



5.6 FREQUENCY STABILITY

5.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% of the operating frequency over a temperature variation of –30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

5.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until	
ANRITSU SPECTRUM ANALYZER	MS2667C	M10281	April 10, 2004	
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W901030	Jun. 24, 2004	

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

5.6.3 TEST PROCEDURE

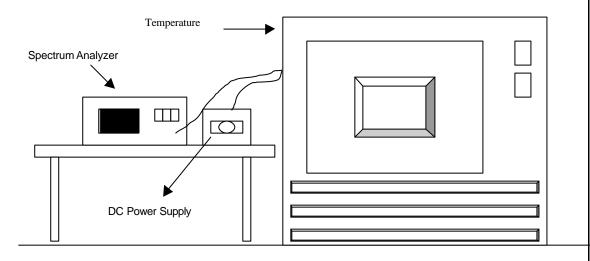
- 1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- 2. Turn the EUT on and couple its output to a spectrum analyzer.
- 3. Turn the EUT off and set the chamber to the highest temperature specified.
- 4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- 5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- 6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.



5.6.4 DEVIATION FROM TEST STANDARD

No deviation

5.6.5 TEST SETUP



5.6.6 EUT OPERATING CONDITION

Same as Item 4.1.6



5.6.7 TEST RESULTS

Operating frequency: 5320MHz Limit: ± 0.02%							
Temp.	Power	2 minute		5 minute		10 minute	
()	supply (VDC)	(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5320.0708	0.0013308	5320.0708	0.0013308	5320.0712	0.0013383
	110.0	5320.0708	0.0013308	5320.0708	0.0013308	5320.0712	0.0013383
	93.5	5320.0708	0.0013308	5320.0708	0.0013308	5320.0712	0.0013383
	126.5	5320.0422	0.0007932	5320.0424	0.0007970	5320.0426	0.0008008
40	110.0	5320.0422	0.0007932	5320.0424	0.0007970	5320.0426	0.0008008
	93.5	5320.0422	0.0007932	5320.0424	0.0007970	5320.0426	0.0008008
	126.5	5320.0242	0.0004549	5320.0242	0.0004549	5320.0242	0.0004549
30	110.0	5320.0242	0.0004549	5320.0242	0.0004549	5320.0242	0.0004549
	93.5	5320.0242	0.0004549	5320.0242	0.0004549	5320.0242	0.0004549
	126.5	5320.0142	0.0002669	5320.0142	0.0002669	5320.0142	0.0002669
20	110.0	5320.0142	0.0002669	5320.0142	0.0002669	5320.0142	0.0002669
	93.5	5320.0142	0.0002669	5320.0142	0.0002669	5320.0142	0.0002669
	126.5	5320.0130	0.0002444	5320.0130	0.0002444	5320.0130	0.0002444
10	110.0	5320.0130	0.0002444	5320.0130	0.0002444	5320.0130	0.0002444
	93.5	5320.0130	0.0002444	5320.0130	0.0002444	5320.0130	0.0002444
	126.5	5320.0062	0.0001165	5320.0062	0.0001165	5320.0062	0.0001165
0	110.0	5320.0062	0.0001165	5320.0062	0.0001165	5320.0062	0.0001165
	93.5	5320.0062	0.0001165	5320.0062	0.0001165	5320.0062	0.0001165
	126.5	5320.0070	0.0001316	5320.0070	0.0001316	5320.0070	0.0001316
-10	110.0	5320.0070	0.0001316	5320.0070	0.0001316	5320.0070	0.0001316
	93.5	5320.0070	0.0001316	5320.0070	0.0001316	5320.0070	0.0001316
-20	126.5	5320.0096	0.0001805	5320.0096	0.0001805	5320.0096	0.0001805
	110.0	5320.0096	0.0001805	5320.0096	0.0001805	5320.0096	0.0001805
	93.5	5320.0096	0.0001805	5320.0096	0.0001805	5320.0096	0.0001805
-30	126.5	5320.0108	0.0002030	5320.0108	0.0002030	5320.0108	0.0002030
	110.0	5320.0108	0.0002030	5320.0108	0.0002030	5320.0108	0.0002030
	93.5	5320.0108	0.0002030	5320.0108	0.0002030	5320.0108	0.0002030



5.7 BAND EDGES MEASUREMENT

5.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	July 24, 2003

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

5.7.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 1MHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

5.7.3 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

5.7.4 TEST RESULTS

For signals in the restricted bands above and below the 5.15 to 5.35GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak filed strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

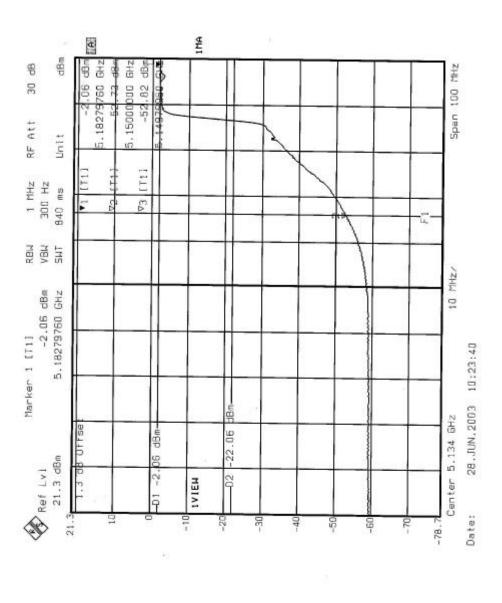
The spectrum plots (Peak RBW=VBW=1MHz; Average RBW=1MHz, VBW=300Hz) are attached on the following 4 pages.

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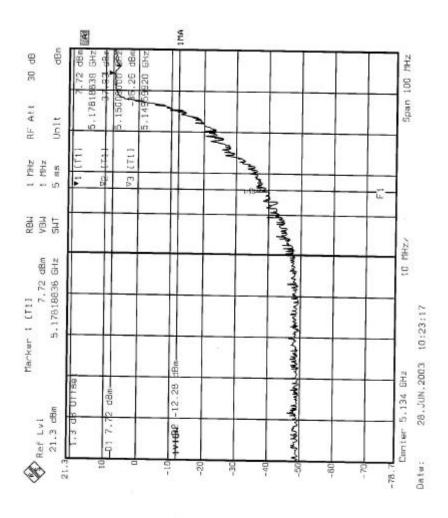


Channel 1 (5180 MHz)

The band edge emission plot of OFDM technique on the following page shows 50.67dB delta between carrier maximum power and local maximum emission in restrict band (5.1500GHz). The emission of carrier strength list in the test result of channel 1 at the item 5.2.8 (Page 74) is 91.3dBuV/m, so the maximum field strength in restrict band is 91.3-50.67=40.63 dBuV/m which is under 54dBuV/m limit.





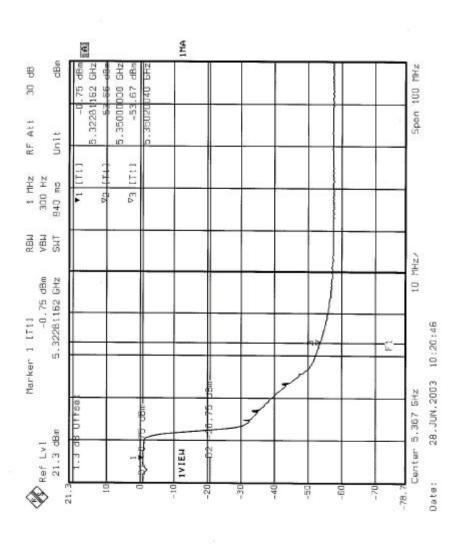


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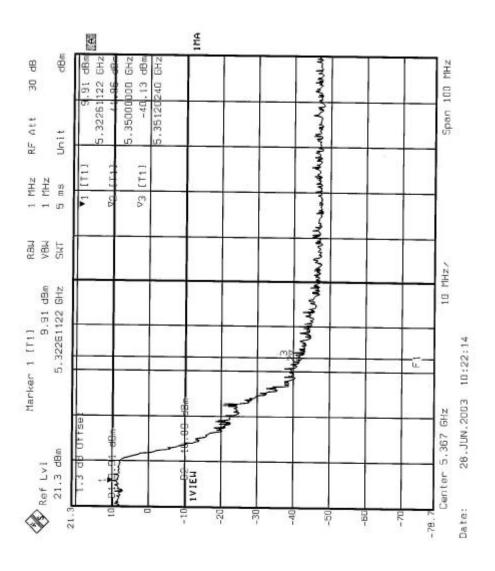


Channel 8 (5320 MHz)

The band edge emission plot of OFDM technique on the following page shows 52.91dB delta between carrier maximum power and local maximum emission in restrict band (5.3500GHz). The emission of carrier strength list in the test result of channel 1 at the item 5.2.8 (Page 74) is 94dBuV/m, so the maximum field strength in restrict band is 94-52.91=41.09dBuV/m which is under 54dBuV/m limit.









5.8 ANTENNA REQUIREMENT

5.8.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.407(a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

5.8.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is printed antenna with UFL connector. The maximum Gain of the antenna is 2.8dBi.



6. PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST



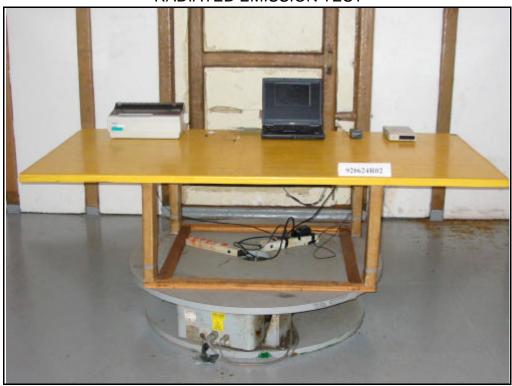








RADIATED EMISSION TEST











7. INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025, Guide 25 or EN 45001:

USA FCC, NVLAP, UL TUV Rheinland

Japan VCCI
New Zealand MoC
Norway NEMKO

R.O.C. BSMI, DGT, CNLA

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml.

If you have any comments, please feel free to contact us at the following:

 Lin Kou EMC Lab:
 Hsin Chu EMC Lab:

 Tel: 886-2-26052180
 Tel: 886-35-935343

 Fax: 886-2-26052943
 Fax: 886-35-935342

Lin Kou Safety Lab: Lin Kou RF&Telecom Lab

Tel: 886-2-26093195 Tel: 886-3-3270910 Fax: 886-2-26093184 Fax: 886-3-3270892

Email: service@mail.adt.com.tw
Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.