

Notes

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1 XeThru Radar Transmission

SamplingRate : 23.328GS/s

Able to sample up to 1536 samples

Range $\approx 9.9m$

$$\begin{aligned} range &= \frac{c \times \tau}{2} \quad \text{where } c = 3 \times 10^8 \quad \text{and } \tau = \frac{sample_num}{sampling_rate} = \frac{1536}{23.328 \times 10^9} \\ &\Rightarrow range = \frac{1536 \times 3 \times 10^8}{23.328 \times 10^9 \times 2} \approx 9.87m \end{aligned}$$

Notice:

$$frame \ length \leq \frac{1}{PRF} (PRF : Pulse \ Repetition \ Frequency)$$