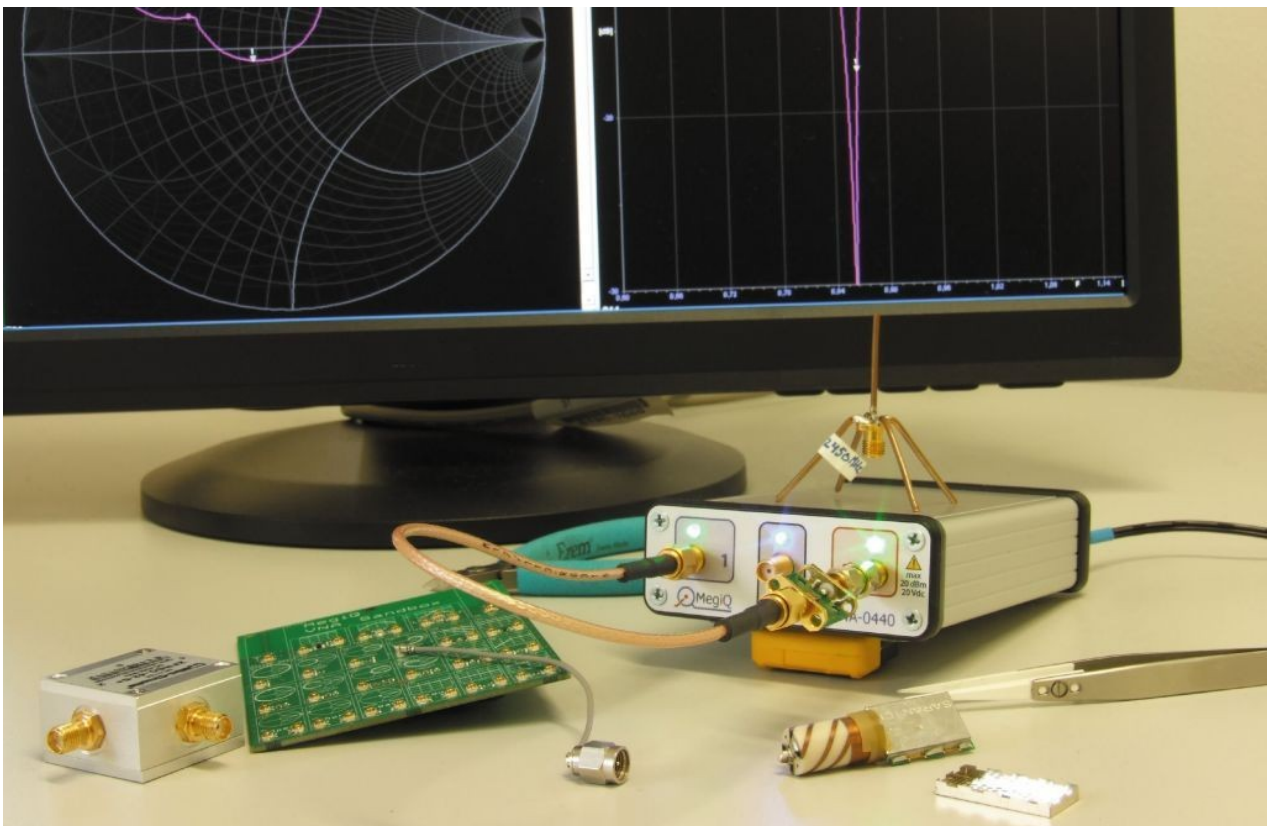




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## MegiQ VNA-0440(e) Specifications

*400-4000MHz Two Port Bidirectional Vector Network Analyser*



version 160106

Specifications subject to change without notice

## Quick Overview

| parameter   | VNA-0440  | VNA-0440e   |
|---|---|---|
|   | Two Port VNA<br>Full bidirectional  | Two Port VNA<br>Full bidirectional.<br><br>With Third port (RF-out),<br>Programmable DC Bias Generator and<br>Bias Tee's on all three ports |
| - display formats                                   | <i>Any combination of</i> : Source impedance, Port impedance, Return Loss, Forward Loss, SWR, Impedance (mag/ph), Impedance (Smith), Gain (mag/ph/group delay), Gain Polar. |   |
| - frequency range                                   | 400 ... 4000 MHz  |   |
| - number of frequency steps                         | single frequency up to 20000 points   |   |
| - output level                                      | + 5 ... -30 dBm   |   |
| - output harmonics ( <i>up to 0 dBm o/p level</i> ) | better than -35 dBc   |   |
| - overall directivity accuracy (calibrated)         | better than 55 dB (<3GHz)<br>better than 45 dB up (<4GHz)   |   |
| - DC bias generator                                 | - 14 ... + 14 V<br>up to 100mA  |   |

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*Picture of the VNA0440-VSB.*

*This is the VNA-0440 with the VNA Sandbox, a educational kit.*

*The Educational Kit with tutorial will give you a jump start into the realm of Vector Network Analysis*

| Physical Appearance   |               | unit  |
|-----------------------|---------------|-------|
| interface             | USB 2.0       | -     |
| measurement speed     | 300           | pts/s |
| dimensions            | 145 x 82 x 32 | mm    |
| operating temperature | 0 ... +40     | °C    |
| storage temperature   | -40 ... +80   | °C    |
| extension connector   | no            | yes   |



VNA-0440



VNA-0440e



Rear View



| parameter                                       | VNA-0440  | VNA-0440e   | unit |
|---|---|---|------|
| <b>frequency</b>                                |   |   |      |
| - range   | 400 ... 4000  |   | MHz  |
| - accuracy                                      | 2   |   | ppm  |
| - resolution                                    | 10  |   | kHz  |
| - steps   | single frequency up to 20000 points                 |   |      |
| <b>output</b>                                   |   |   |      |
| - level   | +5 ... -30  |   | dBm  |
| - level steps size                              | 0.5   |   | dB   |
| - accuracy                                      | +/- 1   |   | dB   |
| - harmonics ( <i>up to 0 dBm output level</i> ) | better than -35                                     |   | dBc  |
| <b>input</b>                                    |   |   |      |
| - max. RF input level, no damage                | 20  |   | dBm  |
| - max. DC input level, no damage                | +/- 20 ( <i>depending on bias settings</i> )        |   | V    |
| - detector range                                | +20 ... -70   |   | dBm  |
| - overall measurement accuracy                  | 1   |   | dB   |
| - overall directivity accuracy (calibrated)     | better than 55 (<3GHz)<br>better than 45 up (<4GHz) |   | dB   |
| - receiver selectivity                          | 12 (HW filter)<br>0.1 ... 12 (DSP filter)           |   | kHz  |
| <b>bias generator</b>                           |   |   |      |
| - control                                       | -   | software control, V/I<br>source & sink                            | -    |
| - bias Tee's                                    | -   | internal, software<br>controlled switch (open,<br>source, ground) | -    |



| parameter                   | VNA-0440   | VNA-0440e    | unit |
|-----------------------------|--|--------------|------|
| - bias voltage set-range    | -  | -13 ... +13  | V    |
| - bias current set-range    | -  | +/- 1 ...100 | mA   |
| <b>measurements</b>         |  |              |      |
| - sweep combinations        | single sweeps or any combination of nested or parallel sweeps: freq, Pout, bias-I/V(e- version)  |              |      |
| - measurement types         | Source impedance, Port impedance, Return Loss, Forward Loss, SWR, Impedance (mag/ph), Impedance (Smith), Gain (mag/ph/group delay), Gain Polar   |              |      |
| <b>data formats</b>         |  |              |      |
| - export                    | Touch Stone file, graphs for reporting, including title/remark/settings  |              |      |
| - internal storage (PC HDD) | <i>Save and recall:</i> measurement data, calibration data, instrument settings, markers...<br><br><i>At recall</i> you can choose the graphical representation, add or remove markers, ...  |              |      |
| - display formats           | <i>Any combination of:</i> Source impedance, Port impedance, Return Loss, Forward Loss, SWR, Impedance (mag/ph), Impedance (Smith), Gain (mag/ph/group delay), Gain Polar.<br><br>standard or custom set of graphs can be selected while performing measurements <i>and</i> also after recalling a measurement from memory |              |      |
| - matching function         | Point on the graph, choose automatic matching circuit and match + real time simulation   |              |      |
| - scales on graphs          | on display <i>and</i> in reports scales units are displayed along scales (with smith, along trace)   |              |      |
| - markers                   | any number of makers, makers can be added at measurement time and/or after recalling previously saved measurements   |              |      |



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| parameter                  | VNA-0440  | VNA-0440e  | unit            |
|----------------------------|---|--|-----------------|
| <b>calibration</b>         |   |  |                 |
| - calibration mode         | "User Calibration" or "Factory Port Calibration"  |  |                 |
| - calibration wizard       | colored front panel LEDs correspond with colours on calibration tool                              |  |                 |
| - external calibration     | Open, Short, Load, Through & Isolation  |  |                 |
| - internal correction      | 12 term   |  |                 |
| - calibration data storage | calibration data arrays are stored together with instrument settings and when saving measurements |  |                 |
| <b>general</b>             |   |  |                 |
| ports (front panel SMA-f)  | 2 x bidirectional   | 2 x bidirectional & 1 x generator output<br>3x DC bias | -               |
| impedance                  | 50  |  | $\Omega$        |
| return loss                | better than 15  |  | dB              |
| DC power input             | 8 ... 24  |  | V <sub>DC</sub> |
| DC power consumption       | 8   |  | W               |
| AC power supply            | 100 ... 240   |  | V <sub>AC</sub> |