



National Physical Laboratory

EMPIR



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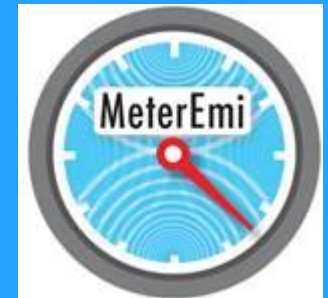
Development of an Arbitrary Waveform Testbed

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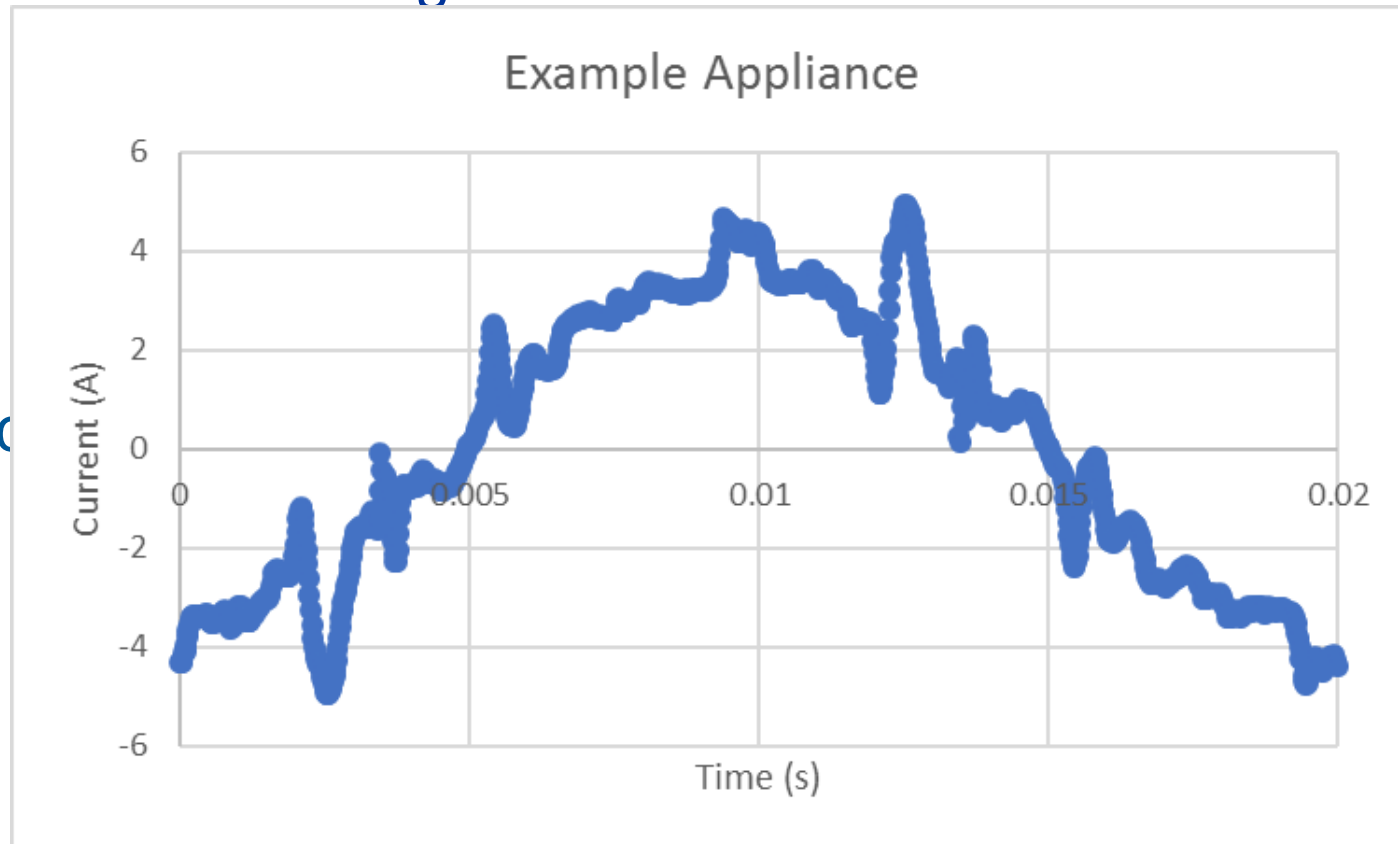
MeterEMI

5th September



Why?

- To test meters against measured real world waveforms.



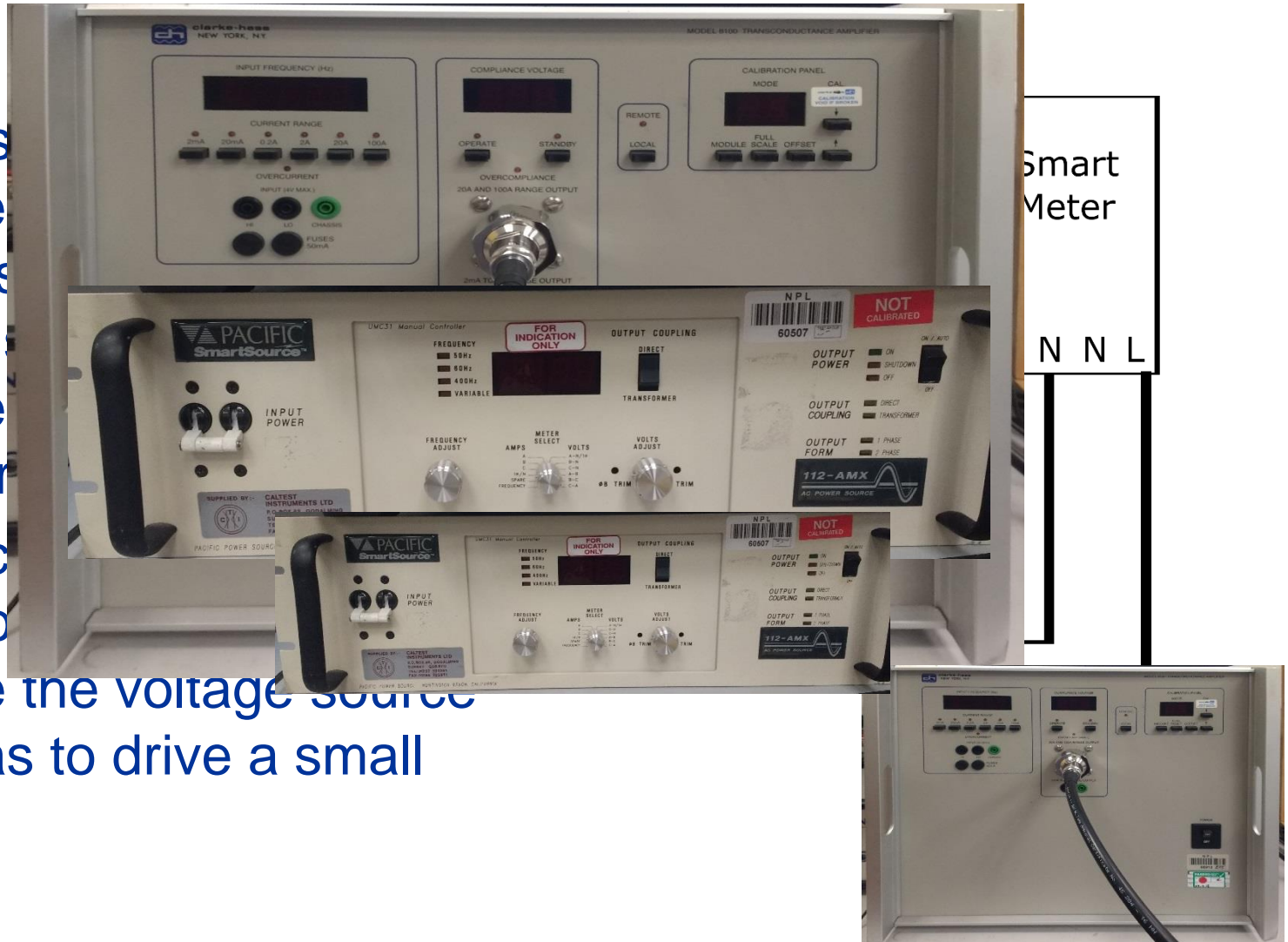
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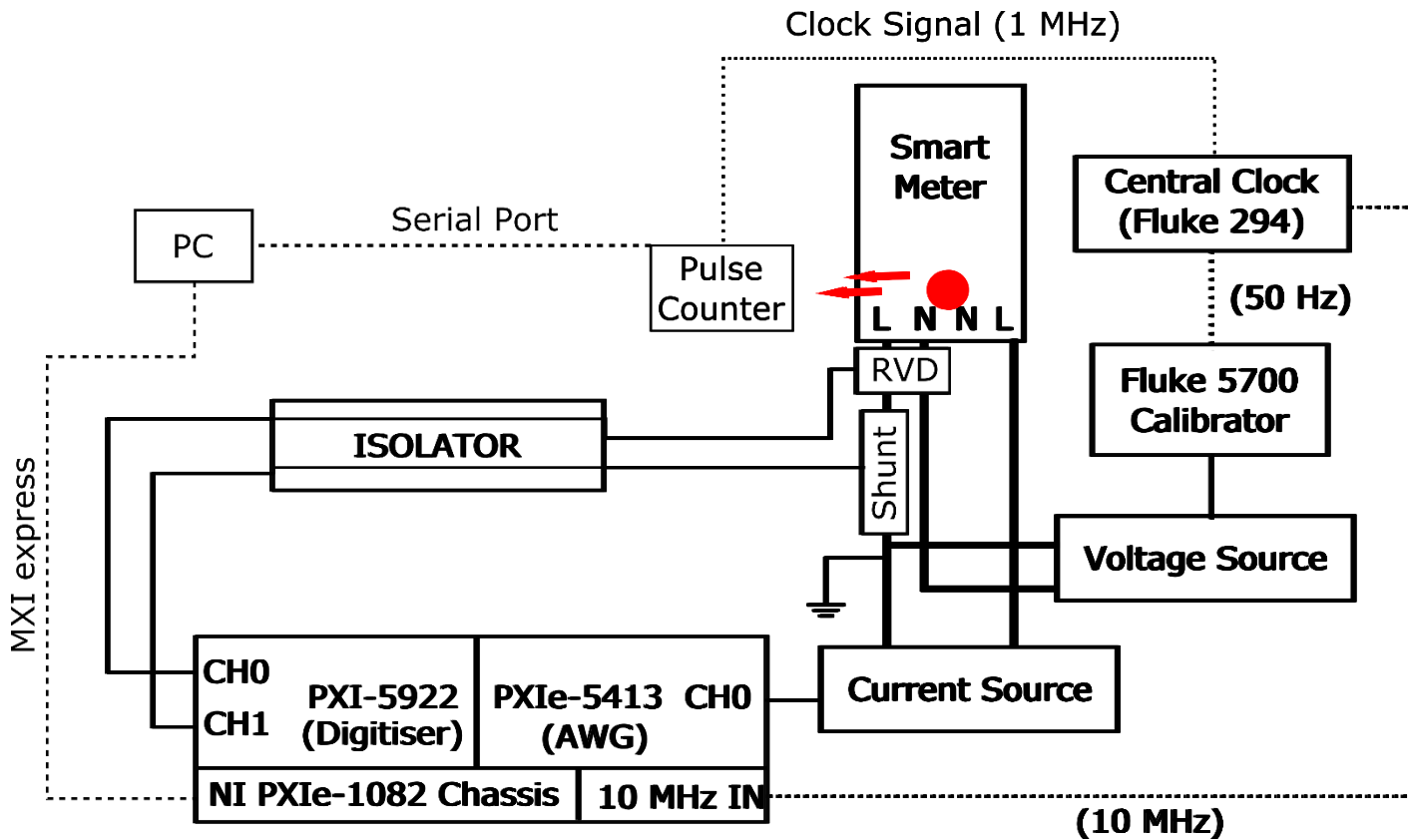


Phantom Power Setup

- Using standard voltage sources locked to a power measurement
- As electronic voltage sources also has to drive a small current



Actual Setup



Equipment Settings

- Oscilloscope sampling at 1 MS/s (22 bit)
- Current source rated at 100 kHz
- AWG generating at 1MS/s



Conclusion

- An Arbitrary Waveform Testbed for testing electricity meters has been developed
- Enabling real world measured appliances to be tested repeatably
- Subtle difference from VSL design on isolation

