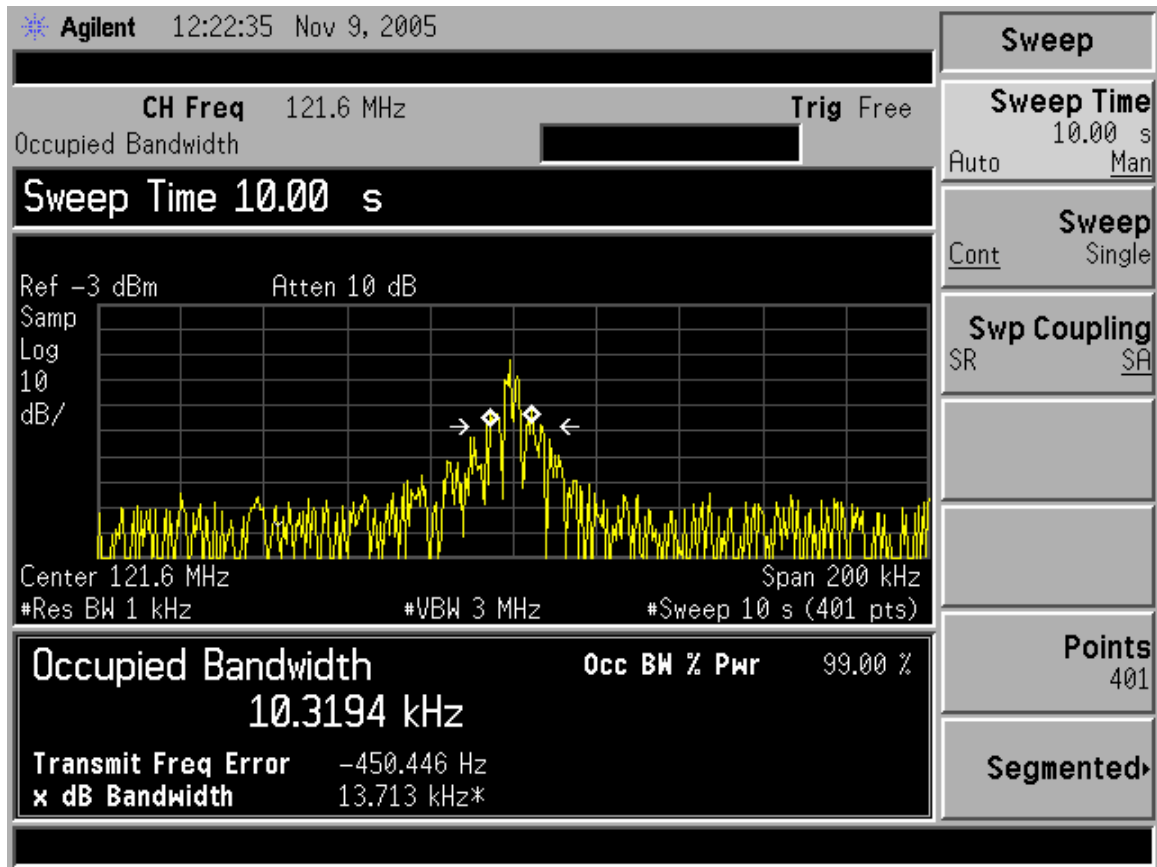


121.5MHz FCC TESTING  
TO 47 CFR CH.1 (10-1-00 EDITION) PART 80.1053

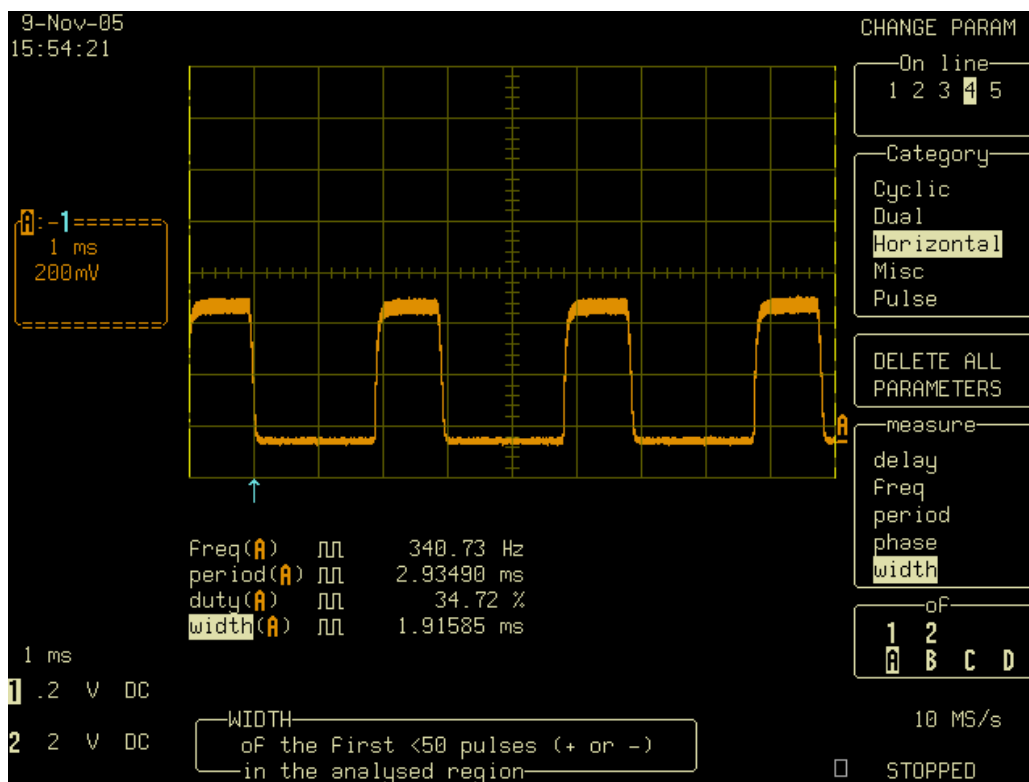
**1. Occupied Bandwidth test. (Limits <25KHz)**

Plot 1 shows the occupied bandwidth for SMARTFIND EPIRB. The carrier is Amplitude Modulated in the form of a square wave, being swept up from 300Hz to 1300Hz.

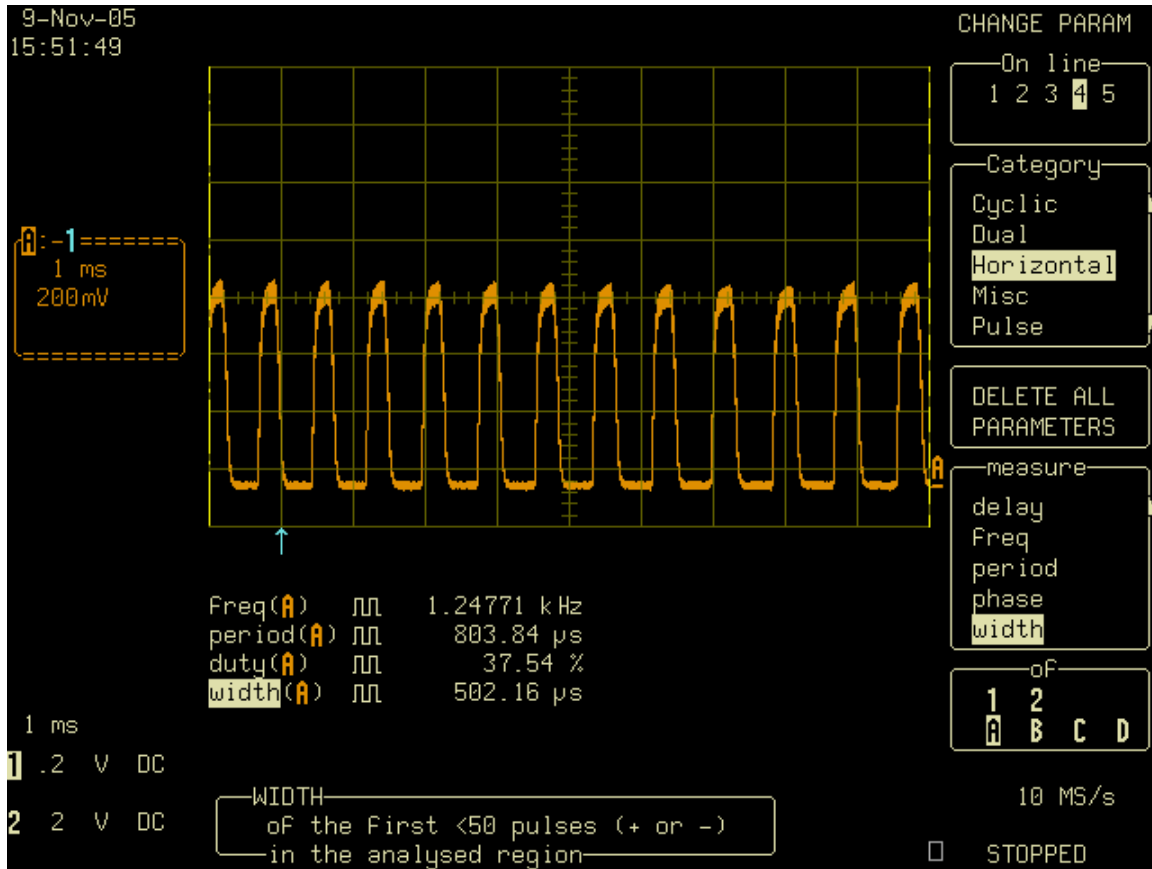
Plot 1



### Plot 3



Plot 4



9-Nov-05  
15:55:14

CHANGE PARAM

On line  
1 2 3 4 5

Category  
Cyclic  
Dual  
Horizontal  
Misc  
Pulse

DELETE ALL  
PARAMETERS

measure  
delay  
Freq  
period  
phase  
width

of  
1 2  
A B C D

10 MS/s  
STOPPED

A:-1  
1 ms  
200 mV

Freq(A) 852.12 Hz  
period(A) 1.17434 ms  
duty(A) 35.65 %  
width(A) 418.68  $\mu$ s

WIDTH  
of the First <50 pulses (+ or -)  
in the analysed region

### 3. Modulation Factor (Limits <1)

The modulation factor for the Smartfind+

$$M = \frac{V_{\max} - V_{\min}}{V_{\max} + V_{\min}}$$

$$M = \frac{554mV - 19mV}{554mV + 19mV} = \mathbf{0.933}$$

Sweep Repetition rate = **3Hz**

### 4. Signal Enhancement Test (Limits >30% Power in 30Hz)

$$\frac{\text{carrierpower}}{\text{totalpower}} = \log_{10} -1 \left[ \frac{dBc - dBt}{10} \right]$$

Smartfind+

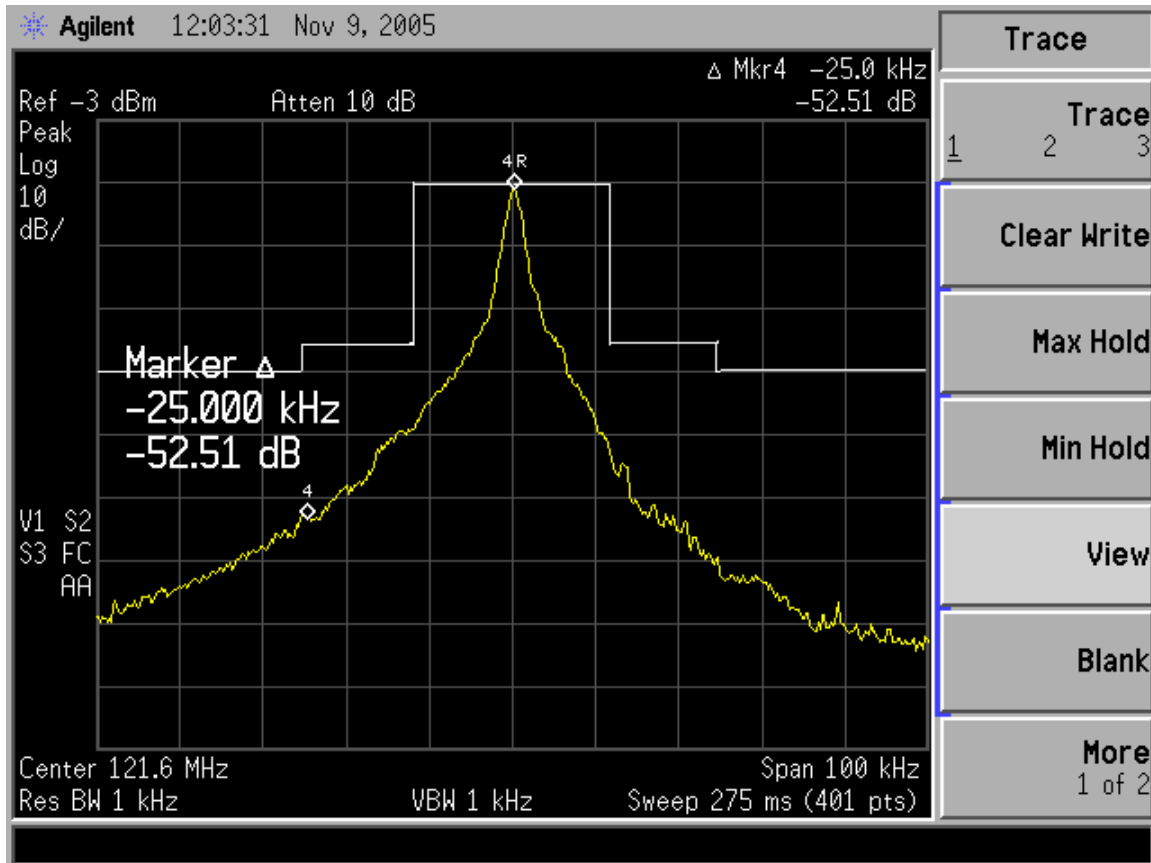
$$dBt = -6.00dB + 10\log 0.36 = -10.44dB$$

$$dBc = -13.38dB$$

$$\%Power = \log_{10} -1 \times \frac{-13.38 - (-10.44)}{10} = \mathbf{50.78\%}$$

5. Emission limitation (Limits :  $\pm 12.5\text{KHz} > 25\text{dBc}$  &  $\pm 25\text{KHz} > 30\text{dBc}$ )

Plot 7



Plot 7 shows the emission mask for the SMARTFIND EPIRB.

|          |           |          |          |
|----------|-----------|----------|----------|
| -25KHz   | -12.5KHz  | +12.5KHz | +25KHz   |
| -52.5dBc | -37.46dBc | 42.57dBc | 59.52dBc |



