

15 4104.750M	41.7	+0.0	+0.0	+0.0	+0.0	+0.0	41.6	54.0	-12.4	Vert
Ave	41.7	+0.0 $+0.0$	+0.0 $+0.0$	-37.8	+32.4	+0.0	41.0	54.0	-12.4	ven
1 LVC		+4.2	+0.6	+0.5	152.4					
^ 4104.750M	52.2	+0.0	+0.0	+0.0	+0.0	+0.0	52.1	54.0	-1.9	Vert
		+0.0	+0.0	-37.8	+32.4					
		+4.2	+0.6	+0.5						
17 266.190M	39.5	-27.9	+5.9	+0.2	+3.0	+0.0	33.3	46.0	-12.7	Horiz
		+12.6	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
18 7384.700M	34.5	+0.0	+0.0	+0.0	+0.0	+0.0	40.7	54.0	-13.3	Vert
Ave		+0.0	+0.0	-37.3	+36.3					
		+6.1	+0.9	+0.2						
^ 7384.700M	47.1	+0.0	+0.0	+0.0	+0.0	+0.0	53.3	54.0	-0.7	Vert
		+0.0	+0.0	-37.3	+36.3					
		+6.1	+0.9	+0.2						
20 109.090M	39.5	-28.0	+5.9	+0.1	+1.8	+0.0	29.9	43.5	-13.6	Horiz
		+10.6	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
21 7385.180M	34.2	+0.0	+0.0	+0.0	+0.0	+0.0	40.4	54.0	-13.6	Horiz
Ave		+0.0	+0.0	-37.3	+36.3					
		+6.1	+0.9	+0.2						
^ 7385.180M	45.4	+0.0	+0.0	+0.0	+0.0	+0.0	51.6	54.0	-2.4	Horiz
		+0.0	+0.0	-37.3	+36.3					
		+6.1	+0.9	+0.2						
23 4874.000M	38.4	+0.0	+0.0	+0.0	+0.0	+0.0	39.4	54.0	-14.6	Vert
Ave		+0.0	+0.0	-37.6	+33.2					
		+4.5	+0.6	+0.3						
^ 4874.000M	49.7	+0.0	+0.0	+0.0	+0.0	+0.0	50.7	54.0	-3.3	Vert
		+0.0	+0.0	-37.6	+33.2					
05 7011 00014	22.2	+4.5	+0.6	+0.3	.0.0	.0.0	20.2	54.0	157	<b>X</b> 7 /
25 7311.000M	32.2	+0.0	+0.0	+0.0	+0.0	+0.0	38.3	54.0	-15.7	Vert
Ave		+0.0	+0.0	-37.2	+36.2					
A 7211.000M	47.7	+6.1 +0.0	+0.8	+0.2		+0.0	53.8	54.0	-0.2	Vort
^ 7311.000M	47.7	+0.0 +0.0	$^{+0.0}_{+0.0}$	+0.0 -37.2	+0.0 +36.2	+0.0	33.8	54.0	-0.2	Vert
					+30.2					
27 4063.000M	37.8	+6.1 +0.0	+0.8 +0.0	+0.2 +0.0	+0.0	+0.0	37.7	54.0	-16.3	Vert
Ave	57.0	+0.0 +0.0	+0.0 +0.0		+0.0 +32.4	$\pm 0.0$	51.1	54.0	-10.5	VCIL
1110		+0.0 +4.2	+0.0 +0.6	+0.5	192.7					
^ 4063.000M	50.5	+4.2 +0.0	+0.0	+0.0	+0.0	+0.0	50.4	54.0	-3.6	Vert
1005.0001	50.5	+0.0	+0.0	-37.8	+32.4	10.0	50.7	5 1.0	5.0	, 011
		+4.2	+0.6	+0.5	102.1					
29 9848.030M	41.4	+0.0	+0.0	+0.0	+0.0	+0.0	52.4	71.2	-18.8	Horiz
		+0.0	+0.0	-36.1	+38.3	. 0.0	22.1	/ 1.2	10.0	
		+7.4	+1.0	+0.4						
30 9848.080M	39.9	+0.0	+0.0	+0.0	+0.0	+0.0	50.9	71.2	-20.3	Vert
	- / ./	+0.0	+0.0	-36.1	+38.3				_0.0	
		+7.4	+1.0	+0.4						
31 189.090M	58.7	-28.0	+5.9	+0.2	+2.5	+0.0	48.3	71.2	-22.9	Horiz
		+9.0	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
<u>L</u>										



					-						
32	214.590M	55.2	-27.9	+5.9	+0.2	+2.7	+0.0	46.1	71.2	-25.1	Horiz
			+10.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
33	203.590M	55.4	-28.0	+5.9	+0.2	+2.6	+0.0	45.3	71.2	-25.9	Horiz
			+9.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
34	553.450M	42.1	-27.6	+5.9	+0.4	+4.5	+0.0	44.1	71.2	-27.1	Vert
			+18.8	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
35	304.140M	48.6	-27.9	+5.9	+0.3	+3.2	+0.0	43.5	71.2	-27.7	Horiz
			+13.4	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
36	308.890M	47.9	-27.9	+5.9	+0.3	+3.3	+0.0	43.1	71.2	-28.1	Horiz
			+13.6	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
37	544.050M	41.2	-27.6	+5.9	+0.4	+4.5	+0.0	43.1	71.2	-28.1	Vert
			+18.7	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
38	544.050M	41.2	-27.6	+5.9	+0.4	+4.5	+0.0	43.1	71.2	-28.1	Vert
			+18.7	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
39	546.350M	39.1	-27.6	+5.9	+0.4	+4.5	+0.0	41.0	71.2	-30.2	Vert
			+18.7	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
40	503.550M	38.2	-27.7	+5.9	+0.3	+4.2	+0.0	38.9	71.2	-32.3	Vert
			+18.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
41	218.150M	46.9	-27.9	+5.9	+0.2	+2.7	+0.0	38.0	71.2	-33.2	Vert
			+10.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
42	214.550M	46.8	-27.9	+5.9	+0.2	+2.7	+0.0	37.7	71.2	-33.5	Vert
			+10.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
43	396.540M	38.2	-27.9	+5.9	+0.3	+3.7	+0.0	36.2	71.2	-35.0	Horiz
			+16.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
44	418.150M	36.6	-27.9	+5.9	+0.3	+3.8	+0.0	35.2	71.2	-36.0	Vert
			+16.5	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
45	352.700M	38.5	-27.9	+5.9	+0.3	+3.5	+0.0	35.2	71.2	-36.0	Vert
			+14.9	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
·											



46	306.450M	40.0	-27.9	+5.9	+0.3	+3.2	+0.0	35.0	71.2	-36.2	Vert
			+13.5	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
47	308.950M	39.8	-27.9	+5.9	+0.3	+3.3	+0.0	35.0	71.2	-36.2	Vert
			+13.6	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
48	458.550M	34.7	-27.8	+5.9	+0.3	+4.0	+0.0	34.3	71.2	-36.9	Vert
			+17.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
49	363.600M	36.4	-27.9	+5.9	+0.3	+3.6	+0.0	33.5	71.2	-37.7	Vert
			+15.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						

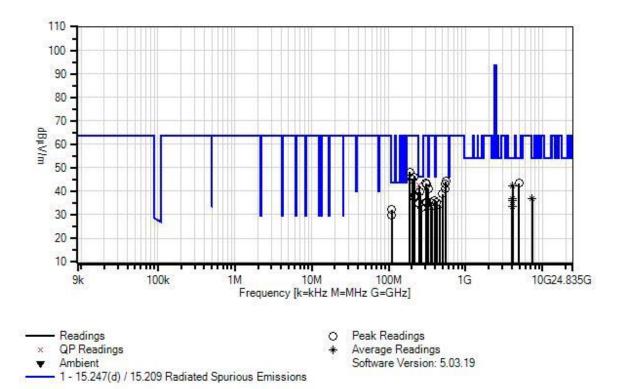


Test Location:	CKC Laboratories Inc. • 110 N	. Olinda Pl. • Brea, CA 92823	• 714-993-6112
Customer:	Venstar, Inc.		
Specification:	15.247(d) / 15.209 Radiated S	purious Emissions	
Work Order #:	104728	Date:	11/24/2020
Test Type:	Maximized Emissions	Time:	10:51:00
Tested By:	Don Nguyen	Sequence#:	9
Software:	EMITest 5.03.19		

Device	Manufacturer	Model #	S/N	
Configuration 2				
Support Equipment:				
Device	Manufacturer	Model #	S/N	
Configuration 2				
Test Conditions / Notes	s:			
EUT is powered from	24Vac AC Adapter and s	et to transmit continuo	usly. All IO ports are	e populated wit
unterminated cables.	_			
Software setting:				
Testing Frequency: 241	2, 2437, 2462MHz			
Data Rate				
802.11g: 6Mbps				
Modulation: OFDM				
Mode: Continuous TX/	Modulated			
Packet Size: 1400 Bytes				
TX Power Level: 0	-			
Frequency of Measuren	nent: 9kHz-25000MHz			
	=0.2kHz, VBW=0.6kHz.			
	W=9kHz, VBW=27kHz.			
30-1000MHz, RBW=12				
1000-25000MHz, RBW	,			
-30dBc limit, RBW=10	0kHz, VBW= $300$ kHz			
Test Environment Cond	litions.			
Temperature:20°C				
Relative Humidity: 48%	, )			
Site A				
Test Methods: ANSI Co				
KDB 558074 D01 15.24	47 Meas Guidance v05r02			



Venstar, Inc. WO#: 104728 Sequence#: 9 Date: 11/24/2020 15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Vert



ID	Asset #	Description	Model	<b>Calibration Date</b>	Cal Due Date
	AN00314	Loop Antenna	6502	4/13/2020	4/13/2022
T1	AN00309	Preamp	8447D	12/24/2019	12/24/2021
T2	ANP05281	Attenuator	1B	4/7/2020	4/7/2022
T3	ANP05050	Cable	RG223/U	12/24/2018	12/24/2020
T4	ANP05198	Cable-Amplitude +15C to +45C (dB)	8268	12/4/2018	12/4/2020
T5	AN01993	Biconilog Antenna	CBL6111C	6/11/2019	6/11/2021
T6	AN03643	Spectrum Analyzer	E4440A	5/20/2020	5/20/2022
T7	AN00786	Preamp	83017A	5/20/2020	5/20/2022
Т8	AN00849	Horn Antenna	3115	3/17/2020	3/17/2022
Т9	ANP06360	Cable	L1-PNMNM-48	8/8/2019	8/8/2021
T10	ANP07246	Cable	32022-29094K- 29094K-24TC	5/29/2020	5/29/2022
T11	AN03385	High Pass Filter	11SH10- 3000/T10000- O/O	5/13/2019	5/13/2021
	AN01413	Horn Antenna	84125-80008	10/19/2020	10/19/2022
	AN03367	Horn Antenna	62-GH-62-25.	8/1/2019	8/1/2021



Freq MHz	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T6	T7	T8					
		T9	T10	T11	10					
	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBuV/m	dB	Ant
247.830M	49.3	-27.9	+5.9	+0.2	+2.9	+0.0	42.6	46.0	-3.4	Horiz
QP	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	+12.2	+0.0	+0.0	+0.0				011	
<b>C</b> -		+0.0	+0.0	+0.0						
247.830M	52.1				+2.9	+0.0	45.4	46.0	-0.6	Horiz
325.540M	45.4				+3.4	+0.0	41.2	46.0	-4.8	Horiz
256.590M	46.2	-27.9	+5.9	+0.2	+2.9	+0.0	39.7	46.0	-6.3	Horiz
		+12.4	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
4924.000M	42.3	+0.0	+0.0	+0.0	+0.0	+0.0	43.4	54.0	-10.6	Vert
		+0.0	+0.0	-37.6	+33.3					
		+4.5	+0.6	+0.3						
109.100M	41.9	-28.0	+5.9	+0.1	+1.8	+0.0	32.3	43.5	-11.2	Vert
		+10.6	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
247.150M	41.4	-27.9	+5.9	+0.2	+2.9	+0.0	34.6	46.0	-11.4	Vert
		+12.1	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
	42.3	+0.0	+0.0	+0.0	+0.0	+0.0	42.2	54.0	-11.8	Vert
Ave					+32.4					
4102.150M	53.0					+0.0	52.9	54.0	-1.1	Vert
					+32.4					
266.190M	39.5					+0.0	33.3	46.0	-12.7	Horiz
					+0.0					
109.090M	39.5					+0.0	29.9	43.5	-13.6	Hori
					+0.0					
100 00015	<b>F</b> O <b>F</b>					0.0	40.0	<i>(</i> <b>)</b> =	1	
189.090M	58.7					+0.0	48.3	63.7	-15.4	Hori
					+0.0					
4104 7503 5	26.0					.0.0	26.0	E 4 0	17.0	17 .
	36.9					+0.0	36.8	54.0	-17.2	Horiz
Ave					+52.4					
4104 7503 5	40.0					.0.0	40.0	E 4 0	<b>~</b> 1	17 .
4104./50M	49.0					+0.0	48.9	54.0	-5.1	Horiz
					+52.4					
	109.100M 247.150M 4102.150M	325.540M 45.4   256.590M 46.2   4924.000M 42.3   109.100M 41.9   247.150M 41.4   4102.150M 42.3   Ave 4102.150M   266.190M 39.5   109.090M 39.5   189.090M 58.7   4104.750M 36.9	$\begin{array}{cccccccccccccccccccccccccccccccccccc$							



15 7384.700M	30.5	+0.0	+0.0	+0.0	+0.0	+0.0	36.7	54.0	-17.3	Vert
Ave		+0.0	+0.0	-37.3	+36.3					
		+6.1	+0.9	+0.2						
^ 7384.700M	42.7	+0.0	+0.0	+0.0	+0.0	+0.0	48.9	54.0	-5.1	Vert
		+0.0	+0.0	-37.3	+36.3					
		+6.1	+0.9	+0.2						
17 214.590M	55.2	-27.9	+5.9	+0.2	+2.7	+0.0	46.1	63.7	-17.6	Horiz
		+10.0	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
18 4018.667M	36.1	+0.0	+0.0	+0.0	+0.0	+0.0	36.0	54.0	-18.0	Vert
Ave		+0.0	+0.0	-37.9	+32.5					
		+4.2	+0.6	+0.5						
^ 4018.667M	52.8	+0.0	+0.0	+0.0	+0.0	+0.0	52.7	54.0	-1.3	Vert
		+0.0	+0.0	-37.9	+32.5					
		+4.2	+0.6	+0.5						
20 203.590M	55.4	-28.0	+5.9	+0.2	+2.6	+0.0	45.3	63.7	-18.4	Horiz
		+9.2	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
21 553.450M	42.1	-27.6	+5.9	+0.4	+4.5	+0.0	44.1	63.7	-19.6	Vert
		+18.8	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
22 304.140M	48.6	-27.9	+5.9	+0.3	+3.2	+0.0	43.5	63.7	-20.2	Horiz
		+13.4	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
23 308.890M	47.9	-27.9	+5.9	+0.3	+3.3	+0.0	43.1	63.7	-20.6	Horiz
		+13.6	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
24 4063.267M	33.5	+0.0	+0.0	+0.0	+0.0	+0.0	33.4	54.0	-20.6	Vert
Ave		+0.0	+0.0	-37.8	+32.4					
		+4.2	+0.6	+0.5						
^ 4063.267M	48.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.2	54.0	-5.8	Vert
		+0.0	+0.0	-37.8	+32.4					
		+4.2	+0.6	+0.5						
26 544.050M	41.2	-27.6	+5.9	+0.4	+4.5	+0.0	43.1	63.7	-20.6	Vert
		+18.7	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
27 544.050M	41.2	-27.6	+5.9	+0.4	+4.5	+0.0	43.1	63.7	-20.6	Vert
		+18.7	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
28 546.350M	39.1	-27.6	+5.9	+0.4	+4.5	+0.0	41.0	63.7	-22.7	Vert
		+18.7	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
29 503.550M	38.2	-27.7	+5.9	+0.3	+4.2	+0.0	38.9	63.7	-24.8	Vert
		+18.0	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
30 218.150M	46.9	-27.9	+5.9	+0.2	+2.7	+0.0	38.0	63.7	-25.7	Vert
		+10.2	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						
31 214.550M	46.8	-27.9	+5.9	+0.2	+2.7	+0.0	37.7	63.7	-26.0	Vert
		+10.0	+0.0	+0.0	+0.0					
		+0.0	+0.0	+0.0						



32	396.540M	38.2	-27.9	+5.9	+0.3	+3.7	+0.0	36.2	63.7	-27.5	Horiz
			+16.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
33	418.150M	36.6	-27.9	+5.9	+0.3	+3.8	+0.0	35.2	63.7	-28.5	Vert
			+16.5	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
34	352.700M	38.5	-27.9	+5.9	+0.3	+3.5	+0.0	35.2	63.7	-28.5	Vert
			+14.9	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
35	306.450M	40.0	-27.9	+5.9	+0.3	+3.2	+0.0	35.0	63.7	-28.7	Vert
			+13.5	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
36	308.950M	39.8	-27.9	+5.9	+0.3	+3.3	+0.0	35.0	63.7	-28.7	Vert
			+13.6	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
37	458.550M	34.7	-27.8	+5.9	+0.3	+4.0	+0.0	34.3	63.7	-29.4	Vert
			+17.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
38	363.600M	36.4	-27.9	+5.9	+0.3	+3.6	+0.0	33.5	63.7	-30.2	Vert
			+15.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						

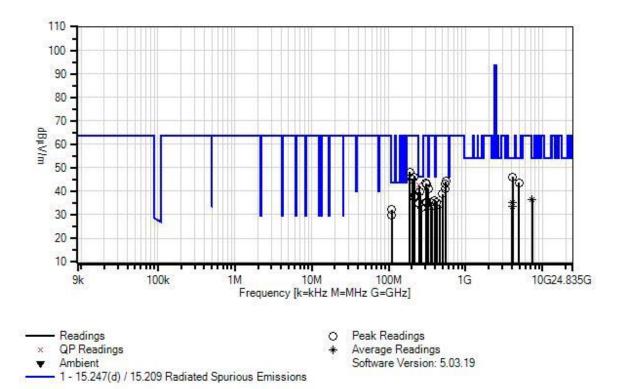


Test Location:	CKC Laboratories Inc. • 110 N	. Olinda Pl. • Brea, CA 92823	• 714-993-6112
Customer:	Venstar, Inc.		
Specification:	15.247(d) / 15.209 Radiated S	purious Emissions	
Work Order #:	104728	Date:	11/24/2020
Test Type:	Maximized Emissions	Time:	10:25:41
Tested By:	Don Nguyen	Sequence#:	9
Software:	EMITest 5.03.19	_	

Device	Manufacturer	Model #	S/N	
Configuration 2				
Support Equipment:				
Device	Manufacturer	Model #	S/N	
Configuration 2				
Test Conditions / Notes:				
EUT is powered from 2	4Vac AC Adapter and	set to transmit continuor	usly. All IO ports ar	e populated with
unterminated cables.				
Software setting:				
Testing Frequency: 2412, 2	2437, 2462MHz			
	,			
Data Rate				
802.11g: 54Mbps				
Modulation: OFDM Mode: Continuous TX/ Mo	dulated			
Packet Size: 1400 Bytes	Julialeu			
TX Power Level: 0				
Frequency of Measuremen 9kHz to 150kHz RBW=0.2				
150kHz to 30MHz RBW=9				
30-1000MHz, RBW=120k	·			
1000-25000MHz, RBW=1				
-30dBc limit, RBW=100kH	Hz, VBW=300kHz			
Test Environment Condition	and the second se			
Temperature:20°C				
Relative Humidity: 48%				
Site A				
Test Methods: ANSI C62 1	0 (2013)			
Test Methods: ANSI C63.1 KDB 558074 D01 15.247 J				
100 00000 001 10.247	Suldance (05102			



Venstar, Inc. WO#: 104728 Sequence#: 9 Date: 11/24/2020 15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Vert



ID	Asset #	Description	Model	<b>Calibration Date</b>	Cal Due Date
	AN00314	Loop Antenna	6502	4/13/2020	4/13/2022
T1	AN00309	Preamp	8447D	12/24/2019	12/24/2021
T2	ANP05281	Attenuator	1B	4/7/2020	4/7/2022
Т3	ANP05050	Cable	RG223/U	12/24/2018	12/24/2020
T4	ANP05198	Cable-Amplitude +15C to +45C (dB)	8268	12/4/2018	12/4/2020
T5	AN01993	Biconilog Antenna	CBL6111C	6/11/2019	6/11/2021
Т6	AN03643	Spectrum Analyzer	E4440A	5/20/2020	5/20/2022
T7	AN00786	Preamp	83017A	5/20/2020	5/20/2022
Т8	AN00849	Horn Antenna	3115	3/17/2020	3/17/2022
Т9	ANP06360	Cable	L1-PNMNM-48	8/8/2019	8/8/2021
T10	ANP07246	Cable	32022-29094K- 29094K-24TC	5/29/2020	5/29/2022
T11	AN03385	High Pass Filter	11SH10- 3000/T10000- O/O	5/13/2019	5/13/2021
	AN01413	Horn Antenna	84125-80008	10/19/2020	10/19/2022
	AN03367	Horn Antenna	62-GH-62-25.	8/1/2019	8/1/2021



	rement Data:			ted by ma					e: 3 Meters		
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
			T9	T10	T11						
	MHz	dBµV	dB	dB	dB	dB		dBµV/m		dB	Ant
1		49.3	-27.9	+5.9	+0.2	+2.9	+0.0	42.6	46.0	-3.4	Horiz
	QP		+12.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
۸	247.830M	52.1	-27.9	+5.9	+0.2	+2.9	+0.0	45.4	46.0	-0.6	Horiz
			+12.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
3	325.540M	45.4	-27.9	+5.9	+0.3	+3.4	+0.0	41.2	46.0	-4.8	Horiz
			+14.1	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
4	256.590M	46.2	-27.9	+5.9	+0.2	+2.9	+0.0	39.7	46.0	-6.3	Horiz
			+12.4	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
5	4101.800M	46.1	+0.0	+0.0	+0.0	+0.0	+0.0	46.0	54.0	-8.0	Vert
			+0.0	+0.0	-37.8	+32.4					
			+4.2	+0.6	+0.5						
6	4924.000M	42.6	+0.0	+0.0	+0.0	+0.0	+0.0	43.7	54.0	-10.3	Vert
			+0.0	+0.0	-37.6	+33.3					
			+4.5	+0.6	+0.3						
7	4924.000M	42.3	+0.0	+0.0	+0.0	+0.0	+0.0	43.4	54.0	-10.6	Vert
			+0.0	+0.0	-37.6	+33.3					
			+4.5	+0.6	+0.3						
8	109.100M	41.9	-28.0	+5.9	+0.1	+1.8	+0.0	32.3	43.5	-11.2	Vert
			+10.6	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
9	247.150M	41.4	-27.9	+5.9	+0.2	+2.9	+0.0	34.6	46.0	-11.4	Vert
			+12.1	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
10	266.190M	39.5	-27.9	+5.9	+0.2	+3.0	+0.0	33.3	46.0	-12.7	Horiz
			+12.6	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
11	109.090M	39.5	-28.0	+5.9	+0.1	+1.8	+0.0	29.9	43.5	-13.6	Horiz
			+10.6	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
12	189.090M	58.7	-28.0	+5.9	+0.2		+0.0	48.3	63.5	-15.2	Horiz
			+9.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
13	214.590M	55.2	-27.9	+5.9	+0.2	+2.7	+0.0	46.1	63.5	-17.4	Horiz
			+10.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
	7386.000M	30.2	+0.0	+0.0	+0.0	+0.0	+0.0	36.4	54.0	-17.6	Vert
	Ave		+0.0	+0.0	-37.3	+36.3					
			+6.1	+0.9	+0.2						
^	7386.000M	41.4	+0.0	+0.0	+0.0	+0.0	+0.0	47.6	54.0	-6.4	Vert
			+0.0	+0.0	-37.3	+36.3					
			+6.1	+0.9	+0.2						



16	203.590M	55.4	-28.0	+5.9	+0.2	+2.6	+0.0	45.3	63.5	-18.2	Horiz
			+9.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
	4102.583M	35.2	+0.0	+0.0	+0.0	+0.0	+0.0	35.1	54.0	-18.9	Horiz
	Ave		+0.0	+0.0	-37.8	+32.4					
•	4100 50004	<b>C1 7</b>	+4.2	+0.6	+0.5	.0.0	.0.0	51.6	54.0	2.4	
X	4102.583M	51.7	+0.0	+0.0	+0.0	+0.0	+0.0	51.6	54.0	-2.4	Horiz
			+0.0	+0.0	-37.8	+32.4					
19	553.450M	42.1	+4.2	+0.6 +5.9	+0.5 +0.4	+4.5	+0.0	44.1	63.5	-19.4	Vert
19	555.450IVI	42.1	-27.6 +18.8	+3.9 +0.0	+0.4 +0.0	+4.3 +0.0	+0.0	44.1	03.5	-19.4	ven
			+18.8 +0.0	+0.0 $+0.0$	$^{+0.0}_{+0.0}$	$\pm 0.0$					
20	304.140M	48.6	-27.9	+0.0 +5.9	+0.0 +0.3	+3.2	+0.0	43.5	63.5	-20.0	Horiz
20	304.140101	40.0	+13.4	+3.9 +0.0	+0.3 +0.0	+3.2 +0.0	$\pm 0.0$	45.5	05.5	-20.0	HOHZ
			+0.0	+0.0	+0.0	10.0					
21	308.890M	47.9	-27.9	+5.9	+0.3	+3.3	+0.0	43.1	63.5	-20.4	Horiz
21	500.070101	77.9	+13.6	+0.0	+0.0	+0.0	10.0	45.1	05.5	20.4	HOLL
			+0.0	+0.0	+0.0	10.0					
22	544.050M	41.2	-27.6	+5.9	+0.4	+4.5	+0.0	43.1	63.5	-20.4	Vert
	2111020111	11.2	+18.7	+0.0	+0.0	+0.0	10.0	13.1	00.0	20.1	vert
			+0.0	+0.0	+0.0						
23	544.050M	41.2	-27.6	+5.9	+0.4	+4.5	+0.0	43.1	63.5	-20.4	Vert
_			+18.7	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
24	4063.267M	33.5	+0.0	+0.0	+0.0	+0.0	+0.0	33.4	54.0	-20.6	Vert
	Ave		+0.0	+0.0	-37.8	+32.4					
			+4.2	+0.6	+0.5						
^	4063.267M	49.2	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Vert
			+0.0	+0.0	-37.8	+32.4					
			+4.2	+0.6	+0.5						
26	546.350M	39.1	-27.6	+5.9	+0.4	+4.5	+0.0	41.0	63.5	-22.5	Vert
			+18.7	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
27	503.550M	38.2	-27.7	+5.9	+0.3	+4.2	+0.0	38.9	63.5	-24.6	Vert
			+18.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0		0.5				
28	218.150M	46.9	-27.9	+5.9	+0.2	+2.7	+0.0	38.0	63.5	-25.5	Vert
			+10.2	+0.0	+0.0	+0.0					
	014 5503 5	160	+0.0	+0.0	+0.0	2.5	. 0. 0	27.5	<i>(</i> 2, <b>-</b>	05.0	<b>X</b> 7
29	214.550M	46.8	-27.9	+5.9	+0.2	+2.7	+0.0	37.7	63.5	-25.8	Vert
			+10.0	+0.0	+0.0	+0.0					
20	206 5 401 4	20.0	+0.0	+0.0	+0.0	. 2 7		26.0	(2 5	07.2	II.
30	396.540M	38.2	-27.9	+5.9	+0.3	+3.7	+0.0	36.2	63.5	-27.3	Horiz
			+16.0	+0.0	+0.0	+0.0					
21	110 150NA	266	+0.0	+0.0	+0.0	120		25.0	62 5	10 2	Vort
31	418.150M	36.6	-27.9	+5.9	+0.3	+3.8	+0.0	35.2	63.5	-28.3	Vert
			+16.5 +0.0	$^{+0.0}_{+0.0}$	+0.0 +0.0	+0.0					
32	352.700M	38.5	-27.9	+0.0 +5.9		+3.5	+0.0	35.2	63.5	-28.3	Vert
52	552.700M	38.3	-27.9 +14.9	+5.9 +0.0	+0.3 +0.0	+3.5 +0.0	+0.0	33.2	03.3	-20.3	ven
			+14.9 +0.0	+0.0 +0.0	$^{+0.0}_{+0.0}$	$\pm 0.0$					
			10.0	10.0	10.0						



33	306.450M	40.0	-27.9	+5.9	+0.3	+3.2	+0.0	35.0	63.5	-28.5	Vert
			+13.5	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
34	308.950M	39.8	-27.9	+5.9	+0.3	+3.3	+0.0	35.0	63.5	-28.5	Vert
			+13.6	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
35	458.550M	34.7	-27.8	+5.9	+0.3	+4.0	+0.0	34.3	63.5	-29.2	Vert
			+17.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
36	363.600M	36.4	-27.9	+5.9	+0.3	+3.6	+0.0	33.5	63.5	-30.0	Vert
			+15.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						

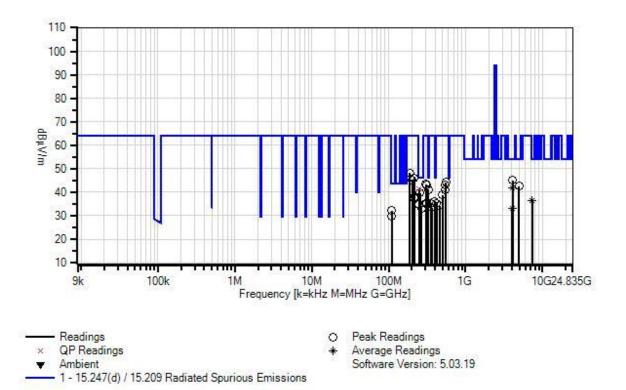


Test Location:	CKC Laboratories Inc. • 110 N.	Olinda Pl. • Brea, CA 92823	• 714-993-6112
Customer:	Venstar, Inc.		
Specification:	15.247(d) / 15.209 Radiated Sp	urious Emissions	
Work Order #:	104728	Date:	11/24/2020
Test Type:	Maximized Emissions	Time:	10:26:08
Tested By:	Don Nguyen	Sequence#:	10
Software:	EMITest 5.03.19		

Device	Manufacturer	Model #	S/N	
Configuration 2				
Support Equipment:				
Device	Manufacturer	Model #	S/N	
Configuration 2				
Test Conditions / Notes:				
EUT is powered from 2	4Vac AC Adapter and	set to transmit continuous	sly. All IO ports are populated	with
unterminated cables.				
<b>G</b> . <b>G</b>				
Software setting: Testing Frequency: 2412, 2	0427 0460MUz			
result requency. 2412, 2	2457, 24021/1112			
Data Rate				
802.11n20: MCS0				
Modulation: BPSK				
Mode: Continuous TX/ Mo	odulated			
Packet Size: 1400 Bytes				
TX Power Level: 0				
Frequency of Measurement				
9kHz to 150kHz RBW=0.2 150kHz to 30MHz RBW=9				
30-1000MHz, RBW=120k				
1000-25000MHz, RBW=1				
-30dBc limit, RBW=100kH	,			
Test Environment Condition	ons:			
Temperature:20°C				
Relative Humidity: 48%				
Site A				
Test Methods: ANSI C63.1	0 (2013)			
KDB 558074 D01 15.247 I	. ,			
1500 330074 001 13.247	vicas Guidance v05102			



Venstar, Inc. WO#: 104728 Sequence#: 10 Date: 11/24/2020 15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Vert



ID	Asset #	Description	Model	<b>Calibration Date</b>	Cal Due Date
	AN00314	Loop Antenna	6502	4/13/2020	4/13/2022
T1	AN00309	Preamp	8447D	12/24/2019	12/24/2021
T2	ANP05281	Attenuator	1B	4/7/2020	4/7/2022
T3	ANP05050	Cable	RG223/U	12/24/2018	12/24/2020
T4	ANP05198	Cable-Amplitude +15C to +45C (dB)	8268	12/4/2018	12/4/2020
T5	AN01993	Biconilog Antenna	CBL6111C	6/11/2019	6/11/2021
T6	AN03643	Spectrum Analyzer	E4440A	5/20/2020	5/20/2022
T7	AN00786	Preamp	83017A	5/20/2020	5/20/2022
Т8	AN00849	Horn Antenna	3115	3/17/2020	3/17/2022
Т9	ANP06360	Cable	L1-PNMNM-48	8/8/2019	8/8/2021
T10	ANP07246	Cable	32022-29094K- 29094K-24TC	5/29/2020	5/29/2022
T11	AN03385	High Pass Filter	11SH10- 3000/T10000- O/O	5/13/2019	5/13/2021
	AN01413	Horn Antenna	84125-80008	10/19/2020	10/19/2022
	AN03367	Horn Antenna	62-GH-62-25.	8/1/2019	8/1/2021



	irement Data:			ted by ma					e: 3 Meters		
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
		15 11	T9	T10	T11	ID				ID	
	MHz	dBµV	dB	dB	dB	dB		dBµV/m		dB	Ant
1		48.3	-27.9	+5.9	+0.2	+2.9	+0.0	41.6	46.0	-4.4	Horiz
	QP		+12.2	+0.0	+0.0	+0.0					
•	247 (00) (	50.1	+0.0	+0.0	+0.0	2.0	0.0	45.4	16.0	0.6	
^	247.600M	52.1	-27.9	+5.9	+0.2	+2.9	+0.0	45.4	46.0	-0.6	Horiz
			+12.2	+0.0	+0.0	+0.0					
2	225 54014	15 1	+0.0	+0.0	+0.0	12.4	10.0	41.0	16.0	4.0	II
3	325.540M	45.4	-27.9	+5.9	+0.3	+3.4	+0.0	41.2	46.0	-4.8	Horiz
			+14.1	+0.0	+0.0	+0.0					
4	256.590M	46.2	+0.0	+0.0 +5.9	+0.0 +0.2	+2.9	+0.0	39.7	46.0	-6.3	Homin
4	230.390M	40.2	+12.4	+3.9 +0.0	+0.2 +0.0	+2.9 +0.0	+0.0	39.7	40.0	-0.5	Horiz
			+12.4 +0.0	+0.0 +0.0	+0.0 +0.0	+0.0					
5	4105.500M	45.2	+0.0 +0.0	+0.0 +0.0	+0.0 +0.0	+0.0	+0.0	45.1	54.0	-8.9	Vert
5	4105.500M	43.2	$^{+0.0}_{+0.0}$	$^{+0.0}_{+0.0}$	-37.8	+0.0 +32.4	+0.0	43.1	54.0	-0.9	ven
			+0.0 +4.2	+0.0 +0.6	+0.5	+32.4					
6	109.100M	41.9	-28.0	+0.0 +5.9	+0.3 +0.1	+1.8	+0.0	32.3	43.5	-11.2	Vert
0	109.1001	41.7	-28.0 +10.6	+3.9 +0.0	+0.1 +0.0	+1.0 +0.0	$\pm 0.0$	52.5	45.5	-11.2	ven
			+0.0	+0.0	+0.0	10.0					
7	247.150M	41.4	-27.9	+5.9	+0.2	+2.9	+0.0	34.6	46.0	-11.4	Vert
/	247.130101	41.4	+12.1	+0.0	+0.2 +0.0	+2.9 +0.0	$\pm 0.0$	54.0	40.0	-11.4	ven
			+12.1 +0.0	+0.0 $+0.0$	+0.0 $+0.0$	$\pm 0.0$					
8	4924.000M	41.4	+0.0	+0.0	+0.0	+0.0	+0.0	42.5	54.0	-11.5	Vert
0	4724.000101	71.7	+0.0	+0.0	-37.6	+33.3	10.0	42.5	54.0	11.5	ven
			+4.5	+0.6	+0.3	155.5					
9	4104.650M	42.0	+0.0	+0.0	+0.0	+0.0	+0.0	41.9	54.0	-12.1	Horiz
,	Ave	42.0	+0.0	+0.0	-37.8	+32.4	10.0	41.7	54.0	12.1	110112
			+4.2	+0.6	+0.5						
٨	4104.650M	53.8	+0.0	+0.0	+0.0	+0.0	+0.0	53.7	54.0	-0.3	Horiz
	110 1.00 0101	22.0	+0.0	+0.0	-37.8	+32.4	10.0	00.1	5 1.0	0.5	110112
			+4.2	+0.6	+0.5						
11	266.190M	39.5	-27.9	+5.9	+0.2	+3.0	+0.0	33.3	46.0	-12.7	Horiz
			+12.6	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
12	109.090M	39.5	-28.0	+5.9	+0.1	+1.8	+0.0	29.9	43.5	-13.6	Horiz
			+10.6	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
13	189.090M	58.7	-28.0	+5.9	+0.2	+2.5	+0.0	48.3	64.1	-15.8	Horiz
			+9.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
14	7386.750M	30.3	+0.0	+0.0	+0.0	+0.0	+0.0	36.5	54.0	-17.5	Vert
	Ave		+0.0	+0.0	-37.3	+36.3					
			+6.1	+0.9	+0.2						
۸	7386.750M	42.9	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Vert
			+0.0	+0.0	-37.3	+36.3					
			+6.1	+0.9	+0.2						



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Ave +0.0 +0.0 -37.8 +32.4 +4.2 +0.6 +0.5
+4.2 +0.6 +0.5
-400 + 00 + 00 + 00 + 00 + 00 + 00 - 475 - 540 - 65 Vert
+0.0 $+0.0$ $-37.8$ $+32.4$
+4.2 +0.6 +0.5 22 308.890M 47.9 -27.9 +5.9 +0.3 +3.3 +0.0 43.1 64.1 -21.0 Horiz
22 308.890M 47.9 -27.9 +5.9 +0.3 +3.3 +0.0 43.1 64.1 -21.0 Horiz +13.6 +0.0 +0.0 +0.0
+15.0 $+0.0$ $+0.0$ $+0.0$ $+0.0$
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+0.0 +0.0 +0.0
24 544.050M 41.2 -27.6 +5.9 +0.4 +4.5 +0.0 43.1 64.1 -21.0 Vert
+18.7 +0.0 +0.0 +0.0
+0.0 +0.0 +0.0
25 546.350M 39.1 -27.6 +5.9 +0.4 +4.5 +0.0 41.0 64.1 -23.1 Vert
+18.7 + 0.0 + 0.0 + 0.0
+0.0 $+0.0$ $+0.0$
26 503.550M 38.2 -27.7 +5.9 +0.3 +4.2 +0.0 38.9 64.1 -25.2 Vert
+18.0 $+0.0$ $+0.0$ $+0.0$
+0.0 $+0.0$ $+0.0$
27 218.150M 46.9 -27.9 +5.9 +0.2 +2.7 +0.0 38.0 64.1 -26.1 Vert
+10.2 $+0.0$ $+0.0$ $+0.0$
+0.0 +0.0 +0.0
28 214.550M 46.8 -27.9 +5.9 +0.2 +2.7 +0.0 37.7 64.1 -26.4 Vert
+10.0 $+0.0$ $+0.0$ $+0.0$
+0.0 +0.0 +0.0
29 396.540M 38.2 -27.9 +5.9 +0.3 +3.7 +0.0 36.2 64.1 -27.9 Horiz
+16.0 $+0.0$ $+0.0$ $+0.0$
+0.0 +0.0 +0.0
30 418.150M 36.6 -27.9 +5.9 +0.3 +3.8 +0.0 35.2 64.1 -28.9 Vert
+16.5 $+0.0$ $+0.0$ $+0.0$
+0.0 +0.0 +0.0



31	352.700M	38.5	-27.9	+5.9	+0.3	+3.5	+0.0	35.2	64.1	-28.9	Vert
			+14.9	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
32	306.450M	40.0	-27.9	+5.9	+0.3	+3.2	+0.0	35.0	64.1	-29.1	Vert
			+13.5	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
33	308.950M	39.8	-27.9	+5.9	+0.3	+3.3	+0.0	35.0	64.1	-29.1	Vert
			+13.6	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
34	458.550M	34.7	-27.8	+5.9	+0.3	+4.0	+0.0	34.3	64.1	-29.8	Vert
			+17.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
35	363.600M	36.4	-27.9	+5.9	+0.3	+3.6	+0.0	33.5	64.1	-30.6	Vert
			+15.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						

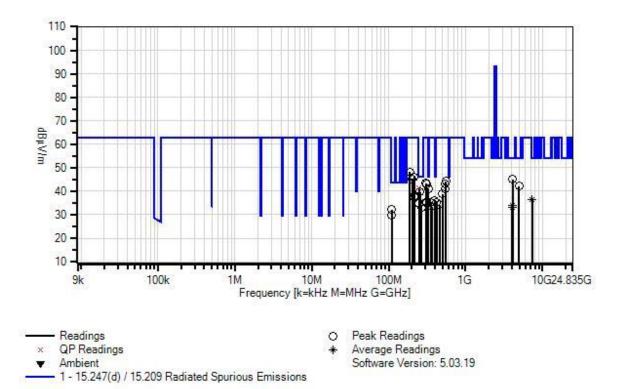


Test Location:	CKC Laboratories Inc. • 110 N.	Olinda Pl. • Brea, CA 92823	• 714-993-6112
Customer:	Venstar, Inc.		
Specification:	15.247(d) / 15.209 Radiated Sp	urious Emissions	
Work Order #:	104728	Date:	11/24/2020
Test Type:	Maximized Emissions	Time:	10:26:29
Tested By:	Don Nguyen	Sequence#:	11
Software:	EMITest 5.03.19		

Device	Manufacturer	Model #	S/N	
Configuration 2				
Support Equipment:				
Device	Manufacturer	Model #	S/N	
Configuration 2				
Test Conditions / Note	25:			
EUT is powered from unterminated cables.	n 24Vac AC Adapter and s	et to transmit continue	ously. All IO ports are	populated with
Software setting:				
Testing Frequency: 24	12, 2437, 2462MHz			
Data Rate				
802.11n20: MCS7				
Modulation: 64-QAM				
Mode: Continuous TX				
Packet Size: 1400 Byte	es			
TX Power Level: 0				
Fraguency of Messures	ment: 9kHz-25000MHz			
	=0.2kHz, VBW $=0.6$ kHz.			
	W=9kHz, $VBW=27kHz$ .			
	20kHz, VBW= $360$ kHz			
	V=1MHz, VBW=3MHz			
-30dBc limit, RBW=10				
,	,			
Test Environment Con	ditions:			
Temperature:20°C				
Relative Humidity: 489	%			
Site A				
Test Methods: ANSI C	63.10 (2013)			
	247 Meas Guidance v05r02			



Venstar, Inc. WO#: 104728 Sequence#: 11 Date: 11/24/2020 15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Vert



ID	Asset #	Description	Model	<b>Calibration Date</b>	Cal Due Date
	AN00314	Loop Antenna	6502	4/13/2020	4/13/2022
T1	AN00309	Preamp	8447D	12/24/2019	12/24/2021
T2	ANP05281	Attenuator	1B	4/7/2020	4/7/2022
T3	ANP05050	Cable	RG223/U	12/24/2018	12/24/2020
T4	ANP05198	Cable-Amplitude +15C to +45C (dB)	8268	12/4/2018	12/4/2020
T5	AN01993	Biconilog Antenna	CBL6111C	6/11/2019	6/11/2021
T6	AN03643	Spectrum Analyzer	E4440A	5/20/2020	5/20/2022
T7	AN00786	Preamp	83017A	5/20/2020	5/20/2022
Т8	AN00849	Horn Antenna	3115	3/17/2020	3/17/2022
Т9	ANP06360	Cable	L1-PNMNM-48	8/8/2019	8/8/2021
T10	ANP07246	Cable	32022-29094K- 29094K-24TC	5/29/2020	5/29/2022
T11	AN03385	High Pass Filter	11SH10- 3000/T10000- O/O	5/13/2019	5/13/2021
	AN01413	Horn Antenna	84125-80008	10/19/2020	10/19/2022
	AN03367	Horn Antenna	62-GH-62-25.	8/1/2019	8/1/2021



#	rement Data: Freq	Rdng	eading listed by mar T1 T2		T3	T4	Dist	Corr	e: 3 Meters Spec	Margin	Polar
#	incq	Rung	T5	T6	T7	T8	Dist	Coll	spec	Margin	1 Olai
			T9	T10	T11	10					
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBuV/m	dB	Ant
1	247.890M	48.2	-27.9	+5.9	+0.2	+2.9	+0.0	41.5	46.0	-4.5	Horiz
(	QP		+12.2	+0.0	+0.0	+0.0					
×-			+0.0	+0.0	+0.0						
۸	247.890M	51.4	-27.9	+5.9	+0.2	+2.9	+0.0	44.7	46.0	-1.3	Horiz
			+12.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
3	325.540M	45.4	-27.9	+5.9	+0.3	+3.4	+0.0	41.2	46.0	-4.8	Horiz
			+14.1	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
4	256.590M	46.2	-27.9	+5.9	+0.2	+2.9	+0.0	39.7	46.0	-6.3	Horiz
			+12.4	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
5	4108.300M	45.1	+0.0	+0.0	+0.0	+0.0	+0.0	45.0	54.0	-9.0	Vert
			+0.0	+0.0	-37.8	+32.4					
			+4.2	+0.6	+0.5						
6	109.100M	41.9	-28.0	+5.9	+0.1	+1.8	+0.0	32.3	43.5	-11.2	Vert
			+10.6	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
7	247.150M	41.4	-27.9	+5.9	+0.2	+2.9	+0.0	34.6	46.0	-11.4	Vert
			+12.1	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
8	4924.000M	41.0	+0.0	+0.0	+0.0	+0.0	+0.0	42.1	54.0	-11.9	Vert
			+0.0	+0.0	-37.6	+33.3					
			+4.5	+0.6	+0.3						
9	266.190M	39.5	-27.9	+5.9	+0.2	+3.0	+0.0	33.3	46.0	-12.7	Horiz
			+12.6	+0.0	+0.0	+0.0					
10	100.00016	20.5	+0.0	+0.0	+0.0	1.0	0.0	•••	10.7	10.6	
10	109.090M	39.5	-28.0	+5.9	+0.1	+1.8	+0.0	29.9	43.5	-13.6	Horiz
			+10.6	+0.0	+0.0	+0.0					
11	100.00014	50.7	+0.0	+0.0	+0.0		0.0	10.0	(2.0	14.7	
11	189.090M	58.7	-28.0	+5.9	+0.2	+2.5	+0.0	48.3	63.0	-14.7	Horiz
			+9.0	+0.0	+0.0	+0.0					
10	214 50014	<b>55 0</b>	+0.0	+0.0	+0.0	107		101	(2.0	16.0	11'
12	214.590M	55.2	-27.9	+5.9	+0.2	+2.7	+0.0	46.1	63.0	-16.9	Horiz
			+10.0	+0.0	+0.0	+0.0					
12	7385.880M	20.2	+0.0	+0.0	+0.0		+0.0	36.4	54.0	-17.6	Vert
		30.2	$^{+0.0}_{+0.0}$	$^{+0.0}_{+0.0}$	+0.0 -37.3	+0.0 +36.3	+0.0	30.4	54.0	-1/.0	vert
1	Ave		+0.0 +6.1	+0.0 +0.9	+0.2	+30.3					
٨	7385.880M	42.4	+0.1 +0.0	+0.9 +0.0	+0.2 +0.0	+0.0	+0.0	48.6	54.0	-5.4	Vert
	1000.00011	42.4	+0.0 +0.0	$^{+0.0}_{+0.0}$	+0.0 -37.3	+0.0 +36.3	+0.0	40.0	54.0	-3.4	vert
			+0.0 +6.1	+0.0 +0.9	+0.2	+30.3					
15	203.590M	55.4	-28.0	+0.9 +5.9	+0.2 +0.2	+2.6	+0.0	45.3	63.0	-17.7	Horiz
15	203.390101	55.4	-28.0 +9.2	+3.9 +0.0	+0.2 +0.0	+2.0 +0.0	$\pm 0.0$	43.3	05.0	-1/./	110112
						+0.0					
			+0.0	+0.0	+0.0						



	+0.0 44.1 63.0 -18.9 Vert
+18.8 $+0.0$ $+0.0$ $+0.0$	
+0.0 $+0.0$ $+0.0$	
	+0.0 43.5 63.0 -19.5 Horiz
+13.4 $+0.0$ $+0.0$ $+0.0$	
+0.0 $+0.0$ $+0.0$	0.0 <b>10.1</b> (2.0 10.0 <b>H</b> )
	+0.0 43.1 63.0 -19.9 Horiz
+13.6 $+0.0$ $+0.0$ $+0.0$	
+0.0 $+0.0$ $+0.0$	+0.0 34.1 54.0 -19.9 Horiz
	+0.0 34.1 54.0 -19.9 Horiz
Ave +0.0 +0.0 -37.8 +32.4 +4.2 +0.6 +0.5	
	+0.0 52.1 54.0 -1.9 Horiz
^ 4100.483M 52.2 +0.0 +0.0 +0.0 +0.0 +0.0 +0.0 -37.8 +32.4	+0.0 52.1 54.0 -1.9 Horiz
+0.0 $+0.0$ $-57.8$ $+52.4+4.2$ $+0.6$ $+0.5$	
	+0.0 43.1 63.0 -19.9 Vert
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	+0.0 +5.1 05.0 -19.9 Ven
+0.0 $+0.0$ $+0.0$	
	+0.0 43.1 63.0 -19.9 Vert
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	10.0 45.1 05.0 19.9 Ven
+0.0 $+0.0$ $+0.0$	
	+0.0 33.2 54.0 -20.8 Vert
Ave $+0.0 +0.0 -37.8 +32.4$	
+4.2 +0.6 +0.5	
	+0.0 49.6 54.0 -4.4 Vert
+0.0 +0.0 -37.8 +32.4	
+4.2 $+0.6$ $+0.5$	
	+0.0 41.0 63.0 -22.0 Vert
+18.7 $+0.0$ $+0.0$ $+0.0$	
+0.0 $+0.0$ $+0.0$	
	+0.0 38.9 63.0 -24.1 Vert
+18.0 $+0.0$ $+0.0$ $+0.0$	
+0.0 +0.0 +0.0	
	+0.0 38.0 63.0 -25.0 Vert
+10.2 $+0.0$ $+0.0$ $+0.0$	
+0.0 +0.0 +0.0	
	+0.0 37.7 63.0 -25.3 Vert
+10.0 $+0.0$ $+0.0$ $+0.0$	
+0.0 +0.0 +0.0	
	+0.0 36.2 63.0 -26.8 Horiz
+16.0 $+0.0$ $+0.0$ $+0.0$	
+0.0 +0.0 +0.0	
	+0.0 35.2 63.0 -27.8 Vert
+16.5 $+0.0$ $+0.0$ $+0.0$	
+0.0 +0.0 +0.0	



31	352.700M	38.5	-27.9	+5.9	+0.3	+3.5	+0.0	35.2	63.0	-27.8	Vert
			+14.9	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
32	306.450M	40.0	-27.9	+5.9	+0.3	+3.2	+0.0	35.0	63.0	-28.0	Vert
			+13.5	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
33	308.950M	39.8	-27.9	+5.9	+0.3	+3.3	+0.0	35.0	63.0	-28.0	Vert
			+13.6	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
34	458.550M	34.7	-27.8	+5.9	+0.3	+4.0	+0.0	34.3	63.0	-28.7	Vert
			+17.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
35	363.600M	36.4	-27.9	+5.9	+0.3	+3.6	+0.0	33.5	63.0	-29.5	Vert
			+15.2	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						

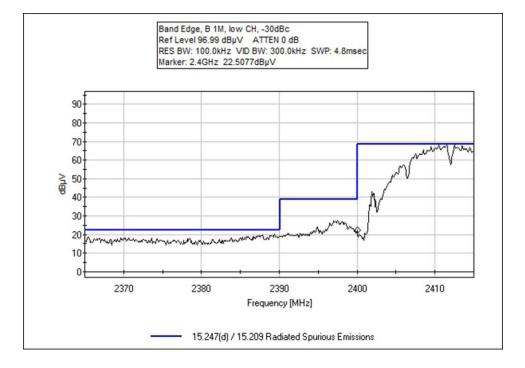


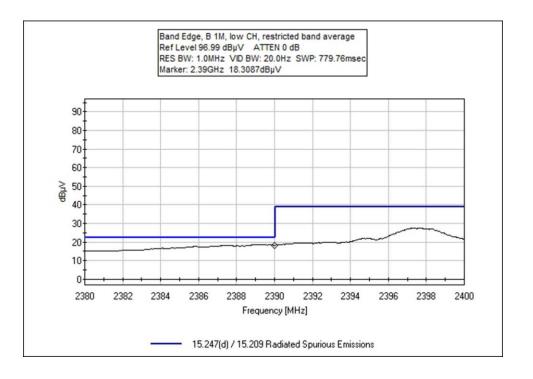
# Band Edge

Band Edge Summary								
Frequency (MHz)	Mode/Data Rate	Ant. Type	Field Strength (dBuV/m @3m)	Limit (dBuV/m @3m)	Results			
2390.0	802.11b/1Mbps	Chip	49.8	<54	Pass			
2400.0	802.11b/1Mbps	Chip	54.0	<70.3	Pass			
2483.5	802.11b/1Mbps	Chip	51.5	<54	Pass			
2390.0	802.11b/11Mbps	Chip	49.5	<54	Pass			
2400.0	802.11b/11Mbps	Chip	59.6	<71.2	Pass			
2483.5	802.11b/11Mbps	Chip	50.4	<54	Pass			
2390.0	802.11g/6Mbps	Chip	46.8	<54	Pass			
2400.0	802.11g/6Mbps	Chip	61.3	<63.7	Pass			
2483.5	802.11g/6Mbps	Chip	46.9	<54	Pass			
2390.0	802.11g/54Mbps	Chip	44.7	<54	Pass			
2400.0	802.11g/54Mbps	Chip	61.6	<63.5	Pass			
2483.5	802.11g/54Mbps	Chip	45.0	<54	Pass			
2390.0	802.11n/MCS0	Chip	46.7	<54	Pass			
2400.0	802.11n/MCS0	Chip	60.4	<64.1	Pass			
2483.5	802.11n/MCS0	Chip	46.9	<54	Pass			
2390.0	802.11n/MCS7	Chip	44.5	<54	Pass			
2400.0	802.11n/MCS7	Chip	60.9	<63.0	Pass			
2483.5	802.11n/MCS7	Chip	44.8	<54	Pass			

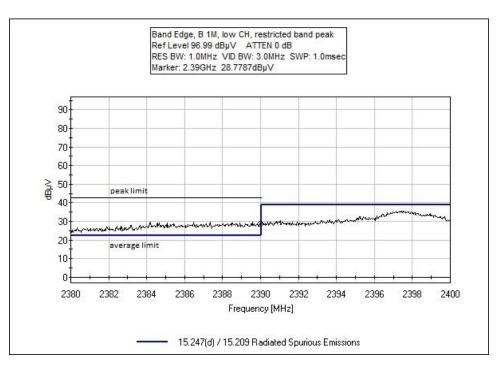


## **Band Edge Plots**

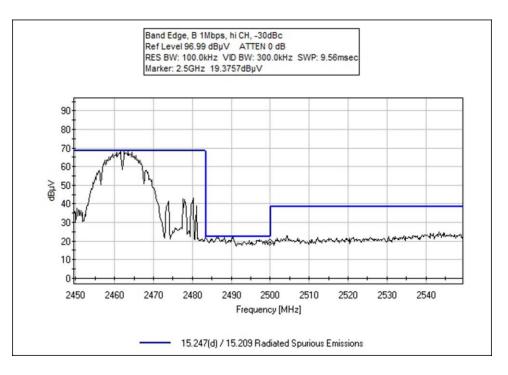


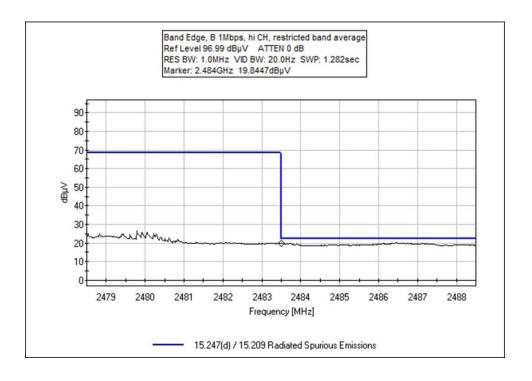






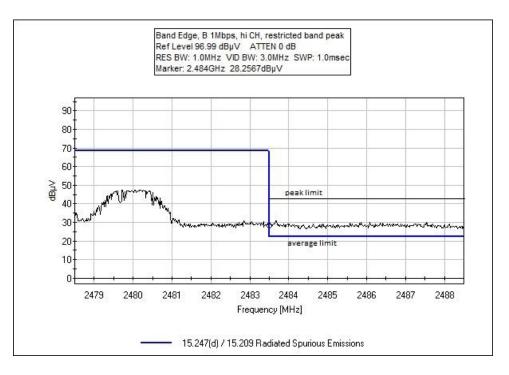


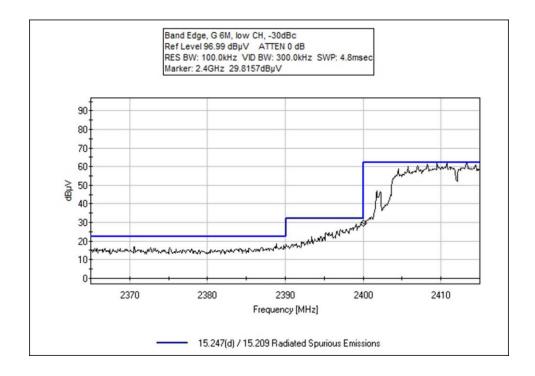




Page 102 of 143 Report No.: 104728-10

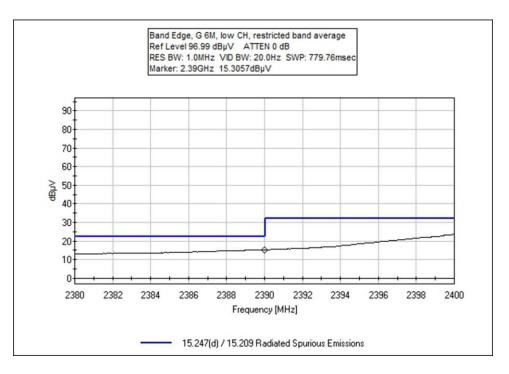


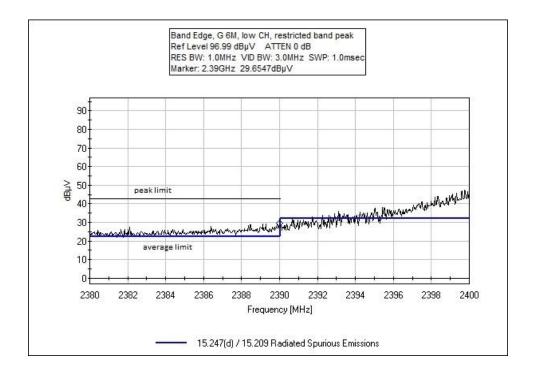




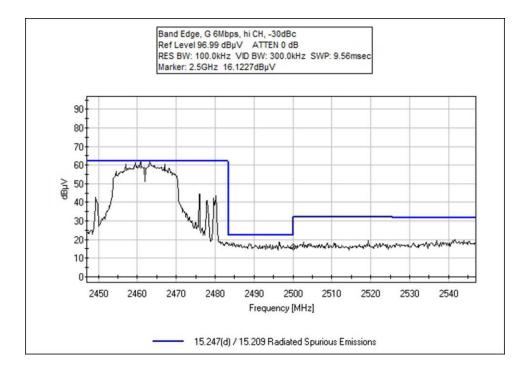
Page 103 of 143 Report No.: 104728-10

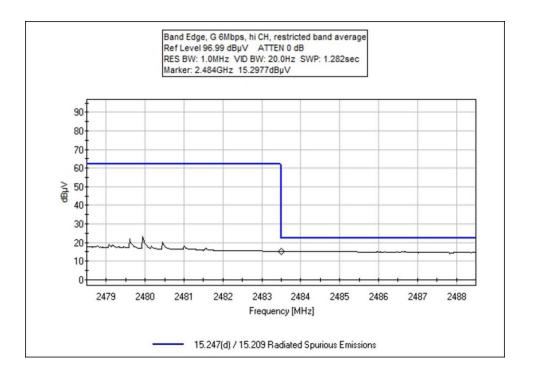






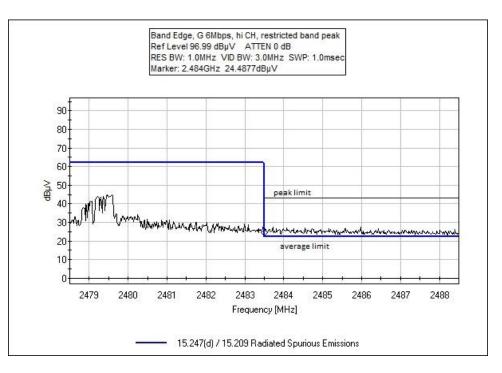


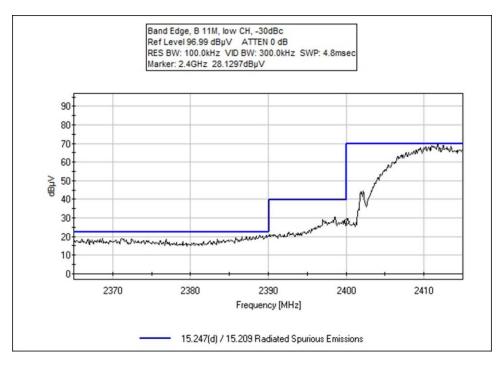




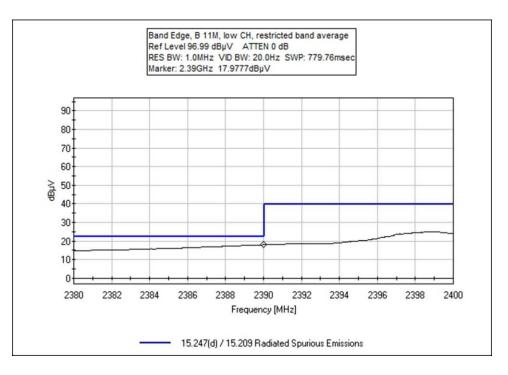
Page 105 of 143 Report No.: 104728-10

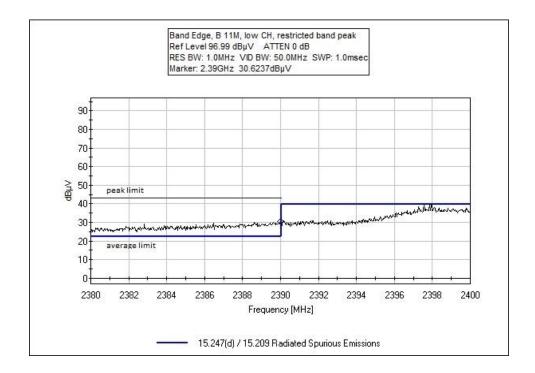






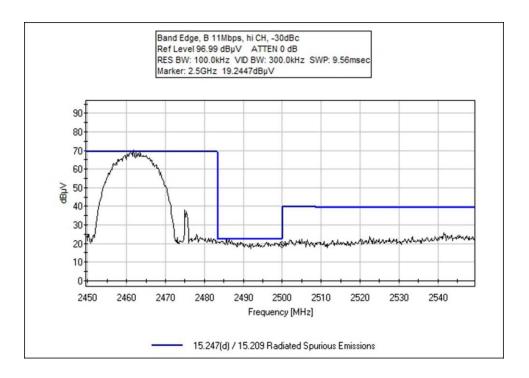


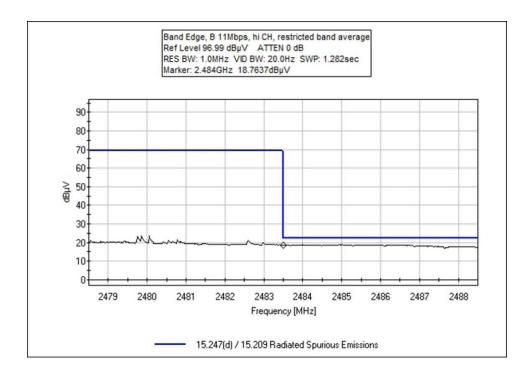




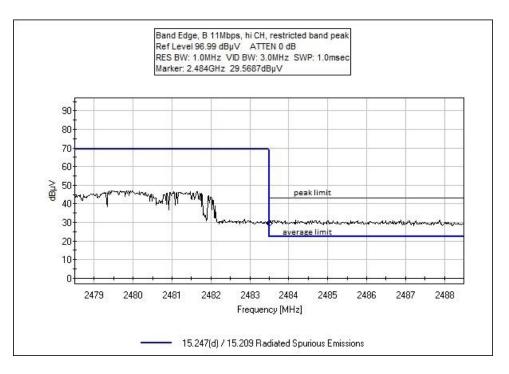
Page 107 of 143 Report No.: 104728-10

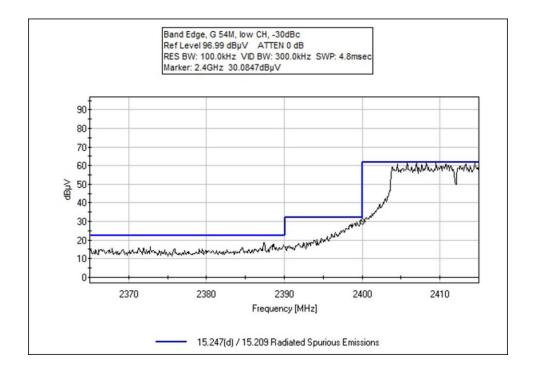




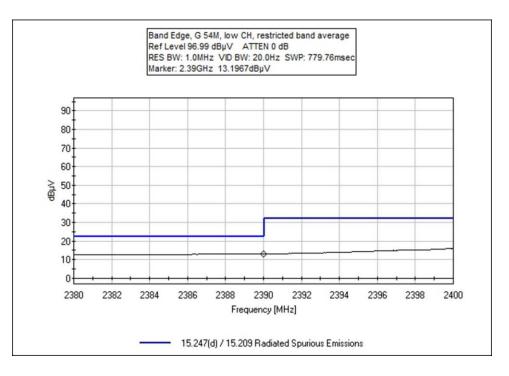


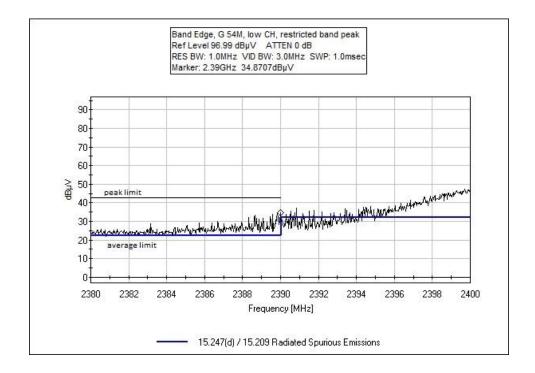






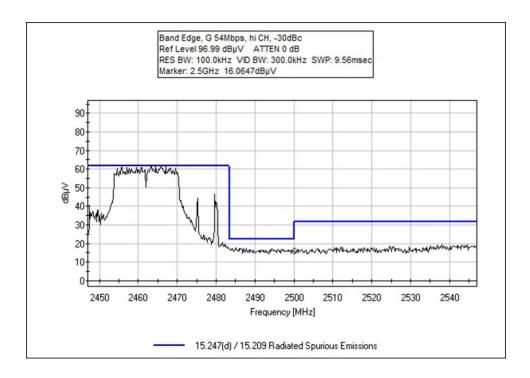


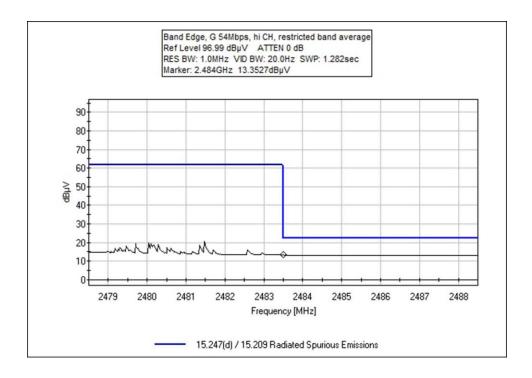




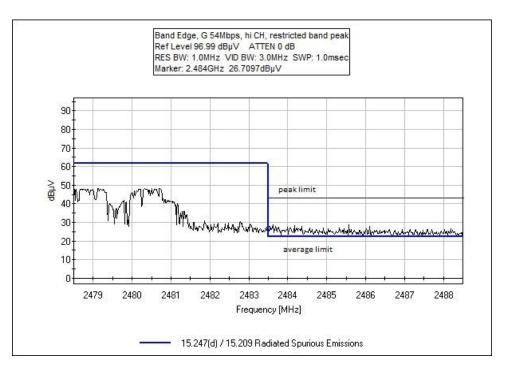
Page 110 of 143 Report No.: 104728-10

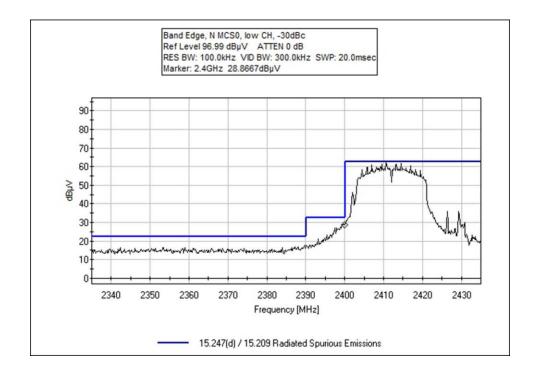






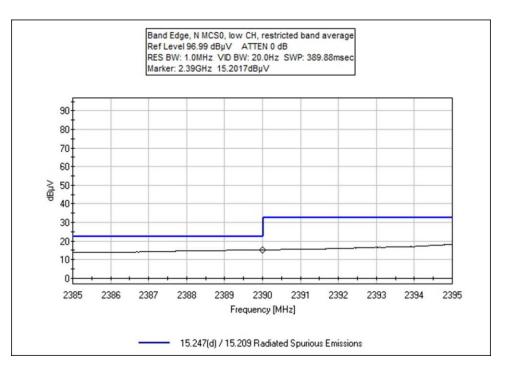


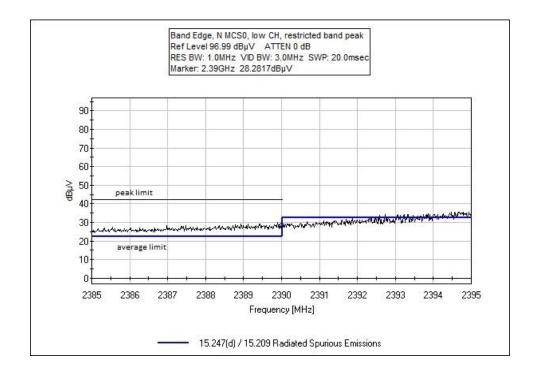




Page 112 of 143 Report No.: 104728-10

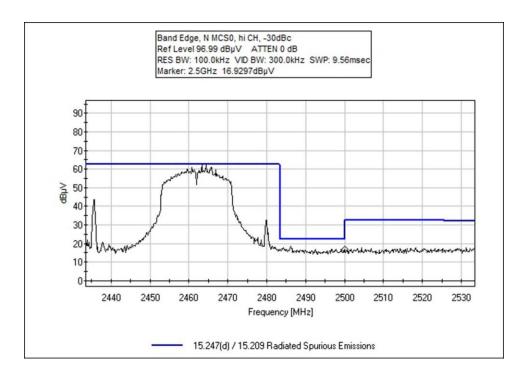


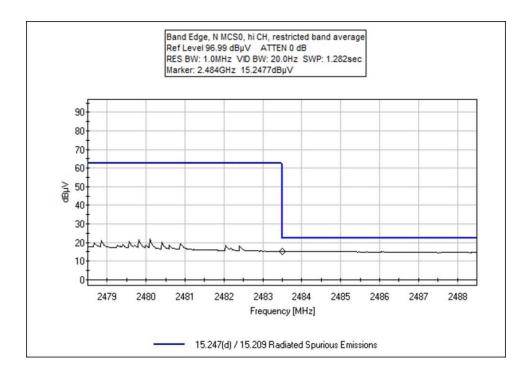




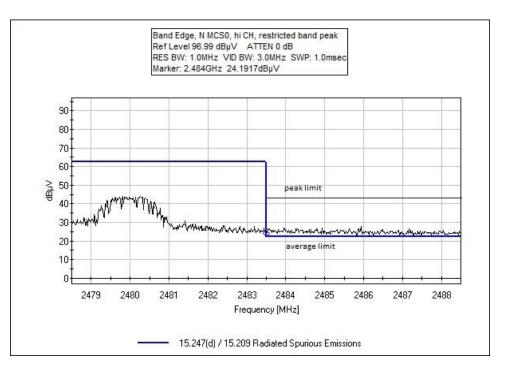
Page 113 of 143 Report No.: 104728-10

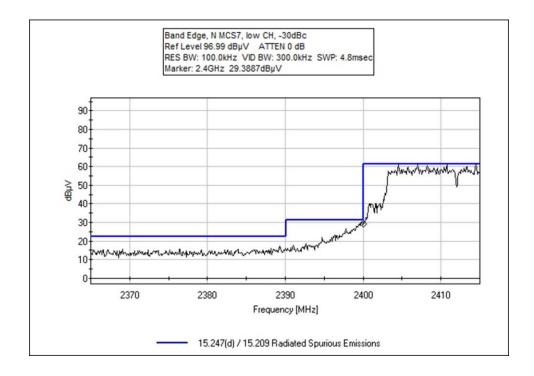






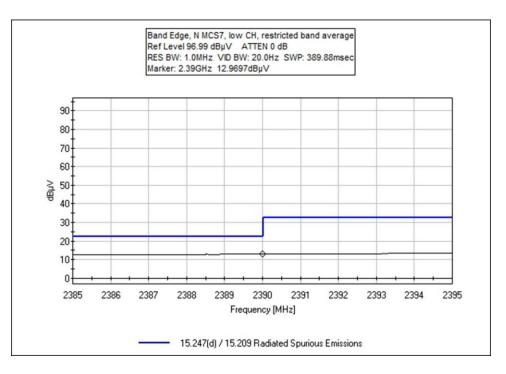


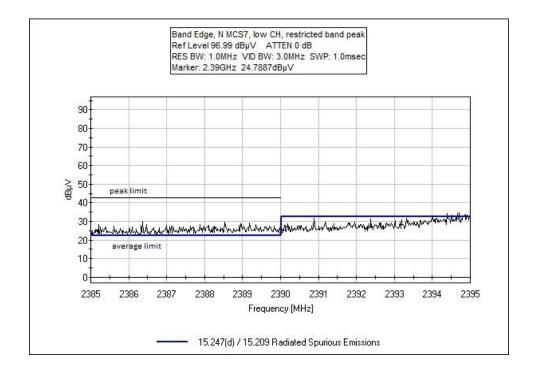




Page 115 of 143 Report No.: 104728-10

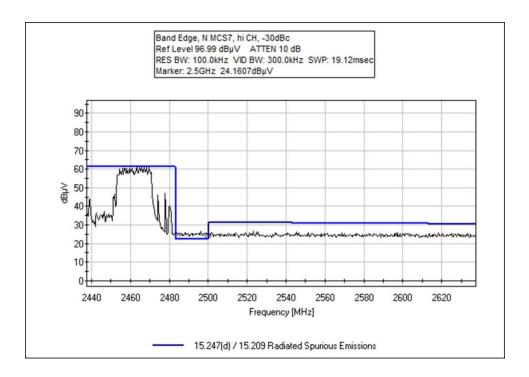


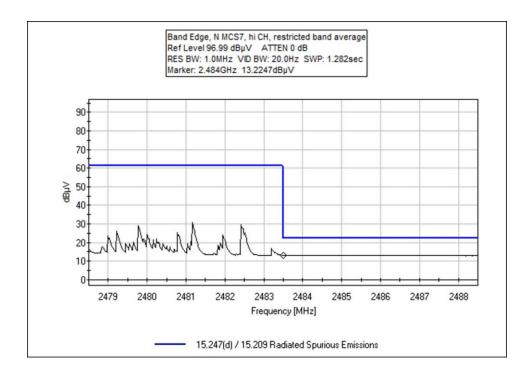




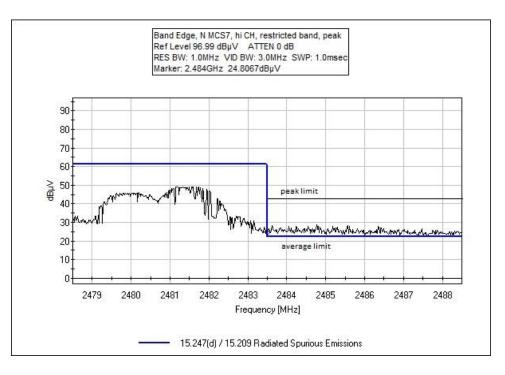
Page 116 of 143 Report No.: 104728-10













## Test Setup / Conditions / Data

Test Location:	CKC Laboratories Inc. • 110 N.	Olinda Pl. • Brea, CA 92823	• 714-993-6112
Customer:	Venstar, Inc.		
Specification:	15.247(d) / 15.209 Radiated Sp	urious Emissions	
Work Order #:	104728	Date:	11/20/2020
Test Type:	Maximized Emissions	Time:	11:28:03
Tested By:	Don Nguyen	Sequence#:	4
Software:	EMITest 5.03.19		

#### Equipment Tested:

Device	Manufacturer	Model #	S/N	
Configuration 2				
Support Equipment:				

Device	Manufacturer	Model #	S/N	
Configuration 2				

#### Test Conditions / Notes:

EUT is powered from 24Vac AC Adapter and set to transmit continuously. All IO ports are populated with unterminated cables. Software setting: Testing Frequency: 2412, 2437, 2462MHz

Data Rate 802.11b: 1Mbps (DSSS)

Modulation: DSSS Mode: Continuous TX/ Modulated Packet Size: 1400 Bytes TX Power Level: 0

Frequency of Measurement: 2390.0-2483.5MHz RBW=1MHz, VBW=3MHz (restricted band) RBW=100kHz, VBW=300kHz (-30dBc)

Test Environment Conditions: Temperature:20.5°C Relative Humidity: 47%

Test Method: ANSI C63.10 (2013) KDB 558074 D01 15.247 Meas Guidance v05r02



ID	Asset #	Description	Model	<b>Calibration Date</b>	Cal Due Date
T1	AN03643	Spectrum Analyzer	E4440A	5/20/2020	5/20/2022
T2	AN00849	Horn Antenna	3115	3/17/2020	3/17/2022
T3	ANP06360	Cable	L1-PNMNM-48	8/8/2019	8/8/2021

Meas	urement Data:	Re	eading list	ted by ma	argin.		Τe	est Distance	e: 3 Meters		
#	Freq	Rdng	T1	T2	T3		Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	2483.500M	19.9	+0.0	+28.3	+3.3		+0.0	51.5	54.0	-2.5	Vert
	Ave										
/	≥483.500M	28.3	+0.0	+28.3	+3.3		+0.0	59.9	54.0	+5.9	Vert
	3 2390.000M	18.3	+0.0	+28.3	+3.2		+0.0	49.8	54.0	-4.2	Vert
	Ave										
/	2390.000M	28.8	+0.0	+28.3	+3.2		+0.0	60.3	54.0	+6.3	Vert
4	5 2400.000M	22.5	+0.0	+28.3	+3.2		+0.0	54.0	70.3	-16.3	Vert



Test Location:	CKC Laboratories Inc. • 110 N.	Olinda Pl. • Brea, CA 92823	• 714-993-6112
Customer:	Venstar, Inc.		
Specification:	15.247(d) / 15.209 Radiated Sp	ourious Emissions	
Work Order #:	104728	Date:	11/20/2020
Test Type:	Maximized Emissions	Time:	13:54:33
Tested By:	Don Nguyen	Sequence#:	5
Software:	EMITest 5.03.19		

Device	Manufacturer	Model #	S/N
Configuration 2			
Support Equipment:			
Device	Manufacturer	Model #	S/N
Configuration 2			
Test Conditions / Notes.	:		
EUT is powered from	24Vac AC Adapter and	set to transmit continue	ously. All IO ports are populated with
unterminated cables.			
Software setting:			
Testing Frequency: 2412	2, 2437, 2462MHz		
Data Rate			
802.11b: 11Mbps			
002.110. 11110ps			
Modulation: CCK			
Mode: Continuous TX/ N	Modulated		
Packet Size: 1400 Bytes			
TX Power Level: 0			
Frequency of Measurem			
RBW=1MHz, VBW=3M			
RBW=100kHz, VBW=3	UUKHZ (-300BC)		
Test Environment Condi	tions:		
Temperature:20.5°C			
Relative Humidity: 47%			
-			
Test Method: ANSI C63	.10 (2013) KDB 558074 D	001 15.247 Meas Guidan	ce v05r02

ID	Asset #/Serial #	Description	Model	<b>Calibration Date</b>	Cal Due Date
T1	AN03643	Spectrum Analyzer	E4440A	5/20/2020	5/20/2022
T2	AN00849	Horn Antenna	3115	3/17/2020	3/17/2022
Т3	ANP06360	Cable	L1-PNMNM-48	8/8/2019	8/8/2021



Measu	rement Data:	Re	eading lis	ted by ma	argin.		Te	est Distance	e: 3 Meters		
#	Freq	Rdng	T1	T2	T3		Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	$dB\mu V/m$	dB	Ant
1	2483.500M Ave	18.8	+0.0	+28.3	+3.3		+0.0	50.4	54.0	-3.6	Vert
^	2483.500M	29.6	+0.0	+28.3	+3.3		+0.0	61.2	54.0	+7.2	Vert
3	2390.000M Ave	18.0	+0.0	+28.3	+3.2		+0.0	49.5	54.0	-4.5	Vert
^	2390.000M	30.6	+0.0	+28.3	+3.2		+0.0	62.1	54.0	+8.1	Vert
5	2400.000M	28.1	+0.0	+28.3	+3.2		+0.0	59.6	71.2	-11.6	Vert



Test Location:	CKC Laboratories Inc. • 110 N.	Olinda Pl. • Brea, CA 92823	• 714-993-6112
Customer:	Venstar, Inc.		
Specification:	15.247(d) / 15.209 Radiated Sp	ourious Emissions	
Work Order #:	104728	Date:	11/20/2020
Test Type:	Maximized Emissions	Time:	13:57:38
Tested By:	Don Nguyen	Sequence#:	6
Software:	EMITest 5.03.19		

Device	Manufacturer	Model #	S/N
Configuration 2			
Support Equipment:			
Device	Manufacturer	Model #	S/N
Configuration 2			
Test Conditions / Notes:			
EUT is powered from 24	4Vac AC Adapter and set	to transmit continuously.	All IO ports are populated with
unterminated cables.			
Software setting:			
Testing Frequency: 2412, 2	2437, 2462MHz		
Data Rate			
802.11g: 6Mbps			
BF.			
Modulation: OFDM			
Mode: Continuous TX/ Mo	dulated		
Packet Size: 1400 Bytes			
TX Power Level: 0			
Frequency of Measurement	· 2300 0 2483 5MHz		
RBW=1MHz, VBW=3MH			
RBW=100kHz, VBW=300	× /		
	KIE ( 500DC)		
Test Environment Conditio	ons:		
Temperature:20.5°C			
Relative Humidity: 47%			
Test Method: ANSI C63.10	) (2013) KDB 558074 D01	15.247 Meas Guidance v05	5r02

ID	Asset #	Description	Model	<b>Calibration Date</b>	Cal Due Date
T1	AN03643	Spectrum Analyzer	E4440A	5/20/2020	5/20/2022
T2	AN00849	Horn Antenna	3115	3/17/2020	3/17/2022
T3	ANP06360	Cable	L1-PNMNM-48	8/8/2019	8/8/2021



Measu	rement Data:	Re	Reading listed by margin.			Test Distance: 3 Meters					
#	Freq	Rdng	T1	T2	T3		Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	2400.000M	29.8	+0.0	+28.3	+3.2		+0.0	61.3	63.7	-2.4	Vert
2	2483.500M	15.3	+0.0	+28.3	+3.3		+0.0	46.9	54.0	-7.1	Vert
	Ave										
^	2483.500M	24.5	+0.0	+28.3	+3.3		+0.0	56.1	54.0	+2.1	Vert
4	2390.000M	15.3	+0.0	+28.3	+3.2		+0.0	46.8	54.0	-7.2	Vert
	Ave										
^	2390.000M	29.7	+0.0	+28.3	+3.2		+0.0	61.2	54.0	+7.2	Vert



Test Location:	CKC Laboratories Inc. • 110 N	. Olinda Pl. • Brea, CA 92823	• 714-993-6112
Customer:	Venstar, Inc.		
Specification:	15.247(d) / 15.209 Radiated S	purious Emissions	
Work Order #:	104728	Date:	11/20/2020
Test Type:	Maximized Emissions	Time:	11:19:19
Tested By:	Don Nguyen	Sequence#:	7
Software:	EMITest 5.03.19	_	

Device	Manufacturer	Model #	¥	S/N						
Configuration 2										
Support Equipment:	Support Equipment:									
Device	Manufacturer	Model #	¥	S/N						
Configuration 2										
Test Conditions / Notes:										
EUT is powered from 24	Vac AC Adapter	and set to transmit	continuously.	All IO ports	are populated	with				
unterminated cables.										
Software setting:										
Testing Frequency: 2412, 2	2437, 2462MHz									
Data Rate										
802.11g: 54Mbps										
0. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1										
Modulation: OFDM										
Mode: Continuous TX/ Mo	odulated									
Packet Size: 1400 Bytes										
TX Power Level: 0										
	4. 2200 0 2492 EM	TT_								
Frequency of Measuremen RBW=1MHz, VBW=3MH										
RBW=100kHz, $VBW=300$	· · · · · · · · · · · · · · · · · · ·									
$\mathbf{K}\mathbf{D}$ <b>W</b> = 100 <b>K</b> $\mathbf{I}\mathbf{Z}$ , <b>V D W</b> = 300	KIIZ (-JOUDC)									
Test Environment Condition	ons:									
Temperature:20.5°C										
Relative Humidity: 47%										
Test Method: ANSI C63.1	0 (2013) KDB 558	074 D01 15.247 Mea	s Guidance v05	5r02						

ID	Asset #	Description	Model	<b>Calibration Date</b>	Cal Due Date
T1	AN03643	Spectrum Analyzer	E4440A	5/20/2020	5/20/2022
T2	AN00849	Horn Antenna	3115	3/17/2020	3/17/2022
T3	ANP06360	Cable	L1-PNMNM-48	8/8/2019	8/8/2021



Measurement Data:			Reading listed by margin.			Test Distance: 3 Meters					
#	Freq	Rdng	T1	T2	T3		Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	2400.000M	30.1	+0.0	+28.3	+3.2		+0.0	61.6	63.5	-1.9	Vert
_	2483.500M Ave	13.4	+0.0	+28.3	+3.3		+0.0	45.0	54.0	-9.0	Vert
^	2483.500M	26.7	+0.0	+28.3	+3.3		+0.0	58.3	54.0	+4.3	Vert
4	2390.000M Ave	13.2	+0.0	+28.3	+3.2		+0.0	44.7	54.0	-9.3	Vert
^	2390.000M	34.9	+0.0	+28.3	+3.2		+0.0	66.4	54.0	+12.4	Vert



Test Location:	CKC Laboratories Inc. • 110 N.	Olinda Pl. • Brea, CA 92823	• 714-993-6112
Customer:	Venstar, Inc.		
Specification:	15.247(d) / 15.209 Radiated Sp	ourious Emissions	
Work Order #:	104728	Date:	11/20/2020
Test Type:	Maximized Emissions	Time:	13:59:34
Tested By:	Don Nguyen	Sequence#:	8
Software:	EMITest 5.03.19	_	

Device	Manufacturer	Model #	S/N						
Configuration 2									
Support Equipment:									
Device	Manufacturer	Model #	S/N						
Configuration 2									
Test Conditions / Notes:									
-	4Vac AC Adapter and	nd set to transmit continuous	sly. All IO ports are	populated with					
unterminated cables.									
Software setting:	2427 24C2NILL-								
Testing Frequency: 2412,	2437, 2402MHZ								
Data Rate									
802.11n: MCS0									
Modulation: BPSK									
Mode: Continuous TX/ M	Iodulated								
Packet Size: 1400 Bytes									
TX Power Level: 0									
Frequency of Measureme	nt· 2390 0-2483 5MH	7							
RBW=1MHz, VBW=3M									
RBW=100kHz, VBW=30	· · · · · · · · · · · · · · · · · · ·								
,	· · · · ·								
Test Environment Condition	ions:								
Temperature:20.5°C									
Relative Humidity: 47%									
Test Method: ANSI C62	10 (2012) KDB 55007	4 D01 15.247 Meas Guidance	v05+02						
Test Methou: AINSI C03.	10 (2013) KDD 33807	4 DOI 13.247 Meas Guidance	v03102						

ID	Asset #	Description	Model	<b>Calibration Date</b>	Cal Due Date
T1	AN03643	Spectrum Analyzer	E4440A	5/20/2020	5/20/2022
T2	AN00849	Horn Antenna	3115	3/17/2020	3/17/2022
T3	ANP06360	Cable	L1-PNMNM-48	8/8/2019	8/8/2021



Measu	rement Data:	Re	Reading listed by margin.			Test Distance: 3 Meters					
#	Freq	Rdng	T1	T2	T3		Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	$dB\mu V/m$	dB	Ant
1	2400.000M	28.9	+0.0	+28.3	+3.2		+0.0	60.4	64.1	-3.7	Vert
_	2483.500M Ave	15.3	+0.0	+28.3	+3.3		+0.0	46.9	54.0	-7.1	Vert
^	2483.500M	24.2	+0.0	+28.3	+3.3		+0.0	55.8	54.0	+1.8	Vert
4	2390.000M Ave	15.2	+0.0	+28.3	+3.2		+0.0	46.7	54.0	-7.3	Vert
٨	2390.000M	28.3	+0.0	+28.3	+3.2		+0.0	59.8	54.0	+5.8	Vert



Test Location:	CKC Laboratories Inc. • 110 N.	Olinda Pl. • Brea, CA 92823	• 714-993-6112
Customer:	Venstar, Inc.		
Specification:	15.247(d) / 15.209 Radiated Sp	ourious Emissions	
Work Order #:	104728	Date:	11/20/2020
Test Type:	Maximized Emissions	Time:	14:03:48
Tested By:	Don Nguyen	Sequence#:	5
Software:	EMITest 5.03.19		

Device	Manufacturer	Model #	S/N							
Configuration 2										
Support Equipment:	Support Equipment:									
Device	Manufacturer	Model #	S/N							
Configuration 2										
Test Conditions / Notes:										
EUT is powered from 24	Vac AC Adapter and	set to transmit continuou	usly. All IO ports are	populated with						
unterminated cables.										
Software setting: Testing Frequency: 2412, 2	127 9469MUz									
result requency. 2412, 2	2437, 2402MITZ									
Data Rate										
802.11n: MCS7										
Modulation: 64-QAM Mode: Continuous TX/ Mo										
Packet Size: 1400 Bytes	Jaulated									
TX Power Level: 0										
Frequency of Measurement										
RBW=1MHz, VBW=3MH										
RBW=100kHz, VBW=300	)kHz (-30dBc)									
Test Environment Condition	ons.									
Temperature:20.5°C	· · · · ·									
Relative Humidity: 47%										
Test Method: ANSI C63.10	0 (2013) KDB 558074 D	001 15.247 Meas Guidanc	e v05r02							

ID	Asset #	Description	Model	<b>Calibration Date</b>	Cal Due Date
T1	AN03643	Spectrum Analyzer	E4440A	5/20/2020	5/20/2022
T2	AN00849	Horn Antenna	3115	3/17/2020	3/17/2022
T3	ANP06360	Cable	L1-PNMNM-48	8/8/2019	8/8/2021



Measu	rement Data:	Re	Reading listed by margin.			Test Distance: 3 Meters					
#	Freq	Rdng	T1	T2	T3		Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	2400.000M	29.4	+0.0	+28.3	+3.2		+0.0	60.9	63.0	-2.1	Vert
_	2483.500M Ave	13.2	+0.0	+28.3	+3.3		+0.0	44.8	54.0	-9.2	Vert
۸	2483.500M	24.8	+0.0	+28.3	+3.3		+0.0	56.4	54.0	+2.4	Vert
4	2390.000M Ave	13.0	+0.0	+28.3	+3.2		+0.0	44.5	54.0	-9.5	Vert
٨	2390.000M	24.8	+0.0	+28.3	+3.2		+0.0	56.3	54.0	+2.3	Vert



## Test Setup Photo(s)



Below 1GHz



Below 1GHz





Above 1GHz



Above 1GHz



# **15.207 AC Conducted Emissions**

## Test Setup / Conditions / Data

Test Location:	CKC Laboratories Inc. • 110 N. Olinda P	l. • Brea, CA 92823	• 714-993-6112
Customer:	Venstar, Inc.		
Specification:	15.207 AC Mains - Average		
Work Order #:	104728	Date:	11/24/2020
Test Type:	Conducted Emissions	Time:	11:21:48 AM
Tested By:	Don Nguyen	Sequence#:	8
Software:	EMITest 5.03.19		120V 60Hz

#### **Equipment Tested:**

Billing ment Lesten			
Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:				
Device	Manufacturer	Model #	S/N	
Configuration 2				

#### Test Conditions / Notes:

EUT is powered from 24Vac AC Adapter and set to transmitting mode. Only the worst case (highest output power) mode is investigated. Software setting: Testing Frequency: 2437MHz Data Rate 802.11b: 1Mbps Modulation: DSSS Mode: Continuous TX/ Modulated Packet Size: 1400 Bytes TX Power Level: 0 Frequency of Measurement: 150kHz-30MHz RBW=9kHz, VBW=30kHz

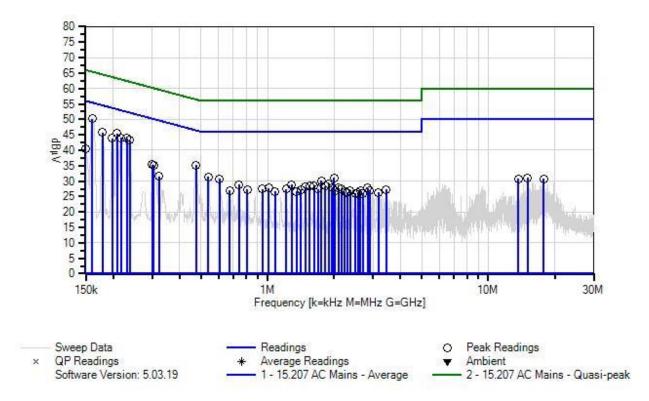
Test Environment Conditions: Temperature: 23°C Relative Humidity: 43% Pressure: 99.3kPa

Site A

Test Method: ANSI C63.10 (2013)



Venstar, Inc. WO#: 104728 Sequence#: 8 Date: 11/24/2020 15.207 AC Mains - Average Test Lead: 120V 60Hz L1-Line



	-			
Test	Fa	uir	me	nt:
	- 4	~ ~ ~		

ID	Asset #	Description	Model	<b>Calibration Date</b>	Cal Due Date
T1	ANP07545	Attenuator	SA18N10W-06	1/18/2019	1/18/2021
T2	ANP07338	Cable	2249-Y-240	12/24/2019	12/24/2021
T3	AN00847.1	50uH LISN-(L) Line 1	3816/2NM	3/10/2020	3/10/2021
	AN00847.1	50uH LISN-(N) Line 2	3816/2NM	3/10/2020	3/10/2021
T4	AN02610	High Pass Filter	HE9615-150K- 50-720B	10/22/2019	10/22/2021
	AN03643	Spectrum Analyzer	E4440A	5/20/2020	5/20/2022
T5	ANP07738	Cable-Line L1(dB)	90cm-extcord	11/18/2020	11/18/2022
	ANP07738	Cable-Neutral L2(dB)	90cm-extcord	11/18/2020	11/18/2022



Measur	ement Data:	Re	eading list	ted by ma	argin.			Test Lead	d: L1-Line		
#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	160.908k	43.9	+5.8 +0.0	+0.0	+0.0	+0.5	+0.0	50.2	55.4	-5.2	L1-Li
2	208.176k	39.5	+5.8 +0.0	+0.0	+0.0	+0.2	+0.0	45.5	53.3	-7.8	L1-Li
3	229.992k	37.9	+5.8 +0.0	+0.0	+0.0	+0.2	+0.0	43.9	52.4	-8.5	L1-Li
4	179.088k	39.6	+5.8 +0.0	+0.0	+0.0	+0.3	+0.0	45.7	54.5	-8.8	L1-Li
5	216.902k	38.0	+5.8 +0.0	+0.0	+0.0	+0.2	+0.0	44.0	52.9	-8.9	L1-Li
6	237.264k	37.3	+5.8 +0.0	+0.0	+0.0	+0.2	+0.0	43.3	52.2	-8.9	L1-Li
7	197.995k	37.9	+5.8 +0.0	+0.0	+0.0	+0.2	+0.0	43.9	53.7	-9.8	L1-Li
8	474.333k	29.1	+5.8 +0.0	+0.0	+0.0	+0.3	+0.0	35.2	46.4	-11.2	L1-Li
9	539.782k	25.3	+5.8 +0.0	+0.0	+0.0	+0.3	+0.0	31.4	46.0	-14.6	L1-Li
10	300.531k	29.5	+5.8 +0.0	+0.0	+0.0	+0.1	+0.0	35.4	50.2	-14.8	L1-Li
11	2.000M	25.0	+5.8 +0.0	+0.1	+0.0	+0.2	+0.0	31.1	46.0	-14.9	L1-Li
12	305.622k	29.2	+5.8 +0.0	+0.0	+0.0	+0.1	+0.0	35.1	50.1	-15.0	L1-Li
13	606.685k	24.5	+5.8 +0.0	+0.1	+0.0	+0.3	+0.0	30.7	46.0	-15.3	L1-Li
14	150.000k	32.6	+5.8 +0.0	+0.0	+0.0	+2.1	+0.0	40.5	56.0	-15.5	L1-Li
15	1.758M	24.0	+5.8 +0.0	+0.1	+0.0	+0.2	+0.0	30.1	46.0	-15.9	L1-Li
16	1.894M	23.0	+5.8 +0.0	+0.1	+0.0	+0.2	+0.0	29.1	46.0	-16.9	L1-Li
17	743.400k	22.7	+5.8 +0.0	+0.1	+0.0	+0.3	+0.0	28.9	46.0	-17.1	L1-Li
18	1.285M	22.7	+5.8 +0.0	+0.1	+0.0	+0.2	+0.0	28.8	46.0	-17.2	L1-Li
19	1.553M	22.5	+5.8 +0.0	+0.1	+0.0	+0.2	+0.0	28.6	46.0	-17.4	L1-Li
20	1.621M	22.3	+5.8 +0.0	+0.1	+0.0	+0.2	+0.0	28.4	46.0	-17.6	L1-Li
21	1.826M	22.3	+5.8 +0.0	+0.1	+0.0	+0.2	+0.0	28.4	46.0	-17.6	L1-Li
22	1.485M	22.0	+5.8 +0.0	+0.1	+0.0	+0.2	+0.0	28.1	46.0	-17.9	L1-Li
23	321.620k	25.7	+5.8 +0.0	+0.0	+0.0	+0.1	+0.0	31.6	49.7	-18.1	L1-Li
24	1.013M	21.7	+5.8 +0.0	+0.1	+0.0	+0.2	+0.0	27.8	46.0	-18.2	L1-Li



25	2.093M	21.7	+5.8 +0.0	+0.1	+0.0	+0.2	+0.0	27.8	46.0	-18.2	L1-Li
26	1.957M	21.6	+5.8	+0.1	+0.0	+0.2	+0.0	27.7	46.0	-18.3	L1-Li
27	2.838M	21.4	+0.0 +5.8	+0.1	+0.0	+0.2	+0.0	27.7	46.0	-18.3	L1-Li
28	2.162M	21.5	+0.2 +5.8	+0.1	+0.0	+0.2	+0.0	27.6	46.0	-18.4	L1-Li
29	1.217M	21.4	+0.0 +5.8	+0.1	+0.0	+0.2	+0.0	27.5	46.0	-18.5	L1-Li
30	1.689M	21.4	+0.0 +5.8	+0.1	+0.0	+0.2	+0.0	27.5	46.0	-18.5	L1-Li
31	945.248k	21.3	+0.0 +5.8	+0.1	+0.0	+0.2	+0.0	27.4	46.0	-18.6	L1-Li
32	809.575k	21.1	+0.0 +5.8	+0.1	+0.0	+0.3	+0.0	27.3	46.0	-18.7	L1-Li
33	1.417M	21.2	+0.0 +5.8 +0.0	+0.1	+0.0	+0.2	+0.0	27.3	46.0	-18.7	L1-Li
34	3.446M	21.0	+0.0 +5.8 +0.2	+0.1	+0.1	+0.1	+0.0	27.3	46.0	-18.7	L1-Li
35	2.025M	20.9	+0.2 +5.8 +0.0	+0.1	+0.0	+0.2	+0.0	27.0	46.0	-19.0	L1-Li
36	2.906M	20.7	+0.0 +5.8 +0.2	+0.1	+0.0	+0.2	+0.0	27.0	46.0	-19.0	L1-Li
37	15.067M	23.5	+0.2 +5.8 +1.1	+0.3	+0.1	+0.2	+0.0	31.0	50.0	-19.0	L1-Li
38	674.315k	20.7	+1.1 +5.8 +0.0	+0.1	+0.0	+0.3	+0.0	26.9	46.0	-19.1	L1-Li
39	2.366M	20.7	+0.0 +5.8 +0.1	+0.1	+0.0	+0.2	+0.0	26.9	46.0	-19.1	L1-Li
40	2.634M	20.7	+0.1 +5.8 +0.1	+0.1	+0.0	+0.2	+0.0	26.9	46.0	-19.1	L1-Li
41	13.697M	23.3	+5.8 +1.0	+0.3	+0.1	+0.2	+0.0	30.7	50.0	-19.3	L1-Li
42	17.806M	23.0	+5.8 +1.1	+0.4	+0.2	+0.2	+0.0	30.7	50.0	-19.3	L1-Li
43	1.081M	20.5	+5.8 +0.0	+0.1	+0.0	+0.2	+0.0	26.6	46.0	-19.4	L1-Li
44	1.354M	20.5	+5.8 +0.0	+0.1	+0.0	+0.2	+0.0	26.6	46.0	-19.4	L1-Li
45	2.238M	20.3	+5.8 +0.1	+0.1	+0.0	+0.2	+0.0	26.5	46.0	-19.5	L1-Li
46	2.298M	20.1	+5.8 +0.1	+0.1	+0.0	+0.2	+0.0	26.3	46.0	-19.7	L1-Li
47	2.570M	20.1	+5.8 +0.1	+0.1	+0.0	+0.2	+0.0	26.3	46.0	-19.7	L1-Li
48	3.174M	20.0	+5.8 +0.2	+0.1	+0.1	+0.1	+0.0	26.3	46.0	-19.7	L1-Li
49	2.506M	19.8	+5.8 +0.1	+0.1	+0.0	+0.2	+0.0	26.0	46.0	-20.0	L1-Li
50	2.706M	19.6	+5.8 +0.1	+0.1	+0.0	+0.2	+0.0	25.8	46.0	-20.2	L1-Li
L			10.1								



Test Location:	CKC Laboratories Inc. • 110 N. Olinda Pl. • I	Brea, CA 92823	• 714-993-6112
Customer:	Venstar, Inc.		
Specification:	15.207 AC Mains - Average		
Work Order #:	104728	Date:	11/24/2020
Test Type:	Conducted Emissions	Time:	11:20:26 AM
Tested By:	Don Nguyen	Sequence#:	7
Software:	EMITest 5.03.19		120V 60Hz

Device	Manufacturer	Model #	S/N	
Configuration 2				

### Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

#### Test Conditions / Notes:

EUT is powered from 24Vac AC Adapter and set to transmitting mode. Only the worst case (highest output power) mode is investigated. Software setting: Testing Frequency: 2437MHz Data Rate 802.11b: 1Mbps Modulation: DSSS Mode: Continuous TX/ Modulated Packet Size: 1400 Bytes TX Power Level: 0 Frequency of Measurement: 150kHz-30MHz RBW=9kHz, VBW=30kHz Test Environment Conditions: Temperature: 23°C Relative Humidity: 43%

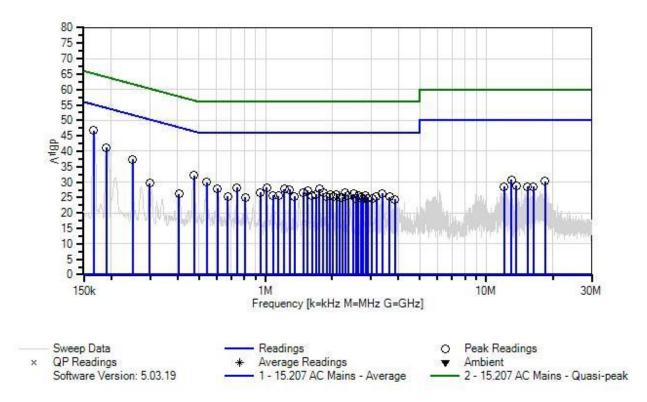
Pressure: 99.3kPa

Site A

Test Method: ANSI C63.10 (2013)



Venstar, Inc. WO#: 104728 Sequence#: 7 Date: 11/24/2020 15.207 AC Mains - Average Test Lead: 120V 60Hz L2-Neutral



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Test	FO	ııır	n	рn	t:
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ID	Asset #	Description	Model	<b>Calibration Date</b>	Cal Due Date
T1	ANP07545	Attenuator	SA18N10W-06	1/18/2019	1/18/2021
T2	ANP07338	Cable	2249-Y-240	12/24/2019	12/24/2021
	AN00847.1	50uH LISN-(L) Line 1	3816/2NM	3/10/2020	3/10/2021
Т3	AN00847.1	50uH LISN-(N) Line 2	3816/2NM	3/10/2020	3/10/2021
T4	AN02610	High Pass Filter	HE9615-150K- 50-720B	10/22/2019	10/22/2021
	AN03643	Spectrum Analyzer	E4440A	5/20/2020	5/20/2022
	ANP07738	Cable-Line L1(dB)	90cm-extcord	11/18/2020	11/18/2022
T5	ANP07738	Cable-Neutral L2(dB)	90cm-extcord	11/18/2020	11/18/2022