

## SpotCell 2xx – Coverage Area

### Downward Facing CU Coverage

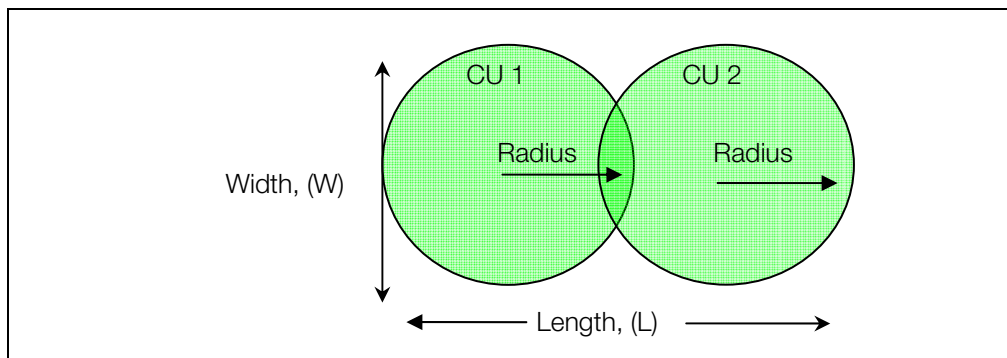
The SpotCell 2xx product is comprised of 1 DU and 2 CUs, with the resultant coverage area being equal to two SpotCell 1xx systems. Optimally, each CU will be installed facing down, resulting in a circular footprint being generated by each CU (Figure 2).

In planning for one larger SpotCell 2xx contiguous coverage area, the coverage space can be approximated as being rectangular (Figure 1). Table 1 below provides typical SpotCell 1xx series and SpotCell 2xx series coverage areas for common wireless technologies within the context of 3 generic applications.

Application	Wireless Technology	SpotCell 1xx	SpotCell 2xx
Open area (Wal-Mart for example)	GSM/TDMA	50,000 sq ft	100,000 sq ft
		Radius (126 ft)	250ft x 400ft
	CDMA	60,000 sq ft	120,000 sq ft
		Radius (138 ft)	275ft x 435ft
Office – Soft Partition (Open office with movable office partitions and limited hard wall offices)	GSM/TDMA	20,000 sq ft	40,000 sq ft
		Radius (80 ft)	160ft x 250ft
	CDMA	30,000 sq ft	60,000 sq ft
		Radius (97 ft)	200ft x 300ft
Office (mostly hard wall offices)	GSM/TDMA	7,500 sq ft	15,000 sq ft
		Radius (48 ft)	100ft x 150ft
	CDMA	10,000 sq ft	20,000 sq ft
		Radius (56 ft)	110ft x 180ft

**Table 1 - SpotCell 1xx and 2xx Coverage areas, with downward facing CUs.**

All figures are approximate and will be influenced by the shape, content, and construction materials used at the application site.



**Figure 1 -SpotCell 2xx Total Floor area = L x W**

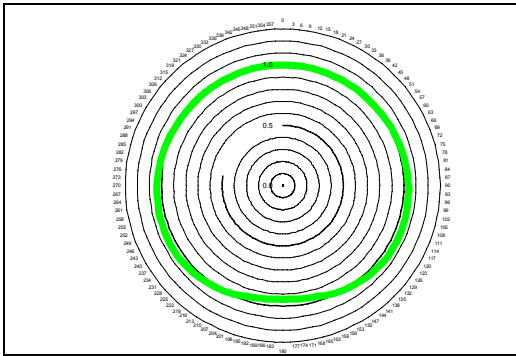
Spotwave Wireless Inc.

### Forward Facing CU Coverage

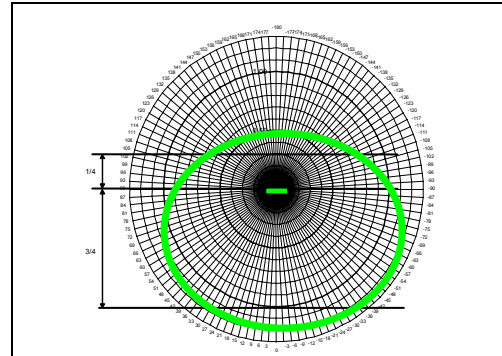
On an application basis, the SpotCell CU antenna pattern is omni-directional, directional, or a variant of the two when viewed from above. The pattern resulting in the application depends on the positioning of the CU as depicted by Figures 2 and 3 below. It follows that coverage is maximized and symmetric (omni) about the CU in downward facing CU applications; while off-centered and reduced in forward facing applications. The

reduction in coverage for forward facing applications is wholly realized in the rear of the CU. Specifically, the coverage provided behind a CU is between 1/3rd and 1/4 of the coverage provided in front of a CU.

In total, coverage areas for forward facing CU applications are approximately 65% of the coverage area figures provided in Table 1. The reduction results in a coverage area with similar lengths given in Table 1, and a 35% reduction in width.



**Figure 2-** Downward facing CU Coverage Area (Top view)



**Figure 3-** Forward Facing CU Coverage Area (Top view)