

















4.4 MAXIMUM PEAK OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 14, 2006
AGILENT SIGNAL GENERATOR	E8257C	MY43320668	Dec. 07, 2006
DIGITAL RT OSCILLOSCOPE	GITAL RT TDS1012		Nov. 28, 2006
NARDA DETECTOR	4503A	FSCM99899	NA

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.4.3 TEST PROCEDURES

- 1. A detector was used on the output port of the EUT. An oscilloscope was used to read the response of the detector.
- 2. Replaced the EUT by the signal generator. The center frequency of the S.G was adjusted to the center frequency of the measured channel.
- 3. Adjusted the power to have the same reading on oscilloscope. Record the power level.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation



4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.



4.4.7 TEST RESULTS

802.11b DSSS MODULATION: TRIPLE TX:

MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	28deg.C, 67%RH, 991hPa
TESTED BY	Lori Chiu		

CHANNEL CHANNEL FREQUENCY (MHz)	CHANNEL	CHANNEL PEAK POWER OUTPUT (mW)			PEAK POWER OUTPUT (dBm)		
	CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2	
1	2412	40.644	40.551	40.365	16.09	16.08	16.06
6	2437	71.779	71.285	70.958	18.56	18.53	18.51
11	2462	50.582	50.486	50.350	17.04	17.03	17.02

CHANNE	CHANNEL FREQUENCY (MHz)	TOTAL PEAK TOTAL PEAK POWER (mW) POWER (dBm)		PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	121.560	20.848	30	PASS
6	2437	214.022	23.305	30	PASS
11	2462	151.418	21.802	30	PASS



802.11g OFDM MODULATION: TRIPLE TX:

MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	28deg.C, 67%RH, 991hPa
TESTED BY	Lori Chiu		

	CHANNEL	PEAK POWER OUTPUT (mW)			PEAK POWER OUTPUT (dBm)		
(MHz)	CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2	
1	2412	45.290	45.082	44.771	16.56	16.54	16.51
6	2437	56.885	56.754	56.364	17.55	17.54	17.51
11	2462	36.058	35.975	35.727	15.57	15.56	15.53

CHANNEL	CHANNEL FREQUENCY (MHz)	TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (mW) POWER (dBm)		PASS / FAIL
1	2412	135.143	21.308	30	PASS
6	2437	170.003	22.305	30	PASS
11	2462	107.760	20.325	30	PASS



DRAFT 802.11n (20MHz) OFDM MODULATION: TRIPLE TX:

MODULATION TYPE	BPSK	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	28deg.C, 67%RH, 991hPa
TESTED BY	Lori Chiu		

	CHANNEL	PEAK P	PEAK POWER OUTPUT (mW)			PEAK POWER OUTPUT (dBm)		
(MHz)	CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	32.211	32.137	31.769	15.08	15.07	15.02	
6	2437	57.016	56.754	56.364	17.56	17.54	17.51	
11	2462	28.708	28.510	28.249	14.58	14.55	14.51	

CHANNEL	CHANNEL FREQUENCY (MHz)	TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	96.117	19.828	30	PASS
6	2437	170.134	22.308	30	PASS
11	2462	85.467	19.318	30	PASS



DRAFT 802.11n (40MHz) OFDM MODULATION: TRIPLE TX:

MODULATION TYPE	BPSK	TRANSFER RATE	15Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	28deg.C, 67%RH, 991hPa
TESTED BY	Lori Chiu		

CHANNEL CHANNEL FREQUENCY (MHz)	CHANNEL	PEAK POWER OUTPUT (mW)			PEAK POWER OUTPUT (dBm)		
	CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2	
1	2422	14.322	14.289	14.158	11.56	11.55	11.51
4	2437	28.708	28.510	28.184	14.58	14.55	14.50
7	2452	14.355	14.289	14.191	11.57	11.55	11.52

CHANNEL	CHANNEL FREQUENCY (MHz)	TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2422	42.769	16.311	30	PASS
4	2437	85.402	19.315	30	PASS
7	2452	42.835	16.318	30	PASS



4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 14, 2006

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.5.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.

The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation



4.5.5 TEST SETUP SPECTRUM EUT ANALYZER 4.5.6 EUT OPERATING CONDITION Same as Item 4.3.6.



4.5.7 TEST RESULTS

802.11b DSSS MODULATION: TRIPLE TX:

MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	28deg.C, 67%RH, 991hPa
TESTED BY	Lori Chiu		

CHANNEL		RF POWER LEVEL IN 3kHz BW (mW)			RF POWER LEVEL IN 3kHz BW (dBm)		
(MHz)		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2
1	2412	0.123	0.121	0.120	-9.09	-9.17	-9.22
6	2437	0.239	0.237	0.222	-6.22	-6.25	-6.54
11	2462	0.157	0.157	0.148	-8.05	-8.14	-8.29

CHANNEL	CHANNEL FREQUENCY (MHz)	TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	0.364	-4.39	8	PASS
6	2437	0.698	-1.56	8	PASS
11	2462	0.462	-3.35	8	PASS



























802.11g OFDM MODULATION: TRIPLE TX:

MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 63%RH, 991hPa
TESTED BY	Lori Chiu		

CHANNEL	CHANNEL	RF POWER LEVEL IN 3kHz BW (mW)			RF POWER LEVEL IN 3kHz BW (dBm)		
	(MHz)	CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2
1	2412	0.061	0.060	0.059	-12.17	-12.22	-12.30
6	2437	0.077	0.076	0.073	-11.12	-11.20	-11.38
11	2462	0.044	0.043	0.041	-13.59	-13.67	-13.82

CHANNEL	CHANNEL FREQUENCY (MHz)	TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	0.18	-7.45	8	PASS
6	2437	0.226	-6.46	8	PASS
11	2462	0.128	-8.93	8	PASS







