

Answer:

Below is a summary of the information on the steps sizes for bandwidth, peaking, swing and los level adjustment for the TLK1102E.

Below we refer to Channel A registers and bits in the datasheet. The same functionality is true for Channel B, however the specific registers and bits are different for Channel B.

1. Bandwidth: Channel A bandwidth is controlled by Register 3, bits 4-7. The lowest bandwidth, 4.5Gb/s is set with "0000" and the highest bandwidth, 11Gb/s is set with "1111". The bandwidth is not a linear function from the minimum to maximum setting. Customers will need to adjust the bandwidth setting to obtain best performance.

2.

3	7	BW3	Channel A Bandwidth Select 3 (MSB)	0000 -> highest bandwidth 1111 -> lowest bandwidth	00000000
	6	BW2	Channel A Bandwidth Select 2		
	5	BW1	Channel A Bandwidth Select 1		
	4	BW0	Channel A Bandwidth Select 0 (LSB)		

3. Swing: Channel A swing is controlled by Register 4, bits 0-3. The lowest swing level of 225mV is set with "0000" and the highest swing level of 1200mV is set with "1111". As noted in the Table 20, the swing increases by approximately 60mV for each bit step.

	3	AMP3	Channel A Output Amplitude 3 (MSB)	0000 -> 225mV _{p-p} 1111-> 1200mV _{p-p} approximately 60mV _{p-p} per step
	2	AMP2	Channel A Output Amplitude	
	1	AMP1	Channel A Output Amplitude 1	
	0	AMP0	Channel A Output Amplitude 0 (LSB)	

4. LOS Level: Channel A LOS levels are controlled by Register 5, bits 0-6. Figure 14 in the datasheet shows a plot of the LOS assert and de-assert levels as a function of the register setting.

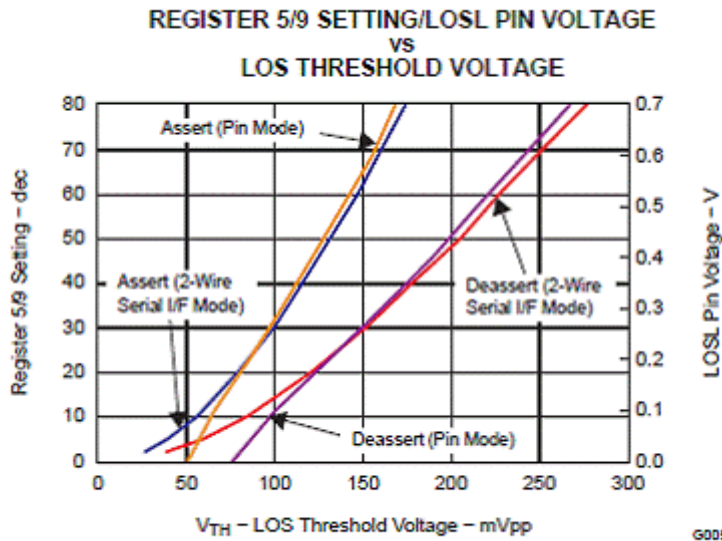


Figure 14.

6	LOSLVL6	Channel A LOS Threshold Level 6 (MSB)	0000000 -> Minimum LOS assert level 1001100 -> Maximum LOS assert level Settings out of the above range are not supported
5	LOSLVL5	Channel A LOS Threshold Level 5	
4	LOSLVL4	Channel A LOS Threshold Level 4	
3	LOSLVL3	Channel A LOS Threshold Level 3	
2	LOSLVL2	Channel A LOS Threshold Level 2	
1	LOSLVL1	Channel A LOS Threshold Level 1	
0	LOSLVL0	Channel A LOS Threshold Level 0 (LSB)	

5. De-emphasis (peaking): Channel A de-emphasis levels are controlled by Register 4, bits 4-7. The peaking performance changes non-linearly with register settings. The lowest level of peaking (none) corresponds to a register setting of "0000" and a maximum peaking level of 7dB corresponds to a register setting of "1111". Again customers will need to adjust the bandwidth setting to obtain best performance.

4	7	DEEM3	Channel A Output De-emphasis 3 (MSB)	0000 -> no peaking 1111 -> highest peaking	00000000
	6	DEEM2	Channel A Output De-emphasis 2		
	5	DEEM1	Channel A Output De-emphasis 1		
	4	DEEM0	Channel A Output De-emphasis 0 (LSB)		