

Exhibit N: Occupied Bandwidth

FCC ID: CW21668-2-1W

Necessary Bandwidth

Calculations are based on worst case alternating 10101010 data.

$$BaudRate(BR) = 1200$$

$$Tone1 = 1300Hz$$

$$Tone2 = 2100Hz$$

$$\begin{aligned} DeviationAudio(D_A) &= (Tone2 - Tone1) \div 2 \\ &= (2100 - 1300) \div 2 \\ &= 400Hz \end{aligned}$$

$$\begin{aligned} FrequencyCenterAudio(F_{CA}) &= ((Tone2 - Tone1) \div 2) + Tone1 \\ &= ((2100 - 1300) \div 2) + 1300 \\ &= 1700Hz \end{aligned}$$

$$\begin{aligned} BandWidthNecessaryAudio(BW_{NA}) &= F_{CA} \pm ((BR + 1.2 * D_A * 2) \div 2) \\ &= 1700 \pm ((1200 + 1.2 * 400 * 2) \div 2) \end{aligned}$$

$$LowerLimit \quad 620Hz$$

$$UpperLimit \quad ,2780Hz \quad HighestModulatingTone$$

$$DeviationRadioFrequency(D_{RF}) = 2KHz$$

$$ModulationHighestTone(M_{HT}) = 2780Hz$$

$$\begin{aligned} BandWidthNecessaryRadioFrequency(BW_{NRF}) &= 2 * M_{HT} + 1.0 * D_{RF} * 2 \\ &= 2 * 2780Hz + 1.0 * 2KHz * 2 \\ &= 9560Hz \end{aligned}$$

ACME TESTING - SITE #2

MKR 161.000 05 MHz

REF 33.5 dBm ATTN 20 dB + 40 dB

30.60 dBm

h_p

10 dB/

POS PK

OFFSET

41.5

dB

REF LEVEL

33.5 dBm

FEC OFF 47, PART 90, 90.210

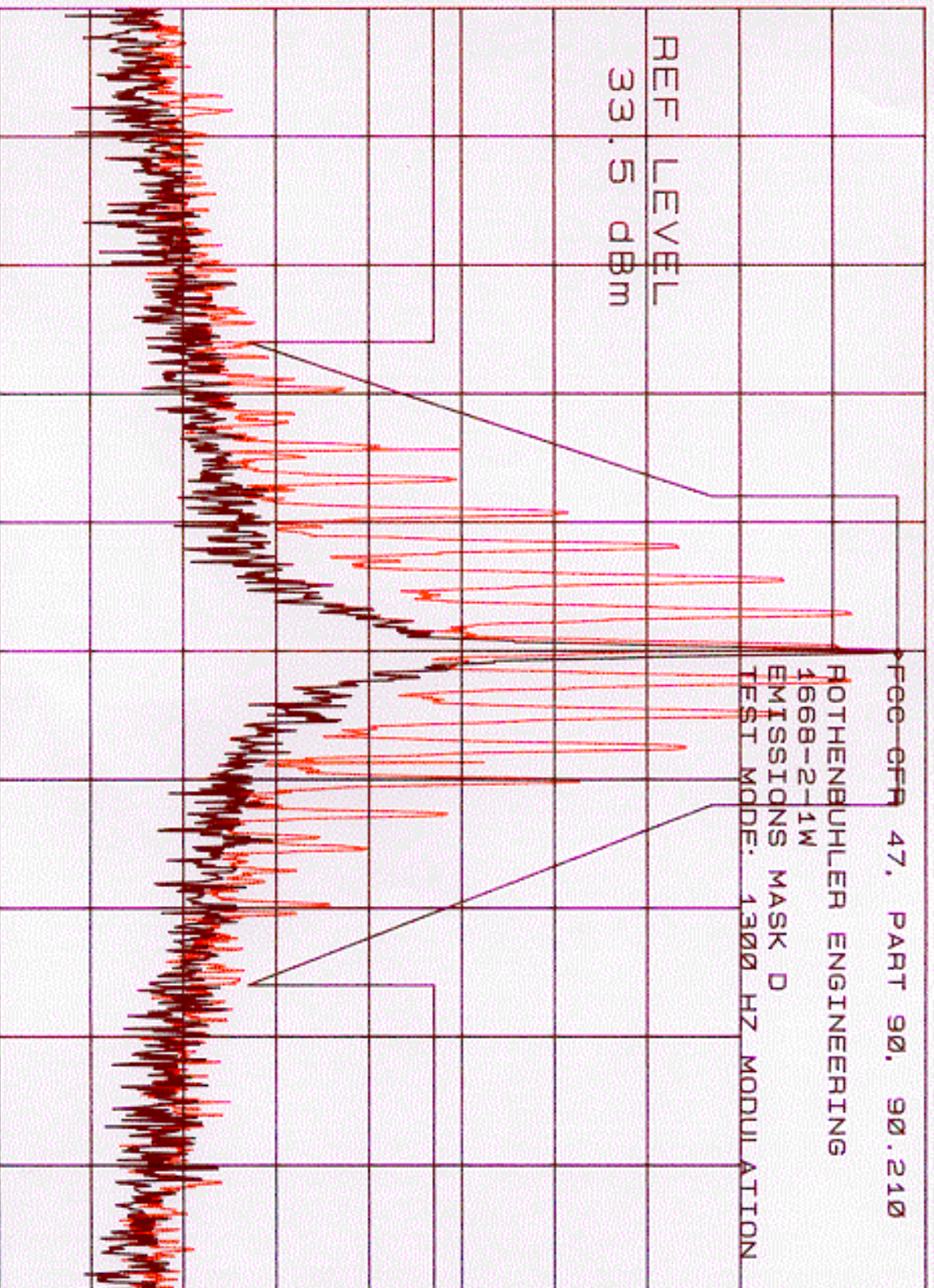
ROTHENBUEHLER ENGINEERING

1668-2-1W

EMISSIONS MASK D

TEST MODE: 1300 HZ MODULATION

CORR'D



START 160.974 9 MHz

STOP 161.025 0 MHz

RES BW 100 Hz

VBW 100 Hz

SWP 15.0 sec

ACME TESTING - SITE #1

MKR 160.999 75 MHz

HP REF 34.8 dBm ATTN 20 dB + 40 dB

31.20 dBm

10 dB/

POS PK

OFFSET

41.5

dB

REF LEVEL

34.8 dBm

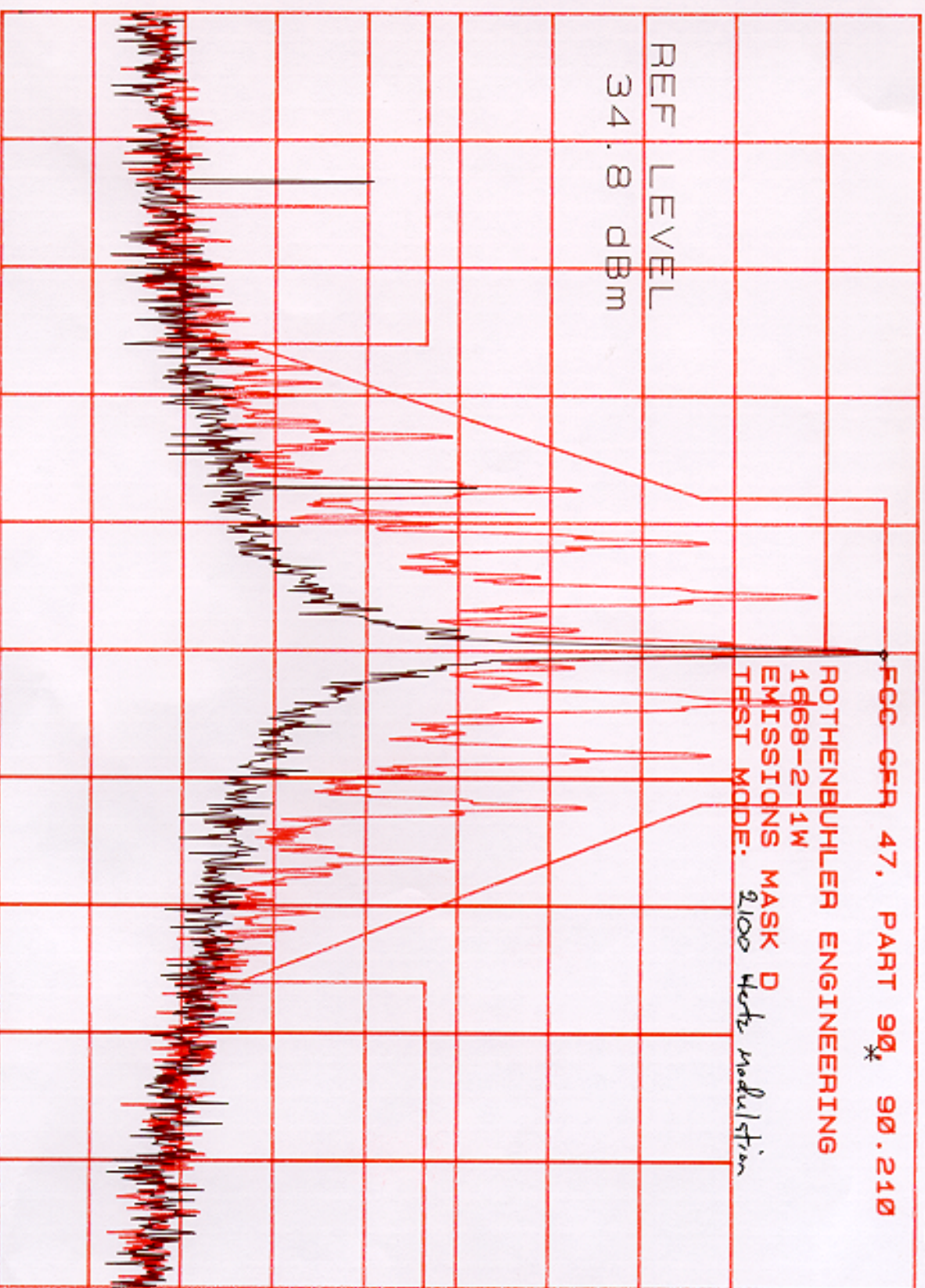
FCC CFR 47, PART 90, 90.210

ROTHENBUHLER ENGINEERING

1668-2-1W

EMISSIONS MASK D

TEST MODE: 2100 Hz Modulation



CENTER 160.999 75 MHz

RES BW 100 Hz

VBW 100 Hz

SPAN 50.0 kHz

SWP 15.0 sec

ACME TESTING - SITE #1

MKR 160.999 80 MHz

hP REF 34.5 dBm ATTEN 20 dB + 40 dB

31.00 dBm

10 dB/

POS PK

OFFSET

41.5

dB

REF LEVEL

34.5 dBm

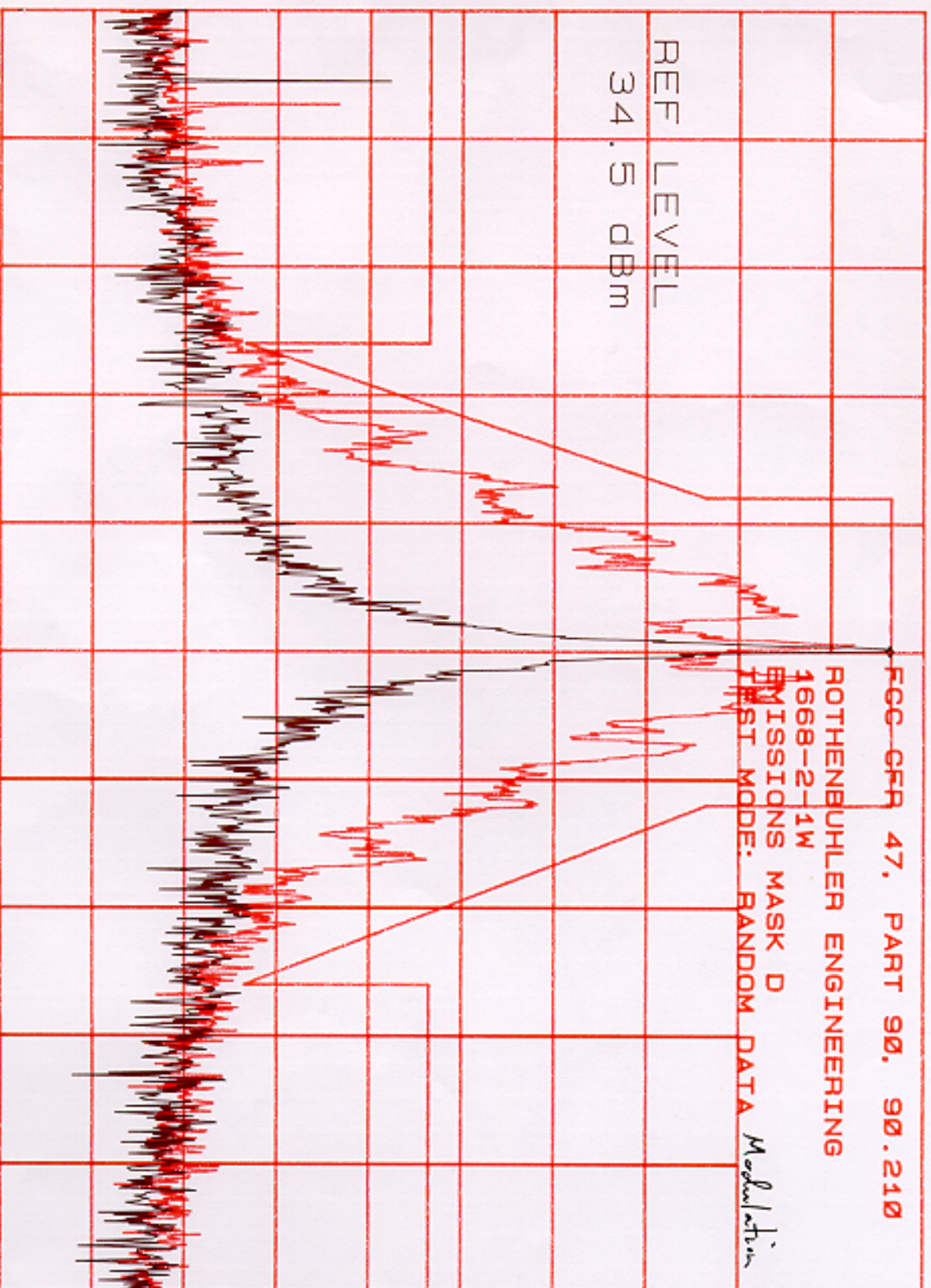
FCC CFR 47. PART 90. 90.210

ROTHENBUHLER ENGINEERING

1668-2-1W

EMISSIONS MASK D

TEST MODE: RANDOM DATA Modulation



CENTER 160.999 9 MHz

RES BW 100 HZ

VBW 100 HZ

SPAN 50.0 KHZ

SWP 15.0 sec