

Report Numbe	er :TERF240	08002341E2	Т	lest Site	:SAC D	
Operation Mod	de :802.11ah	1 8M	Т	Fest Date	:2024-08-22	
Test Frequenc	y :916 MHz		Т	ſemp./Humi.	:19.5℃/67%	
Test Mode	:Tx		A	Antenna Pol.	:Vertical	
EUT Pol	:H Plane		E	Engineer	:Howard Huang	
100 Level (dBu	V/m)					
90						
70						
60						
50						
40	2					
30 20						
10						
0 1000	2800.	4600. Frequen	6400. cy (MHz)	8200	. 10000	
Freq.	Detector	Spectrum	Factor	Actual	Limit	Margin
	Mode	Reading Level		FS	@3m	
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4000.000	Deals	50.40	7 70	F4 70	00.00	40.07
1832.000 2748.000	Peak Average	59.43 40.20	-7.70 -4.10	51.73 36.10	92.60 54.00	-40.87 -17.90
2748.000	Peak	53.54	-4.10	49.44	74.00	-24.56

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Report Numbe Operation Moe Test Frequenc Test Mode EUT Pol	de :802.11ah	n 8M	- - /	Test Date : Temp./Humi. : Antenna Pol. :		
100 Level (dBu 90 80 70 60 50 40 30 20 10 0 1000	1V/m)	4600. Frequen	6400. 0Cy (MHz)	8200.		
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
1832.000 2748.000 2748.000	Peak Average Peak	56.28 37.55 49.99	-7.70 -4.10 -4.10	48.57 33.45 45.89	88.22 54.00 74.00	-39.65 -20.55 -28.11

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Report Numbe	r :TERF240	8002341E2	Т	est Site	:SAC D	
Operation Mod	de :802.11ah	8M	Т	est Date	:2024-08-22	
Test Frequenc	y :924 MHz		Т	emp./Humi.	:19.5°C/67%	
Test Mode	:Tx		A	Antenna Pol.	:Vertical	
EUT Pol	:H Plane		E	Ingineer	:Howard Huang	
100 Level (dBu	V/m)					
80						
70 60						
50						
40						
30						
10						
0	2800.	4600. Frequen	6400. су (MHz)	8200	. 10000	
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	u dBµV∕m	dB
1848.000	Peak	65.20	-7.65	57.55	92.60	-35.05
2772.000 2772.000	Average Peak	48.54 59.44	-4.08 -4.08	44.47 55.36	54.00 74.00	-9.53 -18.64
2112.000	i our	00.11	1.00	00.00	74.00	10.04

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Report Numbe Operation Mo Test Frequenc Test Mode EUT Pol	de :802.11ah	8M		Test Site Test Date Temp./Humi. Antenna Pol. Engineer		
100 90 80 70 60 50 40 30 20 10 0 1000	1/m)	4600. Frequer	6400. 6400.			
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS dBuV/m	Limit @3m dBuV/m	Margin
MHz	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
1848.000 2772.000 2772.000	Peak Average Peak	63.45 48.05 59.81	-7.65 -4.08 -4.08	55.80 43.98 55.73	88.22 54.00 74.00	-32.42 -10.02 -18.27

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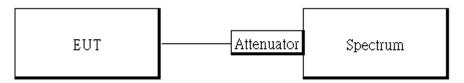
# **12 POWER SPECTRAL DENSITY**

#### Standard Applicable: 12.1

# Per Part 15.247 (e)

The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

# 12.2 Test Setup



#### **Measurement Procedure:** 12.3

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance.
- 3. Set the span to 1.5 times the DTS channel bandwidth.
- 4. Set the RBW = 3 kHz. & the VBW = 10 kHz
- 5. Set Detector = 1M Detector = average

2M & 4M & 8M Detector = peak

- Sweep time = auto couple.
- Set Trace mode = 1M trace mode = average

2M & 4M & 8M trace mode = max hold

- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.

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#### 12.4 Measurement Result:

## OFDM 1M mode

Frequency (MHz)	RF Power Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
903.5	1.84	8	PASS
914.5	2.78	8	PASS
926.5	2.45	8	PASS

## \*Note:

1.cable loss as 10.8dB that offsets in the spectrum

## OFDM 2M mode

Frequency (MHz)	RF Power Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
905	6.42	8	PASS
915	6.17	8	PASS
925	5.99	8	PASS

## \*Note:

1.cable loss as 10.8dB that offsets in the spectrum

## OFDM 4M mode

Frequency (MHz)	RF Power Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
906	3.09	8	PASS
914	3.33	8	PASS
926	2.58	8	PASS

## \*Note:

1.cable loss as 10.8dB that offsets in the spectrum

## OFDM 8M mode

Frequency (MHz)	RF Power Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
908	0.33	8	PASS
916	1.33	8	PASS
924	0.61	8	PASS

## \*Note:

1.cable loss as 10.8dB that offsets in the spectrum

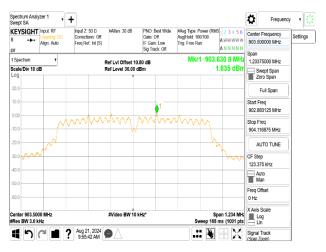
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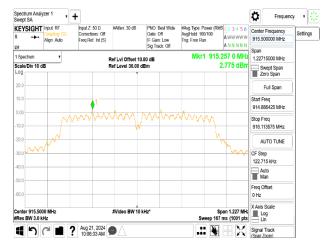
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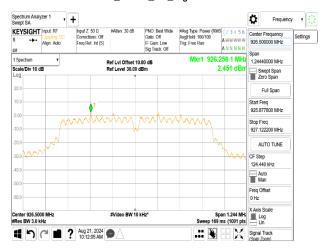
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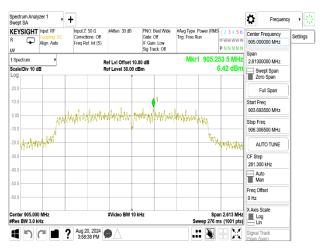
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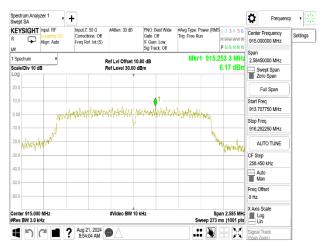
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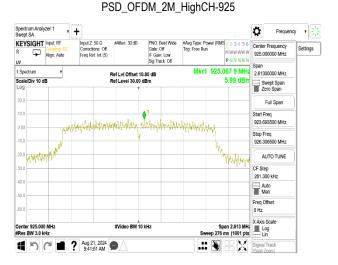


#### PSD\_OFDM\_2M\_LowCH-905



PSD\_OFDM\_2M\_MidCH-915





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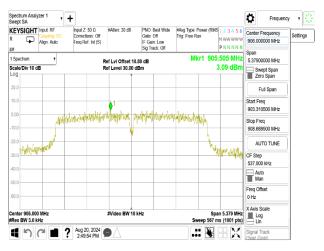
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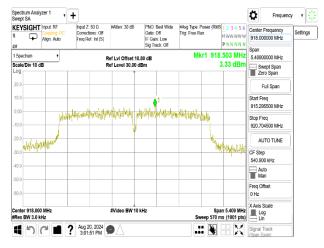
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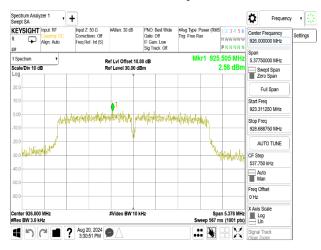
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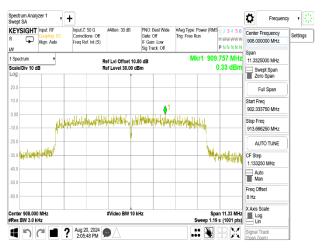
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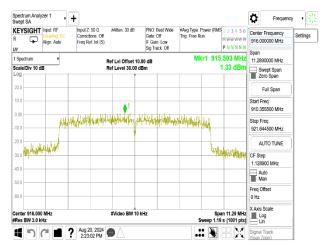
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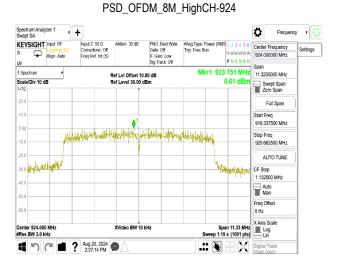


### PSD\_OFDM\_8M\_LowCH-908



PSD\_OFDM\_8M\_MidCH-916





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# **13 ANTENNA REQUIREMENT**

#### 13.1 Standard Applicable:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§ 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

#### 13.2 Antenna Connected Construction:

The antenna complies with this requirement and no consideration of replacement. Please see EUT photo for details.

~ End of Report ~

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