Recommended VNA Setup

- IF BW = 300Hz

- Leveled Output Power = -5dBm

  - Is there a difference in NEXT/FEXT at 0dBm?

- Averaging = 16

  - This takes a long time! We need to cut this back to 4 or 8max.

- Step Size = 10Mhz

  - F=15000Mhz, Step = 10Mhz, # points = (Fend-Fstart)/step+1 < 1600

  - Value chosen as Nwhole = Fstart/step to ease invFFT conversion

- Frequency Range = 50Mhz to 15000Mhz

  - Do we need this range? 12500 seems to cover enough.

- Null of -25dBm followed by +25dBm within 300Mhz is suspect data.

  - Group delay and phase effected only … VNA phase detector loses lock.

  - SDD11, SDD22, SDD21, FEXT and NEXT magnitude are okay.

Launch Power

POWER CONVERSION TABLE

System: 50 Ω

dBm	mW	dBmV	mV(RMS)	mVp	mVpp	uV(RMS)	dBuV
-130	1.00E-13	-83.01	7.07E-05	1.00E-04	2.00E-04	7.07E-02	-23.01
-100	1.00E-10	-53.01	2.24E-03	3.16E-03	6.32E-03	2.24E+00	6.99
-50	1.00E-05	-3.01	7.07E-01	1.00E+00	2.00E+00	7.07E+02	56.99
-45	3.16E-05	1.99	1.26	1.78	3.56	1.26E+03	61.99
-40	1.00E-04	6.99	2.24	3.16	6.32	2.24E+03	66.99
-35	3.16E-04	11.99	3.98	5.62	11.25	3.98E+03	71.99
-30	1.00E-03	16.99	7.07	10.00	20.00	7.07E+03	76.99
-25	3.16E-03	21.99	12.57	17.78	35.57	1.26E+04	81.99
-20	0.01	26.99	22.36	31.62	63.25	2.24E+04	86.99
-15	0.03	31.99	39.76	56.23	112.47	3.98E+04	91.99
-10	0.10	36.99	70.71	100.00	200.00	7.07E+04	96.99
-5	0.32	41.99	125.74	177.83	355.66	1.26E+05	101.99
0	1.00	46.99	223.61	316.23	632.46	2.24E+05	106.99
1	1.26	47.99	250.89	354.81	709.63	2.51E+05	107.99
2	1.58	48.99	281.50	398.11	796.21	2.82E+05	108.99
3	2.00	49.99	315.85	446.68	893.37	3.16E+05	109.99
4	2.51	50.99	354.39	501.19	1002.37	3.54E+05	110.99
5	3.16	51.99	397.64	562.34	1124.68	3.98E+05	111.99

VNA Study 28 June 2004

Settings we use:

	# Ports	F start in Mhz	F stop in Mhz	points	PWR in dBm	IF BW in Khz	Avg	Cal kit Freq Range
Agilent E8364B 50G VNA	2	50	20050	801	0	35	16	6Ghz
Agilent 8720ES	2	50	20000	1600	0/+5	1	16++	26Ghz
??	??	??	10000	1000	-10	1	??	20Ghz
8722ES/N4418	4	50	20000	1600	-5	0.1	??	26Ghz
8720ES/N4418	4	50	20000	1600	5	1	??	?
Anritsu 3739CK	2	50	18000	1600	0	0.1	??	26Ghz

**10G Back Plane Ethernet
Study Group**