

SECTION 6

THEORY OF OPERATION

Theory of Operation

Frequency band:	2.401056-2.474496GHz
Over the air data rate:	460.8 kbps
Number of Channels:	86
Channel Spacing:	864 kHz, $TX_{Ch0} = 2.401056$ GHz
Maximum user rate:	Up to 230.4 kbps, software selectable
Network:	Support for 16 remotes in TDMA mode Support for 255 remotes in CSMA mode
Transmitted power:	23 dBm high power mode; 18 dBm medium power mode; 10 dBm low power mode
Rx Sensitivity:	-90 dBm ($BER=10^{-5}$)
Blocking level:	-32dBm (with received signal 3dB higher than rated sensitivity)
ACR:	19dB
2ndACR:	38dB
Supply voltage:	5v

Antenna Description

Dipole 2 dBi or Monopole and lesser gain antennas of the same type.

Yagi 15 dBi and lesser gain antennas of the same type.

Omni 9 dBi and lesser gain antennas of the same type.

Patch 12 dBi

Corner Reflector 14 dBi and lesser gain antennas of the same type.

Dish 24 dBi and lesser gain antennas of the same type.

Mobile Vehicle Whip 5 dB and lesser gain antennas of the same type

Appendix A

Fn	Ch d	h	Ref	Freq	R		
			1.0368E+07	1.2000960E+09	24	2.4001920E+09	
	Tx	0	0	1.2005280E+09	24	2.4010560E+09	CH0(h) Transmit Low
						Freq.	
Rc	1	1		1.2009600E+09	24	2.4019200E+09	CH0(h) Receive LO
	2	2		1.2013920E+09	24	2.4027840E+09	
	3	3		1.2018240E+09	24	2.4036480E+09	
	4	4		1.2022560E+09	24	2.4045120E+09	
	5	5		1.2026880E+09	24	2.4053760E+09	
	6	6		1.2031200E+09	24	2.4062400E+09	
	7	7		1.2035520E+09	24	2.4071040E+09	
	8	8		1.2039840E+09	24	2.4079680E+09	
	9	9		1.2044160E+09	24	2.4088320E+09	
	10	A		1.2048480E+09	24	2.4096960E+09	
	11	B		1.2052800E+09	24	2.4105600E+09	
	12	C		1.2057120E+09	24	2.4114240E+09	
	13	D		1.2061440E+09	24	2.4122880E+09	
	14	E		1.2065760E+09	24	2.4131520E+09	
	15	F		1.2070080E+09	24	2.4140160E+09	
	16	10		1.2074400E+09	24	2.4148800E+09	
	17	11		1.2078720E+09	24	2.4157440E+09	
	18	12		1.2083040E+09	24	2.4166080E+09	
	19	13		1.2087360E+09	24	2.4174720E+09	
	20	14		1.2091680E+09	24	2.4183360E+09	
	21	15		1.2096000E+09	24	2.4192000E+09	
	22	16		1.2100320E+09	24	2.4200640E+09	
	23	17		1.2104640E+09	24	2.4209280E+09	
	24	18		1.2108960E+09	24	2.4217920E+09	
	25	19		1.2113280E+09	24	2.4226560E+09	
	26	1A		1.2117600E+09	24	2.4235200E+09	
	27	1B		1.2121920E+09	24	2.4243840E+09	
	28	1C		1.2126240E+09	24	2.4252480E+09	
	29	1D		1.2130560E+09	24	2.4261120E+09	
	30	1E		1.2134880E+09	24	2.4269760E+09	
	31	1F		1.2139200E+09	24	2.4278400E+09	
	32	20		1.2143520E+09	24	2.4287040E+09	
	33	21		1.2147840E+09	24	2.4295680E+09	
	34	22		1.2152160E+09	24	2.4304320E+09	
	35	23		1.2156480E+09	24	2.4312960E+09	
	36	24		1.2160800E+09	24	2.4321600E+09	
	37	25		1.2165120E+09	24	2.4330240E+09	
	38	26		1.2169440E+09	24	2.4338880E+09	
	39	27		1.2173760E+09	24	2.4347520E+09	
	40	28		1.2178080E+09	24	2.4356160E+09	
	41	29		1.2182400E+09	24	2.4364800E+09	
	42	2A		1.2186720E+09	24	2.4373440E+09	
	Tx	43	2B	1.2191040E+09	24	2.4382080E+09	CH2B(h) Transmit Mid
						Freq.	
Rc	44	2C		1.2195360E+09	24	2.4390720E+09	CH2B(h) Receive LO

	45	2D	1.2199680E+09	24	2.4399360E+09		
	46	2E	1.2204000E+09	24	2.4408000E+09		
	47	2F	1.2208320E+09	24	2.4416640E+09		
	48	30	1.2212640E+09	24	2.4425280E+09		
	49	31	1.2216960E+09	24	2.4433920E+09		
	50	32	1.2221280E+09	24	2.4442560E+09		
	51	33	1.2225600E+09	24	2.4451200E+09		
	52	34	1.2229920E+09	24	2.4459840E+09		
	53	35	1.2234240E+09	24	2.4468480E+09		
	54	36	1.2238560E+09	24	2.4477120E+09		
	55	37	1.2242880E+09	24	2.4485760E+09		
	56	38	1.2247200E+09	24	2.4494400E+09		
	57	39	1.2251520E+09	24	2.4503040E+09		
	58	3A	1.2255840E+09	24	2.4511680E+09		
	59	3B	1.2260160E+09	24	2.4520320E+09		
	60	3C	1.2264480E+09	24	2.4528960E+09		
	61	3D	1.2268800E+09	24	2.4537600E+09		
	62	3E	1.2273120E+09	24	2.4546240E+09		
	63	3F	1.2277440E+09	24	2.4554880E+09		
	64	40	1.2281760E+09	24	2.4563520E+09		
	65	41	1.2286080E+09	24	2.4572160E+09		
	66	42	1.2290400E+09	24	2.4580800E+09		
	67	43	1.2294720E+09	24	2.4589440E+09		
	68	44	1.2299040E+09	24	2.4598080E+09		
	69	45	1.2303360E+09	24	2.4606720E+09		
	70	46	1.2307680E+09	24	2.4615360E+09		
	71	47	1.2312000E+09	24	2.4624000E+09		
	72	48	1.2316320E+09	24	2.4632640E+09		
	73	49	1.2320640E+09	24	2.4641280E+09		
	74	4A	1.2324960E+09	24	2.4649920E+09		
	75	4B	1.2329280E+09	24	2.4658560E+09		
	76	4C	1.2333600E+09	24	2.4667200E+09		
	77	4D	1.2337920E+09	24	2.4675840E+09		
	78	4E	1.2342240E+09	24	2.4684480E+09		
	79	4F	1.2346560E+09	24	2.4693120E+09		
	80	50	1.2350880E+09	24	2.4701760E+09		
	81	51	1.2355200E+09	24	2.4710400E+09		
	82	52	1.2359520E+09	24	2.4719040E+09		
	83	53	1.2363840E+09	24	2.4727680E+09		
	84	54	1.2368160E+09	24	2.4736320E+09		
Tx	85	55	1.2372480E+09	24	2.4744960E+09	CH55(h) Transmit Freq.	High
Rc	86	56	1.2376800E+09	24	2.4753600E+09	CH55(h) Receive LO	
IF			8.64E+05				
High side LO injection							