

The New SpotCell “Flex” 2000 Repeater

The Evolution Continues:

Spotwave Wireless has launched their latest innovation, the SpotCell “Flex” Series of digital repeaters. The SpotCell 2000 series of digital repeaters provide the highest quality, reliability and “always-on” wireless in-building mobile coverage.

The SpotCell 2000 Series includes two models: the SC2331Xf Tri-band, the SC2212Xf Dual-band and the SC2104Xf Single band repeater - all with 20 dBm of downlink power



Universal Network Support:

The SpotCell 2000* Series will support all Cell, GSM, HSPA, HSPA+ and LTE standards.

LTE 700 MHz
PCS 1900 MHz

CELL 850 MHz
AWS 2100 MHz

Features:

- Digital repeater technology enables configurable sub-band filter bandwidths and frequencies.
- Available in multiple frequency band configurations (* last two digits of part number indicate the specific frequency bands supported by the digital repeater).
- Remote configuration and alarm monitoring capability via local interface or remotely via SMNP v2c or v3. or optional wireless modem
- High level of integration with built-in combiner/splitter for multi-band operation
- Auto-gain and shut-down function to ensure no interference to the network.
- Sub band defined repeater for enhanced performance for specific wireless carrier networks.
- Wireless Carrier compliant solution.



Coverage Area:

The SpotCell 2000 Series addresses coverage problems typically from 5,000 – 25,000 square feet.

Easy to Install:

Like all SpotCell solutions, the SpotCell 2000 Series is designed for ease of installation. The SpotCell 2000 series is packaged with the necessary accessories for rapid installation, while providing the option of utilizing preferred 3rd party antenna and cable options.

Technical Specifications – SC2000

		SpotCell 2331Xf		SpotCell 2216Xf		SpotCell 2104Xf	
Electrical specification		Uplink	Downlink	Uplink	Downlink	Uplink	Downlink
Frequency Range	CELL_GSM	824 ~ 849 MHz	869 ~ 894 MHz	n/a	n/a	n/a	n/a
	PCS	1850 ~ 1910 MHz	1930 ~ 1990 MHz	1850 ~ 1910 MHz	1930 ~ 1990 MHz	n/a	n/a
	AWS	1710 ~ 1755 MHz	2110 ~ 2155 MHz	1710 ~ 1755 MHz	2110 ~ 2155 MHz	1710 ~ 1755 MHz	2110 ~ 2155 MHz
Max .Gain		≥ 65dB	≥ 70dB	≥ 65dB	≥ 70dB	≥ 65dB	≥ 70dB
Max. Output Power		≥ 15dBm	≥ 20dBm	≥ 15dBm	≥ 20dBm	≥ 15dBm	≥ 20dBm
Band width (-3dB)		CELL = 2 sub-bands, 0-15MHz adjustable.				n/a	
		PCS = 3 sub-bands, 0-25MHz adjustable.		PCS = 3 sub-bands, 0-25MHz adjustable.		n/a	
		AWS = 3 sub-bands, two 0-25MHz adjustable, one 0-15MHz adjustable .		AWS = 3 sub-bands, two 0-25MHz adjustable, one 0-15MHz adjustable .		AWS = 3 sub-bands, two 0-25MHz adjustable, one 0-15MHz adjustable .	
MGC (Step Attenuation)		≥ 31dB / 1dB step by software setting		≥ 31dB / 1dB step by software setting		≥ 31dB / 1dB step by software setting	
Automatic Level Control		≥ 30dB, Auto gain setting		≥ 30dB, Auto gain setting		≥ 30dB, Auto gain setting	
Gain Flatness	Typ	≈ 3~10dB (p-p) as per sub-band		≈ 3~10dB (p-p) as per sub-band			
	AWS	≈ 2dB/ 3.84MHz		≈ 2dB/ 3.84MHz		≈ 2dB/ 3.84MHz	
Noise Figure		≤ 13dB as rise/roll edge of 10MHz, 11dB as the CF of AWS and PCS 8dB as CDMA)		≤ 13dB as rise/roll edge of 10MHz, 11dB as the CF of AWS and PCS 8dB as CDMA)		≈ 6dB	
V.S.W.R		≈ 3		≈ 3		≈ 2	
Group Delay		≈ 7.2μs		≈ 7.2μs		≈ 6.5μs	
Frequency stability		≈ 0.01ppm		≈ 0.01ppm		≈ 0.01ppm	
GSM Out of Band Gain:	±400KHz	<50dB	<50dB	<50dB	<50dB	n/a	
	±600KHz	<40dB	<40dB	<40dB	<40dB	n/a	
	±1MHz	<35dB	<35dB	<35dB	<35dB	n/a	
	±5MHz	<25dB	<25dB	<25dB	<25dB	n/a	
UMTS Out of Band Gain:	2.7≤f_offset<3.5MHz	<60dB	<60dB	<60dB	<60dB	n/a	
	3.5≤f_offset<7.5MHz	<45dB	<45dB	<45dB	<45dB	n/a	
	7.5≤f_offset<12.5MHz	<45dB	<45dB	<45dB	<45dB	n/a	
	12.5≤f_offset	<35dB	<35dB	<35dB	<35dB	n/a	
AWS Out of Band Gain:	2.7≤f_offset<3.5MHz	<60dB	<60dB	<60dB	<60dB	<60dB	<60dB
	3.5≤f_offset<7.5MHz	<45dB	<45dB	<45dB	<45dB	<45dB	<45dB
	7.5≤f_offset<12.5MHz	<45dB	<45dB	<45dB	<45dB	<45dB	<45dB
	12.5≤f_offset	<35dB	<35dB	<35dB	<35dB	<35dB	<35dB
Inter-modulation	9KHz~1GHz	≤ -36dBm	≤ -20dBm	≤ -30dBm	≤ -20dBm		
	1GHz~12.75GHz	≤ -30dBm	≤ -20dBm	≤ -30dBm	≤ -20dBm		
Spurious Emission	9KHz~1GHz	≤ -36dBm	≤ -36dBm	≤ -36dBm	≤ -36dBm	≤ -36dBm	≤ -36dBm
	1GHz~12.75GHz	≤ -30dBm	≤ -30dBm	≤ -30dBm	≤ -30dBm	≤ -30dBm	≤ -30dBm
AWS System	Modulation Accuracy	≈ 12.5% EVM		≈ 12.5% EVM		≈ 12.5% EVM	
	Peak Code Domain Error	≈ -35dB@Spreading Factor 256		≈ -35dB@Spreading Factor 256		≈ -35dB@Spreading Factor 256	
	ACRR	≥ 30dBc/30KHz @ ± 5MHz		≥ 30dBc/30KHz @ ± 5MHz		≥ 30dBc/30KHz @ ± 5MHz	
CELL System	Rho	ρ > 0.980		n/a		n/a	
	ACPR	Meet IS95 & CDMA2000		n/a		n/a	
LED Alarm							
Power LED		Power Indicator		Power Indicator		Power Indicator	
ALC LED		Alarm Indicator		Alarm Indicator		Alarm Indicator	
Mechanical Specifications							
I/O Port		N-Female		N-Female		N-Female	
Impedance		50 ohm		50 ohm		50 ohm	
Operating Temperature		-25°C~+55°C		-25°C~+55°C		-25°C~+55°C	
Environment Conditions		IP40		IP40		IP40	
Dimensions		280*465*155mm		280*465*155mm		250*400*53mm	
Weight		≤ 15kg		≤ 15kg		≤ 5kg	
Power Supply		Input AC100~240V, Output DC 12V 15A		Input AC100~240V, Output DC 12V 15A		Input AC100~240V, Output DC 12V 15A	
Software							
Local Monitoring		PC via Ethernet Port		PC via Ethernet Port		PC via Ethernet Port	
Remote Monitoring		Internet with Fixed public IP address, SNMP V2c&V3, optional Wireless Modem		Internet with Fixed public IP address, SNMP V2c&V3, optional Wireless Modem		Internet with Fixed public IP address, SNMP V2c&V3, optional Wireless Modem	
Controlled Parameters		Gain, Frequency, Repeater ON/OFF, Alarm Enable, etc.		Gain, Frequency, Repeater ON/OFF, Alarm Enable, etc.		Gain, Frequency, Repeater ON/OFF, Alarm Enable, etc.	
Monitoring Parameters		Gain, Frequency, Repeater ON/OFF, Alarm Message.		Gain, Frequency, Repeater ON/OFF, Alarm Message.		Gain, Frequency, Repeater ON/OFF, Alarm Message.	
Alarm Items		Repeater Failure, DC Failure, ALC Alarm, PLL Failure.		Repeater Failure, DC Failure, ALC Alarm, PLL Failure.		Repeater Failure, DC Failure, ALC Alarm, PLL Failure.	