

Professional Range

Synthesised
transceiver

SX450G
400-490MHz

Synthesised multi-
channel capability

EN 300 220
EN 300 086
approvals

Low profile
package

Low current
consumption

Analogue or digital
modulation

GMSK compatible
option

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The Professional Range transceivers are miniature high quality modules for data and telemetry transmission.

These resilient modules not only satisfy EN 300 220 but also the more demanding EN 300 086 specification. This enables the units to be sold throughout Europe for both licenced and unlicenced telemetry, data and voice applications. The modules conform to the RoHS (lead-free) directives.

The addition of a suitable modem will allow EN 300 113 approval to be gained. Please refer to the RSX Modem brochure.

Combining sensitive receiver circuitry with matching 500mW RF transmitter sections, these modules will find use in short, medium and long range applications.

Such a power level will deliver a very effective increase in range performance over lower power wideband devices while balancing the need for battery economy in portable applications.

The modules are housed in small lightweight screened enclosures with multi-way connection interface for either cable or direct pcb mounting. This electrical screening ensures a family of products complying with current EMC regulations.



Frequency control is achieved using modern low noise PLL synthesiser techniques with non-volatile storage of frequency data allowing serial and parallel frequency selection.

To satisfy customers using advanced modulation schemes, special versions of this range are available with extended audio characteristics. Ask Wood & Douglas Sales for details.

Designed, manufactured and supported from the UK and benefiting as standard from extensive type approvals, these units provide the OEM with a high-quality, low-cost-of-ownership route into quality radio applications.

making
waves

WOOD & DOUGLAS

PROFESSIONAL RANGE SYNTHESISED TRANSCEIVERS

GENERAL		
Frequency range	400–490MHz in fixed bands: 400–415, 415–430, 430–450, 450–470, 470–490	
Switching bandwidth	15 to 20 MHz depending on fixed band	
Frequency stability	±2.6ppm from -30°C to +70°C	
Number of RF channels	up to 256 sequential - serial selected and programmed up to 80 individual - serially selected and programmed up to 64 - parallel selected and serially programmed	
Channel spacing	12.5kHz / 20kHz / 25kHz available	
Modulation type	F1D / F2D / F3D/F3E (GMSK and 4LFSK options)	
Frequency	Narrow	14Hz to 3kHz at -3dB
	Wide	14Hz to >7kHz at -3dB (4LFSK in 25kHz channel)
Spurious emission (conducted & radiated)	in accordance with EN specifications	
Supply voltage	4.5 to 16V DC, negative earth	
Supply current at 7.2V	receive	<60mA
	transmit	<400mA for 500mW output
Interface connections	'A' version	8-way + 12-way 1.27mm pitch Molex plugs (200mm unterminated mating leads supplied)
	'C' version	21-way SIL (single in-line) header
RF connection	Sturdy surface-mount MMCX miniature co-ax socket (200mm unterminated mating lead supplied)	
Temperature range	-30°C to +55°C operating, -30°C to +70°C storage	
Size overall	86.5 x 52.5 x 12.75mm	
Weight	81g	
Type approval	EN 300 086; EN 300 220; EN 300 489 (EMC); FCC part 90 and part 15	
TRANSMITTER		
RF output power into 50Ω (VSWR < 1.2:1)	500mW (+0/-1.5dB) high power; 1mW low power	
Tx / Rx switching time (simplex)	<15ms (supply present and with TXE line keyed)	
Modulation point	analogue	750mV peak-to-peak AC coupled
	digital	+3 to 12V square wave DC coupled
Deviation	25kHz channel spacing	±3kHz nom (±4.0kHz max)
	20kHz channel spacing	±2.3kHz nom (±3.2kHz max)
	12.5kHz channel spacing	±1.5kHz nom (±2.0kHz max)
Adjacent channel power	25kHz	-80dBc typical unmodulated, <72dBc modulated
RECEIVER		
Sensitivity	25kHz	< -117 dBm
	12.5kHz	< -115 dBm
Note that all values are measured with flat audio response (300Hz .. 3.4kHz) for 12dB SINAD		
Image rejection	>70dB	
Intermodulation rejection	>65dB	
Blocking	>84dB	
Spurious rejection	>70dB	
Intermediate frequencies	45 MHz and 455kHz	
Adjacent channel selectivity	>60dB for 12.5kHz channel spacing >70dB for 25kHz channel spacing	
Recovered audio level	600mV p-p maximum into 10kΩ (muted by squelch)	
Squelch type	Noise operated with hysteresis. Response time varies according to version.	
General facilities	RSSI; squelch flag; squelch defeat; pre/de-emphasis; low standby current; readback of programmed data	



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