Table 3.7 Frequencies of A-ASIC signals in various modes

Time Base	TRACKN freq 1)	CHA freq 1)	MODE horizontal	MODE vertical
60 s/div	0.8333 Hz	0.416 Hz	roll / SINGLE / RECURRENT	CHOP / REAL TIME
20 s/div	2.5 Hz	1.25 Hz		
10 s/div	5 Hz	2.5 Hz		
5 s/div	10 Hz	5 Hz		
2 s/div	25 Hz	12.5 Hz		
1 s/div	50 Hz	25 Hz		
.5 s/div	100 Hz	50 Hz		
.2 s/div	250 Hz	125 Hz		
.1 s/div	500 Hz	259 Hz		
50 ms/div	1 kHz	500 Hz		
20 ms/div	2.5 kHz	1.25 kHz		
10 ms/div	5 kHz	2.5 kHz		
5 ms/div	10 kHz	5 kHz		
2 ms/div	25 kHz	12.5 kHz		
1 ms/div	50 kHz	25 kHz		
.5 ms/div	100 kHz	50 kHz		
.2 ms/div	250 kHz	125 kHz		
.1 ms/div	500 kHz	250 kHz		
50 µs/div	1 MHz	500 kHz		
20 µs/div	1.25 MHz	Trigger dependent		ALT
10 µs/div	2.5 MHz			
5 µs/div	5 MHz			
2 µs/div	12.5 MHz			
1 µs/div	25 MHz			
.5 µs/div	25 MHz			
.2 µs/div	25 MHz			
.1 µs/div	25 MHz			
50 ns/div	25 MHz			
20 ns/div	25 MHz			
10 ns/div	25 MHz			

1) In MIN/MAX mode (only possible for one channel), the frequency of CHA is zero and the sample frequency TRACK is always 25 MHz.

Clamp

To prevent the Track & Hold circuit from overdrive, the signal is clamped. The level of the output signal can be adjusted by means of VREF (input 23). VREF is the reference voltage, made by the circuit consisting of V2301, V2302 and R2323, R2324, and R2325 (see ADC section).

Track & Hold

The maximum sampling frequency of the ADC used in the ScopeMeter is 25 MHz. This means that the ADC can only handle signals with frequencies up to 12.5 MHz (half the sample frequency). Because of this a Track & Hold circuit is incorporated in the A-ASIC. The Track & Hold circuit determines the frequency range of the whole system.

The timing in this part of the A-ASIC is determined by clock signal TRACKN (input 12). The frequency of the TRACKN signal depends on the selected timebase speed (see table 3.7).