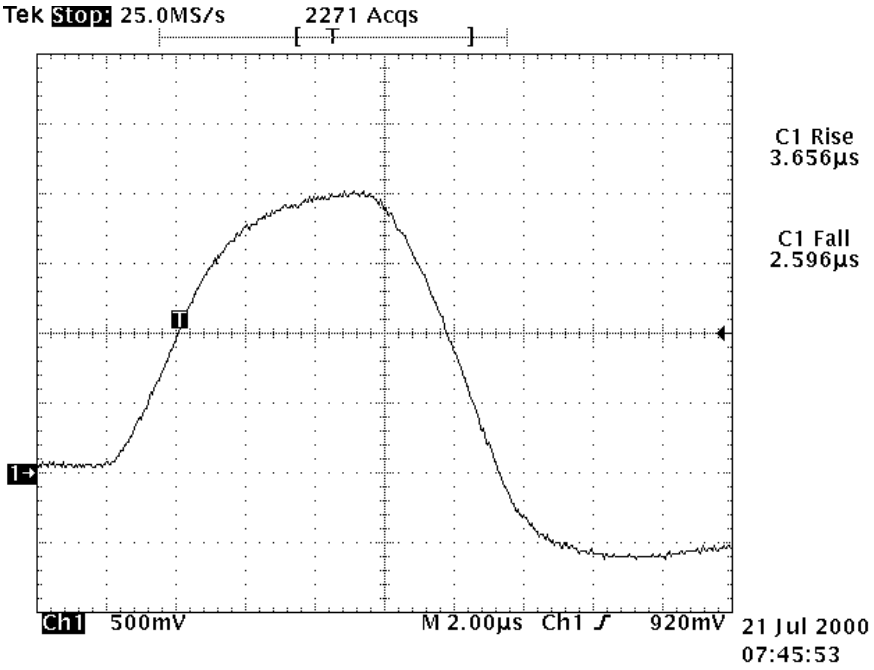
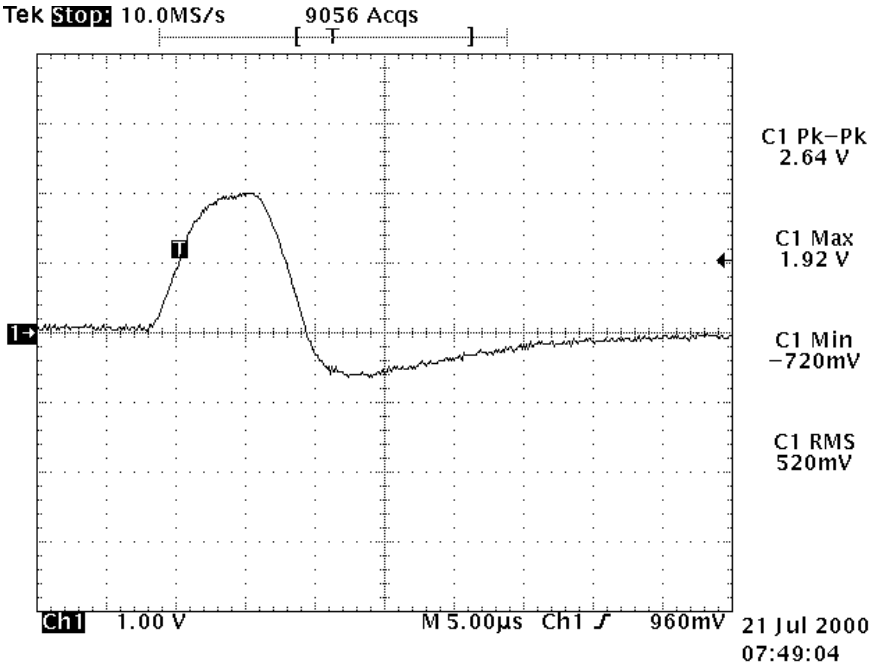
AC Coupled Diode Discovery Prototype Bandwidth Measurements Running continuous Discovery Pulses with Pseudo-Random Spaces

follow up from the IEEE802.3af, July Plenary

Rick Brooks, 7/20/2000

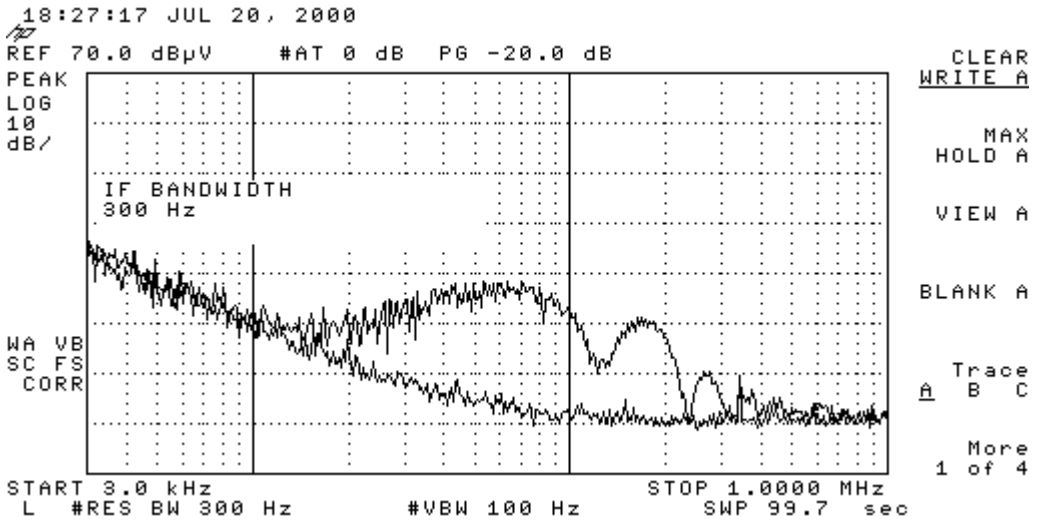


The discovery transmit pulse measured at the junction of the discovery T/R transformer and the 100 ohm resistor (R12, or R13), and with a 120 meter CAT-5 cable, far end open

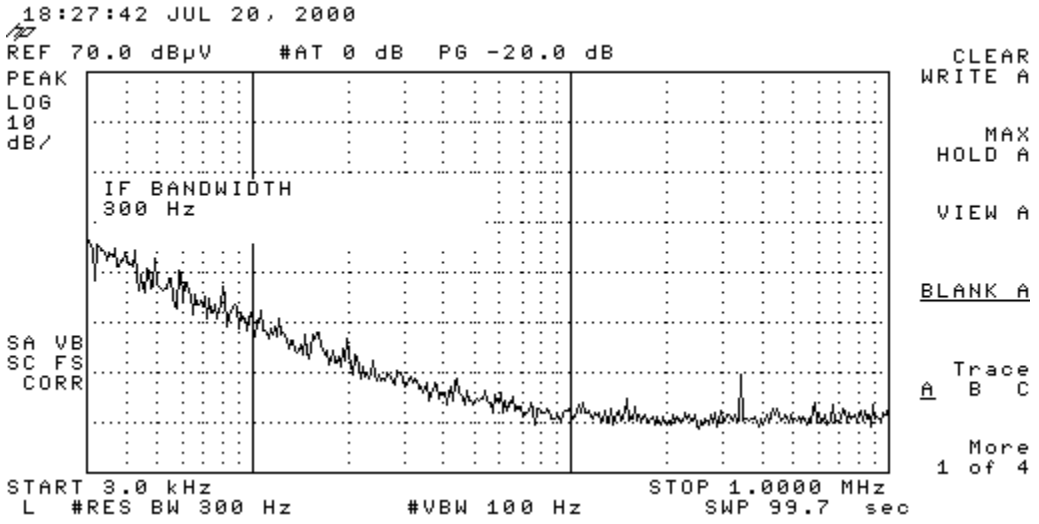


The same signal as above, discovery mode is continuously running

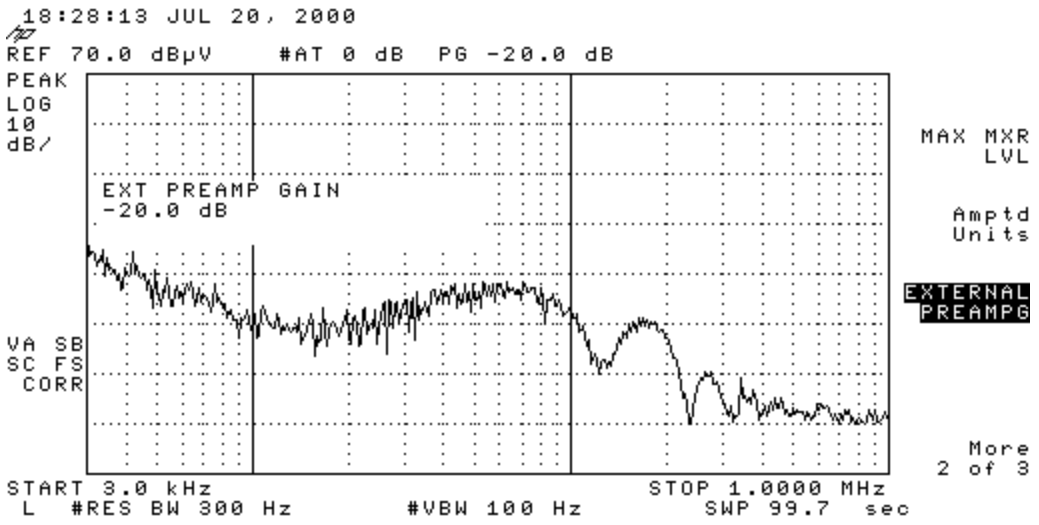
Note: the probe attenuation was measured as 20 dB, and therefore the preamp gain factor was set at: –20 dB for all measurements below.



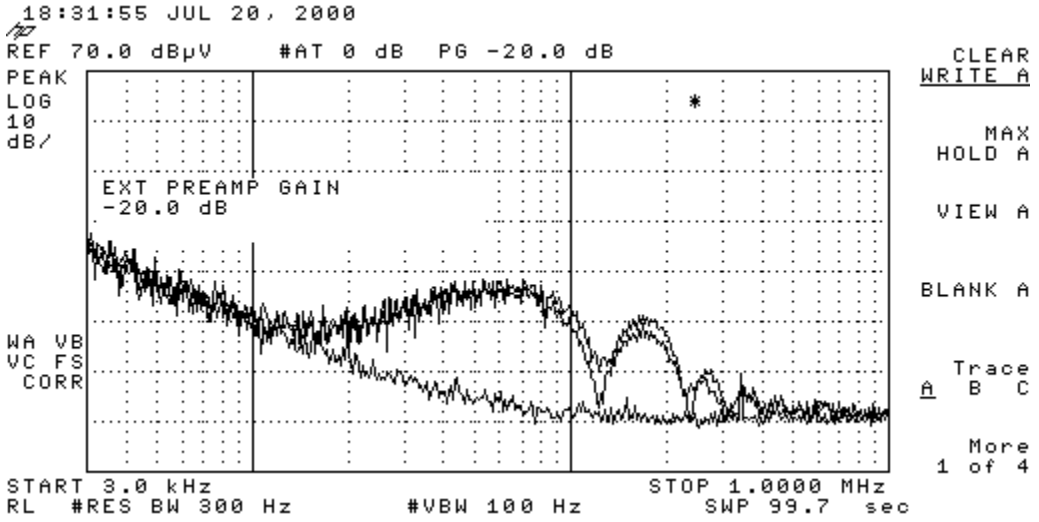
Spectra of Discovery Pulses vs Spectrum Analyzer Noise Floor, (log plot)
Input voltage to Power Supply is off
Discovery Circuit running on 3.3 VDC (top trace)
Spectrum Analyzer Noise Floor (bottom trace)
Measured at the junction of the discovery T/R transformer and the 100 ohm resistor (R12, or R13), and with a 120 meter CAT-5 cable, far end open



Spectrum Analyzer noise floor, (log plot)
The probe was not attached, yes that small spike is always there….



Spectra of Discovery Pulses, (log plot)
Input voltage to Power Supply is off, Discovery Circuit running on 3.3 VDC
Measured at the junction of the discovery T/R transformer and the 100 ohm resistor (R12, or R13), and with a 120 meter CAT-5 cable, far end open



Spectra of Discovery Pulses, vs Spectrum Analyzer Noise Floor, (log plot)
Input voltage to Power Supply is off
Discovery Circuit running on 3.3 VDC (top trace)
Discovery Circuit running on 3.0 VDC (middle trace trace)
Spectrum Analyzer Noise Floor (bottom trace)
Measured at the junction of the discovery T/R transformer and the 100 ohm resistor (R12, or R13), and with a 120 meter CAT-5 cable, far end open