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WR-G31DDC 'EXCALIBUR' Specifications

Receiver type	Direct-sampling, digitally down-converting software-defined receiver
Frequency range	9 kHz to 49.995 MHz
Tuning resolution	1 Hz
Mode	AM, AMS, LSB, USB, CW, FMN, FSK, UDM (user-defined mode) DRM mode optional
Image rejection	90 dB typ.
IP3	+31 dBm typ.
Attenuator	0 - 21 dB, adjustable in 3 dB steps
SFDR	107 dB typ.
Noise figure	14 dB
MDS	-130 dBm @ 10 MHz, 500 Hz BW
Phase noise	-145 dBc/Hz @ 10 kHz
RSSI accuracy	2 dB typ.
RSSI sensitivity	-140 dBm
Processing and recording bandwidth (DDC bandwidth)	20 kHz - 2 MHz (selectable in 21 steps)
Demodulation bandwidth (selectivity)	10 Hz - 62.5 kHz (continuously variable in 1 Hz steps)
Spectrum analyzers	Input spectrum/waterfall, 30 or 50 MHz wide, 1.5 kHz resolution bandwidth DDC spectrum/waterfall, max 2 MHz wide, 1 Hz resolution bandwidth

	Channel spectrum, max 62.5 kHz wide, 1 Hz resolution bandwidth Demodulated audio, 16 kHz wide, 1 Hz resolution bandwidth										
ADC	16 bit, 100 MSPS										
	AM -101 dBm (2.00 μ V) @ 10 dB S+N/N, 30% modulation										
	SSB -116 dBm (0.35 μ V) @ 10 dB S+N/N, 2.1 kHz BW										
	CW -123 dBm (0.16 μ V) @ 10 dB S+N/N, 500 Hz BW										
	FM -112 dBm (0.56 μ V) @ 12 dB SINAD, 3 kHz deviation, 12 kHz BW, audio filter 300-3000 Hz, deemphasis -6dB/oct										
Sensitivity (typ. @ 10 MHz)	Note: Below 200 kHz, the sensitivity gradually drops. Typical figures (CW, 500 Hz BW, 10 dB S+N/N) are as follows:										
	<table border="1"> <tr> <td>200 kHz</td> <td>-123 dBm</td> </tr> <tr> <td>100 kHz</td> <td>-116 dBm</td> </tr> <tr> <td>50 kHz</td> <td>-112 dBm</td> </tr> <tr> <td>25 kHz</td> <td>-97 dBm</td> </tr> <tr> <td>10 kHz</td> <td>-81 dBm</td> </tr> </table>	200 kHz	-123 dBm	100 kHz	-116 dBm	50 kHz	-112 dBm	25 kHz	-97 dBm	10 kHz	-81 dBm
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100 kHz	-116 dBm										
50 kHz	-112 dBm										
25 kHz	-97 dBm										
10 kHz	-81 dBm										
Tuning accuracy	0.5 ppm @ 25 °C										
Tuning stability	2.5 ppm (0 to 50 °C)										
MW filter	Cut-off frequency 1.8 MHz @ -3 dB Attenuation 60 dB min @ 0.5 MHz										
Antenna input	50 ohm (SMA connector)										
Output	24-bit digitized I&Q signal over USB interface										
Interface	USB 2.0 High speed										
Power supply	11-13 V DC @ 500 mA typ. 11-13 V DC @ 45 mA typ. (power save)										
Operating temperature	0 to 50 °C										

Specifications are subject to change without notice due to continuous product development and improvement.