



Model: DNBA-82



DNBA-82 is 802.11n 2x3 2-stream b/g wifi Cardbus designed specifically for laptops and access points/home gateways/consumer electronics/multimedia entertainment devices/peripherals with standard Cardbus slot. Setting new standards in throughput, range, reliability, and power consumption, DNBA-82 delivers the ultimate wireless triple play experience for video, voice, and data transmission in the home, for the business, and on the road.

XSPAN with Signal-Sustain Technology (SST) using 2Tx/3Rx architecture maximizes link data rate up to 300Mbps and very effectively sustains the 802.11n radio signal to optimize for higher throughputs over range.

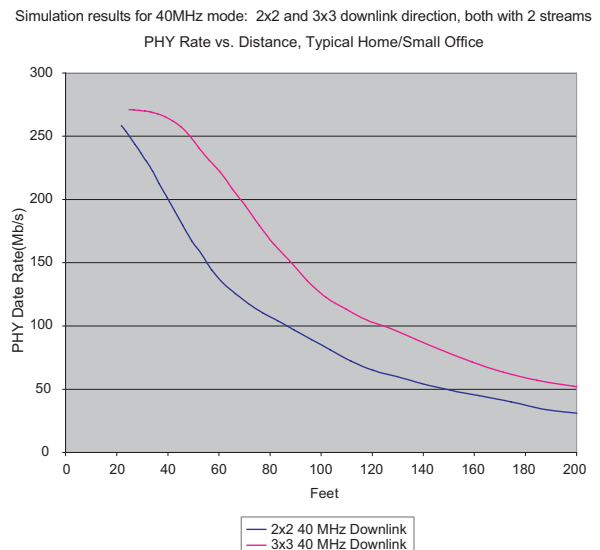
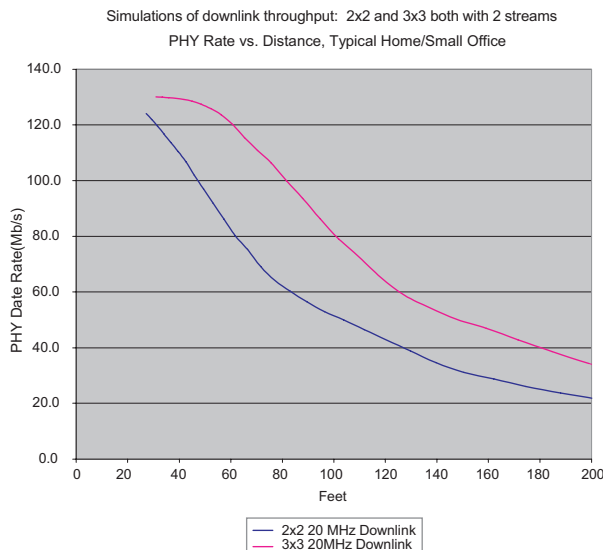
Integrating the superior experiences of WLAN/embedded antenna/mechanical design service and WiFi Chipset Partner enable customers to quickly and easily bring competitive price/performance WLAN products to market.

Key Features:

- Cardbus 32-bit Type II interface in 2Tx/3Rx design.
- Windows XP/Vista/7 driver and comprehensive client utility supports provide immediate 11n b/g wifi and management capability.
- 802.11n compliance effectively interoperates with other chipsets.
- Enables bandwidth of up to 300Mbps link rate, six times the throughput of 802.11g.
- Supports IEEE 802.11b/802.11g backward compatibility allowing inter-operability among multiple wifi networks.
- Smart Clear Channel Assessment (CCA) allows legacy-friendly operation with 802.11b and 802.11g devices.
- XSPAN with Signal-Sustain Technology (SST) 2Tx/3Rx design architecture optimizes for higher and greater reliable throughputs over range.
- Supports 802.11e prioritizing voice traffic over data traffic.
- Supports 64/128/152-bit WEP encryption, 802.1x authentication, and AES-CCM & TKIP encryption enabling advanced LAN security.
- Combination of two Dual band metal PIFA and one printed antenna design.
- RoHS compliance meets environment-friendly requirement.

What's the benefits to use 2x3 (2T3R) 2-stream instead of other standard 2x2 2-stream?

DNBA-82 2x3 (2T3R) 2-stream has 20% improvement in average throughput comparing with other standard 2x2, 2-stream at 20MHz mode in the uplink direction. Average throughput rates can be up to 40% better in the 30-40 ft range and 20% better in the 60-100 ft range at 40MHz mode in the uplink direction.



Specifications:			
Main Chipset	Atheros AR5416, AR2133		
Standard Conformance	802.11b, 802.11g, and 802.11n		
Frequency Range	<ul style="list-style-type: none"> ▪ USA: 2.400 ~ 2.483GHz ▪ Europe: 2.400 ~ 2.483GHz ▪ Japan: 2.400 ~ 2.483GHz ▪ China: 2.400 ~ 2.483GHz 		
Interface	Cardbus Type II 32-bit		
Operation Voltage	3.3V ± 5%		
Modulation Techniqu	<ul style="list-style-type: none"> ▪ DSSS with CCK, DQPSK, DBPSK ▪ OFDM with BPSK, QPSK, 16QAM, 64QAM 		
Data Rate	<ul style="list-style-type: none"> ▪ 802.11b: 1, 2, 5.5 and 11Mbps ▪ 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps ▪ 802.11n: <ul style="list-style-type: none"> ◦ 20MHz channel: <ul style="list-style-type: none"> 1Nss: 65Mbps @ 800GI, 72.2Mbps @ 400GI (Max.) 2Nss: 130Mbps @ 800GI, 144.4Mbps @ 400GI (Max.) ◦ 40MHz channel: <ul style="list-style-type: none"> 1Nss: 135Mbps @ 800GI, 150Mbps @ 400GI (Max.) 2Nss: 270Mbps @ 800GI, 300Mbps @ 400GI (Max.) 		
Operating Channels	<ul style="list-style-type: none"> ▪ 802.11b/g/n <ul style="list-style-type: none"> ◦ USA/Canada: 11 (1~11) ◦ Major Europe Countries: 13 (1~13) ◦ France: 4 (10~13) ◦ Japan: 14 for 802.11b (1~13 or 14th), 13 for 802.11g (1~13) ◦ China: 13 (1~13) 		
Power Consumption	802.11b	802.11g	802.11n
	Avg./Max. (mA)	Avg./Max. (mA)	Avg./Max. (mA)
FTP Tx	TBD	TBD	TBD
FTP Rx	TBD	TBD	TBD
Standby mode	TBD	TBD	TBD
Power saving	TBD	TBD	TBD
Antenna	two dual band metal PIFA antenna and one printed antenna		
Transmit Power Settings	<ul style="list-style-type: none"> ▪ 802.11b: <ul style="list-style-type: none"> ◦ +19±2dBm ▪ 802.11g: <ul style="list-style-type: none"> ◦ +17±2dBm @ 6, 9, 12,18,24Mbps ◦ +17±2dBm @ 36Mbps ◦ +16±2dBm @ 48Mbps ◦ +15±2dBm @ 54Mbps ▪ 802.11n: <ul style="list-style-type: none"> ◦ +18±2.5dBm @ 1Nss 20MHz 6.5 ~ 19.5Mbps, 2Nss 20MHz 13~39Mbps, 1Nss 40MHz 13.5~40.5Mbps, 2Nss 40MHz 27-81Mbps ◦ +16±2.5dBm @ 1Nss 20MHz 26Mbps, 2Nss 20MHz 52Mbps, 1Nss 40MHz 54Mbps, 2Nss 40MHz 108Mbps ◦ +13±2.5dBm @ 1Nss 20MHz 39Mbps, 2Nss 20MHz 78Mbps, 1Nss 40MHz 81Mbps, 2Nss 40MHz 162Mbps ◦ +11±2.5dBm @ 1Nss 20MHz 52Mbps, 2Nss 20MHz 104Mbps, 1Nss 40MHz 108Mbps, 2Nss 40MHz 216Mbps ◦ +10±2.5dBm @ 1Nss 20MHz 58.5Mbps, 2Nss 20MHz 117Mbps, 1Nss 40MHz 121.5Mbps, 2Nss 40MHz 243Mbps ◦ +9±2.5dBm @ 1Nss 20MHz 65Mbps, 2Nss 20MHz 130Mbps, 1Nss 40MHz 135Mbps, 2Nss 40MHz 270Mbps 		

Specifications:			
EVM	Modulation	Code Rate	Relative constellation error (dB)
	BPSK	1/2	-5
	BPSK	3/4	-8
	QPSK	1/2	-10
	QPSK	3/4	-13
	16-QAM	1/2	-16
	16-QAM	3/4	-19
	64-QAM	2/3	-22
	64-QAM	3/4	-25
	64-QAM	5/6	-28
Receiver Sensitivity	802.11b		
	Modulation	Relative constellation error (dB)	
	BPSK	-82	
	DQPSK	-80	
	CCK	-76	
	802.11g		
	Modulation	Code Rate	Relative constellation error (dB)
	BPSK	1/2	-82
	BPSK	3/4	-81
	QPSK	1/2	-79
	QPSK	3/4	-77
	16-QAM	1/2	-74
	16-QAM	3/4	-70
	64-QAM	2/3	-66
	64-QAM	3/4	-65
	802.11n		
	Modulation	Code Rate	Relative constellation error (dB)
	BPSK	1/2	-80
	BPSK	3/4	-79
	QPSK	1/2	-77
	QPSK	3/4	-75
16-QAM	1/2	-72	
16-QAM	3/4	-68	
64-QAM	2/3	-64	
64-QAM	3/4	-63	
64-QAM	5/6	-62	
Operation Distance	Outdoor		Indoor
	802.11b	<ul style="list-style-type: none"> ▪ 150m @ 11Mbps ▪ 300m @ 1Mbps 	<ul style="list-style-type: none"> ▪ 30m @ 11Mbps ▪ 100m @ 1Mbps
	802.11g	<ul style="list-style-type: none"> ▪ 50m @ 54Mbps ▪ 300m @ 6Mbps 	<ul style="list-style-type: none"> ▪ 30m @ 54Mbps ▪ 100m @ 6Mbps
	802.11n	<ul style="list-style-type: none"> ▪ 100m @ 300Mbps ▪ 300m @ 6.5Mbps 	<ul style="list-style-type: none"> ▪ 30m @ 300Mbps ▪ 100m @ 6.5Mbps
MAC Protocol	CSMA/CA with ACK architecture 32-bit MAC		
Security	<ul style="list-style-type: none"> ▪ 64-bit, 128-bit and 152-bit WEP encryption ▪ 802.1x authentication ▪ AES-CCM & TKIP 		
Operation Systems Supported	Windows XP/Vista/7		
Wi-Fi Compliance	Wi-Fi 2.4GHz by request		
WHQL	Microsoft® 2000, XP, and Vista		

Specifications:	
Dimension	112 x 48 x 0.79mm
Operation Temperature Range	0°C ~ +60°C
Storage Temperature Range	-20°C ~ +80°C
Operating Humidity	15% ~ 95%, non-condensing
Storage Humidity	max. 95%, non-condensing
EMC Certificate	FCC part 15C, IC RSS210, CE ETSI EN301893 EN60950, Telec, VCCI Class B
Environment-Friendly Compliance	RoHS

Ordering Information:	
DNBA-82	802.11n b/g Cardbus(2T3R), CB71/AR5416+AR2133



Unex Technology Corp.
- Durable Bridge to Wireless

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