

com_ieee8023_93a_163 **revision document:**

fixes and clarifications from 162a

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Added or Augmented Configuration File Commands

keyword	example		information	new actions
c(-2)	[0:0.01:0.1]		[min:step:max]	no action if not present
c(2)	[0:0.01:0.1]		[min:step:max]	no action if not present
c(3)	[-0.15:0.05:0]		[min:step:max]	no action if not present
g_DC_HP	[-7:1:0]	dB	[min:step:max]	no action if not present
f_HP_PZ	1	GHz		no action if not present
COM_CONTRIBUTION	1	logical	COM bar graph contribution estimates	revert to bathtub curves as in ran_com_3bj_3bm_01_1114 if 0 or not present
T_r_filter_type	0	logical	T_r_filter_type=0 & T_rmeas_point =0 & Rx_calibration=01, no Tx filter T_r_filter_type=0 & T_rmeas_point =0 & Rx_calibration=1, 'bj filter	no action if not present
T_r_meas_point	0	logical	T_r_filter_type=1 & T_rmeas_point =0 & Rx_calibration=0, 'by Gaussian filter T_r_filter_type=1 & T_rmeas_point =0 & Rx_calibration=1, 'by Gaussian filter	Not implemented
IDEAL_TX_TERM	0	logical	0 = package and die termination used 1= only reference resistance for Tx termination	same as ran_com_3bj_3bm_01_1114 if 0 or not present
IDEAL_TX_TERM = 0 and T_r_filter_type = 1		logical	use B-T filter for H_t filter in addition to adding package	NA
RESULT_DIR	.\results\COM_{date}		directory where results are written {date} is replace with current date	NA
BREAD_CRUMBS	0		0 or not present 1= write mat file for internal param and OP controls	no action if 0 or not present

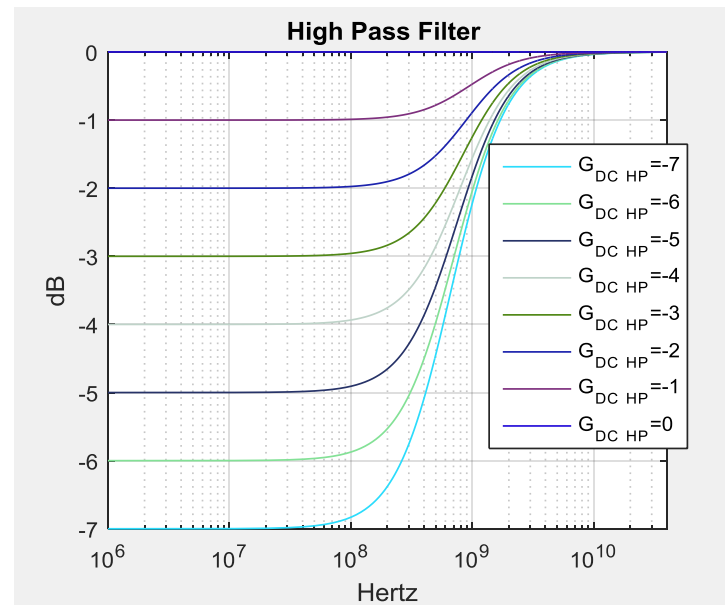
Fixes computation error in 1.62a

Lower frequency pole-zero filter:

- Added: Lower frequency pole-zero filter: 2 keywords in config file

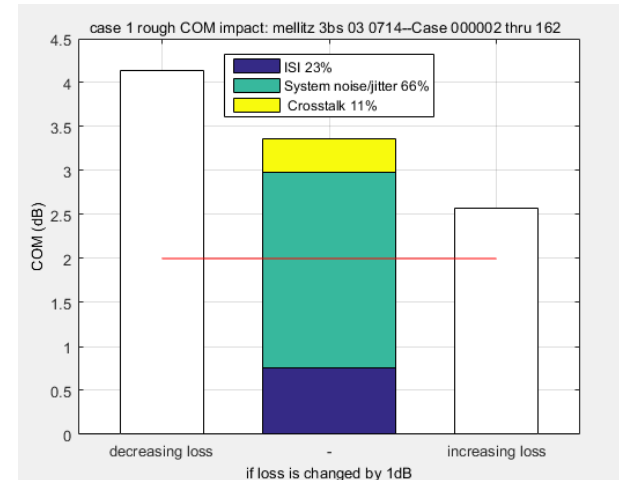
- $$H_{ctf}(f) = \frac{(10^{\frac{g_{DC_HP}}{20}} + j\frac{f}{f_{HP_PZ}})}{(1 + j\frac{f}{f_{HP_PZ}})} \cdot \frac{(10^{\frac{g_{DC}}{20}} + j\frac{f}{f_{z1}})}{(1 + j\frac{f}{f_{p1}})(1 + j\frac{f}{f_{p2}})}$$

- `g_DC_HP`
 - Sweepable AC-DC gain
- `f_HP_PZ`
 - pole-zero location



Added parameters and outputs

- Support for later Matlab 2015
- added output parameters
 - `peak_uneq_pulse_mV` – peak value of the unequalized SBR
 - `cable_loss` when "Include PCB" is not 0 in the config file
- added: tap `c(-2)` `c(2)` and `c(3)`
 - new value for "Include PCB" = 2 for cable Rx compliance test, Only the Rx host boards is added. Assumes test channels has proper loss. Can be achieve same by making `z_bp (TX)` and `z_bp (FEXT)` zero and "Include PCB" = 1.
- Added
 - New keyword `BREAD_CRUMBS` if 1 then a mat file with the structures "params" and "OP" is created in the results directory
 - New keyword `COM_CONTRIUBTION`
 - When set to 1 a rough approximation of COM contributions chart replaces the bathtub curves
 - **When set to 0 the bathtub curves are displayed**



For RITT testing (potentially for IEEE802.3by)

- $T_r_filter_type=0$ & $T_rmeas_point = 0$ & $Rx_calibration=01$, no Tx filter
- $T_r_filter_type=0$ & $T_rmeas_point = 0$ & $Rx_calibration=1$,
by Gaussian filter (eq 93a-46)
- $T_r_filter_type=1$ & $T_rmeas_point = 0$ & $Rx_calibration=0$, 'by Gaussian filter
- $T_r_filter_type=1$ & $T_rmeas_point = 0$ & $Rx_calibration=1$, 'by Gaussian filter

- 0 is for is for Gaussian filter (eq 93a-46)
 - $H_t(f) = \exp(-(\pi f T_r / 1.6832)^2)$
- 1 is for fixed 'by Gaussian filter
 - $H_t(f) = \exp(-2(\pi f T_r / 1.6832)^2)$