

1.1 Test Data Transmitting at 88.3 MHz (lower Transmit Frequency)

1.1.1 88.3 MHz Fundamental Frequency Emissions Test Data

griffin(4/99)

DNB Engineering, Inc.

Page 1

RADIATED EMISSIONS CFR 47 Part 15 Section 15.109

File # 46073 Engr: Clay Allred Date: Jun 08, 2004 Standard: Part 15
 Site: 2 Distance: 3 meter Cables: 2.2 Class: B
 Bloon: 186 Log: 11 Amp 1: 67

Freq. (MHz)	Meas'd Factors (dBuV)	Amp Factors (dB)	Cable Factors (dB)	Antenna Factors (dB)	Total Factors (dBuV/m)	Total (dBuV/m)	Limit (dBuV/m)	Delta (dB)	Azimuth (degree)	Height (m)	Hor/ Vert	HP/ R&S	Meas Type	Comments
88.300	60.5	26.1	2.7	8.8	-14.6	45.90	47.9	-2.00	98	4	Hor/	R&S	Ave	Playing
88.300	60.4	26.1	2.7	8.8	-14.6	45.80	47.9	-2.10	98	4	Hor/	R&S	Ave	paused
88.300	60.4	26.1	2.7	8.8	-14.6	45.80	47.9	-2.10	98	4	Hor/	R&S	CP	Playing
88.300	61.3	26.1	2.7	7.7	-15.7	45.60	47.9	-2.30	98	1	Vert	R&S	Peak	Playing
88.300	59.8	26.1	2.7	8.8	-14.6	45.20	47.9	-2.70	98	4	Hor/	R&S	CP	paused
88.300	55.0	26.1	2.7	7.7	-15.7	39.30	47.9	-8.60	360	1	Vert	R&S	CP	Playing
88.300	54.9	26.1	2.7	7.7	-15.7	39.20	47.9	-8.70	360	2.75	Vert	R&S	Ave	Paused
88.300	54.7	26.1	2.7	7.7	-15.7	39.00	47.9	-8.90	360	1	Vert	R&S	Ave	Playing
88.300	53.5	26.1	2.7	7.7	-15.7	37.80	47.9	-10.10	360	2.75	Vert	R&S	CP	paused

1100 E. Chaik Creek Rd.
Coalville, UT, 84017

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RADIATED EMISSIONS
CFR 47 Part 15 Section 15.109

File # 46073 Eng'r: Carey Yates Date: June 8, 2004 Standard: FCC
 Site: 1 Distance: 3 meter Cables: 12
 Bicon: 187 Log: 10 Amp 1: 65 Class: B

Meas Type	Meas'd (dBuV)	Amp Factors (dB)	Cable Factors (dB)	Antenna Factors (dB)	Total Factors (dBuV/m)	Limit (dBuV/m)	Delta (dB)	Azimuth (degree)	Height (m)	Hor/ Vert	HP/ R&S	Meas Type	Comments
Q	28.0	27.6	6.2	21.5	0.1	28.10	-17.90	88	1.45	Hor/	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	23.8	27.7	6.3	22.8	1.4	25.20	-20.80	94	2.56	Hor/	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	20.1	27.4	6.7	25.4	4.7	24.80	-21.20	0	1	Vert	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	19.3	27.4	6.7	24.4	3.7	23.00	-23.00	360	4	Hor/	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	20.8	27.7	6.3	23.2	1.8	22.60	-23.40	350	1	Vert	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	19.0	27.5	6.5	24.1	3.1	22.10	-23.90	0	1	Vert	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	21.3	27.6	6.2	21.6	0.2	21.50	-24.50	13	1	Vert	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	18.9	27.5	6.5	23.4	2.4	21.30	-24.70	0	2.97	Hor/	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	21.1	27.4	5.5	19.9	-2.0	19.10	-26.90	300	4	Hor/	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	22.6	27.0	4.8	18.3	-3.9	18.70	-27.30	288	2.9	Hor/	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	19.6	27.4	5.5	20.2	-1.7	17.90	-28.10	292	1	Vert	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	19.1	27.0	4.8	18.5	-3.7	15.40	-30.60	0	1	Vert	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	16.5	25.3	5.0	18.8	-1.5	15.00	-31.00	0	4	Hor/	R&S	Q	Run #1 @trans freq of 88.3 MHz Site 2
Q	16.3	25.3	5.0	18.5	-1.8	14.50	-31.50	360	1	Vert	R&S	Q	Run #1 @trans freq of 88.3 MHz Site 2
Q	18.4	26.4	4.2	18.2	-4.0	14.40	-31.60	360	1	Vert	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	18.4	26.4	4.2	17.5	-4.7	13.70	-32.30	360	4	Hor/	R&S	Q	Run #1 @trans freq of 88.3 MHz
Q	17.4	25.8	3.6	16.0	-6.2	11.20	-32.30	0	4	Hor/	R&S	Q	Run #1 @trans freq of 88.3 MHz Site 2
Q	17.5	25.8	3.6	14.9	-7.3	10.20	-33.30	360	1	Vert	R&S	Q	Run #1 @trans freq of 88.3 MHz Site 2

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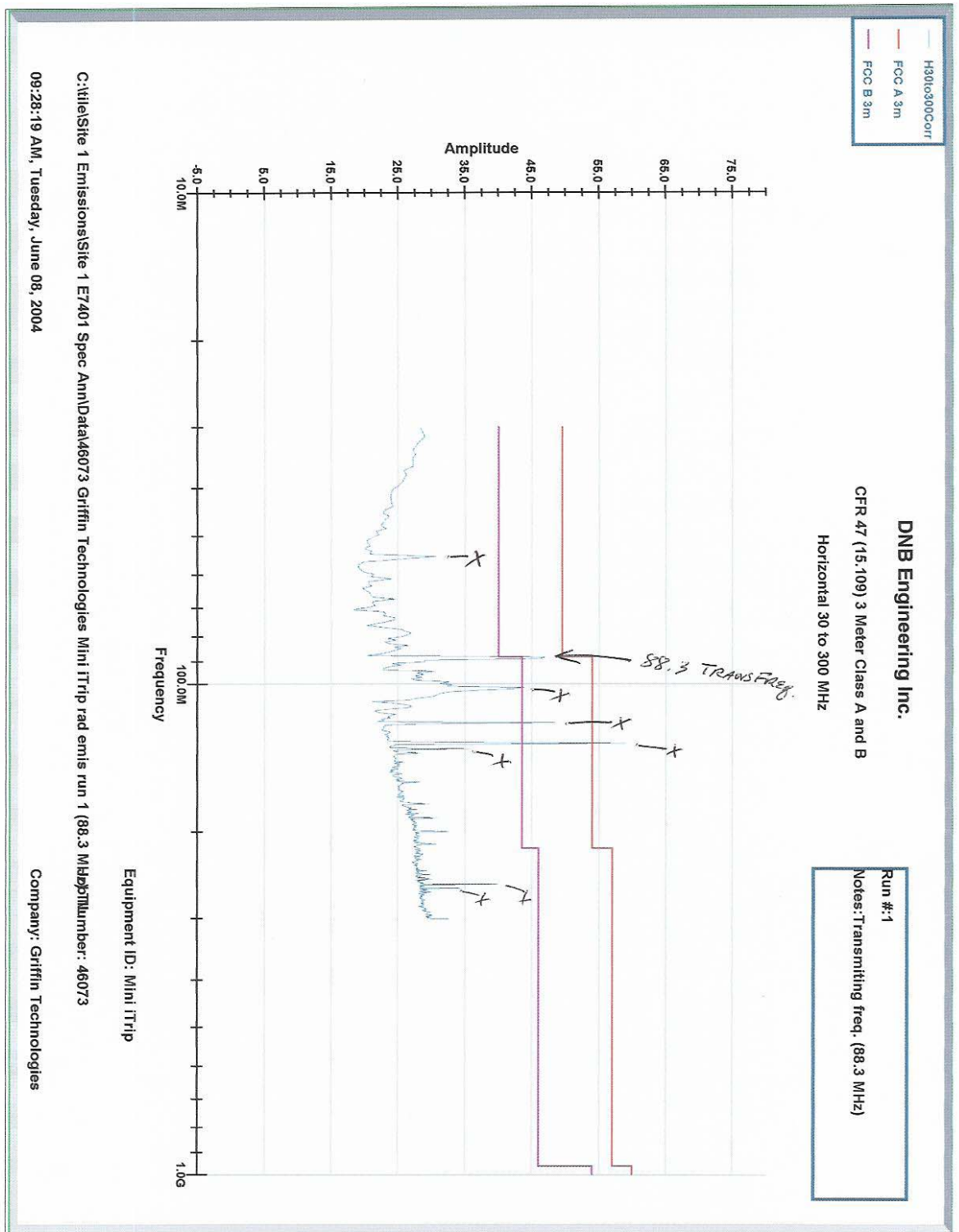


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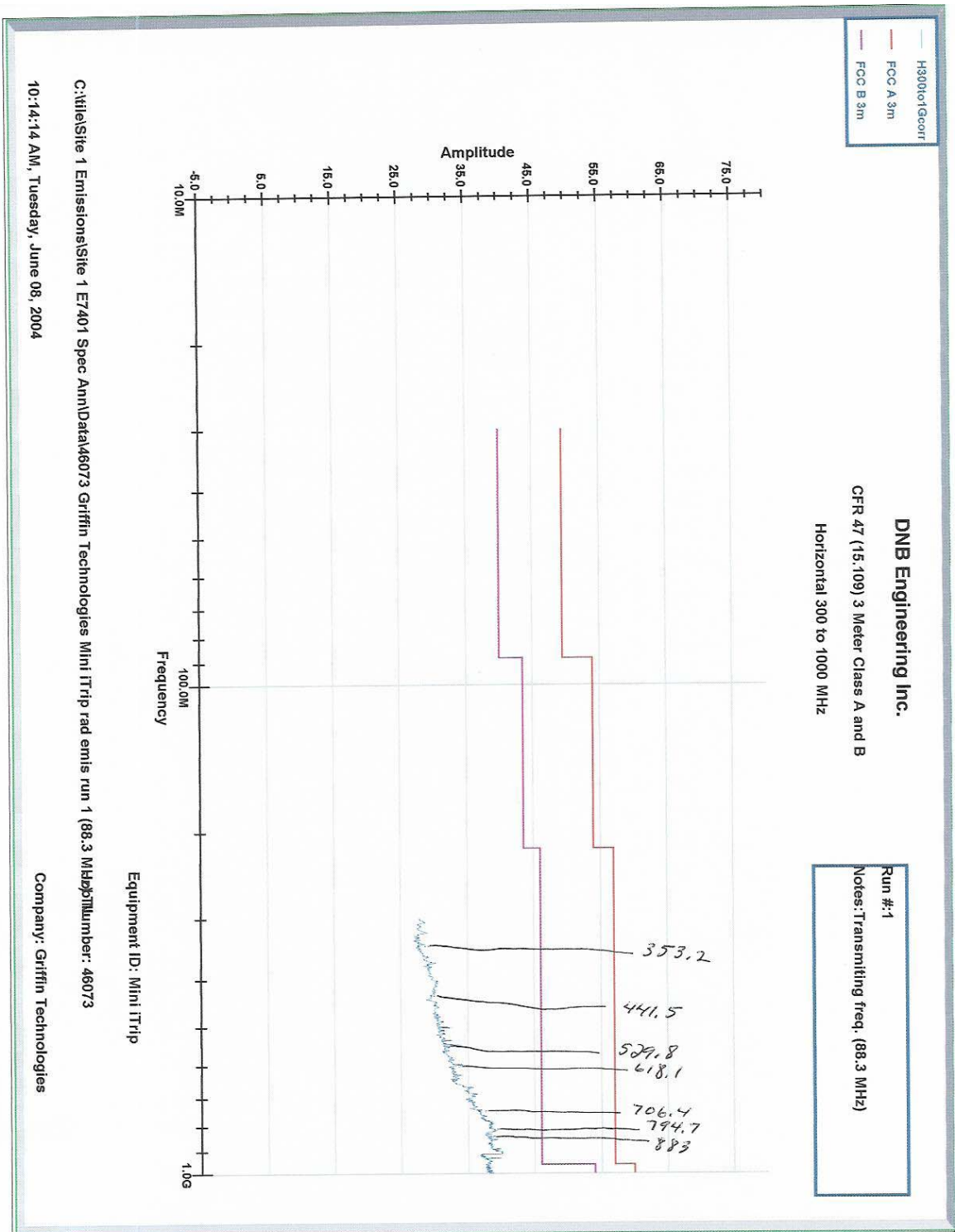
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1.1.2 Spurious Emissions Test Data

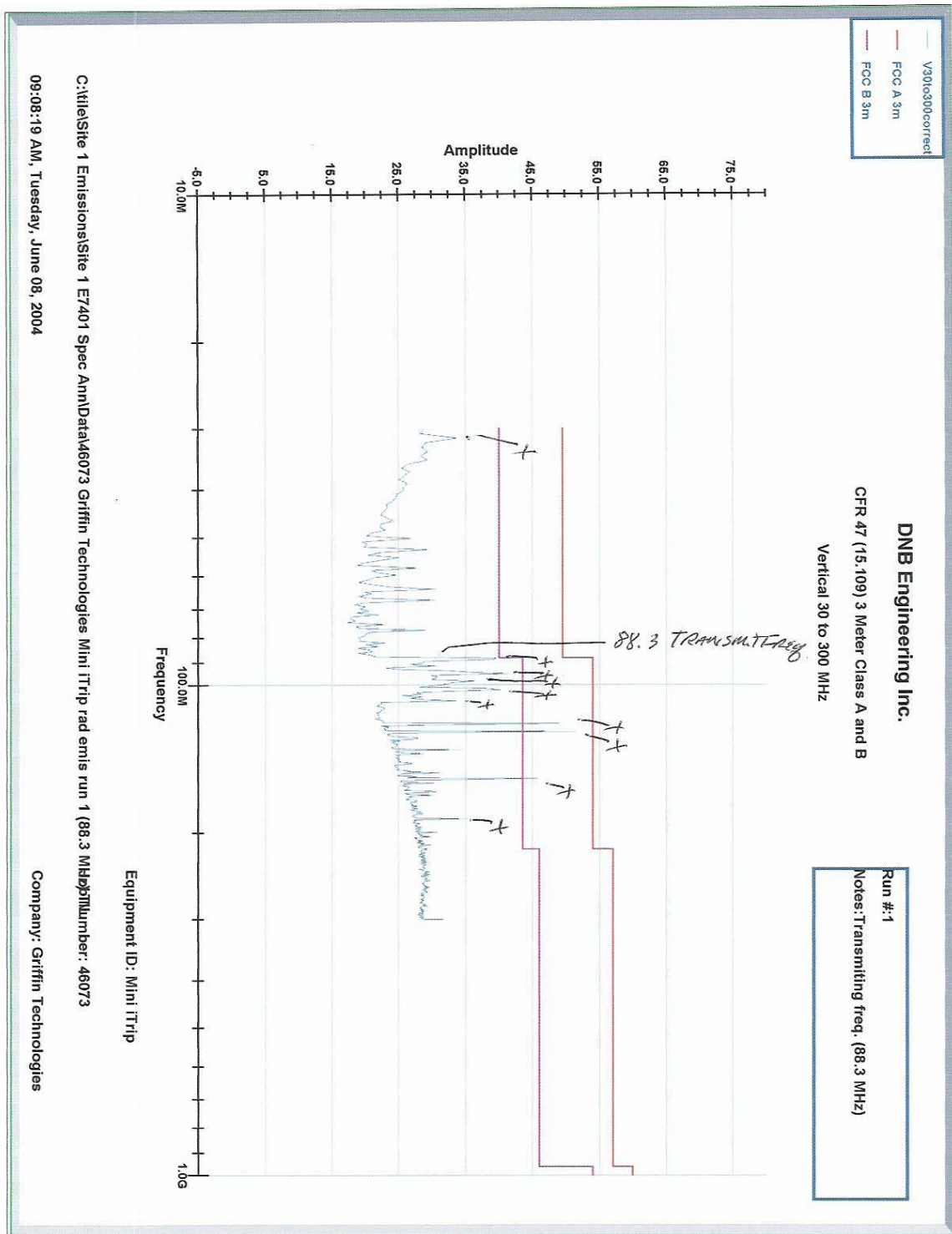
1.1.3 30-300 MHz Horizontal



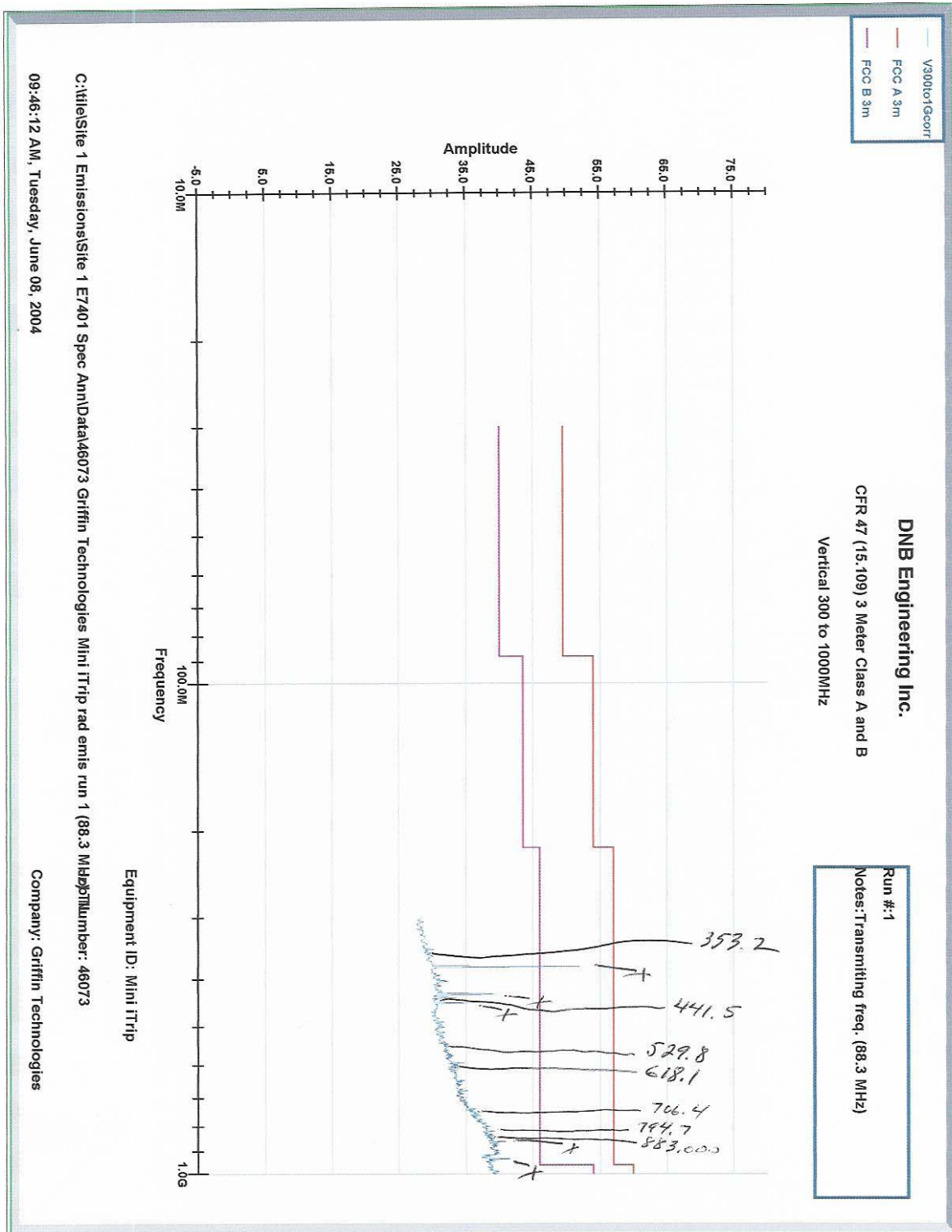
1.1.4 300-1000 MHz Horizontal



1.1.5 30-300 MHz Vertical



1.1.6 300-1000 MHz Vertical



1.2 Transmitting at 98.3 MHz (Middle Transmit Frequency)

1.2.1 98.3 MHz Fundamental Frequency Emissions Test Data

RADIATED EMISSIONS
CFR 47 Part 15 Section 15.109

File # 46073 Engr.: Clay Allred Date: Jun 08, 2004 Standard: Part 15
 Site: 2 Distance 3 meter Cables 2,2 Class: B
 Bicon: 186 Log: 11 Amp 1: 67

Freq. (MHz)	Meas'd (dBuV)	Amp Factors (dB)	Cable Factors (dB)	Antenna Factors (dB)	Total Factors (dBuV/m)	Limit (dBuV/m)	Delta (dB)	Azimuth (degree)	Height (m)	Hor/ Vert	HP/ R&S	Meas Type	Comments
98.300	49.8	26.1	2.8	10.6	-12.7	37.10	47.9	-10.80	91	1.75	Hor/ R&S	QP	Playing
98.300	48.7	26.1	2.8	10.6	-12.7	36.00	47.9	-11.90	91	1.75	Hor/ R&S	Ave	Paused
98.300	48.4	26.1	2.8	10.6	-12.7	35.70	47.9	-12.20	91	1.75	Hor/ R&S	QP	Paused
98.300	45.9	26.1	2.8	10.6	-12.7	33.20	47.9	-14.70	91	1.75	Hor/ R&S	Ave	Playing
98.300	43.9	26.1	2.8	9.4	-13.9	30.00	47.9	-17.90	186	3.25	Vert R&S	QP	Playing
98.300	41.0	26.1	2.8	9.4	-13.9	27.10	47.9	-20.80	186	3.25	Vert R&S	QP	Playing
98.300	41.0	26.1	2.8	9.4	-13.9	27.10	47.9	-20.80	186	3.25	Vert R&S	Ave	Paused
98.300	39.9	26.1	2.8	9.4	-13.9	26.00	47.9	-21.90	186	3.25	Vert R&S	QP	Paused

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RADIATED EMISSIONS
CFR 47 Part 15 Section 15.109

File # 46073 Engr.: Carey Yates Date: June 8, 2004 Standard: FCC
 Site: 1 Distance: 3 meter Cables: 1.2
 Blcon: 187 Log: 10 Amp 1: 65 Class: B

Meas Type	Meas Ave	Meas Peak	HP/	Hor/	Height	Azimuth	Delta	Limit	Total	Total	Antenna	Cable	Amp	Freq.
			R&S	Vert	(m)	(degree)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Factors	Factors	Factors	(MHz)
			CP	Vert	1	0	-22.00	46.0	24.00	4.7	25.4	6.7	27.4	884.700
			R&S	Hor/	1.95	272	-22.80	46.0	23.20	-3.0	19.2	5.1	27.3	491.500
			CP	Hor/	4	0	-23.20	46.0	22.80	3.7	24.4	6.7	27.4	884.700
			R&S	Vert	1	0	-24.00	46.0	22.00	3.1	24.1	6.5	27.5	786.400
			CP	Hor/	4	360	-24.90	46.0	21.10	2.3	23.3	6.5	27.5	786.400
			R&S	Vert	1	360	-25.40	46.0	20.60	1.5	22.9	6.3	27.7	688.100
			CP	Hor/	4	0	-25.80	46.0	20.20	1.2	22.6	6.3	27.7	688.100
			R&S	Hor/	4	320	-26.90	43.5	16.60	-3.3	19.1	3.5	26.9	196.600
			CP	Hor/	4	112	-27.20	46.0	18.80	-0.6	21.0	6.0	27.6	589.800
			R&S	Vert	1	360	-27.50	46.0	18.50	-0.5	21.1	6.0	27.6	589.800
			CP	Hor/	4	0	-28.00	46.0	17.20	-2.2	18.9	3.5	26.9	196.600
			R&S	Vert	1	114	-29.10	54.0	24.90	5.6	25.7	7.2	27.3	294.900
			CP	Hor/	4	0	-29.20	46.0	16.80	-1.6	20.7	3.7	26.0	294.900
			R&S	Vert	1	0	-29.50	46.0	16.50	-2.6	19.6	5.1	27.3	491.500
			CP	Hor/	1	360	-31.90	54.0	24.50	5.3	25.4	7.2	27.3	983.000
			R&S	Vert	1	360	-32.10	46.0	14.10	-4.6	17.7	4.4	26.7	983.000
			CP	Hor/	4	0			13.90	-4.8	17.5	4.4	26.7	393.200

Comments

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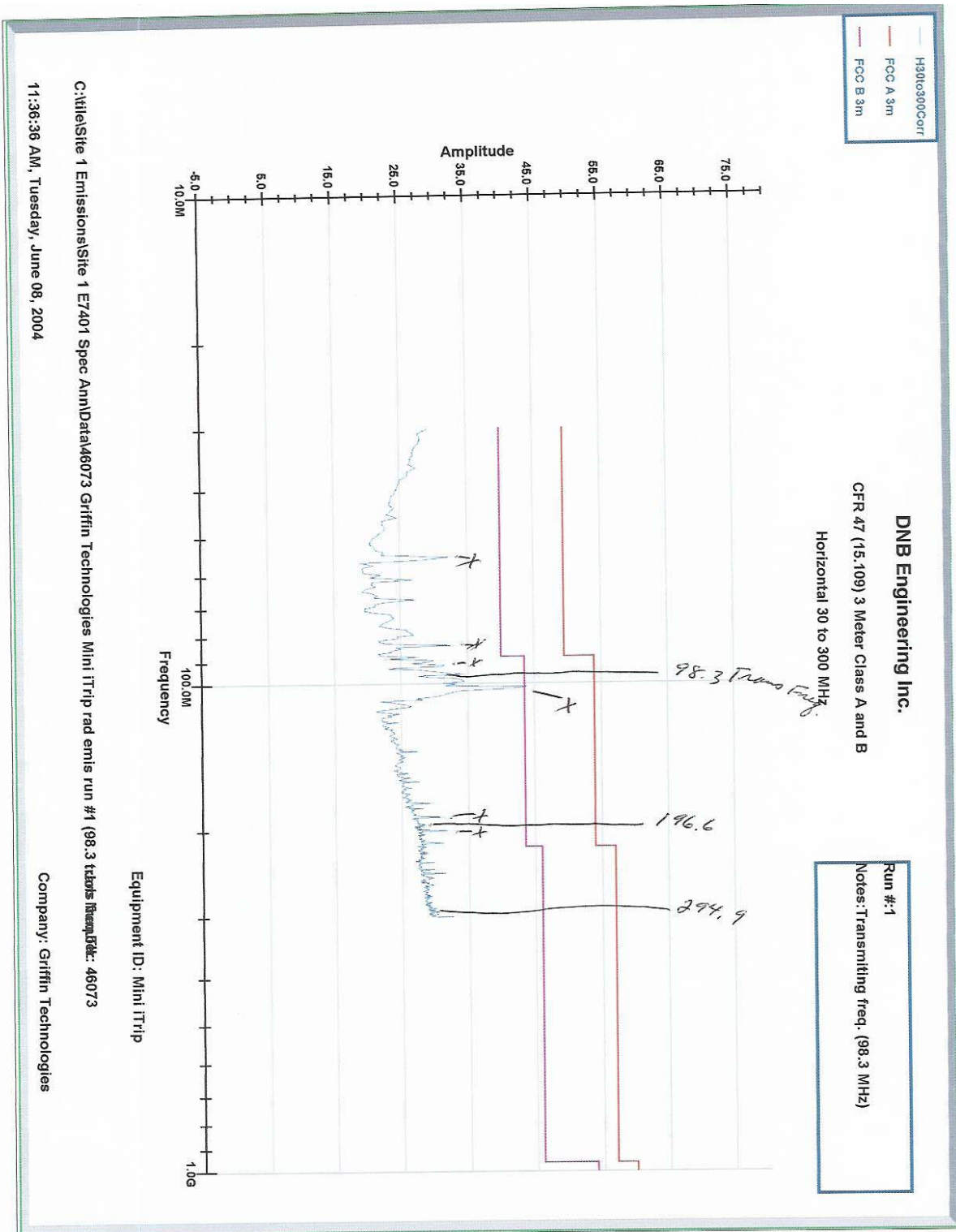
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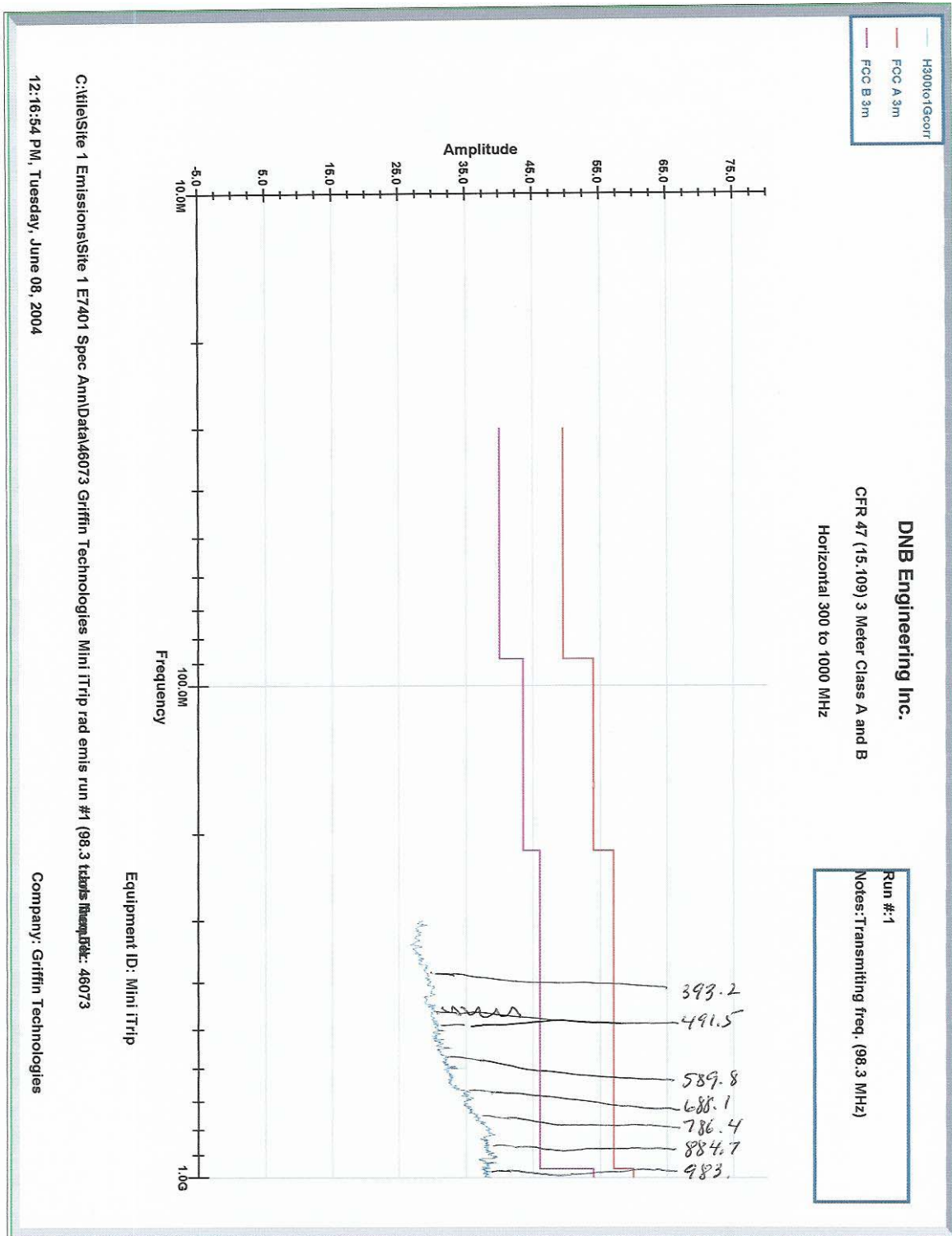
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1.2.2 Spurious Emissions Test Data

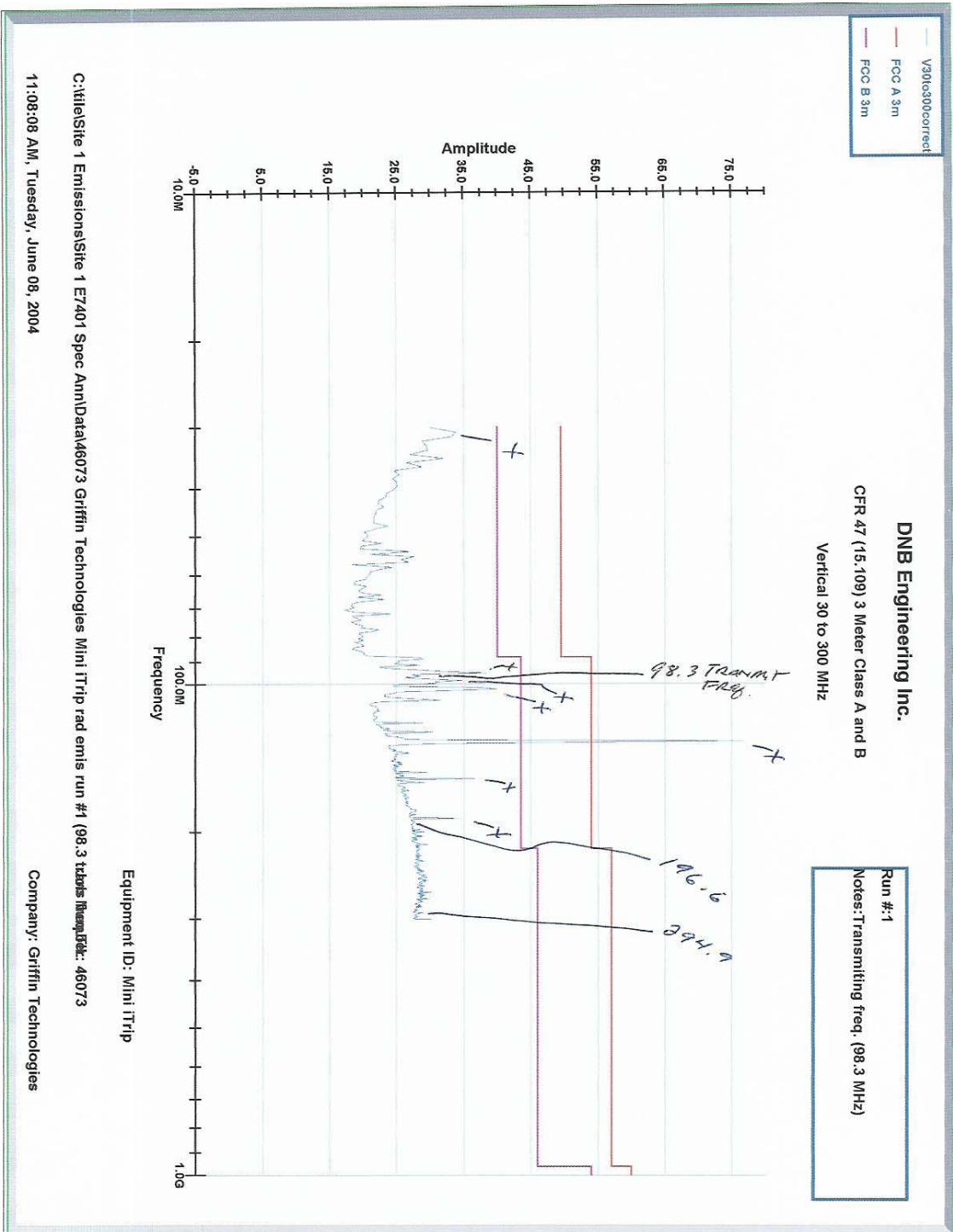
1.2.3 30-300 MHz Horizontal



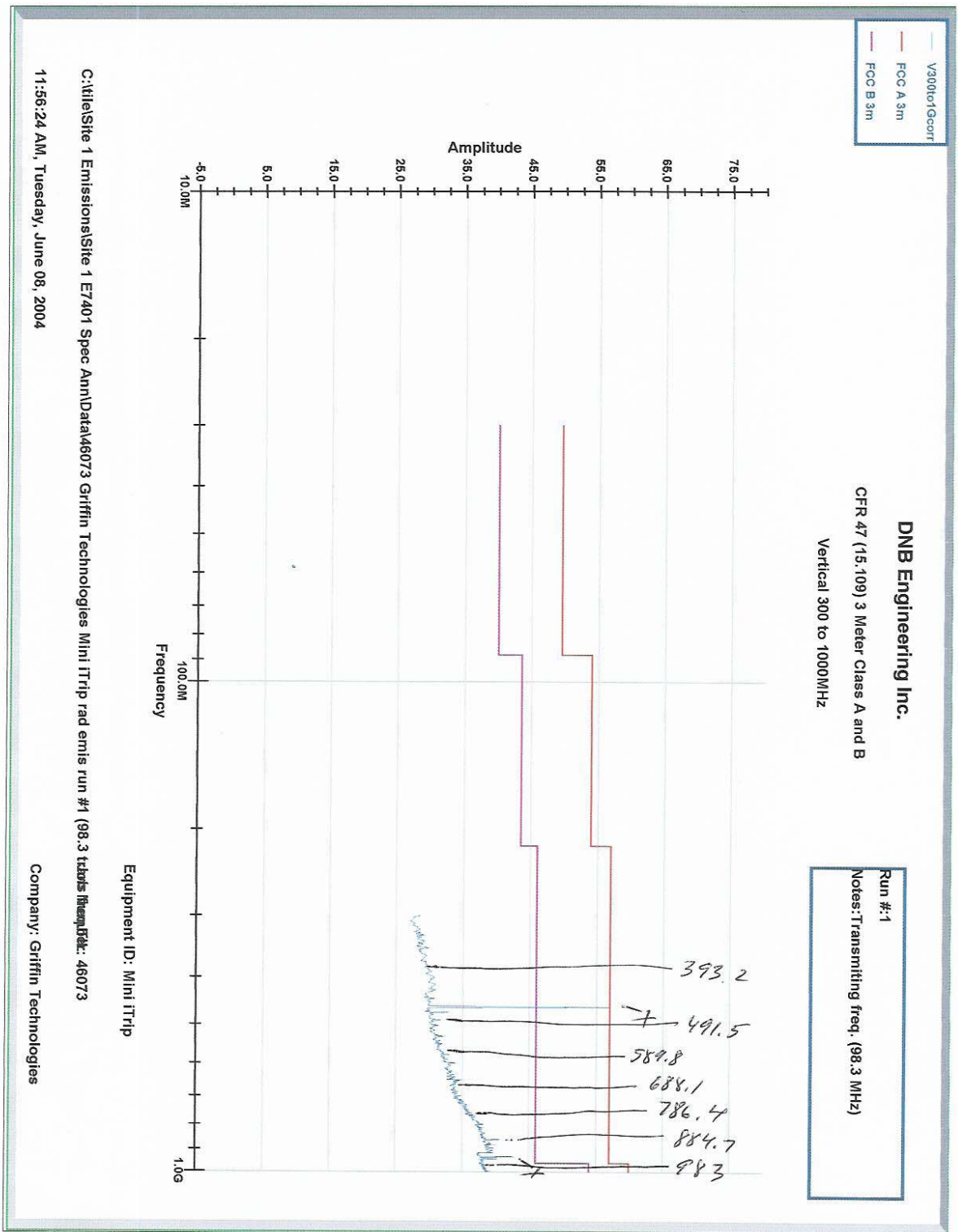
1.2.4 300-1000 MHz Horizontal



1.2.5 30-300 MHz Vertical



1.2.6 300-1000 MHz Vertical



1.3 Transmitting at 107.7 MHz (Upper Transmit Frequency)

1.3.1 107.7 MHz Fundamental Frequency Emissions Test Data

RADIATED EMISSIONS
CFR 47 Part 15 Section 15.109

File # 46073 Engr.: Clay Allied Date: Jun 08, 2004 Standard: Part 15
Site: 2 Distance: 3 meter Cables: 2,2 Class: B
Bicon: 186 Log: 11 Amp 1: 67

Freq. (MHz)	Meas'd (dBuV)	Amp Factors (dB)	Cable Factors (dB)	Antenna Factors (dB)	Total Factors (dBuV/m)	Total (dBuV/m)	Limit (dBuV/m)	Delta (dB)	Azimuth (degree)	Height (m)	Hor/ Vert	R&S HP/ R&S	Meas		Comments
													Type	Ave	
107.700	46.0	26.0	2.9	11.7	-11.4	34.60	47.9	-13.30	283	2	Hor/	R&S	QP	Peak	Playing
107.700	45.6	26.0	2.9	11.7	-11.4	34.20	47.9	-13.70	283	2	Hor/	R&S	ave		Playing
107.700	45.5	26.0	2.9	11.7	-11.4	34.10	47.9	-13.80	283	2	Hor/	R&S	ave		Paused
107.700	44.4	26.0	2.9	11.7	-11.4	33.00	47.9	-14.90	283	2	Hor/	R&S	QP		Paused
107.700	37.7	26.0	2.9	10.7	-12.4	25.30	47.9	-22.60	0	2.25	Vert	R&S	QP		Playing
107.700	37.0	26.0	2.9	10.7	-12.4	24.60	47.9	-23.30	0	2.25	Vert	R&S	Ave		Playing
107.700	37.0	26.0	2.9	10.7	-12.4	24.60	47.9	-23.30	0	2.25	Vert	R&S	ave		Paused
107.700	36.4	26.0	2.9	10.7	-12.4	24.00	47.9	-23.90	0	2.25	Vert	R&S	QP		Paused

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RADIATED EMISSIONS
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File # 46073 Eng'r: Carey Yates Date: June 8, 2004 Standard: FCC
Site: 1 Distance: 3 meter Cables: 1.2 Class: B
Bicon: 187 Log: 10 Amp 1: 65

Freq (MHz)	Meas'd (dBuV)	Amp Factors (dB)	Cable Factors (dB)	Antenna Factors (dB)	Total Factors (dBuV/m)	Total (dBuV/m)	Limit (dBuV/m)	Delta (dB)	Azimuth (degree)	Height (m)	Hor/ Vert	HP/ R&S	Meas Type	Comments
861.600	22.6	27.4	6.7	25.1	4.4	27.00	46.0	-19.00	0	1	Vert	R&S	QP	run #1 @ 107.7 MHz trans frequency
861.600	25.7	27.7	6.2	21.9	0.4	26.10	46.0	-19.90	66	3.34	Hor/	R&S	QP	run #1 @ 107.7 MHz trans frequency
861.600	22.3	27.4	6.7	24.1	3.4	25.70	46.0	-20.30	39	2.5	Hor/	R&S	QP	run #1 @ 107.7 MHz trans frequency
753.900	21.7	27.6	6.4	23.7	2.5	24.20	46.0	-21.80	0	1	Vert	R&S	QP	run #1 @ 107.7 MHz trans frequency
846.200	23.4	27.7	6.2	22.1	0.6	24.00	46.0	-22.00	340	1	Vert	R&S	QP	run #1 @ 107.7 MHz trans frequency
753.900	19.8	27.6	6.4	23.1	1.9	21.70	46.0	-24.30	360	3.54	Hor/	R&S	QP	run #1 @ 107.7 MHz trans frequency
538.500	22.0	27.5	5.5	20.1	-1.9	20.10	46.0	-25.90	96	4	Hor/	R&S	QP	run #1 @ 107.7 MHz trans frequency
538.500	20.6	27.5	5.5	20.4	-1.6	19.00	46.0	-27.00	283	1	Vert	R&S	QP	run #1 @ 107.7 MHz trans frequency
215.400	19.1	25.6	4.1	17.2	-4.3	14.80	43.5	-28.70	283	2	Hor/	R&S	QP	Run1@ 107.7MHztrans frequency site 2
1077.000	19.8	26.8	7.7	24.4	5.3	25.10	54.0	-28.90	67	1	Hor/	R&S	QP	run #1 @ 107.7 MHz trans frequency
323.100	21.1	26.2	4.0	17.6	-4.6	16.50	46.0	-29.50	83	1	Hor/	R&S	QP	run #1 @ 107.7 MHz trans frequency
215.400	18.3	25.6	4.1	17.2	-4.3	14.00	43.5	-29.50	283	2	Hor/	R&S	QP	Run1@ 107.7MHztrans frequency site 2
969.300	19.1	27.3	7.1	25.5	5.3	24.40	54.0	-29.60	360	1	Vert	R&S	QP	run #1 @ 107.7 MHz trans frequency
969.300	19.1	27.3	7.1	25.5	5.3	24.40	54.0	-29.60	360	4	Hor/	R&S	QP	run #1 @ 107.7 MHz trans frequency
1077.000	18.8	26.8	7.7	24.3	5.2	24.00	54.0	-30.00	0	1	Vert	R&S	QP	Run1@ 107.7 MHz trans frequency
215.400	18.0	25.6	4.1	16.8	-4.7	13.30	43.5	-30.20	0	2.25	Vert	R&S	QP	Run1@ 107.7MHztrans frequency site 2
430.800	19.4	27.0	4.7	18.1	-4.2	15.20	46.0	-30.80	250	4	Hor/	R&S	QP	run #1 @ 107.7 MHz trans frequency
430.800	18.8	27.0	4.7	18.3	-4.0	14.80	46.0	-31.20	0	1	Vert	R&S	QP	run #1 @ 107.7 MHz trans frequency
323.100	18.2	26.2	4.0	18.5	-3.7	14.50	46.0	-31.50	360	1	Vert	R&S	QP	run #1 @ 107.7 MHz trans frequency

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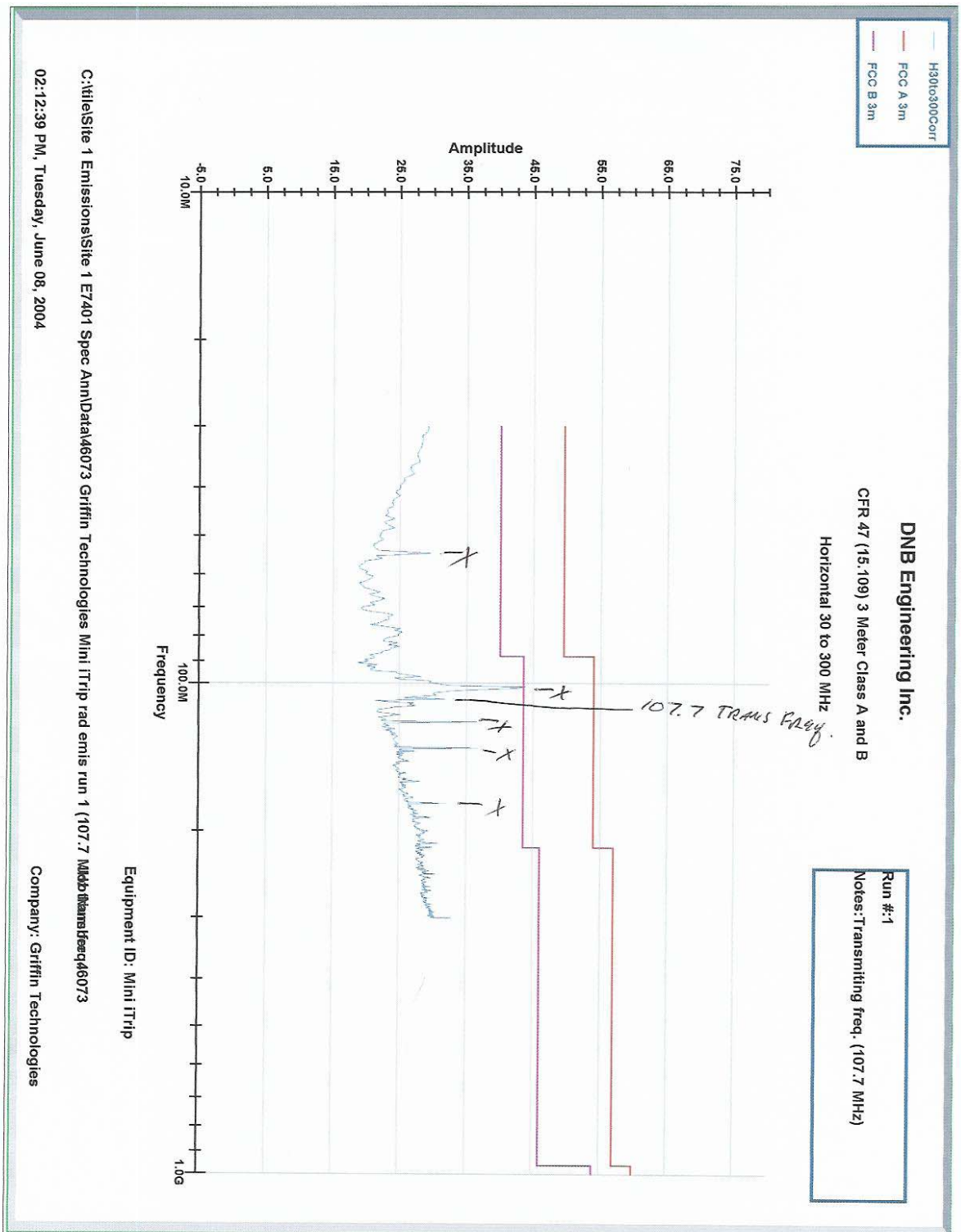
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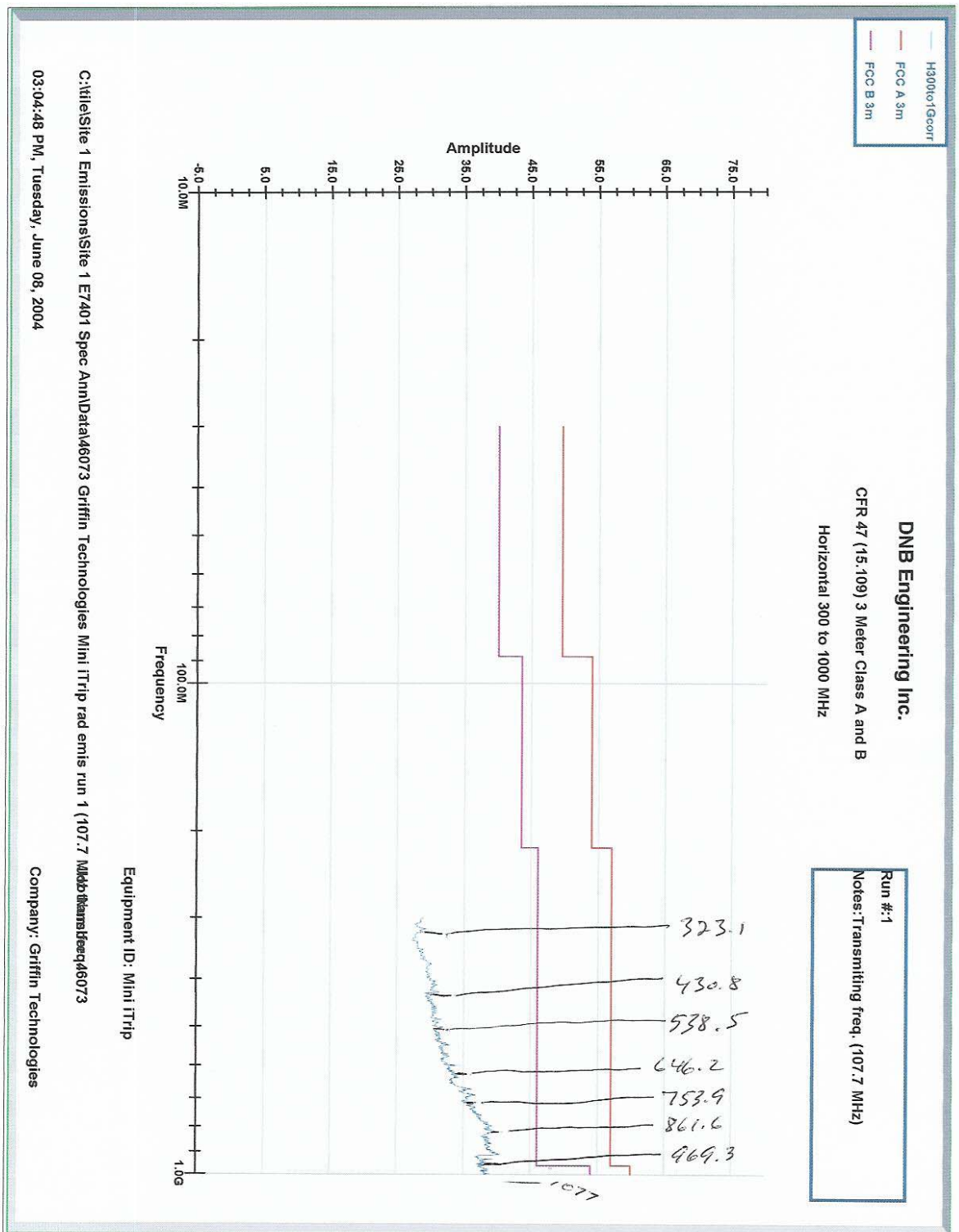
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1.3.2 Spurious Emissions Test Data

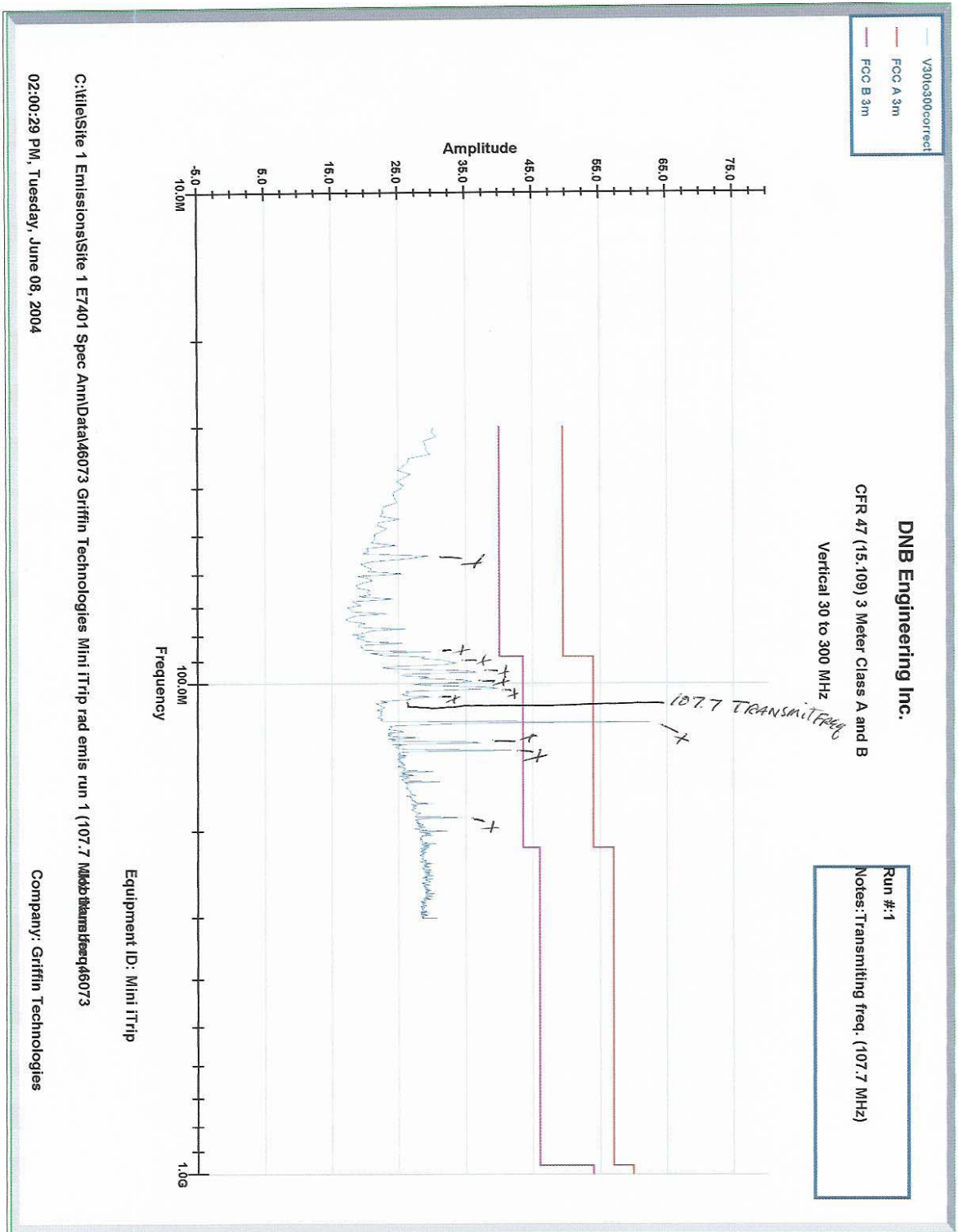
1.3.3 30-300 MHz Horizontal



1.3.4 300-1000 MHz Horizontal



1.3.5 30-300 MHz Vertical



1.3.6 300-1000 MHz Vertical

