

<u>APPLICANT</u>	<u>MANUFACTURER</u>
Golden Eagle Electronics Suite 215, 2F, New East Ocean Centre 9 Science Museum Road Tsim Sha Tsui East, Kowloon, Hong Kong	Golden Eagle Electronics Suite 215, 2F, New East Ocean Centre 9 Science Museum Road Tsim Sha Tsui East, Kowloon, Hong Kong

TEST SPECIFICATION: FCC Rules and Regulations Part 15, Subpart C

TEST PROCEDURE: ANSI C63.4:1992

TEST SAMPLE DESCRIPTION

BRANDNAME: Golden Eagle Electronics

MODEL: GEE248 FCC ID: BFVGEE248T

TYPE: FM Transmitter

FREQUENCY RANGE: 2400 to 2483.5 MHz

POWER REQUIREMENTS: 12 VDC derived from 115 VAC, 60 Hz Ac Adapter

TESTS PERFORMED

- 15.249(a) Radiated Emissions, Fundamental and Harmonics
- 15.249(c)/15.209 Out-of-Band Radiated Emissions
- 15.249(c) Occupied Bandwidth
- 15.207(a) Conducted Emissions

REPORT OF MEASUREMENTS

Applicant: Golden Eagle Electronics
Device: 2400 to 2483.5 MHz Audio / Video Transmitter
FCC ID: BFVGEE248T
Power Requirements: 12 VDC derived from 115 VAC, 60 Hz Ac Adapter
Applicable Rule Section: Part 15, Subpart C, Section 15.249

TEST RESULTS

- 15.203: The intentional radiator is designed to ensure that no antenna other than that furnished by the applicant can be used with the device.
- 15.207(a): The radio frequency voltage that was conducted back on to the AC power line on any frequency/frequencies within the bandwidth of 450kHz to 30MHz did not exceed 250 microvolts.
- 15.249(a): The unit operates in the 2400-2483.5 MHz band. The field strength of the fundamental did not exceed 50mV/M AVERAGE. The field strength of the harmonics did not exceed 500µV/M AVERAGE.
- 15.249(b): Field strength readings were taken at three meters unless otherwise noted.
- 15.249(c): Emissions radiated outside the specified frequency band were attenuated in accordance with the general radiated emissions limits of 15.209.
- 15.249(d): The peak field strength of any emission did not exceed the maximum permitted average field strength by more than 20dB under any condition of modulation.

REPORT OF MEASUREMENTS (continued)

GENERAL NOTES

1. All user accessible controls were adjusted to produce maximum emissions.
2. Measurements of conducted emissions were performed utilizing a 50 ohm/50μhenry Line Impedance Stabilization Network (LISN).
3. The unit operates in the band of 2400.0 MHz to 2483.5MHz. The unit operates at four (4) discrete frequencies, 2420.0 MHz, 2440.0 MHz, 2460.0 MHz, and 2470.0 MHz. Since the unit tunes over a range greater than 10MHz, three frequencies were chosen for testing, in accordance with Section 15.31(m). It was found that Channel A (2420 MHz) had the highest emissions of the three (3) frequencies. Test data is shown for this frequency only.
4. The frequency range was scanned from 30MHz to 24.72GHz. All emissions not reported were more than 20dB below the specified limit.

EXHIBIT 4

Radiated Emissions, Fundamental & Harmonics

Para. 15.249(a)

Test Method:		FCC Part 15 Subpart C Radiated Emissions Paragraph 15.249					
Customer:		Golden Eagle Electronics			Job No.		R-8168
Test Sample:		2.4 GHz audio/ video transmitter			FCC ID:		BFVGEE248T
Model No.:		GEE248			Serial No.		N/A
Operating Mode:		Continuously Transmitting a 2.4 GHz Signal					
Technician:		Robert Ocasio			Date:		November 29, 1999
Notes:		Test Distance: 3 Meters Detector: Peak		Temp:11C Channel A	Humidity: 40%		
Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Limit
GHz	(V/H) - Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	
2.42	H / 1.2	X	74.4	-0.3	74.1	5069.9	50000
2.42	H / 1.0	Y	73.2	-0.3	72.9	4415.7	50000
2.42	H / 1.0	Z	78.5	-0.3	78.2	8128.3	50000
2.42	V / 1.1	X	76.8	-0.3	76.5	6683.4	50000
2.42	V / 1.3	Y	73.4	-0.3	73.1	4518.5	50000
2.42	V / 1.0	Z	76.2	-0.3	75.9	6237.3	50000
I							
4.86	H / 1.0	X	45.8	2.8	48.6	269.1	500
4.86	H / 1.0	Y	41.4	2.8	44.2	162.1	500
4.86	H / 1.0	Z	43.9	2.8	46.7	216.2	500
4.86	V / 1.1	X	44.8	2.8	47.6	239.8	500
4.86	V / 1.0	Y	40.3	2.8	43.1	142.8	500
4.86	V / 1.2	Z	41.2	2.8	44	158.4	500
I							
7.26	H / 1.0	X	44.9	7.6	52.5	421.6	500
7.26	H / 1.0	Y	43.7	7.6	51.3	367.2	500
7.26	H / 1.0	Z	43.6	7.6	51.2	363.0	500
7.26	V / 1.0	X	43.2	7.6	50.8	346.7	500
7.26	V / 1.0	Y	43.3	7.6	50.9	350.7	500
7.26	V / 1.0	Z	43.2	7.6	50.8	346.7	500
I							
9.68	H / 1.0	X	38.1	7.8	45.9	197.2 =NF	500
9.68	H / 1.0	Y	38.1	7.8	45.9	197.2 =NF	500
9.68	H / 1.0	Z	38.1	7.8	45.9	197.2 =NF	500
9.68	V / 1.0	X	38.1	7.8	45.9	197.2 =NF	500
9.68	V / 1.0	Y	38.1	7.8	45.9	197.2 =NF	500
9.68	V / 1.0	Z	38.1	7.8	45.9	197.2 =NF	500
I							
12.01	H / 1.0	X	33.2	1.5	34.7	54.3 =NF	500
12.01	H / 1.0	Y	33.2	1.5	34.7	54.3 =NF	500
12.01	H / 1.0	Z	33.2	1.5	34.7	54.3 =NF	500
12.01	V / 1.0	X	33.2	1.5	34.7	54.3 =NF	500
12.01	V / 1.0	Y	33.2	1.5	34.7	54.3 =NF	500
12.01	V / 1.0	Z	33.2	1.5	34.7	54.3 =NF	500
The frequency range was scanned from 30 MHz to 25 GHz.							

Test Report Number R-8168

	NF= Noise Floor Measurement (Minimum system sensitivity)

Test Method:	FCC Part 15 Subpart C Radiated Emissions Paragraph 15.249		
Customer:	Golden Eagle Electronics	Job No.	R-8168
Test Sample:	2.4 GHz audio/ video transmitter	FCC ID:	BFVGEE248T
Model No.:	GEE248	Serial No.	N/A
Operating Mode:	Continuously Transmitting a 2.4 GHz Signal		
Technician:	Robert Ocasio	Date:	November 29, 1999
Notes:	Test Distance: 3 Meters Detector: Peak	Temp:11C Channel A	Humidity: 40%

Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Limit
GHz	(V/H) - Meters	X / Y / Z	dBuV	dB	dBuV/m	uV/m	
14.5	H / 1.2	X	38.3	7.8	46.1	201.8 =NF	500
14.5	H / 1.0	Y	38.3	7.8	46.1	201.8 =NF	500
14.5	H / 1.0	Z	38.3	7.8	46.1	201.8 =NF	500
14.5	V / 1.1	X	38.3	7.8	46.1	201.8 =NF	500
14.5	V / 1.3	Y	38.3	7.8	46.1	201.8 =NF	500
14.5	V / 1.0	Z	38.3	7.8	46.1	201.8 =NF	500
16.9	H / 1.0	X	36.9	9.8	46.7	216.3 =NF	500
16.9	H / 1.0	Y	36.9	9.8	46.7	216.3 =NF	500
16.9	H / 1.0	Z	36.9	9.8	46.7	216.3 =NF	500
16.9	V / 1.1	X	36.9	9.8	46.7	216.3 =NF	500
16.9	V / 1.0	Y	36.9	9.8	46.7	216.3 =NF	500
16.9	V / 1.2	Z	36.9	9.8	46.7	216.3 =NF	500
19.4	H / 1.0	X	34.4	16.7	51.1	358.9 =NF	500
19.4	H / 1.0	Y	34.4	16.7	51.1	358.9 =NF	500
19.4	H / 1.0	Z	34.4	16.7	51.1	358.9 =NF	500
19.4	V / 1.0	X	34.4	16.7	51.1	358.9 =NF	500
19.4	V / 1.0	Y	34.4	16.7	51.1	358.9 =NF	500
19.4	V / 1.0	Z	34.4	16.7	51.1	358.9 =NF	500
21.8	H / 1.0	X	32.0	16.9	48.9	278.6 =NF	500
21.8	H / 1.0	Y	32.0	16.9	48.9	278.6 =NF	500
21.8	H / 1.0	Z	32.0	16.9	48.9	278.6 =NF	500
21.8	V / 1.0	X	32.0	16.9	48.9	278.6 =NF	500
21.8	V / 1.0	Y	32.0	16.9	48.9	278.6 =NF	500
21.8	V / 1.0	Z	32.0	16.9	48.9	278.6 =NF	500
24.2	H / 1.0	X	31.1	17.3	48.4	263.0 =NF	500
24.2	H / 1.0	Y	31.1	17.3	48.4	263.0 =NF	500
24.2	H / 1.0	Z	31.1	17.3	48.4	263.0 =NF	500
24.2	V / 1.0	X	31.1	17.3	48.4	263.0 =NF	500

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24.2	V / 1.0	Y	31.1	17.3	48.4	263.0 =NF	500
24.2	V / 1.0	Z	31.1	17.3	48.4	263.0 =NF	500
The frequency range was scanned from 30 MHz to 25 GHz.							
NF= Noise Floor Measurement (Minimum system sensitivity)							

EXHIBIT 4

Out-of-Band Radiated Emissions

Para. 15.249(c)/15.209

Test Method:		FCC 15.209 Radiated Emissions, 30 MHz to 25 GHz						
Customer:		Golden Eagle Electronics				Job No.	R-8168	
Test Sample:		2.4 GHz audio/ video transmitter				FCC ID:	BFVGEE248T	
Model No.:		GEE248				Serial No.	N/A	
Operating Mode:		Continuously Transmitting a 2.4 GHz Signal (Channel A).						
Technician:		Robert Ocasio				Date:	November 29, 1999	
Notes:		Test Distance: 3 Meters Temp: 11C Humidity: 40% Detector: Quasi-Peak						
Test Freq.	Antenna Position	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading		Peak Limit
MHz	(V/H)-Meters	Degrees	dBuV	dB	dBuV/m	uV/m		uV/m
30.0								100
48.0	V-1.0	180	34.1	-7.9	26.2	20.41		
56.8	V-3.0	225	32.3	-9.8	33.0	44.7		
V								
88.0								100
88.0								150
V								V
216.0								150
216.0								200
378.8	V-1.5	225	32.3	-2.3	30	31.6		
V								V
960.0								200
960.0								500
V								V
24800.0								500

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EXHIBIT 4

Occupied Bandwidth

Para. 15.249(c)

(Please see separate e-file attachment named Occbw.pdf)

EXHIBIT 4

Conducted Emissions

Para. 15.207(a)

(Please see separate e-file attachments named CEdat1.pdf and CEdat2)

EQUIPMENT LIST

fCC Part 15, Subpart C, Radiated Emissions Paragraph 15.249

EN	Type	Manufacturer	Frequency Range	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3 Meter	RNY	10/15/1997	10/15/2000
128C	Double Ridge Guide	Eaton Corporation	1 GHz - 18 GHz	96001	9/16/1999	9/16/2000
129E	High Gain Horn Antenna	Microlab/FXR	18 GHz - 26.5 GHz	K638A	9/16/1999	9/16/2000
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	6/22/1999	6/22/2000
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	9/20/1999	3/20/2000
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	3/5/1999	3/5/2000
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	9/20/1999	3/20/2000
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/22/1999	6/22/2000
420	Amplifier	Hewlett Packard	2.0 GHz - 18 GHz	11975A	7/15/1999	7/15/2000
421	Harmonic Mixer	Hewlett Packard	18 GHz - 26.5 GHz	11970K	7/14/1999	7/14/2000
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	10/22/1998	4/22/2000
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	6/16/1999	6/16/2001
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	1/15/1999	1/15/2000