



# DDA55+

DISCONTINUOUS  
DISTURBANCES  
ANALYSER



## FULLY DIGITAL ANALYSER FOR MEASUREMENT OF DISCONTINUOUS DISTURBANCES

Compact designed and manufactured compliant to CISPR 16 International Standard for measurements of discontinuous disturbances, called "clicks", in accordance with requirements of CISPR 14-1 Standard, advanced software for EMC testing, multi-window real time display, time domain analyse, built-in pulse generator.

# DDA55+

## Discontinuous Disturbances Analyser

Based on a PC integrated architecture with WINDOWS 10 Embedded OS, DDA55+ click analyser is ready to operate through 10.1" LCD display and advanced software for EMC testing to guarantee precise click measurements.

DDA55+ click analyser is a sophisticated analyser supporting a full investigation on when, where and why a click occurs, providing so a very substantial contribution to problem solving requirements in a critical domain of equipment compliance.

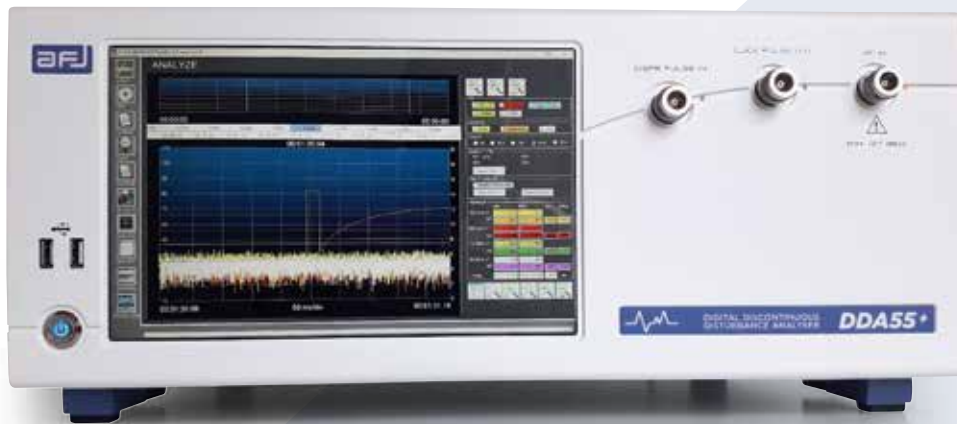
### DEFINITIONS

CISPR 14-1 describes limits for phenomena related to unwanted radio emissions from household appliances and portable tools, including discontinuous disturbances on the mains cord.

A discontinuous disturbance, commonly called "click", is defined as a disturbance exceeding the limit of continuous emission for no longer than 200ms and separated from a subsequent disturbance by at least 200ms.

All automatic, programmed-controlled machines electrically operated and thermal appliances, and common domestic and light-industry equipment, generate discontinuous disturbances along the power supply cabling. The effects of such disturbances vary with repetition rate and amplitude: the higher the amplitude of the disturbance, the lower should be its frequency of occurrence.





### CISPR COMPLIANCE

DDA55+ click analyser is a four parallel channels, fixed frequencies (150kHz, 500kHz, 1.4MHz, 30MHz) RF receiver, with each channel provided with Peak and Quasi-peak detectors, fully complies with CISPR 16-1-1.

The way the Quasi-peak detectors are designed, enables to automatically perform tests full compliance with the requirements of CISPR 14-1, where requesting to test using an oscilloscope (time-domain operation).

### APPLICABLE STANDARDS

CISPR14-1 has been and is used as the basic standard for short-term emissions as well as a product standard.

The requirement is time-consuming test, that may take several hours per each phase of the EUT.

Thanks to the independence and simultaneous operation of its channels, DDA55+ click analyser greatly reduces the required test time.



The integrated PC totally controls the equipment through an advanced application software, running under WINDOWS 10 Embedded OS. Connecting external keyboard and mouse, the operator controls the unit through 10.1" LCD display.

The powerful and user-friendly software enables to set all parameters according to CISPR 14-1 requirements or any other specific needs, performing automatic measurements with generation of the test report.

DDA55+ click analyser main characteristic is its ability to sample, in parallel, the Peak and Quasi-peak levels of the four channels, to recognize and count all clicks (short, long, fast long, continuous noise and switching operations) and store all numeric and graphic data, like waveforms, in the PC hard disk.

The PC-based operation of the equipment means practically unlimited memory capabilities and the ability to generate fully automatic test reports.



All information collected by the equipment during the test, are displayed in real time on the PC screen, divided into a number of windows corresponding to the number of internal RF channels.

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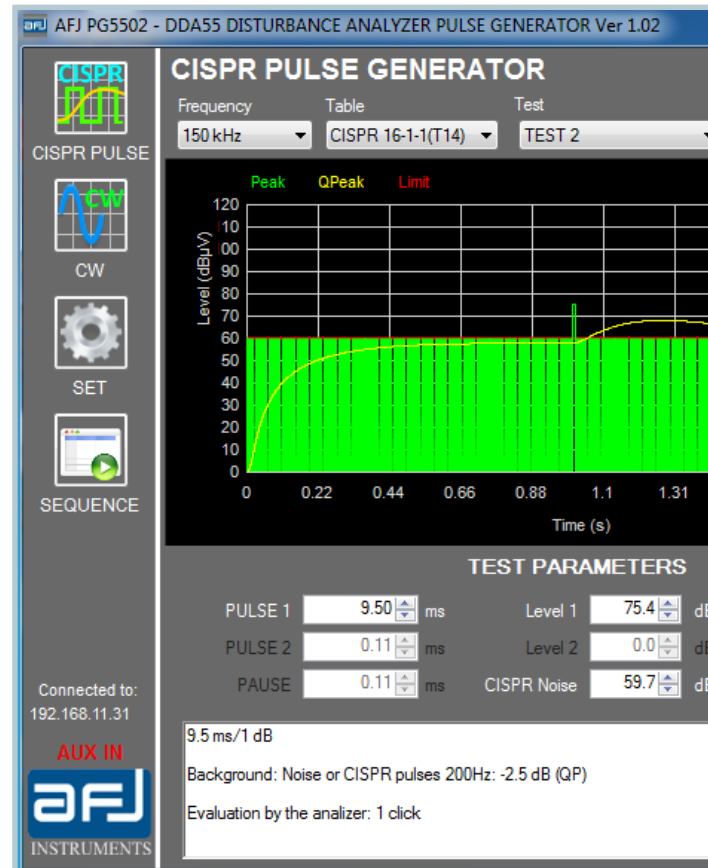
### OPTIONS

VCCI Option makes the equipment fully compliant with VCCI Emission Japanese standard by through 500kHz / 550kHz selectable frequencies.

DENAN Option makes the equipment fully compliant with DENAN LAW Part.10 Emission Japanese standard for extra long clicks evaluation and Denan rules.

### BUILT-IN IMPULSE GENERATOR

For the purpose of functional self-assessment, the analyser has a built-in pulse generator, which can produce the entire set of single and multiple disturbance pulses, in the various timing and shift configurations, according CISPR 16-1-1 Table 14 and CISPR 16-1-1 Annex F Table F.1 at the four standard frequencies (150kHz, 500 kHz, 1.4MHz, 30MHz) and at two user defined frequencies.





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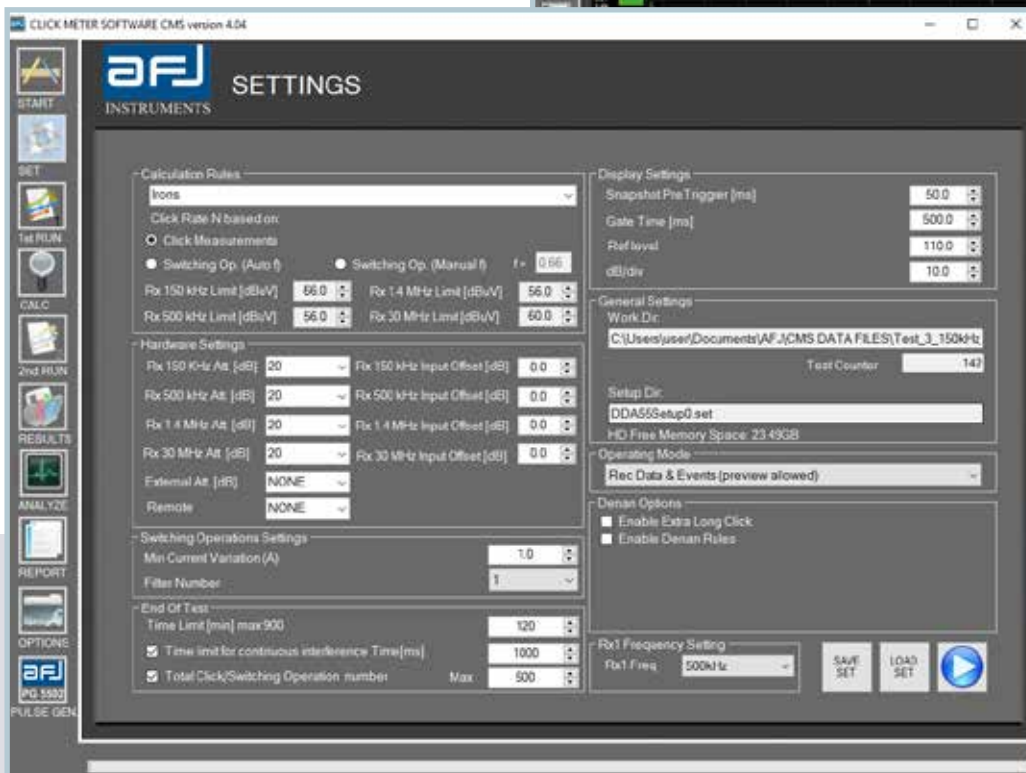
### SECOND RUN

Real time display of the Second Pass of the test.



### FIRST RUN

Real time display of the First Pass of the test.



### SETTINGS

Software settings of all parameters according to CISPR 14-1 requirements or any other specific needs.

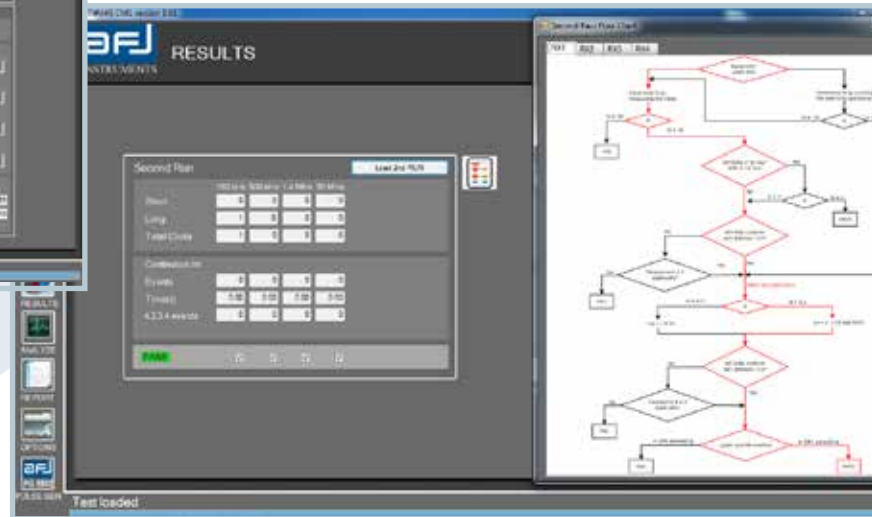
## CALCULATION

Calculation of the measurement results of the First Pass.



## FLOW CHART

Form to display the results for each channel like the executed path on the flow chart defined by CISPR 14-1 standard.



## RESULTS

Measurement results of the Second Pass (either Real or Preview).

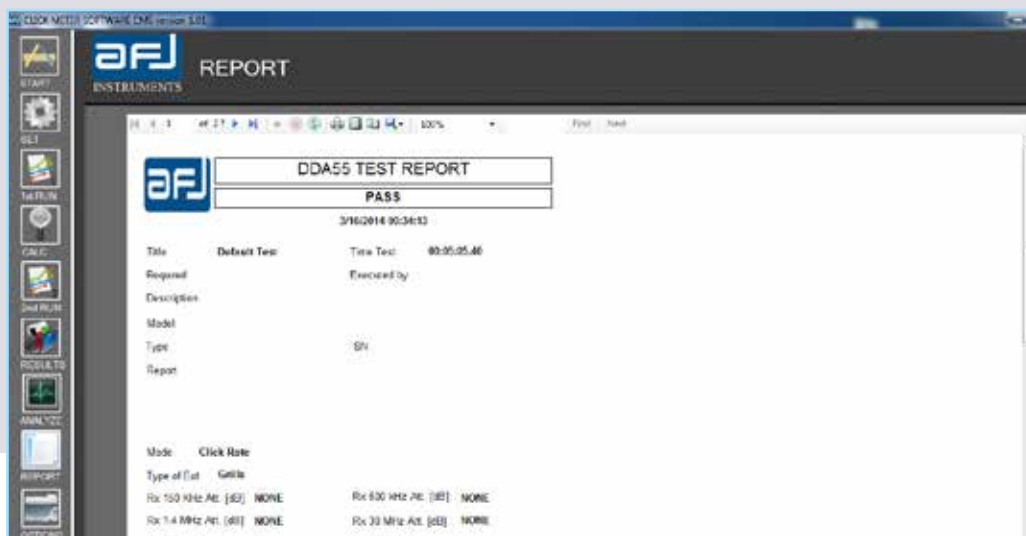


## ANALYZE

Graphical analyze of all the data stored during a measurement.

## REPORT

Automatic generation of the Test Report in a suitable form including the last visualized data either on the CALCULATION page or on the RESULTS page.



**TECHNICAL SPECIFICATIONS****DDA55+**

N. of Digital Direct Sampling Receivers	4 (ADC @ 122.88 MSamp/s)
Digital Receivers NCO Frequencies	150kHz, 500kHz, 1.4MHz, 30MHz
Frequency Stability	<10x10 <sup>-6</sup>
Pulse Response	Peak and Quasi-Peak conforming to CISPR 16-1-1
Pulse Generator	Built-in conforming to CISPR 16-1-1
RF Input	50 Ω Impedance
	N Female Connector
VSWR Input	<1,5:1 (0dB Attenuation)
	<1,2:1 (≥10dB Attenuation)
Max Input	127 dBμV
Built-in Attenuator	Manual 0 ÷ 30 dB (10 dB/Step)
Sensitivity	25 dBμV Typ. (Quasi-Peak)
Measurement Accuracy with S/N > 20dB	± 0.8dB (150kHz; 500kHz; 1.4MHz; 30MHz)
Dynamic Range	75 dB Typ.
RF Shielding	3 V/m
Test Time Limit	120 minutes
Image Freq. Rejection	90 dB Typ.
Displayed Events for Each Channel	Peak and Quasi-Peak levels
	N. of clicks: Short, Long, Fast long
	Elapsed test time
	N. of Switching Operations
	Continuous Disturbance Time
	Snapshot of the last event detected
	Time Domain
Monitor	10.1" LCD Display
Interface	Ethernet 10/100 MB
	Remotable LAN (LXI Level 0 Protocol)
	110/230Vac ± 10%, 50/60Hz
Power Supply	50VA
Consumption	0 to 45°C
Operating Temperature	-20 to 70°C
Storage Temperature	450 x 200 x 400mm
Size (W x H x D)	15Kg

*Subject to change without notice***RELATED PRODUCTS****AFJ LISN**

LS16C/10 16A Single Phase

LT32C/10 32A Three Phase

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