802.11ac/n/a single band 3x3 PCIe mini card, QCA9880 ac 3x3

Model: DAXA-O1

DAXA-O1 is a 3x3 802.11ac/n/a wifi module in standard PCIe mini card form factor designed to deliver up to 1.3Gbps wireless data rates and target next-generation dual-band, dual-concurrent (DBDC) home and enterprise wireless access points for a variety of high-reliable and bandwidth-intensive video-over-wireless applications.

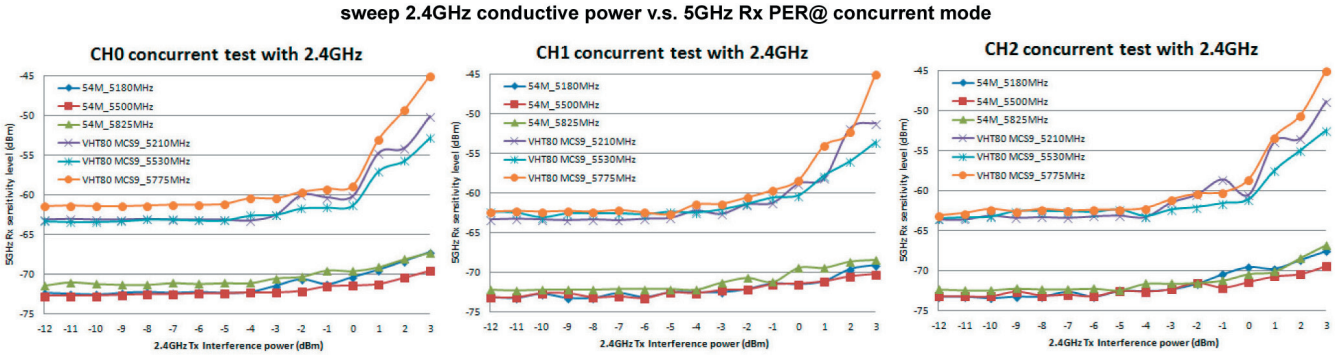
Unique Front End Module design allows co-located 5GHz RF standing up to -3dBm power injection from 2.4GHz to provide non-degraded Rx sensitivity on dual-band, dual-concurrent (DBDC) implementation. A new, highly efficient architecture reduces processing requirements and power consumption, while nearly tripling wireless performance of 802.11n 3x3, to enable broad adoption of home and enterprise wireless networking.

Key Features:

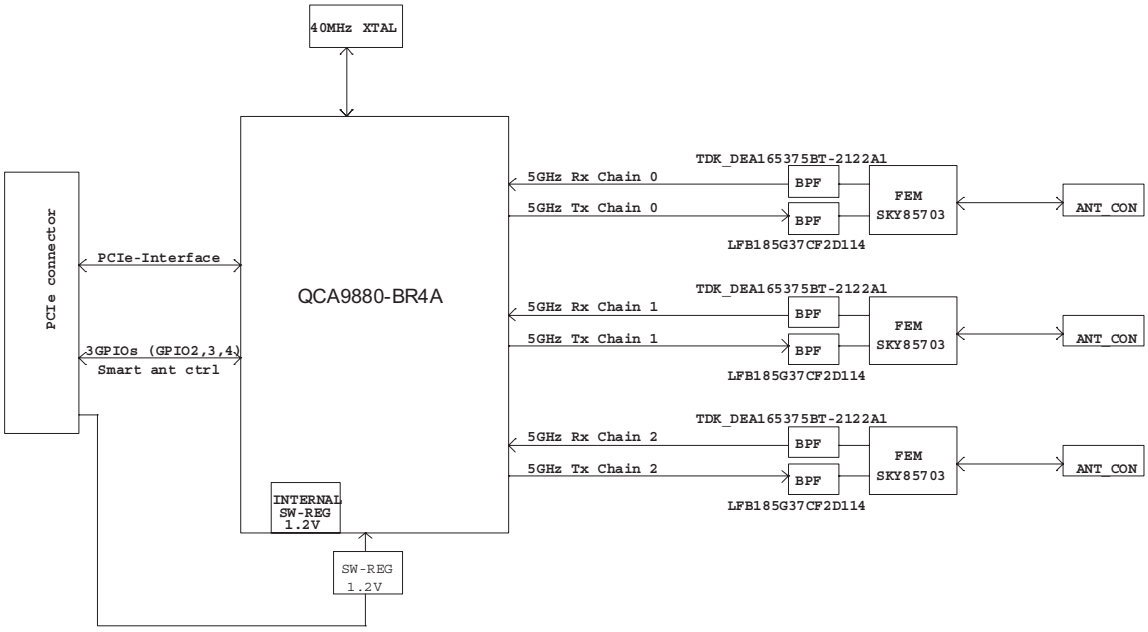
- Unique Front End Module design allows co-located 5GHz RF standing up to -3dBm power injection from 2.4GHz to provide non-degraded Rx sensitivity on dual-band, dual-concurrent (DBDC) implementation.
- Supports 20/40/80MHz channel and 256 QAM to maximize bandwidth efficiency.
- Single band 802.11ac/n/a supports 3Tx/3Rx to enables antenna port data rate up to 1.3Gbps.
- Standard 29.85(W) x 50.80(L) mm PCIe full-size mini card with mounting holes is ideal for embedding into ultra-compact devices or embed additional mini cards with complementary technologies.
- Three U.FL antenna connectors enable design flexibility to utilize different transmit/receive chains to communicate with different users.
- REACH SVHC 73 (2011/12/19) and RoHS compliance ensure a high level protection of human health and the environment from risks that can be posed by chemicals.

Rx Sensitivity Co-existence with 2.4GHz Interference Tx Power:

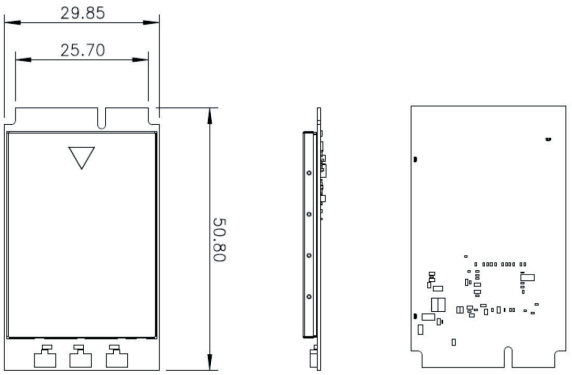
Unique Front End Module design allows co-located 5GHz RF standing up to -3dBm power injection from 2.4GHz to provide non-degraded Rx sensitivity on dual-band, dual-concurrent (DBDC) implementation.



Block Diagram



Outline



Specifications:	
Main Chipset	QCA9880
Tx/Rx	3T3R
Standard Conformance	802.11ac, 802.11na, and 802.11a
Frequency Range	▪ USA: 5.15 – 5.35GHz, 5.47 – 5.725GHz, 5.725 – 5.825GHz ▪ Europe: 5.15 – 5.35GHz, 5.47– 5.725GHz ▪ Japan: 5.15– 5.35GHz, 5.47 – 5.725GHz ▪ China: 5.725 – 5.85GHz
Interface	PCI Express ® mini-card rev. 1.2
Operating Channels	▪ USA/Canada: 12 non-overlapping channels ▪ Major Europe Countries: 19 non-overlapping channels ▪ Japan: 19 non-overlapping channels ▪ China: 5 non-overlapping channels
Operation Voltage	3.3V ± 5%
Power Consumption (typical level, with ± 50mA tolerance)	Avg./Max. (mA) 11a continue Tx @ 6M_18dBm 1120 11na continue Tx @ HT20 MCS16 (MIMO)_18dBm 1070 11na continue Tx @ HT40 MCS16 (MIMO)_18dBm 980 11na continue Tx @ HT20 MCS23 (MIMO)_14dBm 800 11na continue Tx @ HT40 MCS23 (MIMO)_14dBm 740 11ac continue Tx @ VHT40 MCS0_ NSS3_18dBm 1070 11ac continue Tx @ VHT80 MCS0_ NSS3_18dBm 1070 11ac continue Tx @ VHT40 MCS9_ NSS3_14dBm 750 11ac continue Tx @ VHT80 MCS9_ NSS3_14dBm 750 Idle 80 Standby 260

Specifications:					
Average Tx Power (typical power level per chain, with ±2dB tolerance)			**IEEE 802.11 a/ac**		
			CH36 ~ 48	CH52 ~ 64	CH100 ~ 165
	20MHz BW	6Mbps	18	18	18
		9Mbps	18	18	18
		12Mbps	18	18	18
		18Mbps	18	18	18
		24Mbps	18	18	18
		36Mbps	18	18	18
		48Mbps	18	18	18
		54Mbps	16	16	16
		HT20MCS0	18	18	18
		HT20MCS1	18	18	18
		HT20MCS2	18	18	18
		HT20MCS3	18	18	18
		HT20MCS4	18	18	18
		HT20MCS5	18	18	18
		HT20MCS6	18	18	18
		HT20MCS7	16	16	16
		VHT20_MCS8	14	14	14
	40MHz BW	HT40MCS0	18	18	18
		HT40MCS1	18	18	18
		HT40MCS2	18	18	18
		HT40MCS3	18	18	18
		HT40MCS4	18	18	18
		HT40MCS5	18	18	18
		HT40MCS6	18	18	18
		HT40MCS7	16	16	16
		VHT40_MCS8	15	15	15
		VHT40_MCS9	14	14	14
	80MHz BW	VHT80_MCS0	18	18	18
		VHT80_MCS1	18	18	18
		VHT80_MCS2	18	18	18
		VHT80_MCS3	18	18	18
		VHT80_MCS4	18	18	18
		VHT80_MCS5	18	18	18
		VHT80_MCS6	18	18	18
		VHT80_MCS7	16	16	16
		VHT80_MCS8	14	14	15
		VHT80_MCS9	14	14	14

Specifications:					
Receiver Sensitivity (typical 3 chains combined sensitivity level with +4/-2dB tolerance)	**IEEE 802.11 a/ac**				
			CH36 ~ 48	CH52 ~ 64	CH100 ~ 165
	20MHz BW	6Mbps	-95	-95	-95
		9Mbps	-94	-94	-94
		12Mbps	-93	-93	-93
		18Mbps	-90	-90	-90
		24Mbps	-88	-88	-88
		36Mbps	-85	-85	-85
		48Mbps	-78	-78	-78
		54Mbps	-76	-76	-76
		HT20MCS0	-94	-94	-94
		HT20MCS1	-92	-92	-92
		HT20MCS2	-90	-90	-90
		HT20MCS3	-86	-86	-86
		HT20MCS4	-83	-83	-83
		HT20MCS5	-78	-78	-78
		HT20MCS6	-77	-77	-77
		HT20MCS7	-76	-76	-76
		VHT20_MCS8	-72	-72	-72
	40MHz BW	HT40MCS0	-92	-92	-92
		HT40MCS1	-91	-91	-91
		HT40MCS2	-90	-90	-90
		HT40MCS3	-85	-85	-85
		HT40MCS4	-82	-82	-82
		HT40MCS5	-78	-78	-78
		HT40MCS6	-77	-77	-77
		HT40MCS7	-76	-76	-76
		VHT40_MCS8	-71	-71	-71
		VHT40_MCS9	-70	-70	-70
	80MHz BW	VHT80_MCS0	-90	-90	-90
		VHT80_MCS1	-89	-89	-89
		VHT80_MCS2	-87	-87	-87
		VHT80_MCS3	-82	-82	-82
		VHT80_MCS4	-79	-79	-79
		VHT80_MCS5	-75	-75	-75
		VHT80_MCS6	-74	-74	-74
		VHT80_MCS7	-72	-72	-72
		VHT80_MCS8	-68	-68	-68
		VHT80_MCS9	-67	-67	-67
Dimension	29.85(W) x 50.80(L) mm				
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				
Human Health & Environment-Friendly Compliance	REACH and RoHS				

Specifications:	
Antenna Connector	three U.FL ultra-miniature coaxial antenna connectors

Ordering Information:	
DAXA-O1	802.11ac/n/a single band 3x3 PCIe mini card, QCA9880