

Technical Specifications											
<b>Chipset</b>	AR9280										
<b>Host Interface</b>	PCI-Express 1.1 Standard										
<b>Operating Voltage</b>	3.3 VDC										
<b>Power Consumption [2T2R]</b>	11b Cont. Tx @5.5M	2.3W									
	11g Cont. Tx @6M	2.7W									
	11a Cont. Tx @6M	2.5W									
	11ng Cont. Tx@HT20 MCS0	2.7W									
	11ng Cont. Tx@HT40 MCS0	2.5W									
	11na Cont. Tx@HT20 MCS0	2.7W									
	11na Cont. Tx@HT40 MCS0	2.5W									
	11g Cont. Rx	1.3W									
	11a Cont. Rx	1.3W									
	Standby	1W									
<b>Antenna Connector</b>	2 x U.FL Antenna Connector										
<b>Data Rate</b>	IEEE 802.11a :	54Mbps	48Mbps	36Mbps	24Mbps	18Mbps	12Mbps	9Mbps	6Mbps		
	IEEE 802.11b :	11Mbps	5.5Mbps	2Mbps	1Mbps						
	IEEE 802.11g :	54Mbps	48Mbps	36Mbps	24Mbps	18Mbps	12Mbps	9Mbps	6Mbps	automatically	
		Fallback to 5.5Mbps, 2Mbps, 1Mbps									
	IEEE 802.11n :	20MHz	1Nss: 65Mbps @ 800GI, 72.2Mbps @ 400GI (Max.) 2Nss: 130Mbps @ 800GI, 144.4Mbps @ 400GI (Max.)								
	40MHz	1Nss: 135Mbps @ 800GI, 150Mbps @ 400GI (Max.) 2Nss: 270Mbps @ 800GI, 300Mbps @ 400GI (Max.)									
<b>Frequency Range</b>	IEEE802.11b/g/n:	2.412GHz ~ 2.462GHz (US & Canada)									
		2.412GHz ~ 2.472GHz (Europe)									
		2.412GHz ~ 2.484GHz (Japan)									
	IEEE 802.11a/n:	5.150 ~ 5.350 GHz, 5.470 ~ 5.725GHz, 5.725 ~ 5.850 GHz (US & Canada) 5.150 ~ 5.350 GHz, 5.470 ~ 5.725GHz, 5.725 ~ 5.875 GHz (Europe) 5.150 ~ 5.250 GHz, 5.250 ~ 5.350GHz, 5.470 ~ 5.725GHz(Japan)									
<b>Modulation Techniques</b>	OFDM: BPSK, QPSK, 16-QAM, 64-QAM DSSS: DBPSK, DQPSK, CCK										
<b>Radio &amp; EMC Certification</b>	CE, FCC										
<b>RoHS Compliance</b>	Yes										
<b>Temperature Range</b>	Operating: -20°C to 70°C Storage: -40°C to 90°C										
<b>Humidity</b>	Operating: 5% to 95% (non-condensing) Storage: Max.90% (non-condensing)										
<b>Dimensions</b>	50.95mm x 30 mm x 3.2 mm (H x W x D)										

**WLE200NX PCIe Mini CARD RADIO**

**TX SPECIFICATIONS**

802.11b	DataRate	2.437GHz (per chain)	2.437GHz (2 chains)	Tolerance	802.11g	DataRate	2.437GHz (per chain)	2.437GHz (2 chains)	Tolerance
	1Mbps	18dBm	21dBm	+1.5/-2.0 dB		6-24Mbps	17dBm	20dBm	+1.5/-2.0 dB
	5.5Mbps	18dBm	21dBm	+1.5/-2.0 dB		36Mbps	17dBm	20dBm	+1.5/-2.0 dB
	11Mbps	18dBm	21dBm	+1.5/-2.0 dB		48Mbps	16dBm	19dBm	+1.5/-2.0 dB
				54Mbps	15dBm	18dBm	+1.5/-2.0 dB		

2.4GHz 11n HT20	DataRate	2.437GHz (per chain)	2.437GHz (2 chains)	Tolerance	2.4GHz 11n HT40	DataRate	2.437GHz (per chain)	2.437GHz (2 chains)	Tolerance
	MCS 0/8	17dBm	20dBm	+1.5/-2.0 dB		MCS 0/8	17dBm	20dBm	+1.5/-2.0 dB
	MCS 1/9	17dBm	20dBm	+1.5/-2.0 dB		MCS 1/9	17dBm	20dBm	+1.5/-2.0 dB
	MCS 2/10	17dBm	20dBm	+1.5/-2.0 dB		MCS 2/10	17dBm	20dBm	+1.5/-2.0 dB
	MCS 3/11	17dBm	20dBm	+1.5/-2.0 dB		MCS 3/11	17dBm	20dBm	+1.5/-2.0 dB
	MCS 4/14	17dBm	20dBm	+1.5/-2.0 dB		MCS 4/14	17dBm	20dBm	+1.5/-2.0 dB
	MCS 5/13	17dBm	20dBm	+1.5/-2.0 dB		MCS 5/13	17dBm	20dBm	+1.5/-2.0 dB
	MCS 6/14	14dBm	17dBm	+1.5/-2.0 dB		MCS 6/14	14dBm	17dBm	+1.5/-2.0 dB
	MCS 7/15	10dBm	13dBm	+1.5/-2.0 dB		MCS 7/15	9dBm	12dBm	+1.5/-2.0 dB

802.11a	DataRate	5.500GHz (per chain)	5.500GHz (2 chains)	Tolerance
	6-24Mbps	17dBm	20dBm	+1.5/-2.0 dB
	36Mbps	15dBm	18dBm	+1.5/-2.0 dB
	48Mbps	13dBm	16dBm	+1.5/-2.0 dB
	54Mbps	12dBm	15dBm	+1.5/-2.0 dB

5GHz 11n HT20	DataRate	5.500GHz (per chain)	5.500GHz (2 chains)	Tolerance	5GHz 11n HT40	DataRate	5.500GHz (per chain)	5.500GHz (2 chains)	Tolerance
	MCS 0/8	17dBm	20dBm	+1.5/-2.0 dB		MCS 0/8	17dBm	20dBm	+1.5/-2.0 dB
	MCS 1/9	17dBm	20dBm	+1.5/-2.0 dB		MCS 1/9	17dBm	20dBm	+1.5/-2.0 dB
	MCS 2/10	17dBm	20dBm	+1.5/-2.0 dB		MCS 2/10	17dBm	20dBm	+1.5/-2.0 dB
	MCS 3/11	17dBm	20dBm	+1.5/-2.0 dB		MCS 3/11	17dBm	20dBm	+1.5/-2.0 dB
	MCS 4/14	17dBm	20dBm	+1.5/-2.0 dB		MCS 4/14	17dBm	20dBm	+1.5/-2.0 dB
	MCS 5/13	16dBm	19dBm	+1.5/-2.0 dB		MCS 5/13	16dBm	19dBm	+1.5/-2.0 dB
	MCS 6/14	12dBm	15dBm	+1.5/-2.0 dB		MCS 6/14	12dBm	15dBm	+1.5/-2.0 dB
	MCS 7/15	8dBm	11dBm	+1.5/-2.0 dB		MCS 7/15	8dBm	11dBm	+1.5/-2.0 dB

**RX SPECIFICATIONS**

802.11b	DataRate	Sensitivity (2 chains)	Tolerance
	1M	-93dBm	±2dB
	5.5M	-93dBm	±2dB
	11M	-91dBm	±2dB

802.11a	DataRate	Sensitivity (2 chains)	Tolerance	802.11g	DataRate	Sensitivity (2 chains)	Tolerance
	6M	-94dBm	±2dB		6M	-94dBm	±2dB
	9M	-94dBm	±2dB		9M	-94dBm	±2dB
	12M	-93dBm	±2dB		12M	-93dBm	±2dB
	18M	-90dBm	±2dB		18M	-90dBm	±2dB
	24M	-86dBm	±2dB		24M	-86dBm	±2dB
	36M	-83dBm	±2dB		36M	-83dBm	±2dB
	48M	-79dBm	±2dB		48M	-80dBm	±2dB
54M	-75dBm	±2dB	54M	-78dBm	±2dB		

5GHz 11n HT20	MCS	Sensitivity	Tolerance	2.4GHz 11n HT20	MCS	Sensitivity	Tolerance
	MCS0	-93dBm	±2dB		MCS0	-93dBm	±2dB
	MCS1	-91dBm	±2dB		MCS1	-92dBm	±2dB
	MCS2	-87dBm	±2dB		MCS2	-90dBm	±2dB
	MCS3	-85dBm	±2dB		MCS3	-86dBm	±2dB
	MCS4	-82dBm	±2dB		MCS4	-83dBm	±2dB
	MCS5	-77dBm	±2dB		MCS5	-78dBm	±2dB
	MCS6	-75dBm	±2dB		MCS6	-76dBm	±2dB
MCS7	-72dBm	±2dB	MCS7	-73dBm	±2dB		

5GHz 11n HT40	MCS	Sensitivity	Tolerance	2.4GHz 11n HT40	MCS	Sensitivity	Tolerance
	MCS0	-90dBm	±2dB		MCS0	-90dBm	±2dB
	MCS1	-88dBm	±2dB		MCS1	-89dBm	±2dB
	MCS2	-85dBm	±2dB		MCS2	-86dBm	±2dB
	MCS3	-82dBm	±2dB		MCS3	-82dBm	±2dB
	MCS4	-79dBm	±2dB		MCS4	-80dBm	±2dB
	MCS5	-76dBm	±2dB		MCS5	-76dBm	±2dB
	MCS6	-72dBm	±2dB		MCS6	-73dBm	±2dB
MCS7	-70dBm	±2dB	MCS7	-71dBm	±2dB		

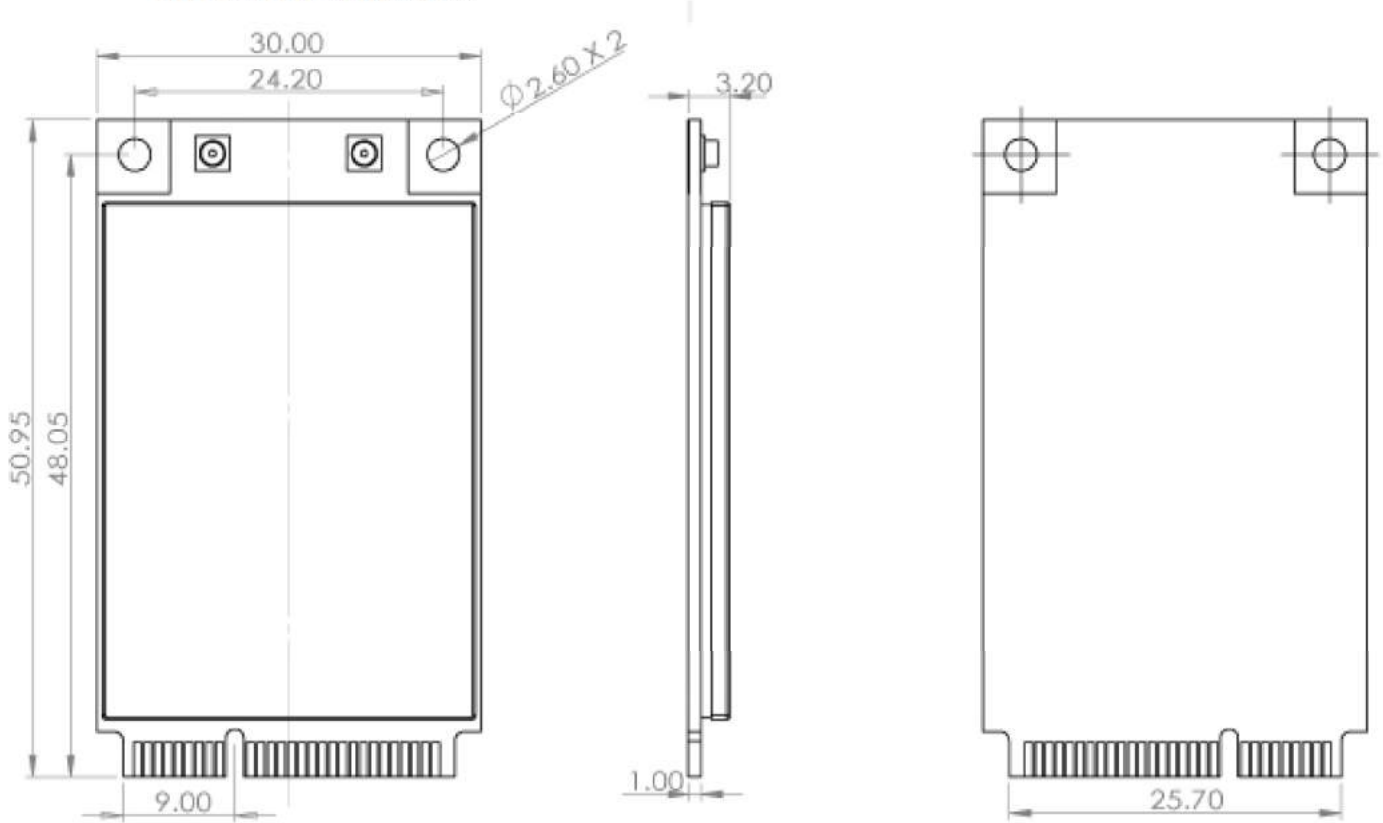
### Ordering Information <sup>①</sup>

Model Code	Form Factor	CARD INFORMATION
WLE200NX 7A0000	Full Size	802.11 a/b/g/n PCIe mini card
WLE200NX 7A0000-4.9	Full Size	802.11 a/b/g/n PCIe mini card

① Depends on Order Configuration

② Configurations are subject to change without notice,  
Please contact Compex sales representatives for other available configurations

### DIMENSIONS DRAWING



WLM SERIES MINIPCI



WLM54 series miniPCI (legacy a/b/g card)									
MODEL	WLM 54G-20dBm	WLM 54G-23dBm	WLM 54G-23 ESD	WLM 54G-26dBm	WLM54G-30 ESD	WLM 54AG - 20dBm	WLM 54AG - 23dBm	WLM 54A - 26 ESD	
CHIPSET	AR 2413/2414 (AR5005G/GS)	AR 2413/2414 (AR5005G/GS)	AR 2413/2414 (AR5005G/GS)	AR 2413/2414 (AR5005G/GS)	AR 2413/2414 (AR5005G/GS)	AR 5413/5414 (AR5006X/XS)	AR 5413/5414 (AR5006X/XS)	AR5414 (AR5006X/XS)	
SPEED	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 108Mbps	
OUTPUT POWER						20dBm@6-24Mbps	23dBm@6-24Mbps	26dBm@6-24Mbps	
802.11a						17dBm@36Mbps	21dBm@36Mbps	24dBm@36Mbps	
						16dBm@48Mbps	19dBm@48Mbps	22dBm@48Mbps	
						13dBm@54Mbps	17dBm@54Mbps	20dBm@54Mbps	
802.11b	20dBm@1-11Mbps	23dBm@1-11Mbps	23dBm@1-11Mbps	26dBm@1-11Mbps	30dBm@1-11Mbps	20dBm@1-11Mbps	23dBm@1-11Mbps	-	
	20dBm@6-24Mbps	23dBm@6-24Mbps	23dBm@6-24Mbps	26dBm@6-24Mbps	30dBm@6-24Mbps	20dBm@6-24Mbps	23dBm@6-24Mbps	-	
	19dBm@36Mbps	22dBm@36Mbps	22dBm@36Mbps	25dBm@36Mbps	28dBm@36Mbps	18dBm@36Mbps	21dBm@36Mbps	-	
	17dBm@48Mbps	19dBm@48Mbps	19dBm@48Mbps	24dBm@48Mbps	27dBm@48Mbps	17dBm@48Mbps	19dBm@48Mbps	-	
	16dBm@54Mbps	17dBm@54Mbps	17dBm@54Mbps	23dBm@54Mbps	25dBm@54Mbps	15dBm@54Mbps	17dBm@54Mbps	-	
Receiver Sensitivity						-93dBm @ 6Mbps	-93dBm @ 6Mbps	-96dBm @ 6Mbps	
802.11a						-72dBm @ 54Mbps	-72dBm @ 54Mbps	-76dBm @ 54Mbps	
802.11b	-96dBm @ 6Mbps	-96dBm @ 6Mbps	-93dBm @ 6Mbps	-93dBm @ 6Mbps	-96dBm @ 6Mbps	-96dBm @ 6Mbps	-96dBm @ 6Mbps	-96dBm @ 6Mbps	
	-90dBm @ 11Mbps	-90dBm @ 11Mbps	-90dBm @ 11Mbps	-90dBm @ 11Mbps	-90dBm @ 11Mbps	-90dBm @ 11Mbps	-90dBm @ 11Mbps	-90dBm @ 11Mbps	
	-93dBm @ 6Mbps	-93dBm @ 6Mbps	-93dBm @ 6Mbps	-93dBm @ 6Mbps	-93dBm @ 6Mbps	-93dBm @ 6Mbps	-93dBm @ 6Mbps	-93dBm @ 6Mbps	
802.11g	-74dBm @ 54Mbps	-74dBm @ 54Mbps	<-72dBm @ 54Mbps	<-72dBm @ 54Mbps	-74dBm @ 54Mbps	-96dBm @ 6Mbps	-96dBm @ 6Mbps	-96dBm @ 6Mbps	
Operating Channels	IEEE 802.11g: 11 Channel (US & Canada) 13 Channel (Europe) 14 Channel (Japan)					IEEE 802.11a: 13 Channel (US & Canada) 19 Channel (Europe) 10 Channel (Japan)			
Interface	PCI Interface v2.3 (Type III-B Mini PCI Form Factor)							32-bit mini-PCI Type IIIA+ (1.85mm longer than IIIA type)	
Input Power	3.3V DC								
Operating Temperature	-20°C to 70°C								

WLM200 series miniPCI (11n MIMO 2*2 card)						
MODEL	WLM200N2	WLM200N2-26dBm	WLM200NX	WLM200N5-23 ESD	WLM200N5-26 ESD	
CHIPSET	AR9223	AR9223	AR9220	AR9220	AR9220	
SPEED	UP TO 300Mbps physical data rates	UP TO 300Mbps physical data rates	UP TO 300Mbps physical data rates	UP TO 300Mbps physical data rates	UP TO 300Mbps physical data rates	
OUTPUT POWER						
802.11a			19dBm@6-24Mbps	23dBm@6-24Mbps	26dBm@6-24Mbps	
			18dBm@36Mbps	22dBm@36Mbps	25dBm@36Mbps	
			17dBm@48Mbps	21dBm@48Mbps	24dBm@48Mbps	
			16dBm@54Mbps	20dBm@54Mbps	23dBm@54Mbps	
5G HT20			18dBm @MCS0	23dBm @MCS0	25dBm @MCS0	
			17dBm @MCS7	21dBm @MCS7	24dBm @MCS7	
5G HT40			16.5dBm @MCS0	21dBm @MCS0	24dBm @MCS0	
			14dBm @MCS7	17dBm @MCS7	17dBm @MCS7	
802.11b	20dBm@1-11Mbps	26dBm@1-11Mbps	20dBm@1-11Mbps	20dBm@6-24Mbps	20dBm@6-24Mbps	
	20dBm@6-24Mbps	26dBm@6-24Mbps	20dBm@6-24Mbps	19.5dBm@36Mbps	19.5dBm@36Mbps	
	20dBm@36Mbps	26dBm@36Mbps	19.5dBm@36Mbps	18.5dBm@48Mbps	18.5dBm@48Mbps	
	16dBm@48Mbps	21dBm@48Mbps	18.5dBm@48Mbps	17dBm@54Mbps	17dBm@54Mbps	
	15dBm@54Mbps	21dBm@54Mbps	17dBm@54Mbps	18dBm @MCS0	18dBm @MCS0	
2.4G HT20	17dBm @MCS0	23dBm @MCS0	18dBm @MCS0	18dBm @MCS0	18dBm @MCS0	
	14dBm @MCS7	20dBm @MCS7	15dBm @MCS7	15dBm @MCS7	15dBm @MCS7	
2.4G HT40	16dBm @MCS0	22dBm @MCS0	18dBm @MCS0	18dBm @MCS0	18dBm @MCS0	
	14dBm @MCS7	20dBm @MCS7	14.5dBm @MCS7	14.5dBm @MCS7	14.5dBm @MCS7	
Receiver Sensitivity						
802.11a			-94dBm@6M	-97dBm@6M	-96dBm@6M	
			-77dBm@54M	-80dBm@54M	-79dBm@54M	
5G HT20			-93dBm@MCS0	-97dBm@MCS0	-95dBm@MCS0	
			-74dBm@MCS7	-77dBm@MCS7	-75dBm@MCS7	
5G HT40			-90dBm@MCS0	-92dBm@MCS0	-92dBm@MCS0	
			-73dBm@MCS7	-74dBm@MCS7	-74dBm@MCS7	
802.11b	-94dBm@11M	-94dBm@11M	-94dBm@11M	-94dBm@11M	-94dBm@11M	
	-92dBm@11M	-92dBm@11M	-92dBm@11M	-92dBm@11M	-92dBm@11M	
802.11g	-94dBm@6M	-94dBm@6M	-94dBm@6M	-94dBm@6M	-94dBm@6M	
	-78dBm@54M	-74dBm@54M	-78dBm@54M	-78dBm@54M	-78dBm@54M	
2.4G HT20	-93dBm@MCS0	-92dBm@MCS0	-93dBm@MCS0	-93dBm@MCS0	-93dBm@MCS0	
	-76dBm@MCS7	-73dBm@MCS7	-74dBm@MCS7	-74dBm@MCS7	-74dBm@MCS7	
2.4G HT40	-90dBm@MCS0	-90dBm@MCS0	-90dBm@MCS0	-90dBm@MCS0	-90dBm@MCS0	
	-73dBm@MCS7	-71dBm@MCS7	-72dBm@MCS7	-72dBm@MCS7	-72dBm@MCS7	
Operating Channels	IEEE 802.11g: 11 Channel (US & Canada) 13 Channel (Europe) 14 Channel (Japan)			IEEE 802.11a: 13 Channel (US & Canada) 19 Channel (Europe) 10 Channel (Japan)		
Interface	PCI Interface v2.3 (Type II-A Mini PCI form factor)				32-bit mini-PCI Type IIIA+ (6.55mm longer than IIIA type)	
Input Power	3.3V DC					
Operating Temperature	-20°C to 70°C					

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