CTF3/CLIC Beam Phase Monitor RF Measurements (before welding)

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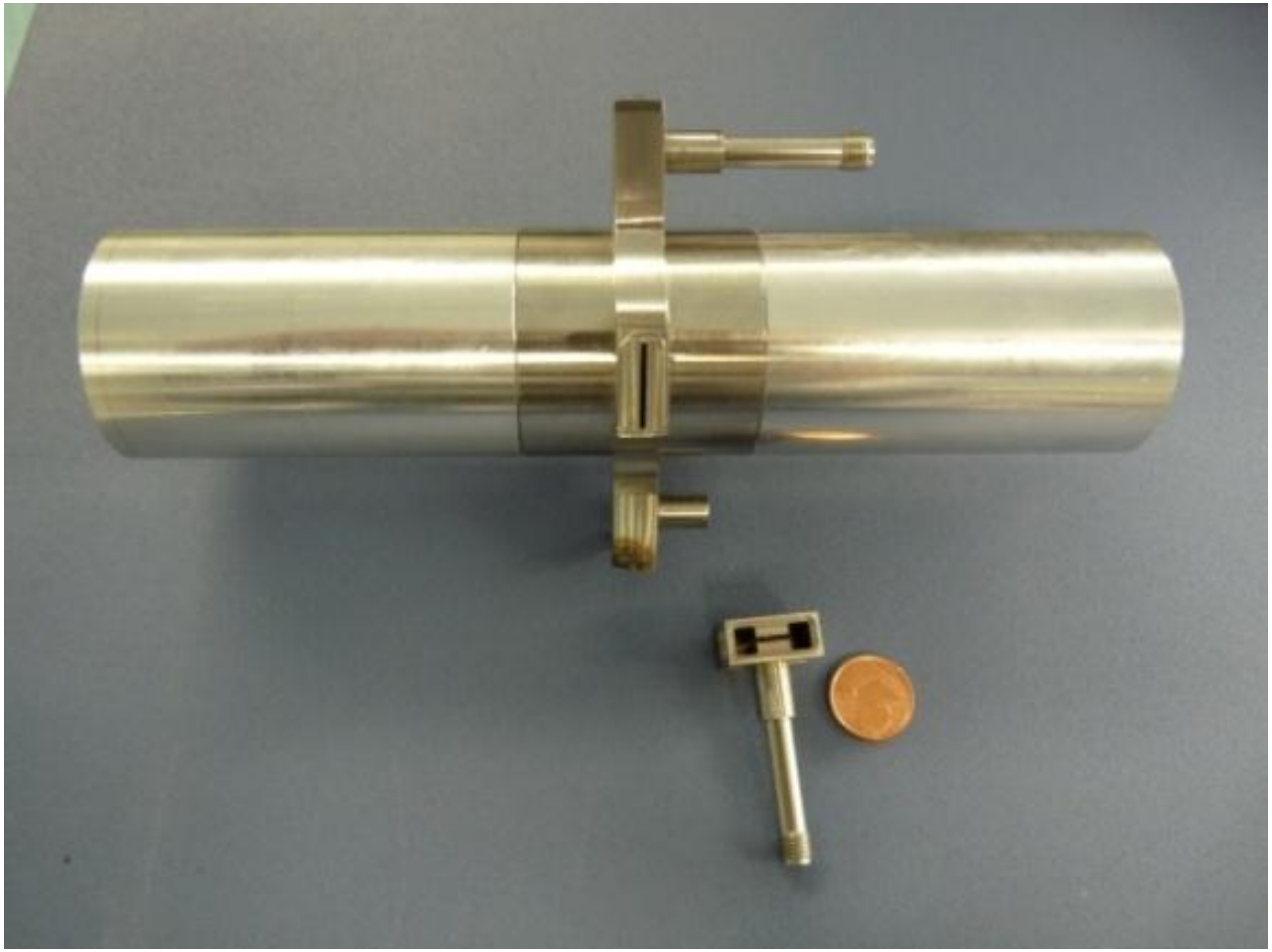
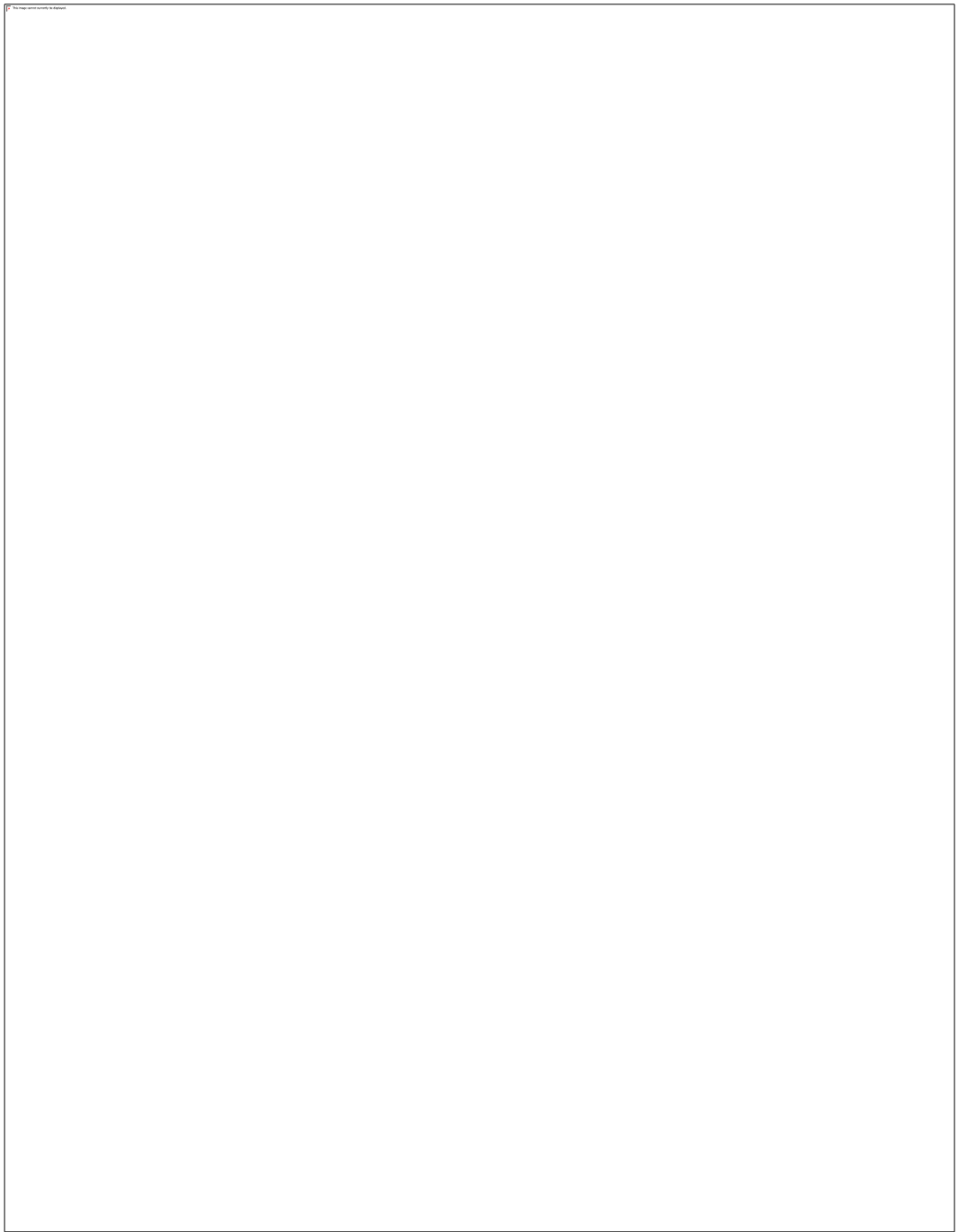
Frascati, March 2012

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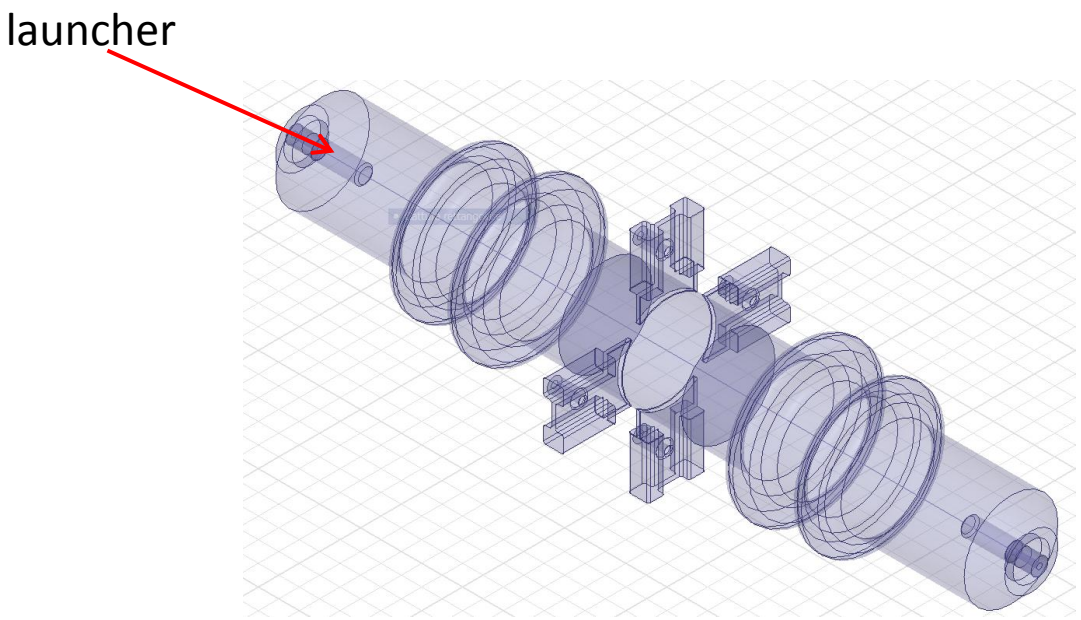
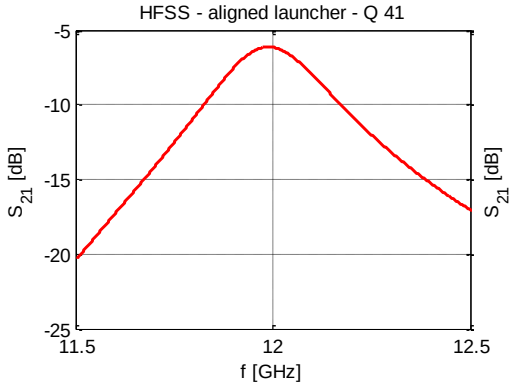
Experimental setup for RF measurements

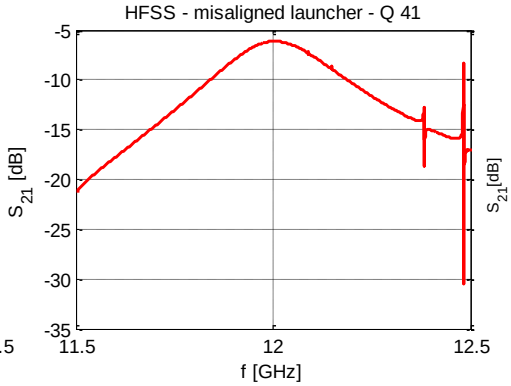


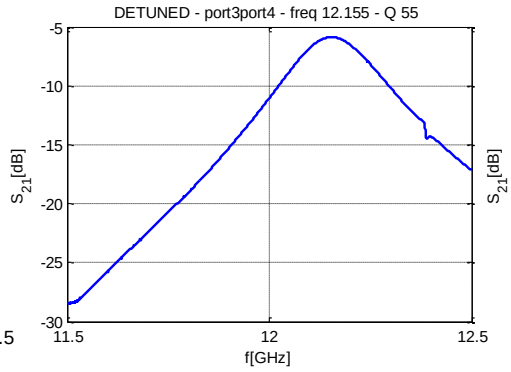
Launcher is optimized for launching TM01 mode in the 23 mm diameter beam pipe.
The real device has some small misalignements of the launcher antennas and other modes can be excited in the structure.
For these modes the matching with TEM mode of the coaxial output lines done by the launcher is not sufficient to avoid resonances inside the structure.
Both the cases, ideally aligned antennas and antennas with small alignement error have been simulated.

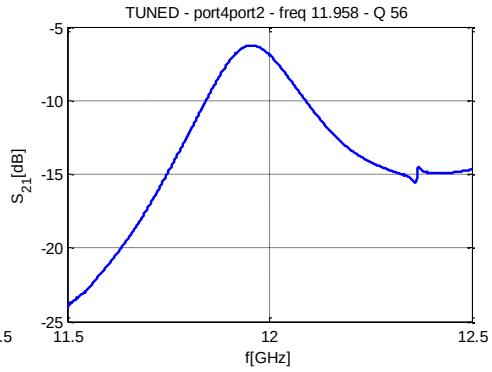
In the following results from simulations and from measurements are summarized.
Red trace plots: simulation
Blue trace plots: measurements

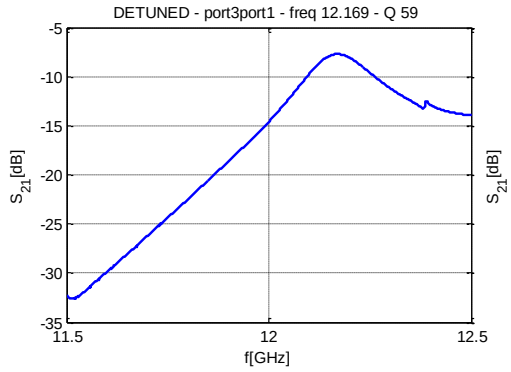
wg output to wg output

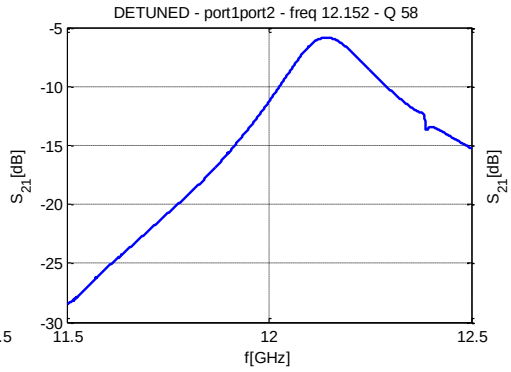


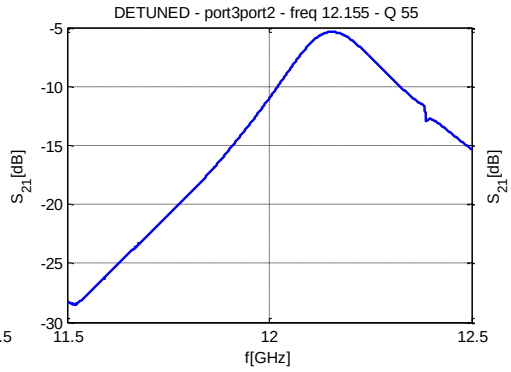


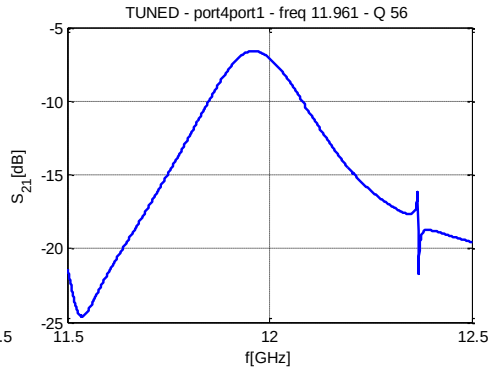


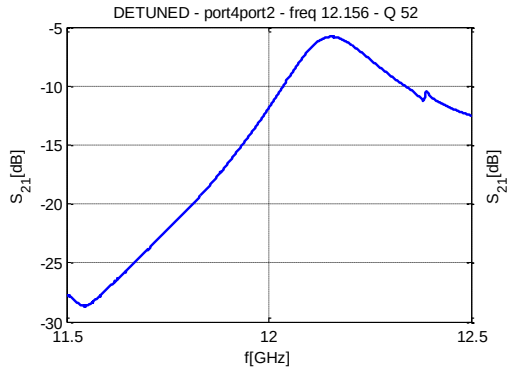


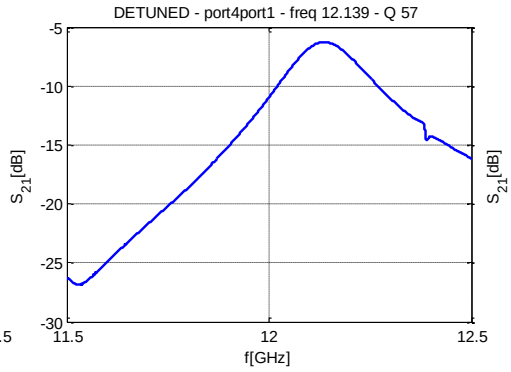


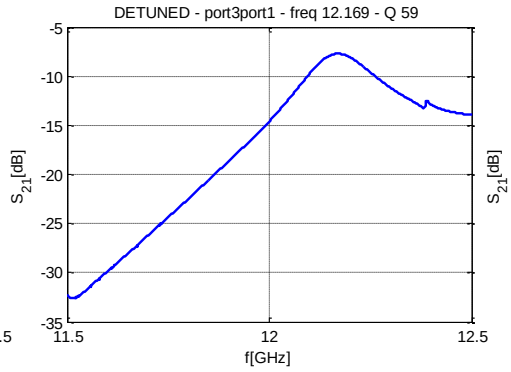


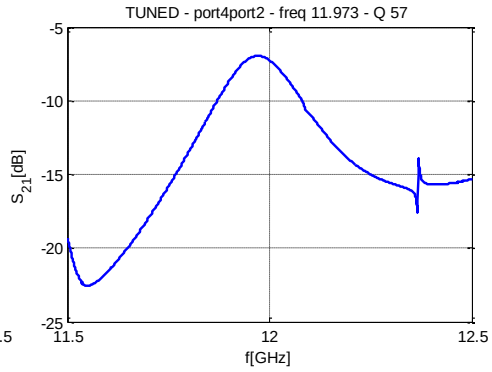




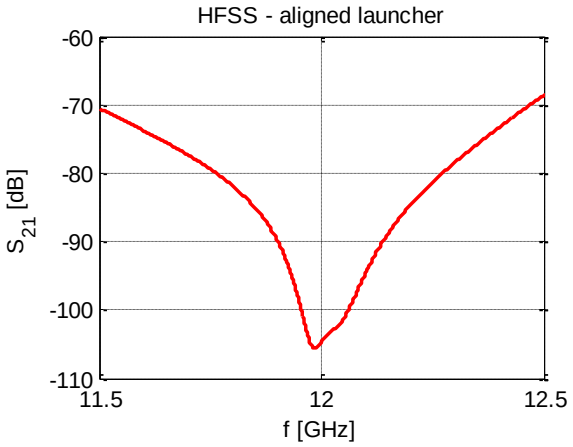


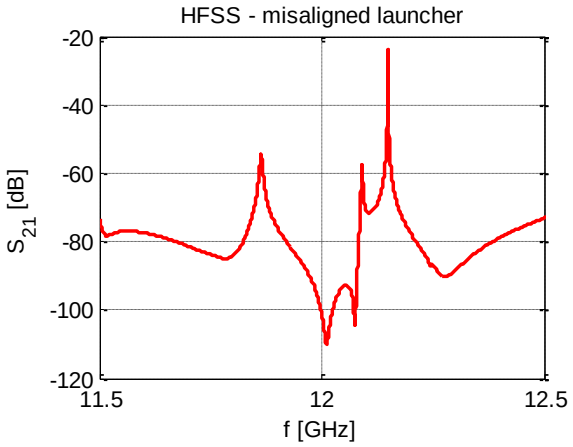


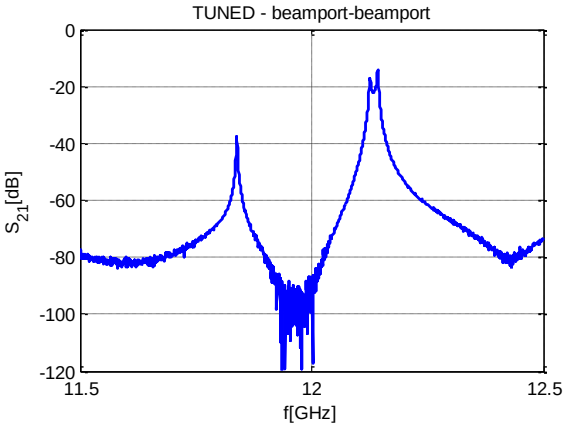


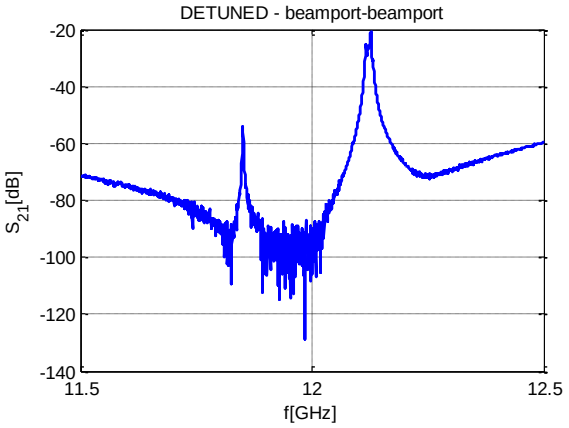


beam pipe to beam pipe

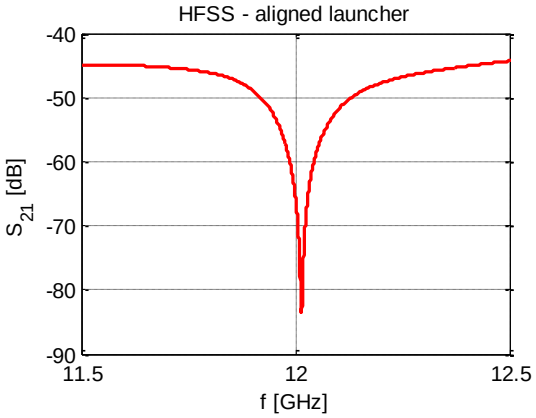


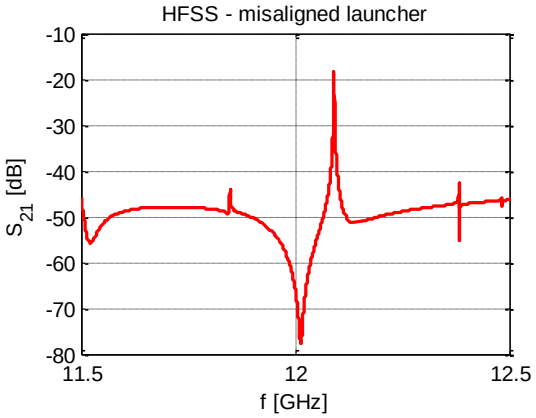


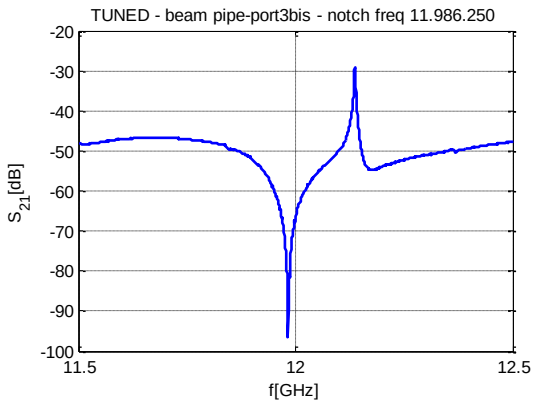


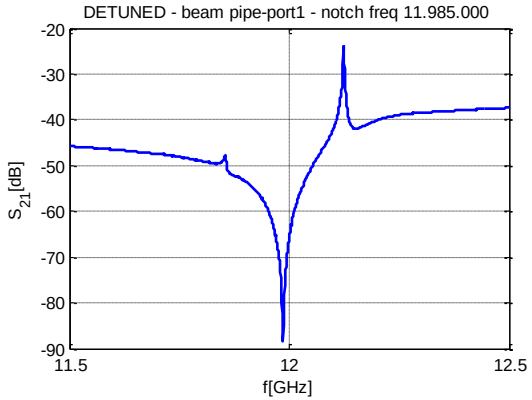


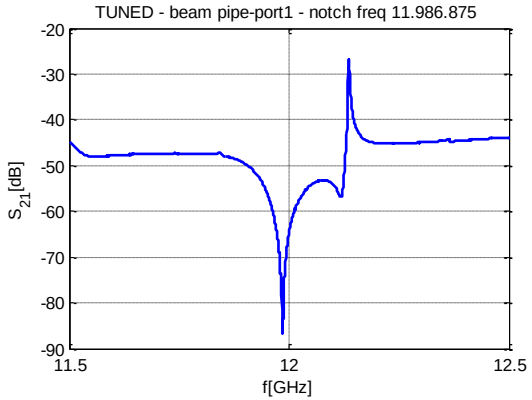
beam pipe to wg output

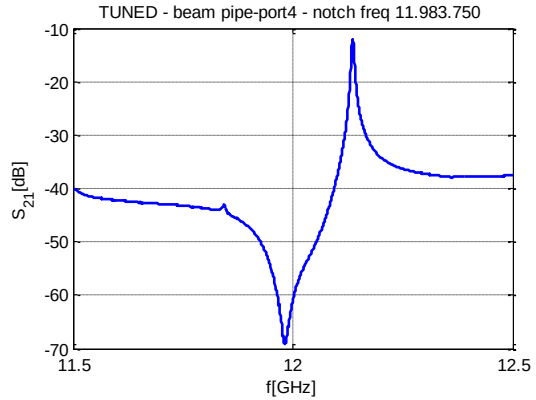


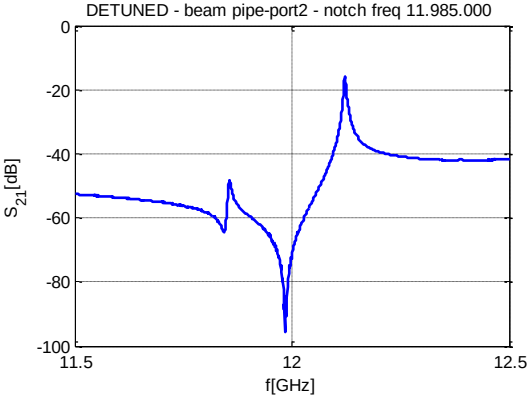


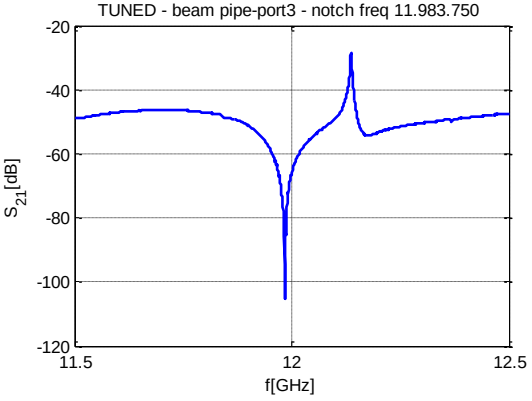


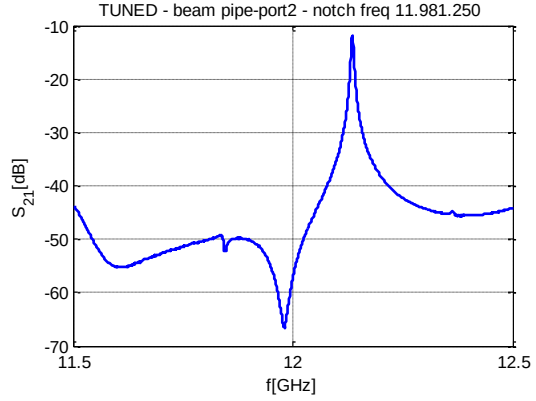












Kicker mechanical design

Strip-line Internal Diameter=40mm