

# SPURIOUS RADIATED EMISSIONS



## TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT was tested. The EUT was configured for the required transmit frequencies in each operational band and the modes as showed in the data sheets.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These “pre-scans” are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis if required, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

- QP = Quasi-Peak Detector
- PK = Peak Detector
- AV = RMS Detector

Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

Measurements at the edges of the allowable band may be measured using the Marker Delta or Integration method as outlined in FCC KDB 789033 (d)(i) or (d)(ii) respectfully.

Where the radio test software does not provide for a duty cycle at continuous transmit conditions (> 98%) and the RMS (power average) measurements were made across the on and off times of the EUT transmissions, a duty cycle correction is added to the measurements using the formula of  $10 \cdot \log(1/dc)$ .

## TEST EQUIPMENT: 2021-11-18 – 2021-11-22

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFI	2020-12-08	2021-12-08
Antenna - Biconilog	EMCO	3142B	AXJ	2021-03-03	2023-03-03
Antenna - Double Ridge	EMCO	3115	AHC	2020-07-01	2022-07-01
Antenna - Standard Gain	ETS Lindgren	3160-07	AHU	NCR	NCR
Antenna - Standard Gain	ETS Lindgren	3160-08	AHV	NCR	NCR
Antenna - Standard Gain	ETS Lindgren	3160-09	AIV	NCR	NCR
Antenna - Standard Gain	ETS Lindgren	3160-10	AIW	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AOL	2021-11-17	2022-11-17
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAG	2021-11-17	2022-11-17
Amplifier - Pre-Amplifier	L-3 Narda-MITEQ	AMF-6F-08001200-30-10P	PAO	2021-11-17	2022-11-17
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	2021-11-17	2022-11-17
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	2021-07-16	2022-07-16
Amplifier - Pre-Amplifier	Miteq	JSW45-26004000-40-5P	PAE	2021-04-25	2022-04-25
Cable	N/A	Bilog Cables	EVA	2021-11-17	2022-11-17
Cable	N/A	Double Ridge Horn Cables	EVB	2021-11-17	2022-11-17
Cable	None	Standard Gain Horn Cables	EVF	2021-11-17	2022-11-17
Cable	ESM Cable Corp.	TTBJ141-KMKM-72	EVY	2021-07-16	2022-07-16
Cable	ESM Cable Corp.	KNKN-72 SMA Cable	EVZ	2021-04-25	2022-04-25
Antenna - Double Ridge	ETS Lindgren	3115	AIZ	2020-02-25	2022-02-25
Cable	Micro-Coax	UFD150A-1-0720-200200	EVI	2020-12-01	2021-12-01
Filter - Band Pass/Notch	Micro-Tronics	BRC50703	HHJ	2021-11-09	2022-11-09

# SPURIOUS RADIATED EMISSIONS



Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Filter - Band Pass/Notch	Micro-Tronics	BRC50704	HGI	2021-11-09	2022-11-09
Filter - Band Pass/Notch	Micro-Tronics	BRC50705	HGJ	2021-11-09	2022-11-09
Filter - Low Pass	Micro-Tronics	LPM50004	LFD	2021-02-15	2022-02-15

## TEST EQUIPMENT: 2022-02-14

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFI	2020-12-09	2021-12-08
Antenna - Double Ridge	ETS Lindgren	3115	AIZ	2020-02-25	2022-02-25
Cable	Micro-Coax	UFD150A-1-0720-200200	EVI	2021-12-05	2022-12-05
Antenna - Standard Gain	ETS Lindgren	3160-09	AIV	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	2021-07-16	2022-07-16
Cable	None	Standard Gain Horn Cables	EVF	2021-11-17	2022-11-17
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	2021-11-17	2022-11-17

## MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	5.2 dB	-5.2 dB

## FREQUENCY RANGE INVESTIGATED

30 MHz TO 40000 MHz

## POWER INVESTIGATED

24 VDC via 110VAC/60Hz

## CONFIGURATIONS INVESTIGATED

A-DE0169-1

## MODES INVESTIGATED

Tx, 802.11ac/an:  
20 MHz BW: Ch 52 = 520 MHz, Ch 60 = 5300 MHz, Ch 64 = 5320 MHz, Ch 100 = 5500 MHz, Ch 116 = 5580 MHz, Ch 140 = 5700 MHz, Ch 149 = 5745 MHz, Ch 157 = 5745 MHz, Ch 165 = 5825 MHz

40 MHz BW: Ch 52/56 = 5270 MHz, Ch 60/64 = 5310 MHz, Ch 100/104 = 5510 MHz, Ch 132/136 = 5670 MHz, Ch 149/153 = 5755 MHz, Ch 157/161 = 5795 MHz

80 MHz BW: Ch 52-64 = 5290 MHz, Ch 100-112 = 5510 MHz, Ch 116-128 = 5610 MHz, Ch 149-161 = 5775 MHz

# SPURIOUS RADIATED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0169
Serial Number:	521A000100	Date:	2021-11-18
Customer:	A-dec, Inc.	Temperature:	21.9°C
Attendees:	None	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	24 VDC via 110VAC/60Hz	Configuration:	A-DE0169-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2021	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	30	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

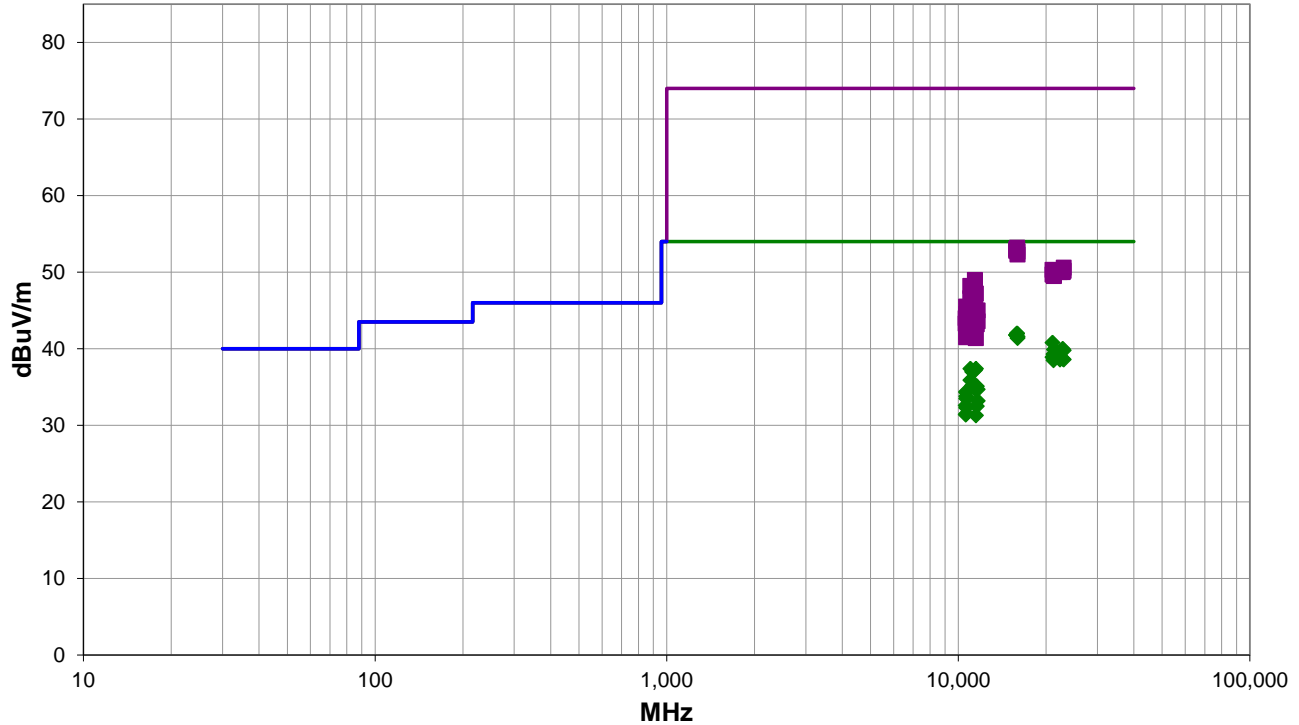
Please reference data comments below for Channel, Bandwidth, Data Rate, and EUT orientation.

## EUT OPERATING MODES

Tx, 802.11ac/an, Ch 52 = 5260 MHz, Ch 60 = 5300 MHz, Ch 100 = 5500 MHz, Ch 116 = 5580 MHz, Ch 140 = 5700 MHz, Ch 149 = 5745 MHz, Ch 157 = 5785 MHz, and Ch 165 MHz

## DEVIATIONS FROM TEST STANDARD

None



Run #: 30

■ PK    ◆ AV    ● QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #30

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
15900.070	25.2	16.7	1.5	163.0	0.1	0.0	Vert	AV	0.0	42.0	54.0	-12.0	Ch. 60, 20 MHz BW, 6 Mbps, EUT on Side
15898.800	25.2	16.7	1.5	19.0	0.1	0.0	Horz	AV	0.0	42.0	54.0	-12.0	Ch. 60, 20 MHz BW, 6 Mbps, EUT Horz
15780.200	25.5	16.2	1.5	68.0	0.1	0.0	Horz	AV	0.0	41.8	54.0	-12.2	Ch. 52, 20 MHz BW, 6 Mbps, EUT Horz
15778.040	25.5	16.2	1.5	28.0	0.1	0.0	Vert	AV	0.0	41.8	54.0	-12.2	Ch. 52, 20 MHz BW, 6 Mbps, EUT on Side
15959.200	25.3	16.2	1.5	133.0	0.1	0.0	Horz	AV	0.0	41.6	54.0	-12.4	Ch. 64, 20 MHz BW, 6 Mbps, EUT Horz
15962.370	25.2	16.1	1.5	297.0	0.1	0.0	Vert	AV	0.0	41.4	54.0	-12.6	Ch. 64, 20 MHz BW, 6 Mbps, EUT on Side
21039.880	34.8	5.9	1.7	172.0	0.1	0.0	Vert	AV	0.0	40.8	54.0	-13.2	Ch. 52, 20 MHz BW, 6 Mbps, EUT on Side
22799.750	32.9	7.0	1.6	133.0	0.1	0.0	Vert	AV	0.0	40.0	54.0	-14.0	Ch. 140, 20 MHz BW, 6 Mbps, EUT on Side
21279.950	34.2	5.6	1.6	135.0	0.1	0.0	Vert	AV	0.0	39.9	54.0	-14.1	Ch. 64, 20 MHz BW, 6 Mbps, EUT on Side
22979.770	32.5	7.2	1.6	133.0	0.1	0.0	Vert	AV	0.0	39.8	54.0	-14.2	Ch. 149, 20 MHz BW, 6 Mbps, EUT on Side
22319.860	32.6	6.7	1.6	135.0	0.1	0.0	Vert	AV	0.0	39.4	54.0	-14.6	Ch. 116, 20 MHz BW, 6 Mbps, EUT on Side
21199.910	33.6	5.6	1.6	135.0	0.1	0.0	Vert	AV	0.0	39.3	54.0	-14.7	Ch. 60, 20 MHz BW, 6 Mbps, EUT on Side
21039.850	32.9	5.9	1.9	40.0	0.1	0.0	Horz	AV	0.0	38.9	54.0	-15.1	Ch. 52, 20 MHz BW, 6 Mbps, EUT Horz
21280.050	33.0	5.6	1.8	40.0	0.1	0.0	Horz	AV	0.0	38.7	54.0	-15.3	Ch. 64, 20 MHz BW, 6 Mbps, EUT Horz
22799.340	31.6	7.0	1.9	40.0	0.1	0.0	Horz	AV	0.0	38.7	54.0	-15.3	Ch. 140, 20 MHz BW, 6 Mbps, EUT Horz
22982.120	31.3	7.2	1.6	0.0	0.1	0.0	Horz	AV	0.0	38.6	54.0	-15.4	Ch. 149, 20 MHz BW, 6 Mbps, EUT Horz
22319.310	31.8	6.7	1.9	40.0	0.1	0.0	Horz	AV	0.0	38.6	54.0	-15.4	Ch. 116, 20 MHz BW, 6 Mbps, EUT Horz
21199.930	32.8	5.6	1.8	40.0	0.1	0.0	Horz	AV	0.0	38.5	54.0	-15.5	Ch. 60, 20 MHz BW, 6 Mbps, EUT Horz
11489.880	39.0	-1.7	2.8	43.0	0.1	0.0	Horz	AV	0.0	37.4	54.0	-16.6	Ch. 149, 20 MHz BW, 6 Mbps, EUT Horz
10999.790	39.2	-1.9	1.5	44.0	0.1	0.0	Horz	AV	0.0	37.4	54.0	-16.6	Ch. 100, 20 MHz BW, 6 Mbps, EUT Horz
11400.210	39.1	-2.0	1.0	47.0	0.1	0.0	Horz	AV	0.0	37.2	54.0	-16.8	Ch. 140, 20 MHz BW, 6 Mbps, EUT Horz
11159.920	38.8	-1.9	1.0	41.0	0.1	0.0	Horz	AV	0.0	37.0	54.0	-17.0	Ch. 116, 20 MHz BW, 6 Mbps, EUT Horz
10999.000	37.7	-1.9	1.7	269.0	0.1	0.0	Vert	AV	0.0	35.9	54.0	-18.1	Ch. 100, 20 MHz BW, 6 Mbps, EUT on Side
11160.250	37.0	-1.9	1.6	269.0	0.1	0.0	Vert	AV	0.0	35.2	54.0	-18.8	Ch. 116, 20 MHz BW, 6 Mbps, EUT on Side
11570.210	36.0	-1.0	1.5	39.0	0.1	0.0	Horz	AV	0.0	35.1	54.0	-18.9	Ch. 157, 20 MHz BW, 6 Mbps, EUT Horz
11400.170	36.7	-2.0	1.2	279.0	0.1	0.0	Vert	AV	0.0	34.8	54.0	-19.2	Ch. 140, 20 MHz BW, 6 Mbps, EUT on Side
11649.960	35.8	-1.2	2.3	32.0	0.1	0.0	Horz	AV	0.0	34.7	54.0	-19.3	Ch. 165, 20 MHz BW, 6 Mbps, EUT Horz
10642.130	36.1	-1.8	1.0	46.0	0.1	0.0	Horz	AV	0.0	34.4	54.0	-19.6	Ch. 64, 20 MHz BW, 6 Mbps, EUT Horz
10642.040	36.0	-1.8	1.7	292.0	0.1	0.0	Horz	AV	0.0	34.3	54.0	-19.7	Ch. 64, 20 MHz BW, 6 Mbps, EUT on Side
10641.630	35.5	-1.8	1.9	172.0	0.1	0.0	Horz	AV	0.0	33.8	54.0	-20.2	Ch. 64, 20 MHz BW, 6 Mbps, EUT Vert
10641.960	35.2	-1.8	1.8	286.0	0.1	0.0	Vert	AV	0.0	33.5	54.0	-20.5	Ch. 64, 20 MHz BW, 6 Mbps, EUT on Side
15898.070	36.5	16.7	1.5	163.0	0.0	0.0	Vert	PK	0.0	53.2	74.0	-20.8	Ch. 60, 20 MHz BW, 6 Mbps, EUT on Side
11651.420	34.3	-1.2	1.8	127.0	0.1	0.0	Vert	AV	0.0	33.2	54.0	-20.8	Ch. 165, 20 MHz BW, 6 Mbps, EUT on Side
15780.040	36.8	16.2	1.5	68.0	0.0	0.0	Horz	PK	0.0	53.0	74.0	-21.0	Ch. 52, 20 MHz BW, 6 Mbps, EUT Horz
15901.040	36.4	16.6	1.5	19.0	0.0	0.0	Horz	PK	0.0	53.0	74.0	-21.0	Ch. 60, 20 MHz BW, 6 Mbps, EUT Horz
15778.430	36.6	16.2	1.5	28.0	0.0	0.0	Vert	PK	0.0	52.8	74.0	-21.2	Ch. 52, 20 MHz BW, 6 Mbps, EUT on Side
15959.340	36.5	16.2	1.5	297.0	0.0	0.0	Vert	PK	0.0	52.7	74.0	-21.3	Ch. 64, 20 MHz BW, 6 Mbps, EUT on Side
10599.700	34.5	-2.0	2.6	296.0	0.1	0.0	Vert	AV	0.0	32.6	54.0	-21.4	Ch. 60, 20 MHz BW, 6 Mbps, EUT on Side
11569.920	33.4	-1.0	1.5	269.0	0.1	0.0	Vert	AV	0.0	32.5	54.0	-21.5	Ch. 157, 20 MHz BW, 6 Mbps, EUT on Side
10641.920	34.0	-1.8	1.4	195.0	0.1	0.0	Vert	AV	0.0	32.3	54.0	-21.7	Ch. 64, 20 MHz BW, 6 Mbps, EUT Horz

# SPURIOUS RADIATED EMISSIONS

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity/Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
15961.280	36.2	16.1	1.5	133.0	0.0	0.0	Horz	PK	0.0	52.3	74.0	-21.7	Ch. 64, 20 MHz BW, 6 Mbps, EUT Horz
10641.130	33.2	-1.8	1.1	312.0	0.1	0.0	Vert	AV	0.0	31.5	54.0	-22.5	Ch. 64, 20 MHz BW, 6 Mbps, EUT Vert
10601.090	33.3	-2.0	1.5	0.0	0.1	0.0	Horz	AV	0.0	31.4	54.0	-22.6	Ch. 60, 20 MHz BW, 6 Mbps, EUT Horz
11489.710	32.9	-1.7	1.5	266.0	0.1	0.0	Vert	AV	0.0	31.3	54.0	-22.7	Ch. 149, 20 MHz BW, 6 Mbps, EUT on Side
22979.620	43.4	7.2	1.6	133.0	0.0	0.0	Vert	PK	0.0	50.6	74.0	-23.4	Ch. 149, 20 MHz BW, 6 Mbps, EUT on Side
21040.370	44.4	5.9	1.7	172.0	0.0	0.0	Vert	PK	0.0	50.3	74.0	-23.7	Ch. 52, 20 MHz BW, 6 Mbps, EUT on Side
22977.850	43.0	7.2	1.6	0.0	0.0	0.0	Horz	PK	0.0	50.2	74.0	-23.8	Ch. 149, 20 MHz BW, 6 Mbps, EUT Horz
22319.840	43.5	6.7	1.6	135.0	0.0	0.0	Vert	PK	0.0	50.2	74.0	-23.8	Ch. 116, 20 MHz BW, 6 Mbps, EUT on Side
22799.640	43.2	7.0	1.9	40.0	0.0	0.0	Horz	PK	0.0	50.2	74.0	-23.8	Ch. 140, 20 MHz BW, 6 Mbps, EUT Horz
22799.770	43.0	7.0	1.6	133.0	0.0	0.0	Vert	PK	0.0	50.0	74.0	-24.0	Ch. 140, 20 MHz BW, 6 Mbps, EUT on Side
22318.120	43.3	6.7	1.9	40.0	0.0	0.0	Horz	PK	0.0	50.0	74.0	-24.0	Ch. 116, 20 MHz BW, 6 Mbps, EUT Horz
21200.100	44.1	5.6	1.6	135.0	0.0	0.0	Vert	PK	0.0	49.7	74.0	-24.3	Ch. 60, 20 MHz BW, 6 Mbps, EUT on Side
21039.420	43.8	5.9	1.9	40.0	0.0	0.0	Horz	PK	0.0	49.7	74.0	-24.3	Ch. 52, 20 MHz BW, 6 Mbps, EUT Horz
21199.310	44.1	5.6	1.8	40.0	0.0	0.0	Horz	PK	0.0	49.7	74.0	-24.3	Ch. 60, 20 MHz BW, 6 Mbps, EUT Horz
21279.510	44.0	5.6	1.6	135.0	0.0	0.0	Vert	PK	0.0	49.6	74.0	-24.4	Ch. 64, 20 MHz BW, 6 Mbps, EUT on Side
21280.330	43.9	5.6	1.8	40.0	0.0	0.0	Horz	PK	0.0	49.5	74.0	-24.5	Ch. 64, 20 MHz BW, 6 Mbps, EUT Horz
11398.920	51.0	-2.0	1.0	47.0	0.0	0.0	Horz	PK	0.0	49.0	74.0	-25.0	Ch. 140, 20 MHz BW, 6 Mbps, EUT Horz
10999.290	50.1	-1.9	1.5	44.0	0.0	0.0	Horz	PK	0.0	48.2	74.0	-25.8	Ch. 100, 20 MHz BW, 6 Mbps, EUT Horz
11159.080	49.6	-1.9	1.0	41.0	0.0	0.0	Horz	PK	0.0	47.7	74.0	-26.3	Ch. 116, 20 MHz BW, 6 Mbps, EUT Horz
11486.210	48.9	-1.7	2.8	43.0	0.0	0.0	Horz	PK	0.0	47.2	74.0	-26.8	Ch. 149, 20 MHz BW, 6 Mbps, EUT Horz
11162.500	48.8	-1.9	1.6	269.0	0.0	0.0	Vert	PK	0.0	46.9	74.0	-27.1	Ch. 116, 20 MHz BW, 6 Mbps, EUT on Side
10999.170	48.5	-1.9	1.7	269.0	0.0	0.0	Vert	PK	0.0	46.6	74.0	-27.4	Ch. 100, 20 MHz BW, 6 Mbps, EUT on Side
10640.250	47.3	-1.8	1.0	46.0	0.0	0.0	Horz	PK	0.0	45.5	74.0	-28.5	Ch. 64, 20 MHz BW, 6 Mbps, EUT Horz
11399.000	47.3	-2.0	1.2	279.0	0.0	0.0	Vert	PK	0.0	45.3	74.0	-28.7	Ch. 140, 20 MHz BW, 6 Mbps, EUT on Side
11651.290	46.2	-1.2	2.3	32.0	0.0	0.0	Horz	PK	0.0	45.0	74.0	-29.0	Ch. 165, 20 MHz BW, 6 Mbps, EUT Horz
11573.670	46.0	-1.0	1.5	39.0	0.0	0.0	Horz	PK	0.0	45.0	74.0	-29.0	Ch. 157, 20 MHz BW, 6 Mbps, EUT Horz
10640.830	46.3	-1.8	1.7	292.0	0.0	0.0	Horz	PK	0.0	44.5	74.0	-29.5	Ch. 64, 20 MHz BW, 6 Mbps, EUT on Side
10639.710	46.3	-1.8	1.9	172.0	0.0	0.0	Horz	PK	0.0	44.5	74.0	-29.5	Ch. 64, 20 MHz BW, 6 Mbps, EUT Vert
10639.210	46.0	-1.8	1.8	286.0	0.0	0.0	Vert	PK	0.0	44.2	74.0	-29.8	Ch. 64, 20 MHz BW, 6 Mbps, EUT on Side
10599.440	46.0	-2.0	2.6	296.0	0.0	0.0	Vert	PK	0.0	44.0	74.0	-30.0	Ch. 60, 20 MHz BW, 6 Mbps, EUT on Side
11652.790	44.8	-1.2	1.8	127.0	0.0	0.0	Vert	PK	0.0	43.6	74.0	-30.4	Ch. 165, 20 MHz BW, 6 Mbps, EUT on Side
10600.060	45.3	-2.0	1.5	0.0	0.0	0.0	Horz	PK	0.0	43.3	74.0	-30.7	Ch. 60, 20 MHz BW, 6 Mbps, EUT Horz
11572.750	44.2	-1.0	1.5	269.0	0.0	0.0	Vert	PK	0.0	43.2	74.0	-30.8	Ch. 157, 20 MHz BW, 6 Mbps, EUT on Side
10640.000	44.0	-1.8	1.4	195.0	0.0	0.0	Vert	PK	0.0	42.2	74.0	-31.8	Ch. 64, 20 MHz BW, 6 Mbps, EUT Horz
10640.790	43.3	-1.8	1.1	312.0	0.0	0.0	Vert	PK	0.0	41.5	74.0	-32.5	Ch. 64, 20 MHz BW, 6 Mbps, EUT Vert
11486.000	43.1	-1.7	1.5	266.0	0.0	0.0	Vert	PK	0.0	41.4	74.0	-32.6	Ch. 149, 20 MHz BW, 6 Mbps, EUT on Side

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0169
Serial Number:	521A000100	Date:	2021-11-22
Customer:	A-dec, Inc.	Temperature:	21.5°C
Attendees:	None	Relative Humidity:	34.1%
Customer Project:	None	Bar. Pressure (PMSL):	1026 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	24 VDC via 110VAC/60Hz	Configuration:	A-DE0169-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2021	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	58	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

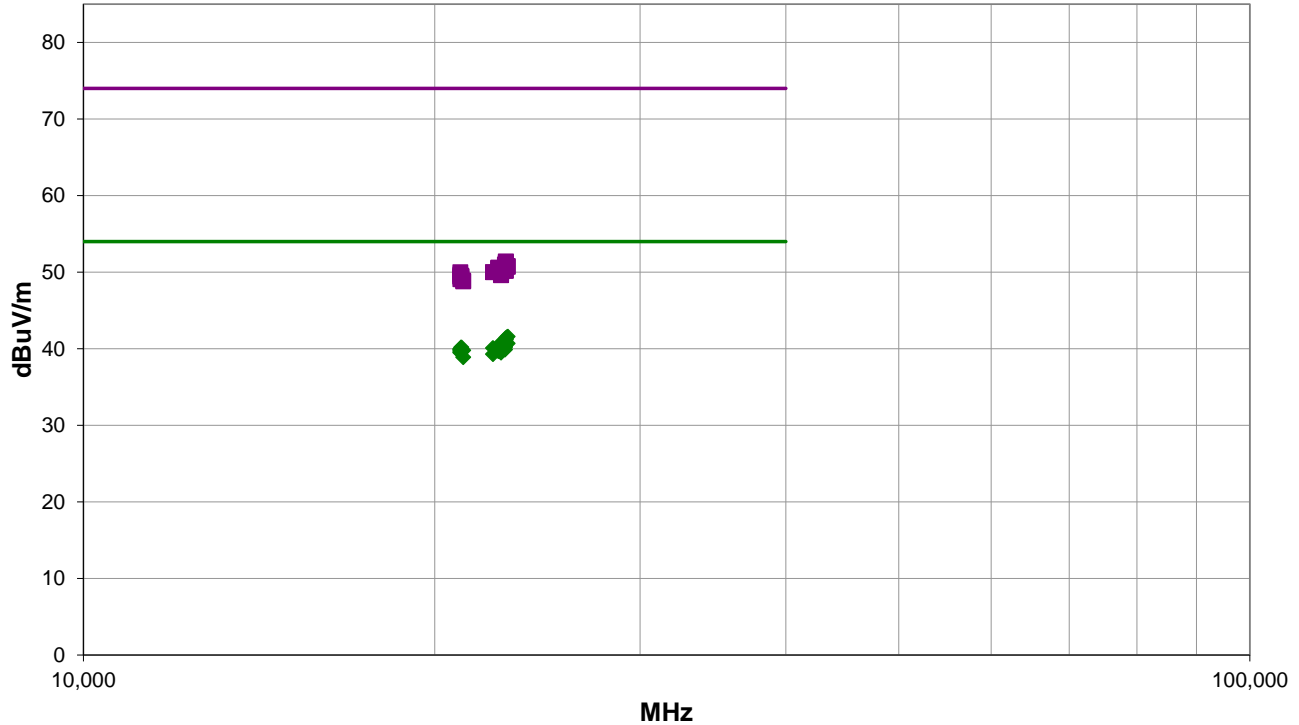
Worst case harmonics - Please reference data comments below for Channel, Bandwidth, Data Rate, and EUT orientation.

## EUT OPERATING MODES

Tx, 802.11ac/an, Ch 52 = 5260 MHz, Ch 60 = 5300 MHz, Ch 64 = 5320 MHz, Ch 100 = 5500 MHz, Ch 116 = 5580 MHz, Ch 140 = 5700 MHz, Ch 149 = 5745 MHz, Ch 157 = 5785 MHz, and Ch 165 = 5825 MHz

## DEVIATIONS FROM TEST STANDARD

None



Run #: 58

■ PK    ◆ AV    ● QP

# SPURIOUS RADIATED EMISSIONS



## RESULTS - Run #58

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle	Correction Factor	External Attenuation (dB)	Polarity	Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
23099.780	33.0	7.5	1.9	158.0	1.1	0.0	0.0	Vert	AV	AV	0.0	41.6	54.0	-12.4	Ch. 149-161, 80 MHz BW, MCS9 (256-QAM), EUT on Side
23019.920	33.1	7.4	1.9	158.0	0.9	0.0	0.0	Vert	AV	AV	0.0	41.4	54.0	-12.6	Ch. 149/153, 40 MHz BW, MCS9 (256-QAM), EUT on Side
23019.890	33.1	7.4	1.9	158.0	0.7	0.0	0.0	Vert	AV	AV	0.0	41.2	54.0	-12.8	Ch. 149/153, 40 MHz BW, MCS7, EUT on Side
23019.780	33.2	7.4	1.9	158.0	0.1	0.0	0.0	Vert	AV	AV	0.0	40.7	54.0	-13.3	Ch. 149/153, 40 MHz BW, MCS0, EUT on Side
23099.910	33.0	7.5	1.9	158.0	0.2	0.0	0.0	Vert	AV	AV	0.0	40.7	54.0	-13.3	Ch. 149-161, 80 MHz BW, MCS0, EUT on Side
22979.950	32.7	7.2	1.9	158.0	0.6	0.0	0.0	Vert	AV	AV	0.0	40.5	54.0	-13.5	Ch. 149, 20 MHz BW, MCS8 (256-QAM), EUT on Side
22979.750	32.7	7.2	1.9	158.0	0.5	0.0	0.0	Vert	AV	AV	0.0	40.4	54.0	-13.6	Ch. 149, 20 MHz BW, 54 Mbps, EUT on Side
22979.900	32.7	7.2	1.9	158.0	0.5	0.0	0.0	Vert	AV	AV	0.0	40.4	54.0	-13.6	Ch. 149, 20 MHz BW, MCS7, EUT on Side
22679.910	32.3	7.2	1.7	131.0	0.9	0.0	0.0	Vert	AV	AV	0.0	40.4	54.0	-13.6	Ch. 132/136, 40MHz BW, MCS9 (256-QAM), EUT on Side
22679.800	32.4	7.2	1.7	131.0	0.7	0.0	0.0	Vert	AV	AV	0.0	40.3	54.0	-13.7	Ch. 132/136, 40 MHz BW, MCS7, EUT on Side
22980.000	32.7	7.2	1.9	158.0	0.3	0.0	0.0	Vert	AV	AV	0.0	40.2	54.0	-13.8	Ch. 149, 20 MHz BW, 36 Mbps, EUT on Side
21079.880	33.6	5.7	1.7	177.0	0.9	0.0	0.0	Vert	AV	AV	0.0	40.2	54.0	-13.8	Ch. 52/56, 40 MHz BW, MCS9 (256-QAM), EUT on Side
22440.070	32.1	6.9	1.7	131.0	1.1	0.0	0.0	Vert	AV	AV	0.0	40.1	54.0	-13.9	Ch. 116-128, 80 MHz BW, MCS9 (256-QAM), EUT on Side
21040.020	33.5	5.9	1.7	177.0	0.6	0.0	0.0	Vert	AV	AV	0.0	40.0	54.0	-14.0	Ch. 52, 20 MHz BW, MCS8 (256-QAM), EUT on Side
22799.870	32.4	7.0	1.7	131.0	0.6	0.0	0.0	Vert	AV	AV	0.0	40.0	54.0	-14.0	Ch. 140, 20 MHz BW, MCS8 (256-QAM), EUT on Side
21079.830	33.6	5.7	1.7	177.0	0.7	0.0	0.0	Vert	AV	AV	0.0	40.0	54.0	-14.0	Ch. 52/56, 40 MHz BW, MCS7, EUT on Side
22979.750	32.6	7.2	1.9	158.0	0.1	0.0	0.0	Vert	AV	AV	0.0	39.9	54.0	-14.1	Ch. 149, 20 MHz BW, MCS0, EUT on Side
21039.890	33.5	5.9	1.7	177.0	0.5	0.0	0.0	Vert	AV	AV	0.0	39.9	54.0	-14.1	Ch. 52, 20 MHz BW, MCS7, EUT on Side
22799.930	32.4	7.0	1.7	131.0	0.5	0.0	0.0	Vert	AV	AV	0.0	39.9	54.0	-14.1	Ch. 140, 20 MHz BW, 54 Mbps, EUT on Side
22799.920	32.4	7.0	1.7	131.0	0.5	0.0	0.0	Vert	AV	AV	0.0	39.9	54.0	-14.1	Ch. 140, 20 MHz BW, MCS7, EUT on Side
21039.930	33.4	5.9	1.7	177.0	0.5	0.0	0.0	Vert	AV	AV	0.0	39.8	54.0	-14.2	Ch. 52, 20 MHz BW, 54 Mbps, EUT on Side
21159.930	33.1	5.6	1.7	177.0	1.1	0.0	0.0	Vert	AV	AV	0.0	39.8	54.0	-14.2	Ch. 52-64, 80 MHz BW, MCS9 (256-QAM), EUT on Side
22679.890	32.4	7.2	1.7	131.0	0.1	0.0	0.0	Vert	AV	AV	0.0	39.7	54.0	-14.3	Ch. 132/136, 40 MHz BW, MCS0, EUT on Side
22799.880	32.4	7.0	1.7	131.0	0.3	0.0	0.0	Vert	AV	AV	0.0	39.7	54.0	-14.3	Ch. 140, 20 MHz BW, 36 Mbsp, EUT on Side
21079.870	33.8	5.7	1.7	177.0	0.1	0.0	0.0	Vert	AV	AV	0.0	39.6	54.0	-14.4	Ch. 52/56, 40 MHz BW, MCS0, EUT on Side
21039.880	33.4	5.9	1.7	177.0	0.3	0.0	0.0	Vert	AV	AV	0.0	39.6	54.0	-14.4	Ch. 52, 20 MHz BW, 36 Mbps, EUT on Side
21039.980	33.5	5.9	1.7	177.0	0.1	0.0	0.0	Vert	AV	AV	0.0	39.5	54.0	-14.5	Ch. 52, 20 MHz BW, MCS0, EUT on Side
22799.910	32.4	7.0	1.7	131.0	0.1	0.0	0.0	Vert	AV	AV	0.0	39.5	54.0	-14.5	Ch. 140, 20 MHz BW, MCS0, EUT on Side
22439.830	32.2	6.9	1.7	131.0	0.2	0.0	0.0	Vert	AV	AV	0.0	39.3	54.0	-14.7	Ch. 116-128, 80 MHz BW, MCS0, EUT on Side
21159.880	33.1	5.6	1.7	177.0	0.2	0.0	0.0	Vert	AV	AV	0.0	38.9	54.0	-15.1	Ch. 52-64, 80 MHz BW, MCS0, EUT on Side
23018.090	44.0	7.4	1.9	158.0	0.0	0.0	0.0	Vert	PK	PK	0.0	51.4	74.0	-22.6	Ch. 149/153, 40 MHz BW, MCS0, EUT on Side
23019.870	43.8	7.4	1.9	158.0	0.0	0.0	0.0	Vert	PK	PK	0.0	51.2	74.0	-22.8	Ch. 149/153, 40 MHz BW, MCS9 (256-QAM), EUT on Side
22979.590	43.8	7.2	1.9	158.0	0.0	0.0	0.0	Vert	PK	PK	0.0	51.0	74.0	-23.0	Ch. 149, 20 MHz BW, MCS7, EUT on Side
23097.990	43.3	7.5	1.9	158.0	0.0	0.0	0.0	Vert	PK	PK	0.0	50.8	74.0	-23.2	Ch. 149-161, 80 MHz BW, MCS9 (256-QAM), EUT on Side
23099.570	43.2	7.5	1.9	158.0	0.0	0.0	0.0	Vert	PK	PK	0.0	50.7	74.0	-23.3	Ch. 149-161, 80 MHz BW, MCS0, EUT on Side
22680.320	43.4	7.2	1.7	131.0	0.0	0.0	0.0	Vert	PK	PK	0.0	50.6	74.0	-23.4	Ch. 132/136, 40 MHz BW, MCS7, EUT on Side

# SPURIOUS RADIATED EMISSIONS

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
22681.080	43.3	7.2	1.7	131.0	0.0	0.0	Vert	PK	0.0	50.5	74.0	-23.5	Ch. 132/136, 40 MHz BW, MCS0, EUT on Side
22680.230	43.3	7.2	1.7	131.0	0.0	0.0	Vert	PK	0.0	50.5	74.0	-23.5	Ch. 132/136, 40MHz BW, MCS9 (256-QAM), EUT on Side
22978.820	43.3	7.2	1.9	158.0	0.0	0.0	Vert	PK	0.0	50.5	74.0	-23.5	Ch. 149, 20 MHz BW, 36 Mbps, EUT on Side
22981.340	43.3	7.2	1.9	158.0	0.0	0.0	Vert	PK	0.0	50.5	74.0	-23.5	Ch. 149, 20 MHz BW, MCS8 (256-QAM), EUT on Side
22979.980	43.2	7.2	1.9	158.0	0.0	0.0	Vert	PK	0.0	50.4	74.0	-23.6	Ch. 149, 20 MHz BW, 54 Mbps, EUT on Side
22800.130	43.3	7.0	1.7	131.0	0.0	0.0	Vert	PK	0.0	50.3	74.0	-23.7	Ch. 140, 20 MHz BW, MCS8 (256-QAM), EUT on Side
22981.480	43.0	7.2	1.9	158.0	0.0	0.0	Vert	PK	0.0	50.2	74.0	-23.8	Ch. 149, 20 MHz BW, MCS0, EUT on Side
23019.400	42.8	7.4	1.9	158.0	0.0	0.0	Vert	PK	0.0	50.2	74.0	-23.8	Ch. 149/153, 40 MHz BW, MCS7, EUT on Side
22799.530	43.1	7.0	1.7	131.0	0.0	0.0	Vert	PK	0.0	50.1	74.0	-23.9	Ch. 140, 20 MHz BW, MCS7, EUT on Side
21039.830	44.1	5.9	1.7	177.0	0.0	0.0	Vert	PK	0.0	50.0	74.0	-24.0	Ch. 52, 20 MHz BW, MCS7, EUT on Side
22799.730	43.0	7.0	1.7	131.0	0.0	0.0	Vert	PK	0.0	50.0	74.0	-24.0	Ch. 140, 20 MHz BW, 54 Mbps, EUT on Side
22440.060	43.1	6.9	1.7	131.0	0.0	0.0	Vert	PK	0.0	50.0	74.0	-24.0	Ch. 116-128, 80 MHz BW, MCS0, EUT on Side
22439.590	43.1	6.9	1.7	131.0	0.0	0.0	Vert	PK	0.0	50.0	74.0	-24.0	Ch. 116-128, 80 MHz BW, MCS9 (256-QAM), EUT on Side
22799.750	42.9	7.0	1.7	131.0	0.0	0.0	Vert	PK	0.0	49.9	74.0	-24.1	Ch. 140, 20 MHz BW, 36 Mbps, EUT on Side
21040.350	43.8	5.9	1.7	177.0	0.0	0.0	Vert	PK	0.0	49.7	74.0	-24.3	Ch. 52, 20 MHz BW, 54 Mbps, EUT on Side
22801.120	42.6	7.0	1.7	131.0	0.0	0.0	Vert	PK	0.0	49.6	74.0	-24.4	Ch. 140, 20 MHz BW, MCS0, EUT on Side
21040.780	43.6	5.9	1.7	177.0	0.0	0.0	Vert	PK	0.0	49.5	74.0	-24.5	Ch. 52, 20 MHz BW, MCS8 (256-QAM), EUT on Side
21080.050	43.8	5.7	1.7	177.0	0.0	0.0	Vert	PK	0.0	49.5	74.0	-24.5	Ch. 52/56, 40 MHz BW, MCS0, EUT on Side
21040.680	43.5	5.9	1.7	177.0	0.0	0.0	Vert	PK	0.0	49.4	74.0	-24.6	Ch. 52, 20 MHz BW, 36 Mbps, EUT on Side
21080.240	43.7	5.7	1.7	177.0	0.0	0.0	Vert	PK	0.0	49.4	74.0	-24.6	Ch. 52/56, 40 MHz BW, MCS7, EUT on Side
21040.250	43.2	5.9	1.7	177.0	0.0	0.0	Vert	PK	0.0	49.1	74.0	-24.9	Ch. 52, 20 MHz BW, MCS0, EUT on Side
21079.200	43.4	5.7	1.7	177.0	0.0	0.0	Vert	PK	0.0	49.1	74.0	-24.9	Ch. 52/56, 40 MHz BW, MCS9 (256-QAM), EUT on Side
21160.020	43.3	5.6	1.7	177.0	0.0	0.0	Vert	PK	0.0	48.9	74.0	-25.1	Ch. 52-64, 80 MHz BW, MCS0, EUT on Side
21160.860	43.2	5.6	1.7	177.0	0.0	0.0	Vert	PK	0.0	48.8	74.0	-25.2	Ch. 52-64, 80 MHz BW, MCS9 (256-QAM), EUT on Side

## CONCLUSION

Pass



Tested By



# SPURIOUS RADIATED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0169
Serial Number:	521A000100	Date:	2021-11-18
Customer:	A-dec, Inc.	Temperature:	21.9°C
Attendees:	None	Relative Humidity:	36%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mb
Tested By:	Kam Robertson & Cole Ghizzone	Job Site:	EV01
Power:	24 VDC via 110VAC/60Hz	Configuration:	A-DE0169-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2021	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	32	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

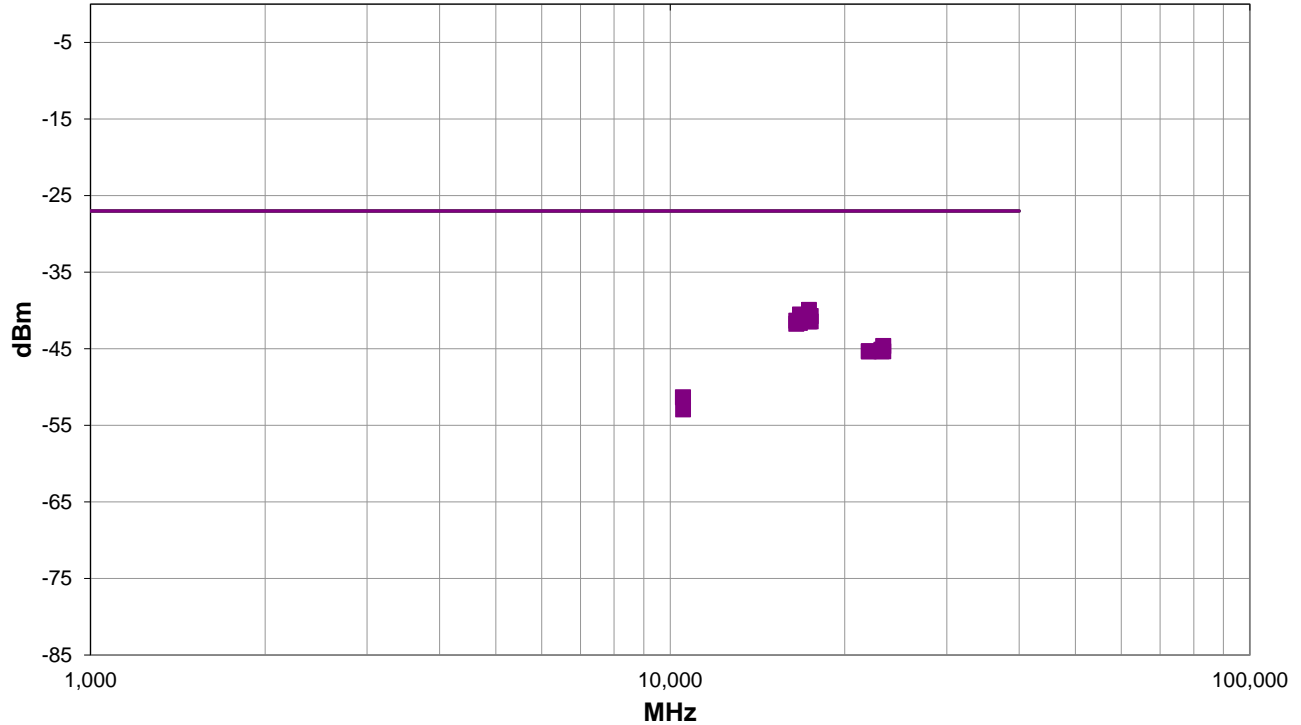
Please reference data comments below for Channel, Bandwidth, Data Rate, and EUT orientation.

## EUT OPERATING MODES

Tx, 802.11ac/an, Ch 52 = 5260 MHz, Ch 100 = 5500 MHz, Ch 116 = 5580 MHz, Ch 140 = 5700 MHz, Ch 149 = 5745 MHz, Ch 157 = 5785 MHz, and Ch 165 MHz

## DEVIATIONS FROM TEST STANDARD

None



Run #: 32

■ PK    ◆ AV    ● QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #32

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
10519.130	1.06	294.0	Vert	PK	7.4E-9	-51.3	-27.0	-24.3	Ch. 52, 20 MHz BW, 6 Mbps, EUT on Side
10522.350	1.5	348.0	Horz	PK	5.1E-9	-52.9	-27.0	-25.9	Ch. 52, 20 MHz BW, 6 Mbps, EUT Horz
17353.820	1.5	136.0	Horz	PK	101.7E-9	-39.9	-27.0	-12.9	Ch. 157, 20 MHz BW, 6 Mbps, EUT Horz
16740.400	1.5	31.0	Vert	PK	88.5E-9	-40.5	-27.0	-13.5	Ch. 116, 20 MHz BW, 6 Mbps, EUT on Side
17101.810	1.5	96.0	Horz	PK	86.5E-9	-40.6	-27.0	-13.6	Ch. 140, 20 MHz BW, 6 Mbps, EUT Horz
17472.790	1.5	245.0	Horz	PK	84.6E-9	-40.7	-27.0	-13.7	Ch. 165, 20 MHz BW, 6 Mbps, EUT on Side
17233.060	1.5	105.0	Horz	PK	82.6E-9	-40.8	-27.0	-13.8	Ch. 149, 20 MHz BW, 6 Mbps, EUT Horz
17097.650	1.5	226.0	Vert	PK	80.7E-9	-40.9	-27.0	-13.9	Ch. 140, 20 MHz BW, 6 Mbps, EUT on Side
17233.880	1.5	175.0	Vert	PK	78.9E-9	-41.0	-27.0	-14.0	Ch. 149, 20 MHz BW, 6 Mbps, EUT on Side
16498.230	1.5	51.0	Vert	PK	73.6E-9	-41.3	-27.0	-14.3	Ch. 100, 20 MHz BW, 6 Mbps, EUT on Side
17356.830	1.5	321.0	Vert	PK	72.0E-9	-41.4	-27.0	-14.4	Ch. 157, 20 MHz BW, 6 Mbps, EUT on Side
17473.090	3.72	129.0	Vert	PK	72.0E-9	-41.4	-27.0	-14.4	Ch. 165, 20 MHz BW, 6 Mbps, EUT on Side
16738.630	1.39	289.0	Horz	PK	68.7E-9	-41.6	-27.0	-14.6	Ch. 116, 20 MHz BW, 6 Mbps, EUT Horz
16502.230	2.83	262.0	Horz	PK	67.2E-9	-41.7	-27.0	-14.7	Ch. 100, 20 MHz BW, 6 Mbps, EUT Horz
23299.610	1.63	134.0	Vert	PK	34.4E-9	-44.6	-27.0	-17.6	Ch. 165, 20 MHz BW, 6 Mbps, EUT on Side
23140.010	1.63	137.0	Vert	PK	30.7E-9	-45.1	-27.0	-18.1	Ch. 157, 20 MHz BW, 6 Mbps, EUT on Side
23298.090	1.6	360.0	Horz	PK	29.3E-9	-45.3	-27.0	-18.3	Ch. 165, 20 MHz BW, 6 Mbps, EUT Horz
23139.950	1.6	360.0	Horz	PK	29.3E-9	-45.3	-27.0	-18.3	Ch. 157, 20 MHz BW, 6 Mbps, EUT Horz
22001.680	1.65	132.0	Vert	PK	29.3E-9	-45.3	-27.0	-18.3	Ch. 100, 20 MHz BW, 6 Mbps, EUT on Side
21999.920	1.88	40.0	Horz	PK	29.3E-9	-45.3	-27.0	-18.3	Ch. 100, 20 MHz BW, 6 Mbps, EUT Horz

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0169
Serial Number:	521A000100	Date:	2021-11-22
Customer:	A-dec, Inc.	Temperature:	21.5°C
Attendees:	None	Relative Humidity:	34.1%
Customer Project:	None	Bar. Pressure (PMSL):	1026 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	24 VDC via 110VAC/60Hz	Configuration:	A-DE0169-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2021	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	70	Test Distance (m):	1	Ant. Height(s) (m):	1.25 (m)
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## COMMENTS

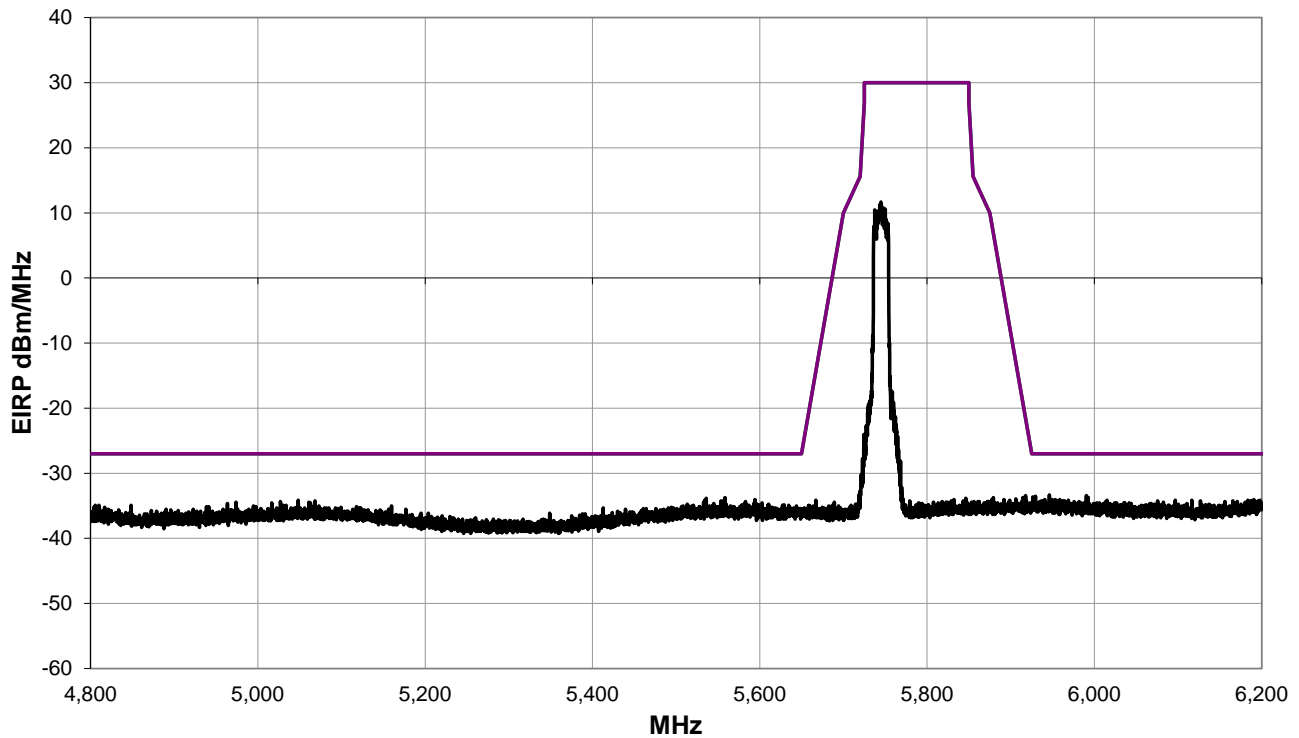
EUT Horizontal

## EUT OPERATING MODES

Tx, 802.11ac/an, Ch 149 = 5745 MHz, 20 MHz BW, MCS0

## DEVIATIONS FROM TEST STANDARD

None



Run #: 70

■ PK    ◆ AV    ● QP

# SPURIOUS RADIATED EMISSIONS



## RESULTS - Run #70

All emissions were below the limit (see graph above).

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0169
Serial Number:	521A000100	Date:	2021-11-22
Customer:	A-dec, Inc.	Temperature:	21.5°C
Attendees:	None	Relative Humidity:	34.1%
Customer Project:	None	Bar. Pressure (PMSL):	1026 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	24 VDC via 110VAC/60Hz	Configuration:	A-DE0169-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2021	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	71	Test Distance (m):	1	Ant. Height(s) (m):	1.25 (m)
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## COMMENTS

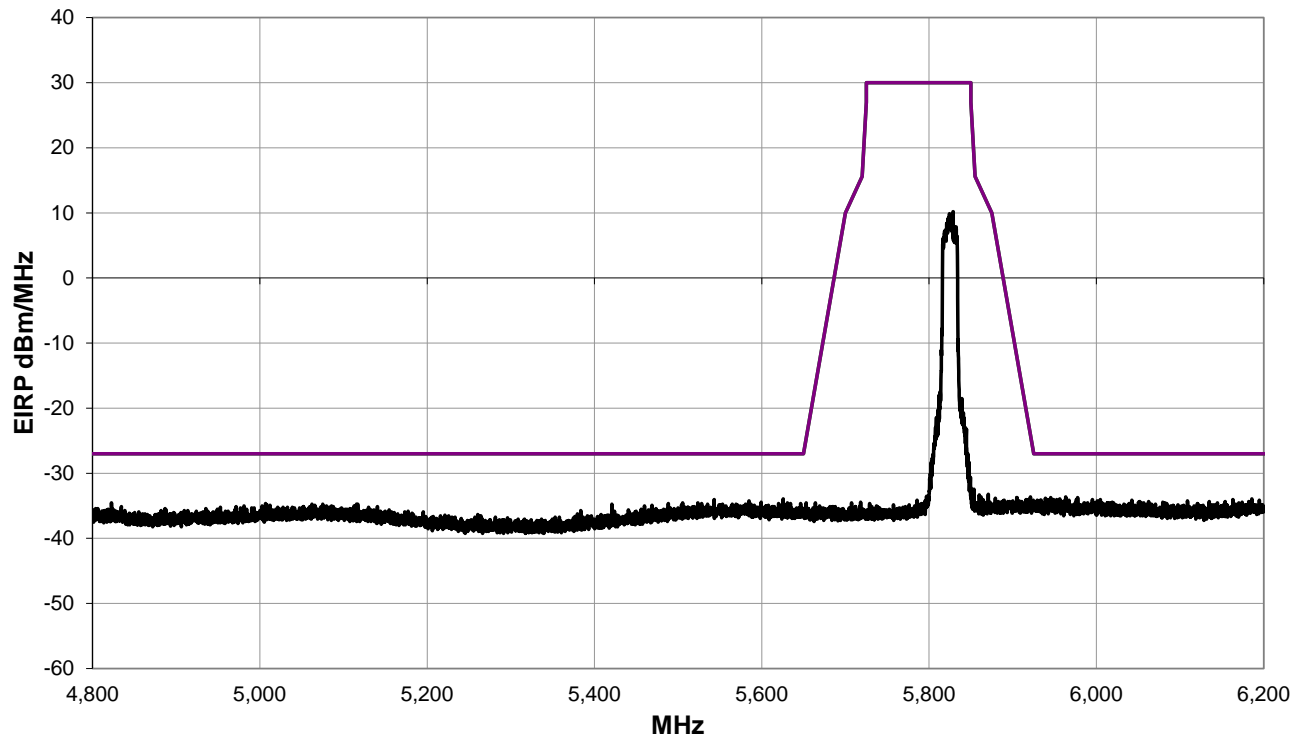
EUT Horizontal

## EUT OPERATING MODES

Tx, 802.11ac/an, Ch 165 = 5825 MHz, 20 MHz BW, MCS7

## DEVIATIONS FROM TEST STANDARD

None



Run #: 71

■ PK    ◆ AV    ● QP

# SPURIOUS RADIATED EMISSIONS



## RESULTS - Run #71

All emissions were below the limit (see graph above).

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0169
Serial Number:	521A000100	Date:	2021-11-22
Customer:	A-dec, Inc.	Temperature:	21.5°C
Attendees:	None	Relative Humidity:	34.1%
Customer Project:	None	Bar. Pressure (PMSL):	1026 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	24 VDC via 110VAC/60Hz	Configuration:	A-DE0169-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2021	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	72	Test Distance (m):	1	Ant. Height(s) (m):	1.25 (m)
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## COMMENTS

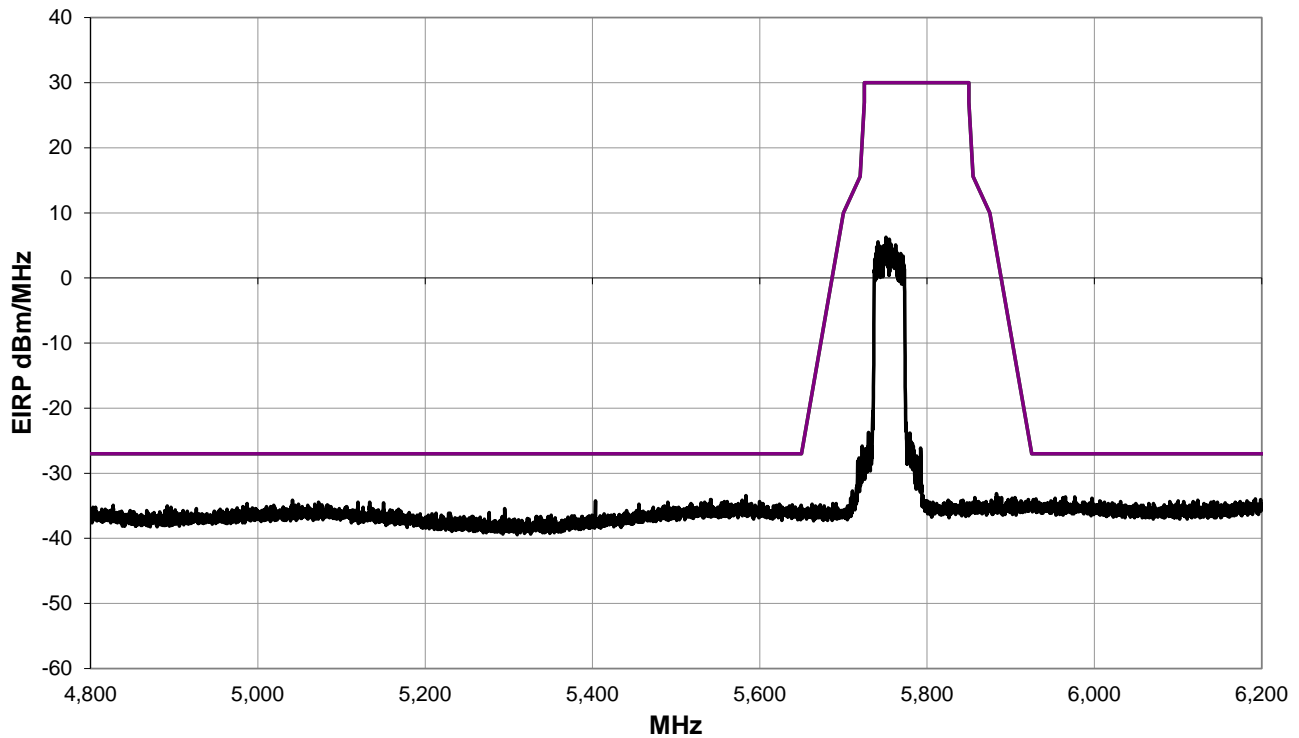
EUT Horizontal

## EUT OPERATING MODES

Tx, 802.11ac/an, Ch 149/153 = 5755 MHz, 40 MHz BW, MCS9 (256-QAM)

## DEVIATIONS FROM TEST STANDARD

None



Run #: 72

■ PK    ◆ AV    ● QP

# SPURIOUS RADIATED EMISSIONS



## RESULTS - Run #72

All emissions were below the limit (see graph above).

## CONCLUSION

Pass



Tested By



# SPURIOUS RADIATED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0169
Serial Number:	521A000100	Date:	2021-11-22
Customer:	A-dec, Inc.	Temperature:	21.5°C
Attendees:	None	Relative Humidity:	34.1%
Customer Project:	None	Bar. Pressure (PMSL):	1026 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	24 VDC via 110VAC/60Hz	Configuration:	A-DE0169-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2021	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	73	Test Distance (m):	1	Ant. Height(s) (m):	1.25 (m)
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## COMMENTS

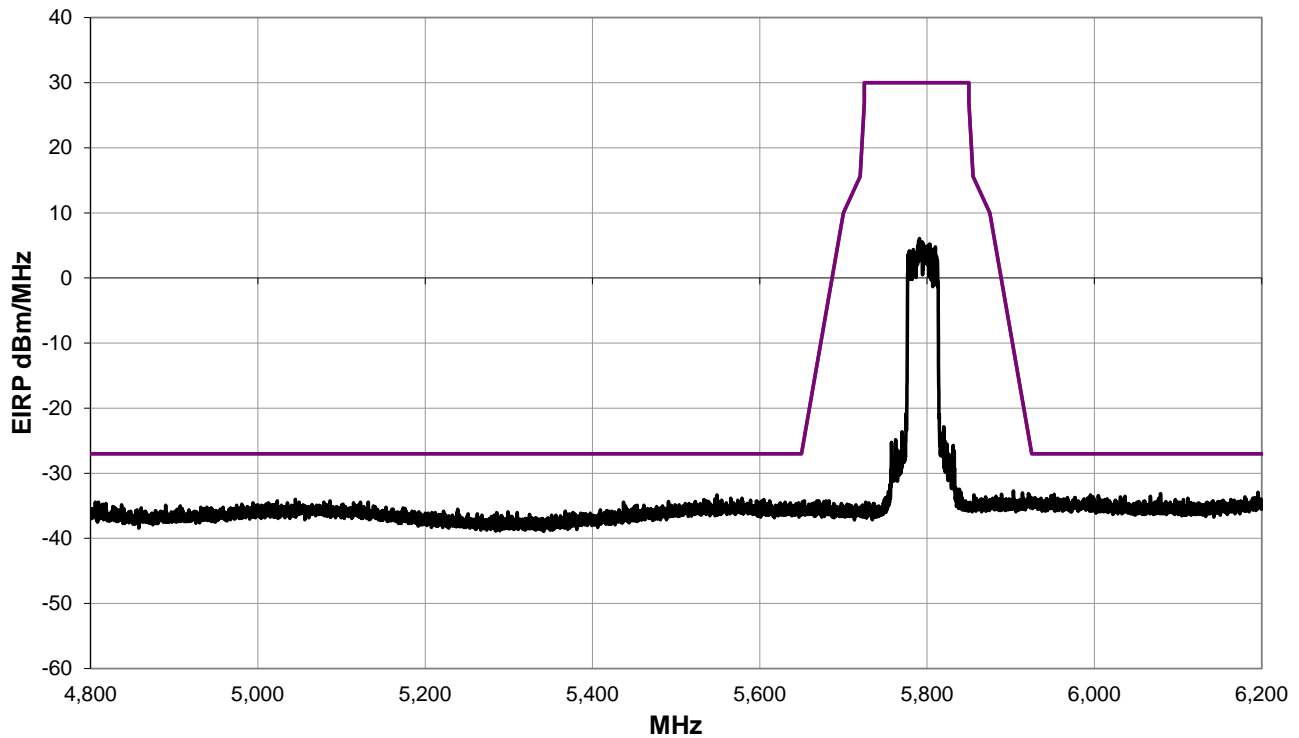
EUT Horizontal

## EUT OPERATING MODES

Tx, 802.11ac/an, Ch. 157/161 = 5795 MHz, 40 MHz BW, MCS9 (256-QAM)

## DEVIATIONS FROM TEST STANDARD

None



Run #: 73

■ PK    ◆ AV    ● QP

# SPURIOUS RADIATED EMISSIONS



## RESULTS - Run #73

All emissions were below the limit (see graph above).

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0169
Serial Number:	521A000100	Date:	2021-11-22
Customer:	A-dec, Inc.	Temperature:	21.5°C
Attendees:	None	Relative Humidity:	34.1%
Customer Project:	None	Bar. Pressure (PMSL):	1026 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	24 VDC via 110VAC/60Hz	Configuration:	A-DE0169-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2021	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	74	Test Distance (m):	1	Ant. Height(s) (m):	1.25 (m)
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## COMMENTS

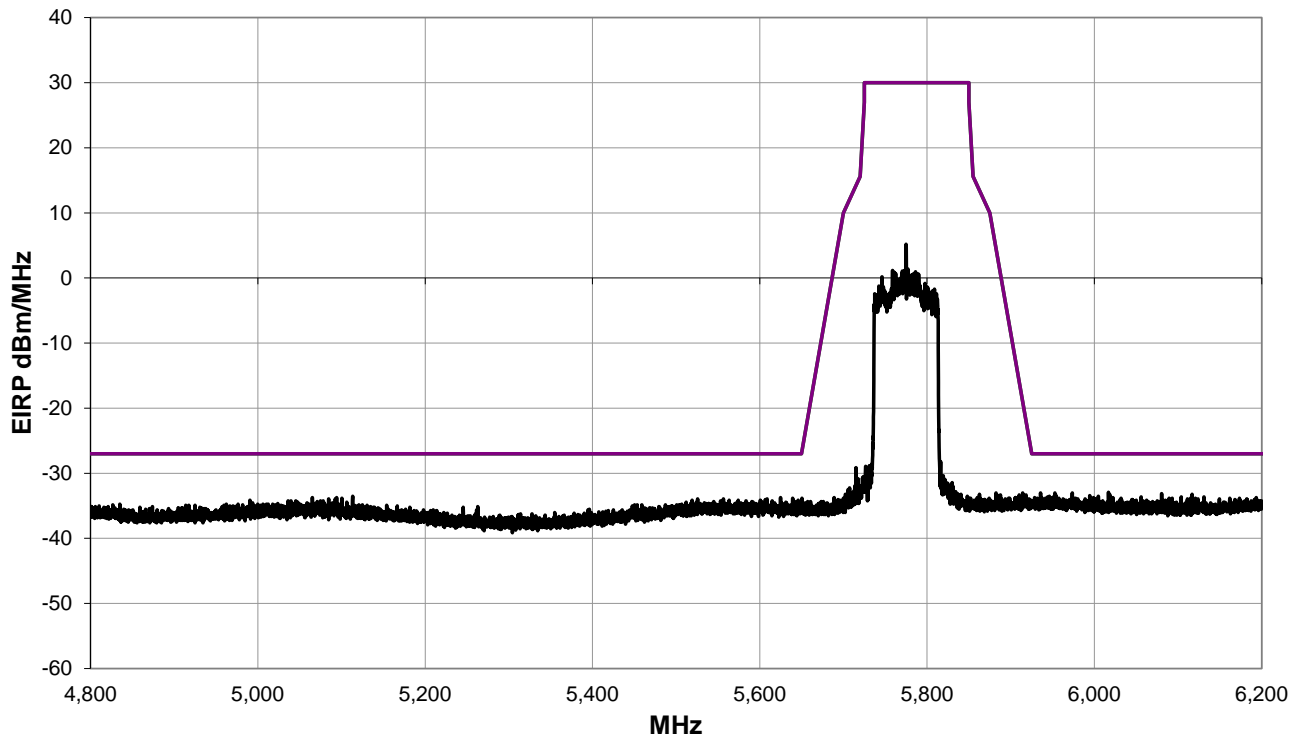
EUT Horizontal

## EUT OPERATING MODES

Tx, 802.11ac/an, Ch. 149-161, 80 MHz BW, MCS0

## DEVIATIONS FROM TEST STANDARD

None



Run #: 74

PK AV QP

# SPURIOUS RADIATED EMISSIONS



## RESULTS - Run #74

All emissions were below the limit (see graph above).

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0169
Serial Number:	521A000100	Date:	2022-02-14
Customer:	A-dec, Inc.	Temperature:	20.6°C
Attendees:	None	Relative Humidity:	40.1%
Customer Project:	None	Bar. Pressure (PMSL):	1017 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	24 VDC via 110VAC/60Hz	Configuration:	A-DE0169-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2022	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	143	Test Distance (m):	1	Ant. Height(s) (m):	1.25 (m)
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## COMMENTS

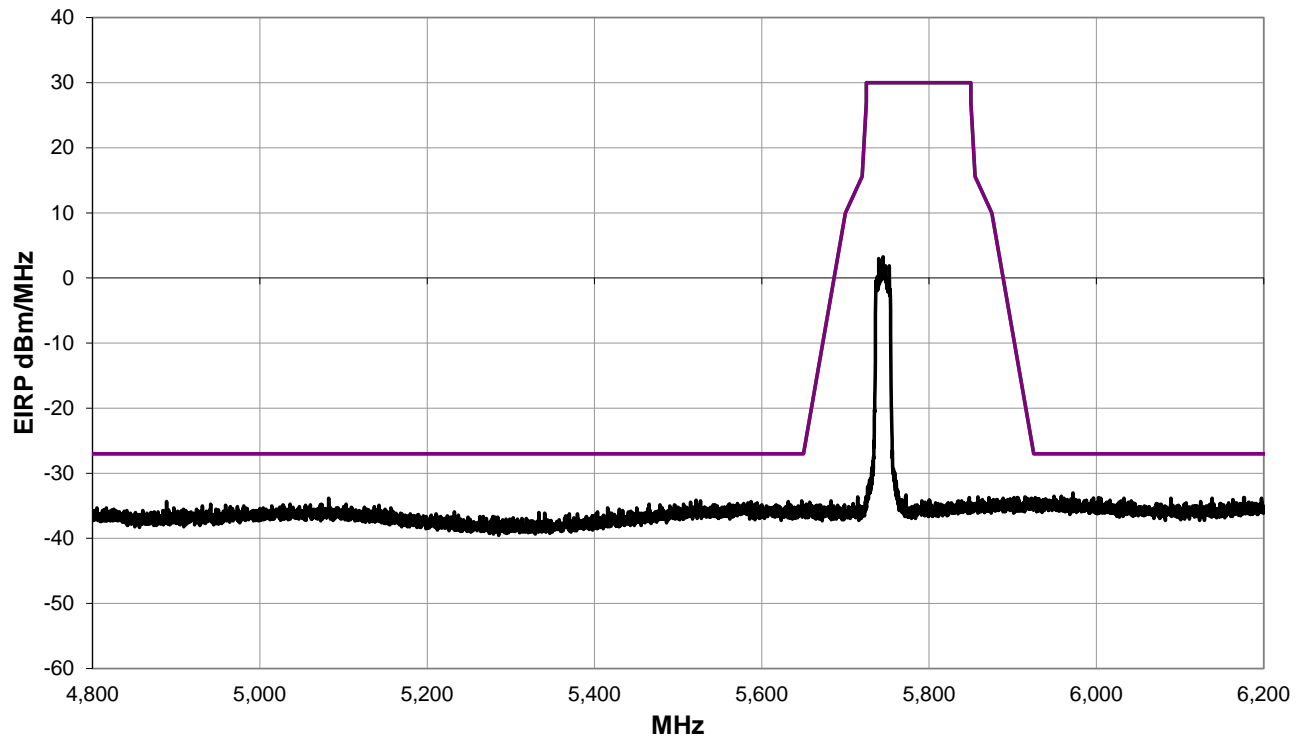
EUT Horizontal – spot check worst case 20 MHz wide channels in the 5.8 GHz band.

## EUT OPERATING MODES

Tx, 802.11ac/an, Ch 149 = 5745 MHz, 20 MHz BW, MCS0, Power setting = 9 dBm

## DEVIATIONS FROM TEST STANDARD

None



Run #: 143

PK AV QP

# SPURIOUS RADIATED EMISSIONS



## RESULTS - Run #143

All emissions were below the limit (see graph above).

## CONCLUSION

Pass

A handwritten signature in black ink, appearing to be 'J. F. [unclear]', is written over the 'Tested By' text.

Tested By

# SPURIOUS RADIATED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0169
Serial Number:	521A000100	Date:	2022-02-14
Customer:	A-dec, Inc.	Temperature:	20.6°C
Attendees:	None	Relative Humidity:	40.1%
Customer Project:	None	Bar. Pressure (PMSL):	1017 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	24 VDC via 110VAC/60Hz	Configuration:	A-DE0169-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2022	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	144	Test Distance (m):	1	Ant. Height(s) (m):	1.25 (m)
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## COMMENTS

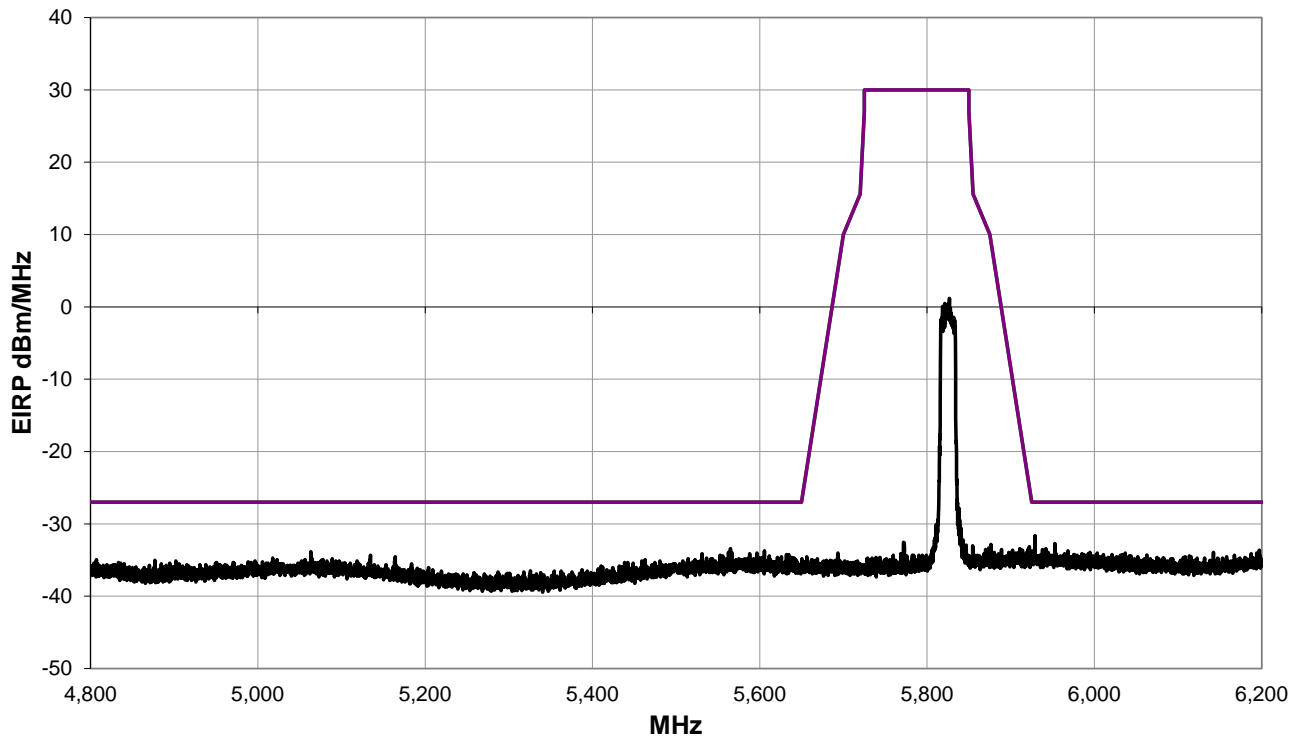
EUT Horizontal – spot check worst case 20 MHz wide channels in the 5.8 GHz band.

## EUT OPERATING MODES

Tx, 802.11ac/an, Ch 165 = 5745 MHz, 20 MHz BW, MCS0, Power setting = 9 dBm

## DEVIATIONS FROM TEST STANDARD

None



# SPURIOUS RADIATED EMISSIONS



## RESULTS - Run #144

All emissions were below the limit (see graph above).

## CONCLUSION

Pass

A handwritten signature in black ink, appearing to read 'J. F. [unclear]', is positioned above the 'Tested By' label.

Tested By



# SPURIOUS RADIATED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0169
Serial Number:	521A000100	Date:	2022-02-14
Customer:	A-dec, Inc.	Temperature:	20.6°C
Attendees:	None	Relative Humidity:	40.1%
Customer Project:	None	Bar. Pressure (PMSL):	1017 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	24 VDC via 110VAC/60Hz	Configuration:	A-DE0169-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2022	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	145	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

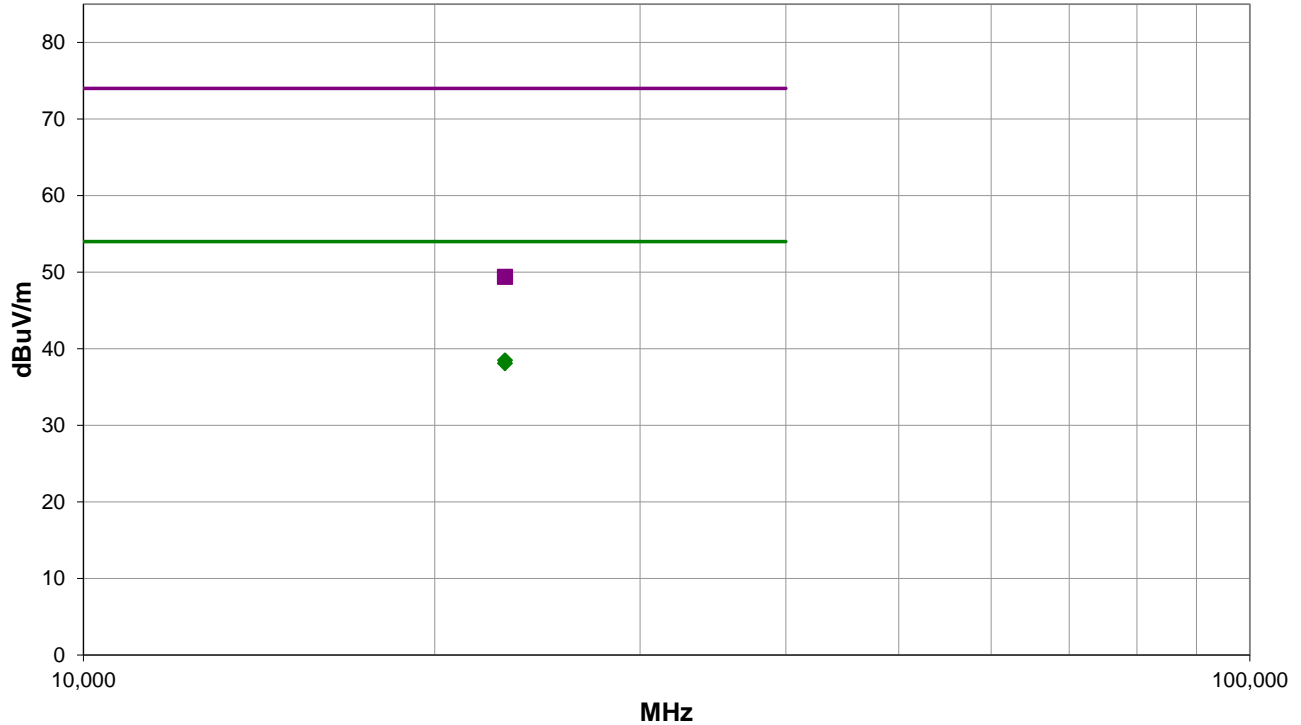
Please reference data comments below for EUT orientation. Spot check worst case 20 MHz wide channel in the 5.8 GHz band.

## EUT OPERATING MODES

Tx, 802.11ac/an, Ch 149 = 5745 MHz, 20 MHz BW, 6 Mbps, Power setting = 9 dBm

## DEVIATIONS FROM TEST STANDARD

None



Run #: 145

■ PK    ◆ AV    ● QP

# SPURIOUS RADIATED EMISSIONS



## RESULTS - Run #145

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
22979.940	31.3	7.2	1.5	165.0	3.0	0.0	Vert	AV	0.0	38.5	54.0	-15.5	EUT on Side
22977.580	30.9	7.2	1.6	360.0	3.0	0.0	Horz	AV	0.0	38.1	54.0	-15.9	EUT Horz
22981.030	42.2	7.2	1.5	165.0	3.0	0.0	Vert	PK	0.0	49.4	74.0	-24.6	EUT on Side
22981.440	42.2	7.2	1.6	360.0	3.0	0.0	Horz	PK	0.0	49.4	74.0	-24.6	EUT Horz

## CONCLUSION

Pass

Tested By

# SPURIOUS RADIATED EMISSIONS



EUT:	A-dec Gateway	Work Order:	A-DE0169
Serial Number:	521A000100	Date:	2022-02-14
Customer:	A-dec, Inc.	Temperature:	20.6°C
Attendees:	None	Relative Humidity:	40.1%
Customer Project:	None	Bar. Pressure (PMSL):	1017 mb
Tested By:	Jeff Alcoke	Job Site:	EV01
Power:	24 VDC via 110VAC/60Hz	Configuration:	A-DE0169-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2022	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	146	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
--------	-----	--------------------	---	---------------------	-----------

## COMMENTS

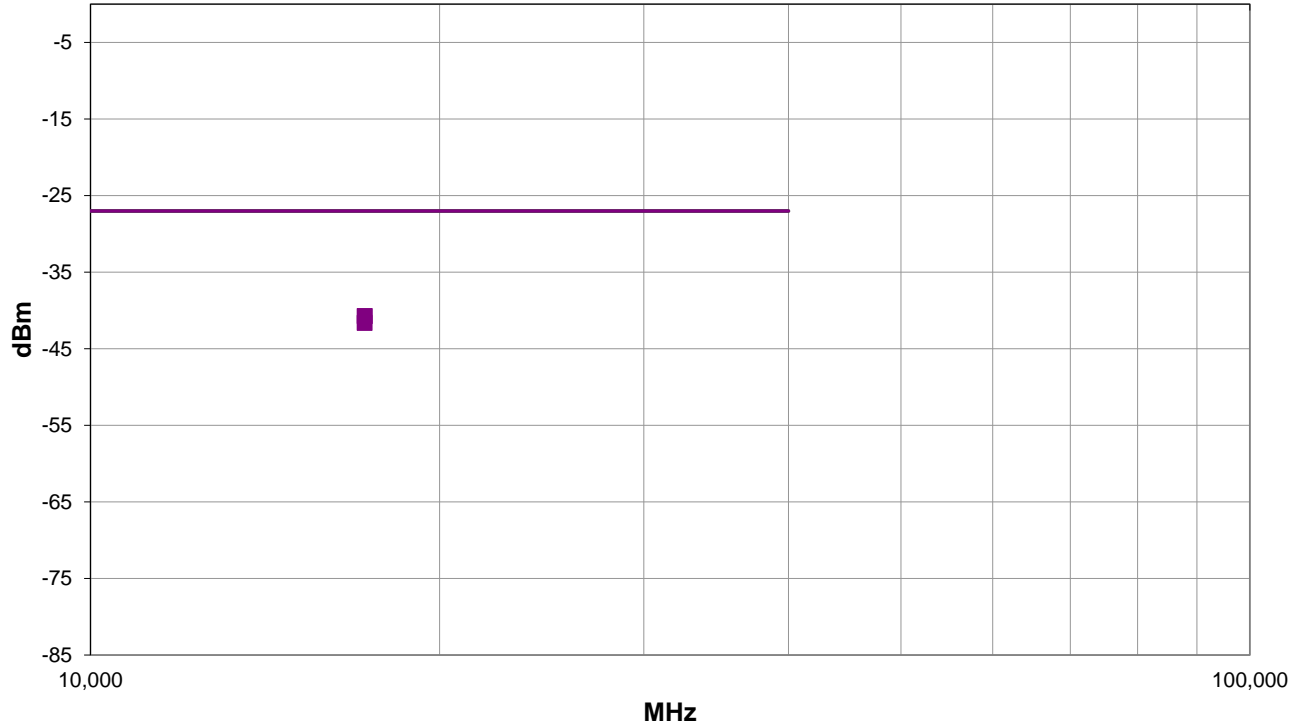
Please reference data comments blow for EUT orientation. Spot check worst case 20 MHz wide channel in the 5.8 GHz band.

## EUT OPERATING MODES

Tx, 802.11ac/an, Ch 149 = 5745 MHz, 20 MHz BW, 6 Mbps, Power setting = 9 dBm

## DEVIATIONS FROM TEST STANDARD

None



Run #: 146

■ PK    ◆ AV    ● QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #146

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
17237.140	1.5	42.0	Vert	PK	84.6E-9	-40.7	-27.0	-13.7	EUT on Side
17233.650	1.5	160.0	Horz	PK	68.7E-9	-41.6	-27.0	-14.6	EUT Horz

## CONCLUSION

Pass



Tested By

End of Test Report