

CL Quantify

Device for Validation of Contactless Interface Design



CL Quantify is a digital storage oscilloscope with a sample rate up to 100 MHz. It allows data acquisition in 50 Ohm systems, but also precise high impedance measurements with an input impedance of 1 M Ω or 10 M Ω (17 pF). These features, combined with the ability of measuring direct current, make CL Quantify play a key role in NFC Forum and EMVCo (pre-)conformance testing.

CL Quantify forms with CL Verify A and COMPRION's user-friendly Design Validation Center software a comprehensive solution for analyzing and developing NFC interfaces. For executing conformance test cases according to NFC Forum and EMVCo test specifications, CL Quantify needs to be connected to COMPRION's Device Test Center .

01
03

Main Capabilities

- Digital storage oscilloscope
- Precise DC measurement
- Pre-Amp output channels for monitoring

Use Cases (together with CL Verify A)

- Analyzing NFC fields
- Optimizing the integration of NFC antennas
- Development/debugging of
 - Contactless cards
 - Contactless tags
 - Contactless terminals/readers
 - Contactless frontends (CLFs)
 - NFC-enabled devices
- Pre-conformance testing according NFC Forum and EMVCo specification
- Quality Assurance

Specification

TECHNICAL DATA

Input Channels

- A & B: 2 sockets per channel
 - BNC input: 1 M Ω , 17 pF (alternatively 50 Ω)
MCX input: 10 M Ω , 17 pF (alternatively 50 Ω)
 - Input range 1: ± 0.25 V
 - Input range 2: ± 2.5 V
 - Input range 3: ± 25 V
- Trig(ger)/Cal:
 - Impedance: 11 M Ω , < 13 pF (alternatively 50 Ω)
 - Measurement range: ± 25 V
 - Threshold: ± 25 V (adjustable)
- Digitalization:
 - Vertical resolution: 14 bit
 - RAM: 4 Gbit
 - Recording period: max. 2.68 s
 - Time resolution: 10 ns

Output Channel

- Pre-Amp A & B:
 - Output voltage range
(depending on input range): ± 0.59 V / ± 1.88 V

GENERAL FEATURES

- COMPRION SyncBus:
Time-synchronization interface with CL Verify A
- Timebase stability: 2,8 ppm

OPTIONS

Live Scope (with Design Validation Center)

Analog Scope (with Device Test Center)

- Integrated digital storage oscilloscope
- Configurable sample rate of up to 100 MHz
- Detailed timing and value measurements
- 2-stage cascading trigger definition
- Signal/frequency analysis
- Visualization of the modulated carrier amplitude and the envelope signal
- Configurable envelope calculation
- Display of up to 4 digital channels
- Quick measurements
 - Modulation index
 - Waveform characteristics
 - Frequency spectrum
 - Fall/rise times
 - Peak-to-peak
 - Top/bottom
 - Duty cycles
 - Overshoots, undershoots
 - Low level, mid level, high level

TEST SUITES

Test Benches EMVCo

- CL EMVCo PCD Analog Test Bench
- CL EMVCo PICC Analog Test Bench

Test Benches NFC Forum

- CL NFC Forum RF Analog Test Bench
- CL NFC Forum Tag Performance Test Bench

SCOPE OF DELIVERY

- CL Quantify
- USB 2.0 cable
- Power supply (12V/2.5A DC) incl. adaptor plug set

ACCESSORIES

- Mini HDCA Probe with SMA socket
for EMVCo (pre-)conformance testing

REQUIRED SOFTWARE

- Design Validation Center
- Device Test Center
(for execution of conformance test cases)

DIMENSIONS

- W x D x H: 241 x 274 x 44mm
- Weight: 2,2 kg

