dBi Corporation
131 French Avenue
Winchester Kentucky 40391
tel 859-744-8695 fax 859-737-0747

Balluff Inc.
8125 Holton Drive
Florence KY 41042

Gentlemen:

On Tuesday, July 31, Mr. Steve Combs of Balluff and I performed the measurements required in 47CFR15.31(e) on the Balluff BIS Identification System.

The instrumentation used included a Hewlett-Packard model 8568B spectrum analyzer, an EMCO loop antenna model 7405-902, and a Hewlett-Packard model 6114A precision adjustable power supply.

The loop antenna was securely fixed near the EPX and the following relative measurements of the 1 MHz output power were taken:

24.0 volts	-6.80 dBm (ref)
20.4 volts	-6.80 dBm
27.6 volts	-6.80 dBm

As can be seen from these measurements, the 1 MHz output power varies insignificantly with power supply voltage variation.

Please feel free to contact me if there are any questions concerning these measurements.

Very truly yours,

Donald R. Bush, PE, NCE

Balluff Inc.
8125 Holton Drive
Florence KY 41042

Gentlemen:

On Tuesday, July 31, Mr. Steve Combs of Balluff and I performed bandwidth measurements of the 1 MHz and 3.6 MHz signals radiated from the components of the

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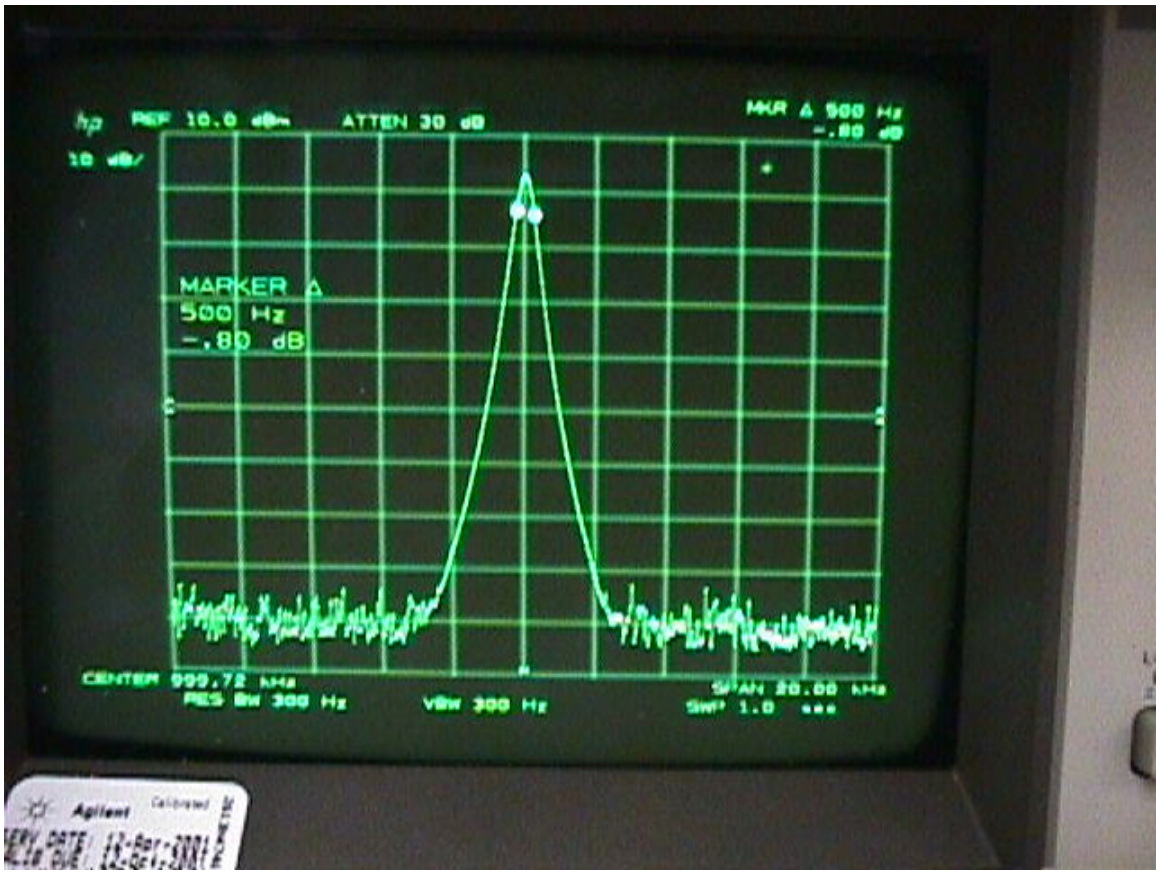
Balluff BIS Identification System. The photo showing the 1 MHz measurement is shown below:



The 6 dB bandwidth is seen to be 500 Hz. The 20 dB bandwith can be seen to be approximately 3 kHz.

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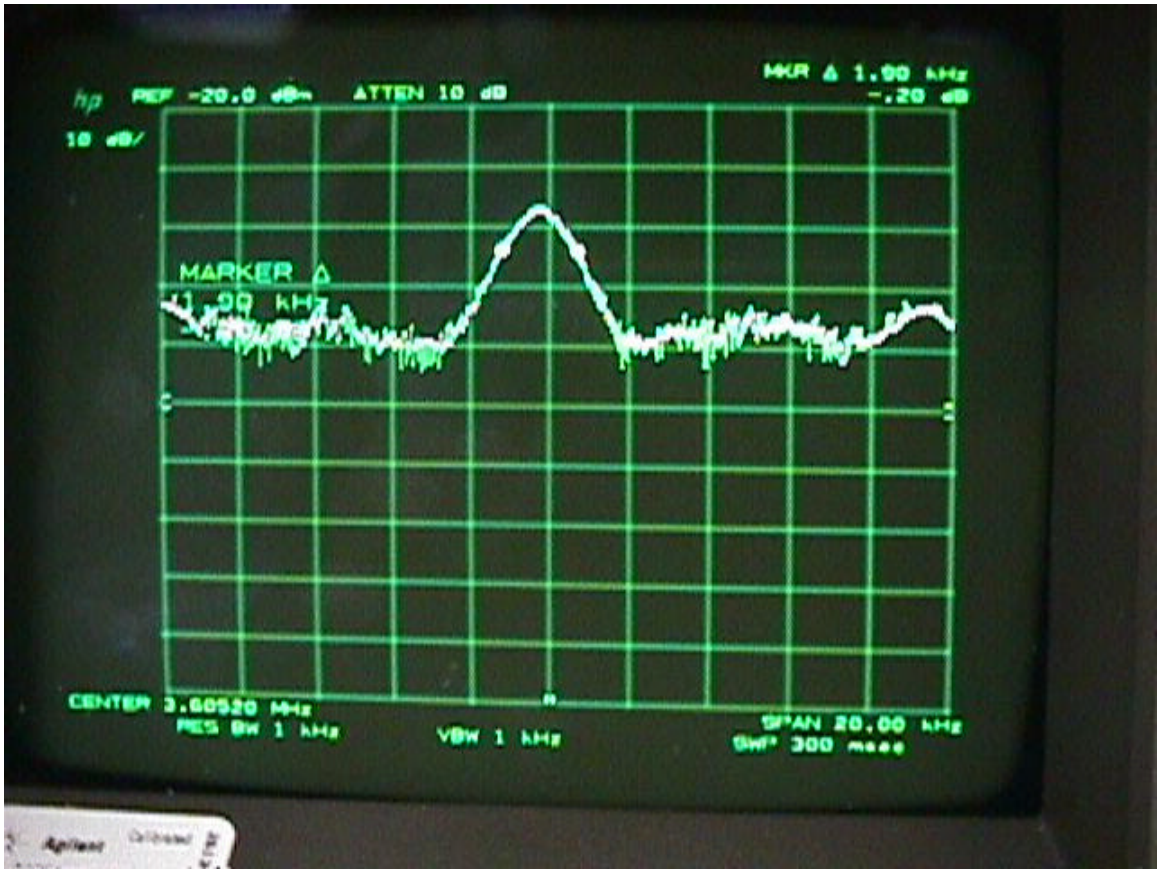
The photograph below shows the measurement of the 3.6 MHz signal. The 6 dB bandwith is 1.00 kHz. The 20 dB bandwidth is approximately 3 kHz.



Please feel free to contact me if there are any questions concerning these measurements.

Very truly yours,

Donald R. Bush, PE, NCE

RADIATED MEASUREMENTS

dBi Corporation
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tel 859-744-8695 fax 859-737-0747

FCC ID: HLHBISS300

DEVICE: Balluff Identification Systems BIS S Series.

HOST AND OTHER PERIPHERALS: Laptop PC.

NAME OF TEST: Radiated Interference

TEST LOCATION: Lexmark test facility, located at Lexington Kentucky.

TEST INSTRUMENTATION: See attached sheet

TEST PROCEDURE: ANSI C63.4 (1992)

NOTE: If applicable, cables were oriented for maximum radiation via experimentation during measurement.

TEST RESULTS: Table 1 indicates that this unit meets the Class A radiated interference requirements of Part 15 of the FCC Rules.

SIGNED_____DATE_____
D. R. BUSH, PE, NCE, PRESIDENT dBi Corp.

RADIATED INTERFERENCE

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TABLE 1 (FCC ID: HLHBISS300)

Appliance: Balluff Identification Systems
Model/Type Number: BIS S Series
Rating: 24 VDC @ 250 ma.

Meas. Freq. MHz	Receiver Reading dB/uV Vert. Pol	Horz. Pol	Correction Factors dB/uV/m	Radiated Interference Field Strength dB/uV/m Vert Pol	Horz Pol	Class A Limit dB/uV/m
47.99	36.97	------	11.40	48.37	------	49.50
48.01	------	31.16	10.77	------	41/93	49.50
84.98	------	35.11	10.66	------	45.77	49.50
85.55	30.06	------	10.82	40.88	------	49.50
96.02	------	32.31	11.59	------	43.90	54.00
110.00	------	31.71	13.09	------	44.80	54.00
144.03	------	32.33	13.56	------	45.89	54.00
159.95	31.85	------	12.94	44.79	------	54.00
168.02	34.82	------	12.17	46.99	------	54.00
460.00	------	18.23	19.57	------	37.80	57.00

Sample Calculation: Receiver reading (dBuV) plus correction factor (Antenna [dB/m] plus Cable [dB]) equals Radiated Field Strength (dB/uV/m).

Note: The radiated measurements were performed at 3 meters in the Lexmark RF Semi-Anechoic chamber located at Lexington, KY.

PROCEDURE: Test Performed Per ANSI 63.4 (1992)

Signed_____Date_____
D.R. Bush, PE, NCE, President dBi Corporation

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