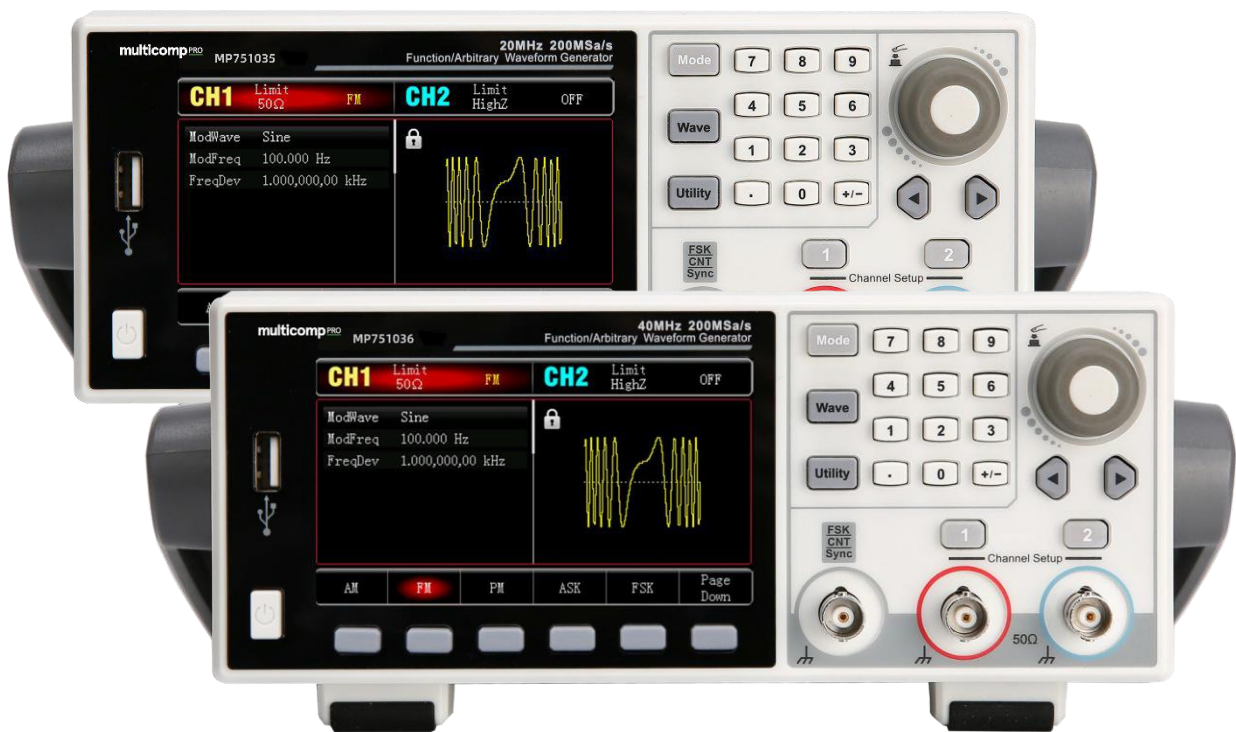


# multicomp PRO

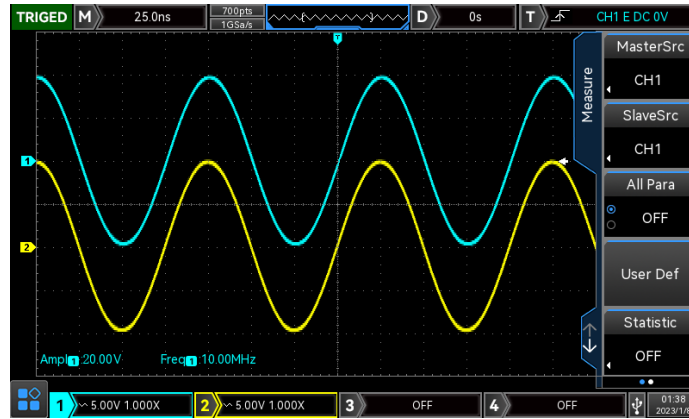


**WAVEFORM GENERATOR**  
**MP751035 - 20MHz**  
**MP751036 - 40MHz**

# Product Features

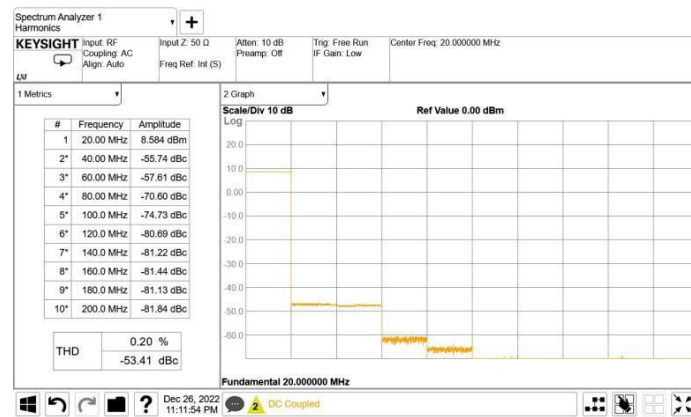
- Two channels with the maximum frequency output 40 MHz, the maximum output amplitude 20Vpp
- 200MSa/sampling rate and 16-bit vertical resolution
- Square wave with the maximum frequency 20MHz, low jitter
- Multiple analog and digital modulation function: AM, FM, PM, ASK, FSK, PSK and PWM
- Supporting sweep frequency and pulse string output
- Arbitrary wave can generate by the upper software computer
- 7 bit hard frequency meter
- Built-in 200 arbitrary waves
- Standard USB Host and USB Device
- 4.3 inch high resolution TFT LCD

## Dual-channel Output with Same Function



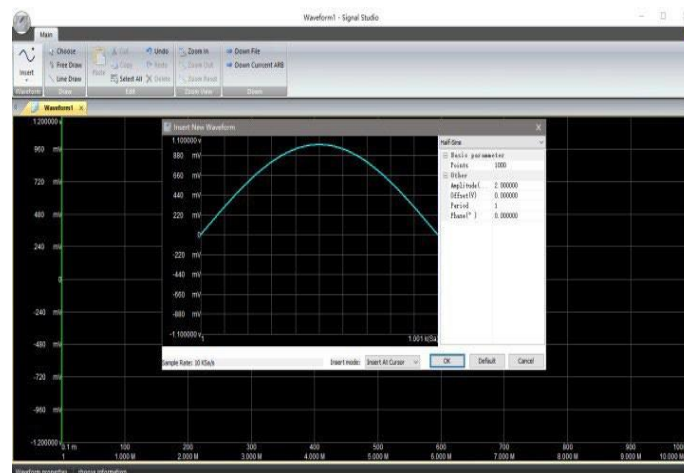
Large output capability at high frequency: 20Vpp full amplitude output of dual-channel can still be guaranteed at 10MHz frequency.

## Low-distortion Output



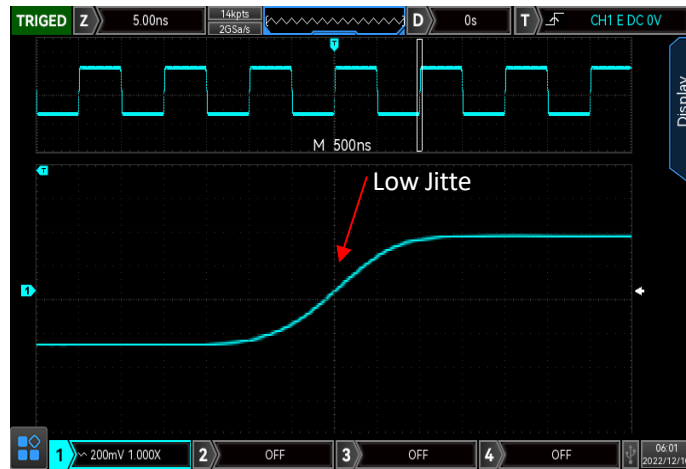
THD (total harmonic distortion) in output amplitude 0 dBm is less than 0.2%; Harmonic wave and stray in full frequency band are all less than -50dBc.

## Editing Interface of Arbitrary Wave



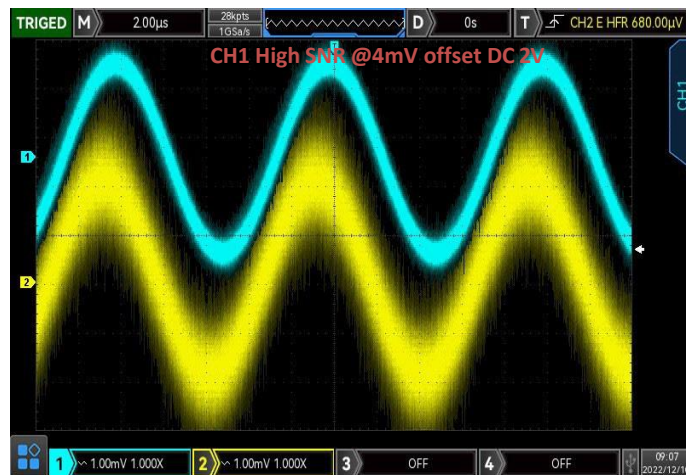
Generate arbitrary waveform through arbitrary waveform editor of upper computer.

## Low Jitter



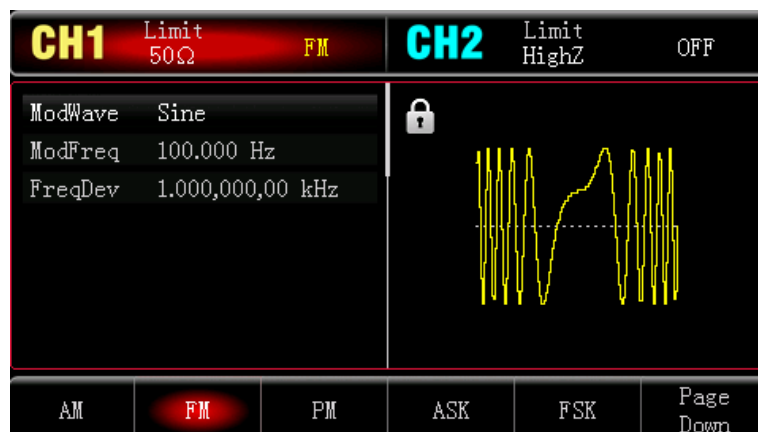
Excellent digital sampling technology to make output wave jitter much lower.

## High Signal to Noise Ratio



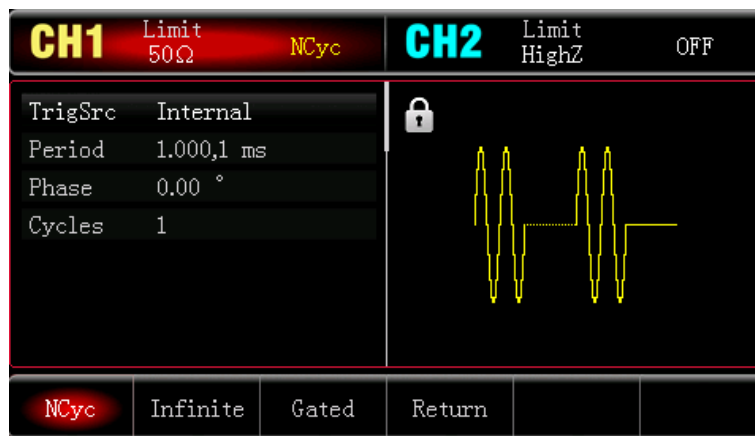
Set small signal superimposed large DC, MP75103X output noise is lower, with higher SNR.

## Multiple Modulation Function



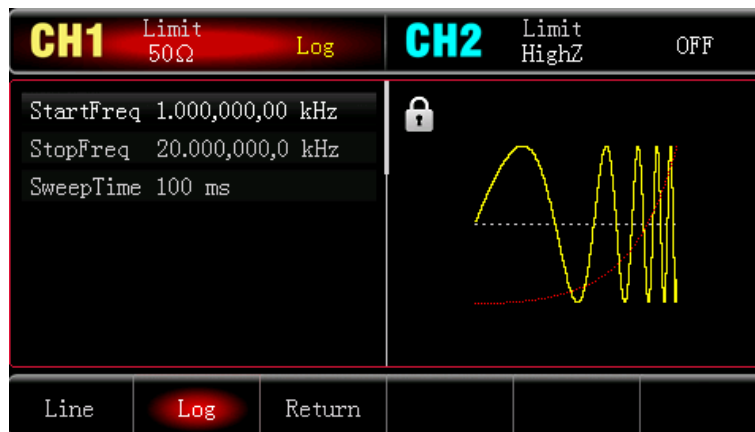
Support multiple analog and digital modulation AM, FM, PM, FSK, ASK, PSK and PWM.

## Pulse String Function



Support pulse string mode: "N cycle", "Gating", "Infinite" Two modulation signal sources: "Internal" and "External".

## Frequency Sweep



Support two frequency sweep modes: "Linear" and "Logarithmic".

## Frequency Meter



High precision frequency meter, frequency range within 100 mHz~200 MHz can be measured.

## Definition and Condition

- "Technical Index" provide a detailed description of the performance of the parameters which involved in the product warranty. Unless otherwise specified, these specifications are applicable to the temperature range from 18°C to 28°C.
- "Typical Value" refers to other product performance information which not covered in the product warranty. When the performance exceeds the technical index, 80% of the units can exhibit 95% confidence in the temperature range of 20°C to 30°C. Typical performance does not include uncertainty of measurement.
- "Nominal Value" means the expected performance or describes the performance of the product that is useful in the application of the product but is not included in the scope of the product warranty.
- Under the following conditions, it can achieve its technical indicators:  
In the calibration cycle and has been warmed up for at least 30 minutes. If the device is stored in an environment that is within the allowable storage temperature range but exceed the allowable operating temperature range, the instrument must be placed within the allowable operating temperature range for at least two hours

# Basic Waveform Characteristics

All analog channel output related specifications is suitable for channel 1 and channel 2.

| <i>Fundamental wave characteristic</i> |   |                                |
|--|---|--------------------------------|
| Model                                  | MP751035  | MP751036                       |
| Channel                                | Dual channel  |                                |
| Sampling rate                          | 200MSa/s  |                                |
| Vertical resolution                    | 16-bit  |                                |
| Waveform characteristic                | 6 standard waveforms, 200 built-in arbitrary waveforms  |                                |
| Waveform                               | Sine, Square, Ramp, Pulse, Noise, DC, Arb, AM, FM, PM, ASK, FSK, PSK, PWM, frequency sweep, burst |                                |
| Working modes                          | Output gating, continuous, modulation, frequency sweep  |                                |
| LCD                                    | 4.3" TFT LCD, WVGA (480x272)  |                                |
| <i>Frequency characteristic</i>        |   |                                |
| Sine wave                              | 1μHz~20MHz  | 1μHz~40MHz                     |
| Square wave                            | 1μHz~10MHz  | 1μHz~20MHz                     |
| pulse wave                             | 1μHz~10MHz  | 1μHz~20MHz                     |
| Ramp wave                              | 1μHz~400kHz   | 1 μHz~1MHz                     |
| Gauss noise                            | 40MHz (-3dB) (typical value)  |                                |
| Resolution                             | 1 μHz   |                                |
| Reference frequency                    | Initial accuracy  | < 30ppm                        |
|  | Temperature stability   | ±2 ppm/°C, 0°C~40°C            |
|  | Aging rate  | ±50 ppm, First year aging rate |
| <i>Sine wave</i>                       |   |                                |
| Harmonic distortion                    | Typical value (0dBm)  | DC ~ 1MHz: -60dBc              |
|  |   | 1 MHz ~10MHz: -55dBc           |
|  |   | 10 MHz ~40 MHz: -50dBc         |
| THD                                    | <0.2% (DC~20kHz, 1Vpp)  |                                |
| Spurious signal (anharmonic)           | Typical value (0 dBm)   | ≤10MHz < -70dBc                |
|  |   | > 10MHz <-70dBc+6dB/octave     |
| Phase noise(typical)                   | 1MHz ≤-125dBc/Hz (typical, 0dBm, 10kHz deviation)   |                                |

### *Square wave*

|                              |   |                                      |
|------------------------------|---|--------------------------------------|
| Rise/fall time(1Vpp, 50Ω)    | < 16ns  |                                      |
| Overshoot(100kHz, 1Vpp, 50Ω) | <2% (typical,50Ω)                               |                                      |
| Duty ratio                   | 0.000% ~ 100.00% (limited by current frequency) |                                      |
| Symmetry (duty ratio=50%)    | 1% of period + 4ns                              |                                      |
| Shake (RMS)(1Vpp, 50Ω)       | Typical (1MHz,<br>1Vpp, 50Ω)                    | ≤5MHz: 2 ppm + 200ps<br>>5MHz: 200ps |

### *Ramp wave*

|              |  |  |
|--------------|--|--|
| Nonlinearity | < 1% of peak output (typical value, 1kHz, 1Vpp, symmetry 100%) |  |
| Symmetry     | 0.0%~100.0%  |  |

### *Pulse wave*

|                     |                    |  |
|---------------------|--------------------|--|
| Minimum pulse width | 22ns               |  |
| Variable edge       | 15ns~10s           |  |
| Overshoot           | <2% (typical,1Vpp) |  |
| Shake               | 150ps              |  |

### *Arbitrary wave*

|                     |                          |            |
|---------------------|--------------------------|------------|
| Frequency           | 1μHz~5MHz                | 1μHz~10MHz |
| Wave length         | 4kpts                    |            |
| Vertical resolution | 16-bit (symbol included) |            |
| Sampling rage       | 200MSa/s (DDS)           |            |
| Nonvolatile storage | 200 waves                |            |



## Output Characteristic

| Output             |   |
|--------------------|---|
| Amplitude (50Ω)    | ≤20MHz:1 mVpp~10Vpp<br>≤40MHz:1 mVpp~5Vpp                                       |
| Amplitude (HighZ)  | ≤20MHz:2mVpp~20Vpp<br>≤40MHz:2mVpp~10Vpp  |
| Accuracy           | Typical value (1kHz,sine wave, 0V,deviation, >10mVpp) ± (1% of set value+2mVpp) |
| Amplitude flatness | Typical value (sine wave,0dBm) ≤20MHz: ±0.3dB<br>≤40MHz: ±0.5dB                 |
| DC offset          |   |
| Range (peak AC+DC) | ±5V (50Ω)<br>±10V (high resistance)   |
| Accuracy of offset | Offset set value ±1% ± amplitude set value 2%±2mV                               |
| Waveform output    |   |
| Impedance          | 50Ω typical value   |
| Protection         | Short circuit protection, overload automatically disables waveform output       |

## Modulation Types

| AM                   |  |
|----------------------|--|
| Carrier wave         | Sine wave, square wave, ramp wave, arbitrary wave        |
| Source               | Internal   |
| Modulation wave      | Sine wave, square wave, ramp wave, noise, arbitrary wave |
| Modulation depth     | 0%~120%  |
| Modulation frequency | 2mHz~1MHz  |
| FM                   |  |
| Carrier wave         | Sine wave, square wave, ramp wave, arbitrary wave        |
| Source               | Internal   |
| Modulation wave      | Sine wave, square wave, ramp wave, noise, arbitrary wave |
| Frequency deviation  | DC~10MHz<br>DC~20MHz                                     |
| Modulation frequency | 2mHz~1MHz  |
| PM                   |  |
| Carrier wave         | Sine wave, square wave, ramp wave, arbitrary wave        |
| Source               | Internal   |
| Modulation wave      | Sine wave, square wave, ramp wave, noise, arbitrary wave |
| Phase deviation      | 0~360°   |
| Modulation frequency | 2mHz~1MHz  |

| <i>ASK</i>               |  |
|--------------------------|--|
| Carrier wave             | Sine wave, square wave, ramp wave, arbitrary wave                  |
| Source                   | Internal/external  |
| Modulation wave          | Square wave (Duty ratio 50%)                                       |
| Modulation frequency     | 2mHz~100kHz  |
| <i>FSK</i>               |  |
| Carrier wave             | Sine wave, square wave, ramp wave, arbitrary wave                  |
| Source                   | Internal/external  |
| Modulation wave          | Square wave (Duty ratio 50%)                                       |
| Modulation frequency     | 2mHz~100kHz  |
| <i>PSK</i>               |  |
| Carrier wave             | Sine wave, square wave, ramp wave, arbitrary wave                  |
| Source                   | Internal/external  |
| Modulation wave          | Square wave (Duty ratio 50%)                                       |
| Modulation frequency     | 2mHz~100kHz  |
| <i>PWM</i>               |  |
| Carrier wave             | Pulse  |
| Source                   | Internal/external  |
| Modulation wave          | Sine wave, square wave, ramp wave, noise, arbitrary wave           |
| PWM range                | 0%~50.00%  |
| Modulation frequency     | 2mHz~1MHz  |
| <i>Frequency sweep</i>   |  |
| Carrier wave             | Sine wave, square wave, ramp wave, arbitrary wave                  |
| Type                     | Linear or logarithmic  |
| Frequency sweep time     | 1ms~500 s ±0.1%  |
| Trigger source           | Internal   |
| <i>Burst</i>             |  |
| Mode of pulse train      | N cycle, infinite, gated   |
| Waveform                 | Sine wave, square wave, ramp wave, pulse, noise and arbitrary wave |
| Source                   | Internal / external  |
| Trigger edge             | Rising edge / falling edge   |
| Internal cycle           | 1μs~500s   |
| Recurring number         | 1~50000  |
| Polarity                 | Positive and negative (TTL level input)                            |
| Initial and stop phase   | 0~360°   |
| <i>Frequency meter</i>   |  |
| Range of input frequency | 100mHz~200MHz  |
| Input level              | TTL compatible   |
| Accuracy                 | 7-bit  |

## Interface and Display

| <i>Interface</i>       |                      |
|------------------------|----------------------|
| Standard configuration | USB Host, USB Device |
| <i>Display screen</i>  |                      |
| Display Type           | 4.3 inches TFT LCD   |
| Display resolution     | WVGA (480x272)       |

## General Technical Specifications

| <i>Specifications</i>                          |  |  |
|--|--|--|
| Supply voltage                                 | 100~240 VACrms (Fluctuations: $\pm 10\%$ ), 50Hz/60Hz<br>100~120 VACrms (Fluctuations: $\pm 10\%$ , 400Hz)                                 |  |
| Power consumption                              | <20W   |  |
| Fuse   | 2A, Class T, 250V  |  |
| <i>Environment</i>                             |  |  |
| Temperature range                              | operation: +10°C~+40°C<br>Non operational: -20°C~+60°C   |  |
| Cooling method                                 | Natural cooling  |  |
| Humidity range                                 | +35°C Below: $\leq 90\%$ relative humidity<br>+35°C ~ +40°C: $\leq 60\%$ relative humidity   |  |
| Altitude                                       | Operating below 2,000m<br>Non-operating below 15,000m  |  |
| Class of pollution                             | 2  |  |
| Operating environment                          | indoor use   |  |
| <i>Mechanical specifications</i>               |  |  |
| Dimensions                                     | 215mm x 103mm x 316mm (Width x Height x Length)  |  |
| Net weight                                     | 2.2kg  |  |
| Calibration cycle                              | The recommended calibration cycle is one year  |  |
| <i>Regulatory standards</i>                    |  |  |
| EMC  | Compliance with EMC directives(2014/30/EU), Conform to or better than IEC 61326-1:2021/EN61326-1:2021, IEC 61326 2-1:2021/EN61326-2-1:2021 |  |
| Conductive disturbance                         | CISPR 11/EN 55011  | CLASS B group 1, 150kHz-30MHz  |
| Radiation disturbance                          | CISPR 11/EN 55011  | CLASS B group 1, 30MHz-1GHz  |
| Electrostatic discharge (ESD)                  | IEC61000-4-2/EN61000-4-2   | 4.0kV (Contact) , 8.0kV (air)  |
| Radio frequency electromagnetic field immunity | IEC61000-4-3/EN61000-4-3   | 0V/m (80 MHz to 1 GHz)<br>3V/m (1.4 GHz to 2 GHz)  |
| Electrical fast transient burst (EFT)          | IEC61000-4-4/EN61000-4-4   | 1V/m (2.0 GHz to 2.7GHz)<br>2kV (AC input port)  |
| Surge  | IEC61000-4-5/EN61000-4-5   | 1kV (Live line to zero line)<br>2kV (Fire/zero line to ground)   |
| Immunity to RF continuous conduction           | IEC61000-4-6/EN61000-4-6   | 3V, 0.15-80 MHz  |
| Voltage dips and short interruptions           | IEC61000-4-11/EN61000-4-11   | Voltage dip:<br>0% UT during 1 cycle;<br>40% UT during 10/12 cycles;<br>70% UT during 25/30 cycles<br><br>Short Interruption:<br>0% UT during 250/300 cycles |

## Safety regulations

EN IEC61010-2-030:2021+A11:2021  
BS EN61010-1:2010+A1:2019  
BS EN IEC61010-2-  
030:2021+A11:2021 UL 61010-1:2012  
Ed.3+ R:19 Jul2019 UL 61010-2-  
030:2018 Ed.2  
CSA C22.2#61010-1:2012 Ed.3+U1;U2;A1  
CSA C22.2#61010-2-030:2018 Ed.2

## Accessory Information

|                      | Description                               | Order No. |
|----------------------|---|-----------|
| Models               | Maximum output frequency 20MHz            | MP751035  |
|                      | Maximum output frequency 40MHz            | MP751036  |
| Standard accessories | Power cord x 1                            |           |
|                      | USB cable x 1                             |           |
|                      | BNC-BNC x 1                               |           |
|                      | BNC-red and black alligator clip cable x1 |           |
| Recommended options  | 10W Power amplifier option                |           |



### INFORMATION ON WASTE DISPOSAL FOR CONSUMERS OF ELECTRICAL & ELECTRONIC EQUIPMENT.

When this product has reached the end of its life it must be treated as Waste Electrical & Electronic Equipment (WEEE). Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used. Contact your local authority for details of recycling schemes in your area.

Made in China.  
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