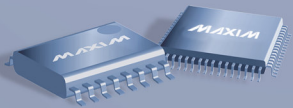




Comprehensive Stressed Receiver Sensitivity Test

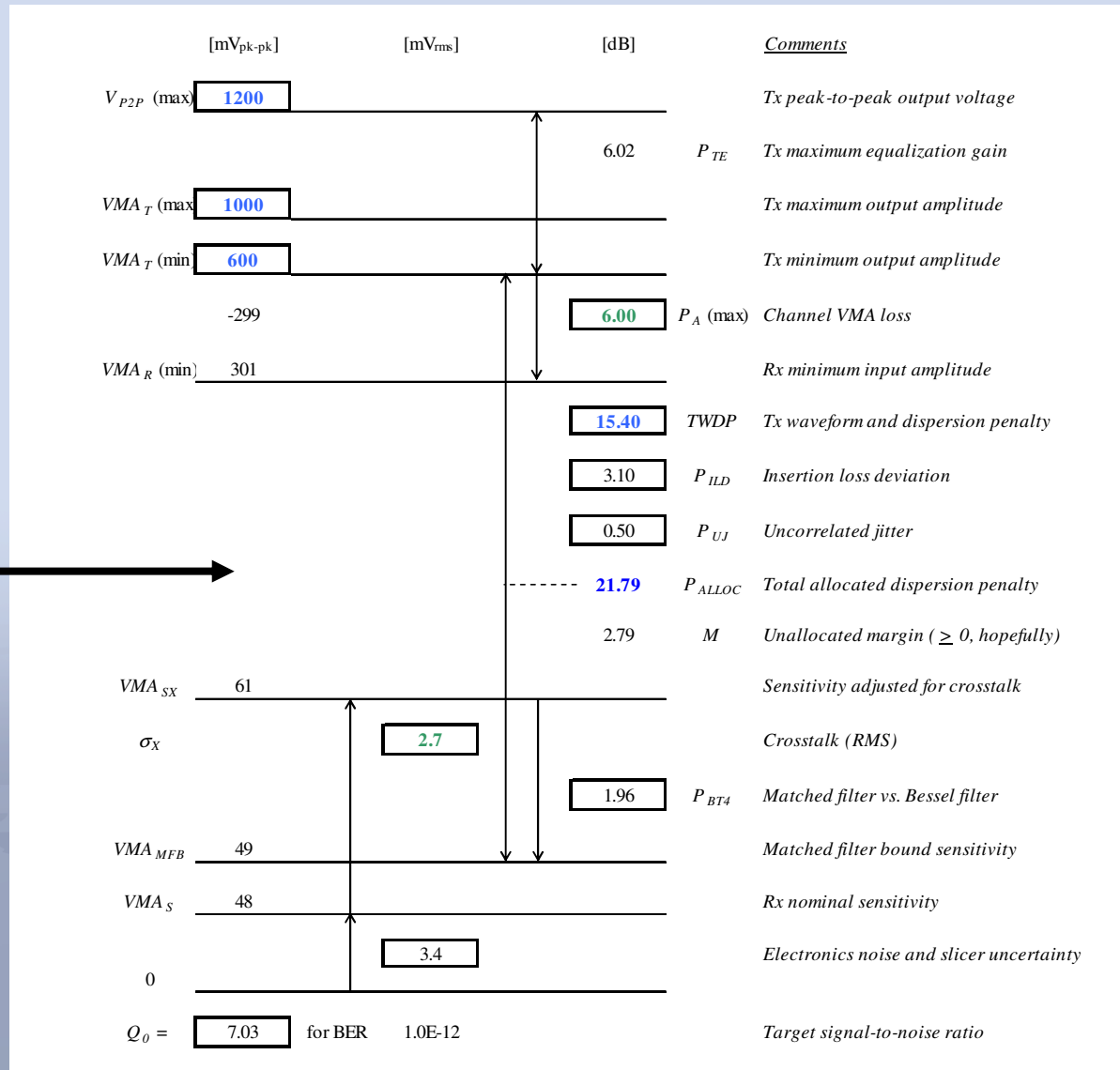
Kevin Witt
T10/07-380r0



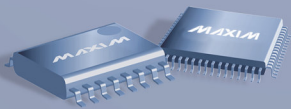


Proposed Link Budget

- From 07-365r0



Compliant Rx
Must Operate
@ 1e-12
or Better Here



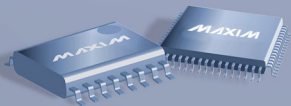


Proposed Jitter Budget

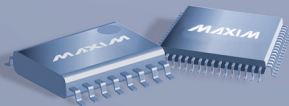
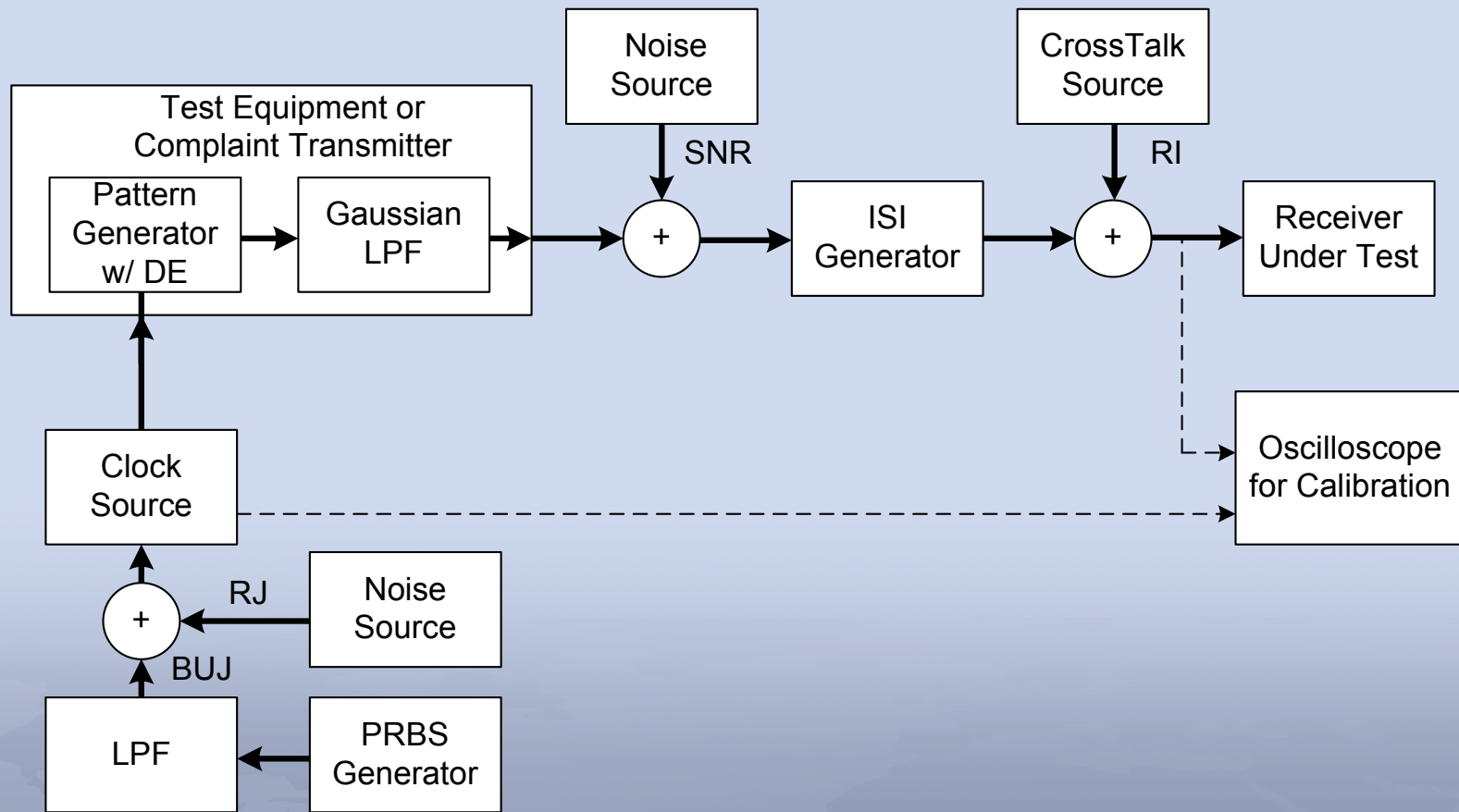
- From 07-365r0

Compliant Tx
Jitter Contribution
RJ = 140 mUI pk-pk
BUJ = 35 mUI pk-pk

		[mUI]					
		NC-DDJ (pk-pk)	BUJ (pk-pk)	RJ (pk-pk)	UJ (RMS)	TJ (pk-pk)	<u>Comments</u>
TX			35	140	10	20	<i>Tx output jitter</i>
		316					<i>Tx waveform and dispersion</i>
		90					<i>Insertion loss deviation</i>
					9		<i>Crosstalk</i>
RX			200	140	10		<i>Rx clock and data recovery</i>
Total		406	235	235	17	876	<i>Total jitter (≤ 1 UI, hopefully)</i>
						946	<i>What if RJ = UJ (e.g. BUJ = 0)?</i>
	$f_s =$	6.000	GBd				



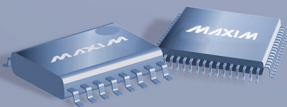
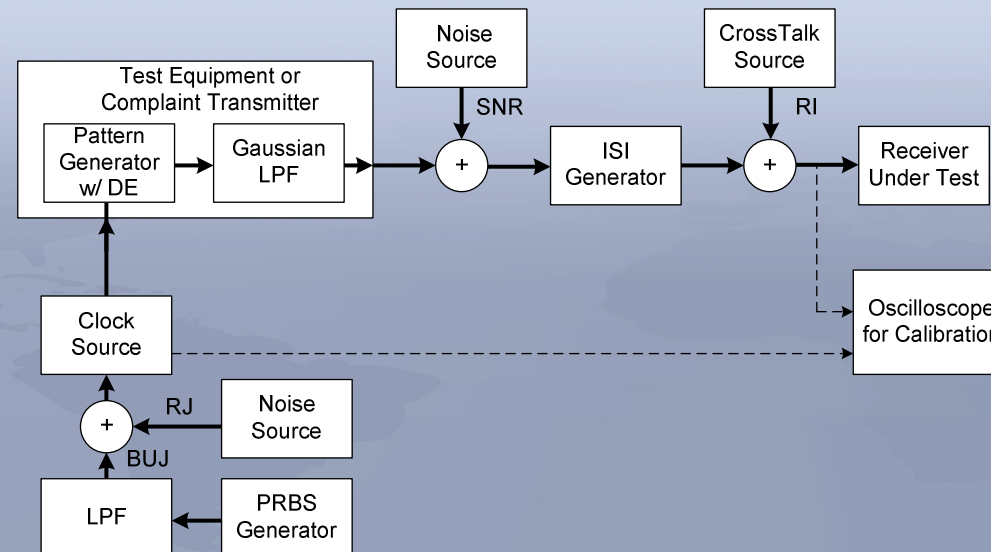
Test Configuration





Test Calibration and Methodology

- **Tx SNR (Q_{sq})**
 - Use Low Frequency Pattern and Measure SNR at the end of the channel to Match Budgeted Tx SNR
- **Transmitter Setup**
 - Set to Match Reference Tx (w/ tolerance)
- **Channel Calibration**
 - Compute WDP / P_{alloc} (w/ RJ and BUJ disabled)
 - Adjust ISI Filter such that $P_{ISI} > P_{alloc}$
- **Transmitter Jitter Calibration**
 - Adjust RJ and BUJ to Spec
- **Crosstalk**
 - Use Bounded Crosstalk Source and Adjust Amplitude to SNR Degradation in Link Budget
- **Confirm Operation at better than a BER of 1e-12**





Summary

- **Quick Overview of a Link Budget Based Comprehensive Receiver Compliance Test Provided.**

