

WAVERIDER®

Science's answer to radiation.

Scientific Validation of The WaveRider



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Certifying the World, One Product at a Time

MET Laboratories Inc. is a leading independent electrical testing and certification lab, USA.

WaveRider emits "Noise Field" Frequencies.

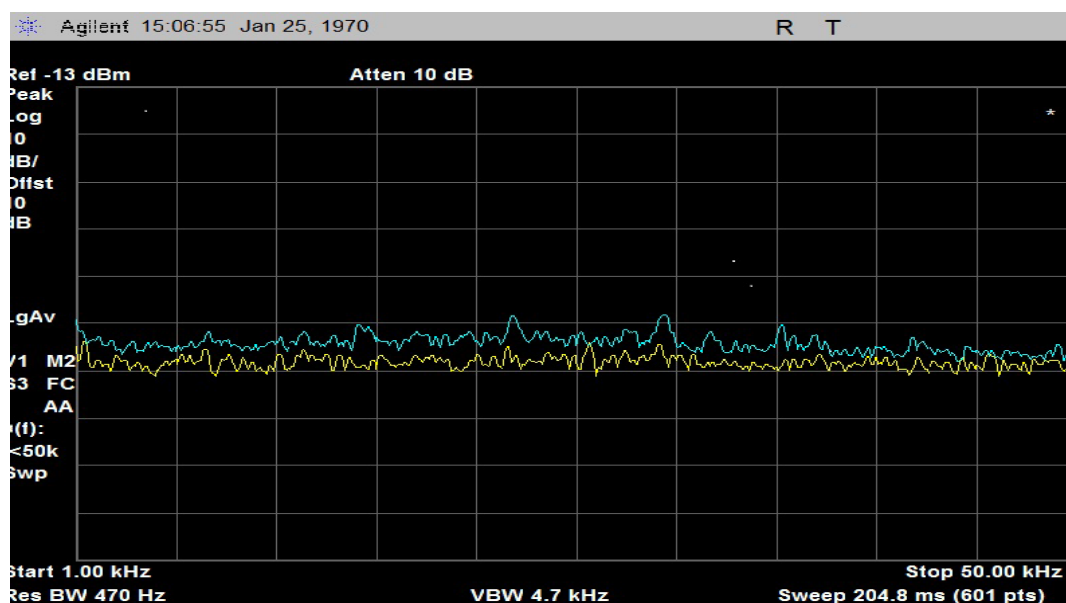
WaveRider Test at MET Lab ,USA

Description of Test Sample:

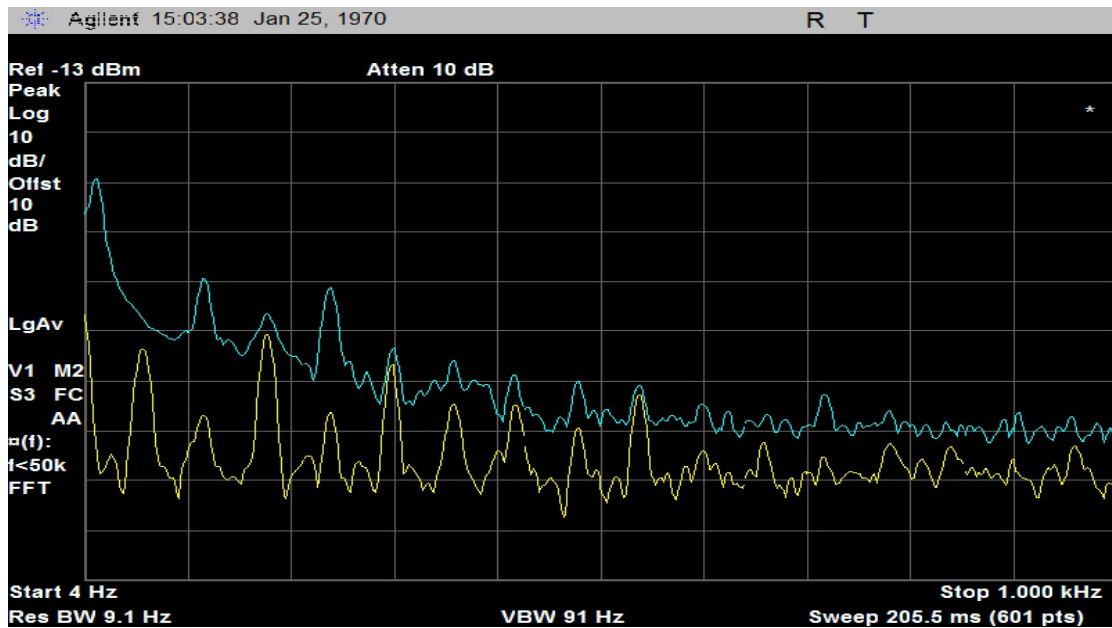
WaveRider (MRET Noise Field Generator) is a source of low frequency, low intensity electromagnetic signals of noise field characteristics. These signals are generated by MRET polymer compound that is exposed to a repeating sequence for the two discrete rate signals: 7.8 Hz for 5 seconds and 14.5 Hz for 5 seconds. These low frequency signals of noise field characteristics are superimposed on microwave carrier signal. The superposition leads to the amplitude modulation of microwave carrier signals.

Test Procedure:

WaveRider/Prototype was placed in the center of an anechoic chamber, and the radiating antenna was placed 0.2 feet in front of WaveRider. The plot was taken with WaveRider OFF (Yellow Trace) and ON (Blue Trace).



Antenna at the range of 1 kHz-50 kHz:



Antenna at the range of 4 Hz - 1 kHz

Test Results:

It was detected with the help of Spectrum Analyzer (Agilent E4447A) the increase of **the noise field spectrum** content level in the range of 4 Hz to 50 kHz at close proximity to WaveRider. The noise field spectrum content increase is most likely due to the amplitude modulation of microwave carrier signals by WaveRider.

MET Lab test report : #EMCS35370-GEN; Test Engineer : Lionel Gabrillo

The Nemko Group is the organization of the independent market access services based on testing, inspection and certification worldwide.

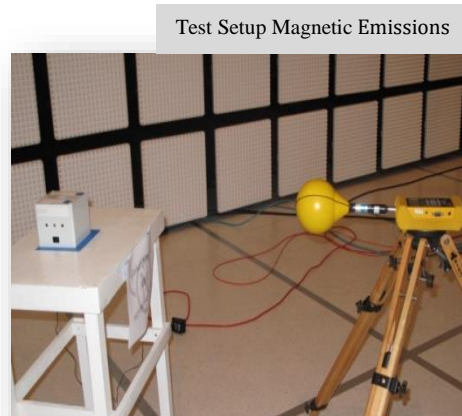
WaveRider's "Noise Field" signals can affect human brain at the distance of 30 feet.

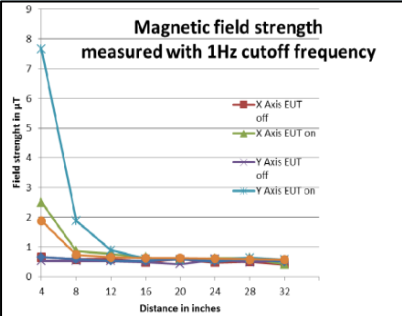
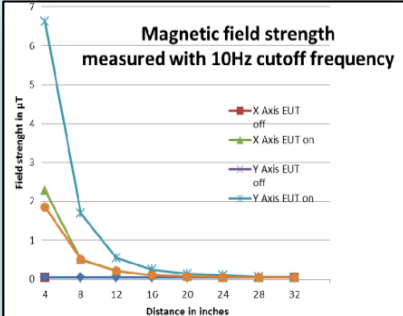
WaveRider Test at Nemko, USA

Test Configuration: The unit was placed on a 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 WaveRider for measurement of the emitted field.

Test Sequence:

The magnetic emissions in all 3 orthogonal axis were measured at standard 4 inches distances starting at 4 inches from center of cube to 32 inches from cube center. Additionally, the magnetic field strength at 4 inches was extrapolated for field intensity at 15 feet and 30 feet from center of the cube in all 3 axis.



NEMKO test report # 10231587;	Test Engineer: Andreas Gillmeier
	
<p>1 Hz cut off:</p> <ul style="list-style-type: none"> • Vectoral sum = 8.2647 µT • A/m @ 4 inches = 2.142883 • A/m @ 15 feet = 0.00106 • A/m @ 30 feet = 0.00027 	<p>10 Hz cut off:</p> <ul style="list-style-type: none"> • Vectoral sum = 7.2434 µT • A/m @ 4 inches = 2.28898 • A/m @ 15 feet = 0.00113 • A/m @ 30 feet = 0.00028

Conversion formula used: $A/m = 4\pi \times 10^{-3}$ Oersted;

For most purposes, gauss and oersted are essentially equivalent.

The measurement of 1 Hz cut off at 30 feet distance gives magnetic field strength of 0.00000339 oersted which is equal to magnetic flux density of **3.39×10^{-6} gauss;**

The measurement of 10 Hz cut off at 30 feet distance gives magnetic field strength of 0.00000352 oersted which is equal to magnetic flux density of **3.52×10^{-6} gauss;**

Reference: magnetic field intensity of human brain activity is 10^{-9} - 10^{-8} gauss; [wikipedia.org/wiki/Orders_of_magnitude_\(magnetic_field\)](https://en.wikipedia.org/wiki/Orders_of_magnitude_(magnetic_field))

Thus, WaveRider magnetic field intensity at 30 feet distance is almost three times order higher than magnetic field intensity of human brain. Wave Rider signals at 30 feet distance can definitely affect human brain activity.

RF Exposure Lab

Manufacturing Testing Services for SAR

RF Exposure Lab is an independent A2LA accredited SAR testing facility. It is a popular Lab with cell phone manufacturers because of its expertise in test SAR and it is accredited by the FCC (Federal Communication Commission).

WaveRider significantly decreases SAR values in the range of 10% to 40% with no distortion to the transmitted RF signals

WaveRider Tested in RF Exposure Lab LLC

The investigation was conducted on cellular phones: Samsung Model SCH-A670, Kyocera Wireless Model KWC 2325, and Qualcomm Model QCP 2035; TX frequency range: 835 MHz; Maximum RF output: 23 dBm conducted; Signal modulation: CDMA; Antenna type (length): Standard with each model;

The influence of WaveRider signals on RF phones in this experiment does not change location of “Hot Spot”. The “Hot Spots” remain in the same location as without the influence of the generator, and their amplitudes decrease **in 80%** of the data points. The placement of WaveRider at the distance of 7 feet from “phantom head” exposed to RF phones does not significantly affect the air measurements of RF phone signals and subsequently does not lead to any significant distortion of transmitted RF signals.

In **65%** of the data points, there was observed a significant decrease of SAR values in the range of **10% to 40%**. WaveRider reduced majority of SAR values, 9 SAR values out of 12 meaningful SAR values in this experiment were reduced in the range of **2.1% - 12.6%**.

This study indicates that the WaveRider **can** successfully reduce the potential harmful effects on **human** brain **activity** following EMR exposure.



RF Exposure Lab test report : # R&D 20071102. Test Engineer : Jay Moulton.



Molecular Diagnostic Service, Inc. is an independent contract testing facility operating since 1992. This independent lab provides comprehensive cellular and molecular biology, toxicology, microbiology, sterility assurance, and biocompatibility services to pharmaceutical, biotechnology, medical device, and other research institutions.

WaveRider protects **human** brain cells from phone radiation at the distance of 9 meters.

WaveRider Tested in Molecular Diagnostic Services, Inc.

Molecular Diagnostic Services was selected by Dr. Smirnov to conduct a series of experiments - to show the protective effect of the WaveRider on normal human brain cells (Astrocyte) as they are being exposed to mobile phone irradiation. The GLP studies are in full compliance with all GLP regulations, as deemed by the appropriate agency (FDA, EPA, OECD, EEC, JMHW, JMAFF).

The negative effect of mobile phone irradiation on Astrocytes growth was partially relieved when MRET noise field generator/ WaveRider was placed at the distance of 30 feet from the treated plates. There was an average of 7.2% increase of Astrocytes metabolic activity due to the compensatory effect from WaveRider, as compared to the treated cell samples without WaveRider influence. In other words, the WaveRider protected **human** brain cells from phone radiation at the distance of 9 meters.

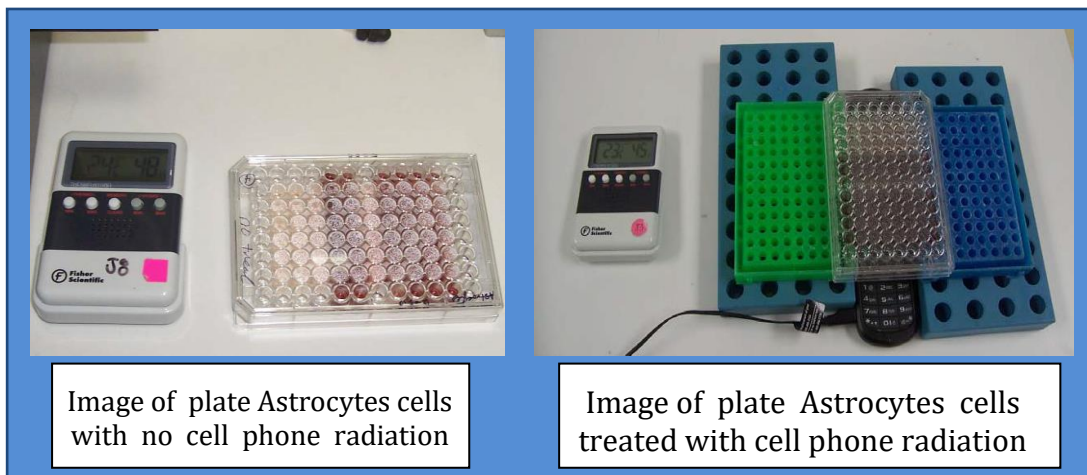


Image of plate Astrocytes cells with no cell phone radiation

Image of plate Astrocytes cells treated with cell phone radiation

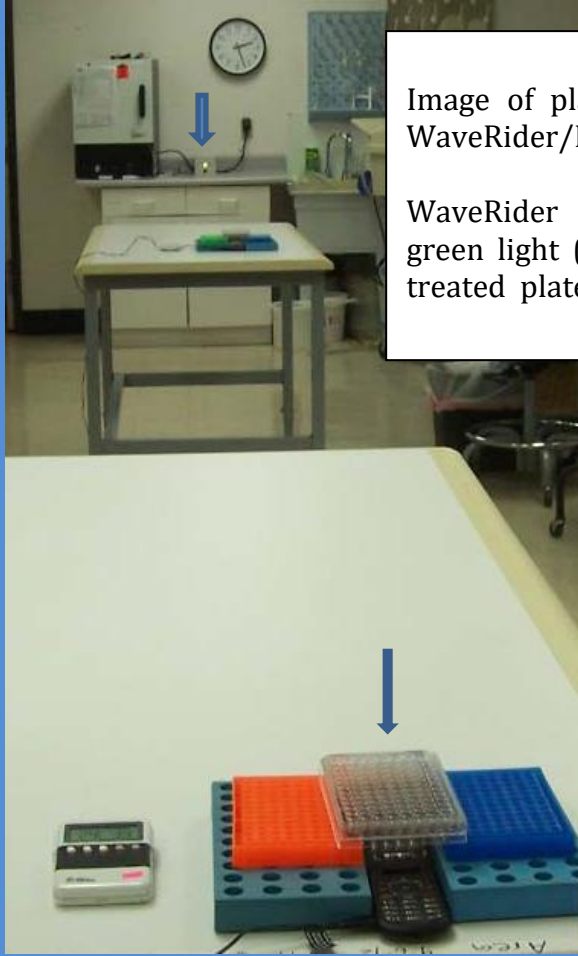


Image of plate treated with cell phone + WaveRider/Prototype.

WaveRider is shown at the back with a green light (arrow), while the cell phone treated plate is in the foreground (arrow)

Noise Field R&D Done at Universities

University And R&D Team	Biological System Tested	Biological Condition Tested	Biological Effect Induced by EMR	Effectiveness Of Noise Field Technology
Catholic University of America (Krause & Co.)	Mouse cells	Activity of Ornithine Decarboxylase (ODC): Enzyme related to growth & Cancer	EMF cause a two-fold increase in enzyme activity relative to natural level – a condition related to cancer	Natural condition restored: Enzyme activity brought back to normal
Catholic University of America (Krause & Co.)	Human lymphoma cells	Activity of ODC	Significant increase	Natural condition restored
Catholic University of America (Doynov & Co.)	Chicken embryos	Ratio of trunca abnormalities in embryo	EMF cause more than a doubling in abnormality ratio	Abnormality ratio brought back to natural level
Catholic University of America (Farrell & Co.)	Chicken embryos	Activity of ODC	Significant distortion from natural level	Natural condition restored
University of Western Ontario (Martin & Co.)	Chicken embryos	Activity of Nucleotidase – Enzyme related to DNA production	EMF suppress enzyme activity compared to natural level	Natural condition restored: Enzyme activity brought back to normal
University of Western Ontario (Martin & Co.)	Hatched chickens	Activity of Nucleotidase (cerebellum)	Enzyme activity suppressed compared to normal	Natural condition restored: Activity normalized
Columbia University, New York (Lin & Co.)	Human leukemia cells	Transcription of c-myc proto-oncogene (cancer related gene)	Over- expression of c- myc proto-oncogene compared to normal level – increased Cancer Risk	Natural condition restored: Proto-oncogene expression brought back to normal level
Columbia University, New York (Goodman & Co.)	Human breast cancer cells	HSP90 stress protein	EMF cause the on-set of stress protein production	Cells released from stress condition

Noise Field R&D at Universities

University And R&D Team	Biological System Tested	Biological Condition Tested	Biological Effect Induced by EMR	Effectiveness Of Noise Field Technology
Columbia University, New York (Opler & Co.)	PC-12 cells	Dopamine. Hormone related to Parkinson's Disease.	EMF cause a decrease in the level of dopamine compared to normal condition	Natural condition restored
Catholic University of America (Litovitz & Co.)	L929 Murine (mouse) cells	ODC activity	Cellular phone EMF signals : Increase activity from normal level	Natural condition restored: Enzyme activity normalized
Aalborg and Aarhus Universities, Denmark (Raskmark and Kwee)	Human epithelial amnion cells	Cell proliferation rate	EMF increase cell proliferation rate by 20% compared to natural level	Condition normalized: Cell proliferation rate brought back to natural level
Catholic University of America (DiCarlo et Al)	Chicken Embryos	Activation of HSP70 Heat shock protein and Cytoprotection level (Potential cancer promotor)	Long term exposure to EMF causes significant decline in HSP70 & Csytoprotection level	Normal condition restored & brought back to normal
University of Washington (Henry Lai & P. Singh)	Rat Brain Cells	Level of DNA-single and double strand breaks (Potential cancer promotor)	Significant Increase in the level of DNA single and double strand breaks	Normal condition restored & brought back to normal
University of Washington (Henry Lai & P. Singh)	Rats	Spatial learning	Significant deficit in learning	Normal condition restored & brought back to normal
Zhejiang University, China (Zeng, Chiang Et Al)	Mouse Fibroblast Cells	Cap-Junction intercellular communicator GJIC (Potential cancer promotor)	Significant Inhibition of GJIC	Normal condition restored & brought back to normal
Zhejiang University, China (Zeng, Chiang Et Al)	Hamster Lung CHL cells	Level of Sapk Phosphorylation (SAPK)	Significant Increase in the SAPK Phosphorylation	Normal condition restored & brought back to normal

Articles pertaining to The WaveRider Technology

Published in International Scientific Journals



European Journal of Scientific Research
(Vol 37 No2 (2009) pp 219-225)

“The Exposure of Normal Human Astrocytes Cells to Mobile Phone Radiation with and without MRET- Nylon Protection (WaveRider).”

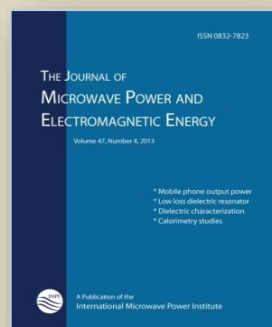
European Journal of Science and Engineering, 1(1): 1-10, 2013

“The Effect of MRET Noise Field Generator (WaveRider) on Metabolic Activity of Astrocyte Cells Exposed To RF Phones Radiation”



ARPN Journal of Science and Technology, vol 2, No. 9, pp 878-885, 2012

“The Effect of MRET Noise Field Generator (WaveRider) on SAR Values of RF Phones”



Journal of Microwave Power and Electromagnetic Energy,
Vol 42, No 1, 2008

“The Effect of MRET-Nylon Polymer Compound on SAR Values of RF Phones”



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