

## ANRITSU

# MS2661C

The Anritsu MS2661C is a synthesized portable spectrum analyzer covering a wide frequency range from 9 kHz to 3 GHz. Designed for signal analysis of radio and other electronic equipment, it offers exceptional basic performance, including a high carrier-to-noise (C/N) ratio, low distortion, and superior frequency and level accuracies. Built-in measure functions facilitate evaluation of radio equipment parameters, such as adjacent channel power, occupied bandwidth, burst average power, and template decision with supporting dual-screen and FM demodulation displays.

## SPECIFICATIONS

### General

|            |                                                 |
|------------|-------------------------------------------------|
| Interfaces | GPIB (IEEE-488), RS-232C, Centronics (Parallel) |
| Display    | 5.5-inch color TFT LCD                          |

### Physical

|                       |                                                                                |
|-----------------------|--------------------------------------------------------------------------------|
| Power Supply          | 100 to 120 VAC / 200 to 240 VAC (automatic selection), 47.5 to 63 Hz, ≤ 150 VA |
| Operating Temperature | 0 to 50 °C °C                                                                  |
| Dimensions (W×H×D)    | 320 mm x 177 mm x 351 mm mm                                                    |
| Weight                | 11 kg kg                                                                       |

### Frequency

|                                            |                                                 |
|--------------------------------------------|-------------------------------------------------|
| Frequency Range                            | 9 kHz to 3 GHz                                  |
| Frequency Span Range                       | 0 Hz (zero span), 100 Hz to 3 GHz               |
| Resolution Bandwidth (RBW) Range           | 100 Hz to 3 MHz (1-3 sequence), 5 MHz           |
| Video Bandwidth (VBW) Range                | 1 Hz to 3 MHz (1-3 sequence)                    |
| Reference Oscillator Frequency             | 10 MHz                                          |
| Reference Oscillator Aging Rate            | ≤ 2 × 10 <sup>-6</sup> /year                    |
| Reference Oscillator Temperature Stability | ≤ 2.5 × 10 <sup>-6</sup> (0 to 50 °C)           |
| SSB Phase Noise                            | ≤ -100 dBc/Hz (at 10 kHz offset, 1 GHz carrier) |

## Amplitude

|                                            |                                                              |
|--------------------------------------------|--------------------------------------------------------------|
| Measurement Level Range                    | Displayed Average Noise Level (DANL) to +30 dBm              |
| Maximum Input Power                        | +30 dBm (with $\geq 10$ dB input attenuation)                |
| Input Attenuator Range                     | 0 to 70 dB (in 10 dB steps)                                  |
| Second Harmonic Distortion                 | $\leq -75$ dBc (10 MHz to 1.5 GHz, -30 dBm mixer level)      |
| Third-order Intermodulation Distortion     | $\leq -75$ dBc (10 MHz to 3 GHz, two -30 dBm tones at mixer) |
| Displayed Average Noise Level (DANL)       | $\leq -115$ dBm (10 MHz to 3 GHz, RBW 1 kHz, VBW 1 Hz)       |
| Frequency Response Flatness                | $\leq \pm 0.5$ dB (100 kHz to 3 GHz)                         |
| Resolution Bandwidth Switching Uncertainty | $\leq \pm 0.3$ dB (referred to 3 kHz RBW)                    |
| Amplitude Scales                           | Log (10, 5, 2, 1 dB/div), Linear                             |

## Sweep and Trigger

|                             |                                              |
|-----------------------------|----------------------------------------------|
| Sweep Time Range (Span > 0) | 20 ms to 1000 s                              |
| Sweep Trigger Sources       | Free Run, Line, External, Video              |
| Detection Modes             | Sample, Positive Peak, Negative Peak, Normal |

## Inputs and Outputs

|                                  |                                                               |
|----------------------------------|---------------------------------------------------------------|
| RF Input Connector               | N-type (female), 50 ohms                                      |
| RF Input VSWR                    | $\leq 1.5$ (100 kHz to 3 GHz, input attenuation $\geq 10$ dB) |
| Calibration Output Signal        | 10 MHz, -20 $\pm 0.3$ dBm                                     |
| Calibration Output Connector     | BNC (female), 50 ohms                                         |
| Reference Input/Output Connector | BNC (female)                                                  |
| Memory Card Interface            | PCMCIA Type II (2 slots)                                      |

## Measurement Functions

|                              |                                                                                                                         |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Dedicated Measurements       | Frequency counter, C/N, Adjacent channel power, Occupied bandwidth, Burst average power, Noise power, Template decision |
| Frequency Counter Resolution | 1 Hz, 10 Hz, 100 Hz, 1 kHz                                                                                              |
| Display Features             | Dual-screen display, FM demodulation waveform display                                                                   |

## General and Environmental

|                           |              |
|---------------------------|--------------|
| Storage Temperature Range | -20 to 60 °C |
|---------------------------|--------------|

## Options

|                                                 |                                                               |
|-------------------------------------------------|---------------------------------------------------------------|
| Option 01 Reference Oscillator Stability        | $\leq 2 \times 10^{-8}/\text{day}$ (aging rate)               |
| Option 15 Tracking Generator Frequency Range    | 9 kHz to 3 GHz                                                |
| Option 15 Tracking Generator Output Level Range | -85 to 0 dBm (0.1 dB steps)                                   |
| Option 04 Fast Sweep Time Range                 | 100 $\mu\text{s}$ - 19 ms (Span = 0), 1 ms - 19 ms (Span > 0) |
| Option 03 Narrow RBW Selection                  | 30 Hz, 100 Hz, 300 Hz                                         |
| Option 08 Preamplifier Frequency Range          | 100 kHz - 3 GHz                                               |
| Option 08 Preamplifier Gain                     | 20 dB (typical)                                               |
| Option 05 DC Power Supply Input                 | 11 - 30 VDC, $\leq 70$ W                                      |
| Option 12 Demodulator Audio                     | Standard feature                                              |

## Performance

|                            |                                                 |
|----------------------------|-------------------------------------------------|
| Image Response             | $\leq -70$ dBc (10 MHz - 3 GHz)                 |
| Multiple Response          | $\leq -70$ dBc (10 MHz - 3 GHz)                 |
| Residual Spurious Response | $\leq -100$ dBm (10 MHz - 3 GHz, RF ATT = 0 dB) |

## Environmental

|                    |                                 |
|--------------------|---------------------------------|
| Operating Humidity | $\leq 85\%$ RH (non-condensing) |
|--------------------|---------------------------------|

## Display

|              |                        |
|--------------|------------------------|
| Display Type | 5.5-inch color TFT LCD |
|--------------|------------------------|

## Sweep

|             |                    |
|-------------|--------------------|
| Sweep Modes | Continuous, Single |
|-------------|--------------------|

## Measurement & Trace

|                            |                                                                                                                        |
|----------------------------|------------------------------------------------------------------------------------------------------------------------|
| Trace Functions            | Write, Max Hold, Min Hold, View, Averaging                                                                             |
| Marker Functions           | Normal, Delta, Peak Search, Next Peak, Marker to (CF, Ref Level), Multi-marker (up to 10), Zone Marker                 |
| Frequency Counter Accuracy | $\pm(\text{Readout frequency} \times \text{Reference frequency accuracy} + 1 \text{ LSB} + \text{Counter resolution})$ |

## Inputs & Outputs

|                                |                                                  |
|--------------------------------|--------------------------------------------------|
| External Reference Input Level | -10 dBm to +15 dBm (50 $\Omega$ , BNC female)    |
| Reference Output Level         | $\geq -2$ dBm (10 MHz, 50 $\Omega$ , BNC female) |
| External Trigger Input Level   | TTL level (BNC female)                           |

## TECHNOLOGY

Synthesized Spectrum Analysis

## APPLICATIONS

RF Signal Analysis and Radio Equipment Evaluation

