Nano VNA Test Results

Using NanoVNA Saver Software 0.2.0

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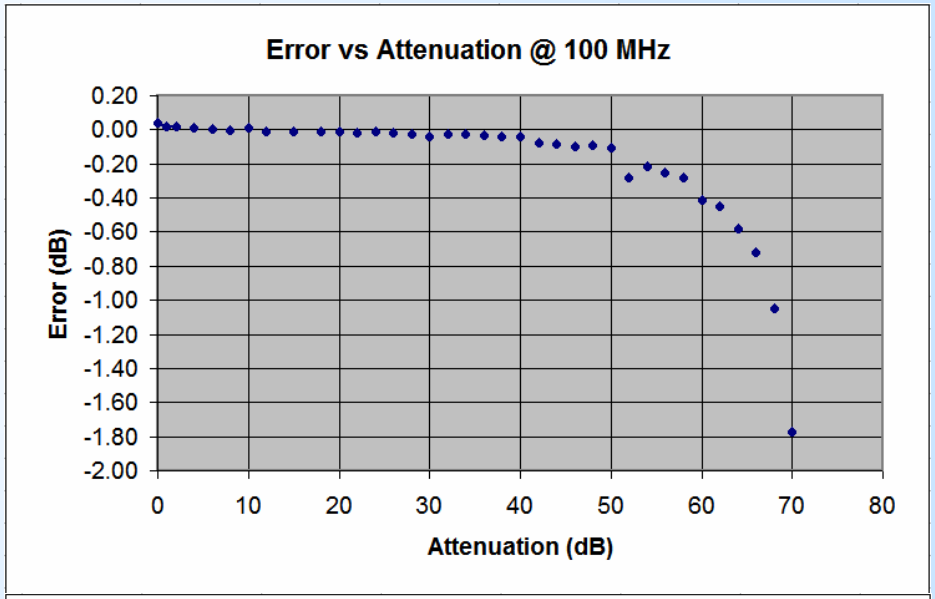
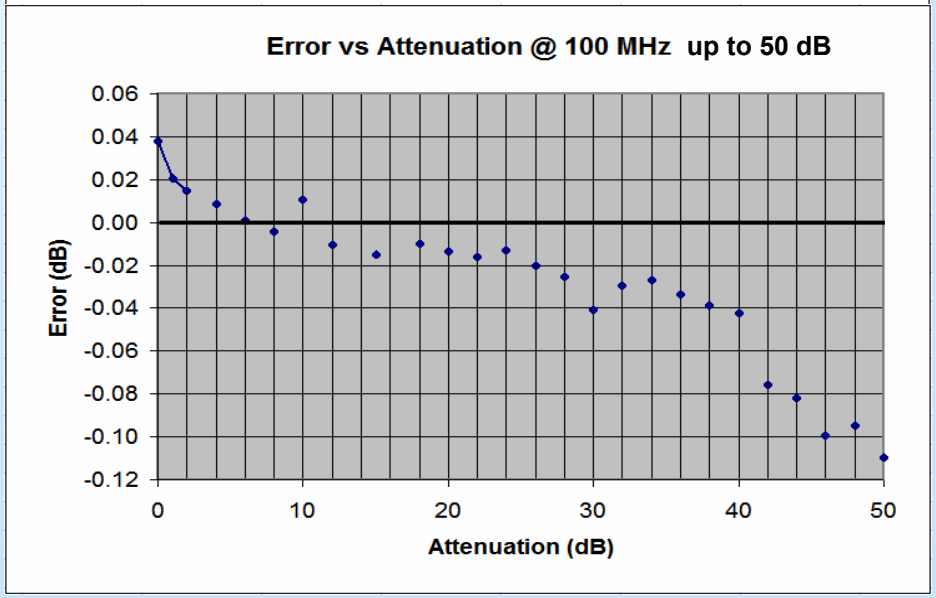
S21 MODE

101 points.
(Visual averaging from the NanoVNA display)

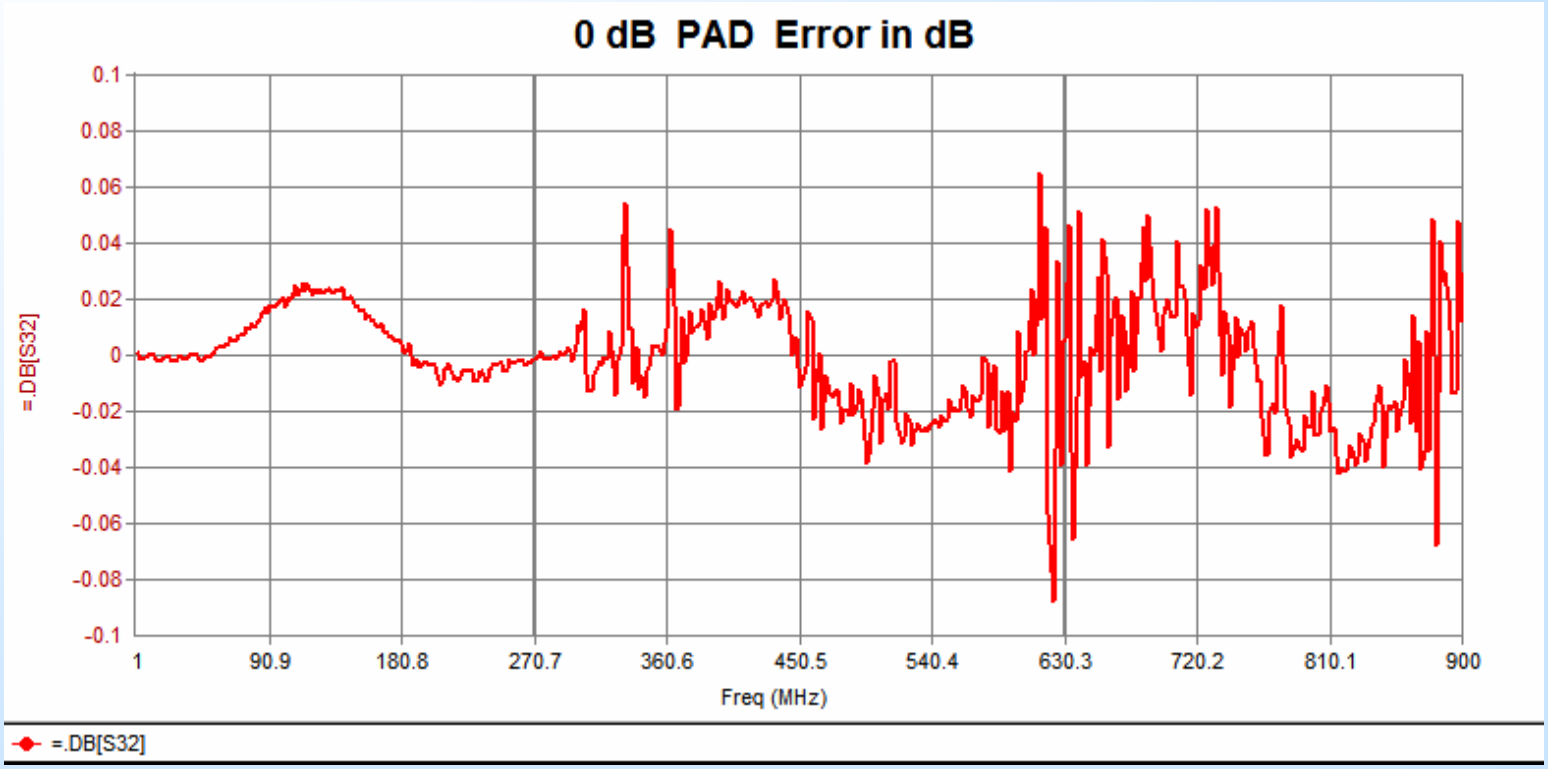
NOTE:
HP 8494H, HP 8496H
DC to 18 GHz attenuators were used here.
Calibrated at DC and with transmission line attenuation coefficients applied taking into account the frequency dependance of the attenuation.





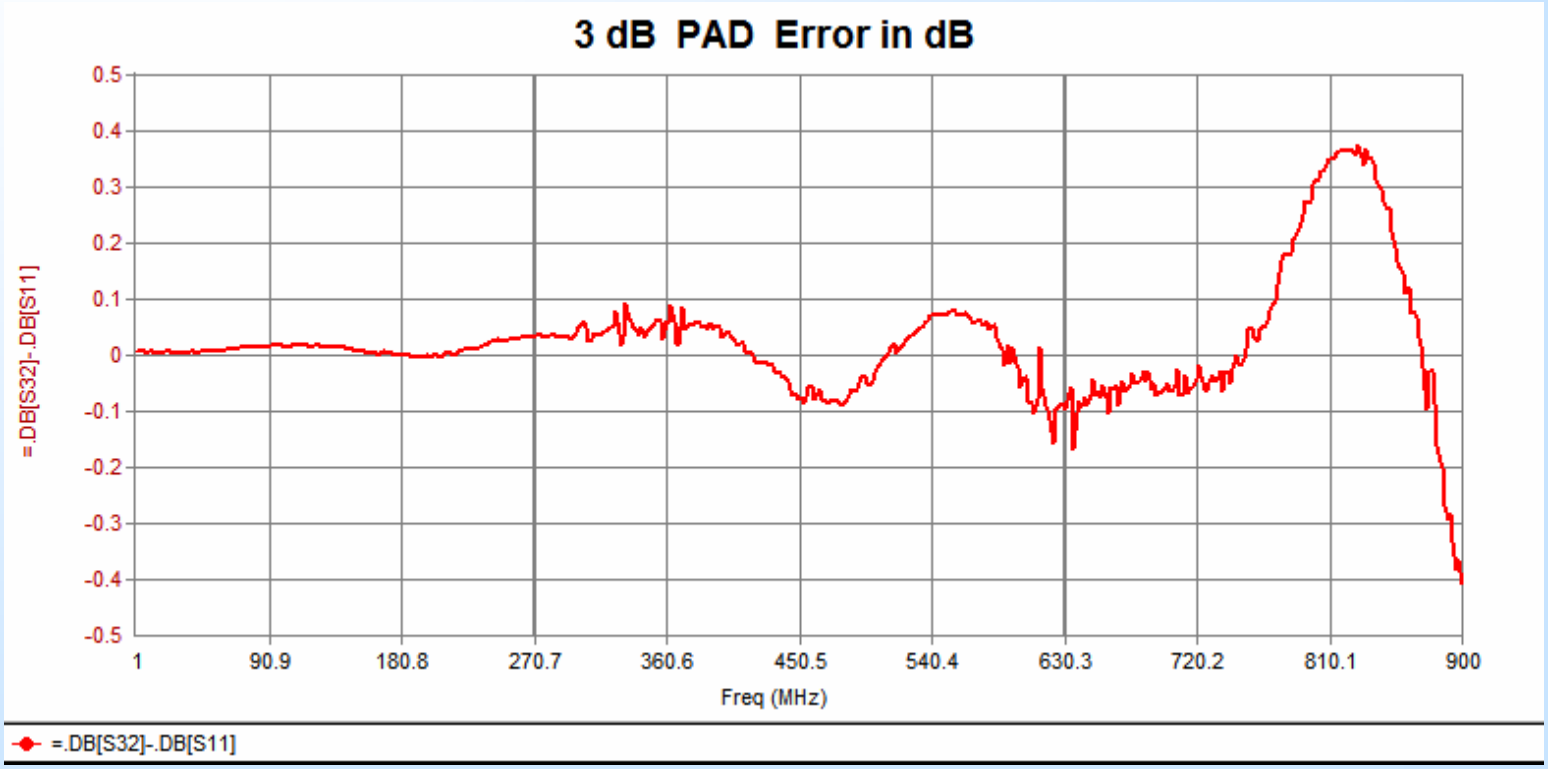
S21 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0

0 dB remaining errors after calibration with through adapter

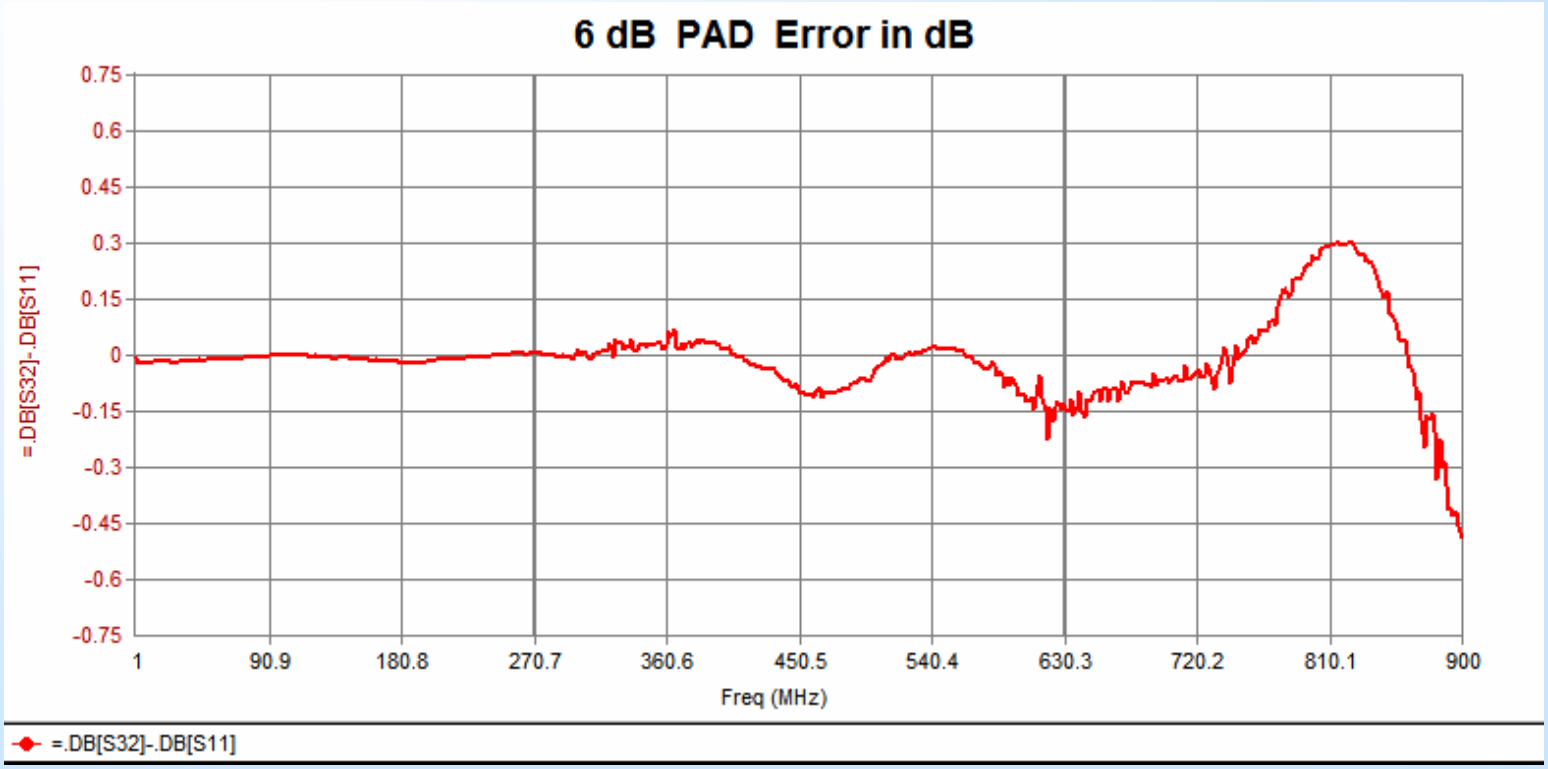


S21 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0

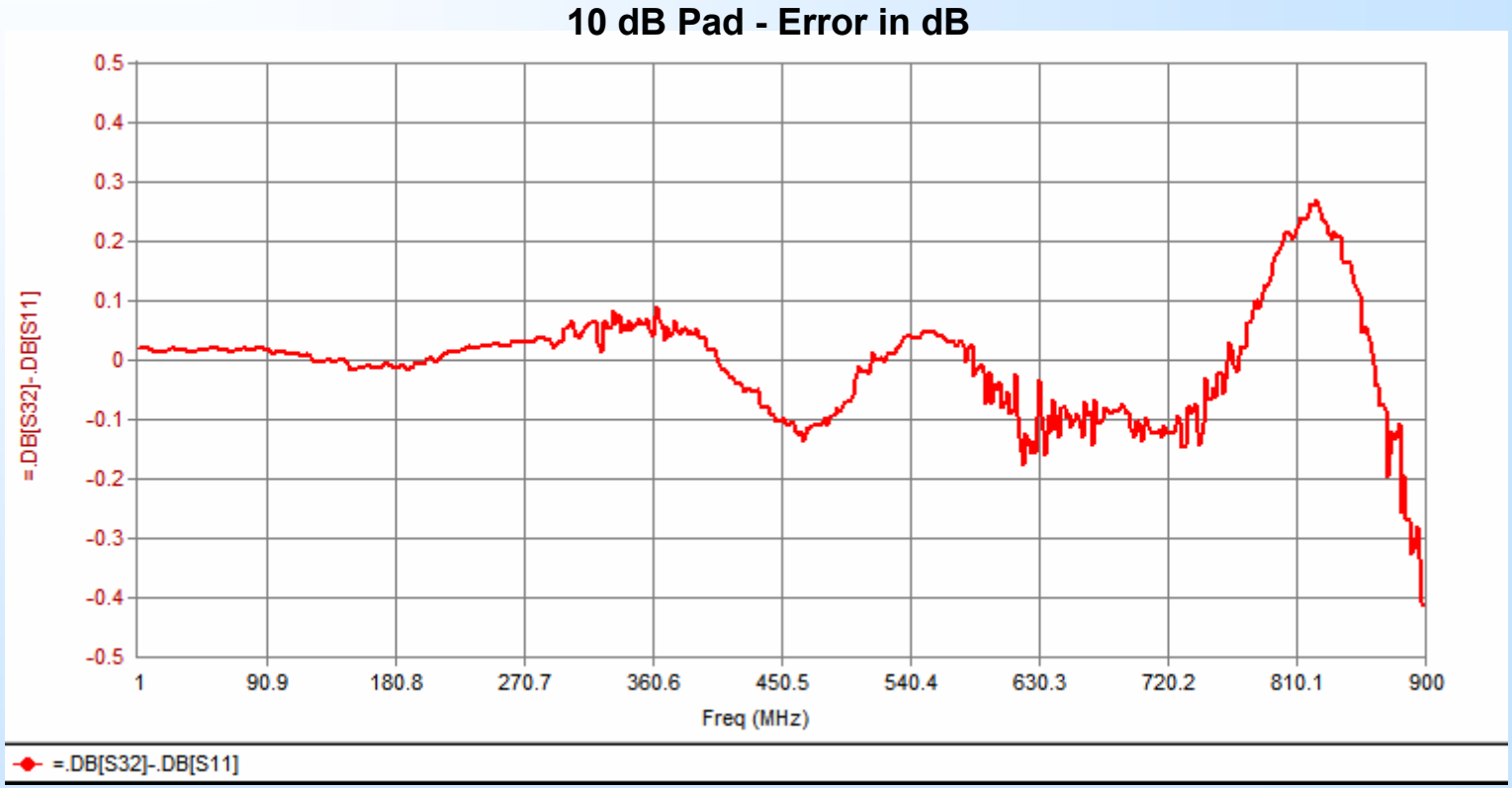
NOTE: In the following tests the reference VNA is HP 8753D, calibrated with Kirkby Microwave 85033 SMA cal Kit (7 GHz)



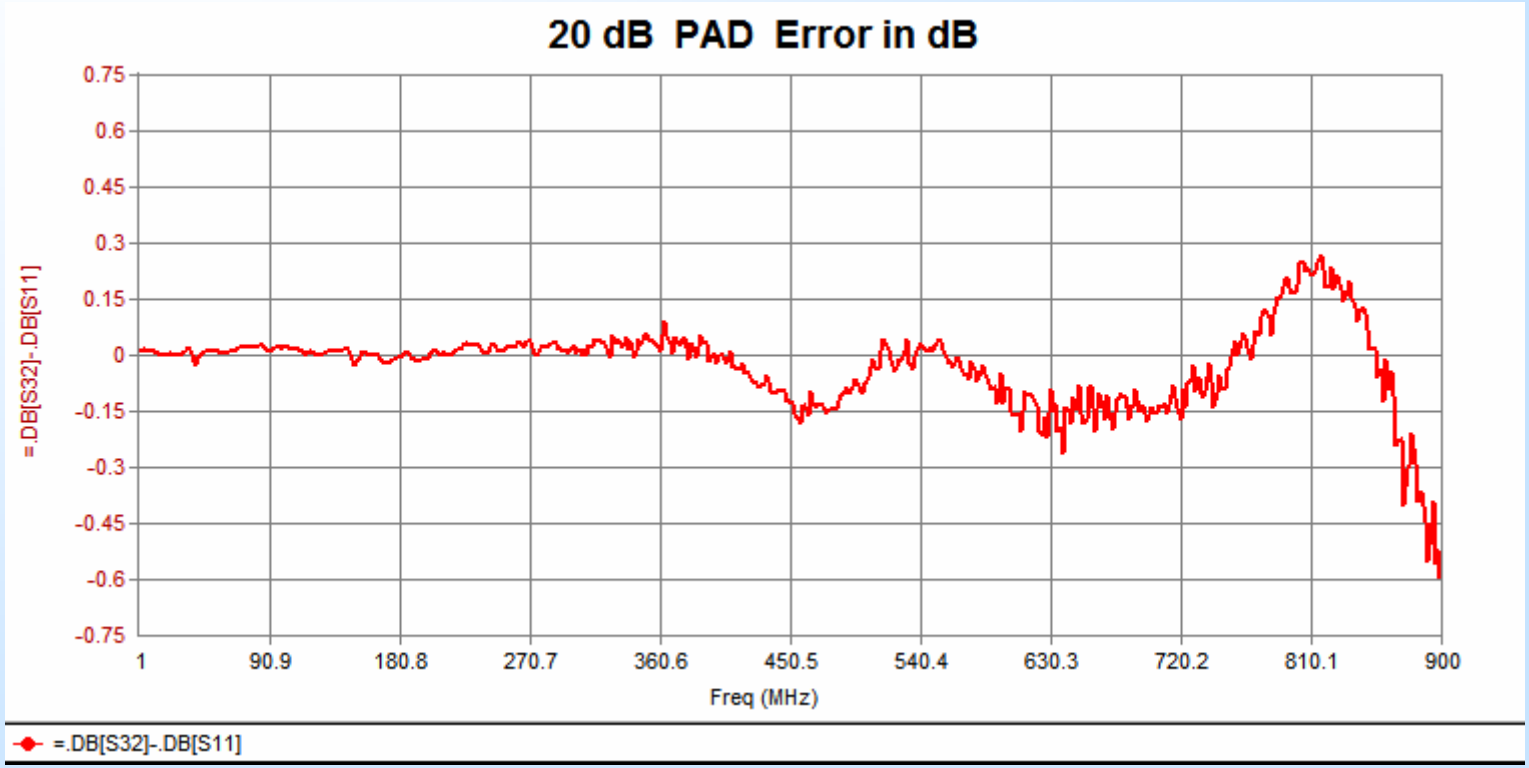
S21 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0



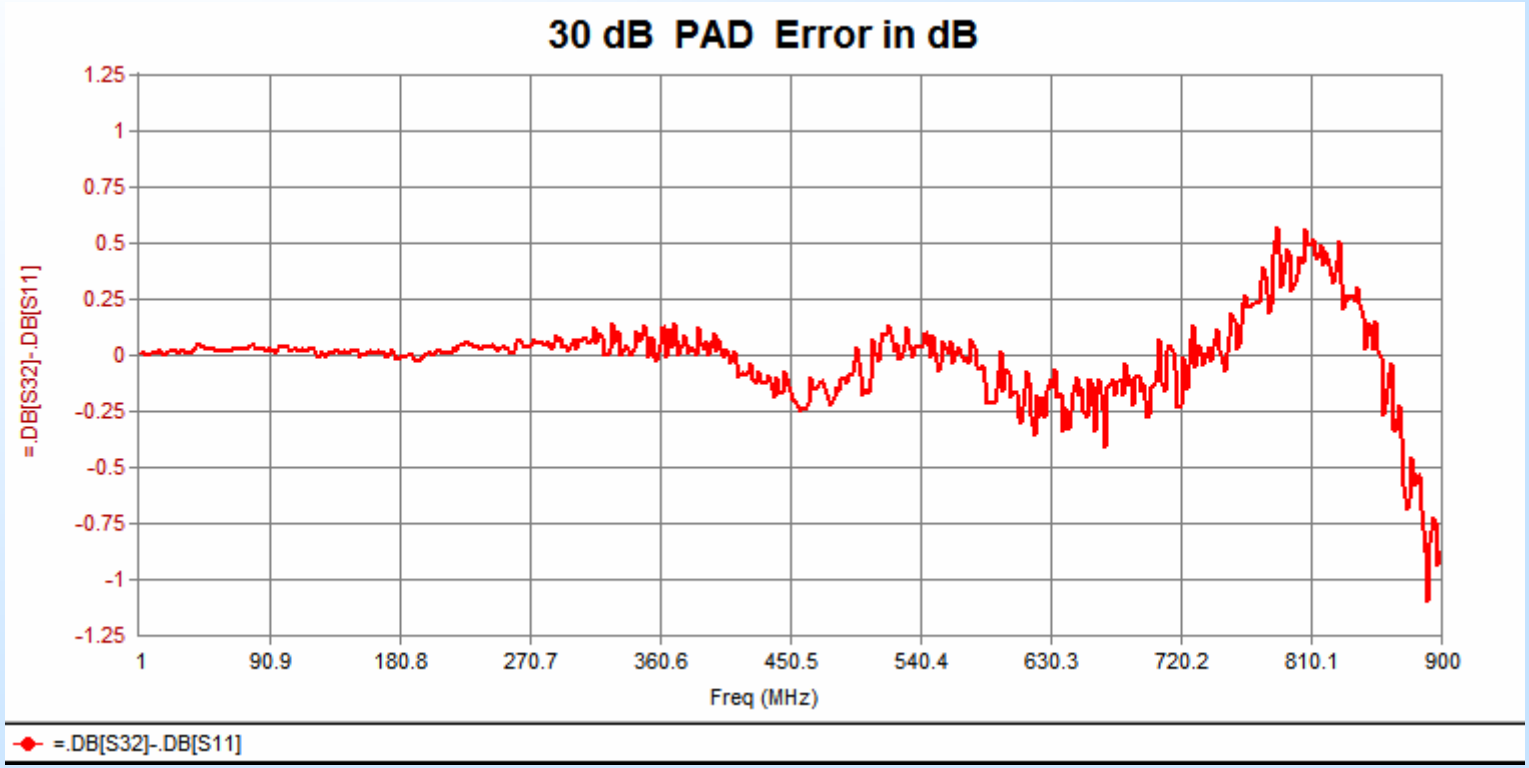
S21 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0



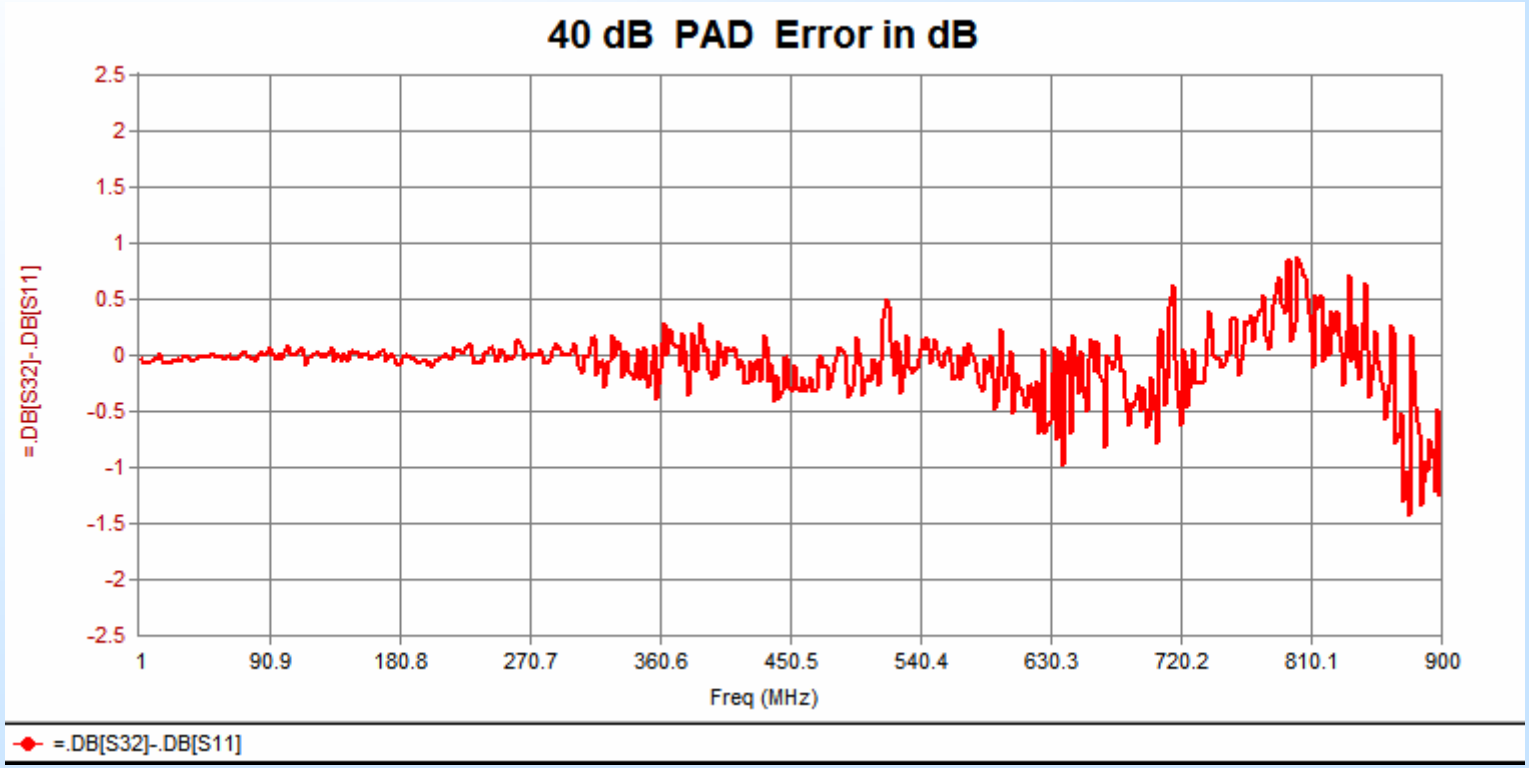
S21 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0



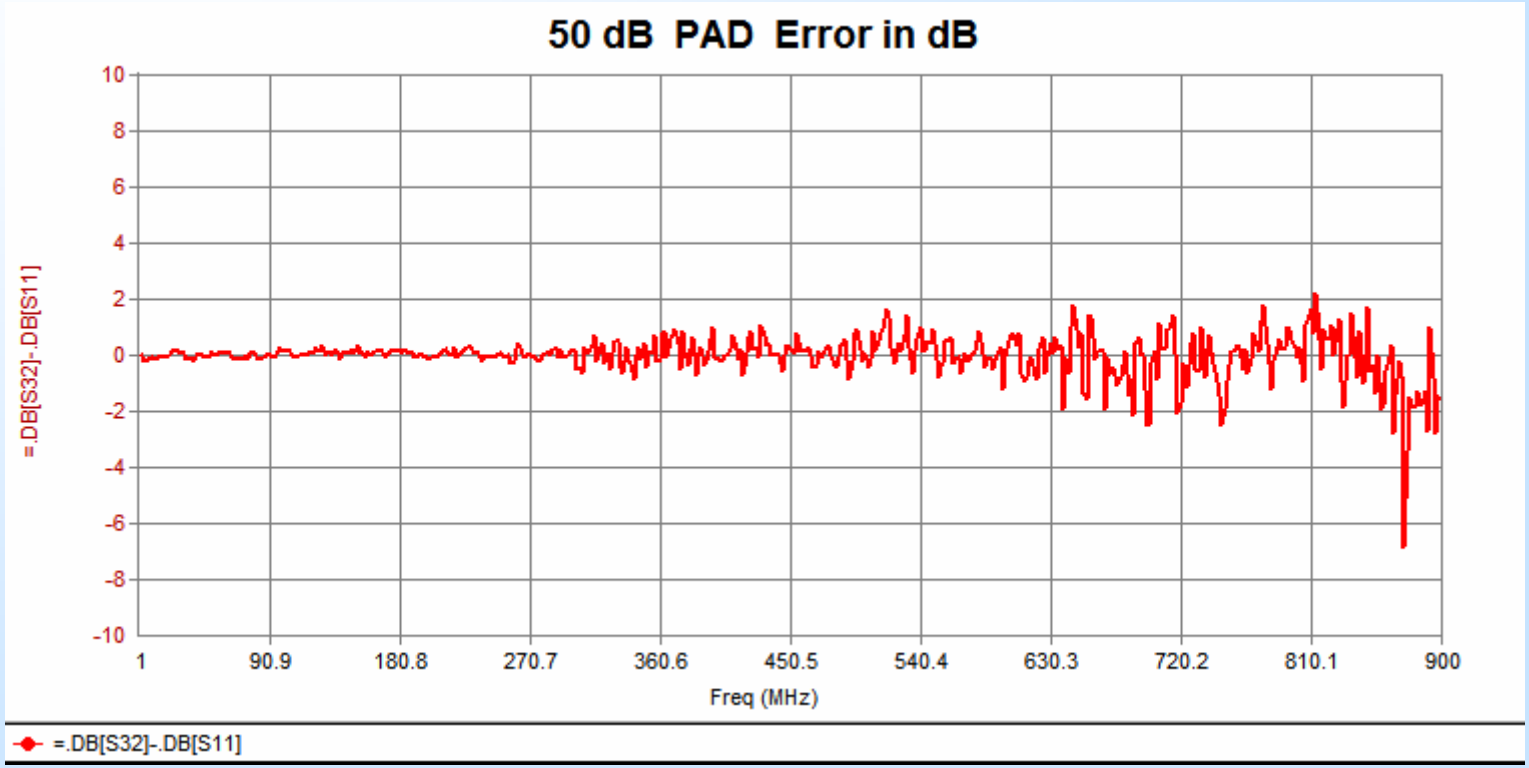
S21 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0



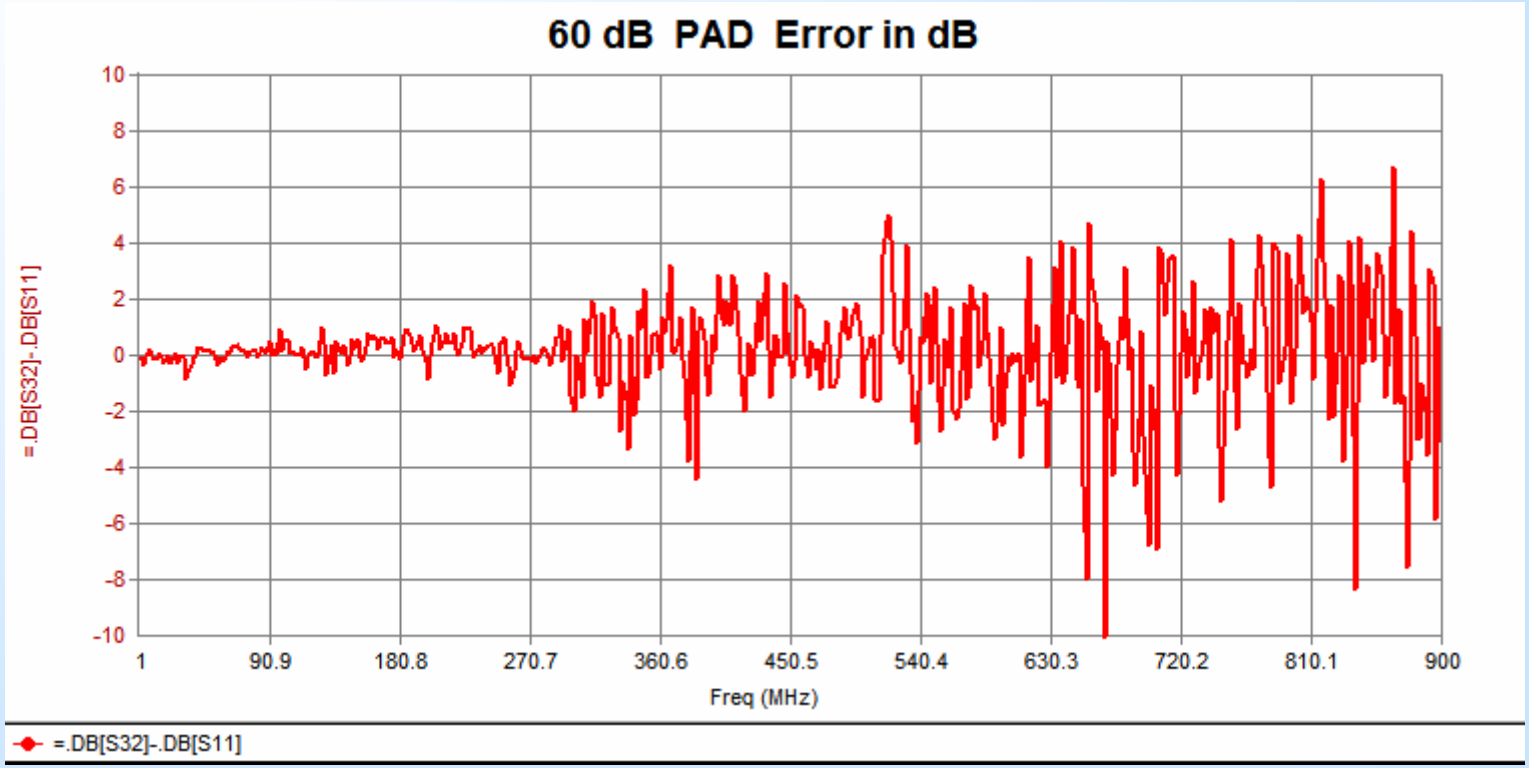
S21 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0



S21 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0

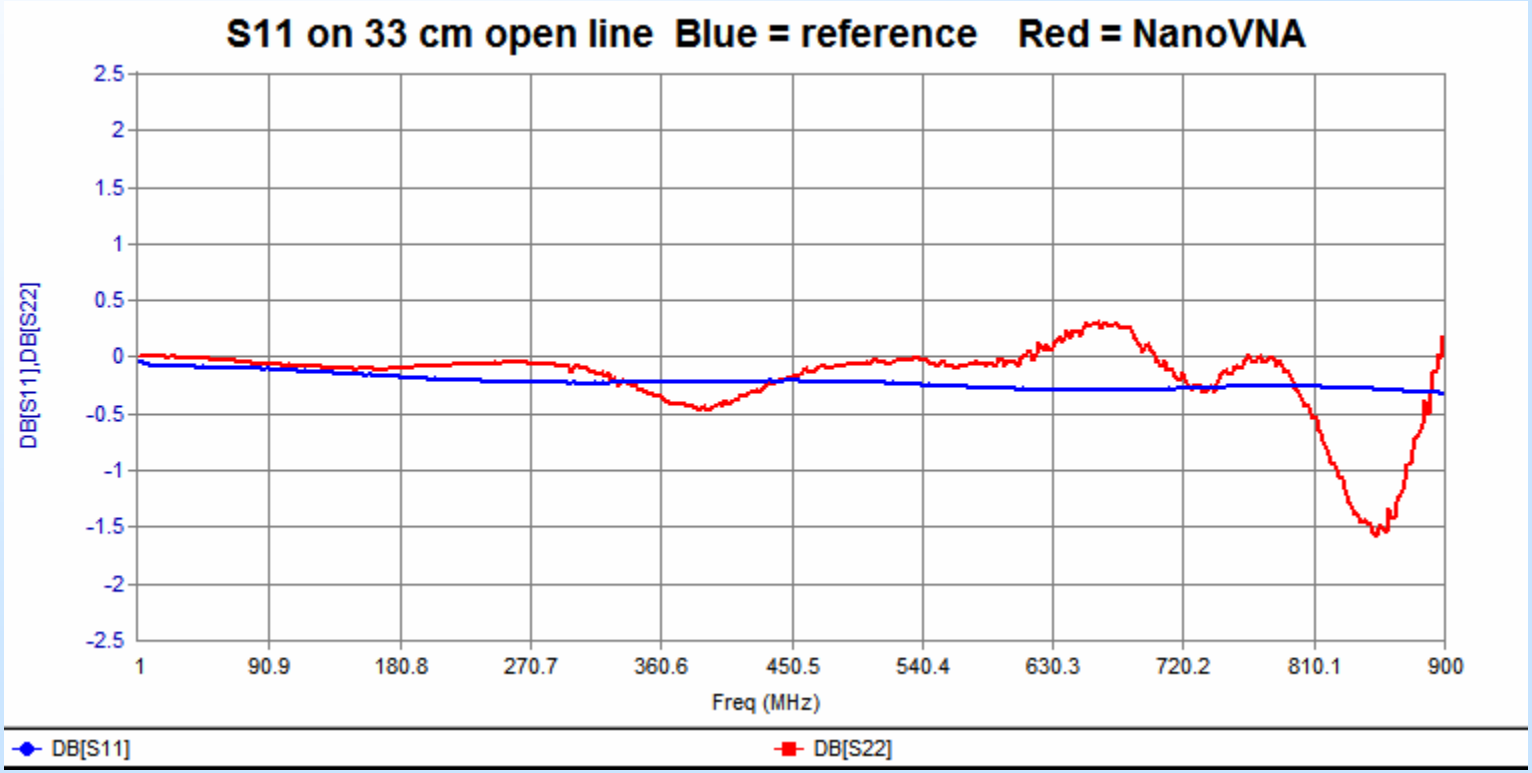


S21 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0



S11 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0

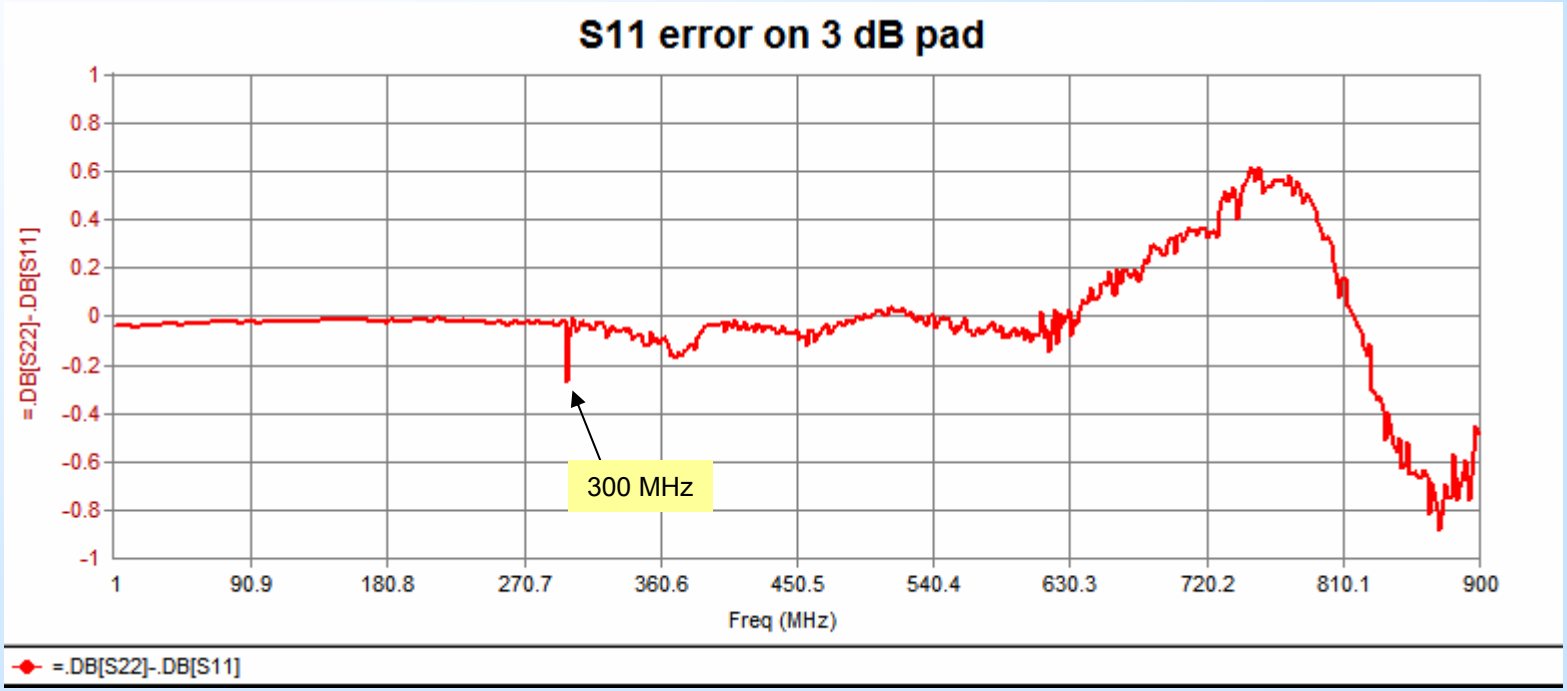
Red curve (NanoVNA) wanders above and below 0 dB
The reflection coefficient cannot exceed 1.000… (or 0 dB of return loss)
Indicates improper calibration or instrument inherent errors.
Blue curve as obtained with HP 8753D VNA



Note: Line is 33 cm RG-402 semi rigid

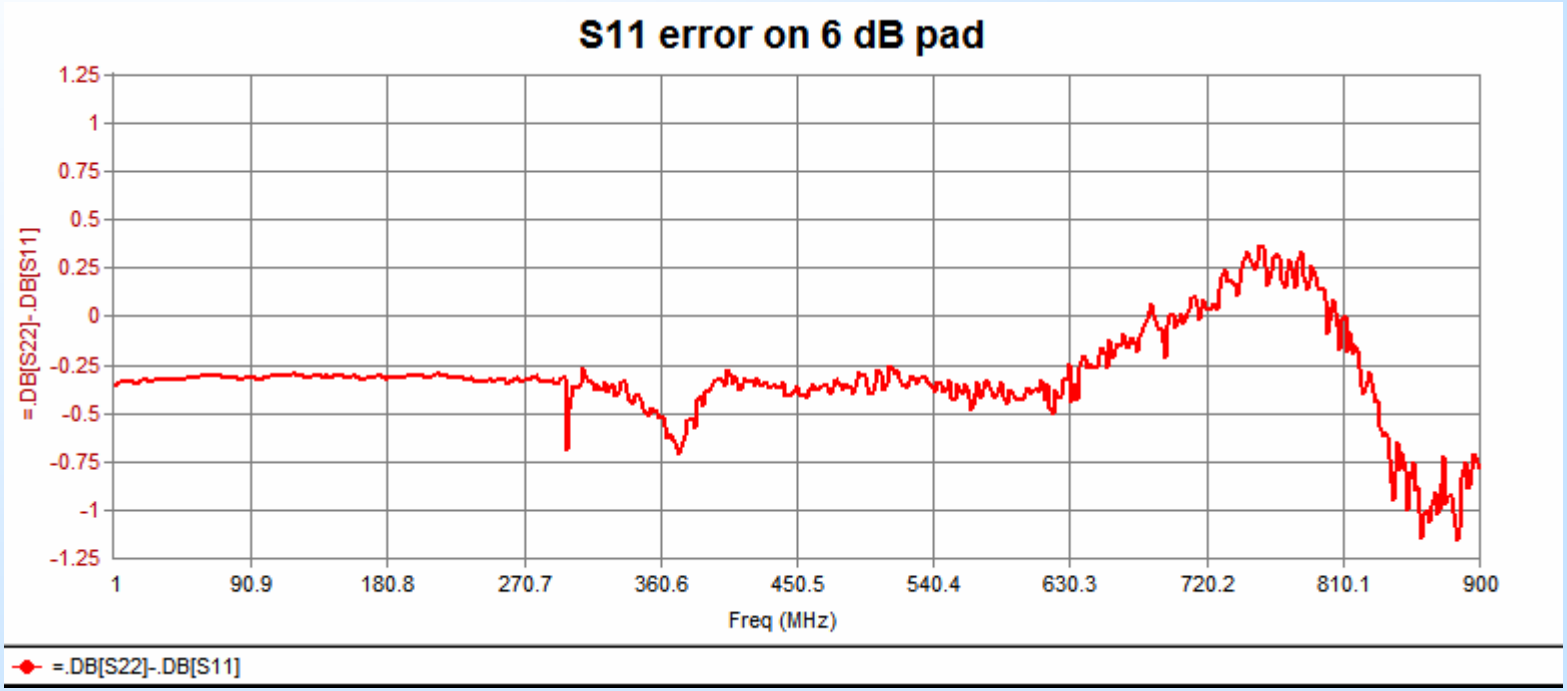
S11 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0

Note the 300 MHz glitch which is present on **all** S11 curves
The actual return loss measured is ~ 6 dB



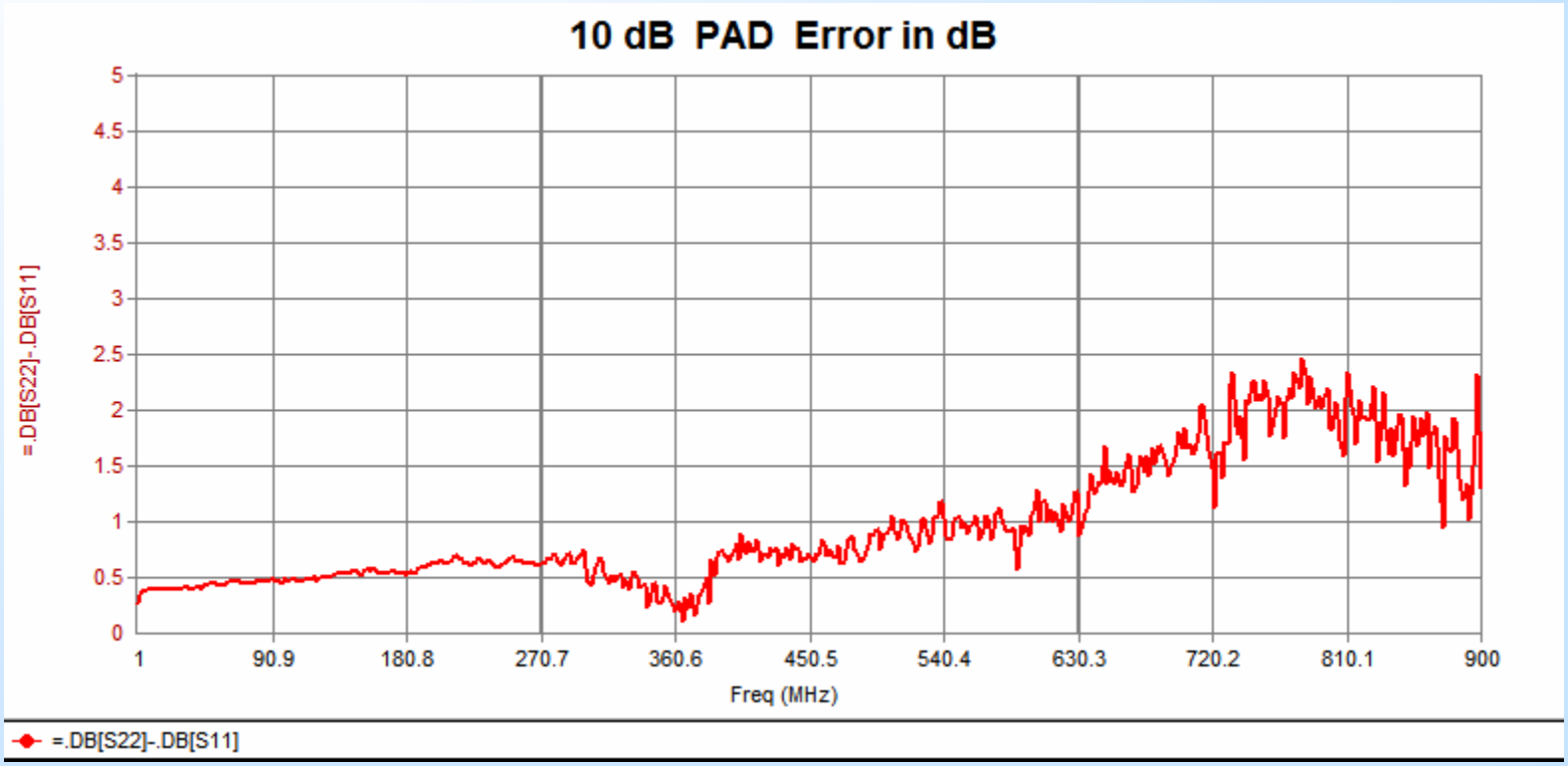
S11 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0

Note the 300 MHz glitch which is present on all S11 curves
The actual return loss measured is ~ 12 dB



S11 MODE 505 points, no averaging Using NanoVNA Saver 0.2.0

Note the 300 MHz glitch which is present on all S11 curves
The actual return loss measured is ~ 20 dB



Male and female Cal Kit standards

Male S-O-L
Male Cal Kit file

Male Calibration file

Cal plane

Female Calibration file

Female S-O-L
Female Cal Kit file