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CP1110 Sound Processor 2.4GHz Gain simulations

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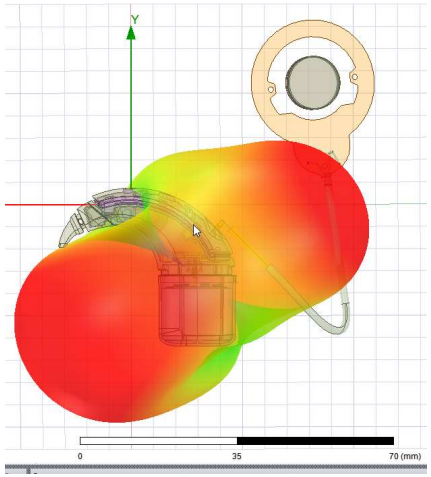
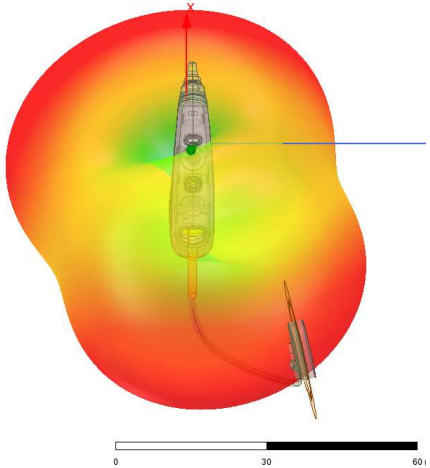
1-Dec-22

CP1110 Sound Processor simulation in HFSS (29-4-2020)





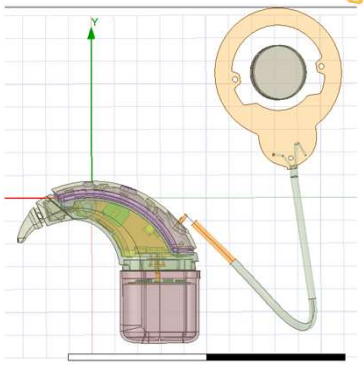
Antenna Parameters

Inputs

Setup Name:	3D
Solution:	Setup1 : LastAdaptive
Array Setup:	None
Intrinsic Variation:	Freq=2GHz,2.45GHz,3GHz
Design Variation:	Nominal

Antenna Parameters:

Quantity	Freq	Value	Freq	Value	Freq	Value
Max U			2.45GHz	39.418 mW/sr		
Peak Directivity				2.463		
Peak Gain				1.7419		
Peak Realized Gain				0.49536		
Peak System Gain				0.49536		
Radiated Power				201.12 mW		
Accepted Power				284.38 mW		
Incident Power				1 W		
System Power				1 W		
Radiation Efficiency				0.70723		



A simulation of the chip antenna ANT3216LL00R2400A was performed with a 3D model of CP1110 Sound processor in Ansys HFSS.

The antenna parameters were computed, and the **peak gain at 2.45GHz** of the design was taken to be **1.7419 (linear).**

Gain Calculations

Parameter	Value at 2.45GHz
Peak gain (linear)	1.7419
Peak gain (dB)	2.410
Peak gain (dBi)	2.410

From the simulation at 2.45GHz, the peak gain (linear) is converted to gain on decibel scale using

$G_{dB} = 10\log_{10}(G_{lin})$

The peak gain in dB is therefore 2.41dB. The peak gain in dBi is equal to 2.41dBi (as isotropic gain is 1).

$G_{dB} = G_{dBi}$

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