

### Features

- Qualcomm Atheros QCN6274;
- Qualcomm Atheros QCN9274 for Industrial Grade;
- Maxim Tx power 20dBm per chain;
- 2x2 2.4GHz MU-MIMO, up to 1376Mbps physical data rate;
- 2x 2 5G MU-MIMO, up to 5765Mbps physical data rate;
- Support up to 4096-QAM;
- M.2 connector;
- PCI Express 3.0 Interface;



### Applications

- Security Surveillance
- Commercial radio coverage
- Hotel Wireless application
- Country coverage
- Forest fire protection engineering
- Some special scene application

### Product Description

DR9274-DB based on QCN9274 or QCN6274 Chipset is an enterprise wireless module integrated with 2x2 MU-MIMO Dual Band Wireless Module designed specifically to provide users with mobile access to high-bandwidth video streaming, voice, and data transmission for office and challenging RF environment in factories, warehouses establishment.

### Absolute Maximum Rating

Parameter	Rating	Unit
Operating Temperature Range	-20 ~ 70	°C
Storage Temperature Range	-40 ~ 85	°C
Operating Humidity Range	5 ~ 95 (non-condensing)	%
Storage Humidity Range	0 ~ 90 (non-condensing)	%

### Hardware Specifications

Symbol	Parameter
Chipset	Qualcomm Atheros QCN9274(QCN6274)
WLAN Host Interface	PCI Express 3.0 Interface
System Memory	2Mbit serial I <sup>2</sup> C bus EEPROM
Standard Operating Voltage	5V
Operating Systems	QSDK
Host Interface	M.2 E Key interface with PCIe 3.0
Antenna Cable / Port	4 x M M C X Connectors
Frequency Range	2.4GHz: 2.412~2.472GHz 5GHz: 5.15~5.825GHz
Data Rates for WALN	2.4GHz 802.11b/g/n/ax/be, max 24dBm per chain 5GHz 802.11a/n/ax/be, max 21dBm per chain
Channel Spectrum Widths for WLAN	Supports 20/40MHz at 2.4GHz Supports 20/40/80/160MHz at 5GHz
Modulation Techniques	OFDMA: BPSK, QPSK, DBPSK, DQPSK, 16-QAM, 64-QAM, 256-QAM, 1024QAM, 4096QAM
Temperature Range	Operating: -20 °C to 70 °C, Storage: -40 °C to 85 °C
Humidity	Operating: 5% to 95%, Storage: Max. 90%
Certification	REACH & RoHS Compliance
Power Consumption	10W (Maximum) , 8W(Normally)
Dimensions (WxHxD)	30mm x 50mm x 14.5mm

**RF Performance Table at 2.4GHz**

Operating Mode	Data Rate	Power		RX Specificatioos Sensitivity	Tolerance
		Per Chain	2 Chain		
2.4GHz 802.11b	1Mbps	24dBm	27dBm	TBD	±2dB
	2Mbps	24dBm	27dBm	TBD	±2dB
	5.5Mbps	22dBm	25dBm	TBD	±2dB
	11Mbps	22dBm	25dBm	TBD	±2dB
2.4GHz 802.11g	6Mbps	24dBm	27dbm	TBD	±2dB
	9Mbps	24dBm	27dBm	TBD	±2dB
	12Mbps	24dBm	27dBm	TBD	±2dB
	18Mbps	24dBm	27dBm	TBD	±2dB
	24Mbps	22dBm	25dBm	TBD	±2dB
	36Mbps	22dBm	25dBm	TBD	±2dB
	48Mbps	21dBm	24dBm	TBD	±2dB
	54Mbps	21dBm	24dBm	TBD	±2dB
2.4GHz 802.11n HT20	MCS0	24dBm	27dbm	TBD	±2dB
	MCS1	24dBm	27dBm	TBD	±2dB
	MCS2	24dBm	27dBm	TBD	±2dB
	MCS3	24dBm	27dBm	TBD	±2dB
	MCS4	22dBm	25dBm	TBD	±2dB
	MCS5	22dBm	25dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB
	MCS7	21dBm	24dBm	TBD	±2dB
2.4GHz 802.11n HT40	MCS0	24dBm	27dbm	TBD	±2dB
	MCS1	24dBm	27dBm	TBD	±2dB
	MCS2	24dBm	27dBm	TBD	±2dB
	MCS3	24dBm	27dBm	TBD	±2dB



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	MCS4	22dBm	25dBm	TBD	±2dB
	MCS5	22dBm	25dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB
	MCS7	21dBm	24dBm	TBD	±2dB
2.4GHz 802.11ax HE20	MCS0	24dBm	27dBm	TBD	±2dB
	MCS1	24dBm	27dBm	TBD	±2dB
	MCS2	24dBm	27dBm	TBD	±2dB
	MCS3	24dBm	27dBm	TBD	±2dB
	MCS4	22dBm	25dBm	TBD	±2dB
	MCS5	22dBm	25dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB
	MCS7	21dBm	24dBm	TBD	±2dB
	MCS8	20dBm	23dBm	TBD	±2dB
	MCS9	20dBm	23dBm	TBD	±2dB
	MCS10	19dBm	22dBm	TBD	±2dB
MCS11	19dBm	22dBm	TBD	±2dB	

**RF Performance Table at 2.4GHz**

Operating Mode	Data Rate	Power		RX Specificatios Sensitivity	Tolerance
		Per Chain	2 Chain		
2.4GHz 802.11ax HE40	MCS0	24dBm	27dBm	TBD	±2dB
	MCS1	24dBm	27dBm	TBD	±2dB
	MCS2	24dBm	27dBm	TBD	±2dB
	MCS3	24dBm	27dBm	TBD	±2dB
	MCS4	22dBm	25dBm	TBD	±2dB
	MCS5	22dBm	25dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB
	MCS7	21dBm	24dBm	TBD	±2dB
	MCS8	20dBm	23dBm	TBD	±2dB
	MCS9	20dBm	23dBm	TBD	±2dB
	MCS10	19dBm	22dBm	TBD	±2dB
	MCS11	19dBm	22dBm	TBD	±2dB
2.4GHz 802.11be EHT20	MCS0	24dBm	27dBm	-96.5dBm	±2dB
	MCS1	24dBm	27dBm	-95dBm	±2dB
	MCS2	24dBm	27dBm	-93dBm	±2dB
	MCS3	24dBm	27dBm	-90.5dBm	±2dB
	MCS4	22dBm	25dBm	-87dBm	±2dB
	MCS5	22dBm	25dBm	-83dBm	±2dB
	MCS6	21dBm	24dBm	-81dBm	±2dB
	MCS7	21dBm	24dBm	-79dBm	±2dB
	MCS8	20dBm	23dBm	-76dBm	±2dB
	MCS9	20dBm	23dBm	-73dBm	±2dB
	MCS10	19dBm	22dBm	-70dBm	±2dB
	MCS11	19dBm	22dBm	-68dBm	±2dB



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	MCS12	18dBm	21dBm	-64dBm	±2dB
	MCS13	18dBm	21dBm	-61dBm	±2dB
2.4GHz 802.11be EHT40	MCS0	24dBm	27dBm	-95dBm	±2dB
	MCS1	24dBm	27dBm	-93dBm	±2dB
	MCS2	24dBm	27dBm	-90dBm	±2dB
	MCS3	24dBm	27dBm	-88dBm	±2dB
	MCS4	22dBm	25dBm	-85dBm	±2dB
	MCS5	22dBm	25dBm	-81dBm	±2dB
	MCS6	21dBm	24dBm	-79dBm	±2dB
	MCS7	21dBm	24dBm	-77dBm	±2dB
	MCS8	20dBm	23dBm	-73dBm	±2dB
	MCS9	20dBm	23dBm	-71dBm	±2dB
	MCS10	19dBm	22dBm	-67dBm	±2dB
	MCS11	19dBm	22dBm	-65dBm	±2dB
	MCS12	18dBm	21dBm	-61dBm	±2dB
MCS13	18dBm	21dBm	-58dBm	±2dB	

**RF Performance Table at 5GHz**

Operating Mode	Data Rate	Power		RX Specificatioos Sensitivity	Tolerance
		Per Chain	2 Chain		
5GHz 802.11a	6Mbps	21dBm	24dBm	TBD	±2dB
	9Mbps	21dBm	24dBm	TBD	±2dB
	12Mbps	21dBm	24dBm	TBD	±2dB
	18Mbps	21dBm	24dBm	TBD	±2dB
	24Mbps	21dBm	24dBm	TBD	±2dB
	36Mbps	21dBm	24dBm	TBD	±2dB
	48Mbps	21dBm	24dBm	TBD	±2dB
	54Mbps	21dBm	24dBm	TBD	±2dB
5GHz 802.11n HT20	MCS0	21dBm	24dBm	TBD	±2dB
	MCS1	21dBm	24dBm	TBD	±2dB
	MCS2	21dBm	24dBm	TBD	±2dB
	MCS3	21dBm	24dBm	TBD	±2dB
	MCS4	21dBm	24dBm	TBD	±2dB
	MCS5	21dBm	24dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB
	MCS7	21dBm	24dBm	TBD	±2dB
	MCS8	21dBm	24dBm	TBD	±2dB
5GHz 802.11n HT40	MCS0	21dBm	24dBm	TBD	±2dB
	MCS1	21dBm	24dBm	TBD	±2dB
	MCS2	21dBm	24dBm	TBD	±2dB
	MCS3	21dBm	24dBm	TBD	±2dB
	MCS4	21dBm	24dBm	TBD	±2dB
	MCS5	21dBm	24dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB

	MCS7	21dBm	24dBm	TBD	±2dB
	MCS8	21dBm	24dBm	TBD	±2dB
	MCS9	21dBm	24dBm	TBD	±2dB
5GHz 802.11n VHT20	MCS0	21dBm	24dBm	TBD	±2dB
	MCS1	21dBm	24dBm	TBD	±2dB
	MCS2	21dBm	24dBm	TBD	±2dB
	MCS3	21dBm	24dBm	TBD	±2dB
	MCS4	21dBm	24dBm	TBD	±2dB
	MCS5	21dBm	24dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB
	MCS7	21dBm	24dBm	TBD	±2dB
	MCS8	18dBm	21dBm	TBD	±2dB
	MCS9	18dBm	21dBm	TBD	±2dB
5GHz 802.11n VHT40	MCS0	21dBm	24dBm	TBD	±2dB
	MCS1	21dBm	24dBm	TBD	±2dB
	MCS2	21dBm	24dBm	TBD	±2dB
	MCS3	21dBm	24dBm	TBD	±2dB
	MCS4	21dBm	24dBm	TBD	±2dB
	MCS5	21dBm	24dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB
	MCS7	21dBm	24dBm	TBD	±2dB
	MCS8	18dBm	21dBm	TBD	±2dB
	MCS9	18dBm	21dBm	TBD	±2dB



## RF Performance Table at 5GHz

Operating Mode	Data Rate	Power		RX Specificatios Sensitivity	Tolerance
		1 Chain	2 Chain		
5GHz 802.11ac VHT80	MCS0	21dBm	24dBm	TBD	±2dB
	MCS1	21dBm	24dBm	TBD	±2dB
	MCS2	21dBm	24dBm	TBD	±2dB
	MCS3	21dBm	24dBm	TBD	±2dB
	MCS4	21dBm	24dBm	TBD	±2dB
	MCS5	21dBm	24dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB
	MCS7	21dBm	24dBm	TBD	±2dB
	MCS8	18dBm	21dBm	TBD	±2dB
	MCS9	18dBm	21dBm	TBD	±2dB
5GHz 802.11ax HE20	MCS0	21dBm	24dBm	TBD	±2dB
	MCS1	21dBm	24dBm	TBD	±2dB
	MCS2	21dBm	24dBm	TBD	±2dB
	MCS3	21dBm	24dBm	TBD	±2dB
	MCS4	21dBm	24dBm	TBD	±2dB
	MCS5	21dBm	24dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB
	MCS7	21dBm	24dBm	TBD	±2dB
	MCS8	18dBm	21dBm	TBD	±2dB
	MCS9	18dBm	21dBm	TBD	±2dB
	MCS10	15dBm	18dBm	TBD	±2dB
	MCS11	15dBm	18dBm	TBD	±2dB
	MCS0	21dBm	24dBm	TBD	±2dB
	MCS1	21dBm	24dBm	TBD	±2dB

5GHz 802.11ax HE40	MCS2	21dBm	24dBm	TBD	±2dB
	MCS3	21dBm	24dBm	TBD	±2dB
	MCS4	21dBm	24dBm	TBD	±2dB
	MCS5	21dBm	24dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB
	MCS7	21dBm	24dBm	TBD	±2dB
	MCS8	18dBm	21dBm	TBD	±2dB
	MCS9	18dBm	21dBm	TBD	±2dB
	MCS10	15dBm	18dBm	TBD	±2dB
	MCS11	15dBm	18dBm	TBD	±2dB
5GHz 802.11ax HE80	MCS0	21dBm	24dBm	TBD	±2dB
	MCS1	21dBm	24dBm	TBD	±2dB
	MCS2	21dBm	24dBm	TBD	±2dB
	MCS3	21dBm	24dBm	TBD	±2dB
	MCS4	21dBm	24dBm	TBD	±2dB
	MCS5	21dBm	24dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB
	MCS7	21dBm	24dBm	TBD	±2dB
	MCS8	18dBm	21dBm	TBD	±2dB
	MCS9	18dBm	21dBm	TBD	±2dB
	MCS10	15dBm	18dBm	TBD	±2dB
	MCS11	15dBm	18dBm	TBD	±2dB

**RF Performance Table at 5GHz**

Operating Mode	Data Rate	Power		RX Specificatios Sensitivity	Tolerance
		1 Chain	2 Chain		
5GHz 802.11ax HE160	MCS0	21dBm	24dBm	TBD	±2dB
	MCS1	21dBm	24dBm	TBD	±2dB
	MCS2	21dBm	24dBm	TBD	±2dB
	MCS3	21dBm	24dBm	TBD	±2dB
	MCS4	21dBm	24dBm	TBD	±2dB
	MCS5	21dBm	24dBm	TBD	±2dB
	MCS6	21dBm	24dBm	TBD	±2dB
	MCS7	21dBm	24dBm	TBD	±2dB
	MCS8	15dBm	18dBm	TBD	±2dB
	MCS9	14dBm	17dBm	TBD	±2dB
	MCS10	13dBm	16dBm	TBD	±2dB
	MCS11	13dBm	16dBm	TBD	±2dB
5GHz 802.11be EHT20	MCS0	21dBm	24dBm	-96dBm	±2dB
	MCS1	21dBm	24dBm	-94dBm	±2dB
	MCS2	21dBm	24dBm	-92dBm	±2dB
	MCS3	21dBm	24dBm	-88dBm	±2dB
	MCS4	21dBm	24dBm	-85dBm	±2dB
	MCS5	21dBm	24dBm	-81dBm	±2dB
	MCS6	21dBm	24dBm	-79dBm	±2dB
	MCS7	21dBm	24dBm	-77dBm	±2dB
	MCS8	18dBm	21dBm	-73dBm	±2dB
	MCS9	18dBm	21dBm	-71dBm	±2dB
	MCS10	15dBm	18dBm	-68dBm	±2dB
	MCS11	15dBm	18dBm	-65dBm	±2dB



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	MCS12	13dBm	16dBm	-61dBm	±2dB
	MCS13	13dBm	16dBm	-58dBm	±2dB
5GHz 802.11be EHT40	MCS0	21dBm	24dBm	-94dBm	±2dB
	MCS1	21dBm	24dBm	-91.5dBm	±2dB
	MCS2	21dBm	24dBm	-89dBm	±2dB
	MCS3	21dBm	24dBm	-84.5dBm	±2dB
	MCS4	21dBm	24dBm	-82dBm	±2dB
	MCS5	21dBm	24dBm	-78dBm	±2dB
	MCS6	21dBm	24dBm	-76dBm	±2dB
	MCS7	21dBm	24dBm	-75dBm	±2dB
	MCS8	18dBm	21dBm	-71dBm	±2dB
	MCS9	18dBm	21dBm	-68.5dBm	±2dB
	MCS10	15dBm	18dBm	-65dBm	±2dB
	MCS11	15dBm	18dBm	-62dBm	±2dB
	MCS12	13dBm	16dBm	-59dBm	±2dB
MCS13	13dBm	16dBm	-56dBm	±2dB	

**RF Performance Table at 5GHz**

Operating Mode	Data Rate	Power		RX Specificatios Sensitivity	Tolerance
		Per Chain	2 Chains		
5GHz 802.11be EHT80	MCS0	21dBm	24dBm	-90dBm	±2dB
	MCS1	21dBm	24dBm	-88dBm	±2dB
	MCS2	21dBm	24dBm	-85dBm	±2dB
	MCS3	21dBm	24dBm	-82dBm	±2dB
	MCS4	21dBm	24dBm	-79dBm	±2dB
	MCS5	21dBm	24dBm	-75dBm	±2dB
	MCS6	21dBm	24dBm	-73dBm	±2dB
	MCS7	21dBm	24dBm	-72dBm	±2dB
	MCS8	21dBm	24dBm	-68dBm	±2dB
	MCS9	21dBm	24dBm	-65dBm	±2dB
	MCS10	15dBm	18dBm	-61dBm	±2dB
	MCS11	14dBm	18dBm	-59dBm	±2dB
	MCS12	13dBm	16dBm	-56dBm	±2dB
	MCS13	13dBm	16dBm	-52.5dBm	±2dB
5GHz 802.11be EHT160	MCS0	21dBm	24dBm	-88dBm	±2dB
	MCS1	21dBm	24dBm	-85dBm	±2dB
	MCS2	21dBm	24dBm	-83dBm	±2dB
	MCS3	21dBm	24dBm	-80dBm	±2dB
	MCS4	21dBm	24dBm	-77dBm	±2dB
	MCS5	21dBm	24dBm	-72dBm	±2dB
	MCS6	21dBm	24dBm	-70dBm	±2dB
	MCS7	21dBm	24dBm	-68dBm	±2dB
	MCS8	15dBm	18dBm	-64.5dBm	±2dB
	MCS9	14dBm	17dBm	-62.5dBm	±2dB



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	MCS10	13dBm	16dBm	-58.5dBm	±2dB
	MCS11	13dBm	16dBm	-56dBm	±2dB
	MCS12	12dBm	15dBm	-53dBm	±2dB
	MCS13	11dBm	14dBm	50dBm	±2dB

## Product Version

Version	CPU	Chains	Feature
DR9274-DB	QCN6274	4	2.412GHz-2.472GHz & 5.18GHz-5.825GHz
DR9274-DBI	QCN9274	4	2.412GHz-2.472GHz & 5.18GHz-5.825GHz