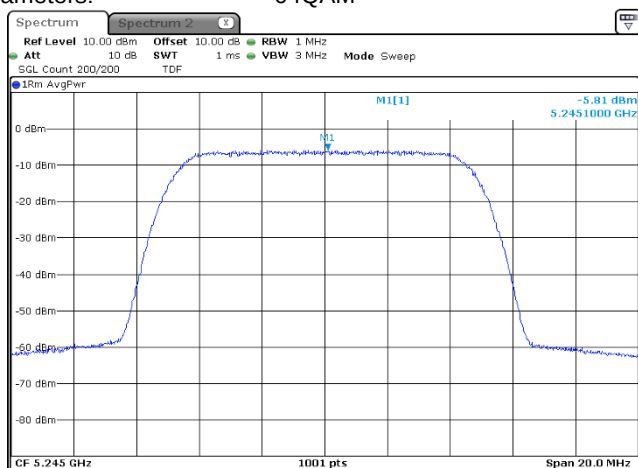
Frequency: 5.245 GHz
Channel BW: 10 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
coherent signal

Modulation parameters: QPSK



Modulation parameters: 16QAM







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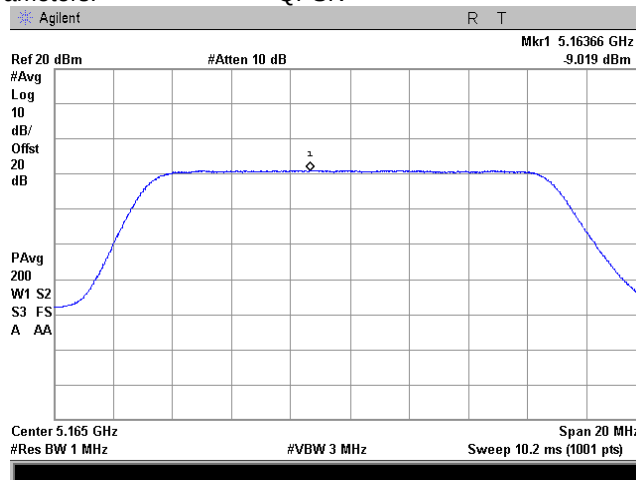
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Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

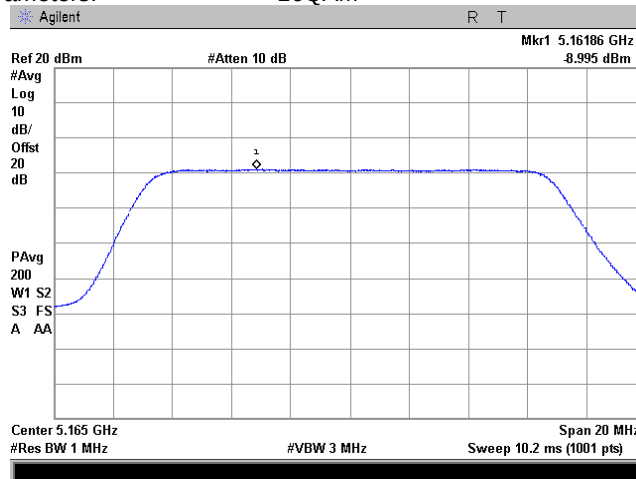
Plot 7.5.5 Peak power spectral density test results

Frequency: 5.165 GHz
Channel BW: 15 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
coherent signal

Modulation parameters: QPSK



Modulation parameters: 16QAM





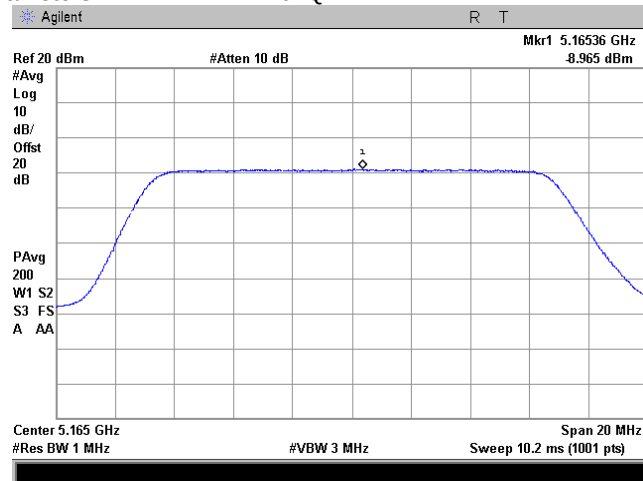
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Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters:

64QAM





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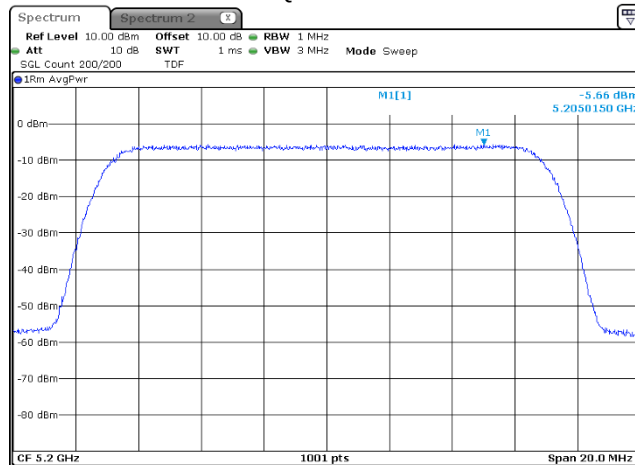
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Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

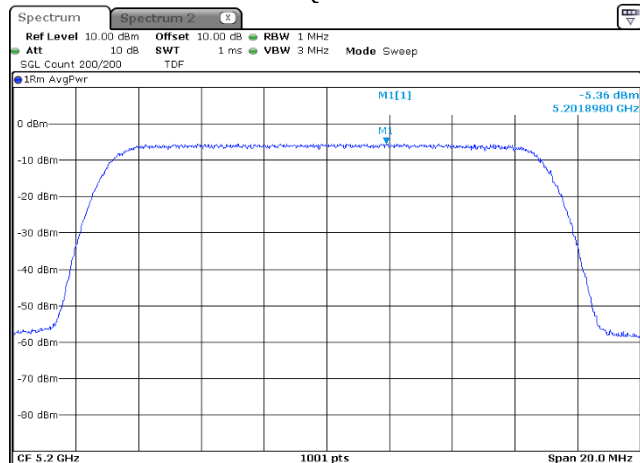
Plot 7.5.6 Peak power spectral density test results

Frequency: 5.200 GHz
Channel BW: 15 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
coherent signal

Modulation parameters: QPSK



Modulation parameters: 16QAM





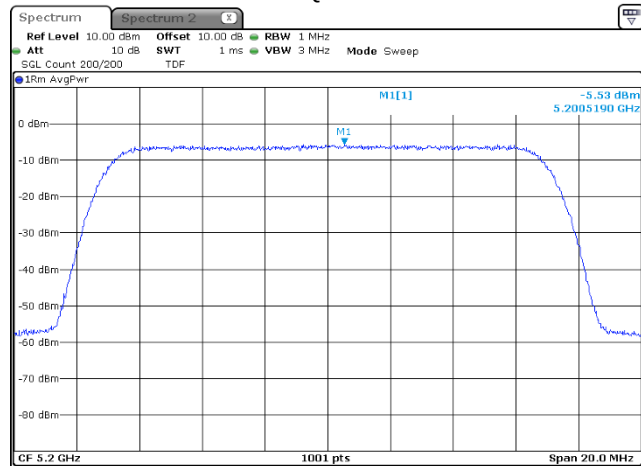
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Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters:

64QAM





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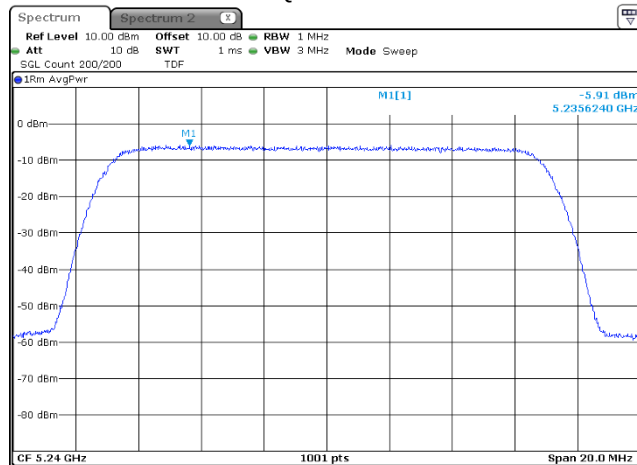
Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

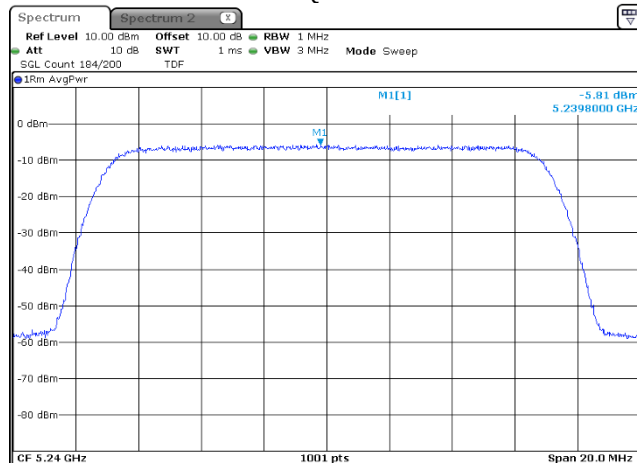
Plot 7.5.7 Peak power spectral density test results

Frequency: 5.240 GHz
Channel BW: 15 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
coherent signal

Modulation parameters: QPSK



Modulation parameters: 16QAM





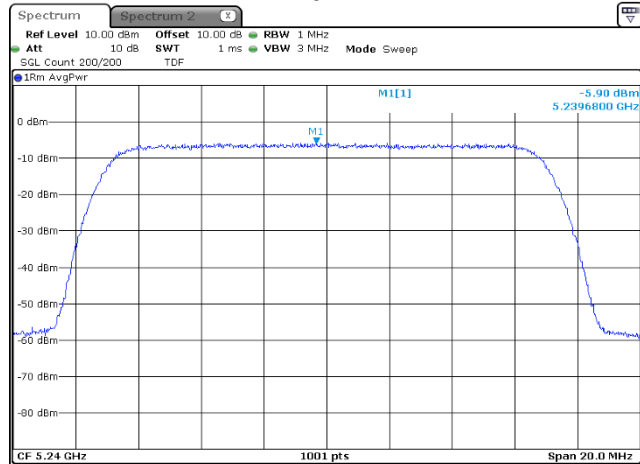
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Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters:

64QAM





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Report ID: TelRad_FCC_31832_rev4

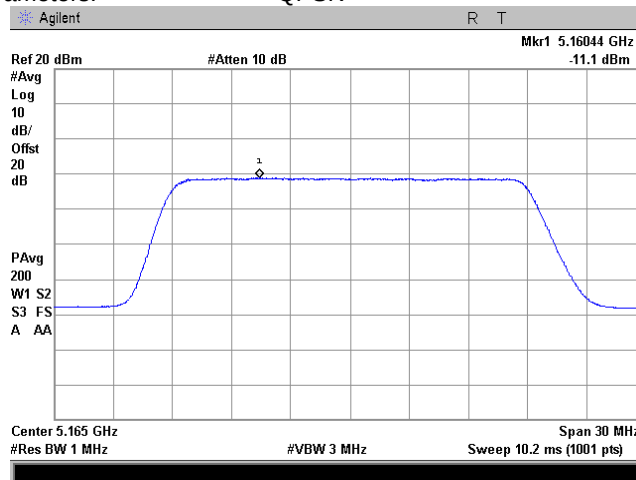
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

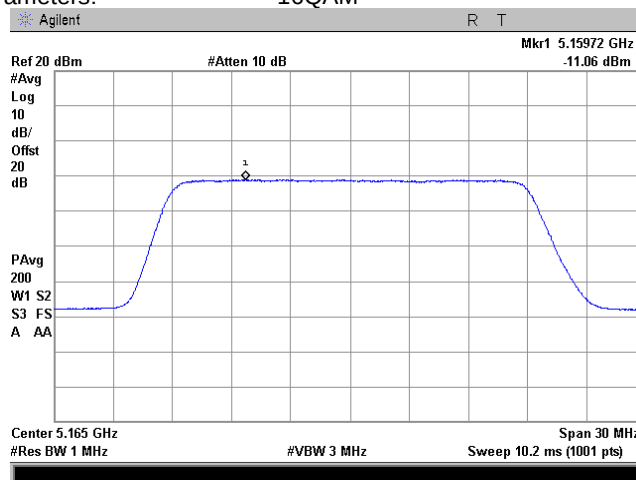
Plot 7.5.8 Peak power spectral density test results

Frequency: 5.165 GHz
Channel BW: 20 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
coherent signal

Modulation parameters: QPSK



Modulation parameters: 16QAM



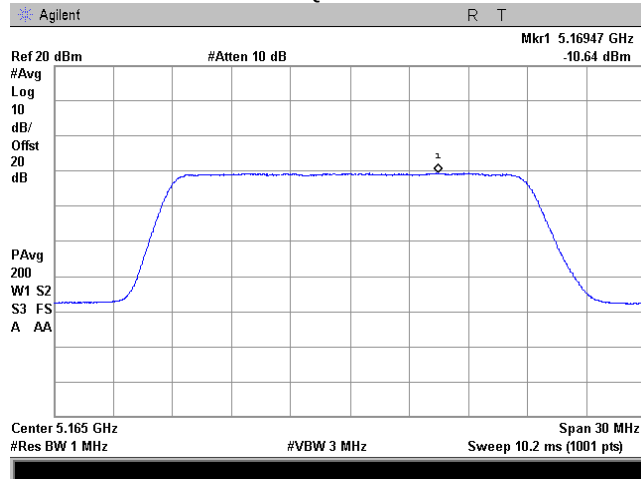


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Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters: 64QAM





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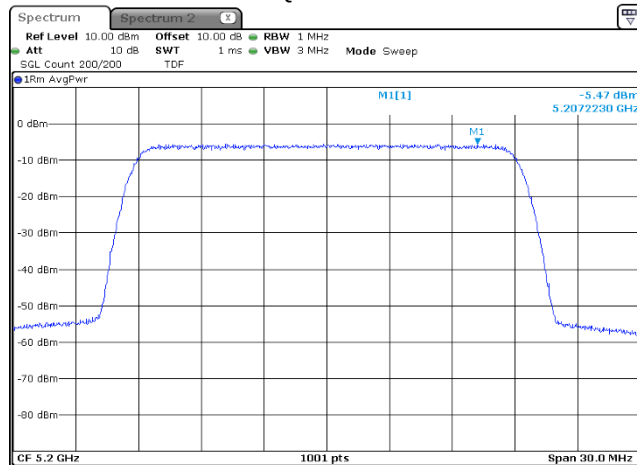
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Date of Issue: 11-Sep-19

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Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

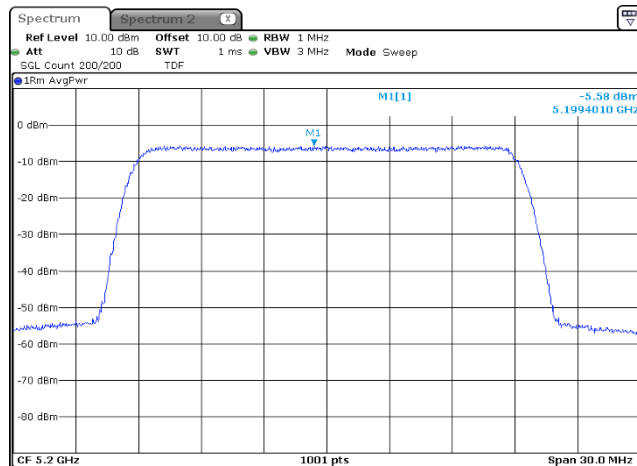
Plot 7.5.9 Peak power spectral density test results

Frequency: 5.200 GHz
Channel BW: 20 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
coherent signal

Modulation parameters: QPSK



Modulation parameters: 16QAM





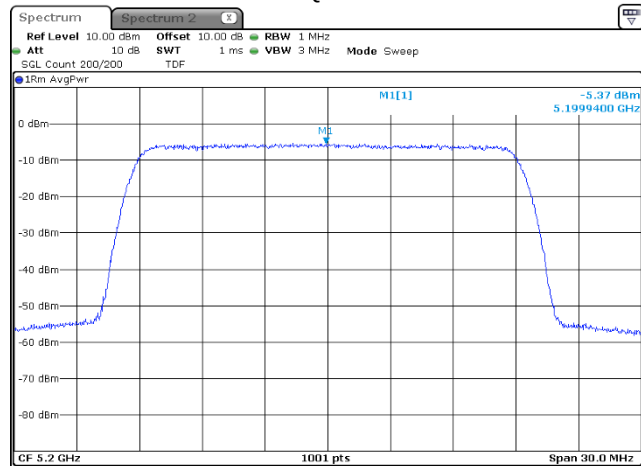
HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters:

64QAM





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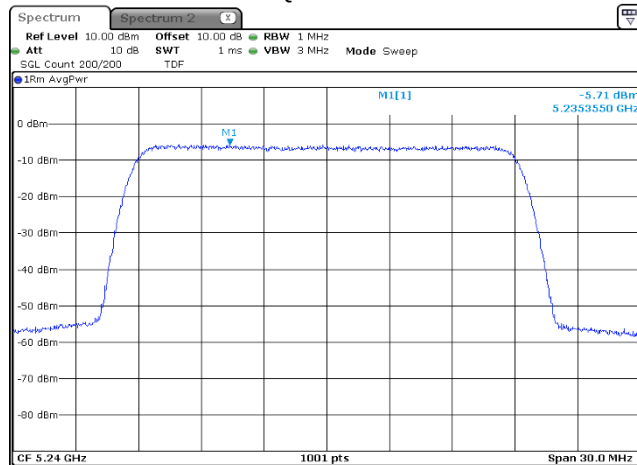
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Date of Issue: 11-Sep-19

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Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

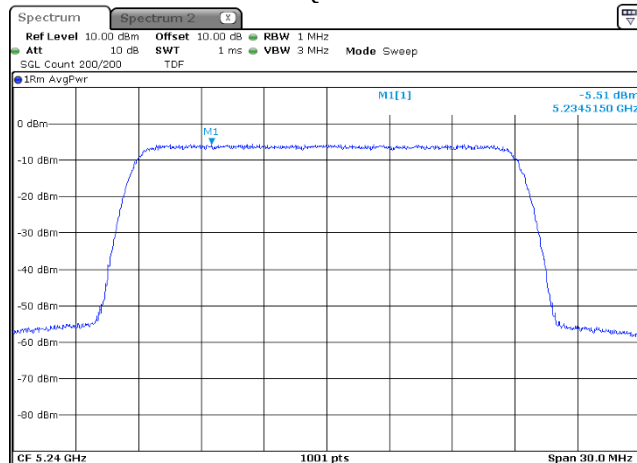
Plot 7.5.10 Peak power spectral density test results

Frequency: 5.240 GHz
Channel BW: 20 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
coherent signal

Modulation parameters: QPSK



Modulation parameters: 16QAM



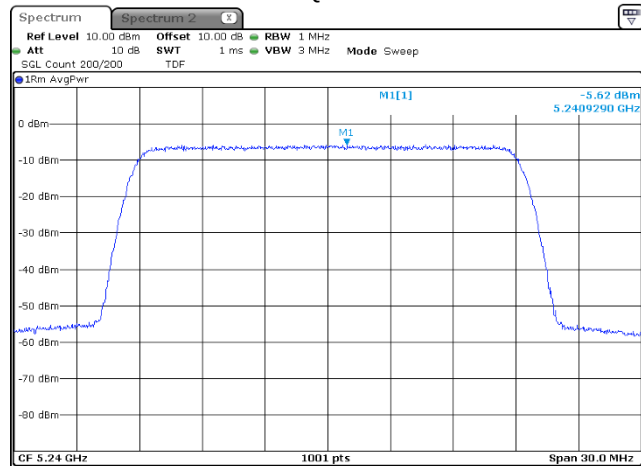


HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters: 64QAM





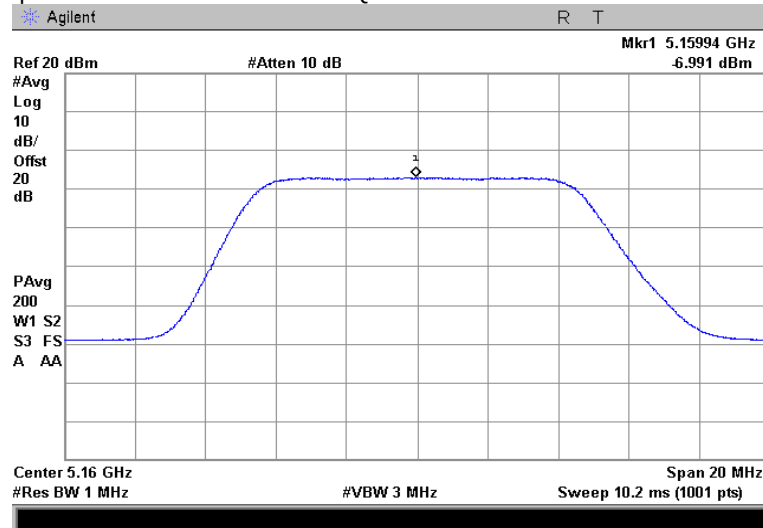
HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

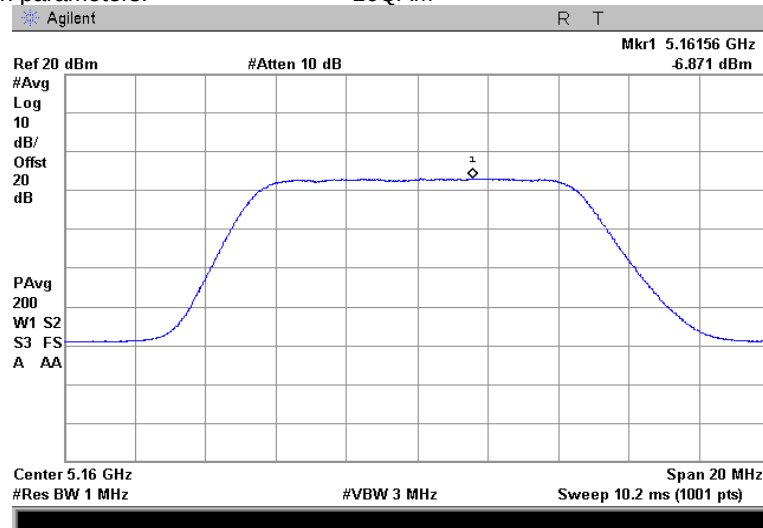
Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Plot 7.5.11 Peak power spectral density test results

Frequency: 5.160 GHz
Channel BW: 10 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
non-coherent signal
Modulation parameters: QPSK



Modulation parameters: 16QAM



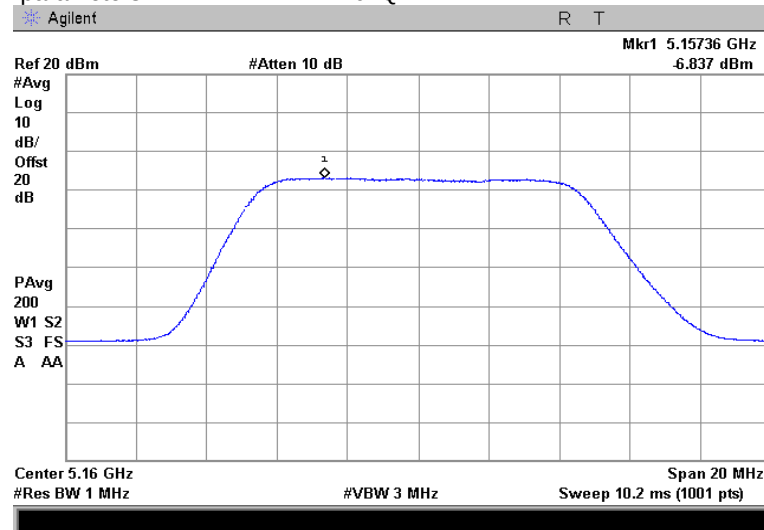


HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters: 64QAM





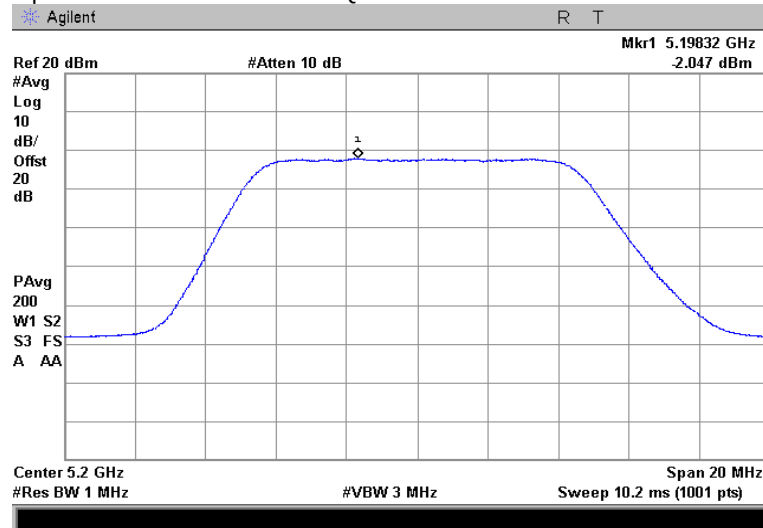
HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

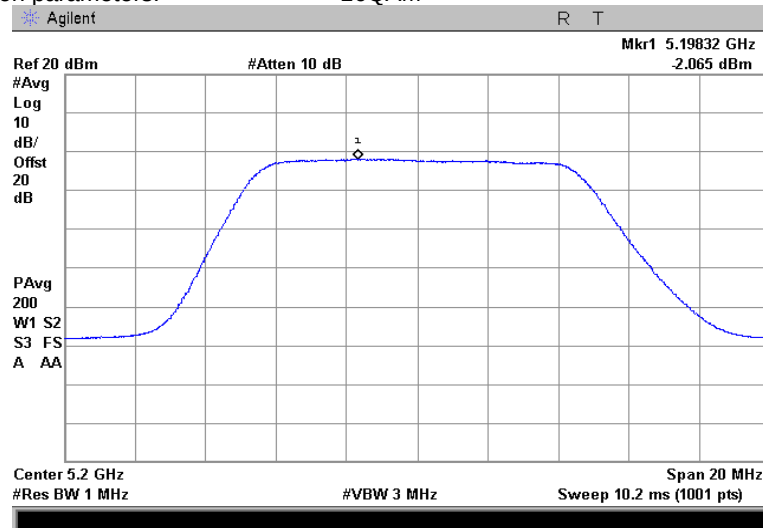
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Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Plot 7.5.12 Peak power spectral density test results

Frequency: 5.200 GHz
Channel BW: 10 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
non-coherent signal
Modulation parameters: QPSK



Modulation parameters: 16QAM



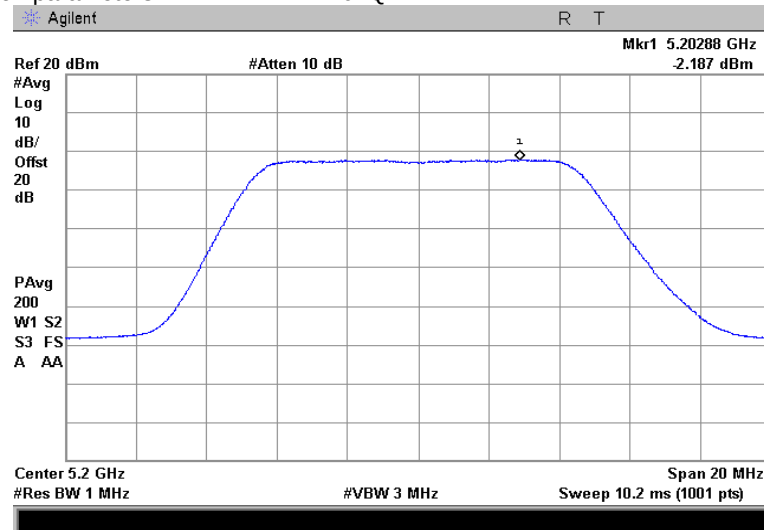


HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters: 64QAM





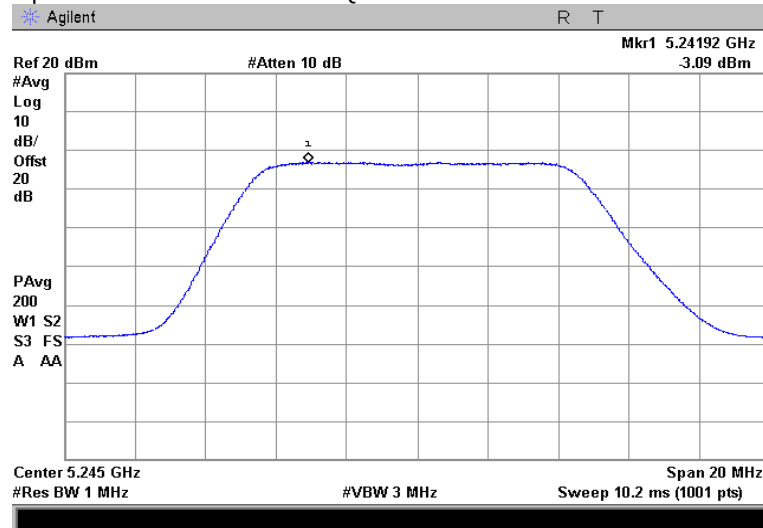
HERMON LABORATORIES

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Date of Issue: 11-Sep-19

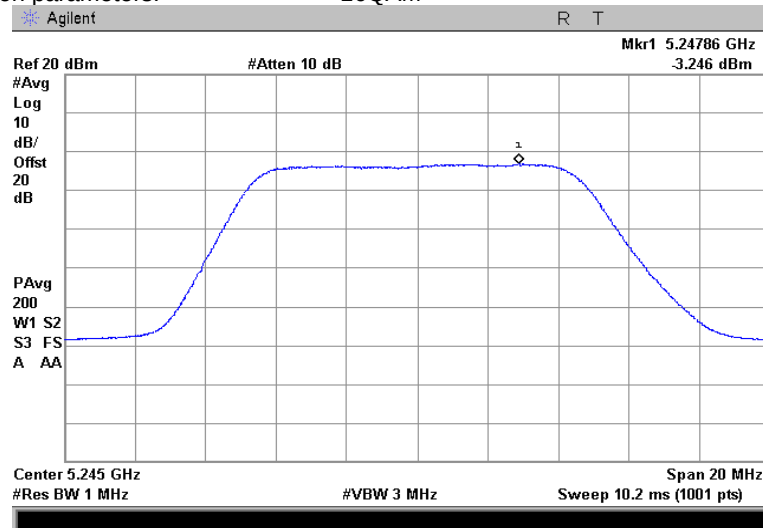
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Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Plot 7.5.13 Peak power spectral density test results

Frequency: 5.245 GHz
Channel BW: 10 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
non-coherent signal
Modulation parameters: QPSK



Modulation parameters: 16QAM





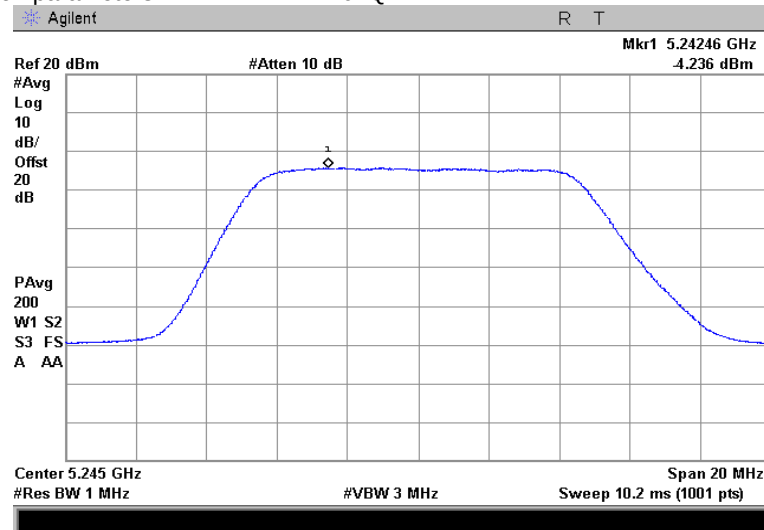
HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4

Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters: 64QAM





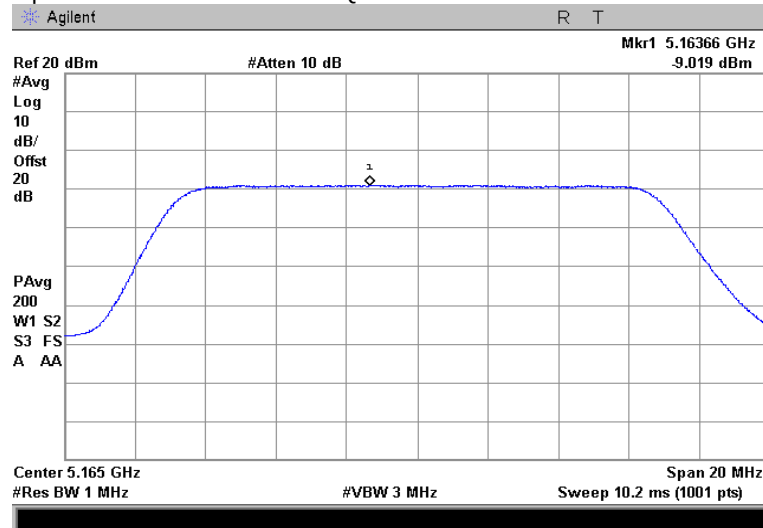
HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

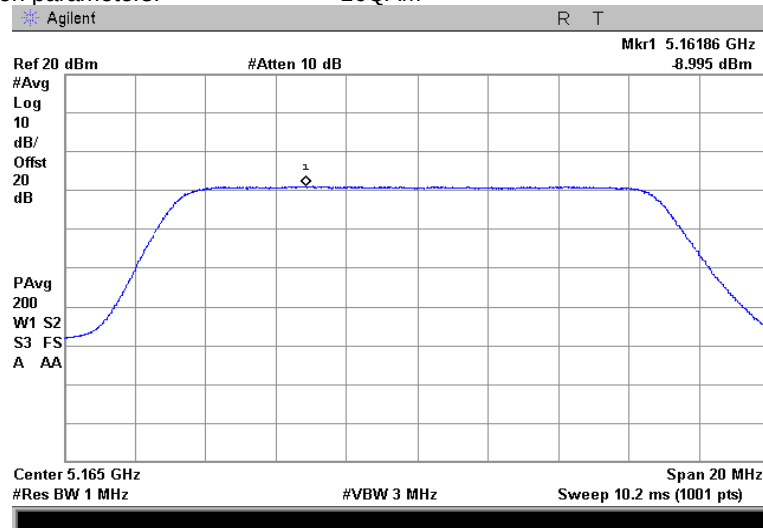
Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Plot 7.5.14 Peak power spectral density test results

Frequency: 5.165 GHz
Channel BW: 15 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
non-coherent signal
Modulation parameters: QPSK



Modulation parameters: 16QAM



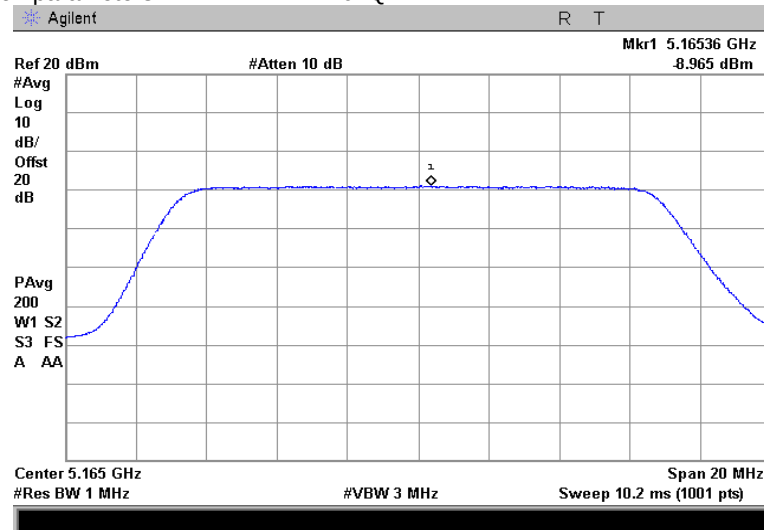


HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters: 64QAM





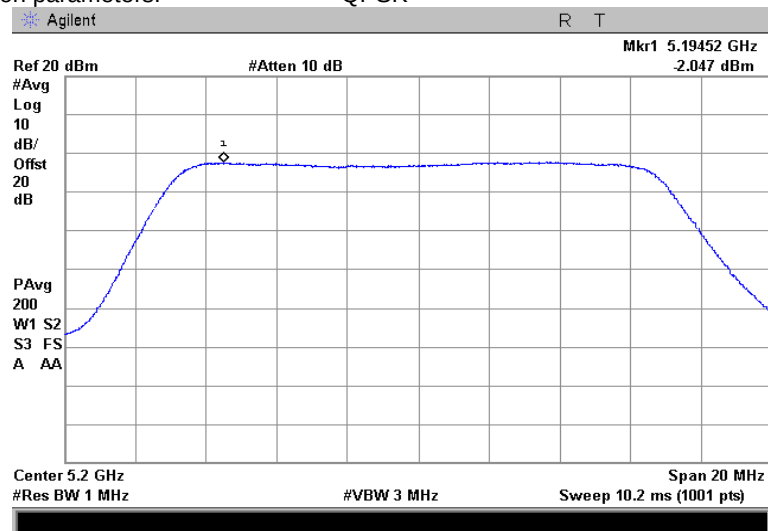
HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

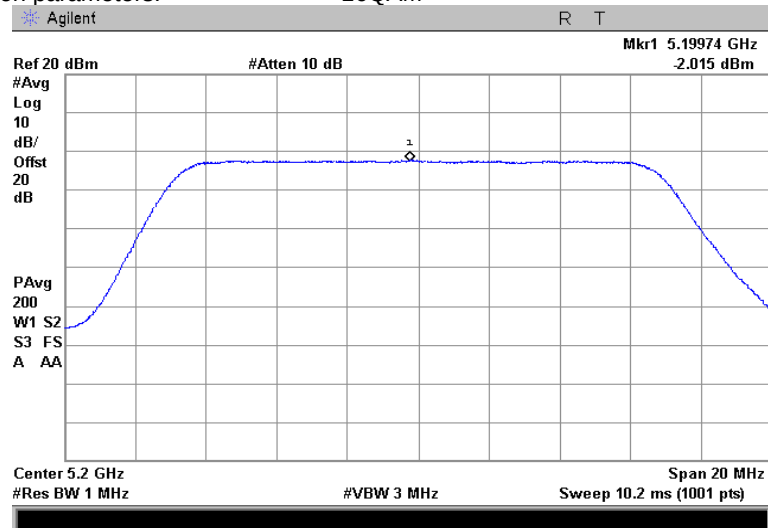
Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Plot 7.5.15 Peak power spectral density test results

Frequency: 5.200 GHz
Channel BW: 15 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
non-coherent signal
Modulation parameters: QPSK



Modulation parameters: 16QAM



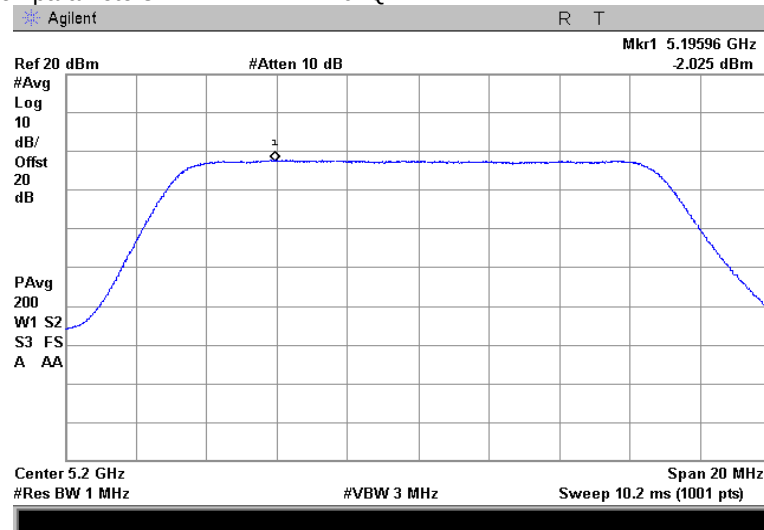


HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters: 64QAM





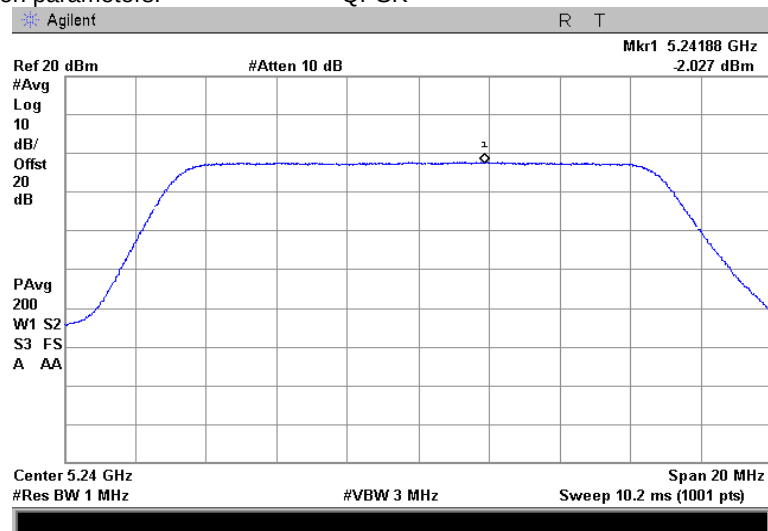
HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

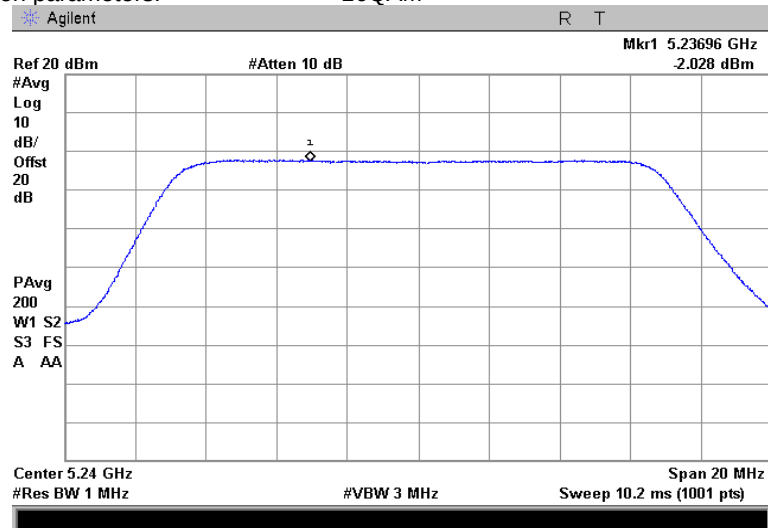
Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Plot 7.5.16 Peak power spectral density test results

Frequency: 5.240 GHz
Channel BW: 15 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
non-coherent signal
Modulation parameters: QPSK



Modulation parameters: 16QAM





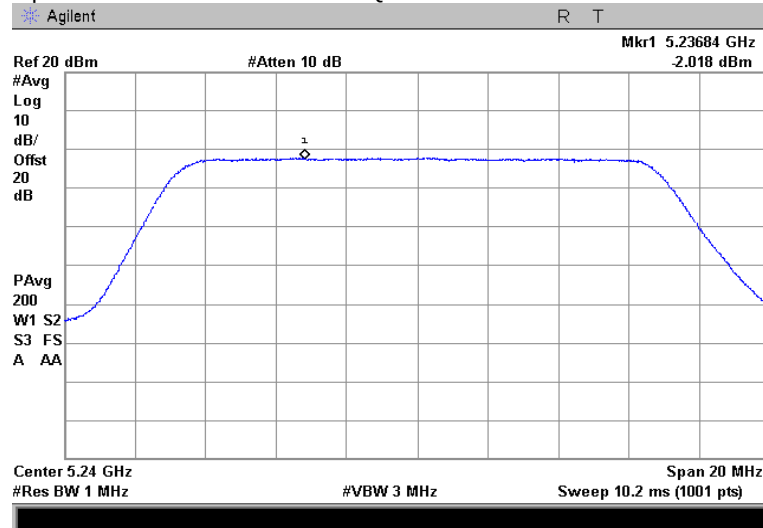
HERMON LABORATORIES

Report ID: TelRad_FCC_31832_rev4
Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Modulation parameters:

64QAM





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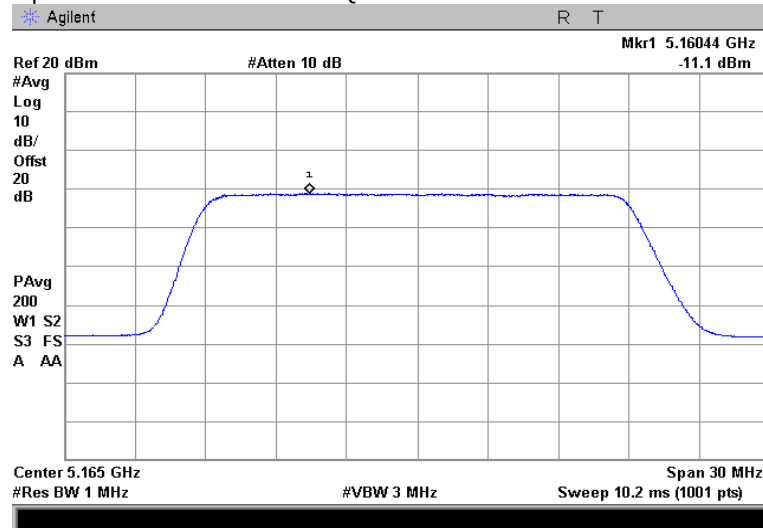
Report ID: TelRad_FCC_31832_rev4

Date of Issue: 11-Sep-19

Test specification: FCC section 15.407(a)(1-3), Peak spectral power density			
Test procedure: FCC section 15.407(a)(5); KDB 662911, KDB 789033, ANSI C63.10, section 12.5			
Test mode: Compliance		Verdict: PASS	
Date(s): 12-Marc-19			
Temperature: 24 °C	Relative Humidity: 46 %	Air Pressure: 1015 hPa	Power: 48 VDC
Remarks:			

Plot 7.5.17 Peak power spectral density test results

Frequency: 5.165 GHz
Channel BW: 20 MHz
EUT configuration: 1 carrier 1 sector (4 ports to 2 dual slant antenna)
non-coherent signal
Modulation parameters: QPSK



Modulation parameters: 16QAM

