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Total Power Ref

Start Freq

8.500 kHz

15.00 kHz

25.00 kHz

99.90 kHz 12.50 MHz

12.50 MHz

0 0 Hz

33.00 dBm 0.0125 MHz

Integ BW

100 0 Hz

100.0 Hz

100.0 Hz 100.0 Hz

100.0 kHz 1.000 MHz

1.000 MHz

dRm

25.92

-26.53

-47.29 -46.89 ΔLim(dB)

(-7.08) (-9.55)

(-23.76)

(-9.32)

(-33.89)

Fred (Hz)

-3 000 k

-9.000 k

-24.95 k -25.30 k

Stop Freq

4 000 kHz

15.00 kHz

25.00 kHz 50.00 kHz

100.0 kHz 15.00 MHz

15.00 MHz

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ΔLim(dB) (-7.08) (-9.55) (-23.04)

(-8.84)

(-33.61)

STATUS

dBm

25 92

-30.81

-46.94

-46.61

Frea (Hz)

3 000 k

12.25 k

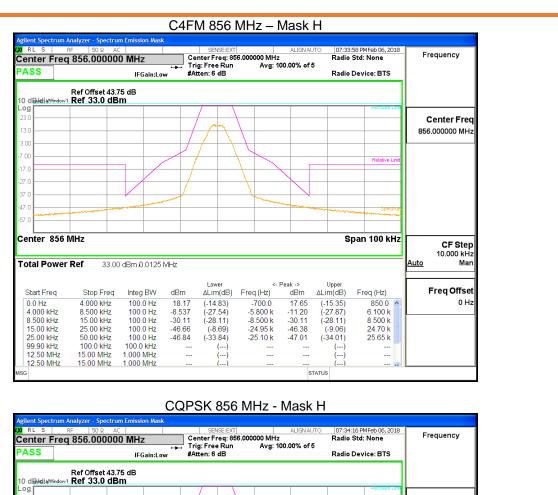
25.00 k 25.55 k Freq Offset

0 Hz

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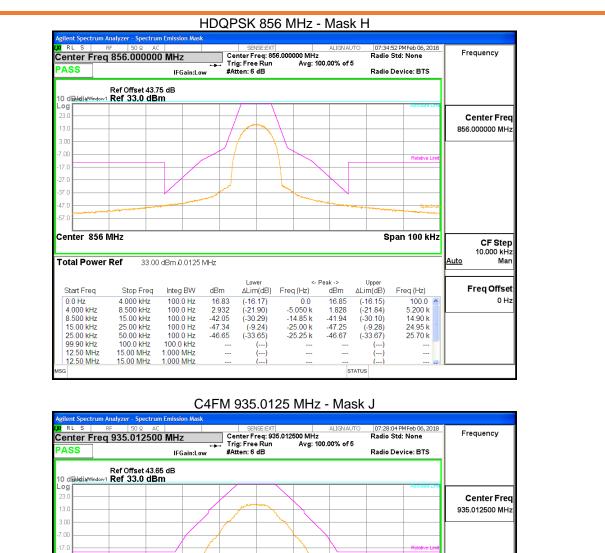
Revision No.: 2

Center Freq 856.000000 MHz Center 856 MHz Span 100 kHz CF Step 10.000 kHz Total Power Ref 33.00 dBm 0.0125 MHz Freq Offset ΔLim(dB) Freq (Hz) Start Freq Stop Freq Integ BW dRm ΔLim(dB) (-15.18) Frea (Hz) dBm (-15.41) 17.82 0 0 Hz 4 000 kHz 100 0 Hz 17.59 -400.0 950.0 0 Hz 8.450 k 8.500 kHz 15.00 kHz 100.0 Hz -40.96 (-30.50)-14.00 k -42.30 (-30.61)14.80 k 15.00 kHz 25.00 kHz 50.00 kHz 100.0 Hz 100.0 Hz -47.04 -47.01 (-8.94) (-34.01) -25.00 k -25.20 k -46.89 (-8.92) (-34.14) 24.95 k 26.50 k 25.00 kHz -47.14 99.90 kHz 12.50 MHz 100.0 kHz 15.00 MHz 100.0 kHz 1.000 MHz 12.50 MHz 15.00 MHz 1.000 MHz STATUS

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Center 935 MHz Span 50 kHz CF Step 5.000 kHz Total Power Ref 33.00 dBm 0.0125 MHz Freq Offset ΔLim(dB) Freq (Hz) Start Freq Stop Freq Integ BW dRm ΔLim(dB) Frea (Hz) dBm 17 19 1.000 k 0 0 Hz 2 500 kHz 100 0 Hz 17.39 (-15,61) -800.0 (-15.81) 0 Hz 2.700 k 6.550 k 6.500 kHz 9.500 kHz 100.0 Hz -14.82 (-24.97)-6.500 k -15.41 (-25.28)9.500 kHz 11.00 kHz 25.00 kHz 100.0 Hz 100.0 Hz -37.65 -37.54 (-17.65) (-17.54) -11.00 k -37.61 -37.61 (-17.61) (-17.61) 11.00 k 11.00 k 11.00 kHz 99.90 kHz 12.50 MHz 100.0 kHz 15.00 MHz 100.0 kHz 1.000 MHz 12.50 MHz 15.00 MHz 1.000 MHz STATUS

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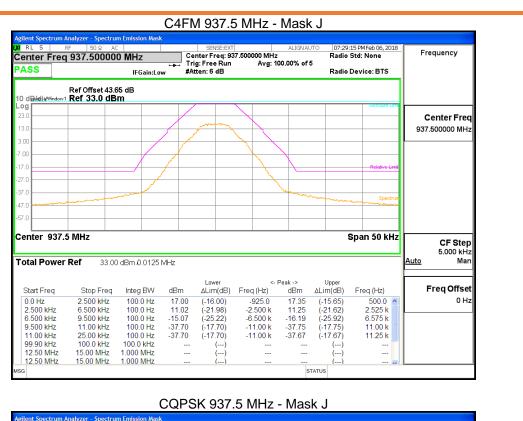
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Client: Dali Wireless, Inc.

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07:29:32 PM Feb 06, 2018 Radio Std: None Center Freq: 937.500000 MHz Trig: Free Run Avg: 10 #Atten: 6 dB Frequency Center Freq 937.500000 MHz Avg: 100.00% of 5 Radio Device: BTS IFGain:Low Ref Offset 43.65 dB Ref 33.0 dBm Center Freq 937.500000 MHz Center 937.5 MHz Span 50 kHz CF Step 5.000 kHz Total Power Ref 33.00 dBm 0.0125 MHz Freq Offset Start Freq Stop Freq Integ BW dRm ΔLim(dB) Freq (Hz) ΔLim(dB) Freq (Hz) dBm -1.325 k -2.500 k (-16.01) 1.475 k 0 0 Hz 2 500 kHz 100 0 Hz 17.04 (-15.96) 16 99 0 Hz 2.500 k 9.500 k 6.136 6.500 kHz 9.500 kHz 100.0 Hz -36.14 (-29.45)-9.475 k (-28.96)9.500 kHz 11.00 kHz 25.00 kHz 100.0 Hz 100.0 Hz -38.16 -37.75 (-18.16) (-17.75) -11.00 k -37.83 -37.83 (-17.83) (-17.83) 11.00 k 11.00 k 11.00 kHz 99.90 kHz 12.50 MHz 100.0 kHz 15.00 MHz 100.0 kHz 1.000 MHz 12.50 MHz 15.00 MHz 1.000 MHz STATUS

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Client: Dali Wireless, Inc.

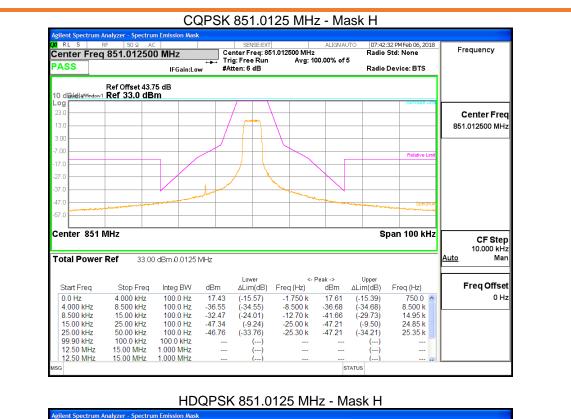


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STATUS

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Client: Dali Wireless, Inc.

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07:43:08 PM Feb 06, 2018 Radio Std: None Center Freq: 851.012500 MHz Trig: Free Run Avg: 10 #Atten: 6 dB Frequency Center Freq 851.012500 MHz Avg: 100.00% of 5 Radio Device: BTS IFGain:Low Ref Offset 43.75 dB Ref 33.0 dBm Center Freq 851.012500 MHz Center 851 MHz Span 100 kHz CF Step 10.000 kHz Total Power Ref 33.00 dBm 0.0125 MHz Freq Offset ΔLim(dB) Freq (Hz) Start Freq Stop Freq Integ BW dBm ΔLim(dB) Freq (Hz) dBm 0 0 Hz 4 000 kHz 100 0 Hz 16 46 (-16.54)-500.0 16.73 (-16.27) 650.0 0 Hz 5.250 k 14.55 k 8.500 kHz 15.00 kHz 100.0 Hz -31.72 (-23.26)-12.70 k -41.09 (-29.78)15.00 kHz 25.00 kHz 50.00 kHz 100.0 Hz 100.0 Hz -47.08 -46.72 (-9.37) -24.85 k -25.75 k -47.14 (-9.17) 24.95 k 26.15 k 25.00 kHz (-33.72)-46.96 (-33.96)99.90 kHz 12.50 MHz 100.0 kHz 15.00 MHz 100.0 kHz 1.000 MHz 12.50 MHz 15.00 MHz 1.000 MHz STATUS

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0 0 Hz

8.500 kHz

15.00 kHz

25.00 kHz

99.90 kHz 12.50 MHz

12.50 MHz

4 000 kHz

15.00 kHz

25.00 kHz 50.00 kHz

100.0 kHz 15.00 MHz

15.00 MHz

100 0 Hz

100.0 Hz

100.0 Hz 100.0 Hz

100.0 kHz 1.000 MHz

1.000 MHz

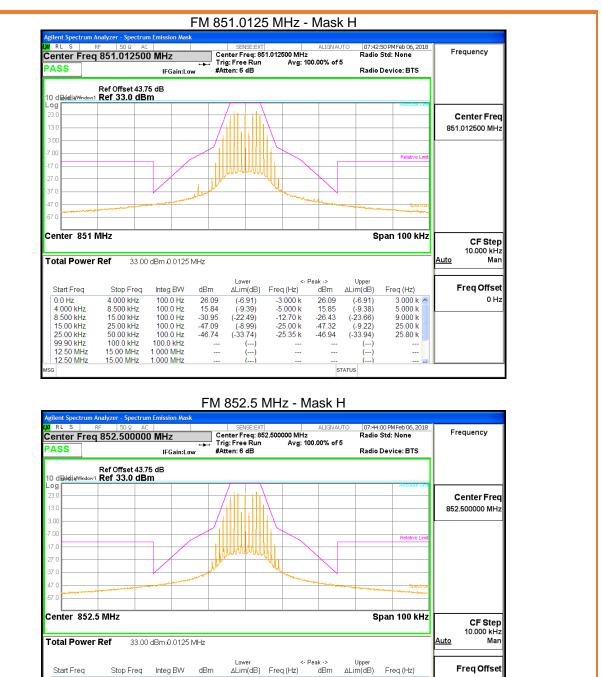
26.01

-26.56

-47.26 -46.96

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-3 000 k

-9.000 k

-25.00 k -25.55 k (-7.00) (-9.46)

(-23.61)

(-9.16) (-33.59)

STATUS

26.00

-26.38

-47.26

-46.59

3.000 k

9.000 k

25.00 k 25.15 k 0 Hz

(-6.99) (-9.45)

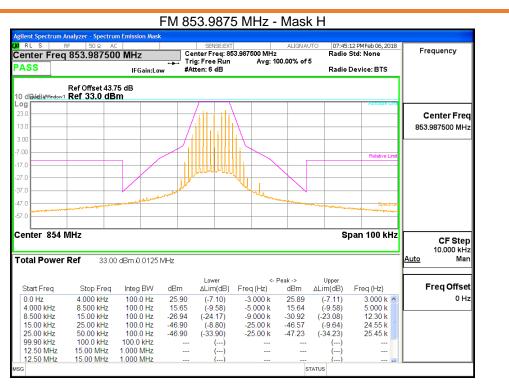
(-23.79)

(-9.16)

(-33.96)

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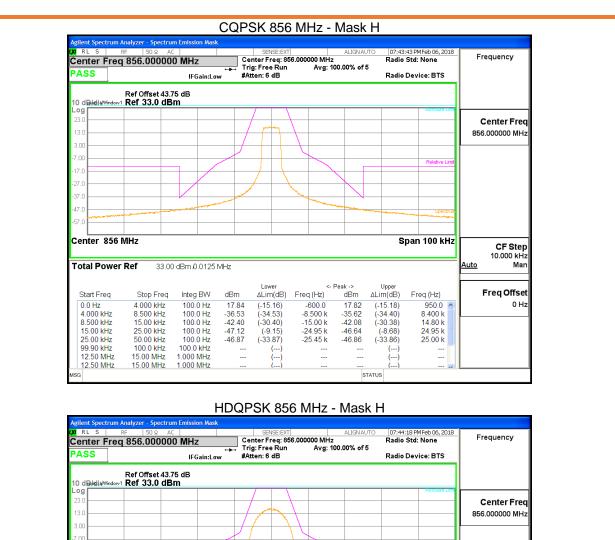
Revision No.: 2

C4FM 856 MHz - Mask H 07:43:25 PM Feb 06, 2018 Radio Std: None Center Freq: 856.000000 MHz Trig: Free Run Avg: 10 #Atten: 6 dB Frequency Center Freq 856.000000 MHz Avg: 100.00% of 5 Radio Device: BTS IFGain:Low Ref Offset 43.75 dB Ref 33.0 dBm Center Freq 856.000000 MHz Center 856 MHz Span 100 kHz CF Step 10.000 kHz Total Power Ref 33.00 dBm 0.0125 MHz Freq Offset ΔLim(dB) Freq (Hz) Start Freq Stop Freq Integ BW dBm ΔLim(dB) Freq (Hz) dBm 17.74 -11.59 17 97 (-15.03) 0 0 Hz 4 000 kHz 100 0 Hz (-15.26)-700.0 850.0 0 Hz -6.150 k -8.550 k 5.750 k 8.500 k 8.500 kHz 15.00 kHz 100.0 Hz -30.57 (-28.50)-29.88 (-27.88)15.00 kHz 25.00 kHz 50.00 kHz 100.0 Hz 100.0 Hz -47.01 -47.06 (-9.04) (-34.06) -24.95 k -25.45 k -46.39 (-8.81) 24.80 k 26.05 k 25.00 kHz -46.70 (-33.70)99.90 kHz 12.50 MHz 100.0 kHz 15.00 MHz 100.0 kHz 1.000 MHz 12.50 MHz 15.00 MHz 1.000 MHz STATUS

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Center 856 MHz Span 100 kHz CF Step 10.000 kHz Total Power Ref 33.00 dBm 0.0125 MHz Freq Offset ΔLim(dB) Freq (Hz) Start Freq Stop Freq Integ BW dBm ΔLim(dB) Freq (Hz) dBm 0 0 Hz 4 000 kHz 100 0 Hz 17 16 (-15.84)-250.0 17 07 (-15.93)650.0 0 Hz 8.500 kHz 15.00 kHz 100.0 Hz -42.00 (-30.15)-14.90 k -41.79 (-29.87)14.95 k 15.00 kHz 25.00 kHz 50.00 kHz 100.0 Hz 100.0 Hz -46.73 -46.61 (-8.63) -25.00 k -25.55 k -47.27 (-9.17) 25.00 k 25.50 k 25.00 kHz (-33.61)-46.51 (-33.51)99.90 kHz 12.50 MHz 100.0 kHz 15.00 MHz 100.0 kHz 1.000 MHz 12.50 MHz 15.00 MHz 1.000 MHz STATUS

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8.500 kHz

15.00 kHz

25.00 kHz

99.90 kHz 12.50 MHz

12.50 MHz

15.00 kHz

25.00 kHz 50.00 kHz

100.0 kHz 15.00 MHz

15.00 MHz

100.0 Hz

100.0 Hz 100.0 Hz

100.0 kHz 1.000 MHz

1.000 MHz

-41.67

-47.22 -47.18

(-30.20)

(-9.12) (-34.18)

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-14.65 k

-25.00 k -25.10 k

(-33.28) (-24.75)

(-9.15) (-34.25)

STATUS

12.25 k

25.00 k 25.00 k

-32.52

-47.25

-47.25

Center 935 MHz

Total Power Ref

Start Freq

6.500 kHz

9.500 kHz

11.00 kHz

99.90 kHz 12.50 MHz

12.50 MHz

0 0 Hz

33.00 dBm 0.0125 MHz

Integ BW

100 0 Hz

100.0 Hz

100.0 Hz 100.0 Hz

100.0 kHz 1.000 MHz

1.000 MHz

dBm

17.41

-14.91

-37.89 -37.66

Stop Freq

2 500 kHz

9.500 kHz

11.00 kHz 25.00 kHz

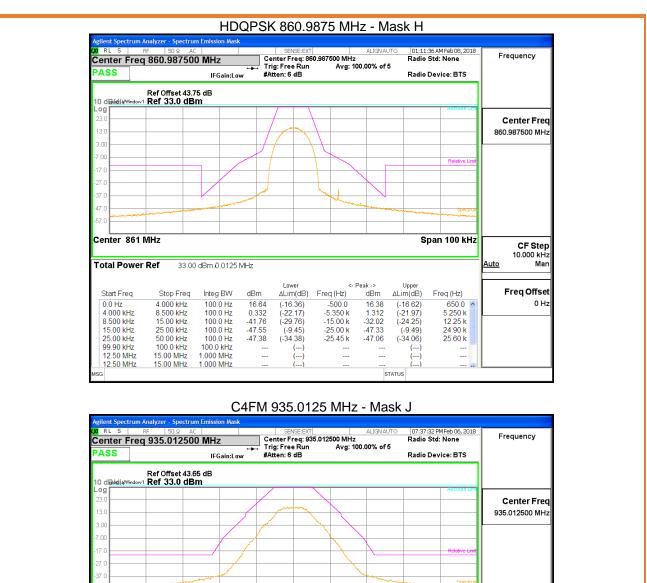
100.0 kHz 15.00 MHz

15.00 MHz

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ΔLim(dB) Freq (Hz)

-800.0

-2.500 k -6.525 k

-11.00 k

(-15.59)

(-24.92)

(-17.89)

(-17.66)

Span 50 kHz

Frea (Hz)

975.0

3.650 k 6.550 k

11.00 k 11.30 k

ΔLim(dB)

(-15.82)

(-25.49)

(-18.07) (-17.93)

STATUS

dBm

17 18

-15.62

-38.07 -37.93

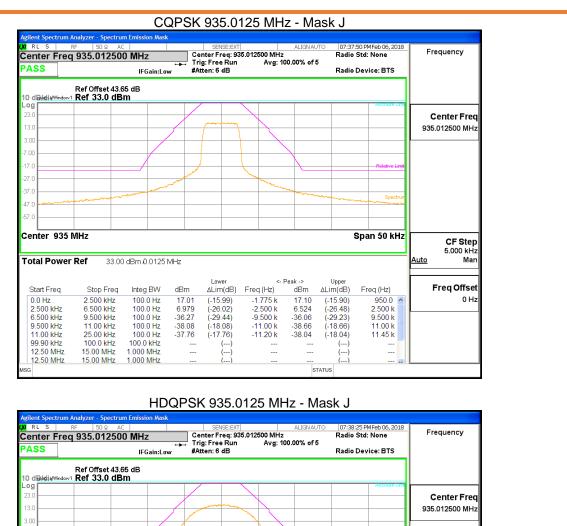
CF Step 5.000 kHz

Freq Offset

0 Hz

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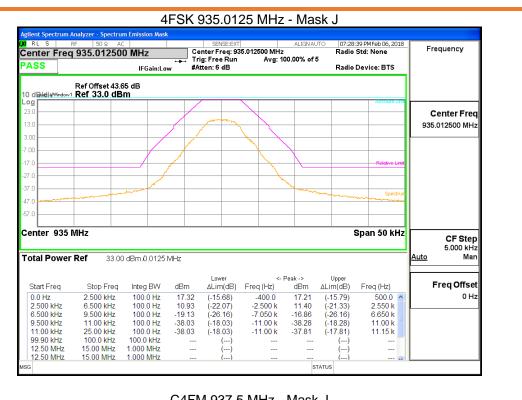
Revision No.: 2

Center 935 MHz Span 50 kHz CF Step 5.000 kHz Total Power Ref 33.00 dBm 0.0125 MHz Freq Offset ΔLim(dB) Freq (Hz) Start Freq Stop Freq Integ BW dBm ΔLim(dB) Freq (Hz) dBm 375.0 (-16.85) 0 0 Hz 2 500 kHz 100 0 Hz 16.03 (-16.97) 0.0 16 15 0 Hz (-16.35) (-26.93) (-16.26) (-27.37) 6.500 kHz 9.500 kHz 100.0 Hz -34.20 -9.500 k -16.78 6.500 k 9.500 kHz 11.00 kHz 25.00 kHz 100.0 Hz 100.0 Hz -37.15 -37.15 (-17.15) (-17.15) -11.00 k (-17.45) (-17.41) 11.00 k 11.03 k 11.00 kHz -37.41 99.90 kHz 12.50 MHz 100.0 kHz 15.00 MHz 100.0 kHz 1.000 MHz 12.50 MHz 15.00 MHz 1.000 MHz STATUS

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Client: Dali Wireless, Inc.

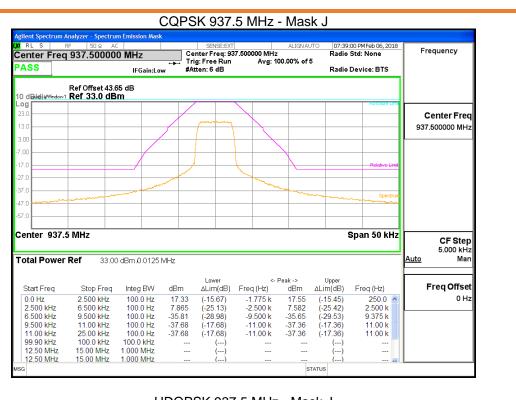
Revision No.: 2

C4FM 937.5 MHz - Mask J 07:38:42 PM Feb 06, 2018 Radio Std: None Center Freq: 937.500000 MHz Trig: Free Run Avg: 10 #Atten: 6 dB Frequency Center Freq 937.500000 MHz Avg: 100.00% of 5 Radio Device: BTS IFGain:Low Ref Offset 43.65 dB Ref 33.0 dBm Center Freq 937.500000 MHz Center 937.5 MHz Span 50 kHz CF Step 5.000 kHz Total Power Ref 33.00 dBm 0.0125 MHz Freq Offset ΔLim(dB) Freq (Hz) Start Freq Stop Freq Integ BW dBm ΔLim(dB) Frea (Hz) dBm (-15.55) 17 63 0 0 Hz 2 500 kHz 100 0 Hz 17 45 -700.0 (-15.37) 850.0 0 Hz 6.500 kHz 9.500 kHz 100.0 Hz -14.62 (-24.63)-6.525 k -15.71 (-25.44)6.575 k 9.500 kHz 11.00 kHz 25.00 kHz 100.0 Hz 100.0 Hz -38.11 -37.89 (-18.11) (-17.89) -11.00 k -37.33 -37.33 (-17.33) (-17.33) 11.00 k 11.00 k 11.00 kHz 99.90 kHz 12.50 MHz 100.0 kHz 15.00 MHz 100.0 kHz 1.000 MHz 12.50 MHz 15.00 MHz 1.000 MHz STATUS

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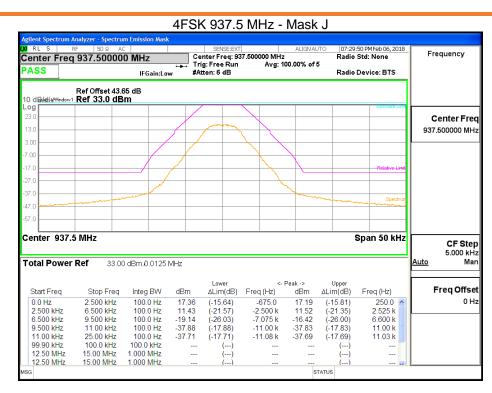
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HDQPSK 937.5 MHz - Mask J 07:39:35 PM Feb 06, 2018 Radio Std: None Center Freq: 937.500000 MHz Trig: Free Run Avg: 10 #Atten: 6 dB Frequency Center Freq 937.500000 MHz Avg: 100.00% of 5 Radio Device: BTS IFGain:Low Ref Offset 43.65 dB Ref 33.0 dBm Center Freq 937.500000 MHz Center 937.5 MHz Span 50 kHz CF Step 5.000 kHz Total Power Ref 33.00 dBm 0.0125 MHz Freq Offset ΔLim(dB) Freq (Hz) Start Freq Stop Freq Integ BW dBm ΔLim(dB) Freq (Hz) dBm 0 0 Hz 2 500 kHz 100 0 Hz 16.63 (-16.37) -25 00 16.34 (-16 66) 0.0 0 Hz -4.525 k -6.500 k 6.500 kHz 9.500 kHz 100.0 Hz -16.48 (-26.63)-16.64 (-26.79)6.500 k 9.500 kHz 11.00 kHz 25.00 kHz 100.0 Hz 100.0 Hz -37.03 -37.03 (-17.03) -11.00 k (-17.37) 10.95 k 11.25 k 11.00 kHz (-17.03)-36.88 (-16.88)99.90 kHz 12.50 MHz 100.0 kHz 15.00 MHz 100.0 kHz 1.000 MHz 12.50 MHz 15.00 MHz 1.000 MHz STATUS

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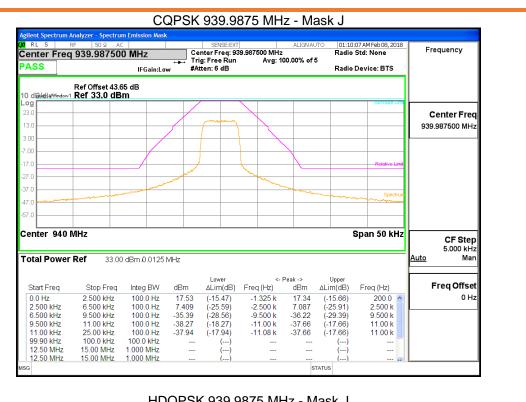
Revision No.: 2

C4FM 939.9875 MHz - Mask J 01:09:50 AM Feb 08, 2018 Radio Std: None Center Freq: 939.987500 MHz Trig: Free Run Avg: 10 #Atten: 6 dB Frequency Center Freq 939.987500 MHz Avg: 100.00% of 5 Radio Device: BTS IFGain:Low Ref Offset 43.65 dB Ref 33.0 dBm Center Freq 939.987500 MHz Center 940 MHz Span 50 kHz CF Step 5.000 kHz Total Power Ref 33.00 dBm 0.0125 MHz Freq Offset ΔLim(dB) Freq (Hz) Start Freq Stop Freq Integ BW dBm ΔLim(dB) dBm Frea (Hz) 17.45 11.36 -15.31 (-15.55) 17 20 0 0 Hz 2 500 kHz 100 0 Hz -700.0 (-15.80) 250.0 0 Hz -2.500 k -6.500 k 6.500 kHz 9.500 kHz 100.0 Hz (-25.46)-15.72 (-25.87)6.500 k 9.500 kHz 11.00 kHz 25.00 kHz 100.0 Hz 100.0 Hz -37.27 -37.50 (-17.49) (-17.50) -10.98 k -11.00 k -36.70 -37.45 (-17.36) (-17.45) 10.93 k 11.30 k 11.00 kHz 99.90 kHz 12.50 MHz 100.0 kHz 15.00 MHz 100.0 kHz 1.000 MHz 12.50 MHz 15.00 MHz 1.000 MHz STATUS

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Client: Dali Wireless, Inc.

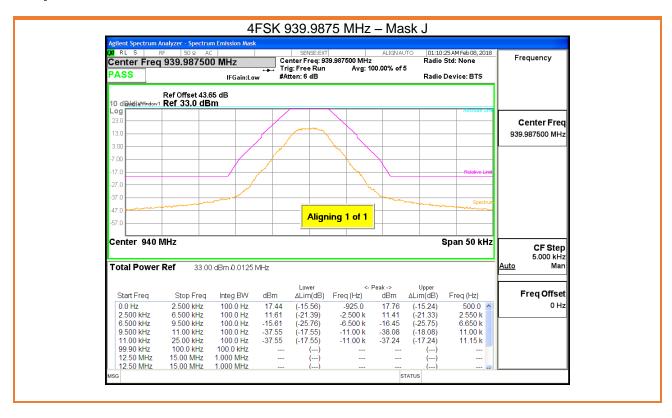
Revision No.: 2

HDQPSK 939.9875 MHz - Mask J 01:10:43 AM Feb 08, 2018 Radio Std: None Center Freq: 939.987500 MHz Trig: Free Run Avg: 10 #Atten: 6 dB Frequency Center Freq 939.987500 MHz Avg: 100.00% of 5 Radio Device: BTS IFGain:Low Ref Offset 43.65 dB Ref 33.0 dBm Center Freq 939.987500 MHz Center 940 MHz Span 50 kHz CF Step 5.000 kHz Total Power Ref 33.00 dBm 0.0125 MHz Freq Offset ΔLim(dB) Freq (Hz) Start Freq Stop Freq Integ BW dBm ΔLim(dB) Freq (Hz) dBm 0 0 Hz 2 500 kHz 100 0 Hz 16.25 (-16.75) -500.0 16.24 (-16.76) 25.00 0 Hz (-16.56) (-27.55) (-16.22)6.500 kHz 9.500 kHz 100.0 Hz -16.38 (-26.53)-6.500 k -17.40 6.500 k 9.500 kHz 11.00 kHz 25.00 kHz 100.0 Hz 100.0 Hz -37.54 -36.82 (-17.54) -11.00 k -37.02 -37.02 (-17.02) (-17.02) 11.00 k 11.00 k 11.00 kHz (-16.82)99.90 kHz 12.50 MHz 100.0 kHz 15.00 MHz 100.0 kHz 1.000 MHz 12.50 MHz 15.00 MHz 1.000 MHz STATUS

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Client: Dali Wireless, Inc.

Frequency Stability

The hdHost and hd33 are sychronized to the same reference clock. Therefore there is no frequency error after down and up frequency conversion are performed.

The frequency stability check is not applicable to the EUT.

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Client: Dali Wireless, Inc.

Passband Gain and Bandwidth & Out of Band Rejection

Governing Doc	FCC KDB 935210 D05 Indus Booster Basic Meas v01r02: October, 2017	Roor	Room Temperature (°C)			24		
Test Procedure	ANSI/TIA-603- E-2016; FCC KDB 935210 D05 Indus Booster Basic Meas v01r02: October, 2017	Relat	Relative Humidity (%)		Relative Humidity (%)			33.9
Test Location	Burnaby	Baro	met	tric Pressure (kP	a)		102.6	
Test Engineer	Sophie Piao/Jeremy Lee	Date	:			Feb 06, 2018		
EUT Voltage	⊠ DC	□ 120VAC @ 60Hz						
Test Equipment Used	Manufacturer	Model		Serial Number	Calibration		Calibration due	
Signal Generator	Keysight	N5172B		MY53050270	0	8/04/17	08/04/18	
Spectrum Analyzer	Keysight	N9010A		MY50520285	0	8/07/17	08/07/18	
40dB Attenuator	Aeroflex Winschel	58-40-4	58-40-43 n/p			CVP	CVP	
Note) CVP = Calibration	n Verification Performed int	ernally, ı	n/p	= not provided.				
Frequency Range:		250%						
Detector:	⊠ Peak							
RBW/VBW:	⊠0.1% of 5 times of passband bandwidth							
Type of Facility:	⊠ Tabletop							
Distance:	⊠ Direct							
Compliant ⊠	t ⊠ Non-Compliant □ Not Applicable □							

Test setup

Description of test set-up:

The procedure used was ANSI/TIA-603-E-2016 and FCC KDB 935210 D05 Indus Booster Basic Meas v01r02. The signal booster was set to maximum gain. A swept CW signal was set to the range of ±250 % of the product pass band. The CW amplitude was set to 3 dB below the AGC threshold so that the ALC should not activate throughout the test.

After the max-hold sweep trace was completed, a marker was set to the peak amplitude, and a 20dB bandwidth was measured between two additional markers fall 20 dB from the peak.

The EUT was set to Operation Mode #1 with configuration Mode #1.



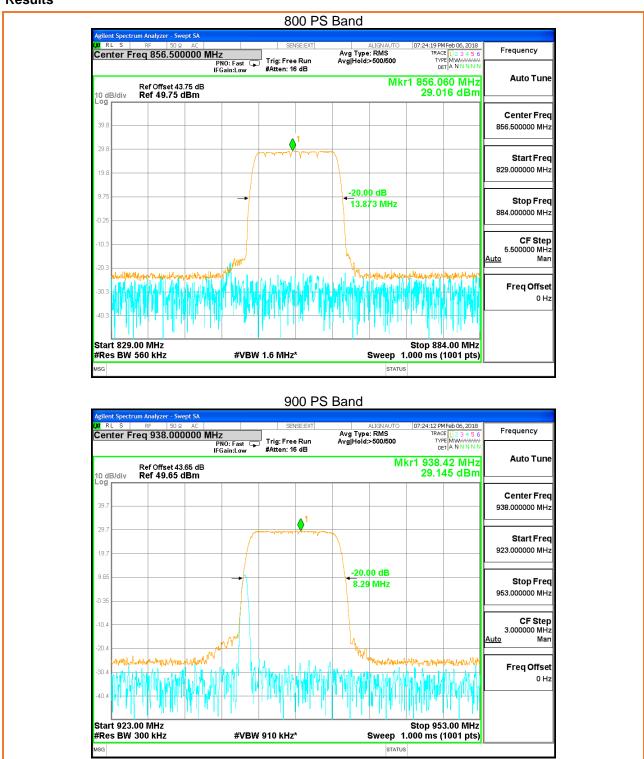
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Results



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Client: Dali Wireless, Inc.

Intermodulation

intermodulation								
Governing Doc	FCC Part 90.219	Room	Temperature (°C)		24			
Test Procedure	ANSI/TIA-603- E-2016; FCC KDB 935210 D05 Indus Booster Basic Meas v01r02: October, 2017	Relativ	e Humidity (%)		33.9			
Test Location	Burnaby	Barom	etric Pressure (kP	Pa)	102.6			
Test Engineer	Sophie Piao/Jeremy Lee	Date		F	eb 06, 2018			
EUT Voltage	⊠ DC	□ 1	20VAC @ 60Hz					
				ı				
Test Equipment Used	Manufacturer	Model	Serial Number	Calibration	Calibration due			
Signal Generator	Keysight	N5172B	MY53050270	08/04/17	08/04/18			
Spectrum Analyzer	Keysight	N9010A	MY50520285	08/07/17	08/07/18			
40dB Attenuator	Aeroflex Winschel	58-40-43	n/p	CVP	CVP			
Note) CVP = Calibration	n Verification Performed int	ternally, n/p	o = not provided.					
Frequency Range:								
Detector:	⊠ Average							
RBW/VBW:	⊠100/910Hz	⊠100/910Hz						
Type of Facility:	⊠ Tabletop	□ Tabletop						
Distance:	□ Direct □ □ Direct □ D							
On 800band: The intermodulation product of 2 tone is below the -13dBm ERP emission limit with input power - 0.5dBm below AGC threshold and - 3 dB above AGC threshold On 900band: The intermodulation product of 2 tone is below the -20dBm ERP emission limit with input power - 0.5dBm below AGC threshold and - 3 dB above AGC threshold with distribution loss ≥ 1dB.								
Compliant ⊠	Non-Compliant	t 🗆	Not Appl	licable 🗆				

Date Issued: 27 March 2018

Project No.: 16898

Test setup

Description of test set-up:

The procedure used was ANSI/TIA-603-E-2016. Two tones (CW) method was used. The input power to the amplifier was set at maximum drive level by combining the two tones. The two tones were chosen in such a way (1) the third order intermodulation product frequencies are located within the pass band of the DUT and (2) they produce the worst-case emissions out of band. All signals were modulated.

Client: Dali Wireless, Inc.

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Based on FCC KDB 935210 D05 Indus Booster Basic Meas v01r02: 2017, the two tone was located on either side of the maximum gain frequence in the passing band, and separated with the available spacing, which is 12.5kHz in 800 MHz band and 900 MHz band.

Measurements were performed with modulated -tone at identical input amplitude which produced integrated maximum rated output power.

The EUT was set to Operation Mode #1 with configuration Mode #1.



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Results Summary

800 Band

2 Tone Frequency (MHz)	856.05375 & 856.06625	IMD Limit (-13 dBm)
3rd Order Intermodulation at Maximum Output Power at RF Port (dBm)	-18.617	-
3rd Order Intermodulation at ALC Actvie at RF Port (dBm)	-17.966	-
Minimum Distribution Loss Between RF Port and the Antenna Radiation (dB)	0	-
3rd Order Intermodulation at Maximum Output Power after Attenuation (dBm)	-18.617	PASS
3rd Order Intermodulation at ALC Actvie after Attenuation (dBm)	-17.966	PASS

900 Band

2 Tone Frequency (MHz)	938.41375 & 938.42625	IMD Limit (-20 dBm)
3rd Order Intermodulation at Maximum Output Power at RF Port (dBm)	-19.552	-
3rd Order Intermodulation at ALC Actvie at RF Port (dBm)	-19.396	-
Minimum Distribution Loss Between RF Port and the Antenna Radiation (dB)	1	-
3rd Order Intermodulation at Maximum Output Power after Attenuation (dBm)	-20.552	PASS
3rd Order Intermodulation at ALC Actvie after Attenuation (dBm)	-20.396	PASS

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Results Screenshots

On the maximum gain channel 856.06 MHz: At Input Power 0.5 dB below AGC threshold pilent Spectromzone,

RLS RF SO Q AC |

Center Freq 856.060000 MHz

PNO: Close
IFGain:Low 13 PM Feb 06, 2018 #Avg Type: RMS Avg|Hold: 10/10 Frequency Trig: Free Run #Atten: 10 dB **Auto Tune** Mkr4 856.041 3 MHz -18.829 dBm Ref Offset 43.75 dB Ref 36.00 dBm Center Freq 856.060000 MHz Start Freq 856.010000 MHz Stop Freq 856.110000 MHz Start 856.01000 MHz #Res BW 300 Hz Stop 856.11000 MHz #Sweep 1.000 s (1001 pts) CF Step 10.000 kHz #VBW 910 Hz* Mar MKR MODE TRC SCL FUNCTION FUNCTION WIDTH FUNCTION VALUE 33.420 dB 856 MHz -13.556 dBm Band Power Freq Offset 856.078 8 MHz 856.041 3 MHz -18.617 dBm -18.829 dBm 0 Hz STATUS . Meas Uncal At Input Power 3 dB above AGC threshold ent Spectrum Analyzer - Swept SA #Avg Type: RMS Avg|Hold: 10/10 :44 PM Feb 06, 2018 Center Freq 856.060000 MHz Frequency PNO: Close IFGain:Low Trig: Free Run Auto Tune Mkr4 856.041 3 MHz -18.747 dBm Ref Offset 43.75 dB Ref 36.00 dBm Center Freq 856.060000 MHz Start Freq 856.010000 MHz Stop Freq 856.110000 MHz Start 856.01000 MHz Stop 856.11000 MHz CF Step 10.000 kHz #Res BW 300 Hz #VBW 910 Hz* #Sweep 1.000 s (1001 pts) Mar MKR MODE TRC SCL FUNCTION FUNCTION WIDTH FUNCTION VALUE 856 MHz -14.264 dBm Band Power Ν 13.50 kHz Freq Offset 856.078 8 MHz 856.041 3 MHz

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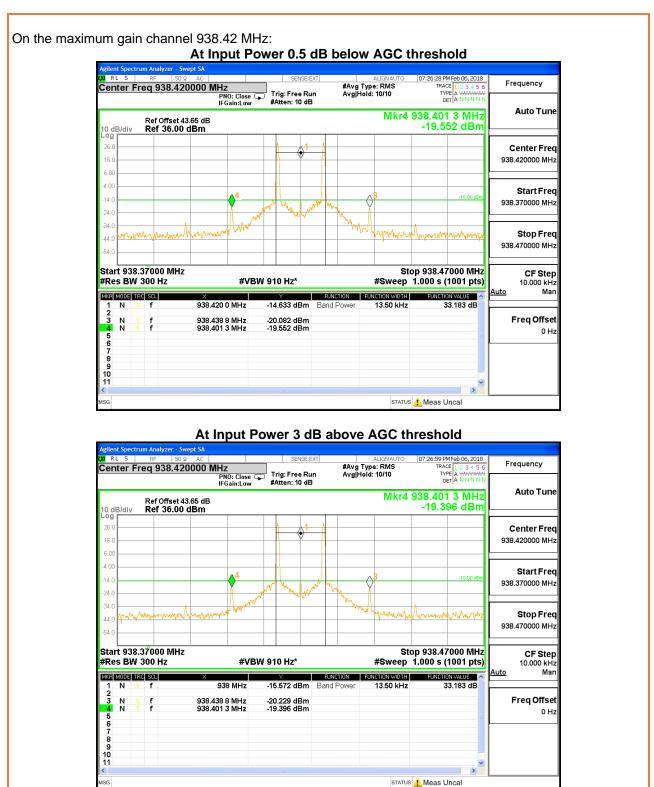
STATUS Meas Uncal

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Input/output Power and Amplifier/Booster Gain

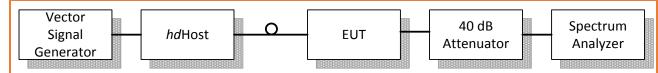
Governing Doc	FCC Part 90.219		Room Temperature (°C)				24	
Test Procedure	ANSI/TIA-603-E-2016; FCC KDB 935210 D05 Indus Booster Basic M v01r02: October 27, 20	Relative Humidity (%)				33.9		
Test Location	Burnaby		Barom	etric Pressure (k	Pa)		102.6	
Test Engineer	Sophie Piao/Jeremy Le	е	Date			Feb 06, 2018		
EUT Voltage	⊠ DC		□ 1	20VAC @ 60Hz				
Test Equipment Used	Manufacturer	Model		Identifier	Calibration		Calibration due	
Signal Generator	Keysight	N5172B		MY53050270	08/04/17		08/04/18	
Spectrum Analyzer	Keysight	N9010A		MY50520285	08/07/17		08/07/18	
40dB Attenuator	Aeroflex Winschel	58-40-43 n/p			CVP	CVP		
Note) CVP = Calibration	n Verification Performed	d interr	nally, n/p	o = not provided.				
Span:								
Detector:	⊠ Peak							
RBW/VBW:	⊠100k Hz/ 300 kHz	⊠100k Hz/ 300 kHz						
Type of Facility:	⊠ Tabletop							
Distance:	⊠ Direct							
Maximum booster gain	is 43.4 dB.							
Compliant ⊠	Non-Compliant ☐ Not Applicable ☐							

Test setup

Description of test set-up:

The procedure used was ANSI/TIA-603-E-2016 and FCC KDB 935210 D05 Indus Booster Basic Meas v01r02:. A CW tone was input at the frequency where the system gain is the maximum in the pass band, with the nominal input power level -10 dBm. The spectrum analyzer was connected to the output RF port via a 50 Ohm 40 dB attenuator. The maximum hold trace and peak detector was used to capture the output power. The output power minus the input power (-10dBm) equals to the booster gain in dB.

The EUT was set to Operation Mode #1 with configuration Mode #1.



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Results

	800 band	900 band
DL Gain	43.4 dB	43.3 dB

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Client: Dali Wireless, Inc.

Noise Figure

Governing Doc	FCC Part 90.219	Room T	Room Temperature (°C)			24		
Test Procedure	ANSI/TIA-603-E-2016; FCC KDB 935210 D05 Indus Booster Basic Meas v01r02: October 27, 2017	Relative	Relative Humidity (%)		Relative Humidity (%)		35.5	
Test Location	Burnaby	Barome	tric Pressure (kP	a)	102.1			
Test Engineer	Sophie Piao/Jeremy Lee	Date	Date			b 13, 2018		
EUT Voltage	⊠ DC	□ 12						
Test Equipment Used	Manufacturer	Model	Model Serial Number Ca		ration	Calibration due		
Spectrum Analyzer	Keysight	N9010A	N9010A MY50520285 08		7/17	08/07/18		
Frequency Range:	oxtimes 2 times of the passbar	nd on each	band					
Detector:	⊠ Average							
RBW:	⊠910 kHz							
Type of Facility:								
Distance:	□ Direct	⊠ Direct						
Noise Figure on each band is less than the 9 dB required.								
Compliant ⊠ Non-Compliant □ Not Applicable □								

Test setup

Description of test set-up:

Based on FCC KDB 935210 D05 Indus Booster Basic Meas v01r02: 2017, the system maximum gain and the noise density is measured. Measurements were performed within the EUT's passband.

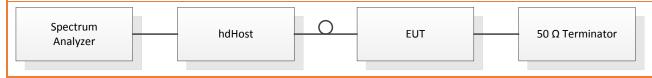
The noise figure is then calculated by NF = NP – Gain + KTB Noise; where

NP is in band noise power per Herz,

Gain is measured at the maximum noise frequence with -55 dBm input signal in UL.

KTB Noise is 174dB/Hz at room temperature.

The EUT was set to Operation Mode #1 with configuration Mode #1.



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Results



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Radiated Emissions - Enclosure

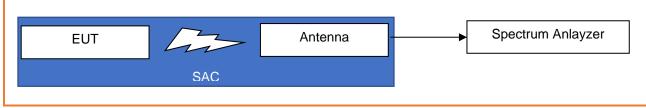
Governing Doc	FCC Part 2.1053, FCC Part 90.210 & FCC Part 90.219		Room Ten	nperature (23.6			
Test Procedure	ANSI TIA-603-D		Relative H	umidity (%))		36.0	
Test Location	Richmond		Barometrio	c Pressure	(kPa)		101.9	
Test Engineer	Daniel Lee		Date			02 Feb	ruary 2018	
EUT Voltage	⊠ DC	l	□ 120V	AC @ 60Hz				
Test Equipment Used	Manufacturer		Model	Identifier	Calibr	ation date	Calibration	
Spectrum Analyzer	KeySight		N9038A	702	18-	Apr-2017	18-Apr-2018	
Broadband Antenna	Sunol		JB1	371	371 29-Mar		29-Mar-2018	
Loop Antenna	ComPower		AL-130	241	11-Nov-2017		11-Nov-2019	
Horn Antenna	A.H Systems	5	SAS-571	227C	22-Sep-2016		22-Sep-2018	
RF Preamplifier	Agilent		8449B	273		NCR	NCR	
EMC Shielded Enclosure	USC		USC-26 374		NCR ¹		NCR ¹	
Note1) NCR = No Calib	oration Required, but NSA	was	done at 20	15.				
Frequency Range:	⊠ 9kHz-30MHz	⊠ 3	0-1000MHz	<u> </u>	⊠ 1-	·10GHz		
Detector:	□ Peak (for Prescan)	\boxtimes C	Quasi-Peak	(for Formal)) 🗵	Average(f	or Formal)	
RBW/VBW:	⊠ 9/30kHz	⊠ 1	☑ 120/300kHz		⊠ 1/3MHz			
Type of Facility:	⊠ SAC	□ F	□ FSOATS		□ in-situ			
Distance:		□ 1	0meter		☐ 1ı	meter		
Arrangement of EUT:	□ Table-top only	□F	-loor-standi	ng only	□Ra	ack Mounte	d	
Compliant ⊠	Non-Compliar	nt 🗆		Not Ap	plicabl	e 🗆		

Test setup

Description of test set-up:

The EUT was placed on a nonconducting platform (i.e., an "EUT support table"), of nominal size 1 m by 1.5 m, whose top surface is nominally 80 cm above the reference ground plane. The EUT was set up on 3 meters away from the EUT. The EUT was set continually on its Radio, 2W Max., which was downlinked from hdHOST. And the output of RF was terminated via 40dB attenuator, for rejecting the high power of carrier. The lowest, middle and highest channels were used for measuring of all radiated spurious emisions .

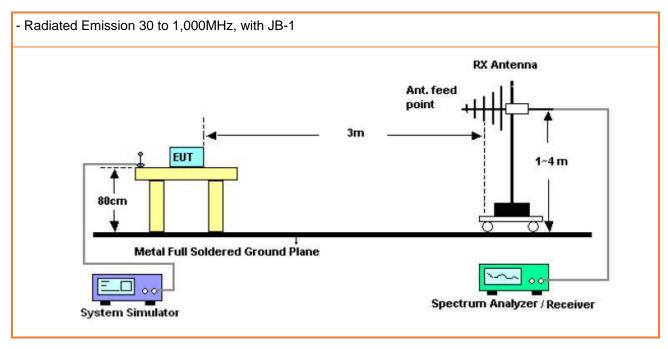
The EUT was set to Operation Mode #1 with configuration Mode #1.

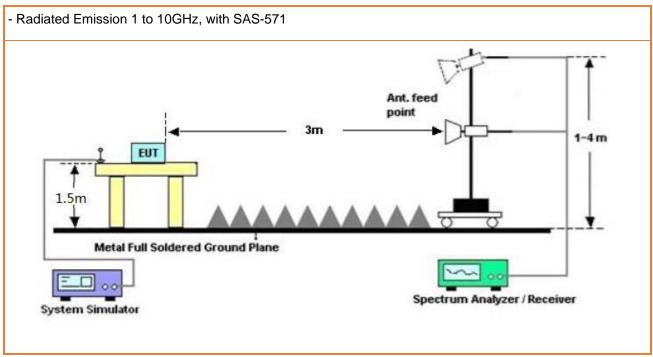


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Measurement Procedure

Testing was performed in accordance with the test standard(s) referenced in the test summary section of this report. The Equipment Under Test (EUT) was configured based upon the requirements of the applicable test standard. Initially, the primary emission frequencies are identified by positioning a broadband receive antenna three meter from the EUT.

Scans were made with an EMC Analyzer, controlled by EMC Test Software, Tile7!, from 30kHz to 18GHz with the receiver in the peak mode. The receiver IF bandwidth was 9kHz,120 kHz or 1MHz as appropriate for the frequency and scan step was about 30kHz. To ensure that the maximum emission at each discrete frequency of interest is observed, the receive antenna is varied in height from one to four meters and rotated to produce horizontal and vertical polarities while the turntable is rotated to determine the worst emitting configuration. Under 30MHz was only tested at 1meter height and Antenna was changed both polarization, Horizontal and Vertical. Measurements were then made using CISPR quasi peak when the peak readings were within 10dB of the limit line. The numerical results are included herein to demonstrate compliance.

Test Result

The output of EUT was set to 2 Watt(+33dBm).

- 1. the PASS level of Spurious for 800MHz Band is: 43 + 10log(P) = 43 + 10log(2) = 46.0dB attenuation = -13dBm. Since of radiated measurement was performed at 3 meters, the limit line was converted to dBuV/m using the formulas ad outlined in KDB 971168: -13 dBm ERP = 84.38 dBuV/m at 3 meters.
- 2. the PASS level of Spurious for 900MHz Band is: 50 + 10log(P) = 50 + 10log(2) = 53.0dB attenuation = -20dBm. Since of radiated measurement was performed at 3 meters, the limit line was converted to dBuV/m using the formulas ad outlined in KDB 971168: -20 dBm ERP = 77.38 dBuV/m at 3 meters.

Spurious Emission level (dBuV/m) = Detected level (dBuV) + Path Loss(dB) + Antenna Factor (dB/m) -Preamplifier's Gain (dB)

Graphical Representation for Emission - Radiated 30kHz to 30MHz

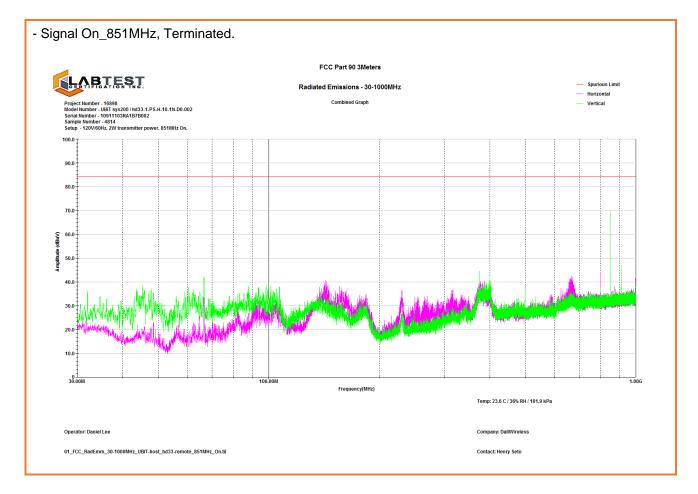
Spectrum was scanned manually from 30kHz to 30MHz. No automated plot is available for this frequency range. No spurious emissions from the product were detectable

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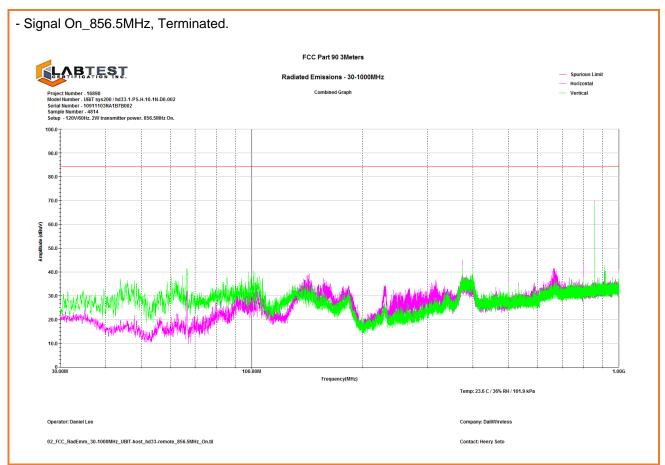
Client: Dali Wireless, Inc.

Graphical and Table Representation for Emission - Radiated 30MHz to 1GHz



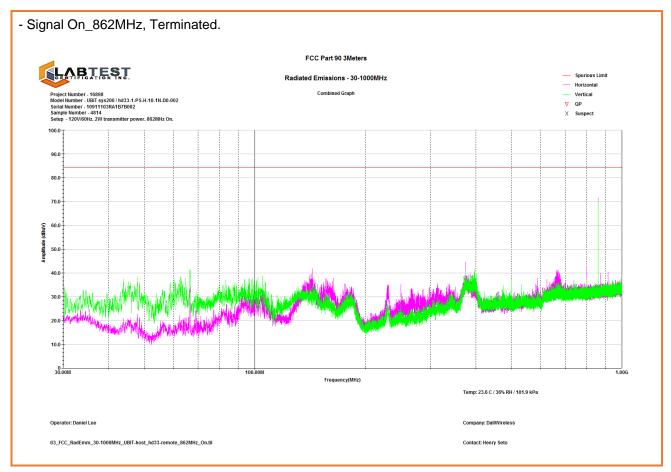
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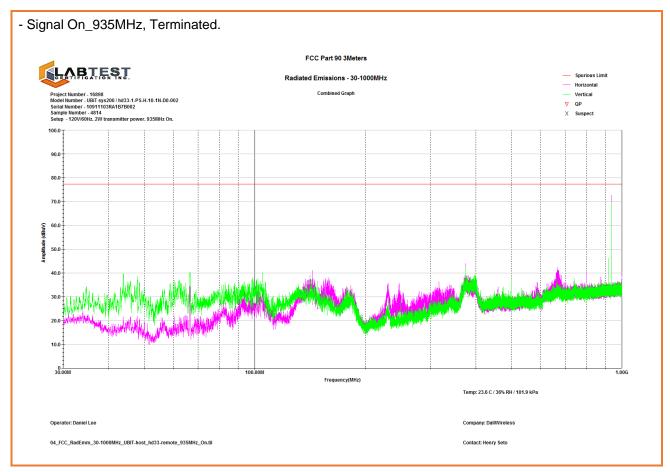
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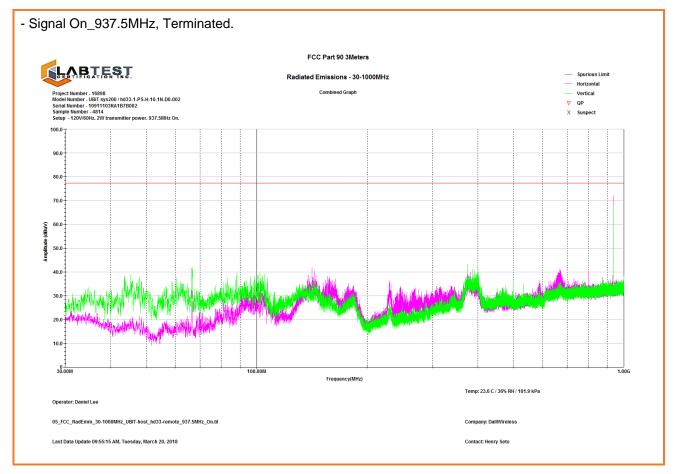
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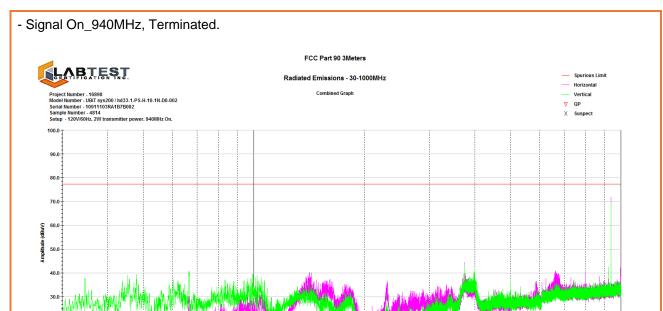
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06_FCC_RadEmm_30-1000MHz_UBIT-host_hd33-remote_940MHz_On.til

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Temp: 23.6 C / 36% RH / 101.9 kPa

Company: DaliWireless

Contact: Henry Seto

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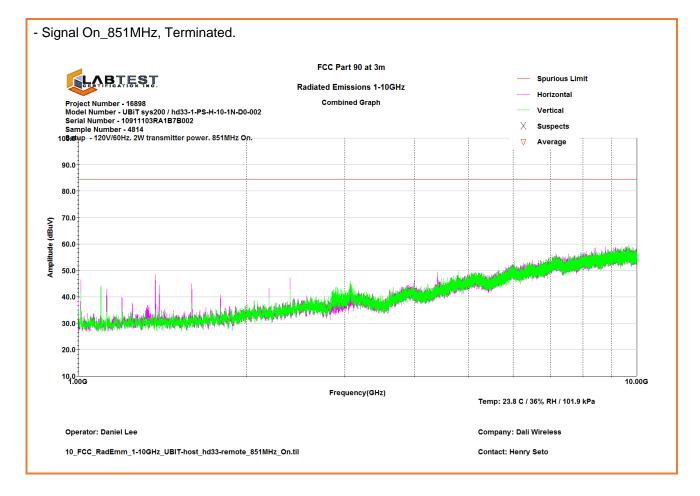
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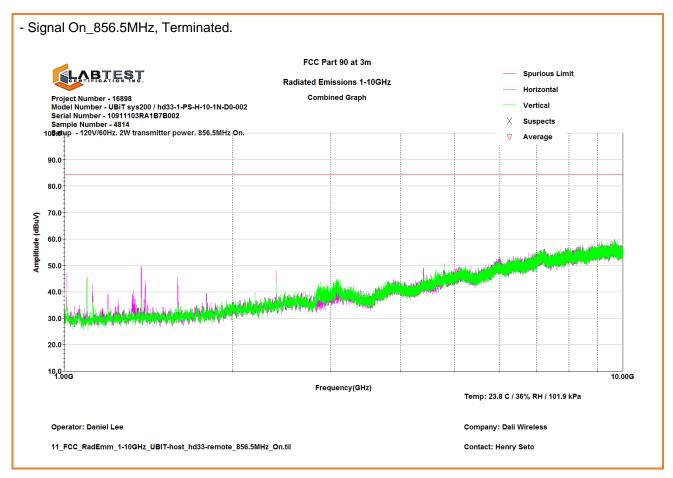
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Graphical and Table Representation for Emission - Radiated 1 to 10GHz



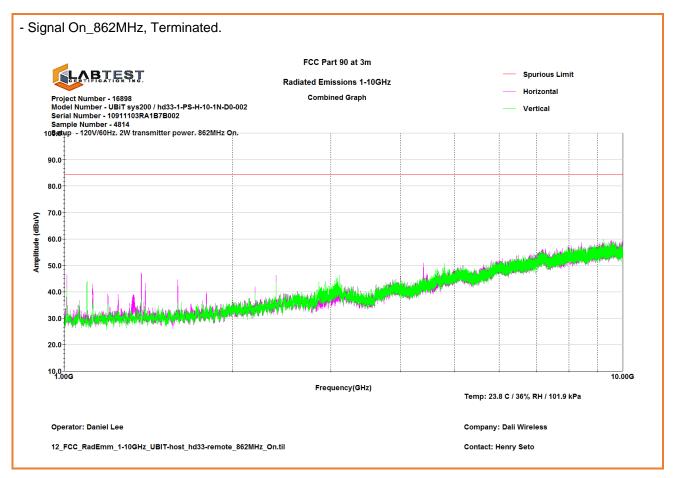
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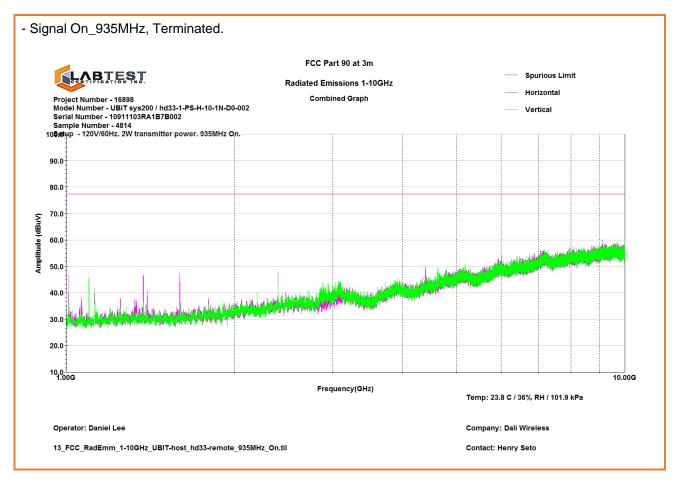
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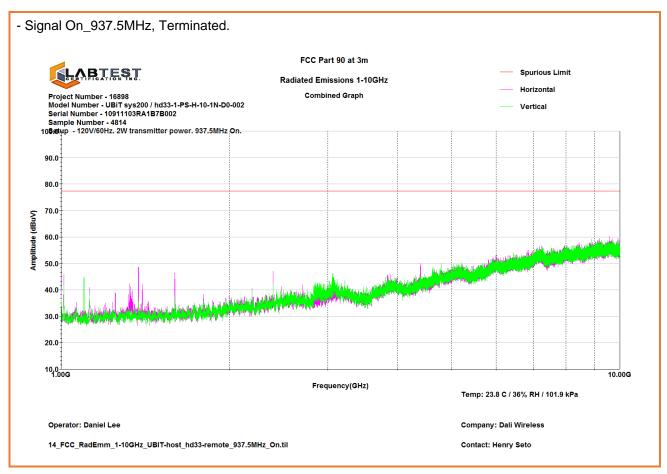
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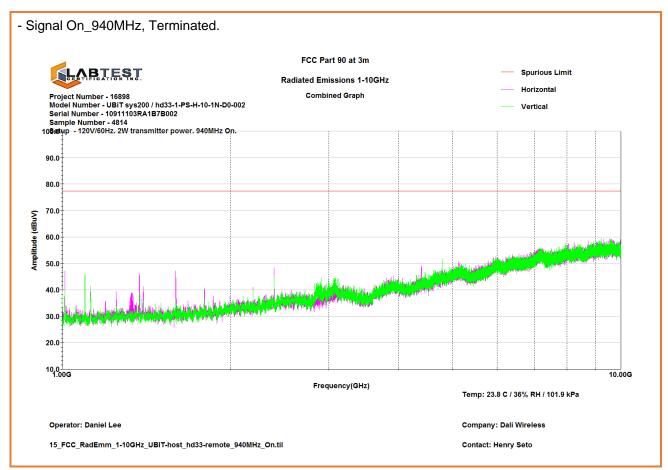


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