



RADIO  
KNL RADIO

KNL  
NETWORKS

We've built our radio to serve a number of use-cases, all while being simple, secure, and reliable to operate. The KNL Radio is rack mountable and requires an included HF antenna (powered by a transformer), a cellular antenna, and a GPS antenna. For more information, contact [sales@knlnetworks.com](mailto:sales@knlnetworks.com).



TECHNICAL SPECIFICATIONS	
HF RADIO: FREQUENCY RANGE	1.5 - 30 MHz
HF RADIO: BANDWIDTHS	1.9 - 24 kHz
HF RADIO: MODULATIONS	BPSK, QPSK, 8PSK, 16/32/64/128/256 QAM
HF BAND RADIO: SENSITIVITY	more than -125 dBm
HF BAND RADIO: DYNAMIC RANGE	140 dB
HF RADIO: TRANSMITTING POWER	250W PEP (Peak Envelope Power)
CELLULAR	UMTS/HSPA - 800/850/900/1700/1900/2100 MHz (Bands VI, V, VIII, IV, II, I) 3GPP Release 7 5.76 Mb/s uplink, 21.1 Mb/s downlink GSM - GSM 850/900/1800/1900 MHz 3GPP Release 7, PBCCH support GPRS - Class 12, CS1-CS4 - up to 86.5 kb/s; EDGE Class 12, MCS1-9 - up to 236.8 kb/s
GNSS (GLOBAL NAVIGATION SATELLITE SYSTEM)	GPS, GLONASS, GALILEO, QZSS and SBAS
ETHERNET	2 x 100 Mbps
SUPPLY VOLTAGE	AC: 100-240 VAC ±10%, 8.9A, 50-60Hz, 600W. DC: 12-30 VDC ±5%, 50A, 600W
DIMENSIONS	19" / 6U rack mountable Width: 483mm - Height: 266mm - Depth: 425mm Weight: 30 kg
OPERATING TEMPERATURE RANGE	-20 - 55 °C
INTERFACES	HF antenna, connector type: N (F) Cellular antenna, connector type: TNC (F) GNSS antenna, connector type: TNC (F), supply voltage for active antenna: 3.3VDC Ethernet connectors, 2 x RJ45
IP Class	IP 21

TYPE APPROVALS	
	<ul style="list-style-type: none"> <li>In conformity with R&amp;TTE Directive (1999/5/EC) and RoHS directive 2011/65/EU</li> <li>Radio Equipment Directive 2014/53/EU, RED-1158</li> <li>Certain HEALTH &amp; SAFETY (Art. 3(1)(a)), EMC (Art. 3(1)(b)) and SPECTRUM (Art. 3(2))</li> <li>WEEE (Waste Electrical and Electronic Equipment) compatibility</li> </ul>
HEALTH & SAFETY (ART. 3(1)(A))	HF: Compass safe distance test EN 60945:2002, EN 60950:2006 + A11:2009 + A12:2011 + A1:2010 + A2:2013 2G/3G; EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011, EN62311:2008
EMC (ART. 3(1)(B))	HF: EN 301 843-1 v.1.3.1, EN 301 843-5 v.1.1.1, EN 61000-6-2:2005, EN 61000-6-3:2007, EN 61000-6-3/ A1:2011, EN 301 489-1 v.1.9.2 Annex B 2G/3G; EN 30Spectrum (Art. 3(2)): 1 489-1 V1.8.1, EN 301 489-7 V1.3.1, EN 301 489-24 V1.5
SPECTRUM	HF: EN 300 373-1 V1.4.1, EN 300 373-2 V1.2.1, ITU M. 1798-1, ITU-R SM 329-12, EN 300 113-1 v1.7.1 2G/3G; EN 301 511 V9.0.2, EN 301 908-1 V4.2.1, EN 301 908-2 V4.2.1 GNSS: EN 300 440-1 V1.6.1, EN 300 440-2 V1.4.1



### HF for Data Communications

Our R&D has greatly improved the speed and reliability of HF for data communications, giving each radio a two-way connection range of up to 10,000 kilometers.



### Industrial Mesh Network

Each radio can act both as a base station (when in cellular range), and as an endpoint (when out at sea). The result is unmatched reliability and global access.