



Evaluation Emissions Data Summary for the Noise Field Generator MRET from Global Quantech

1.0 **Test Item:** The MRET is ~ 5" cube with an external power supply connected.



DEVICE UNDER TEST	MANUFACTURER MODEL # SERIAL #	POWER CABLE
EUT – Noise Field Generator	Model: MRET Serial #: Proto	See power supply (12V DC)
EUT – Power Supply	Steren Model: ELI-055 Serial #: N/A	2 prong IEC connector, 2 wire, unshielded, 6 feet, barrel connector

2.0 **Test Configuration:** The unit was placed on an 80cm dielectric stand above a conducting ground plane within a 10m semi-anechoic chamber. An ELT-400 tester (a 3 axis orthogonally summed magnetic field measuring device) was placed adjacent to the MRET for measurement of the emitted field.

3.0 **Test Requirement:** The unit was to be tested for magnetic signals at 7.5Hz and 15Hz when in normal operation. The ELT-400 which is used in the evaluation has several modes which lend themselves well to this test. The 1Hz cutoff mode, 10Hz and 30Hz cutoff modes. The spectrum presented to the ELT 400 measurement circuit is limited during the cutoff mode; @ 1Hz the spectrum under test is 1Hz to 20kHz. Similarly, the 10Hz and 30Hz mode selected means the spectrum under test starts at 10Hz and 30Hz respectively. So, for the purpose of this evaluation, the assumption is that when the ELT 400 is in 1Hz mode, we are measuring the 7.5Hz signal and when the ELT 400 is in 10Hz mode we are measuring the 15Hz signal.

Test Equipment						
Nemko ID	Device	Manufacturer	Model	Serial Number	Cal Date	Cal Due Date
851	B-field sensor	Narda	ELT-400	F-0011	8/30/2011	verified
852	B-field sensor	Narda	B-field sensor	F-0012	8/30/2011	verified
S1031	5m/16' Measuring Tape	Stanley	N/A	N/A	NCR	NCR

4.0 **Test Sequence:** The magnetic emissions in all 3 orthogonal axes were measured at standard 4" distances starting at 4" from center of cube to 32" from cube center. Additionally, the magnetic field strength at 4" was extrapolated for field intensity at 15' and 30' from center of the cube in all 3 axes.

5.0 **Test Results:** The results of the measurements are given in the following exhibits:

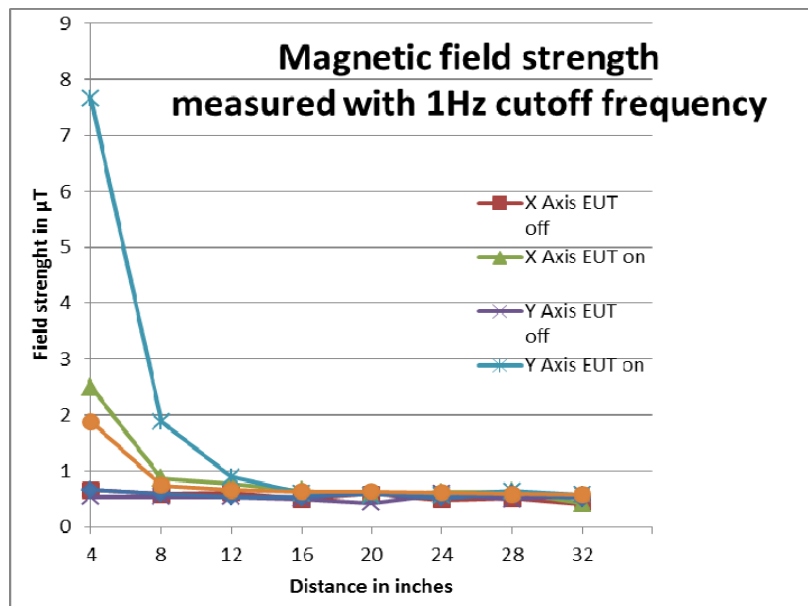


Magnetic field emissions data - Measured

Client	Global Quantech	Temperature	22	°C
Quote #:	10231587	Relative Humidity	58	%
EUT Name	Noise Field Generator	Barometric Pressure	100.8	kPa
EUT Model	MRET	Test Location	10 m Chamber	
Governing Doc	N/A	Test Engineer	Andreas Gillmeier	
Basic Standard	N/A	Date	10/05/2012	
Test Mode:	Operating; field probe 1 Hz cutoff frequency	Voltage:	120 VAC 60 Hz	

Distance/ inches	X Axis EUT off	X Axis EUT on	Y Axis EUT off	Y Axis EUT on	Z Axis EUT off	Z Axis EUT on
4	0.655	2.502	0.542	7.649	0.66	1.881
8	0.585	0.865	0.541	1.882	0.595	0.735
12	0.614	0.769	0.538	0.893	0.539	0.654
16	0.494	0.65	0.499	0.6	0.532	0.627
20	0.584	0.579	0.425	0.563	0.587	0.629
24	0.486	0.617	0.593	0.568	0.518	0.613
28	0.508	0.629	0.492	0.64	0.59	0.582
32	0.41	0.422	0.572	0.578	0.513	0.574

values in μT





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EUT Name	Noise Field Generator	Barometric Pressure	100.8	kPa
EUT Model	MRET	Test Location	10 m Chamber	
Governing Doc	N/A	Test Engineer	Andreas Gillmeier	
Basic Standard	N/A	Date	10/05/2012	
Test Mode:	Operating; field probe 10 Hz cutoff frequency	Voltage:	120 VAC 60 Hz	

Distance/ inches	X Axis EUT off	X Axis EUT on	Y Axis EUT off	Y Axis EUT on	Z Axis EUT off	Z Axis EUT on
4	0.048	2.286	0.048	6.617	0.048	1.859
8		0.505		1.696	0.047	0.513
12		0.213		0.556	0.047	0.213
16		0.11		0.251	0.047	0.107
20		0.075		0.139	0.047	0.073
24		0.058		0.104	0.048	0.059
28		0.053		0.067	0.047	0.053
32	0.048	0.051	0.048	0.057	0.047	0.05

values in μT

