



# DELTA Technical Memorandum

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**Reduction of radiated power on iPad 2 with Anti-radiation mobile purse applied**

**Performed for RadiCover**

Project no.: T209206

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**DELTA**

Venlighedsvej 4

2970 Hørsholm

Denmark

Tel. +45 72 19 40 00

Fax +45 72 19 40 01

[www.delta.dk](http://www.delta.dk)

VAT No. 12275110

**Title** Reduction of radiated power on iPad 2 with Anti-radiation mobile purse applied

**Project no.** T209206


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**Client** RadiCover ApS

**Contact person** Enrico Kaarsberg  
RadiCover  
Mobil: +45 2255 1280  
E-mail: [eka@radicover.dk](mailto:eka@radicover.dk)

**DELTA personnel** Rasmus Brun Behnke, Specialist EMC & Wireless

**Date** 01 October 2014

**Project manager** 

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Rasmus Brun Behnke  
Specialist, EMC & Wireless  
DELTA

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## 1. **Conclusion**

Damping of radiated electromagnetic power was measured with the Anti-radiation mobile purse applied to an iPad2. The product did attenuate radiated power with 85%.

## 2. Introduction

RadiCover sells and market products for damping electromagnetic radiation from handheld devices, in order to reduce human exposure of electromagnetic field. In that context they contacted DELTA, to make measurements on the effect of their Anti-radiation iPad purse.



**Fig. 2.1** The Anti-radiation iPad purse.

### 3. Test results

The measurements were done as far field measurements and over the entire sphere around the iPad. In order to create traffic in the radio channel a Wi-Fi router was placed behind the measurement antenna and a video call was established to the iPad (see Fig. 3.1).



**Fig. 3.1** Wi-Fi router is placed within the red circle

First a reference measurement was done on the iPad 2 with no protective cover. Afterwards the measurement was repeated with the same iPad 2 with Anti-radiation iPad cover applied and the iPad mounted in the same position. By comparing the results of these two measurements one can state an attenuation of the radiated field.

The scale used in the enclosed plots is all in dBm EIRP. To calculate the attenuation of the radiation in percentage, units should first be converted to a linear unit (e.g. watt).

Total radiated power was evaluated for both the reference measurement and the measurement with the Anti-radiation cover applied.

	Reference [mW]	Anti-radiation cover [mW]	Attenuation [%]
Total radiated power	2.26	0.34	85

For reference Fig. 3.2 gives the coordinate system used in the DELTA antenna facility. Positive Y direction is in front of the table, positive Z direction is towards the top of the tablet, and positive X direction is to the left of the table.

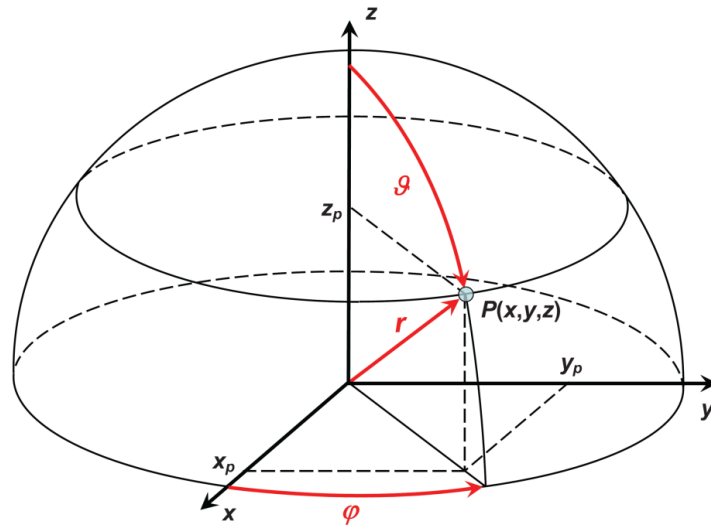


Fig. 3.2 Spherical coordinate system.

3.1 Reference

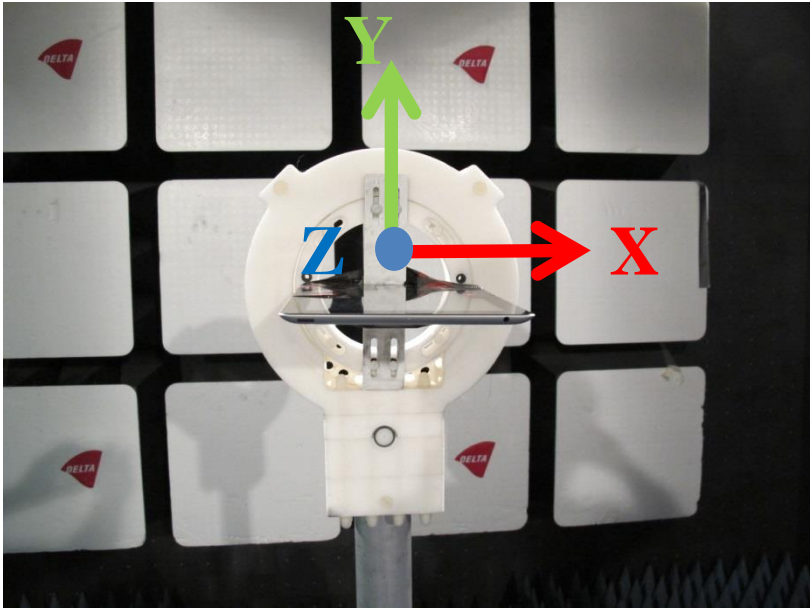
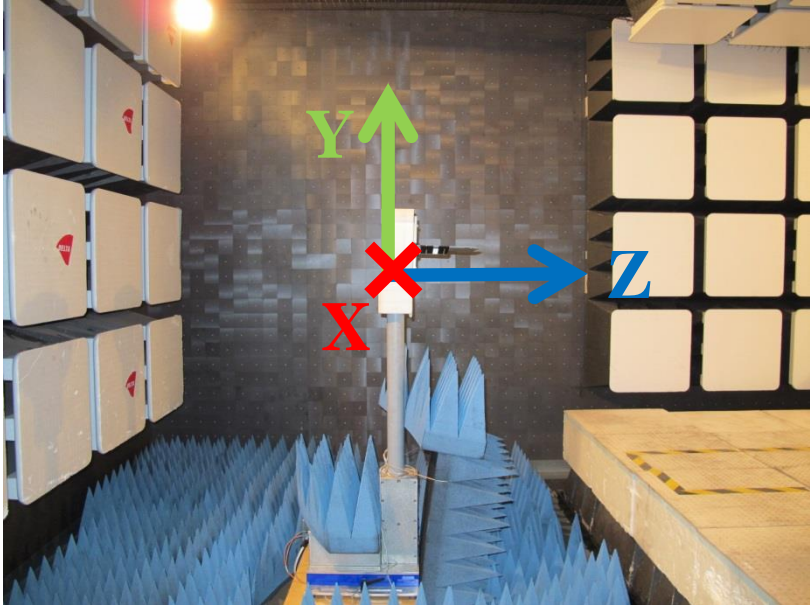
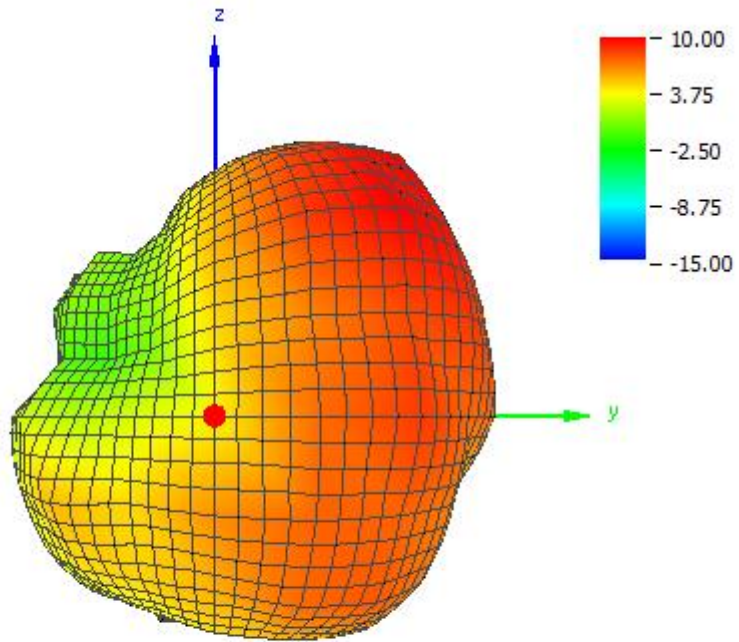


Fig. 3.3 Test setup for reference measurement on iPad2.

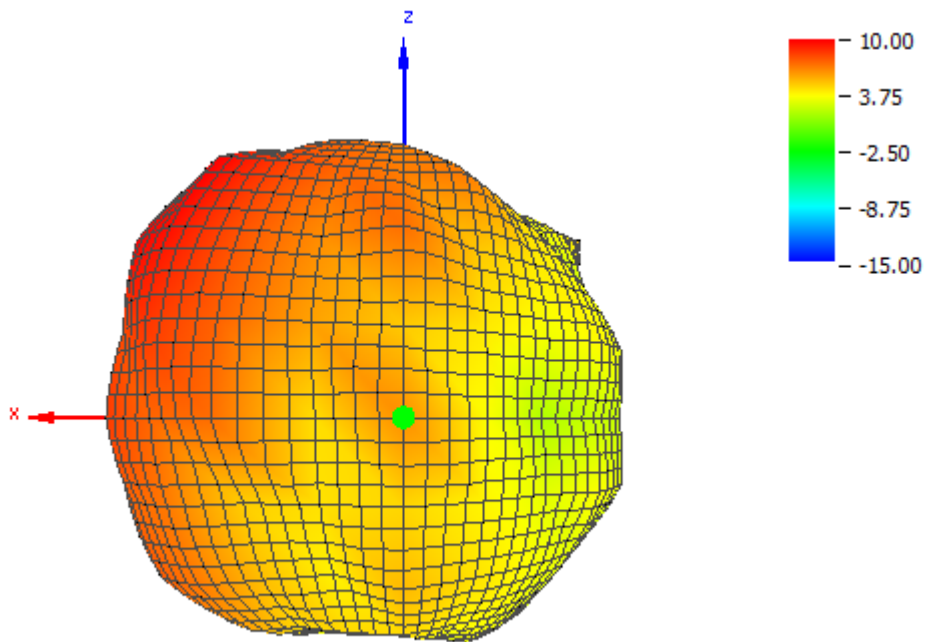




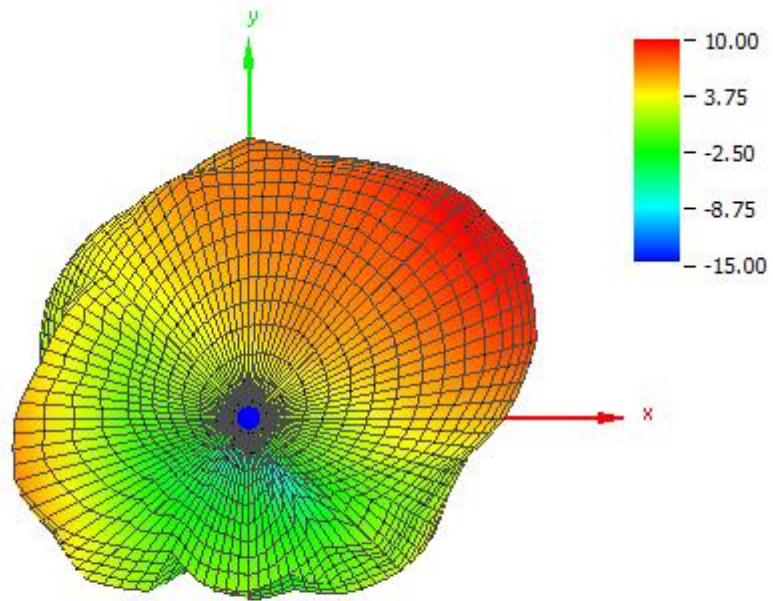
**Theta = 90, Phi = 0**



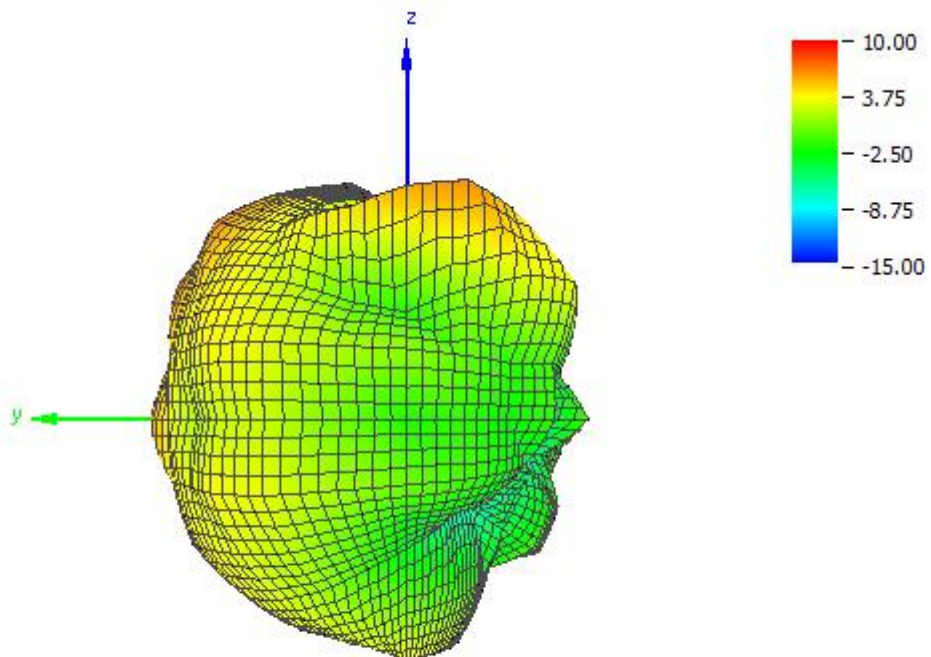
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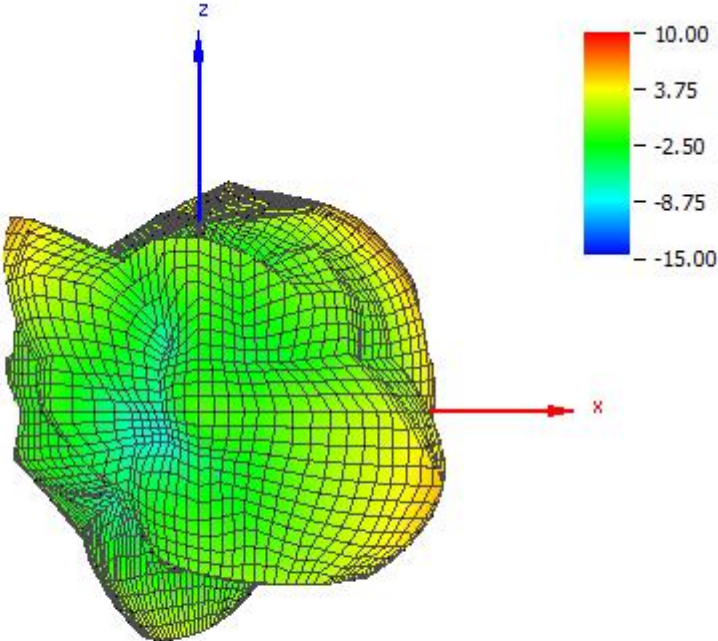
**Theta = 0, Phi = 0**



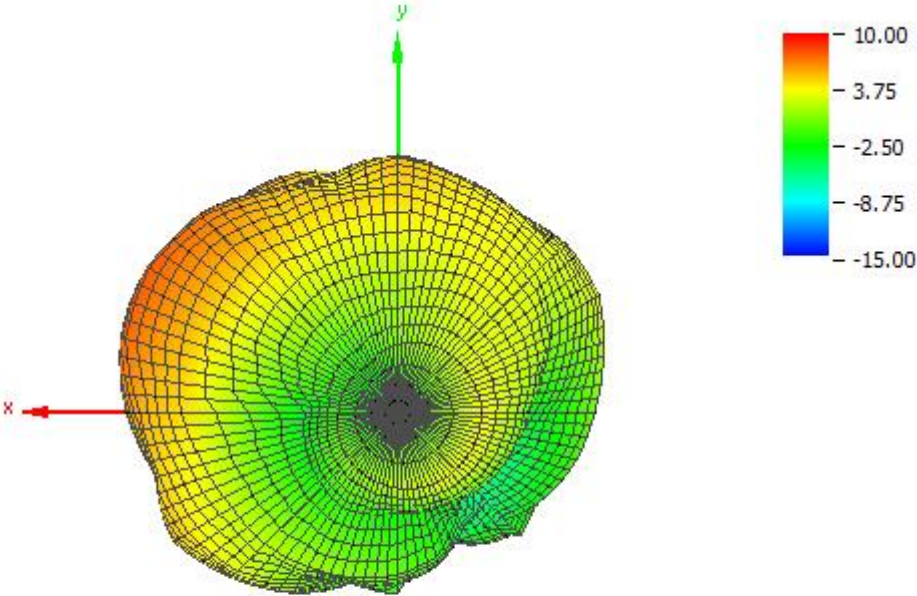
**Theta = 90, Phi = 180**



Theta = 90, Phi = 270



Theta = 180, Phi = 0



3.2 Anti-radiation iPad cover

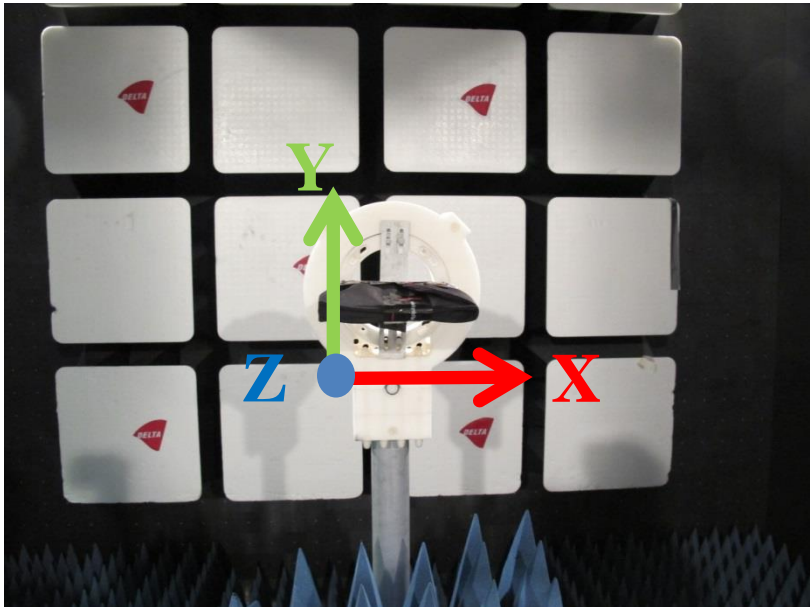
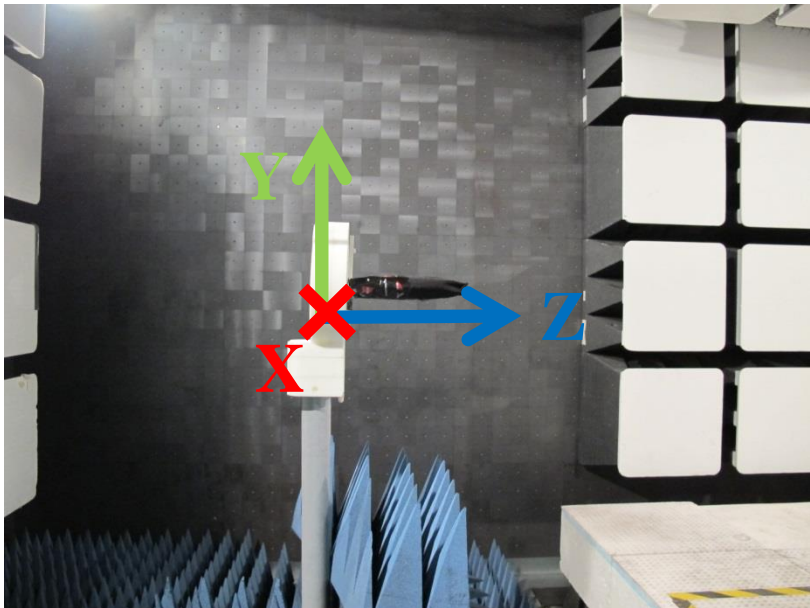
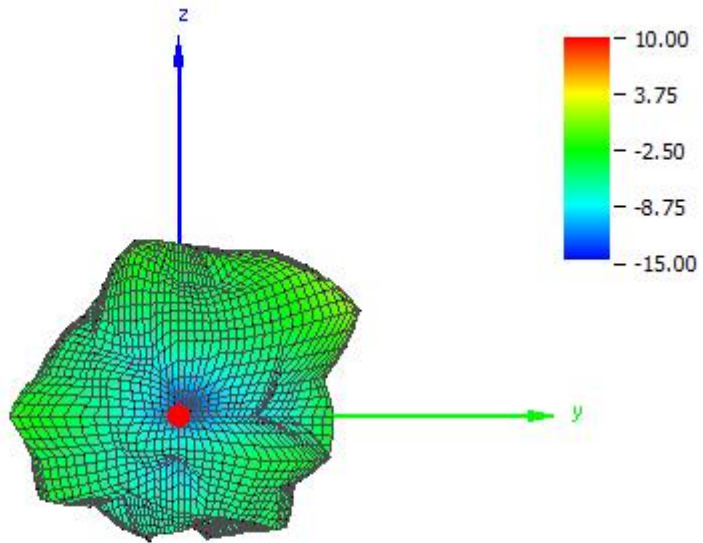
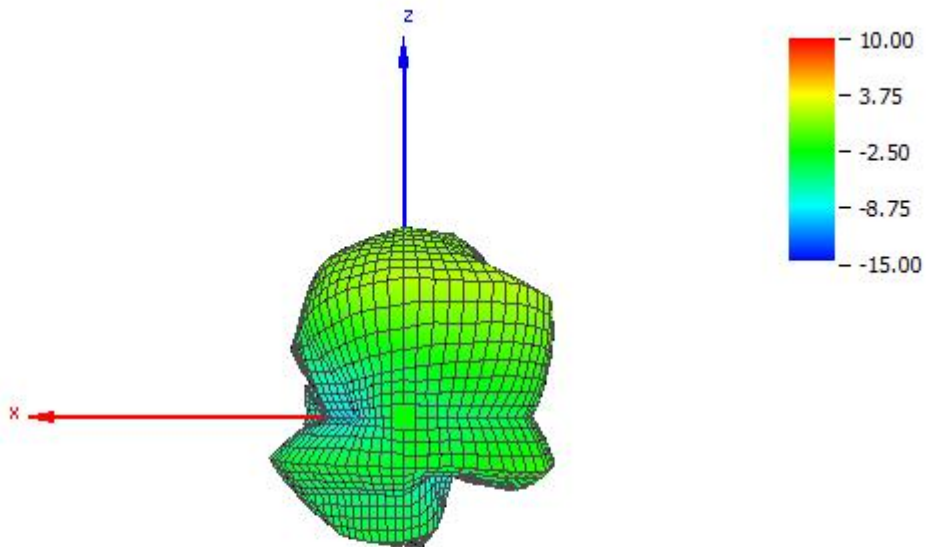


Fig. 3.4 Test setup for measurement on iPad 2 with Anti-radiation iPad cover applied.

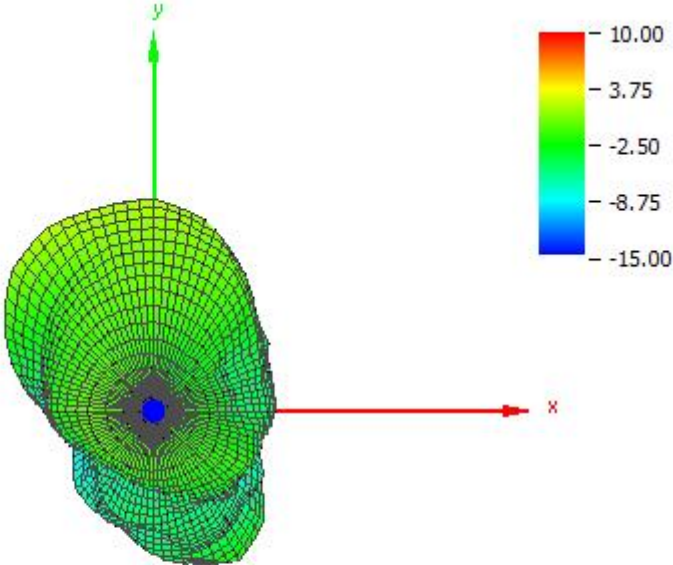
**Theta = 90, Phi = 0**



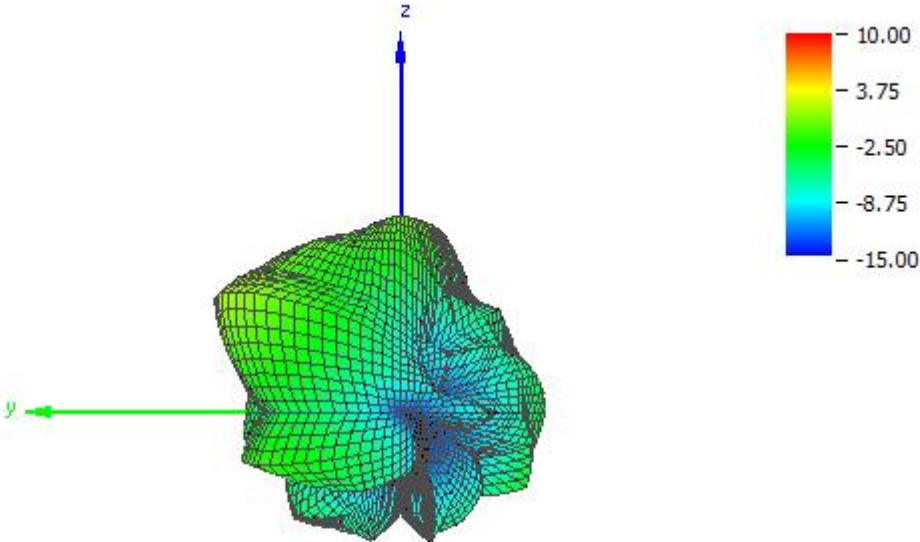
**Theta = 90, Phi = 90**



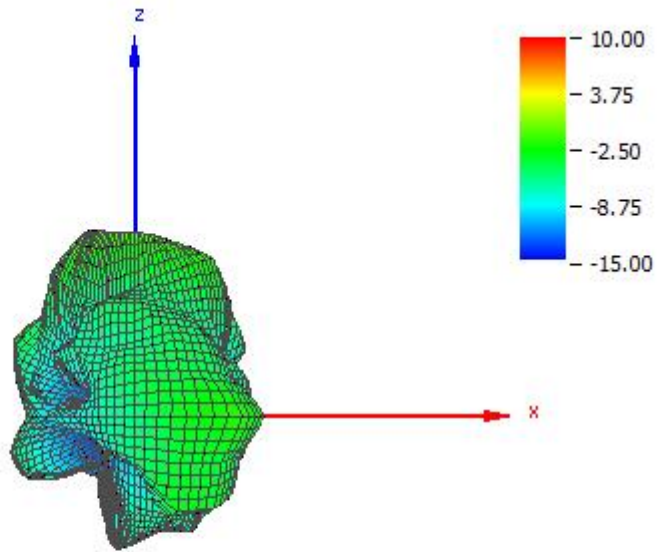
**Theta = 0, Phi = 0**



**Theta = 90, Phi = 180**



**Theta = 90, Phi = 270**



**Theta = 180, Phi = 0**

