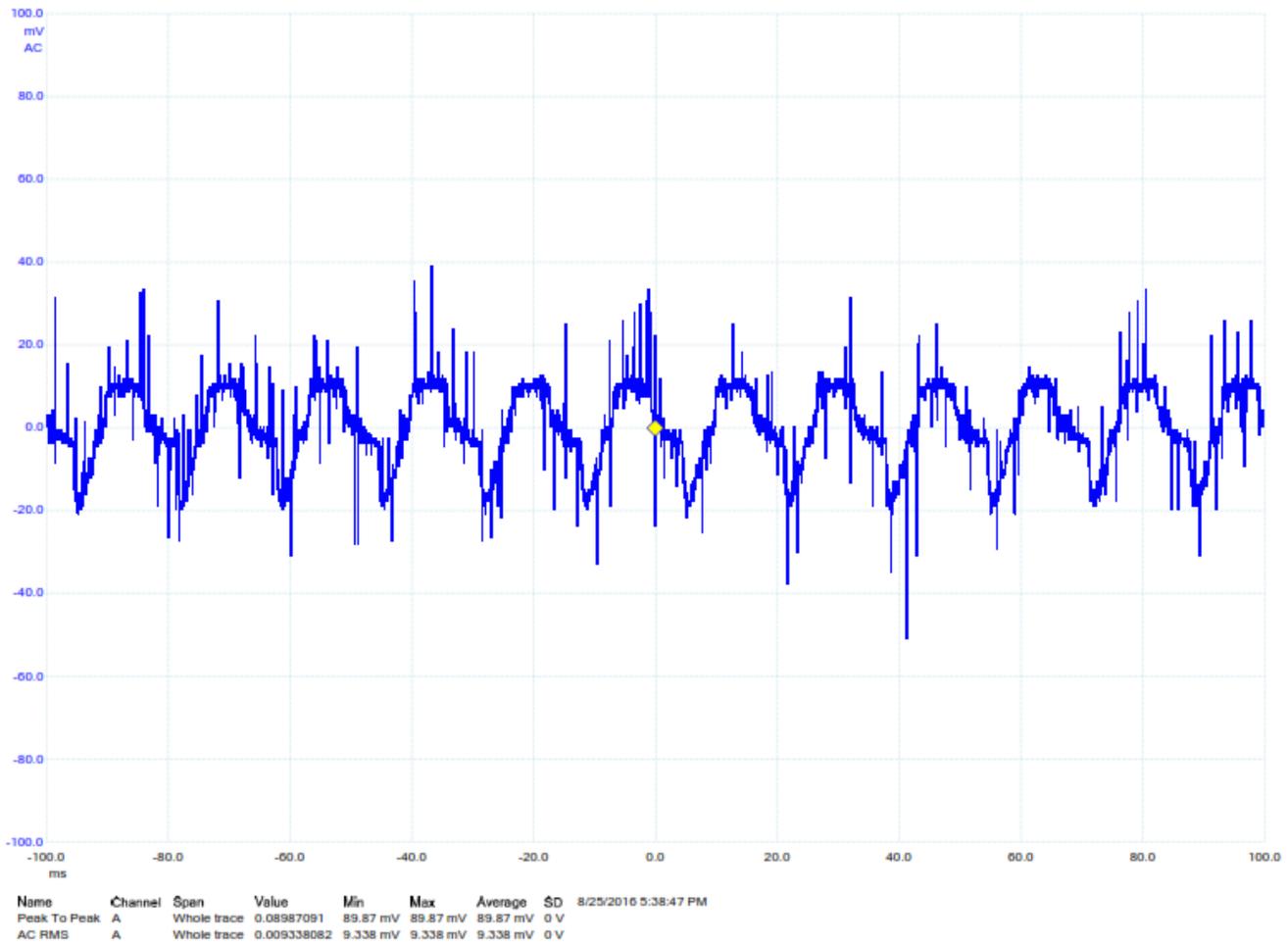


1st Look - Compliance West Config3 Leakage Current Meter nu Touch Current Measurement Instrument Evaluation

p.perkins@ieee.org

The Compliance West LCB Config3 Leakage Current Meterⁱ was used to measure the touch current from a small laptop power supply powering a laptop computer.



Pico Technology Tel: +44-1480-390395 web: www.picotech.com PicoScope 6 Version 6.4.28.0

FIGURE 1: TOUCH CURRENT FROM LAPTOP COMPUTER

This unit has a very low touch current: $9.338\text{mVrms}/500\text{ohms} = 18.676\text{uArms}$ and $89.87\text{mVpk-pk}/2 = 44.935\text{mVpk}/500\text{ohms} = 89.87\text{uApk}$. Of more interest is the pk/rms ratio which is: $89.87\text{uApk}/18.67\text{uArms} = 4.812$; which is the highest ratio that I have measured on dozens of pieces of equipment.

Test conditions:

A touch current test was run on my laptop computer used in daily activity. The test conditions included running an internally stored video while USB charging a cell phone using the supplied 3 wire 65W traveling power supply; the unit was powered at a nominal 120Vac which will draw more current than 230Vac. This should provide adequate load and test conditions for this test.

Summary:

The Compliance West LCB Config3 unit was easy to use; a cal certificate was provided and the cal shows very good hi frequency performance. The provided instructions were clear and easy to make the correct test setup and the output was directly connected to my 100Mz Pico Scope and the oscillograph from the screen printout is shown here. The scope provided the rms and peak-peak digital measurements from which the calculations were made following the IEC 60990 protocol.

Peter E Perkins, PE

Convenor, IEC TC108/WG5 IEC - 60990 'Measurement of touch current and protective conductor current'

p.perkins@ieee.org

2016-10-05

1st Look - nuCompliance West C3 Leakage Current meter.docx

ⁱ Note that as specified by IEC 60990 the CW C3 leakage current meter is intended for use where the touch current limit is above 2mArms and that the CW C2 unit is intended to be used up to 2mArms limit. Since this was an informal test there was no specified limit; the low touch current measured should probably been measured with the CW C2 leakage current meter but the CW C3 meter was the only one available for this evaluation. In either case, the measurement usage and conclusions would be the same.