

ATTACHMENT I

(Pictures of the EUT and Electrical Schemes)

1 PICTURES

Front



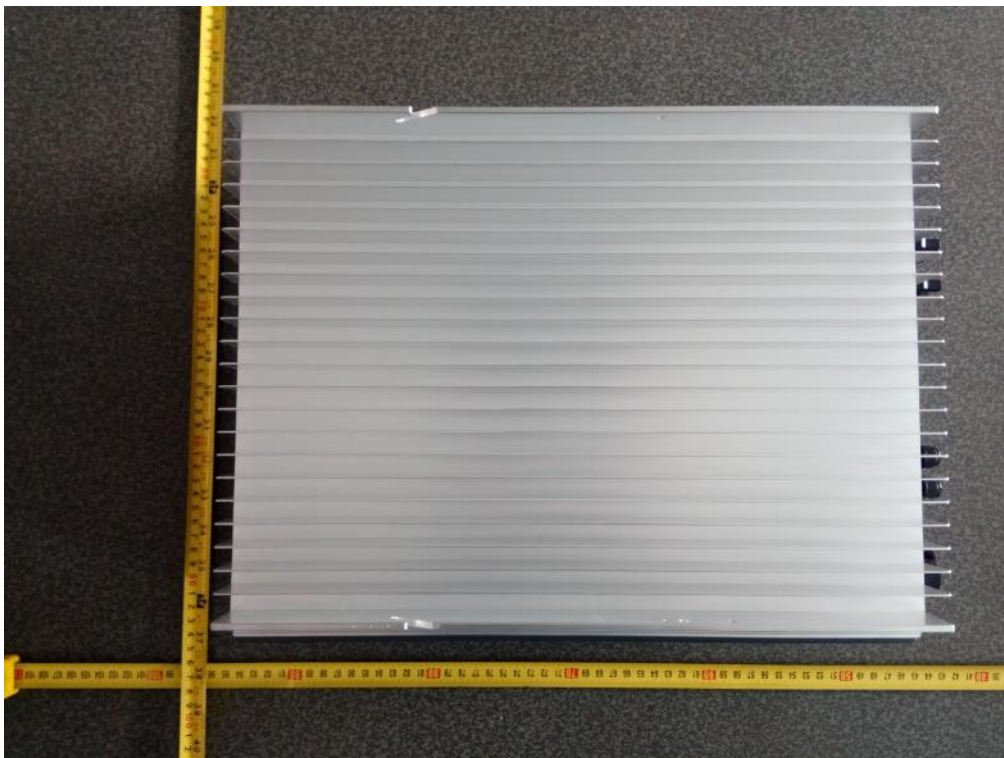
Side



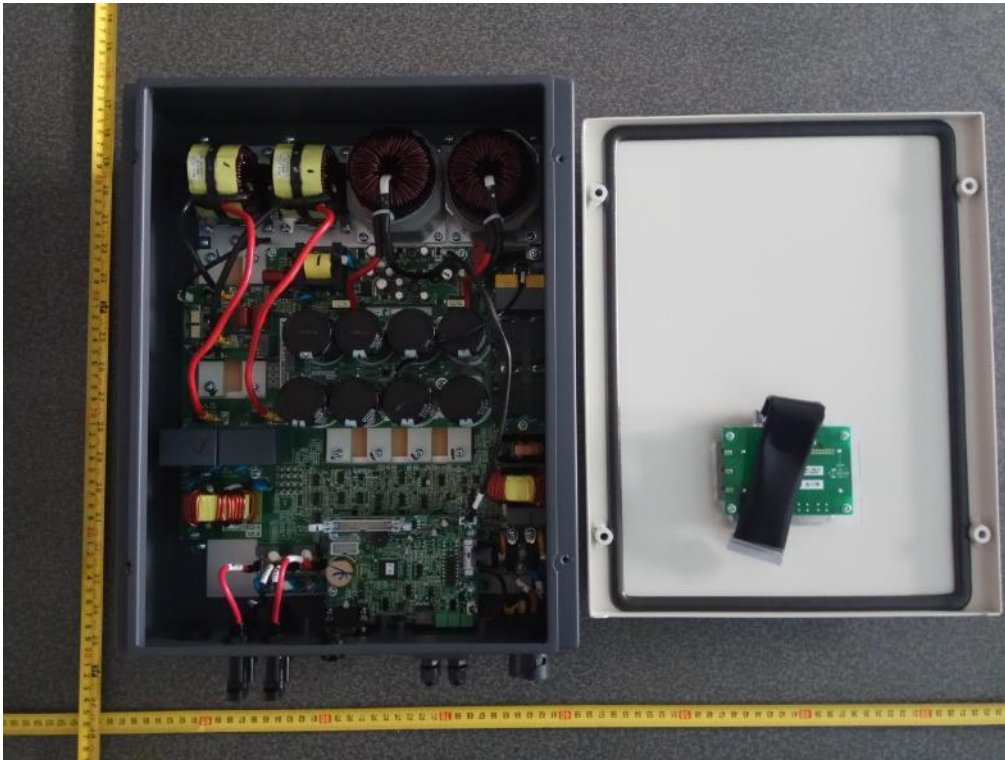
Connection interface



Back Side



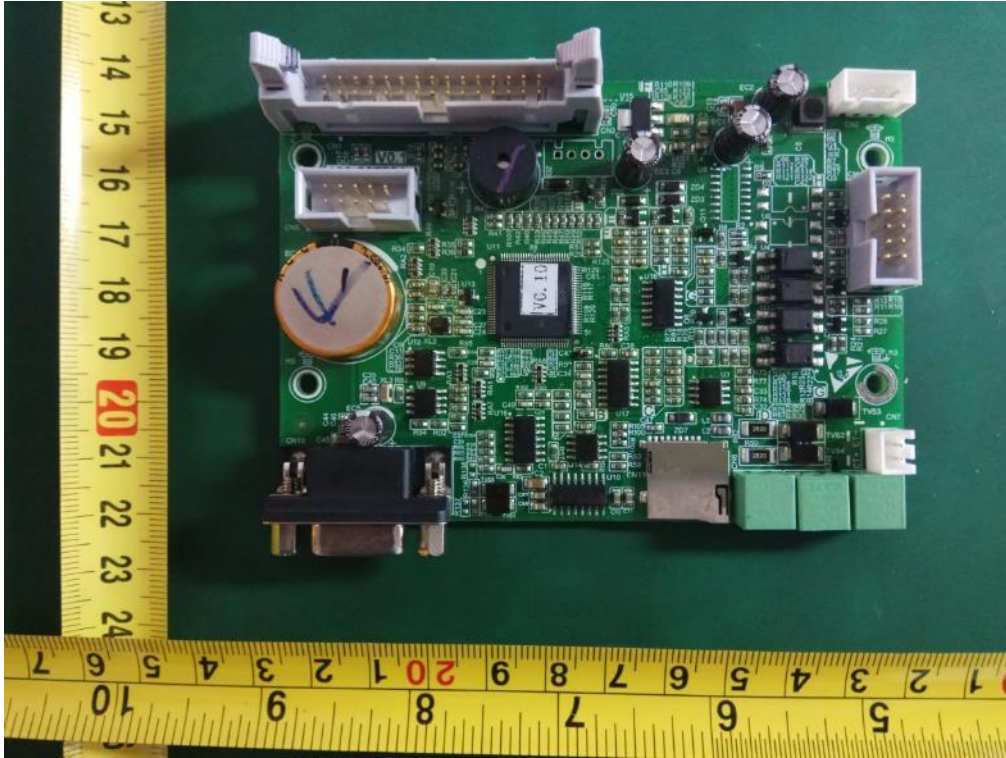
Internal



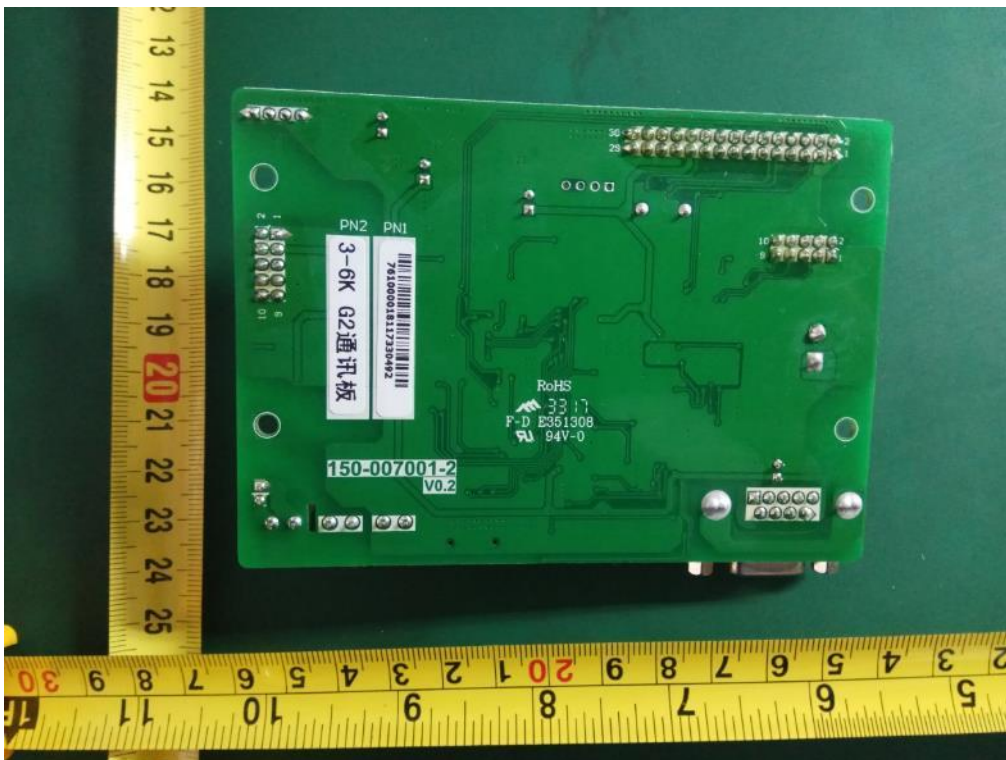
Internal



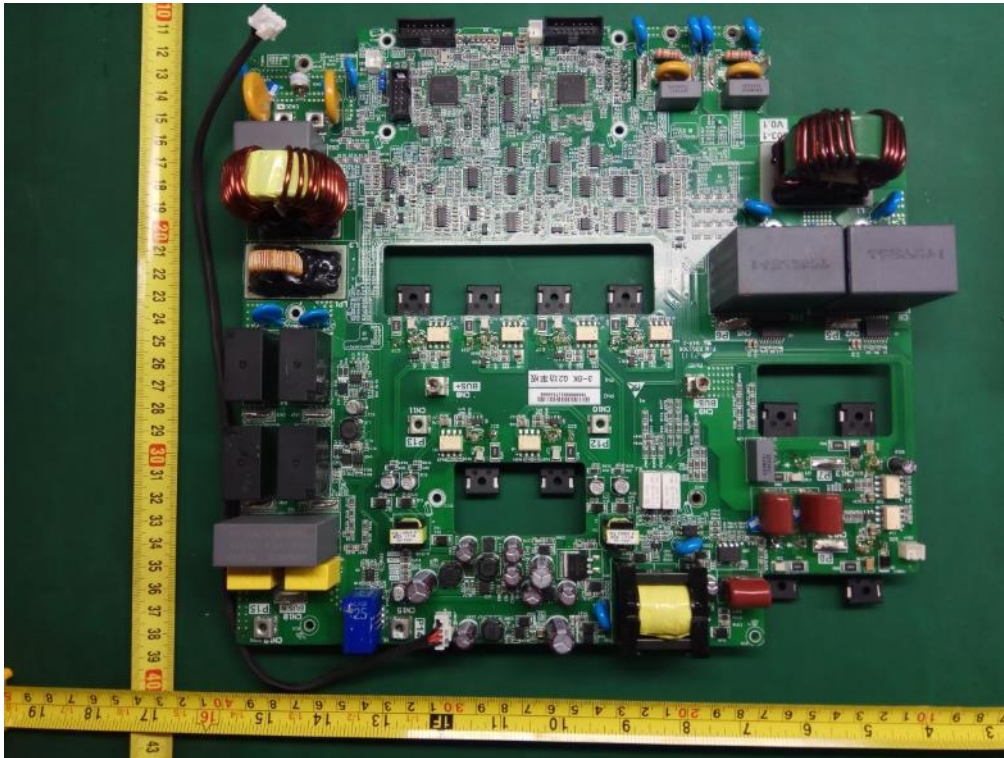
Front side of communication board



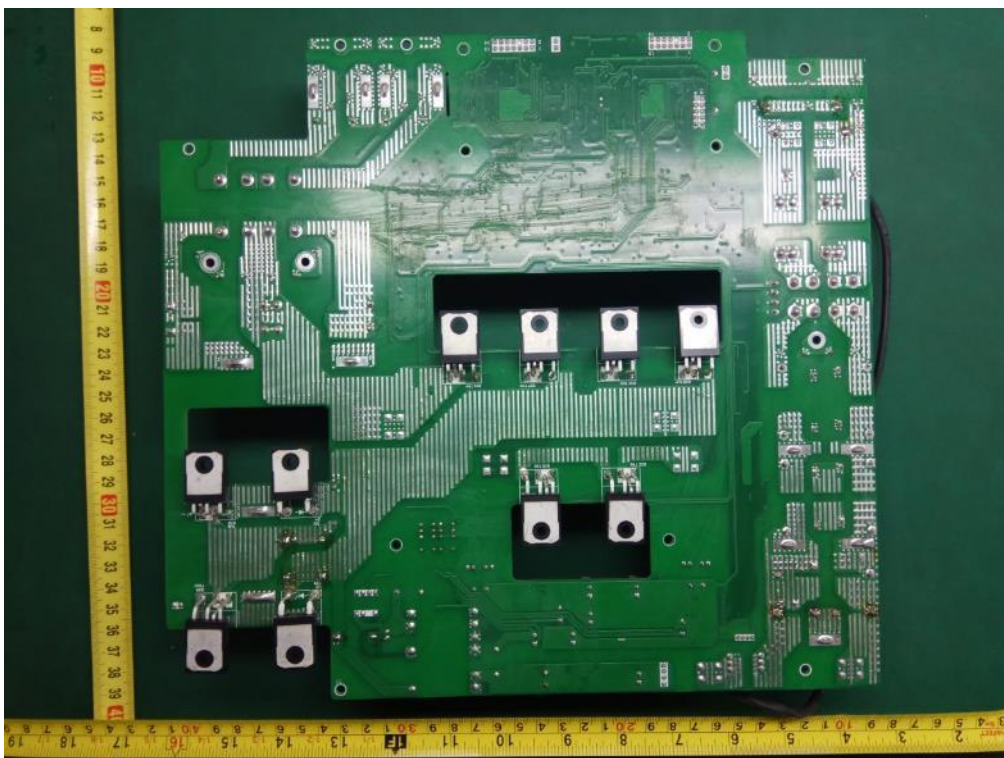
Back side of communication board



Front side of Main board



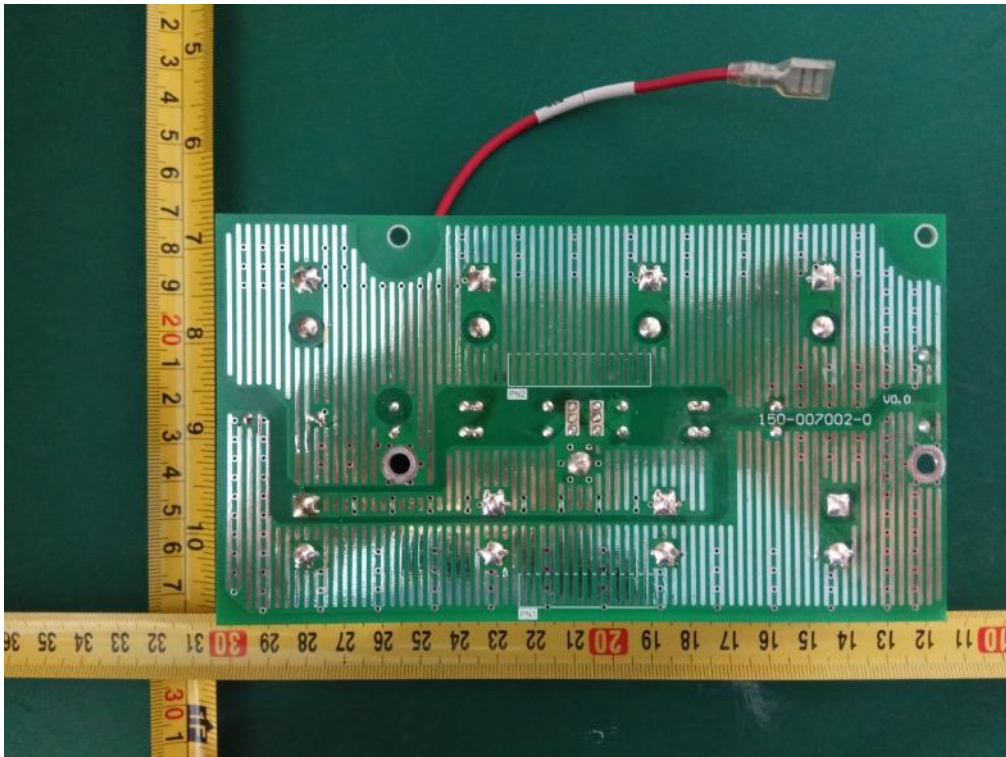
Front side of Main board



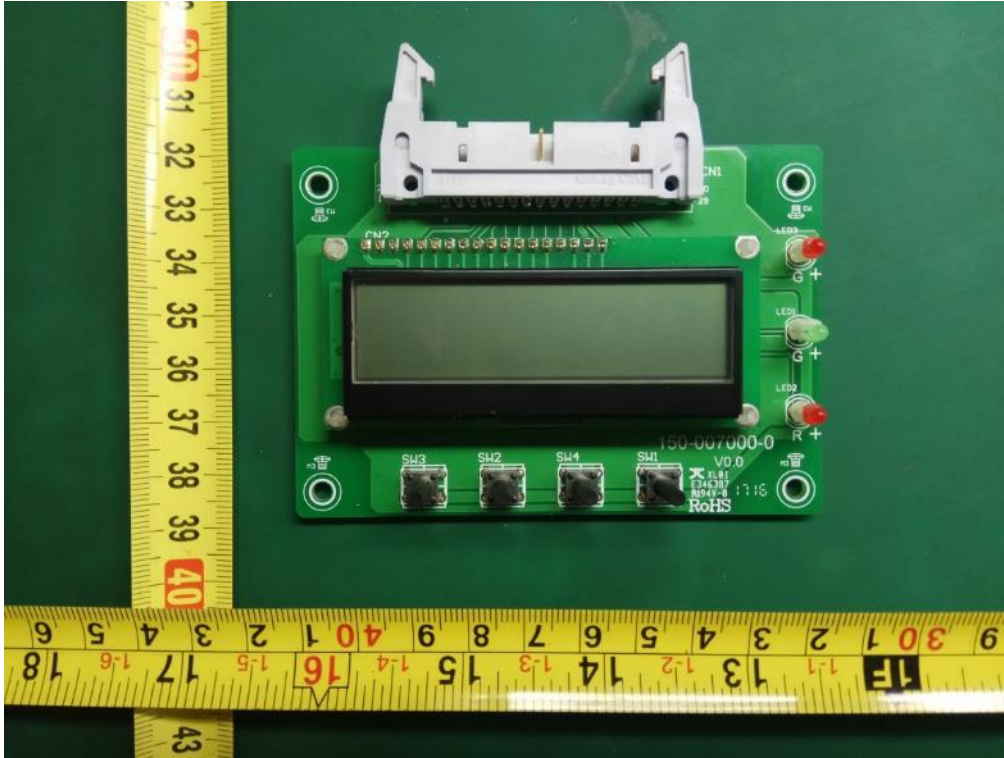
Front side of Bus capacitors board



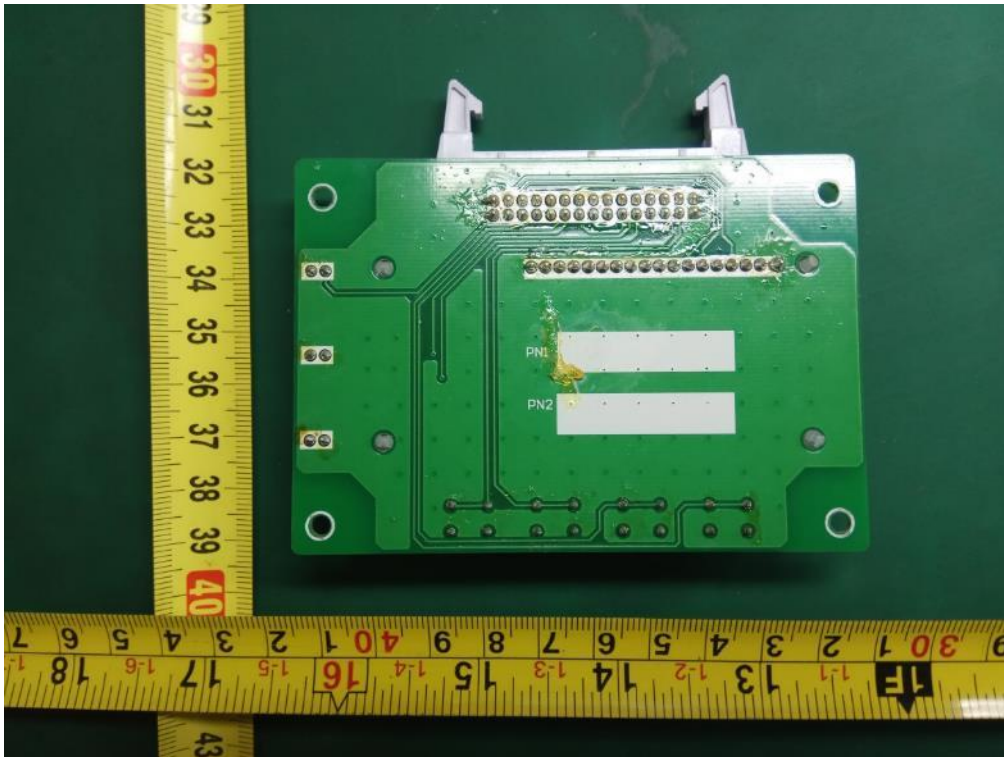
Back side of Bus capacitors board



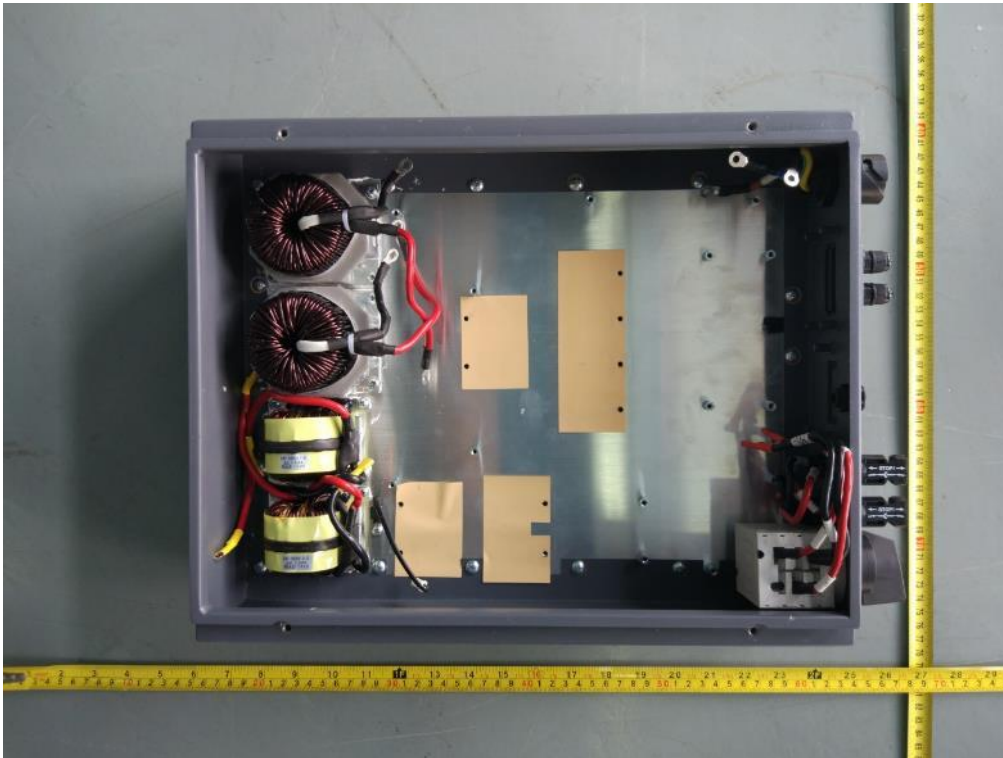
Front side of display board



Back side of display board



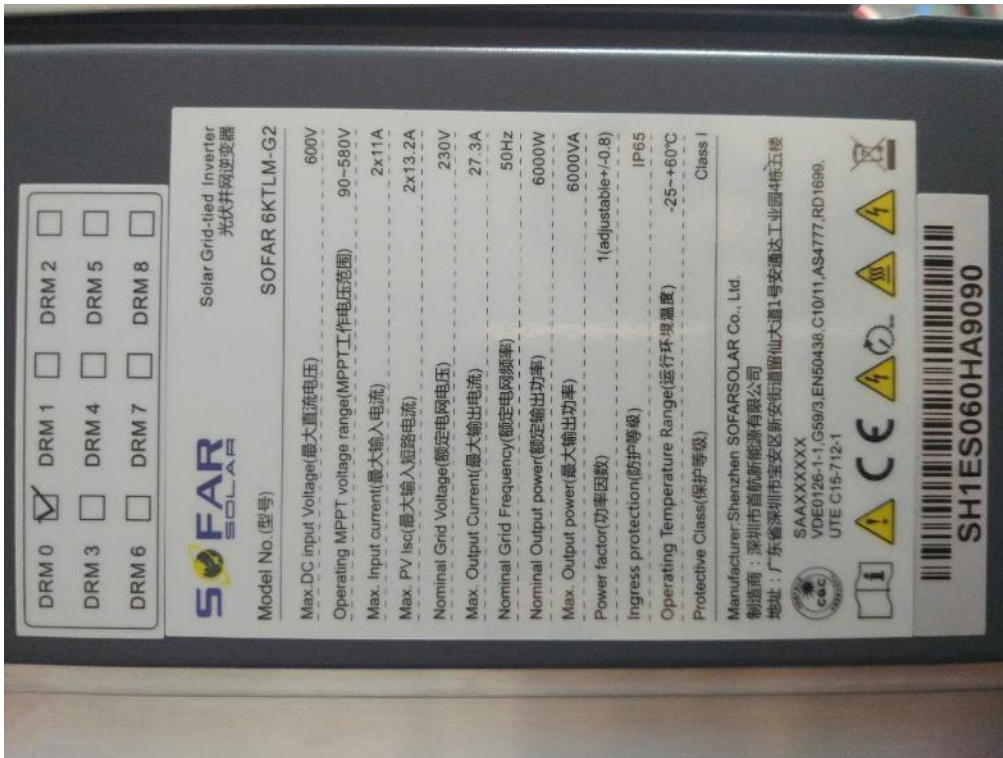
Removed all PCBAs



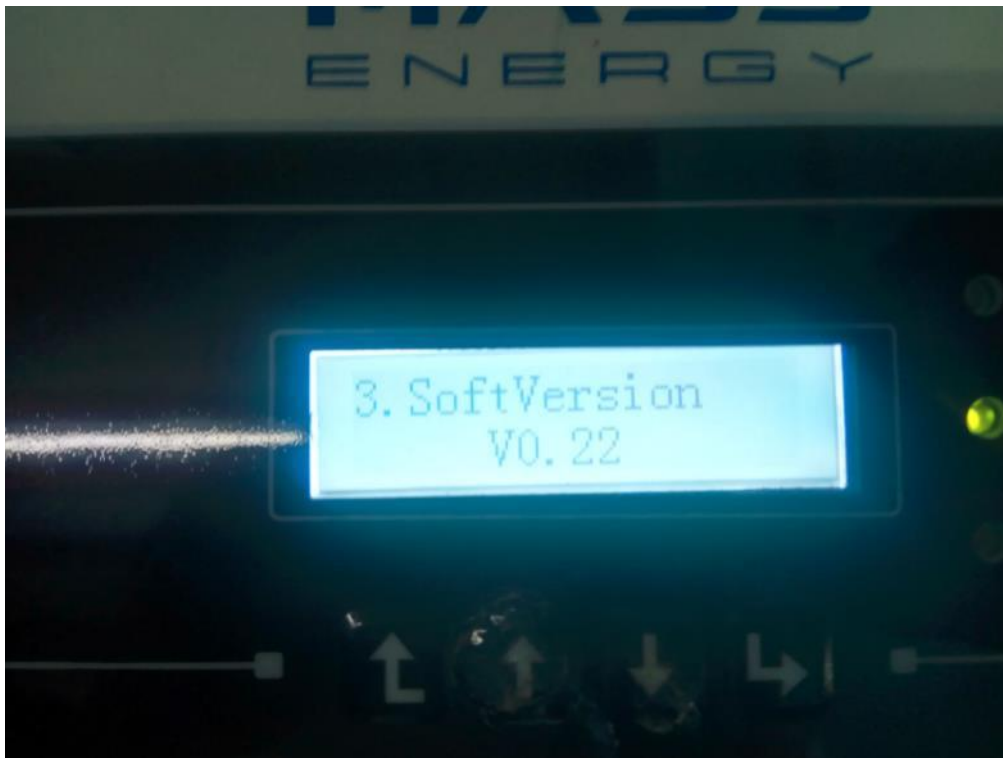
Cover



Labels

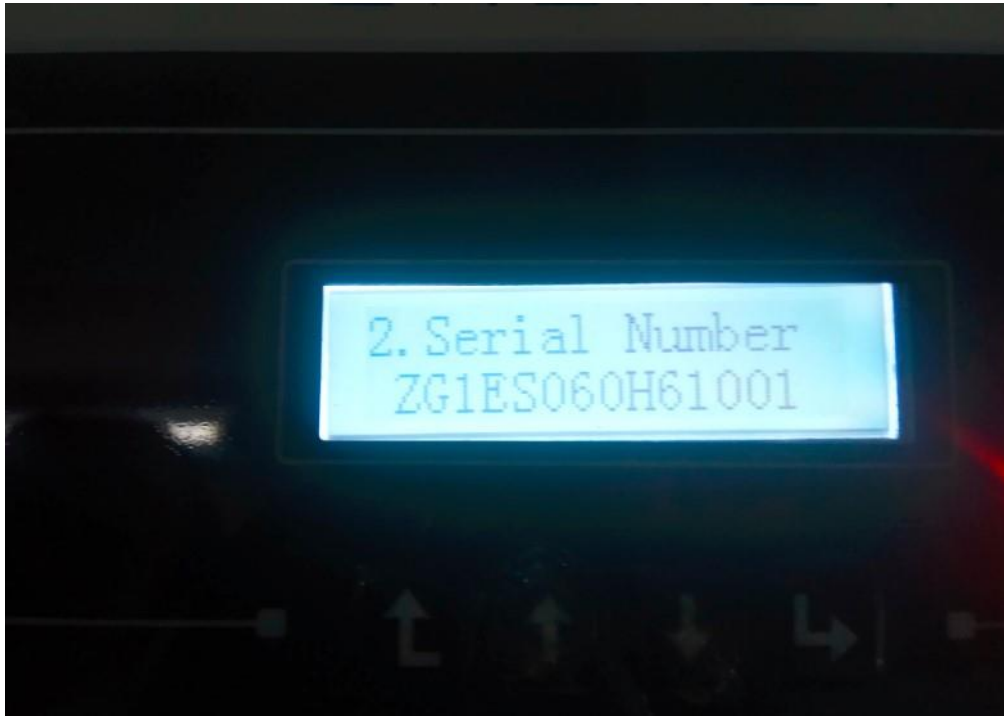


Software Version

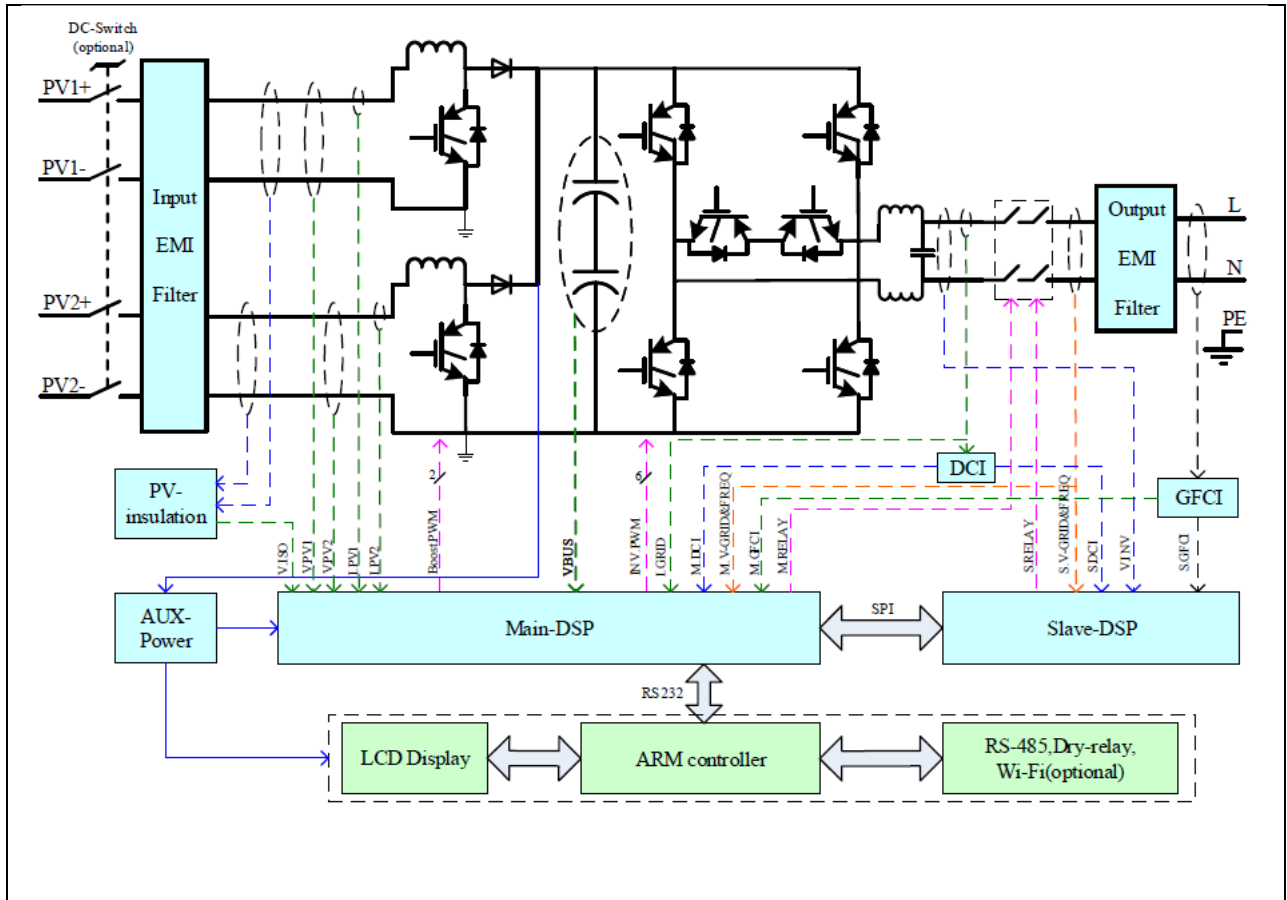


IEC 62116:2014 (50Hz)

Serial Number of the EUT



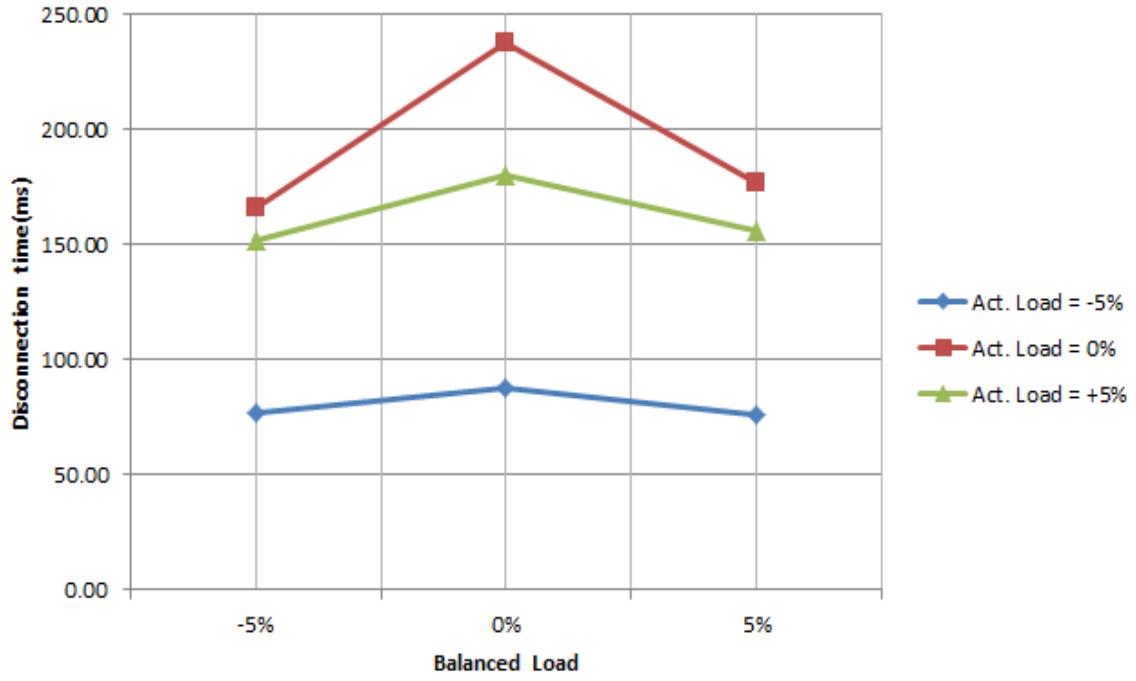
2 ELECTRICAL SCHEMES



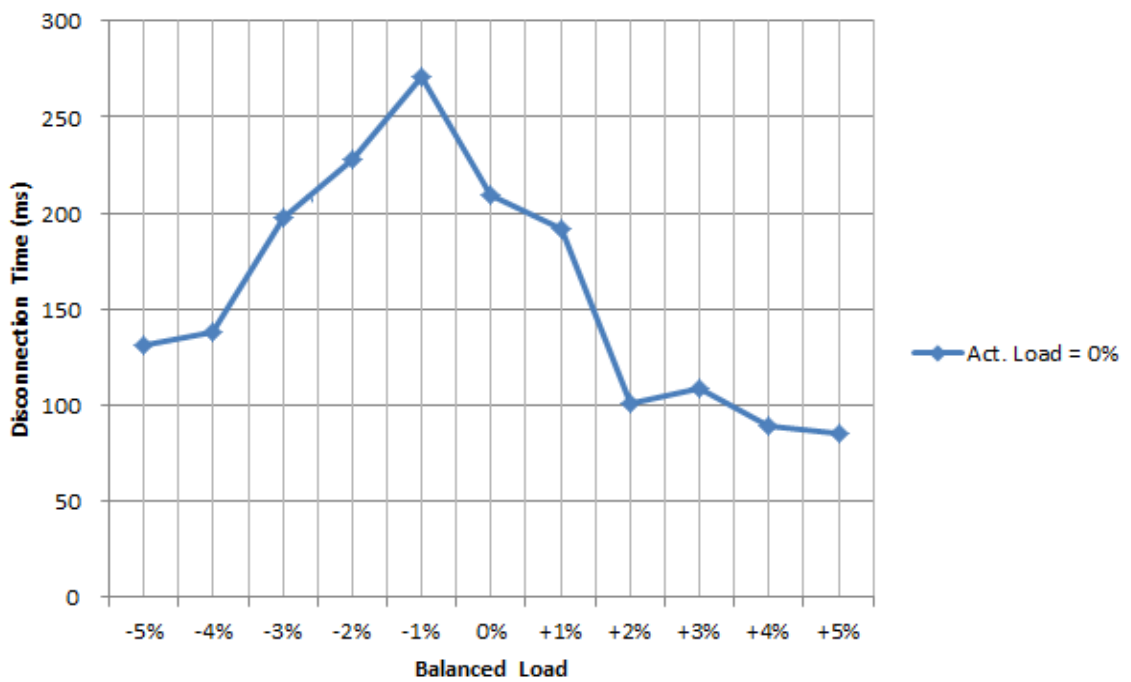
ATTACHMENT II

(GRAPHICS OF THE TEST RESULTS)

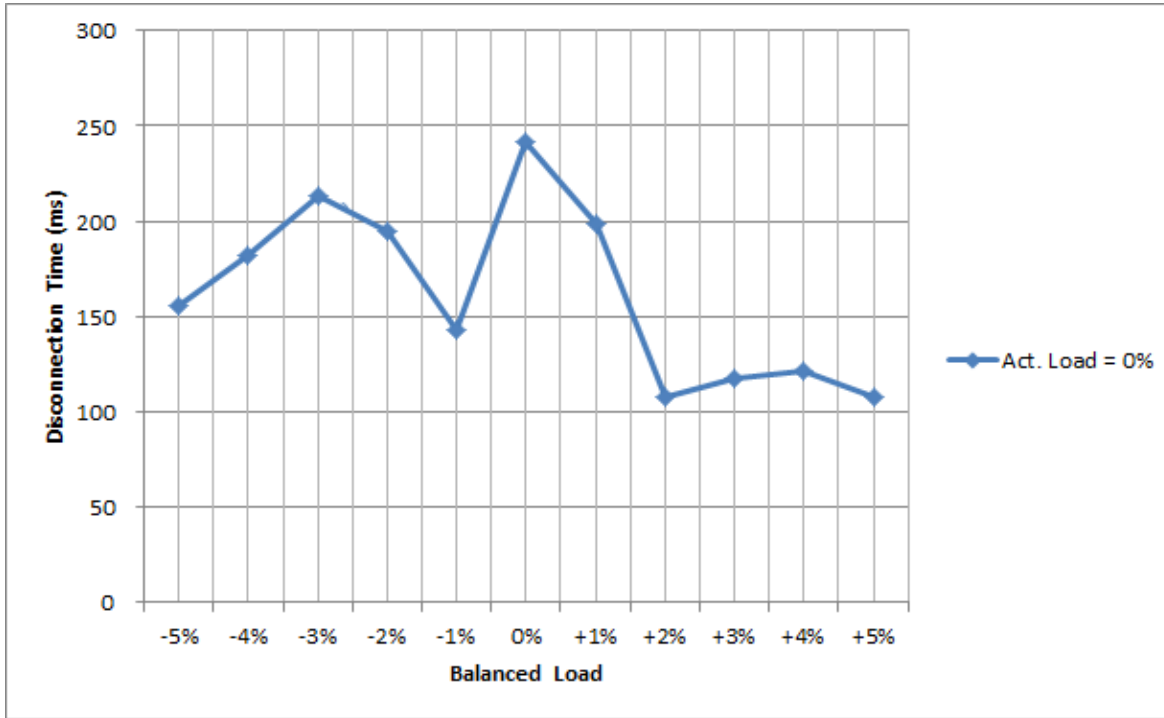
Test Condition A



Test Condition B



Test Condition C



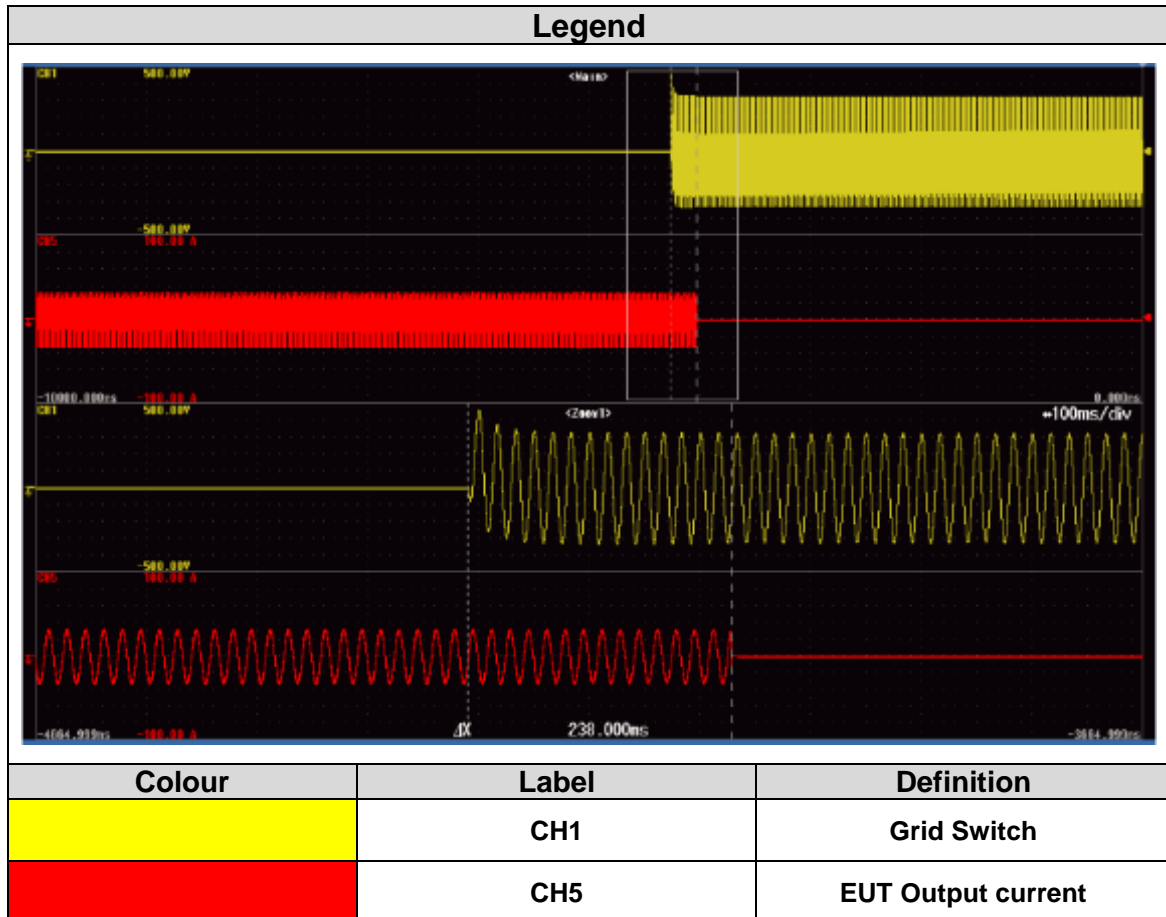
ATTACHMENT III

(GRAPHICS OF THE ISLANDING BEHAVIOR DETECTION)

1 DEFINITIONS

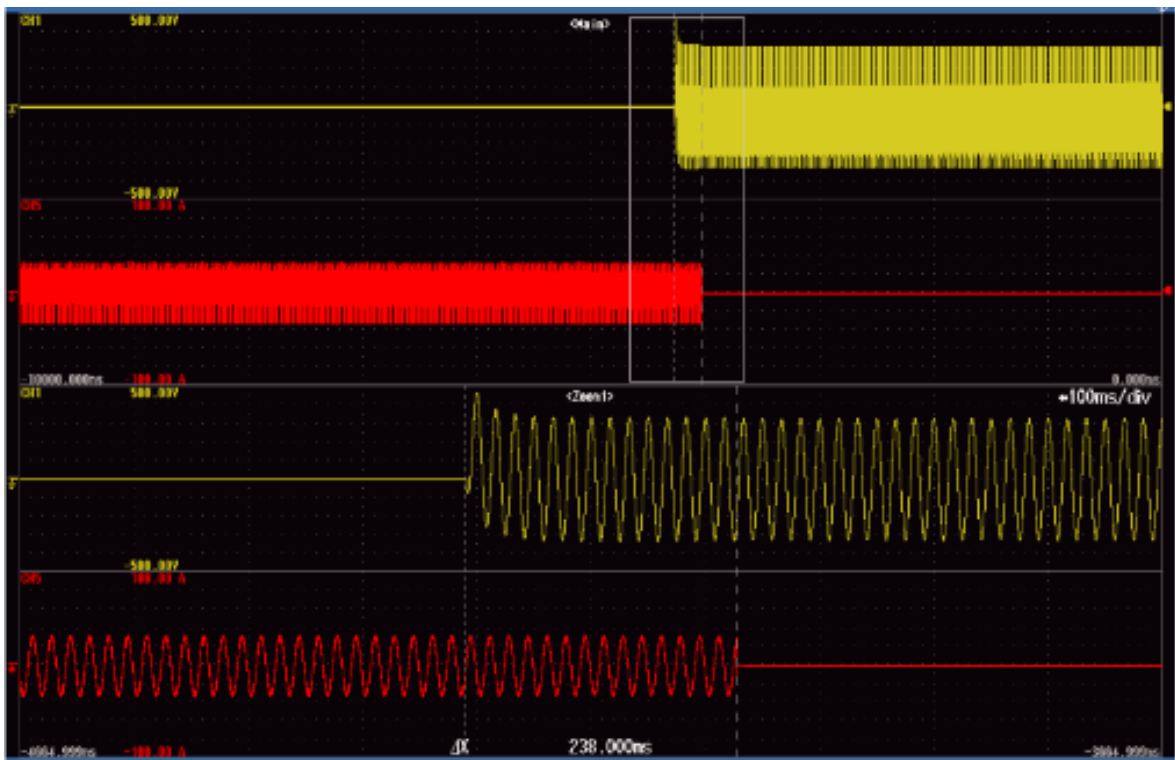
- M It represents the % change in active load from nominal output power
- N It represents the % change in reactive load from nominal output power

2 LEGEND



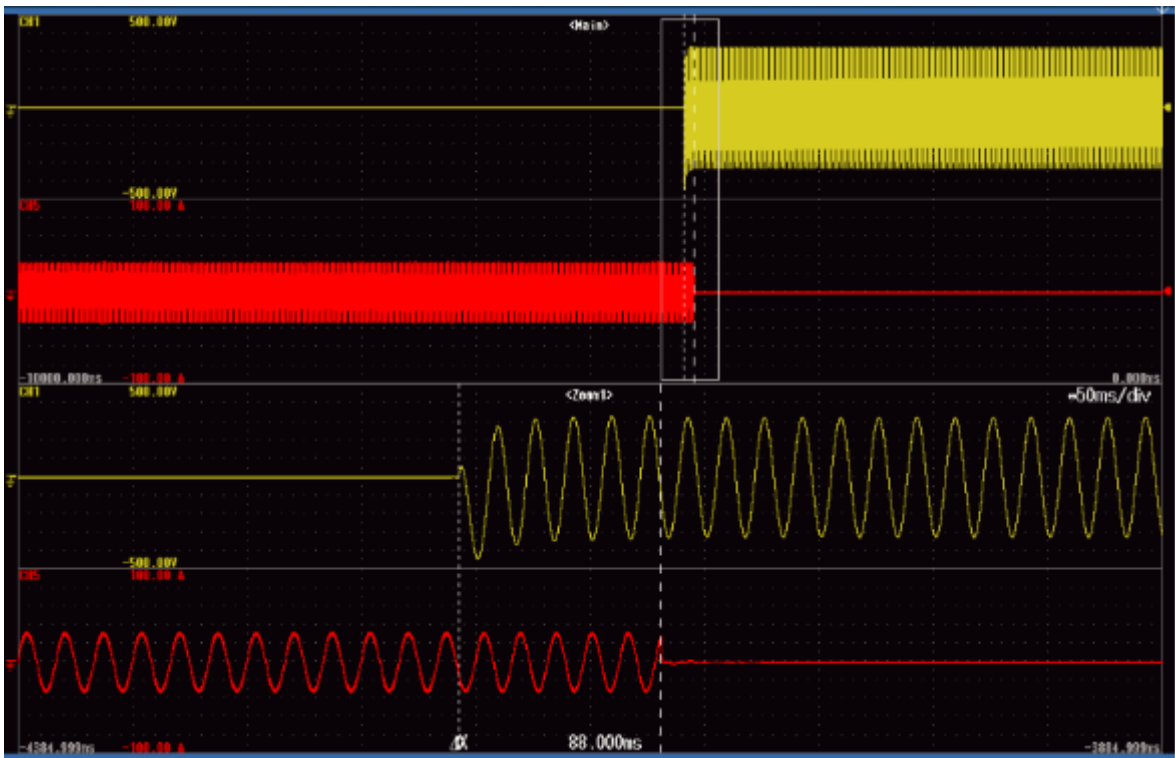
Test A(50Hz)

M(%)=0 & N(%)=0



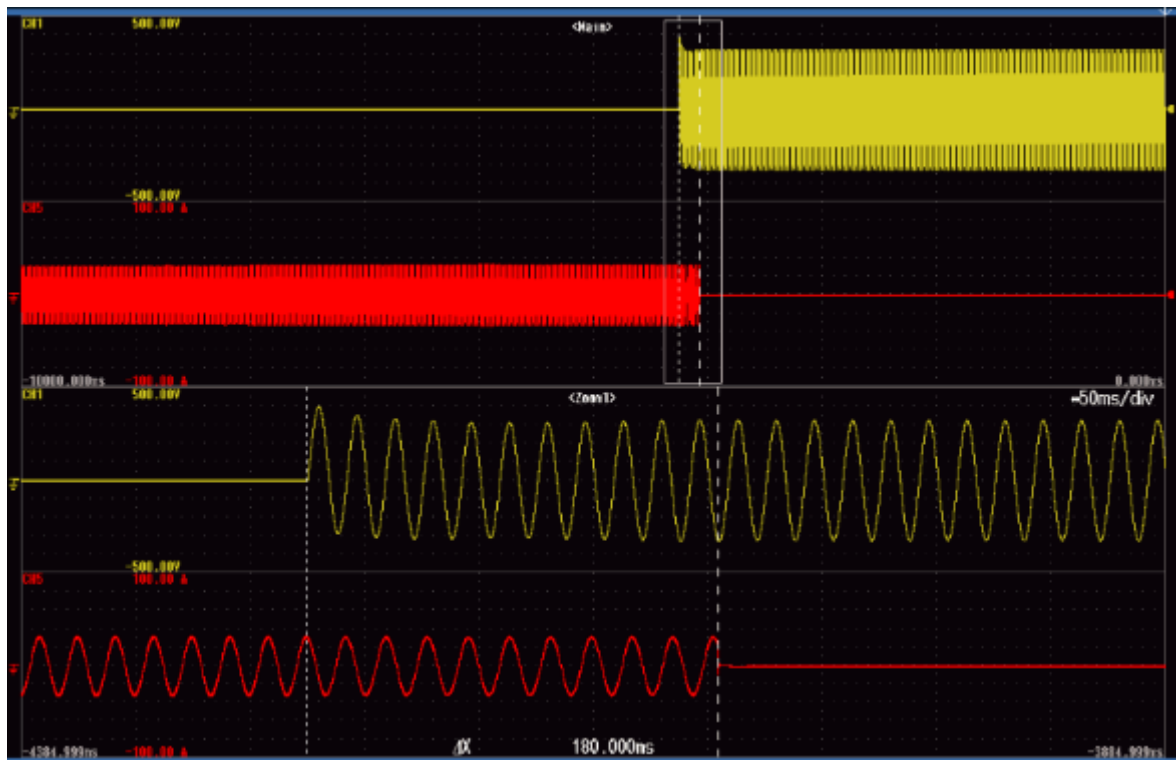
Test A(50Hz)

M(%)=0 & N(%)=+5



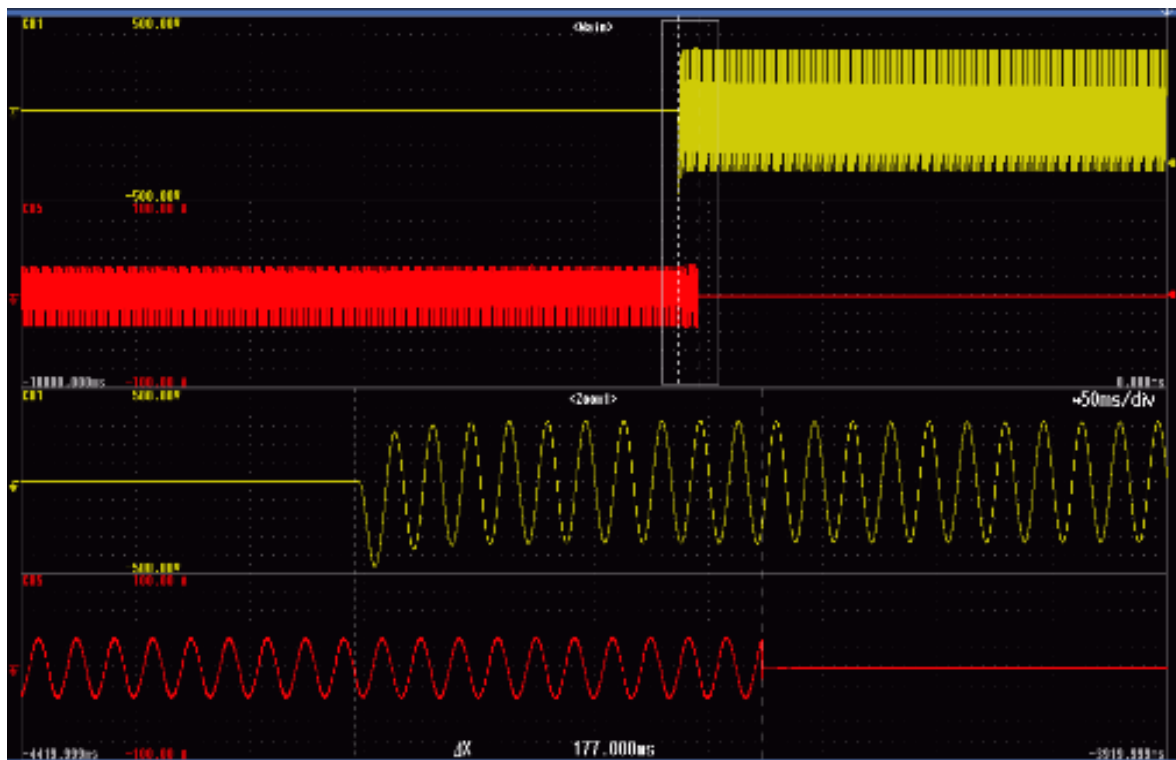
Test A(50Hz)

M(%)=0 & N(%)=-5



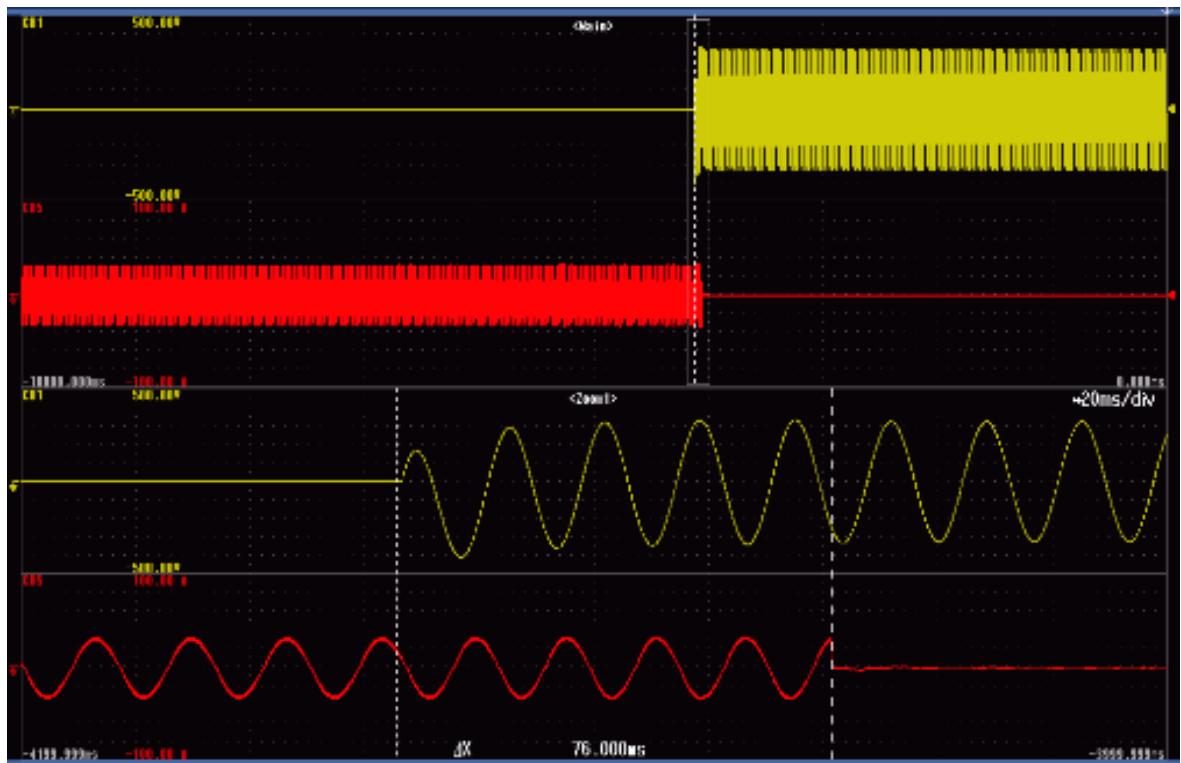
Test A(50Hz)

M(%)=+5 & N(%)=0



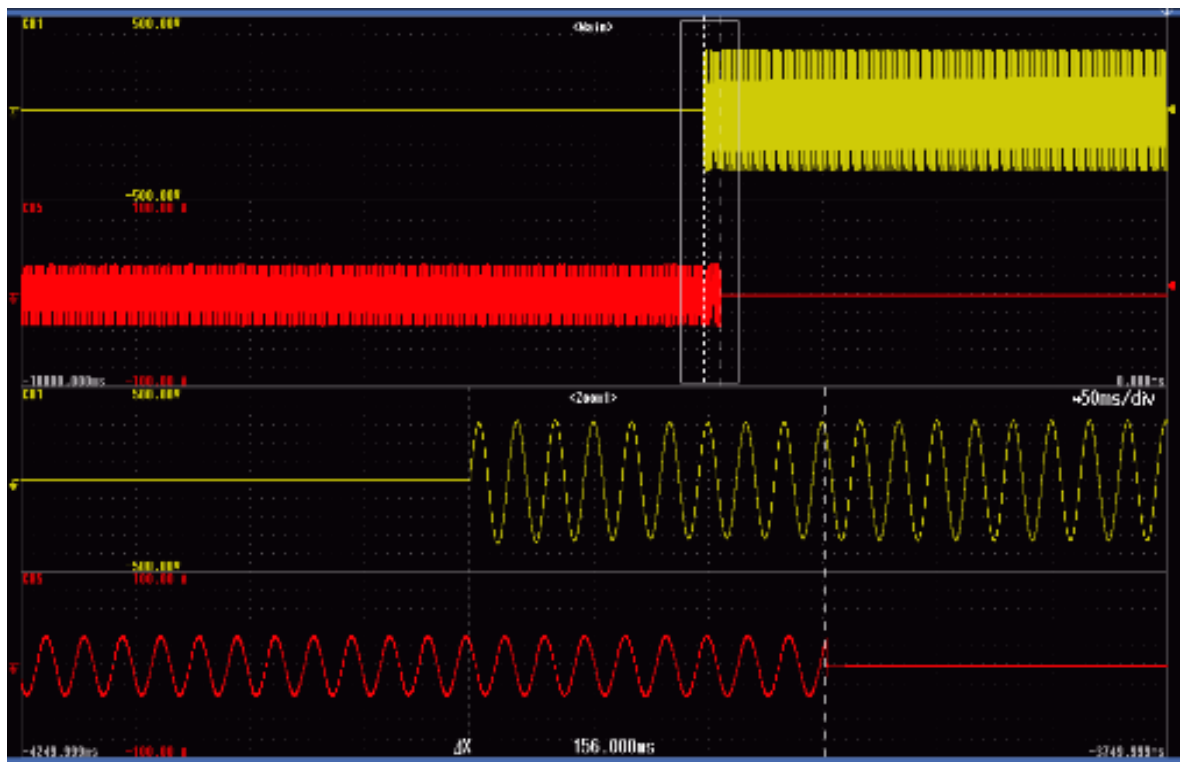
Test A(50Hz)

M(%)=+5 & N(%)=+5



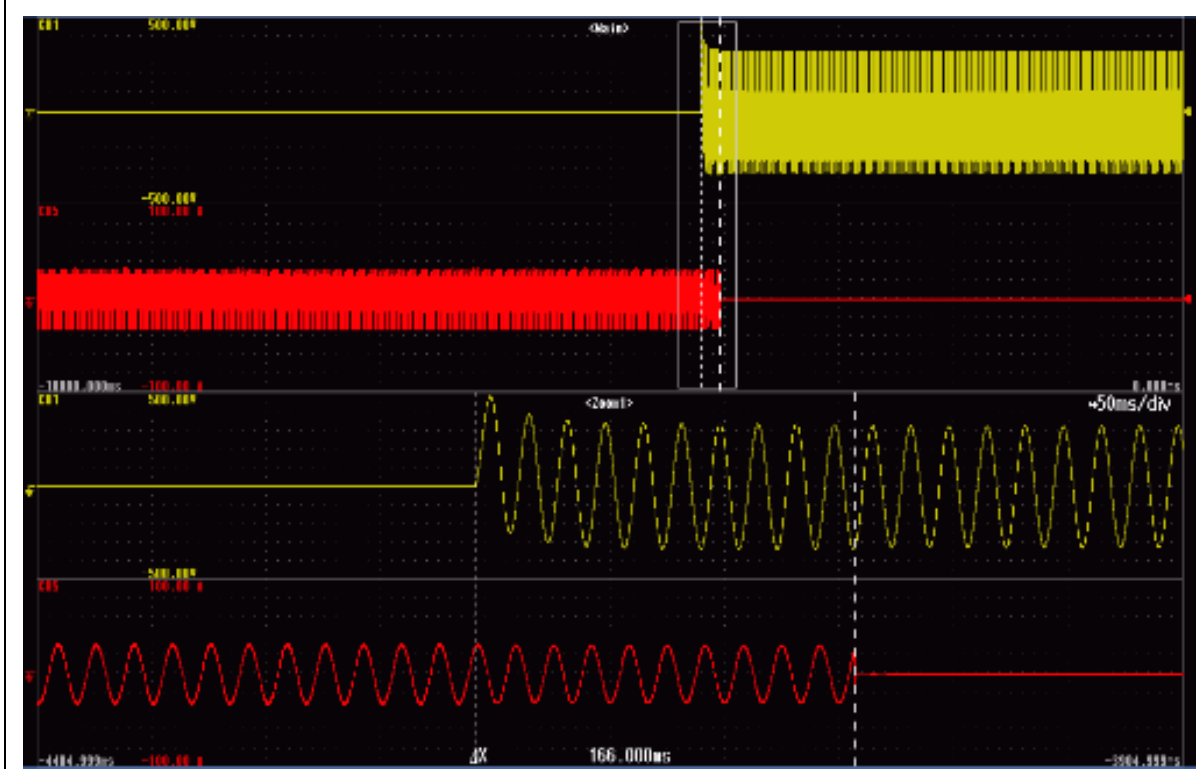
Test A(50Hz)

M(%)=+5 & N(%)=-5



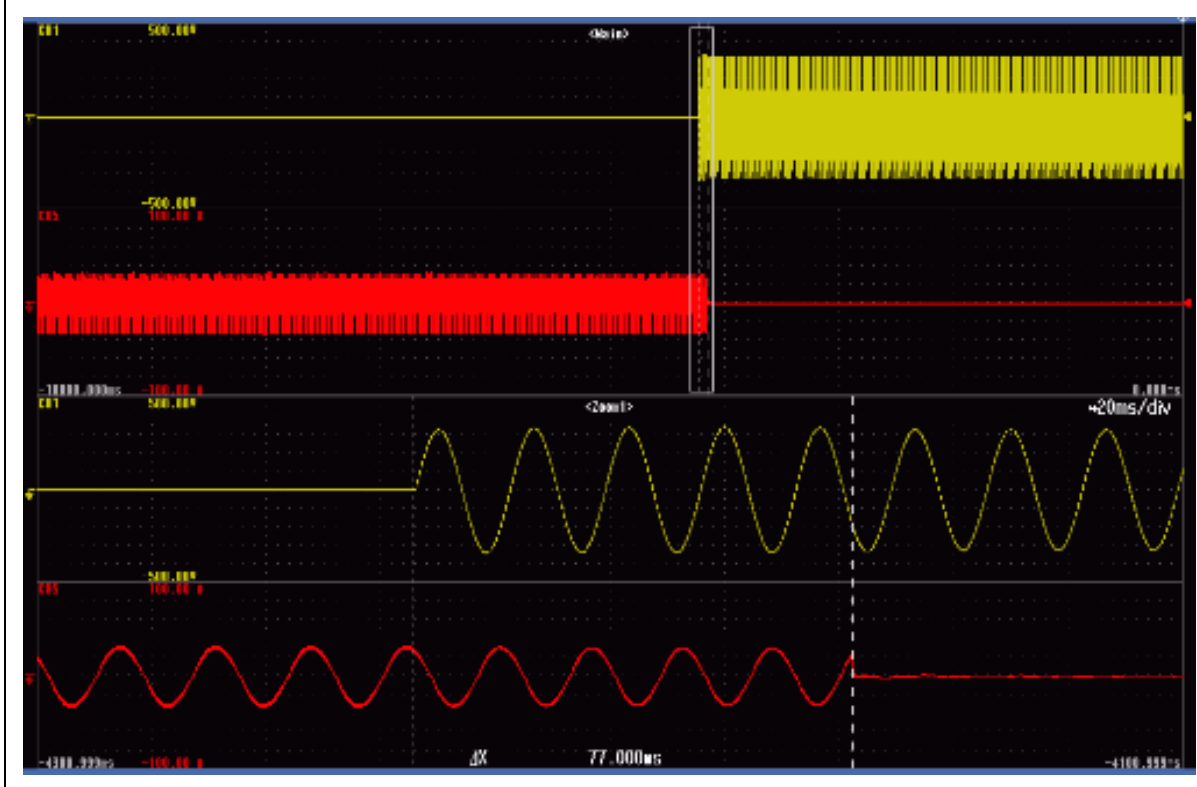
Test A(50Hz)

M(%)=-5 & N(%)=0



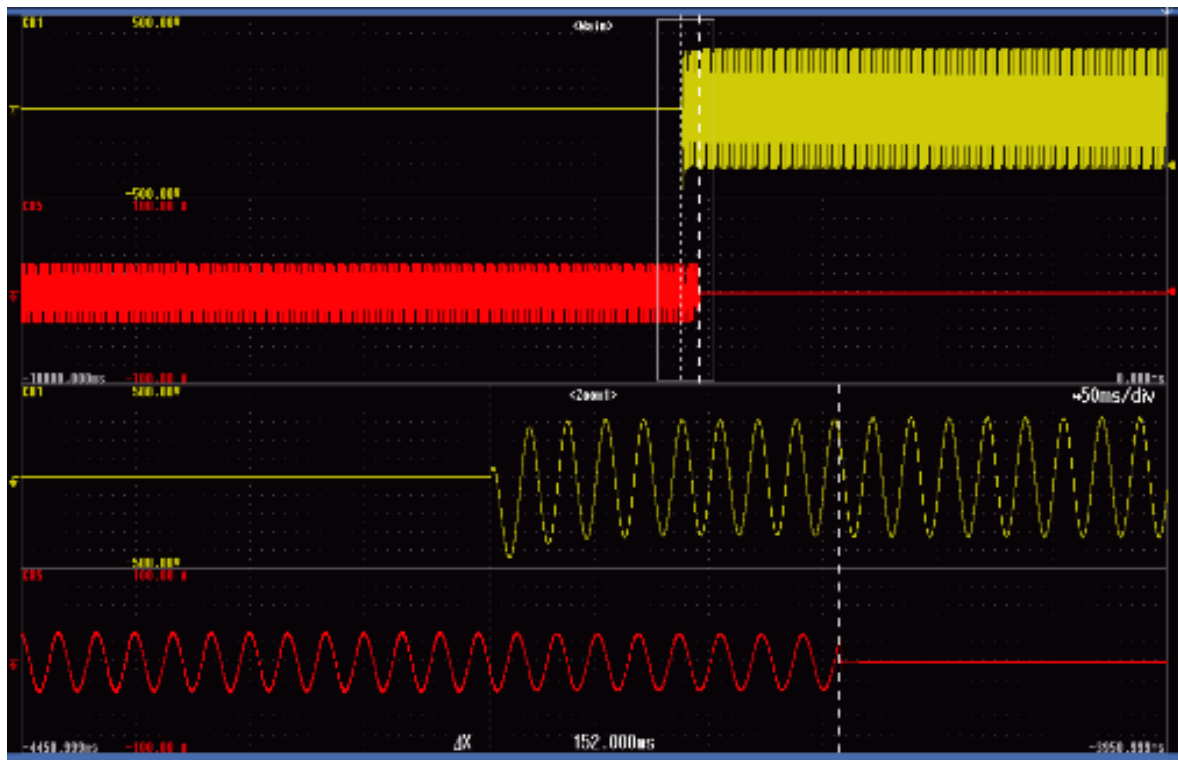
Test A(50Hz)

M(%)=-5 & N(%)=+5



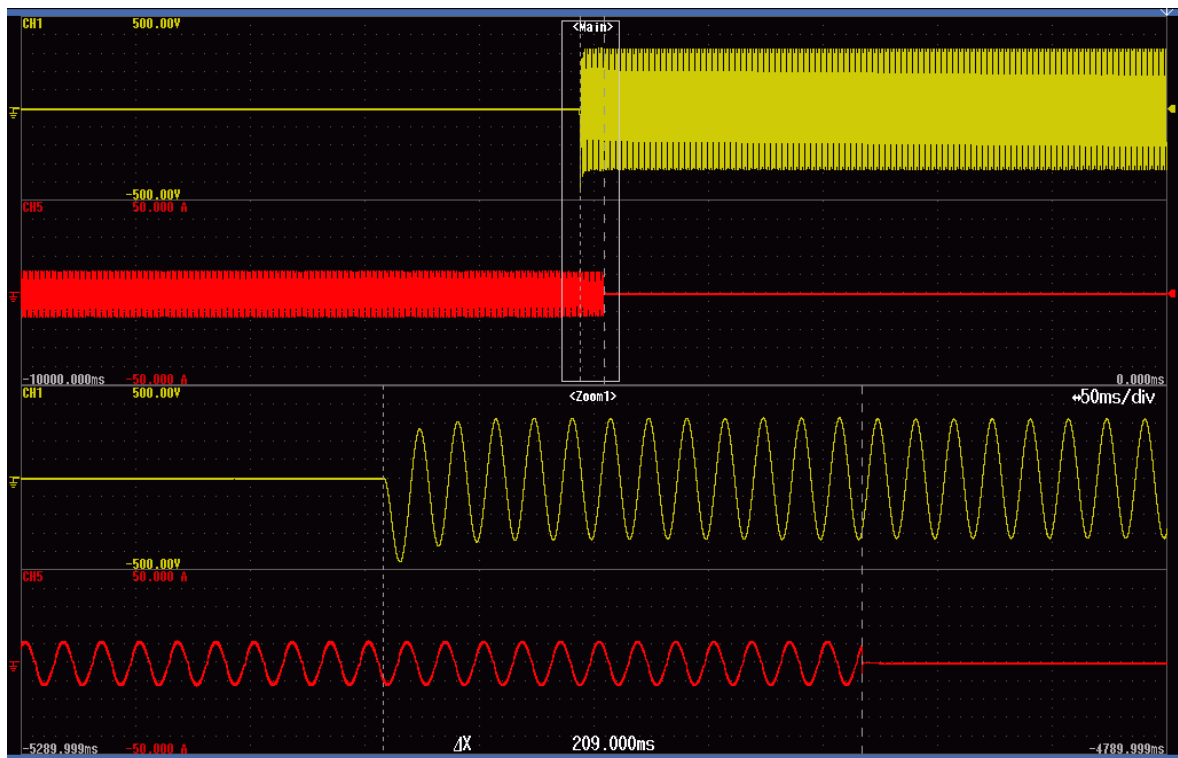
Test A(50Hz)

M(%)=-5 & N(%)=-5



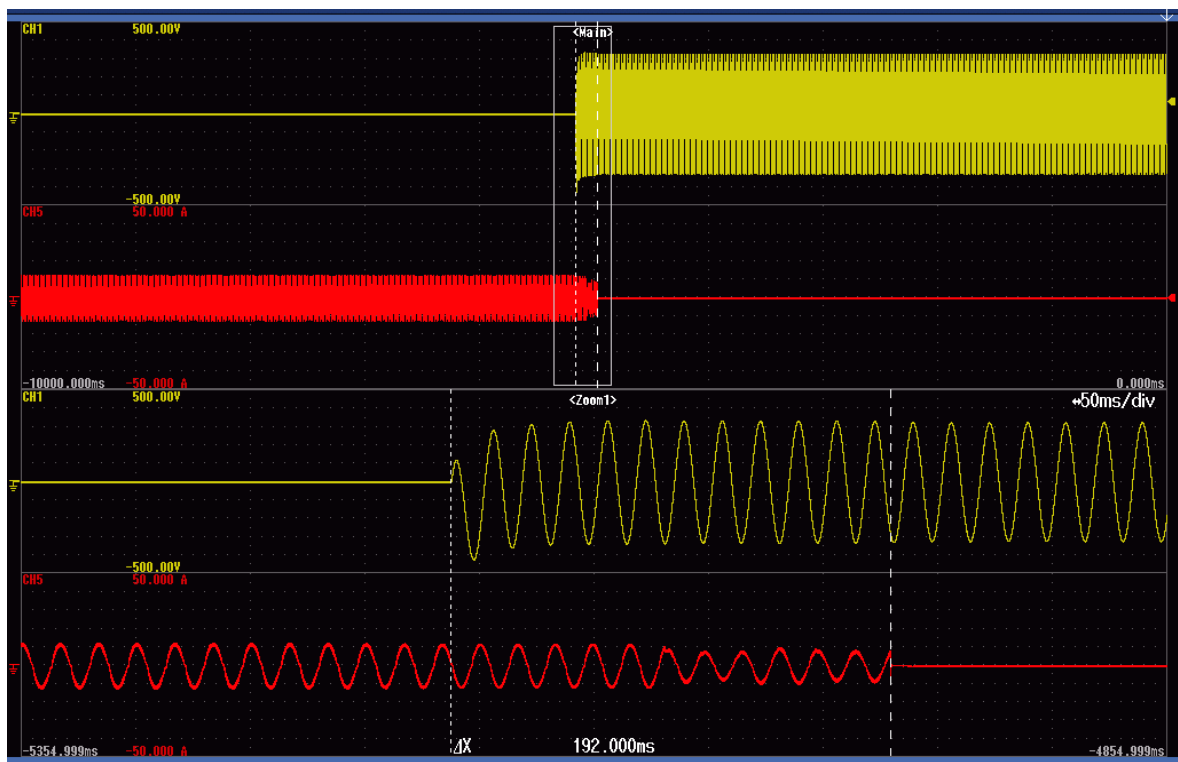
Test B(50Hz)

M(%)=0 & N(%)=0



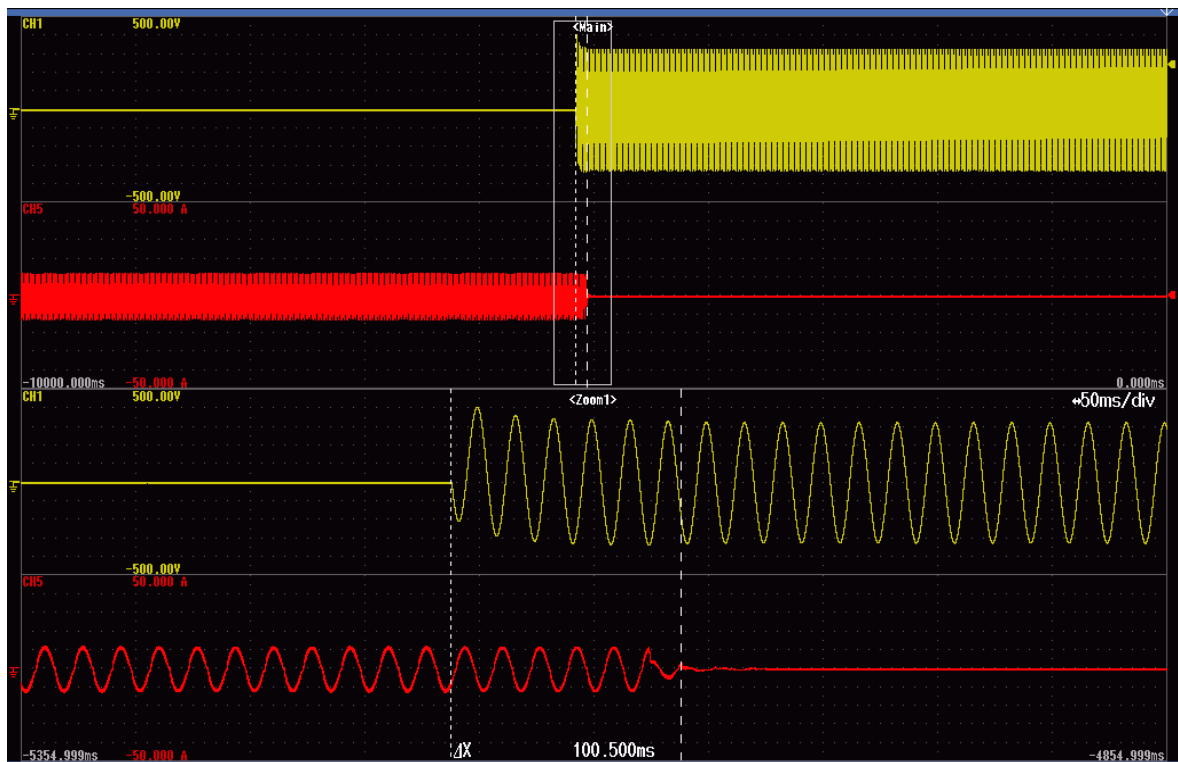
Test B(50Hz)

M(%)=0 & N(%)=+1



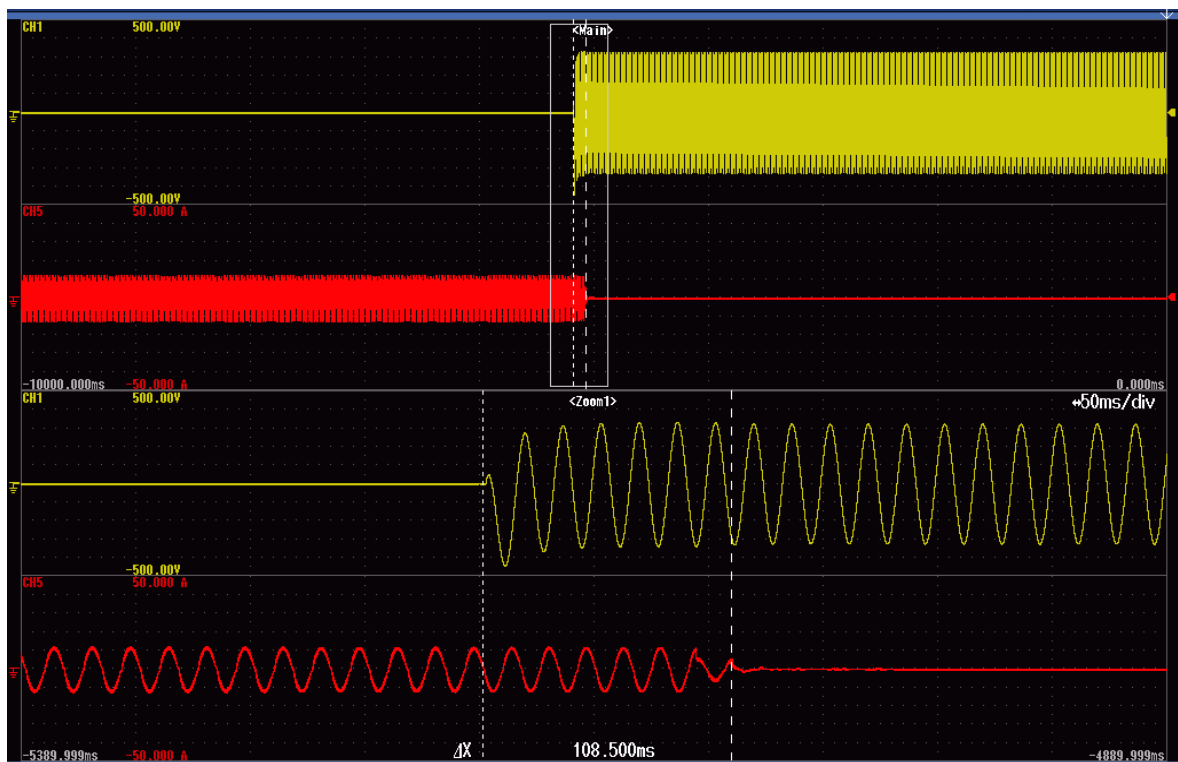
Test B(50Hz)

M(%)=0 & N(%)=+2



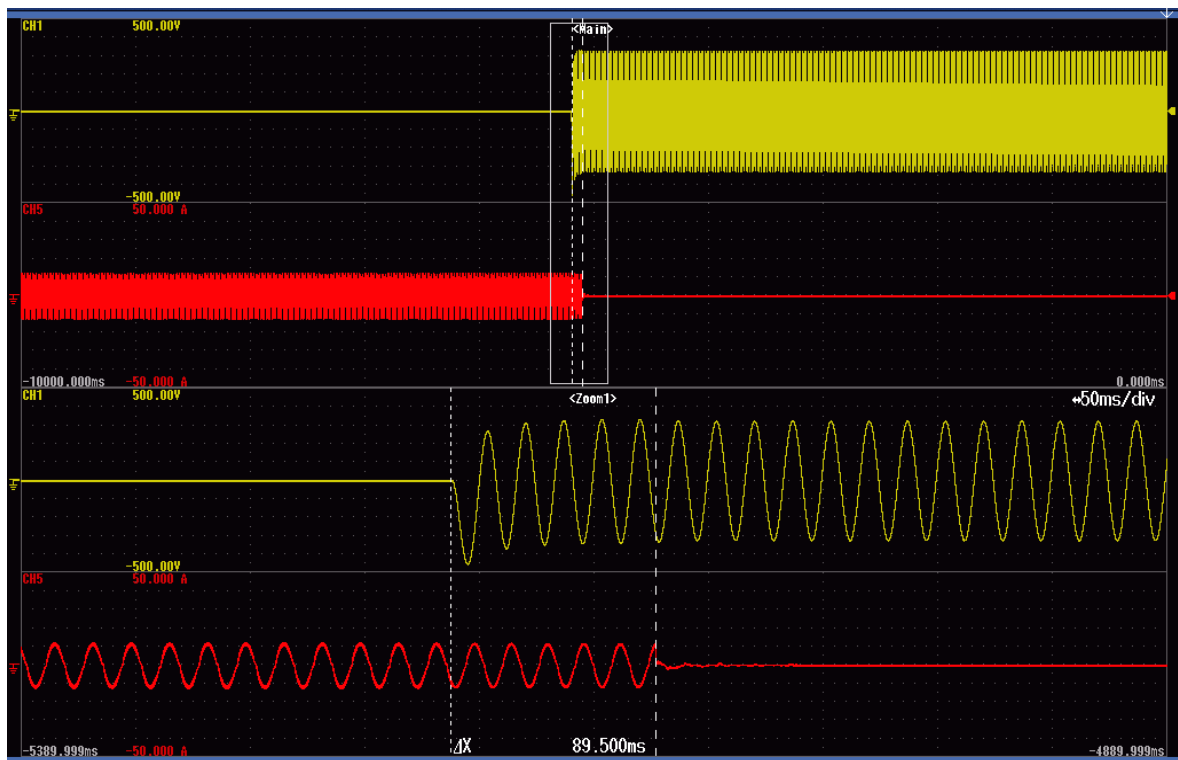
Test B(50Hz)

M(%)=0 & N(%)=+3



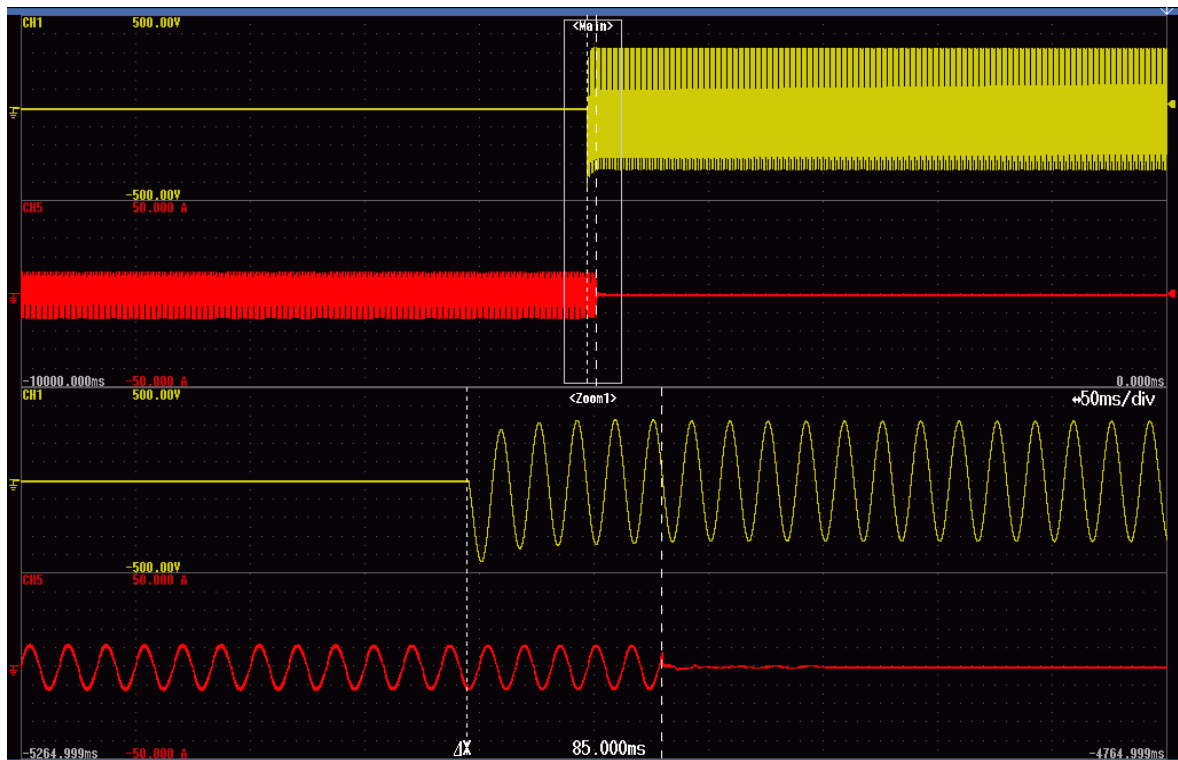
Test B(50Hz)

M(%)=0 & N(%)=+4



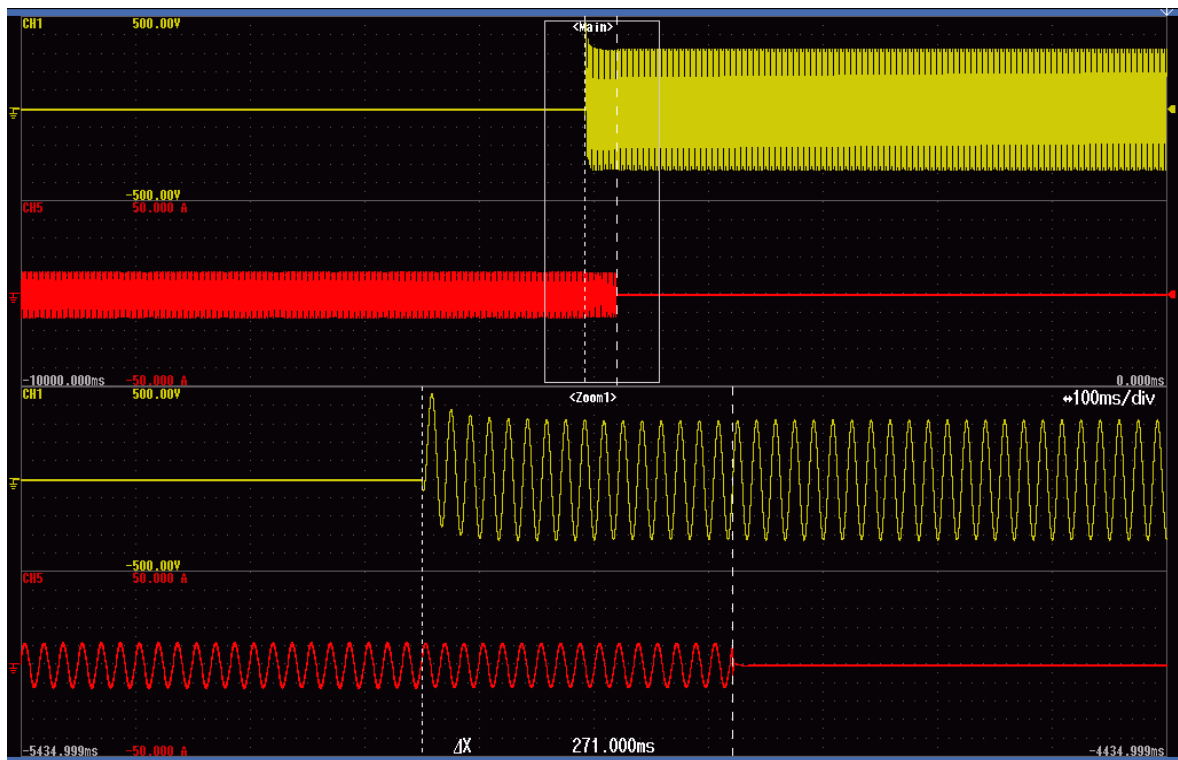
Test B(50Hz)

M(%)=0 & N(%)=+5



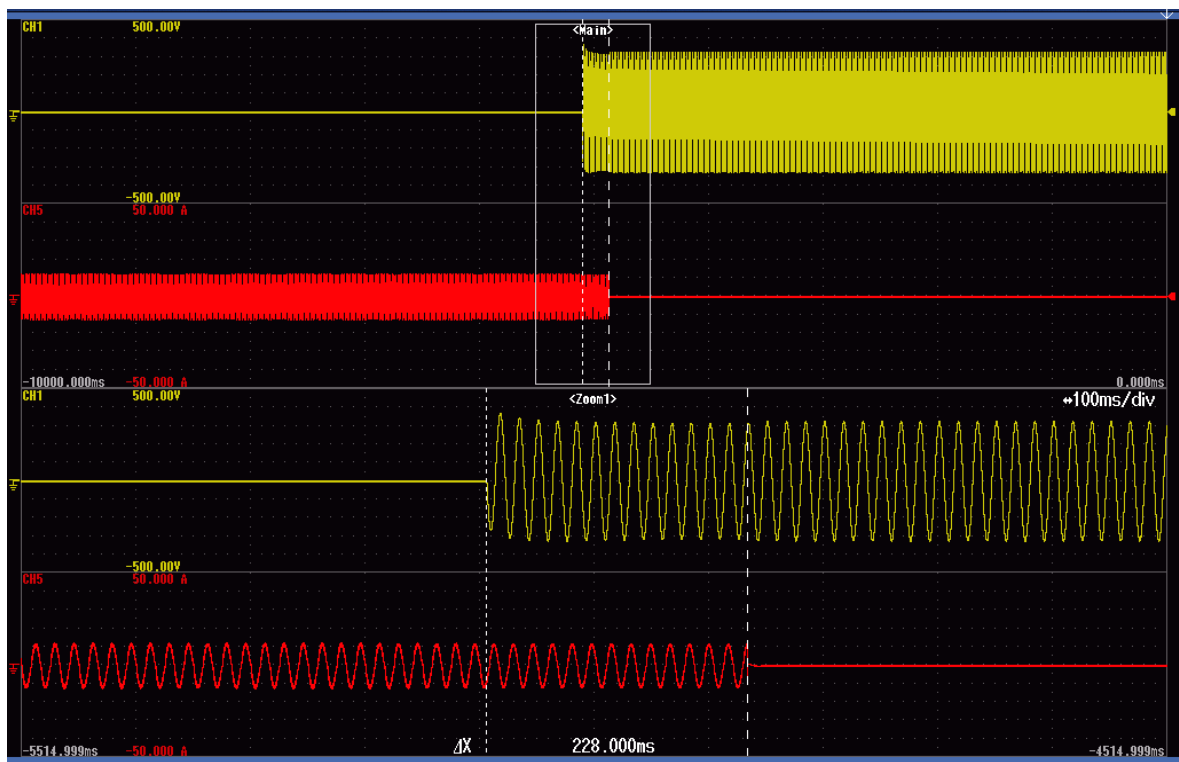
Test B(50Hz)

M(%)=0 & N(%)=-1



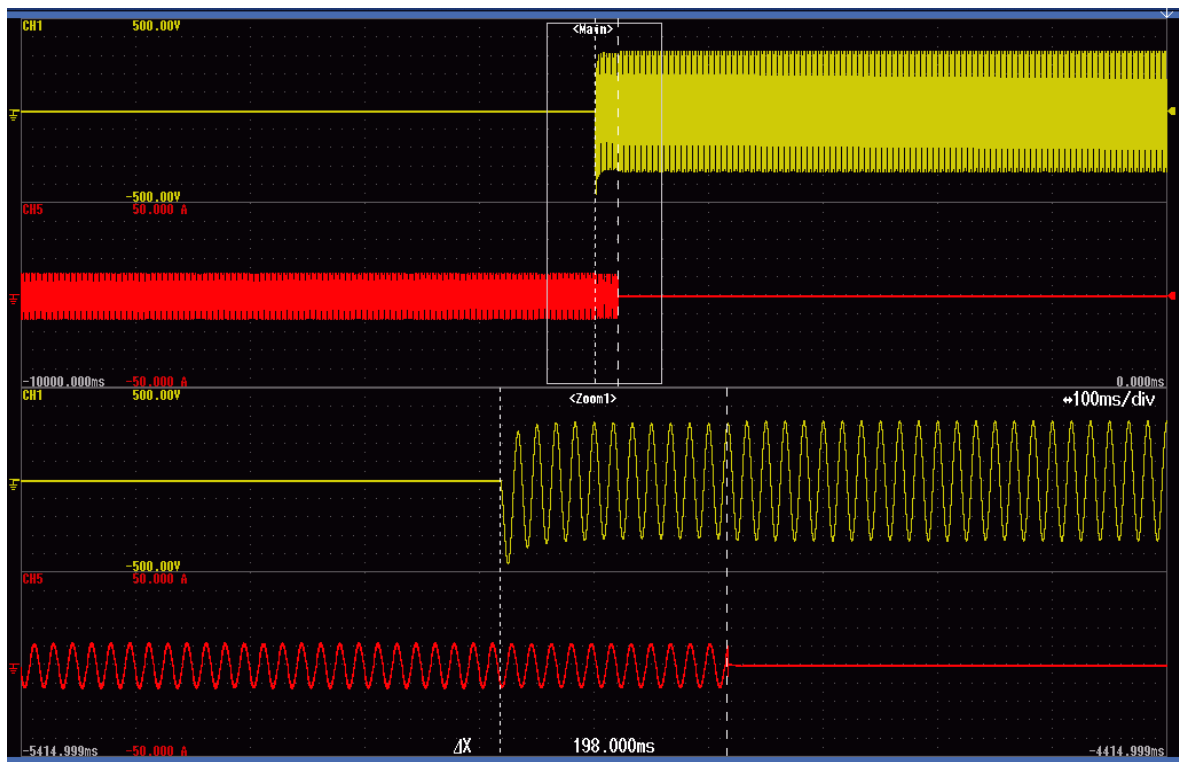
Test B(50Hz)

M(%)=0 & N(%)=-2



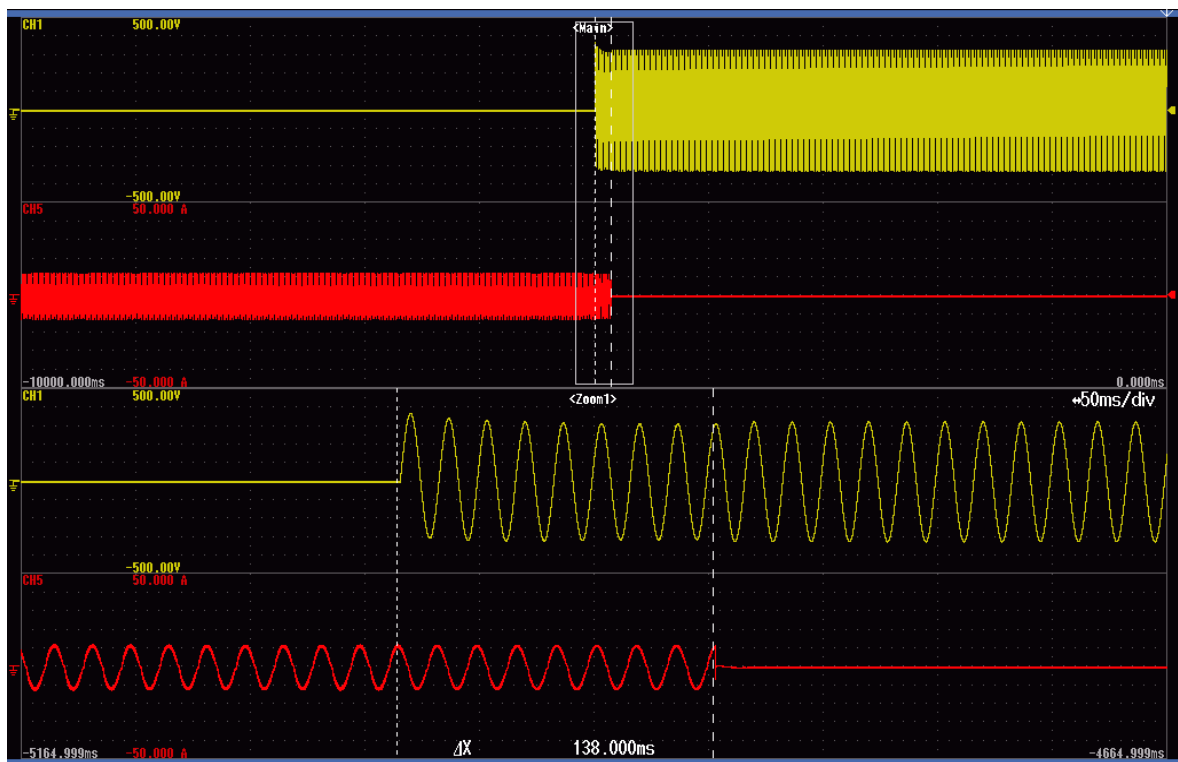
Test B(50Hz)

M(%)=0 & N(%)=-3



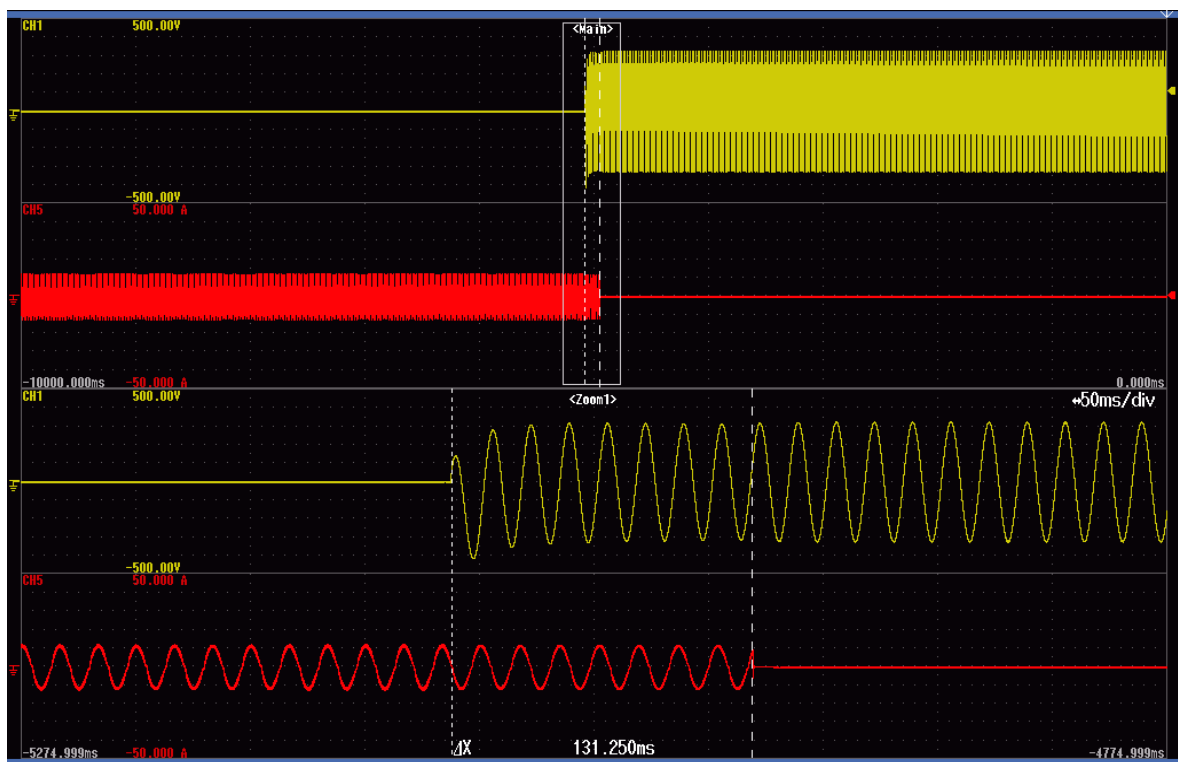
Test B(50Hz)

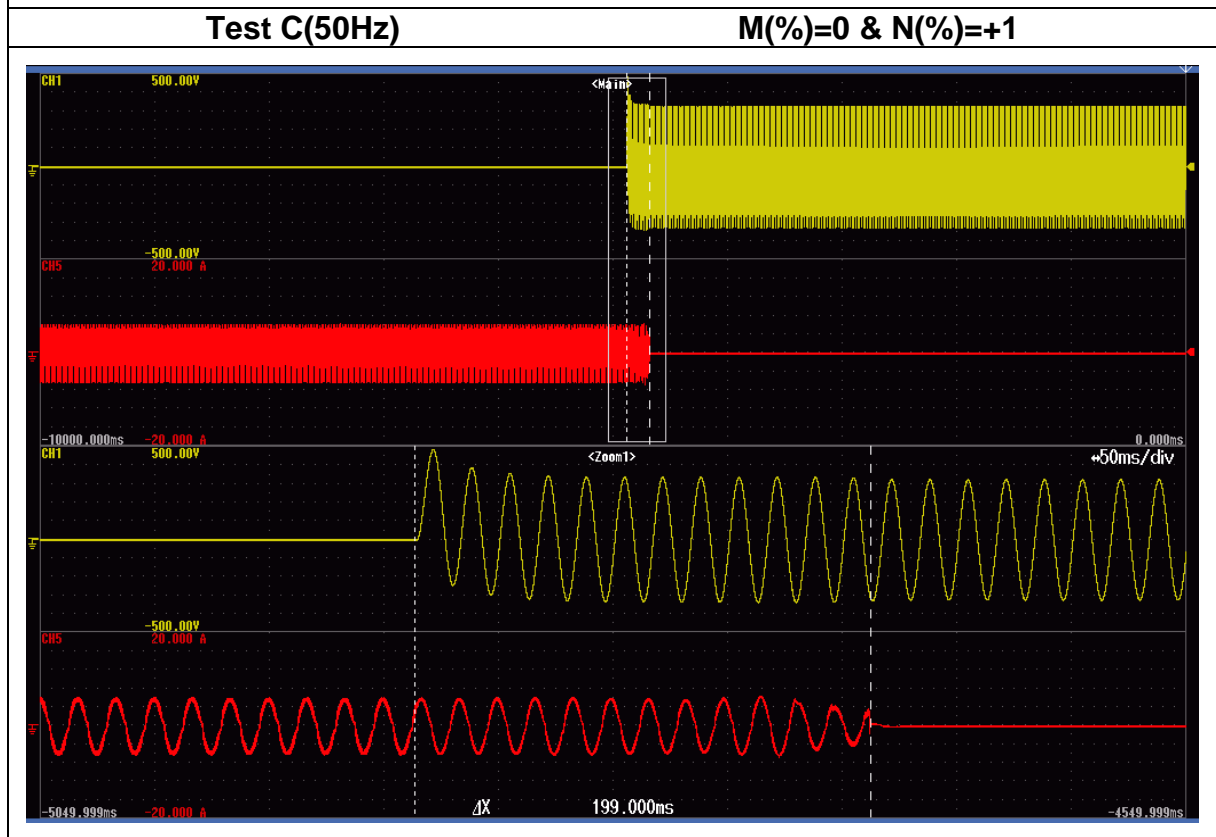
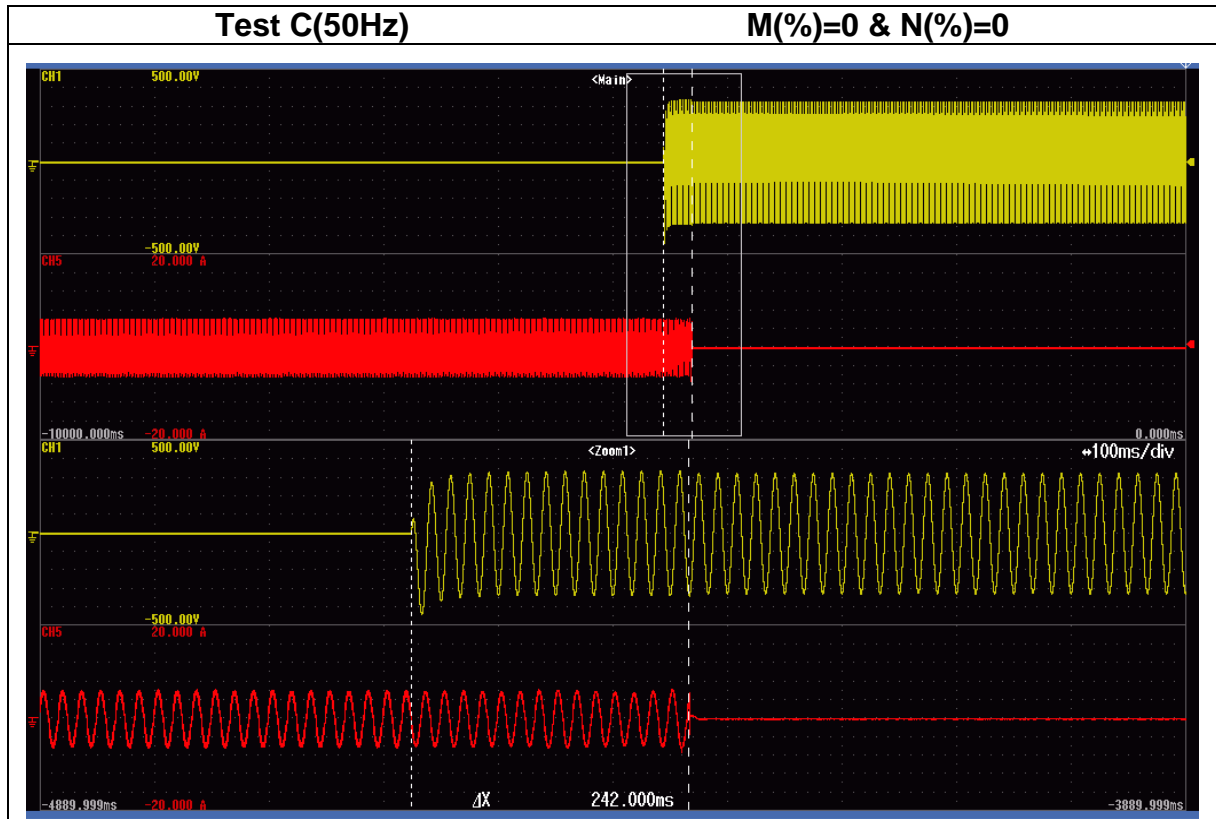
M(%)=0 & N(%)=-4



Test B(50Hz)

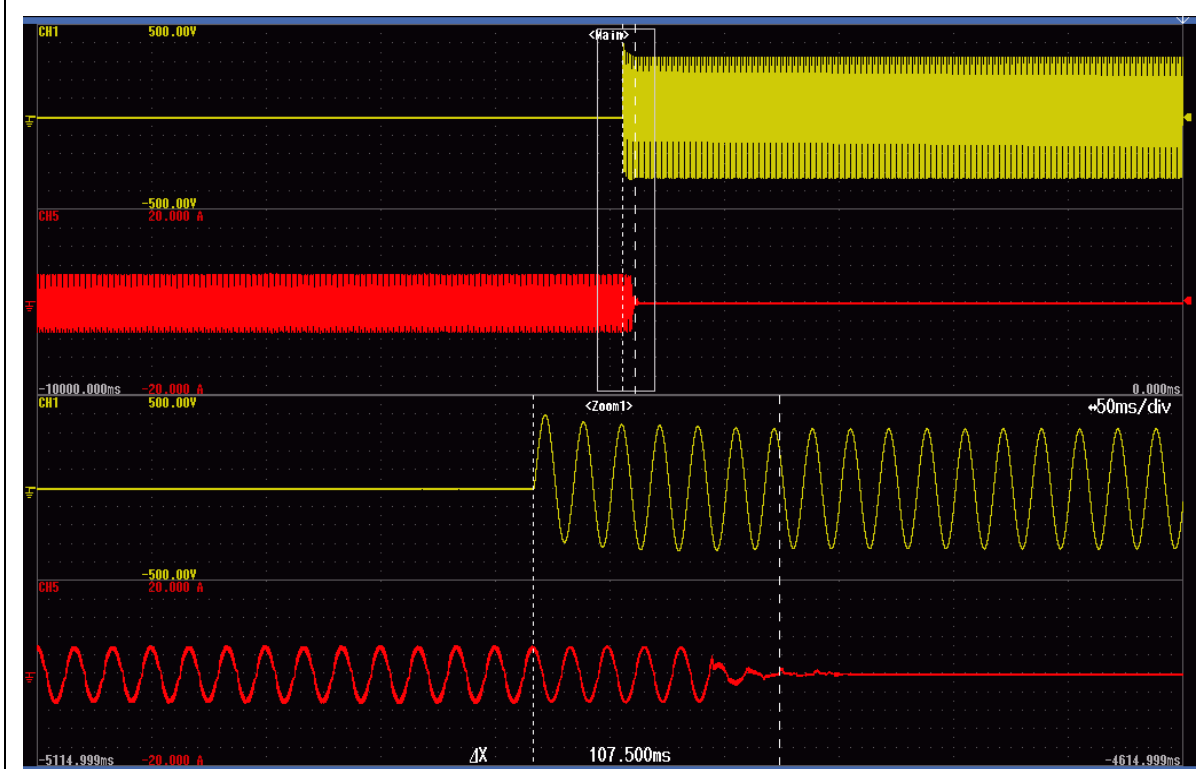
M(%)=0 & N(%)=-5





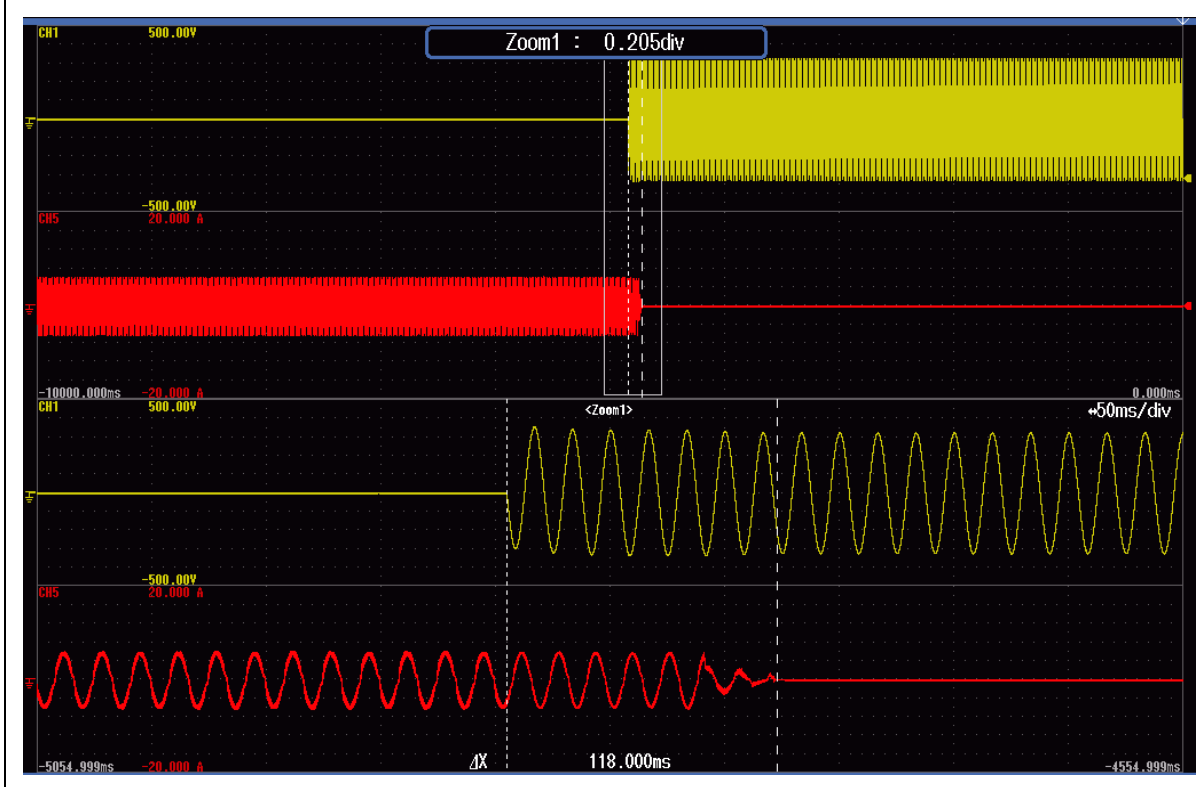
Test C(50Hz)

M(%)=0 & N(%)=+2



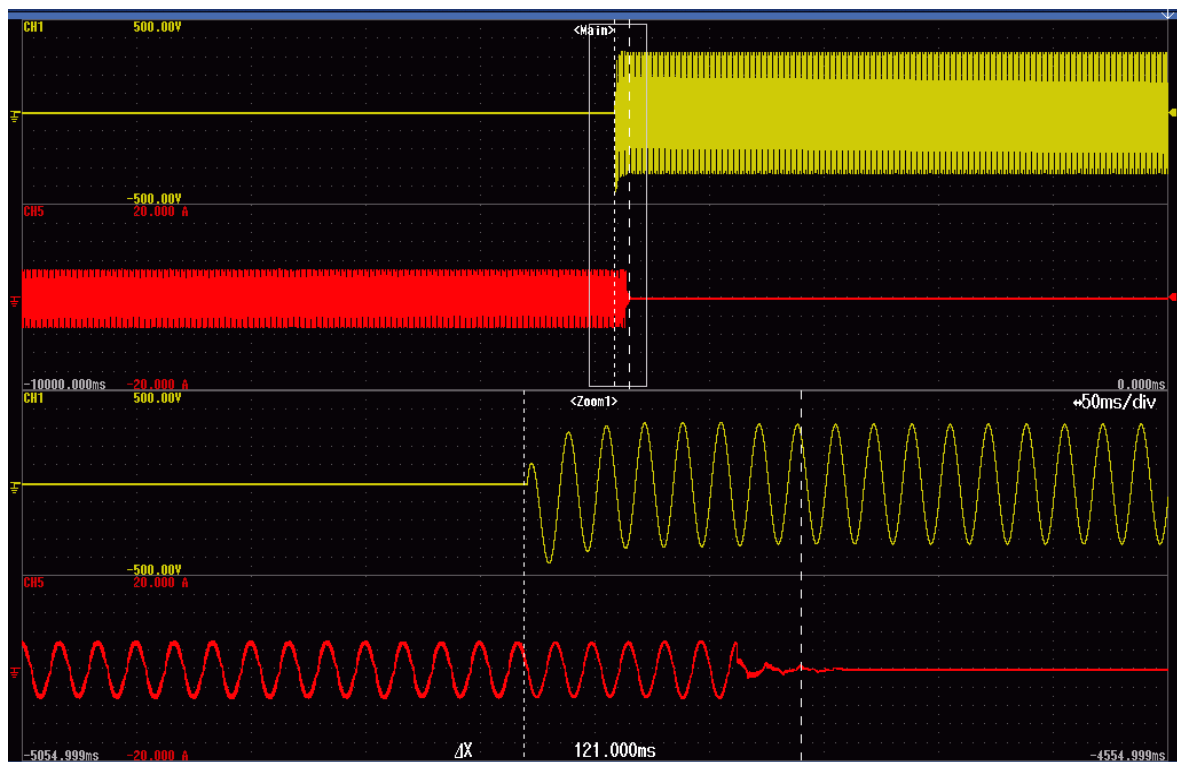
Test C(50Hz)

M(%)=0 & N(%)=+3



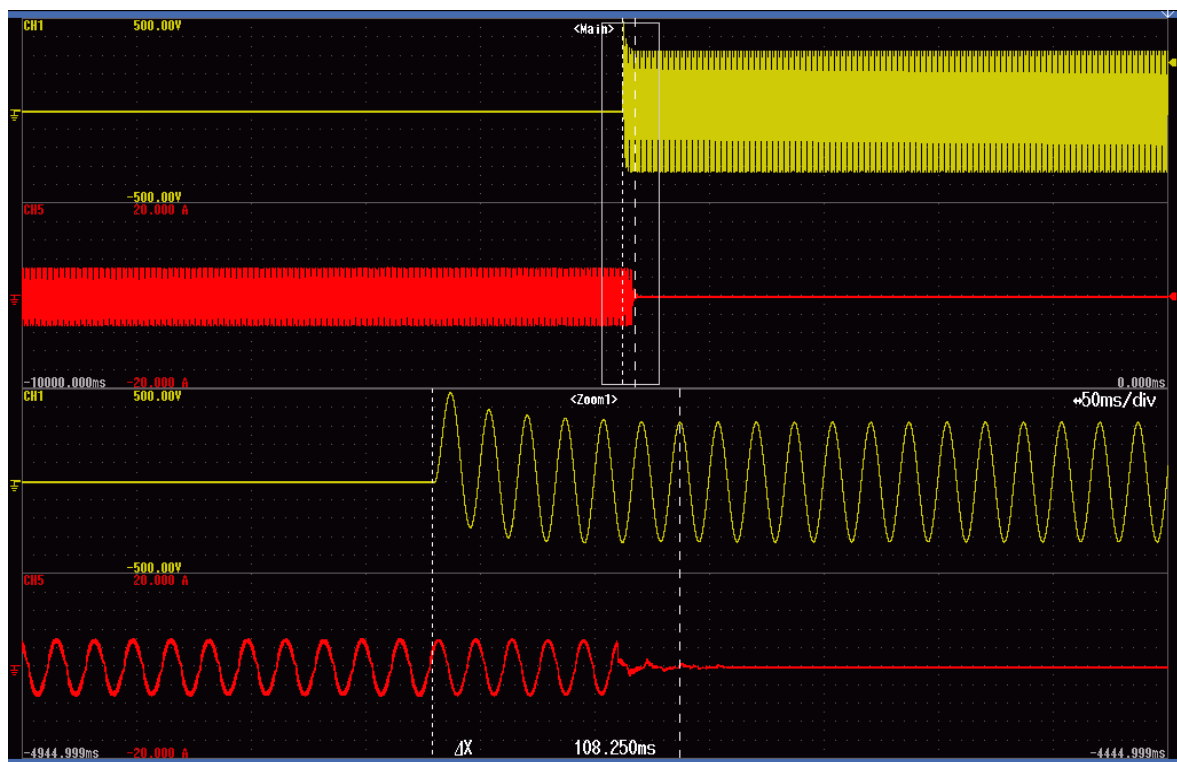
Test C(50Hz)

M(%)=0 & N(%)=+4



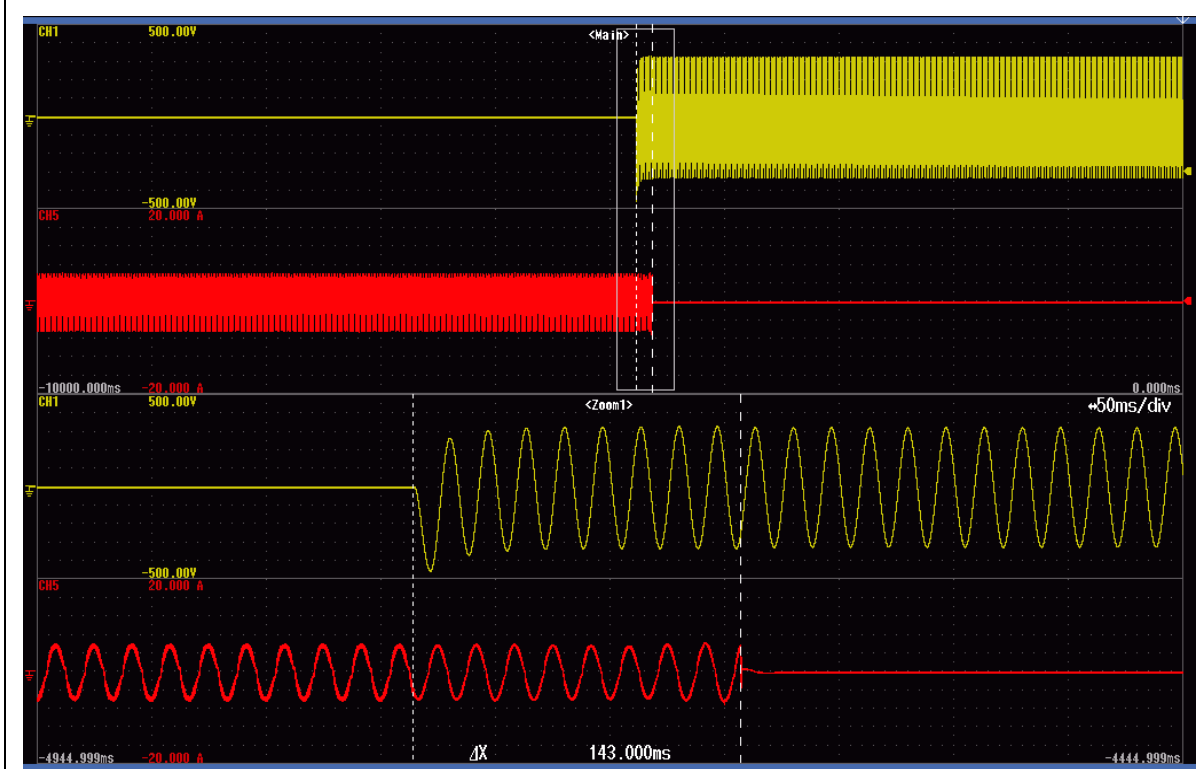
Test C(50Hz)

M(%)=0 & N(%)=+5



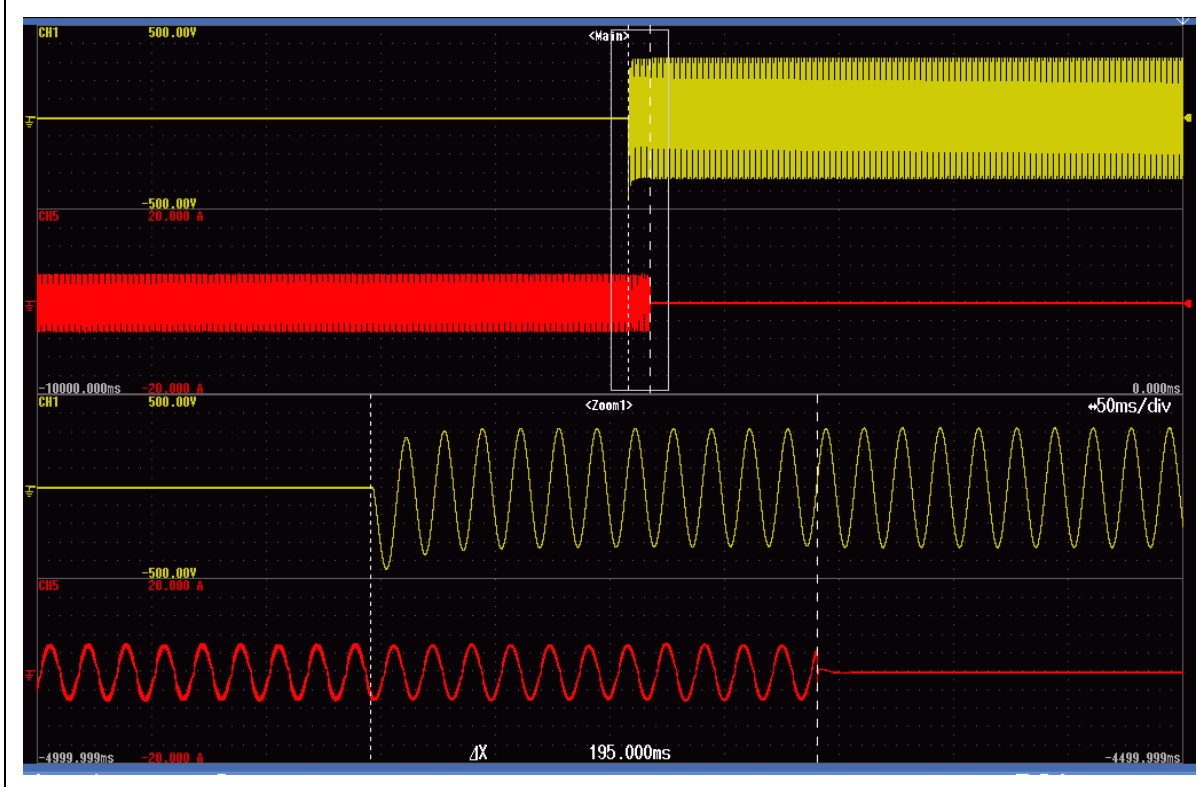
Test C(50Hz)

M(%)=0 & N(%)=-1



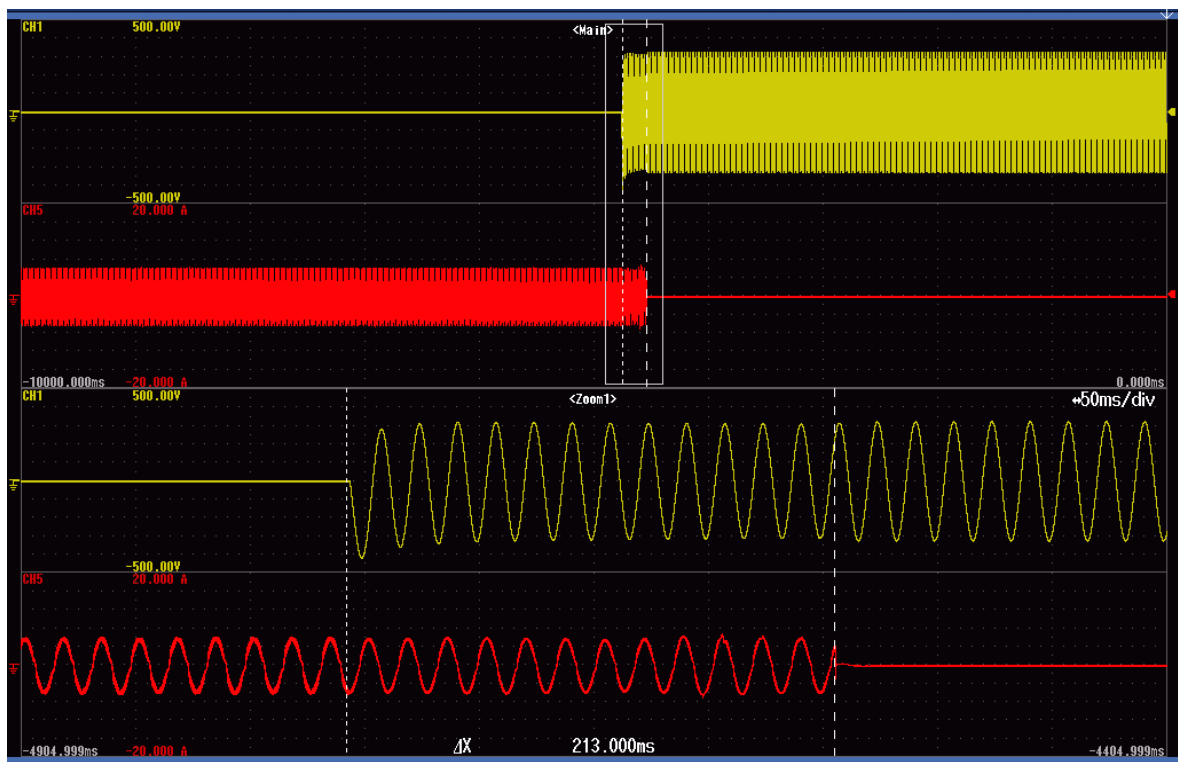
Test C(50Hz)

M(%)=0 & N(%)=-2



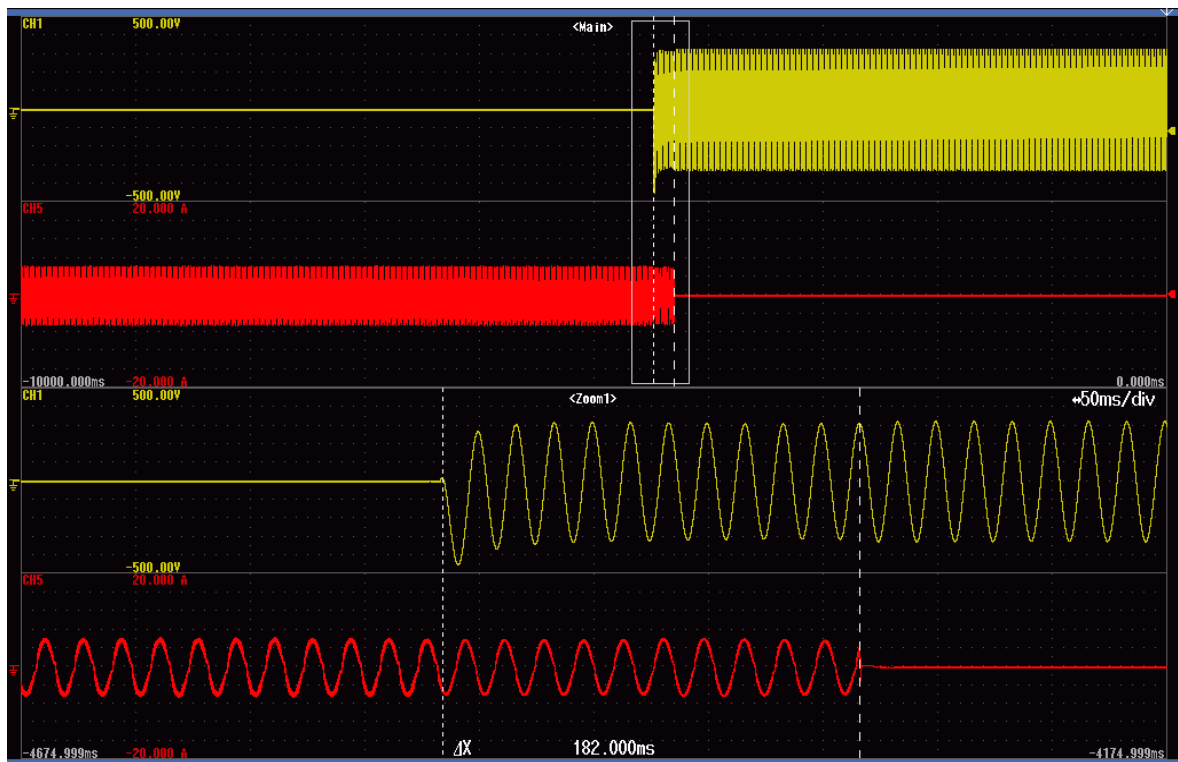
Test C(50Hz)

M(%)=0 & N(%)=-3



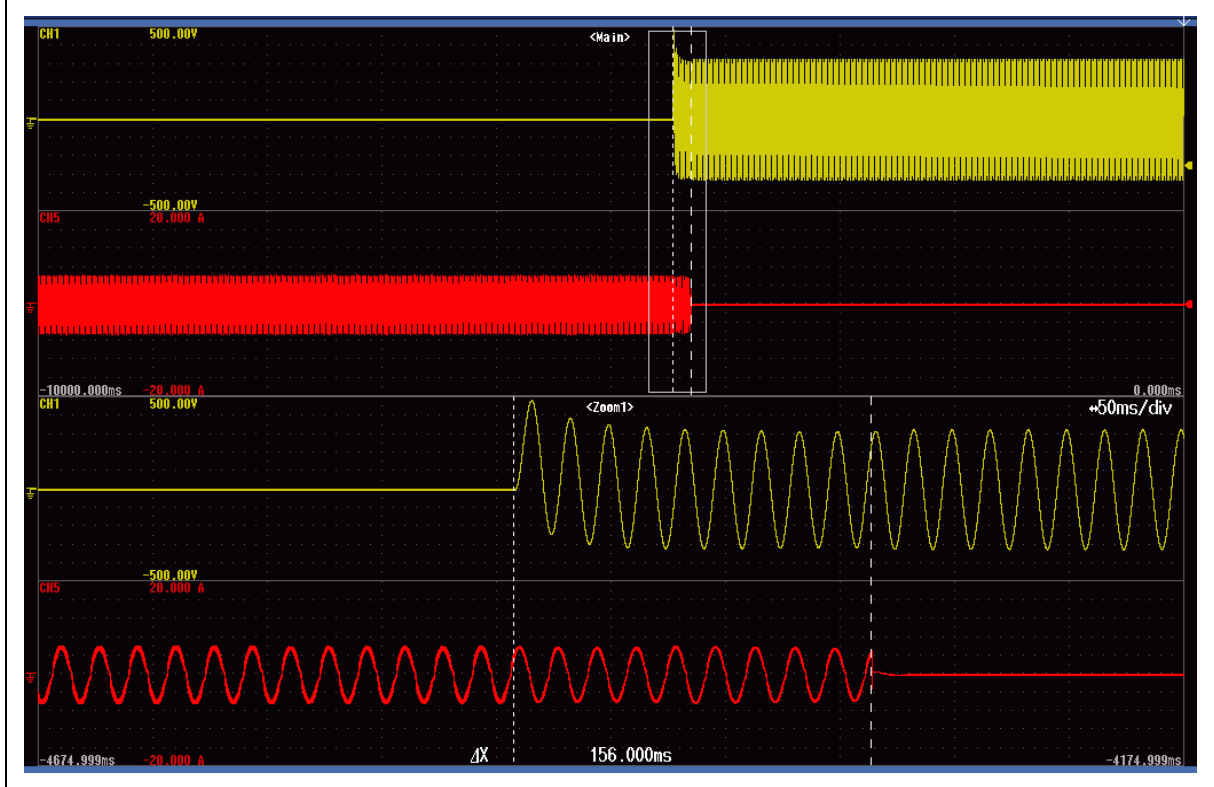
Test C(50Hz)

M(%)=0 & N(%)=-4



Test C(50Hz)

M(%)=0 & N(%)=-5

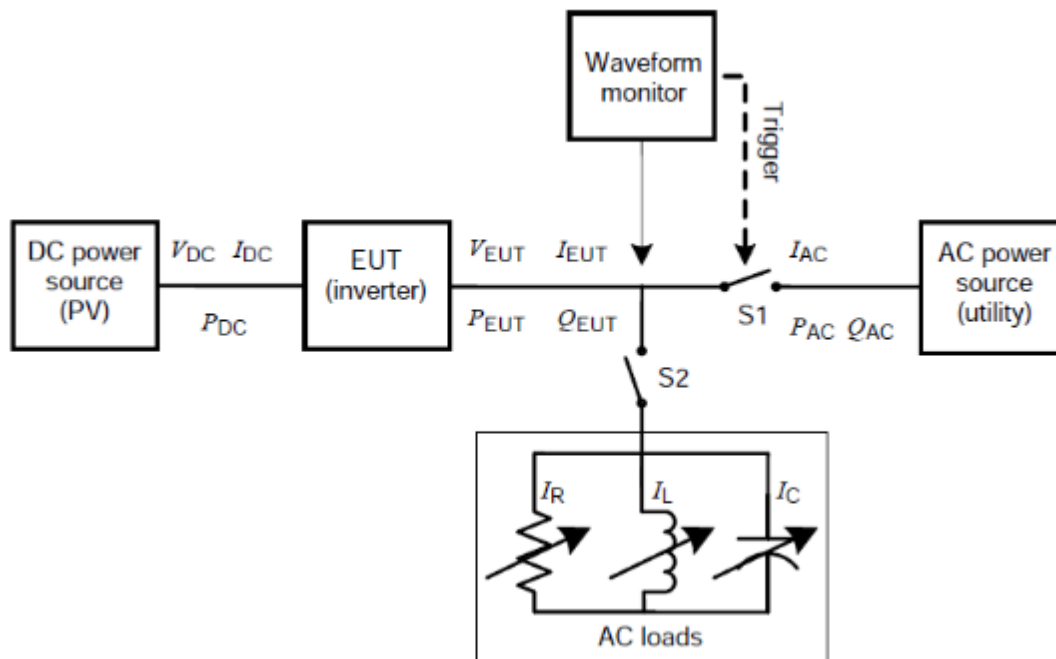


ATTACHMENT IV

(Testing information)

IEC 62116:2014 (50Hz)

1 TESTING CIRCUIT



Current and voltage clamps have been connected to the inverter input/output for all the tests.

All the tests and checks have been performed in accordance with the reference standard under testing.

2 TESTING EQUIPMENT

No.	Equipment Name	MARK/Model No.	Equipment No.	Equipment calibration due date
1	AC source	Chroma / 61860	--	--
2	PV array simulator	Chroma / 62150H-1000S	--	--
3	Current clamp	FLUKE / i1000s	30413441	2018-02-15
4	Differential probe	Sanhua / SI-9110	111134	2018-02-15
5	Temperature & Humidity meter	VICTOR / VC230A	WS01	2018-09-03
6	Power analyzer	YOKOGAWA / WT 3000	EP-011	2018-08-05
7	Digital oscilloscope	YOKOGAWA/DL 850	EP-001	2018-10-22

Items	Specifications
1) PV array simulator	
a) Voltage range	0 – 1000Vdc (0.01V step)
b) Current range	0 – 40A (0.01A step)
2) AC power source	
a) Output wiring	Three phase
b) Output capacity	100KVA
c) Output voltage	10-300Vrms
d) Output frequency	45-65Hz
e) Voltage stability	± 100ppm/°C
f) Output voltage distortion	0.05% max.
3) Digital meter	
a) Voltage range	0 – 1000Vdc, 0 – 600Vrms
b) Current range	0 – 30A
c) Frequency range (accuracy)	0.2%
d) Measurement items	Voltage (V) Current (A) Active power (W) Reactive power (Var) Volt-ampere (VA) Power factor (PF) Frequency (Hz) Electric energy (Wh)

IEC 62116:2014 (50Hz)

4) Waveform recorder	
a) Sampling speed	1M/s
b) Recording device	Memory record and USB reading
c) Time accuracy	± 500ppm
5) AC load	
a) Resistive load	Maximum voltage: 300Vrms Current range: 0 – 100A Capacity: 100KW
b) Inductive load	Maximum voltage: 300Vrms Current range: 0 – 100A Capacity: 100KVA
c) Capacitive load	Maximum voltage: 300Vrms Current range: 0 – 100A Capacity: 100KVA

3 MEASUREMENT UNCERTAINTY

Magnitude	Uncertainty
Voltage measurement uncertainty	±0.05 %
Current measurement uncertainty	±0.05 %
Frequency measurement uncertainty	±0.001 Hz
Time measurement uncertainty	±0.001s
Power measurement uncertainty	±0.5 %
Phase Angle	±0.1°
Cosφ	±0.01%
<p>Note1: Measurements uncertainties showed in this table are maximum allowable uncertainties. The measurement uncertainties associated with other parameters measured during the tests are in the laboratory at disposal of the solicitant.</p>	