

# CCDTL Coupling Cell simulations

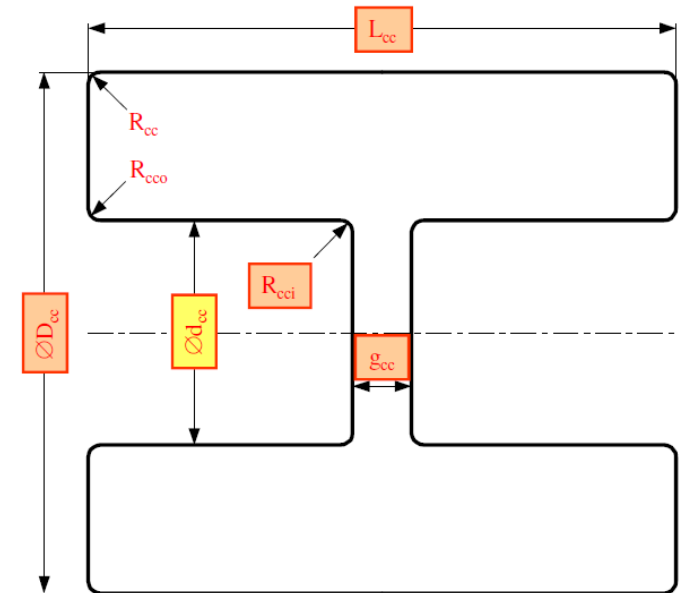
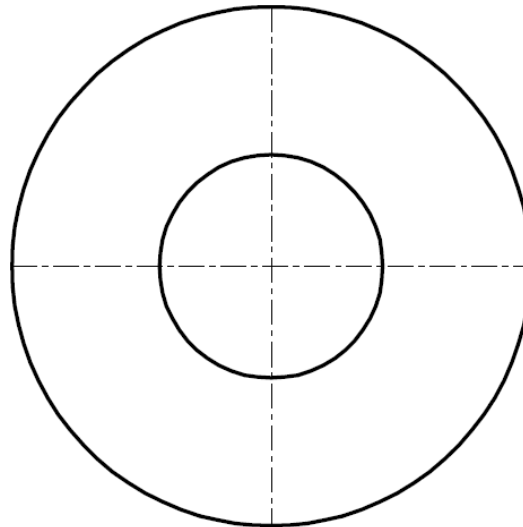
Comparison of Results

# Coupling Cell 2D Results

		mm	Frequency Sensitivity (kHz/mm) Frequency = 361.047 MHz	Frequency Sensitivity (kHz/mm) Frequency = 361.088 MHz
length	L <sub>cc</sub>	230.00	-955	-965.3
diameter	D <sub>cc</sub>	214.00	-956	-976.8
corner radius	R <sub>cc</sub>	5.00	51.2	56.3
nose diameter	d <sub>cc</sub>	92.20	-599.6	-791.0
Outer nose radius	R <sub>cco</sub>	5.00	1576.4	1854
Inner nose radius	R <sub>cci</sub>	5.00	112.4	120.7
gap	g <sub>cc</sub>	21.36	5959.2	5782.2

F= 361.047 MHz

F<sub>cern</sub>= 361.088 MHz



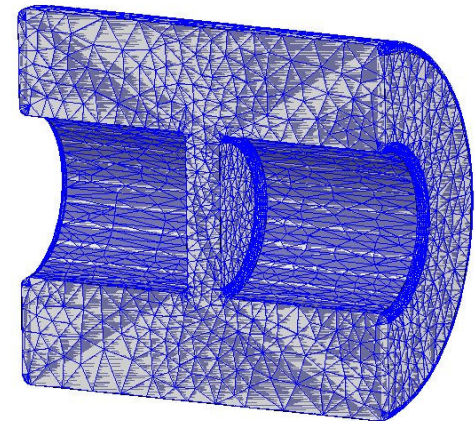
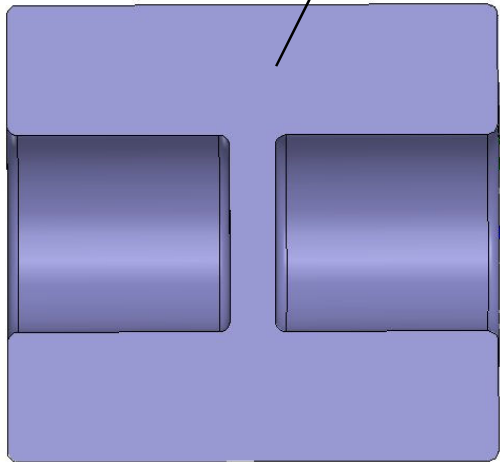
# Coupling Cell 3D Results HFSS

F (HFSS) = 361.36 MHz

F (Superfish) = 361.09 MHz

		mm
cc length	Lcc	230.00
cc diameter	Dcc	214.00
cc corner radius	Rcc	5.00
cc nose diameter	dcc	92.20
cc outer nose radius	Rcco	5.00
cc inner nose radius	Rcci	5.00
cc gap	gcc	21.36

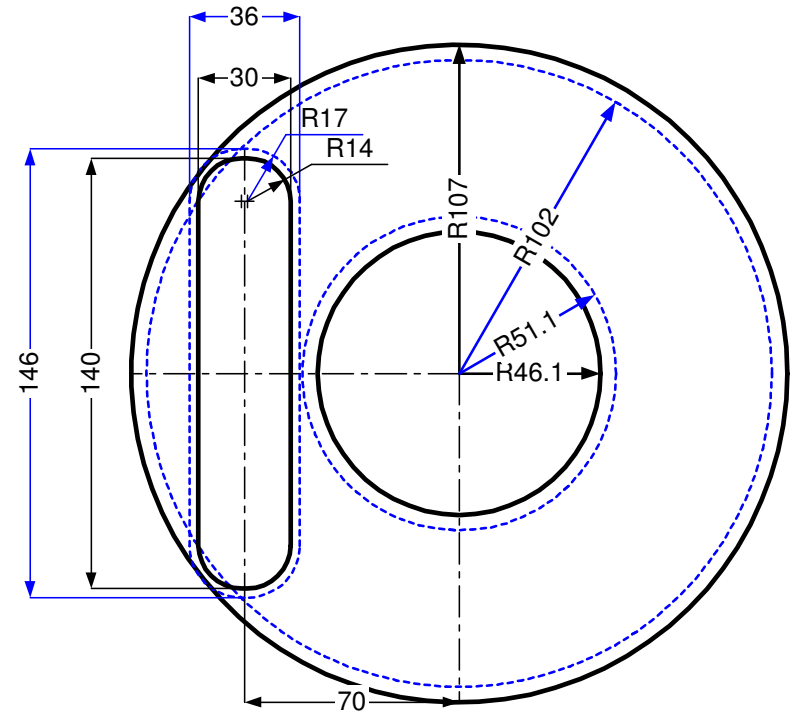
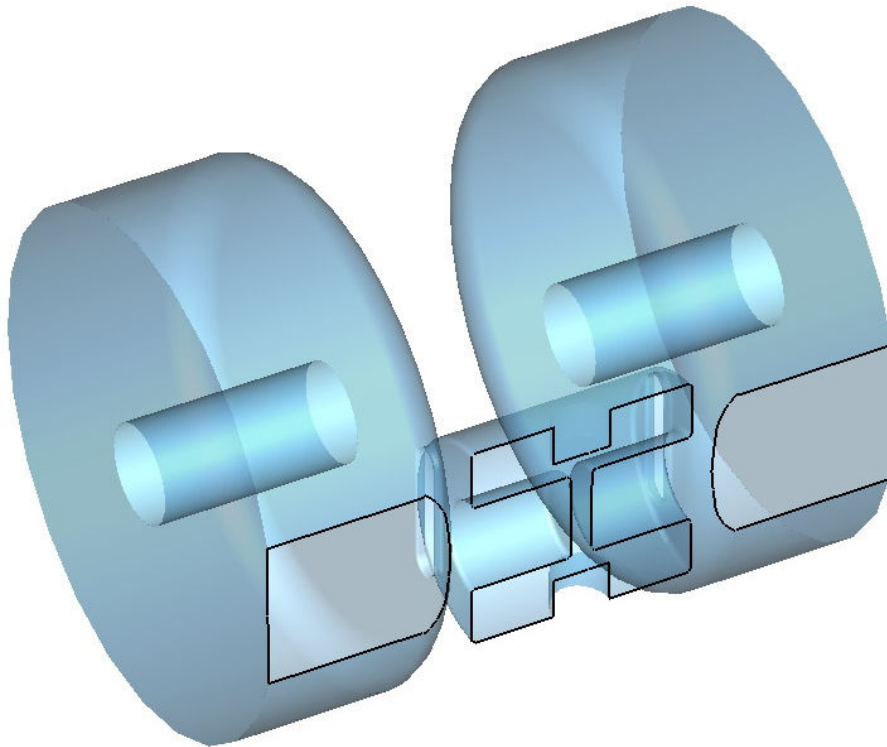
Magnetic wall



# Coupling Cell 3D simulations

## MWS

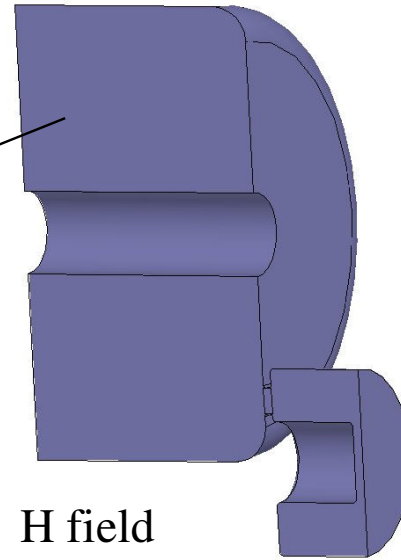
$f = 351.880 \text{ MHz} \pm 90\text{kHz}$



# Coupling Cell 3D simulations HFSS (1)

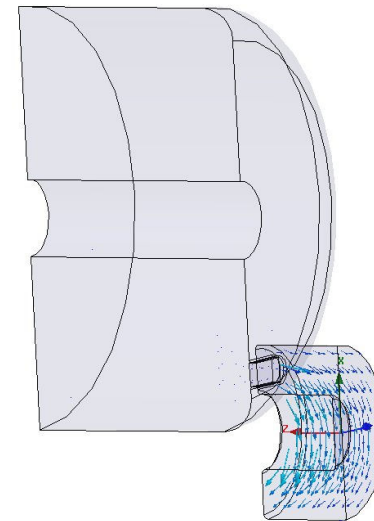
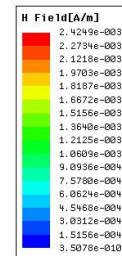
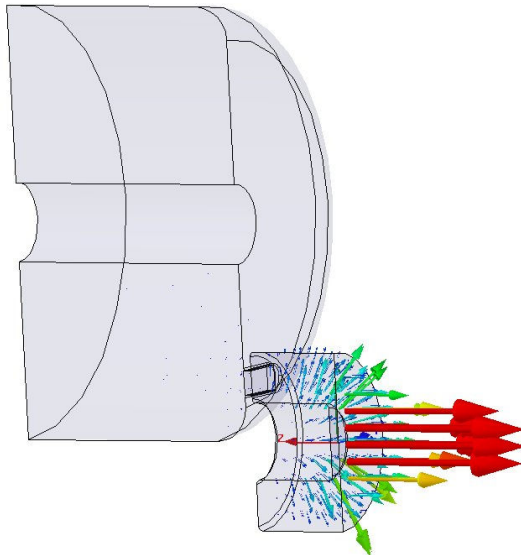
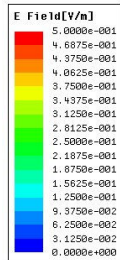
$f = 351.95 \text{ MHz}$

Magnetic Wall



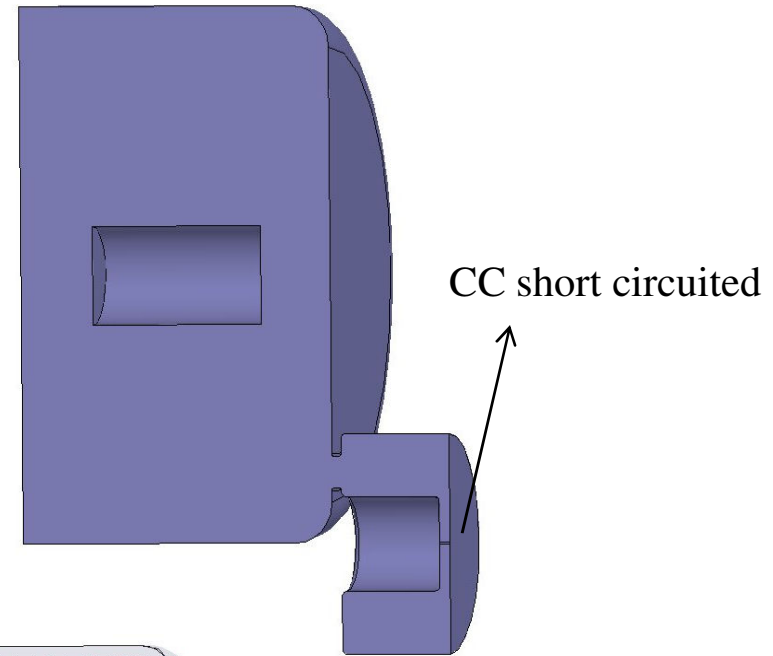
E field

H field

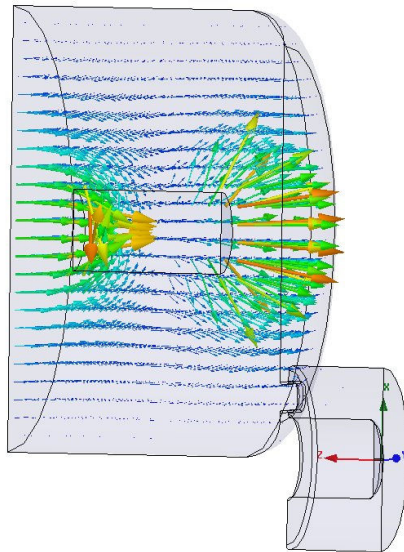
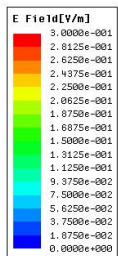


# Coupling Cell 3D simulations HFSS (2)

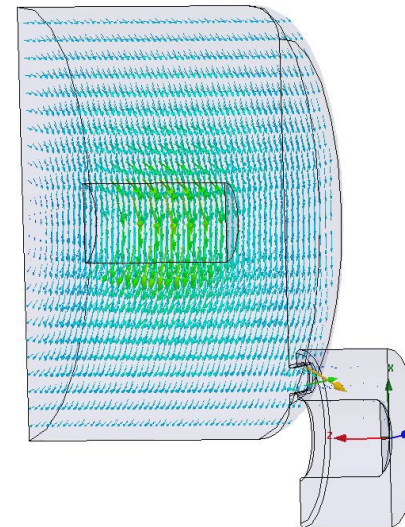
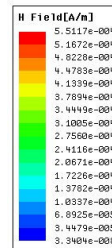
$f = 352.21$  MHz, coupling cell short circuited placing a “wire”.



E field



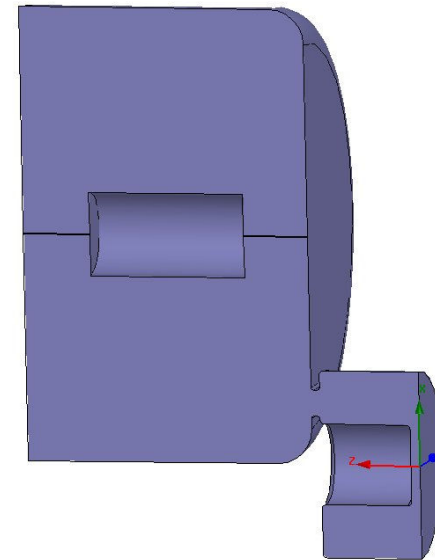
H field



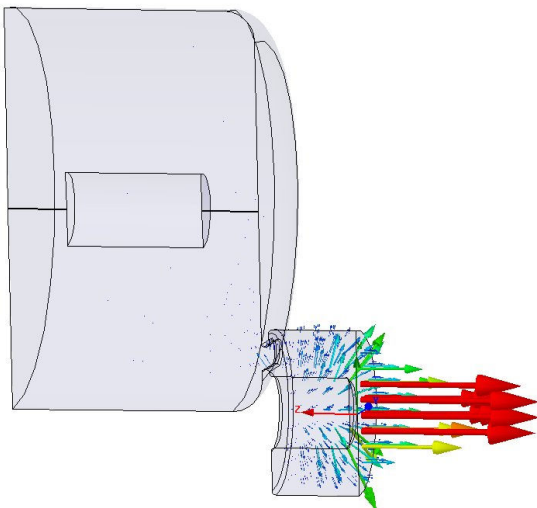
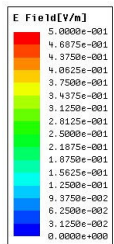
# Coupling Cell 3D simulations

## HFSS (3)

$f = 352.25$  MHz, short circuiting the cavity by a “wire”



E field



H field

