

7.9.7 Intermodulation Distortion

These commands allow you to configure the intermodulation distortion measurement in the Spike software.

Command	<pre>[:SENSe]:IMD:STATe ON OFF 0 1 [:SENSe]:IMD:STATe? [:SENSe]:IMD:FREQuency? F1 F2 IM3L IM3U [:SENSe]:IMD:TPOWer? F1 F2 IM3L IM3U [:SENSe]:IMD:TPOWer:DIFF? IM3L IM3U [:SENSe]:IMD:TOI? IM3L IM3U</pre>
Description	<p>STATe, Enable or disable the intermodulation distortion measurement.</p> <p>FREQuency?, Returns the frequency of the specified intermodulation product: f_1, f_2, lower third order product ($2f_1 - f_2$), or upper third order product ($2f_2 - f_1$).</p> <p>TPOWer?, Returns the tonal power in dBm of the specified intermodulation product.</p> <p>TPOWer:DIFF?, Returns the tonal power difference in dBc between the specified third order product and its corresponding first order product.</p> <p>TOI?, Returns the third-order intercept in dBm of the specified third order product.</p>
Examples	<pre>IMD:STAT ON IMD:FREQ? F1 IMD:TPOW? F2 IMD:TPOW:DIFF? IM3L IMD:TOI? IM3U</pre>
Software Controls	<p>Intermod Distortion Panel -> Enabled</p> <p>Intermod Distortion Panel -> Product</p> <p>Intermod Distortion Panel -> Frequency</p> <p>Intermod Distortion Panel -> Amplitude (dBm)</p> <p>Intermod Distortion Panel -> Amplitude (dBc)</p> <p>Intermod Distortion Panel -> TOI (dBm)</p>
Couplings	None
Preset	Disabled by default.
Notes	<p>The intermodulation distortion measurement is updated only after a sweep is performed. It is possible for the third-order intermodulation products to be outside the frequency span of the sweep. In this case, zero will be returned from any of the query functions for third-order products. In Spike, "Out of Range" is displayed in the frequency readout of the affected products.</p>

7.9.8 Peak Table

These commands control the Peak Table display panel in Swept Analysis mode.

Command	<pre>[:SENSe]:PEAK:TABLE:STATe ON OFF 0 1 [:SENSe]:PEAK:TABLE:STATe? [:SENSe]:PEAK:TABLE:TRACe <int> [:SENSe]:PEAK:TABLE:TRACe? [:SENSe]:PEAK:TABLE:THReshold <double></pre>
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	<pre> [:SENSe]:PEAK:TABLE:THReshold? [:SENSe]:PEAK:TABLE:EXCursion <double> [:SENSe]:PEAK:TABLE:EXCursion? [:SENSe]:PEAK:TABLE:SORT FREQuency AMPLitude [:SENSe]:PEAK:TABLE:SORT? [:SENSe]:PEAK:TABLE:COUNT? [:SENSe]:PEAK:TABLE:MAX <int> [:SENSe]:PEAK:TABLE:MAX? [:SENSe]:PEAK:TABLE:FREQuency? <int> [:SENSe]:PEAK:TABLE:AMPLitude? <int> [:SENSe]:PEAK:TABLE:FREQuency:DELTA? <int> [:SENSe]:PEAK:TABLE:AMPLitude:DELTA? <int> </pre>
Description	<p>STATE, Enables/disables the Peak Table panel.</p> <p>TRACE, Selects which trace the peak measurements are performed on.</p> <p>THReshold, Specify the peak threshold in dBm. A point must exceed this amount before being considered as a peak. Once the threshold test is met, then the excursion test is ran. If it meets both, then a point is considered a peak.</p> <p>EXCursion, Specify the peak excursion in dB. How many dB above surrounding points the point must be before being considered a peak.</p> <p>SORT, Specifies the sort order of the table. Peaks can be sorted by frequency or amplitude. Frequency is ascending; amplitude is descending.</p> <p>COUNT?, Returns the number of peaks in the table. This is the number of peaks that have met the criteria specified. This value can change after each sweep.</p> <p>MAX, Specify the maximum number of peaks that can appear in the table. This value must be between [0, 99].</p> <p>FREQuency?, Returns the frequency of the specified peak.*</p> <p>AMPLitude?, Returns the amplitude of the specified peak.*</p> <p>FREQuency:DELTA?, Returns the frequency difference between the specified peak and the first peak in the list.*</p> <p>AMPLitude:DELTA?, Returns the amplitude difference between the specified peak and the first peak in the list.*</p> <p>* Read the notes on how to specify a peak.</p>
Examples	<pre> SENSE:PEAK:TABLE:STATE ON SENSE:PEAK:TABLE:TRACE 1 SENS:PEAK:TABL:THRESHOLD -90 SENS:PEAK:TABL:EXC -6 SENS:PEAK:TABL:SORT FREQ PEAK:TABL:COUNT? PEAK:TABL:FREQ? 1 PEAK:TABL:AMPL? 2 PEAK:TABL:FREQ:DELTA? 3 PEAK:TABL:AMPL:DELTA? 4 </pre>
Software Controls	<p>Peak Table Controls -> Enabled</p> <p>Peak Table Controls -> Target Trace</p> <p>Peak Table Controls -> Threshold</p>