**Estimated Cycle Time = t\_usb + ( t\_ch1 + t\_ch2… + t\_chN )**

Where:

* t\_usb = USB Latency (in Seconds) = Number of Channels \* 0.005s
* t\_chN = Estimated Duration of Channel N (in Seconds)

**Estimated Duration of Channel N (in seconds)**

t\_chN = n\_sweeps \* t\_sweep

Where:

* n\_sweeps = Number of Sweeps for Channel N
* t\_sweep = Estimated Duration of Channel N’s Sweep (in seconds)

**Number of Sweeps for Channel N**

n\_sweeps = the greater of:  
 Channel N’s Number of Generating Ports  
 —OR—  
 Channel N’s Number of Calibration Ports

Where:

**Estimated Duration of Channel N’s Sweep (in seconds)**

t\_sweep = n\_pts \* ( t\_fixed + t\_ifbw + t\_delay )

Where:

* n\_pts = Total Number of Measurement Points
* t\_fixed = Instrument Model-dependent Fixed Measurement Time (in seconds)
* t\_ifbw = Bandwidth-dependent Measurement Time (in seconds)
* t\_delay = Measurement Delay (in seconds)

**Total Number of Measurement Points**

1. With Segment Sweep Mode DISABLED

n\_pts = Total Number of Measurement Points for Channel N

1. With Segment Sweep Mode ENABLED

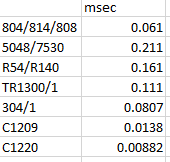
n\_pts = n\_pts1 + n\_pts2 … n\_ptsM

Where:

* n\_ptsM = Number of Measurement Points in Segment M

**Instrument Model-dependent Fixed Measurement Time (in seconds)**

Depend on the Instrument Model as follows:



**Bandwidth-dependent Measurement Time (in seconds)**

1. With Segment Sweep Mode DISABLED

t\_ifbw = 1.18 / IF Bandwidth Setting (in Hertz) for Channel N

1. With Segment Sweep Mode ENABLED

t\_ifbw = ( n\_pts1 \* t\_ifbw1 + n\_pts2 \* t\_ifbw2 … + n\_ptsM \* t\_ifbwM ) / n\_pts

Where:

* n\_ptsM = Number of Measurement Points in Segment M
* t\_ifbwM = 1.18 / IF Bandwidth Setting (in Hertz) for Segment M
* n\_pts = Total Number of Measurement Points *(see ‘Number of Measurement* *Points’ section above)*

**Measurement Delay (in seconds)**

1. With Segment Sweep Mode DISABLED

t\_delay = Measurement Delay Setting (in seconds) for Channel N

1. With Segment Sweep Mode ENABLED

t\_delay = ( n\_pts1 \* t\_delay1 + n\_pts2 \* t\_delay2 … + n\_ptsM \* t\_delayM ) / n\_pts

Where:

* n\_ptsM = Number of Measurement Points in Segment M
* t\_delayM = Measurement Delay Setting (in seconds) for Segment M
* n\_pts = Total Number of Measurement Points *(see ‘Number of Measurement* *Points’ section above)*