

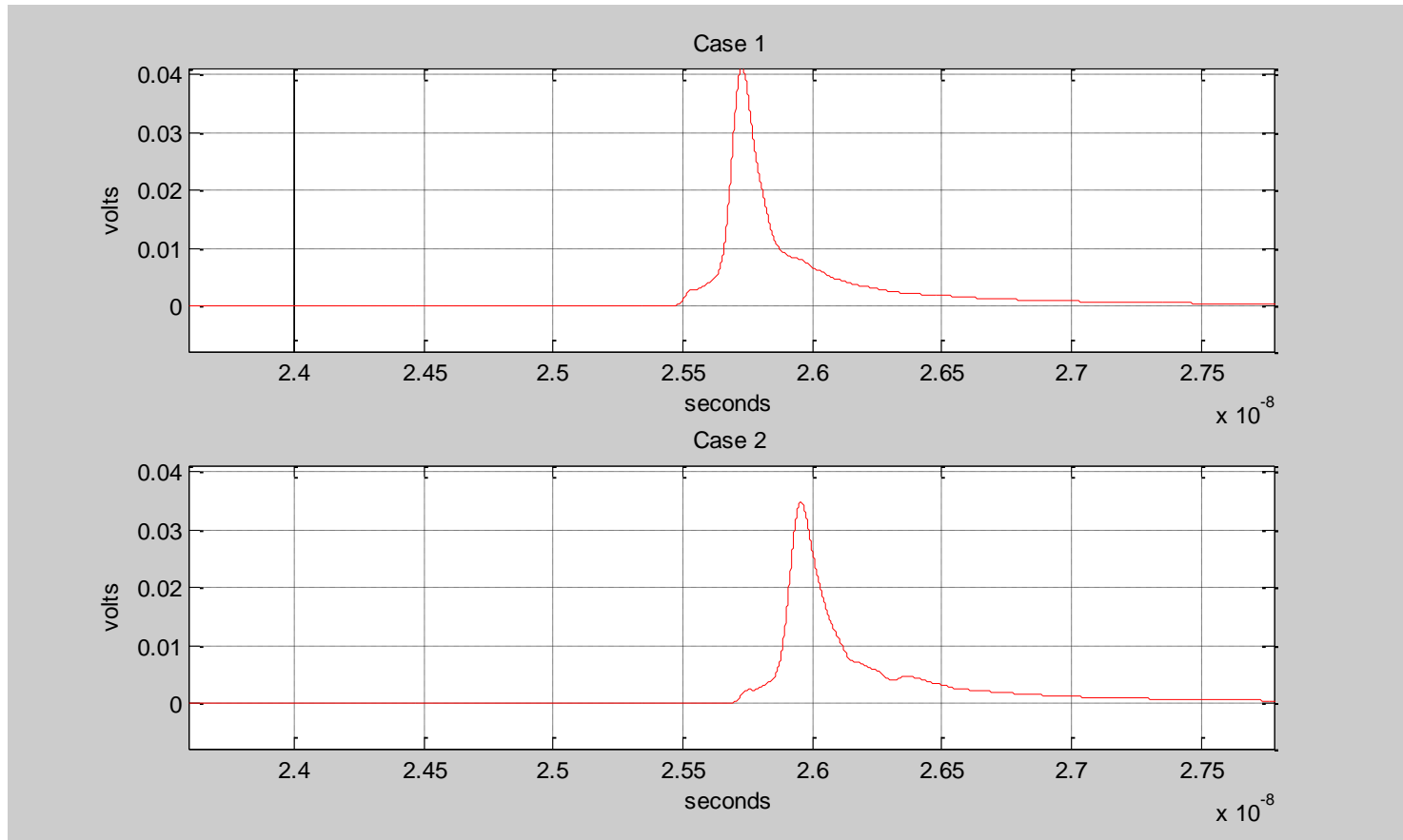
# Clause 92 Host Board Transmission Line Model Parameters Adjustment

Richard Mellitz – Intel

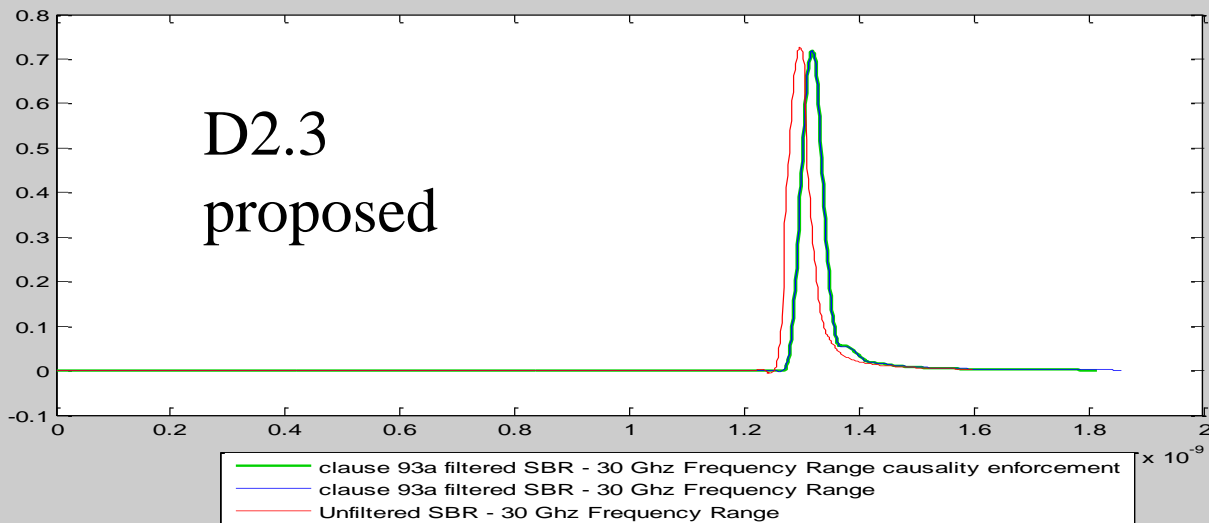
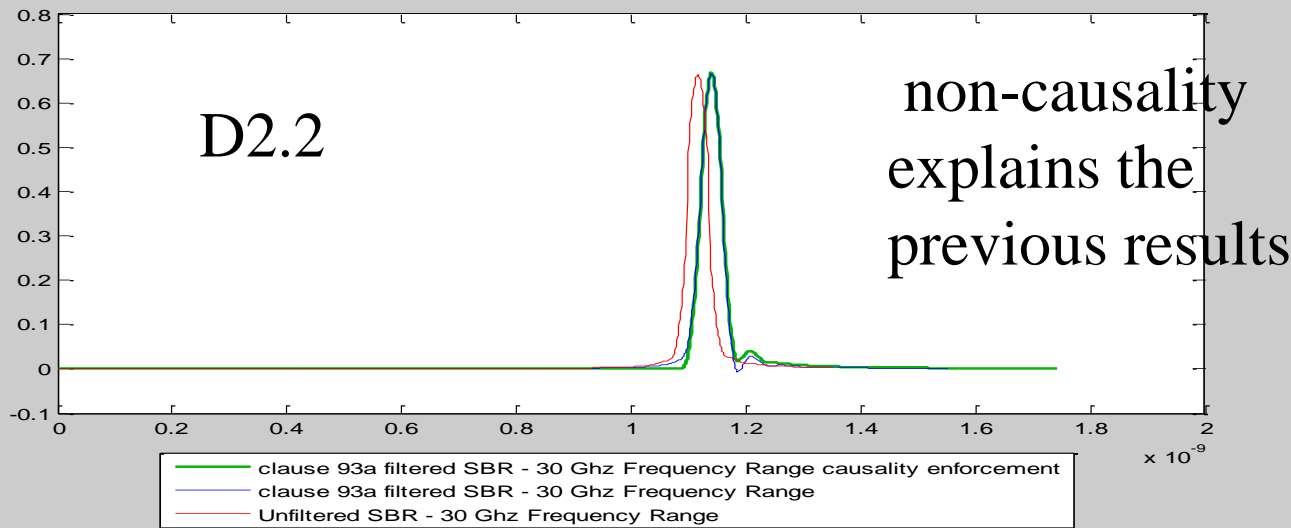
Liav Ben-Artzi - Marvell Technology Group

Adee Ran – Intel Corporation

# SBR with package and host board added to 'Bugg 5m trace per table 92-13 D2.2 produces non-causal response.



# Transmission line SBR shows causality issue



# Proposed table change for table 92-13

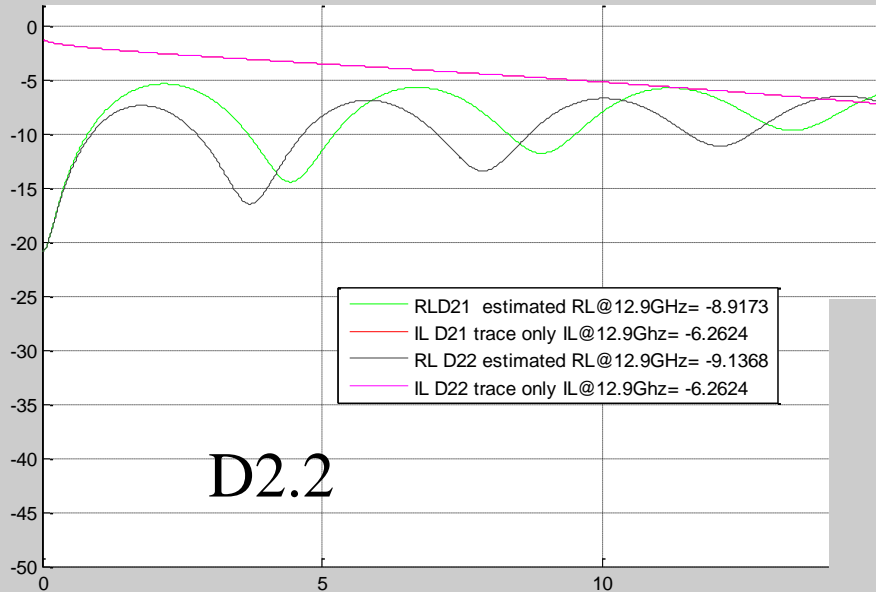
$\gamma_0$	-1.89E-04	0
$\gamma_1$	-1.93E-04	-9.75E-04
$\gamma_2$	-2.96E-04	-3.79E-02
$\gamma_4$	-2.47E-06	8.89E-06
$\rho_0$	5.11E-04	0
$\rho_1$	3.07E-18	3.40E-03
$\rho_2$	1.33E-04	1.09E-18
$\rho_3$	-4.71E-21	-3.02E-06
$\rho_4$	-6.80E-08	-2.63E-21

z_bp (TX)	141
z_bp (NEXT)	68
z_bp (FEXT)	68
z_bp (RX)	141

This was a transcription typo as these values were copied from simulations performed in the wee hours at May'12 Plenary  
But even with the correction there may be too much loss at DC and non causality

# Just about the same 6.26dB loss but RL and DC loss are different

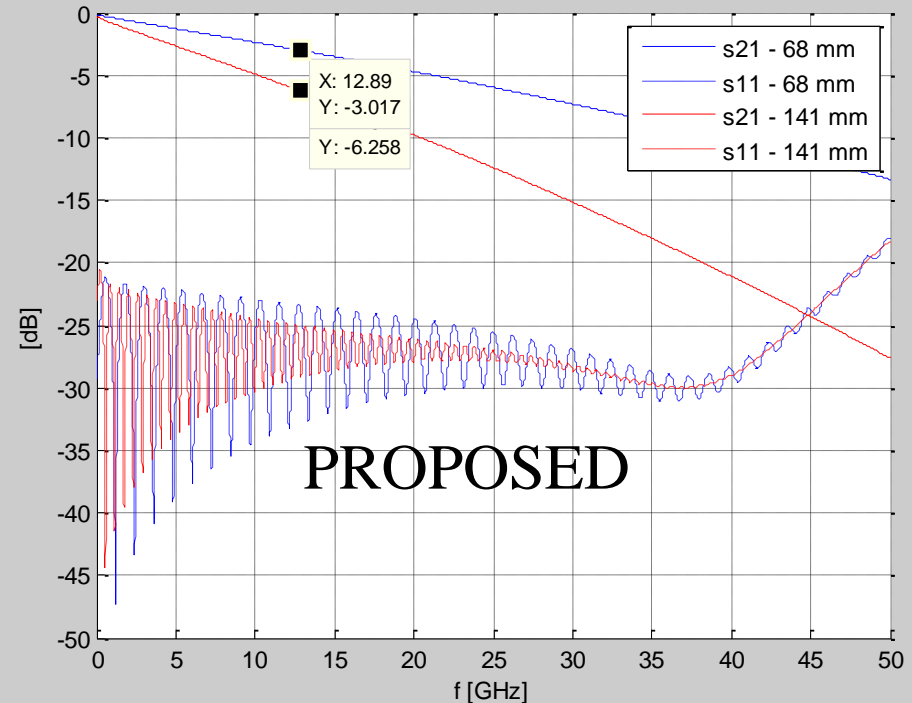
Host board loss for 185 mm trac length



D2.2

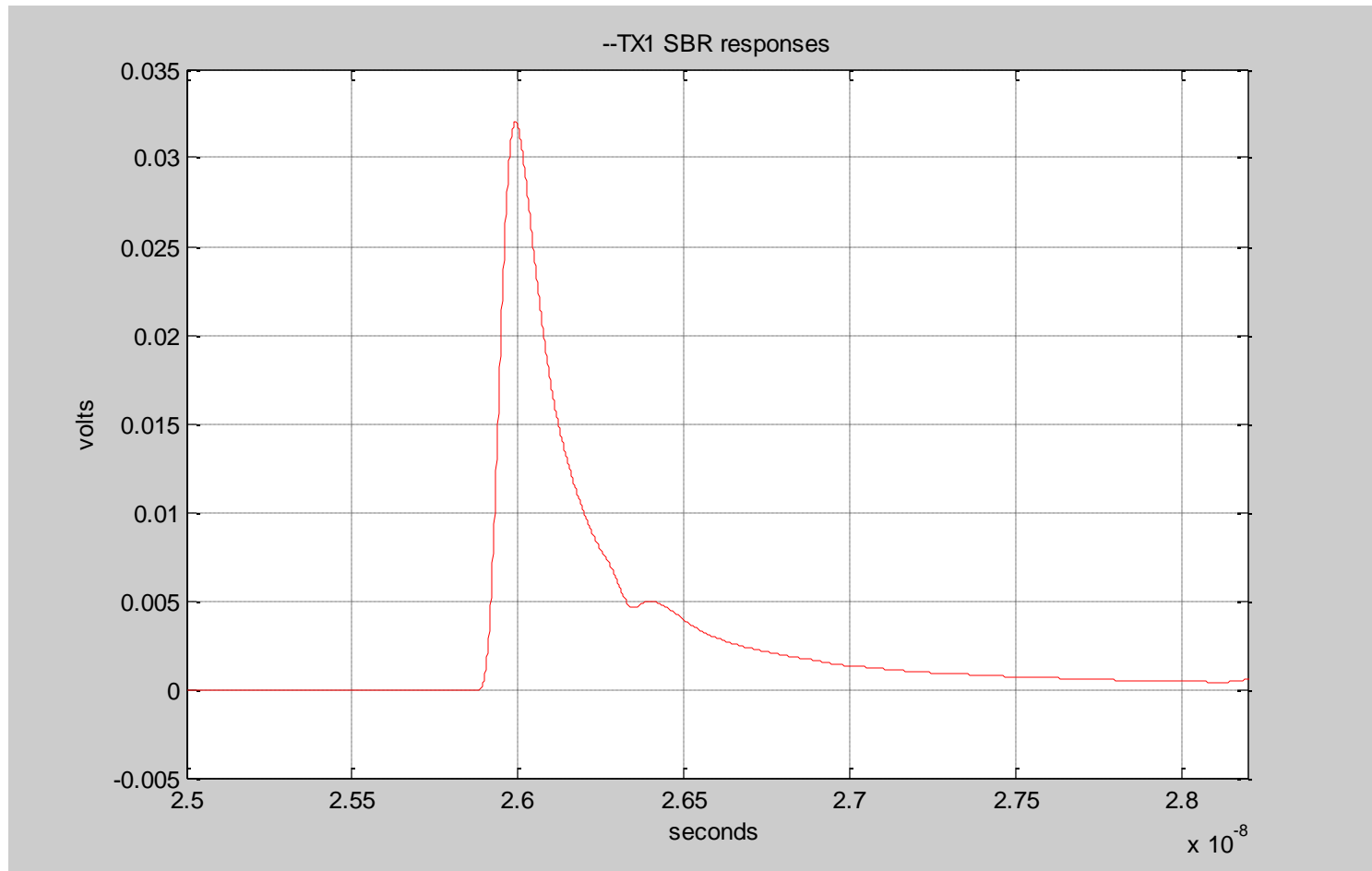
This model requires the receiver filter to be applied prior to transforming into the time domain.

PCB model results



PROPOSED

# SBR with package and proposed board model added to 'Bugg 5m trace produces more realistic response



# Proposal

- Accept parameters in presentation for table 92-13
- Add a line in clause 93A.1.2.4 and 92.10.7.1.1 suggesting a limitation of 40 GHz bandwidth or the application of the receiver filter. Editorial license granted.