



FCC, VCCI, CISPR, CE, AUSTEL, NZ
UL, CSA, TUV, BSMI, DHHS, NVLAP

561F MONTEREY ROAD, SAN JOSE, CA 95037-9001
PHONE: (408) 463-0885 FAX: (408) 463-0888

Project #: 02U1259-1
Report #: 020426A
Date & Time: 04/26/02 9:11 AM
Test Engr: JCH

Company: Interwave Communications
EUT Description: Pt to Pt Radio Link, Link Cx, 5.3 GHz TX Low S/N 00644C
Test Configuration : EUT Only
Type of Test: FCC 15.205/15.209
Mode of Operation: Transmitt

A-Site
 B-Site
 C-Site
 F-Site
 6 Worst Data
 Descending

Freq. (MHz)	Reading (dBuV)	AF (dB)	Closs (dB)	Pre-amp (dB)	Level (dBuV/m)	Limit FCC_B	Margin (dB)	Pol (H/V)	Az (Deg)	Height (Meter)	Mark (P/Q/A)
80.31	48.70	7.46	2.39	31.58	26.97	40.00	-13.03	3mH	180.00	1.00	P
150.00	51.30	16.46	3.46	31.11	40.11	43.50	-3.39	3mH	180.00	1.00	P
160.00	45.80	16.98	3.63	31.07	35.34	43.50	-8.16	3mH	180.00	1.00	P
199.92	49.80	16.56	4.18	30.78	39.76	43.50	-3.74	3mH	180.00	1.00	P
239.99	57.30	11.44	4.72	30.46	43.01	46.00	-2.99	3mH	180.00	1.00	P
279.98	44.30	13.56	5.23	30.29	32.80	46.00	-13.20	3mH	180.00	1.00	P
299.98	43.60	14.71	5.48	30.23	33.56	46.00	-12.44	3mH	180.00	1.00	P
350.00	43.30	15.16	6.05	30.40	34.11	46.00	-11.89	3mH	180.00	1.00	P
359.99	52.40	15.26	6.17	30.44	43.39	46.00	-2.61	3mH	180.00	1.00	P
400.00	47.40	15.62	6.63	30.58	39.07	46.00	-6.93	3mH	180.00	1.00	P
480.00	38.40	17.50	7.57	30.81	32.65	46.00	-13.35	3mH	180.00	1.00	P
650.00	36.40	20.22	9.31	30.59	35.34	46.00	-10.66	3mH	180.00	1.00	P

Total data #: 12
V.2a



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561F MONTEREY ROAD, SAN JOSE, CA 95037-9001
PHONE: (408) 463-0885 FAX: (408) 463-0888

Project #: 02U1259-1
Report #: 020425A
Date & Time: 04/25/02 3:25 PM
Test Engr: JCH

Company: Interwave Communications
EUT Description: P to P DS3 radio link, Link Cx 5.3 GHz, Tx High, S/N 00644B
Test Configuration: EUT Only
Type of Test: FCC 15.205/15.209
Mode of Operation: Transmitt

Freq. (MHz)	Reading (dBuV)	AF (dB)	Closs (dB)	Pre-amp (dB)	Level (dBuV/m)	Limit FCC_B	Margin (dB)	Pol (H/V)	Az (Deg)	Height (Meter)	Mark (P/Q/A)
79.94	47.60	7.37	2.38	31.58	25.77	40.00	-14.23	3mH	180.00	1.00	P
149.99	49.40	16.46	3.46	31.11	38.21	43.50	-5.29	3mH	180.00	1.00	P
160.00	46.90	16.98	3.63	31.07	36.44	43.50	-7.06	3mH	180.00	1.00	P
200.00	52.00	16.57	4.18	30.78	41.97	43.50	-1.53	3mH	180.00	1.00	P
220.00	49.70	10.67	4.45	30.62	34.20	46.00	-11.80	3mH	180.00	1.00	P
240.00	57.80	11.44	4.72	30.46	43.51	46.00	-2.49	3mH	180.00	1.00	P
250.00	56.00	11.83	4.86	30.38	42.31	46.00	-3.69	3mH	180.00	1.00	P
279.99	53.60	13.56	5.23	30.29	42.10	46.00	-3.90	3mH	180.00	1.00	P
319.99	55.30	14.89	5.71	30.30	45.60	46.00	-0.40	3mH	180.00	1.00	P
350.00	50.30	15.17	6.06	30.41	41.12	46.00	-4.88	3mH	180.00	1.00	P
359.99	46.50	15.26	6.17	30.44	37.49	46.00	-8.51	3mH	180.00	1.00	P
380.00	42.20	15.44	6.40	30.51	33.53	46.00	-12.47	3mH	180.00	1.00	P
399.98	45.00	15.62	6.63	30.58	36.67	46.00	-9.33	3mH	180.00	1.00	P
420.00	41.50	16.09	6.86	30.64	33.82	46.00	-12.18	3mH	180.00	1.00	P
479.99	42.90	17.50	7.57	30.81	37.15	46.00	-8.85	3mH	180.00	1.00	P

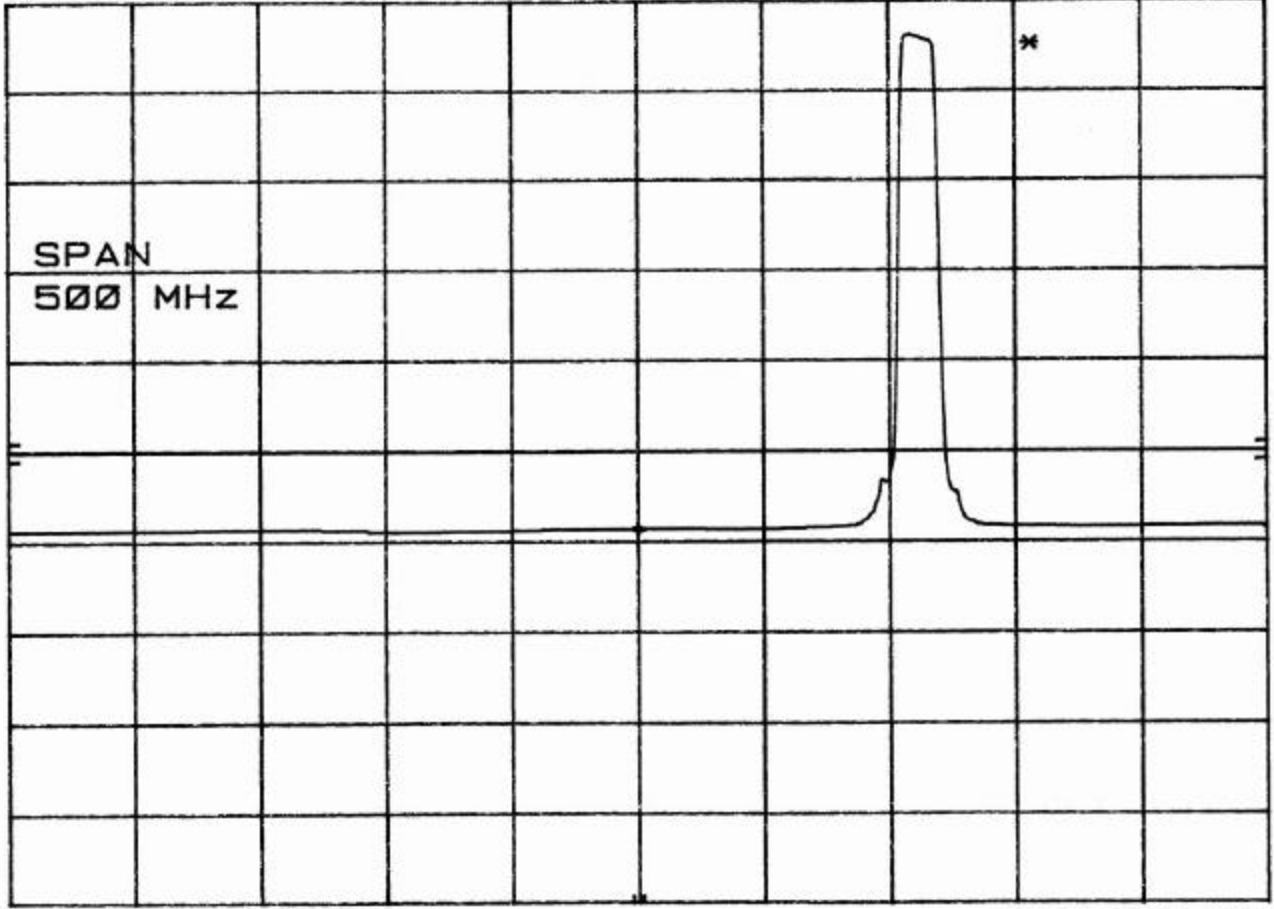
<p>04/29/02 FCC Measurement Compliance Certification Services, Morgan Hill Open Field Site</p> <p>Test Engr: Jerry Hovey Project #: 02U1259-1 Company: Interwave Communications EUT Descrip.: 5.3 GHz Point to Point DSX3 / IP Transceiver, Antenna : Integral EUT M/N: LINK CX 5.3 TX Low S/N 00644C, TX High S/N 00644B Test Target: FCC Class B</p> <p>Equipment for 1-22 GHz: HP8566B Analyzer HP 8449B S/N 3008A00369 EMCO 3115 Antenna Cable: 3.0 feet</p> <p>Equipment for 22 - 58 GHz: HP8566B Analyzer HP 11975A Amplifier (LO) HP 11970K External mixer/antenna Cable: IF Only (321 MHz)</p> <p>Peak Measurements: 1 MHz Resolution Bandwidth 1MHz Video Bandwidth</p> <p>Average Measurements: 1MHz Resolution Bandwidth 10Hz Video Bandwidth</p>															
f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes
5.3 LOW															
10.520	3.0	47.0	36.0	38.8	2.1	-34.0	-10.3	1.0	44.6	33.6	74.0	54.0	-29.4	-20.4	2nd Harmonic, Horizontal (NF)
15.780	3.0	40.2	30.3	38.0	2.7	-33.0	-10.3	1.0	38.6	28.7	74.0	54.0	-35.4	-25.3	3rd Harmonic, Horizontal (NF)
21.040	3.0	41.9	31.2	32.5	3.4	-33.0	-10.3	1.0	35.5	24.8	74.0	54.0	-38.5	-29.2	4th Harmonic, Horizontal (NF)
5.3 HIGH															
10.670	3.0	46.8	35.5	38.8	2.1	-34.0	-10.3	1.0	44.4	33.1	74.0	54.0	-29.6	-20.9	2nd Harmonic, Horizontal (NF)
16.010	3.0	41.1	30.4	38.0	2.7	-33.0	-10.3	1.0	39.5	28.8	74.0	54.0	-34.5	-25.2	3rd Harmonic, Horizontal (NF)
21.350	3.0	42.3	31.5	32.5	3.4	-33.0	-10.3	1.0	35.9	25.1	74.0	54.0	-38.1	-28.9	4th Harmonic, Horizontal (NF)
f	Measurement Frequency					Amp	Preamp Gain					Avg Lim	Average Field Strength Limit		
Dist	Distance to Antenna					D Corr	Distance Correct to 3 meters					Pk Lim	Peak Field Strength Limit		
Read	Analyzer Reading					Avg	Average Field Strength @ 3 m					Avg Mar	Margin vs. Average Limit		
AF	Antenna Factor					Peak	Calculated Peak Field Strength					Pk Mar	Margin vs. Peak Limit		
CL	Cable Loss					HPF	High Pass Filter								
<p>Note: Readings up to 40 GHz are noise floor for the spectrum analyzer which was 40-45 dBuV/m</p>															

hp BANDEDGE LOW MKR 5.150 0 GHz
REF 104.0 dB μ V ATTEN 0 dB 45.30 dB μ V

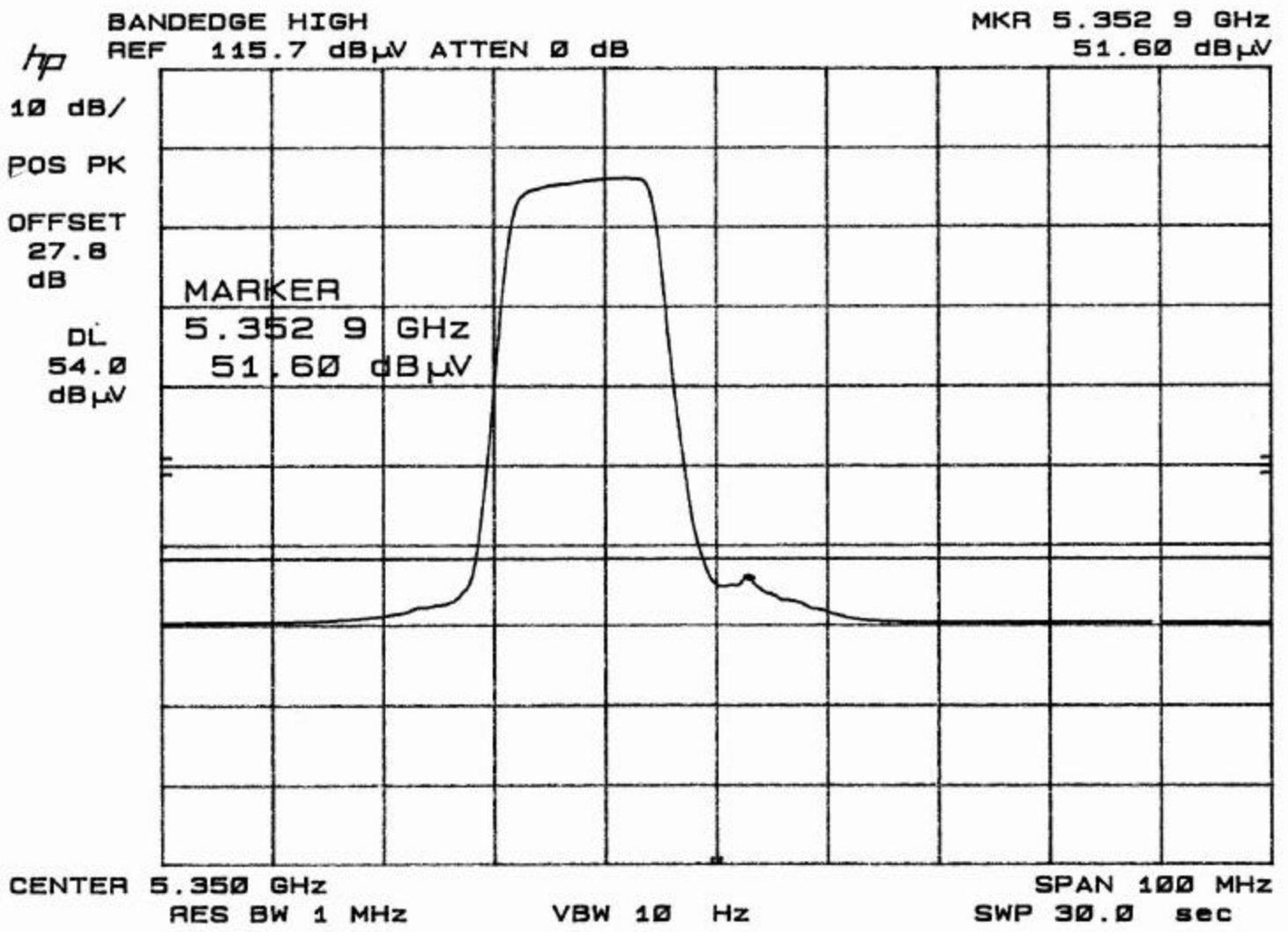
10 dB/

OFFSET
27.8
dB

DL
54.0
dB μ V



CENTER 5.150 GHz RES BW 1 MHz VBW 10 Hz SWP 150 sec SPAN 500 MHz



05/06/02

**FCC Measurement
Compliance Certification Services, Morgan Hill Open Field Site**

Test Engr:	Frank Ibrahim
Project #:	02U1259-1
Company:	Interwave Communications
EUT Descrip.:	5.3/5.8 GHz Point to Point DSX3 / IP Transceiver
EUT M/N:	LINK CX
Test Target:	FCC Class B

List of Equipment used

Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date
Spectrum Analyzer	HP100Hz - 22GHz	8566B	2140A01296	05/04/2002
Quasi-Peak Detector	HP9K - 1GHz	85650A	2811A01335	05/04/2002
Spectrum Display	HP	85662A	3026A19146	06/28/2002
Pre-Amplifier	MITEQ1-26GHz	NSP2600-44	646456	04/26/2003
Horn Antenna	EMCO	3115	6739	01/31/2003
LISN	Fischer 9k - 100MHz	FCC-LISN-50/250-25-2	114	08/08/2002
Line Filter	Lindgren 10k - 10GHz	LMF-3489	497	N.C.R.
LISN	Solar Elec. Co.	8012-50-R-24-BNC	837990	08/08/2002
EMI Test Receiver	Rohde & Schwarz	ESHS 20	827129/006	04/17/2003
Horn Antenna	Antenna Research Associates	MWH 1826/B	1013	07/26/2002