$$r = \%\ \text{Reduction} = \frac{t_{\text{Standard}} - t_{\text{Solution}}}{t_{\text{Standard}}}$$

$$w_k = \frac{1}{\sigma^2} \left(\sum_i \frac{1}{\sigma^2} \right)^{-1}$$

$$\overline{R} = \sum_i r_i w_i = 65\%$$

$$\sigma = 8.0\%$$

$$\begin{aligned} &Let \\ &\quad n = \text{noise floor} \\ &\quad m = \text{maximum signal level} \end{aligned}$$

$$\begin{aligned} \text{max signal} &= 18 V_{pp} = 18.3\ \text{dBu} \\ n_{direct} &= -96.4\ \text{dBu} \quad (\sigma = 0.30 \text{ for } n = 20) \\ n_{sum} &= -72.2\ \text{dBu} \quad (\sigma = 0.11 \text{ for } n = 20) \end{aligned}$$

$$SNR = \frac{\mathrm{m}(V)}{\mathrm{n}(V)} = \mathrm{m}(\mathrm{dBu}) - \mathrm{n}\ (\mathrm{dBu})$$
$$SNR_{direct} = 114.7\ \mathrm{dBu}$$
$$SNR_{sum} = 90.5\ \mathrm{dBu}$$