



6.6 FREQUENCY STABILITY

6.6.1 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.

6.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ANRITSU SPECTRUM ANALYZER	MS2667C	M10281	Aug. 12, 2004
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W901030	Aug. 12, 2004

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

6.6.3 TEST PROCEDURE

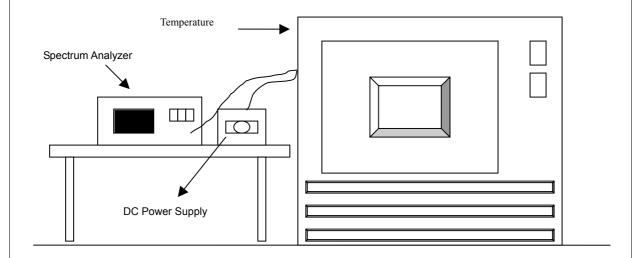
- 1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- 2. Turn the EUT on and couple its output to a spectrum analyzer.
- 3. Turn the EUT off and set the chamber to the highest temperature specified.
- 4. Allow sufficient time (approximately 30 min) for the 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.

6.6.4 DEVIATION FROM TEST STANDARD

No deviation



6.6.5 TEST SETUP



6.6.6 EUT OPERATING CONDITION

Same as Item 4.1.6



6.6.7 TEST RESULTS

	Operating frequency: 5320MHz Limit : ± 0.02%							
Temp. (°C)	Power supply (VDC)	2 minute		5 minute		10 minute		
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)	
50	126.5	5319.9703	-0.0005583	5319.9717	-0.0005320	5319.9713	-0.0005395	
	110.0	5319.9703	-0.0005583	5319.9717	-0.0005320	5319.9713	-0.0005395	
	93.5	5319.9703	-0.0005583	5319.9717	-0.0005320	5319.9713	-0.0005395	
40	126.5	5319.9727	-0.0005132	5319.9730	-0.0005075	5319.9717	-0.0005320	
	110.0	5919.9727	-0.0005132	5319.9730	-0.0005075	5319.9717	-0.0005320	
	93.5	5919.9727	-0.0005132	5319.9730	-0.0005075	5319.9717	-0.0005320	
	126.5	5319.9693	-0.0005771	5319.9697	-0.0005695	5319.9700	-0.0005639	
30	110.0	5319.9693	-0.0005771	5319.9697	-0.0005695	5319.9700	-0.0005639	
	93.5	5319.9693	-0.0005771	5319.9697	-0.0005695	5319.9700	-0.0005639	
	126.5	5319.9700	-0.0005639	5319.9703	-0.0005583	5319.9710	-0.0005451	
20	110.0	5319.9700	-0.0005639	5319.9703	-0.0005583	5319.9710	-0.0005451	
	93.5	5319.9700	-0.0005639	5319.9703	-0.0005583	5319.9710	-0.0005451	
	126.5	5319.9747	-0.0004756	5319.9743	-0.0004831	5319.9763	-0.0004455	
10	110.0	5319.9747	-0.0004756	5319.9743	-0.0004831	5319.9763	-0.0004455	
	93.5	5319.9747	-0.0004756	5319.9743	-0.0004831	5319.9763	-0.0004455	
	126.5	5319.9813	-0.0003515	5319.9827	-0.0003252	5319.9833	-0.0003139	
0	110.0	5319.9813	-0.0003515	5319.9827	-0.0003252	5319.9833	-0.0003139	
	93.5	5319.9813	-0.0003515	5319.9827	-0.0003252	5319.9833	-0.0003139	
-10	126.5	5319.9920	-0.0001504	5319.9923	-0.0001447	5319.9927	-0.0001372	
	110.0	5319.9920	-0.0001504	5319.9923	-0.0001447	5319.9927	-0.0001372	
	93.5	5319.9920	-0.0001504	5319.9923	-0.0001447	5319.9927	-0.0001372	
-20	126.5	5319.9983	-0.0000320	5319.9980	-0.0000376	5319.9984	-0.0000301	
	110.0	5319.9983	-0.0000320	5319.9980	-0.0000376	5319.9984	-0.0000301	
	93.5	5319.9983	-0.0000320	5319.9980	-0.0000376	5319.9984	-0.0000301	
	126.5	5319.9977	-0.0000432	5319.9973	-0.0000508	5319.9967	-0.0000620	
-30	110.0	5319.9977	-0.0000432	5319.9973	-0.0000508	5319.9967	-0.0000620	
	93.5	5319.9977	-0.0000432	5319.9973	-0.0000508	5319.9967	-0.0000620	



6.7 BAND EDGES MEASUREMENT

6.7.1 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
SPECTRUM ANALYZER	FSEK30	100049	Aug.12, 2004

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

6.7.2 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 100MHz bandwidth from band edge. The band edges was measured and recorded.

6.7.3 EUT OPERATING CONDITION

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



6.7.4 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.

Channel 1 (5180 MHz)

The band edge emission plot on the following 1~2 pages show 52.31dBc (Peak) / 53.72dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 (normal mode) is 94.67dBuV/m, so the maximum field strength in restrict band is 94.67-53.72=40.95dBuV/m which is under 54dBuV/m limit.

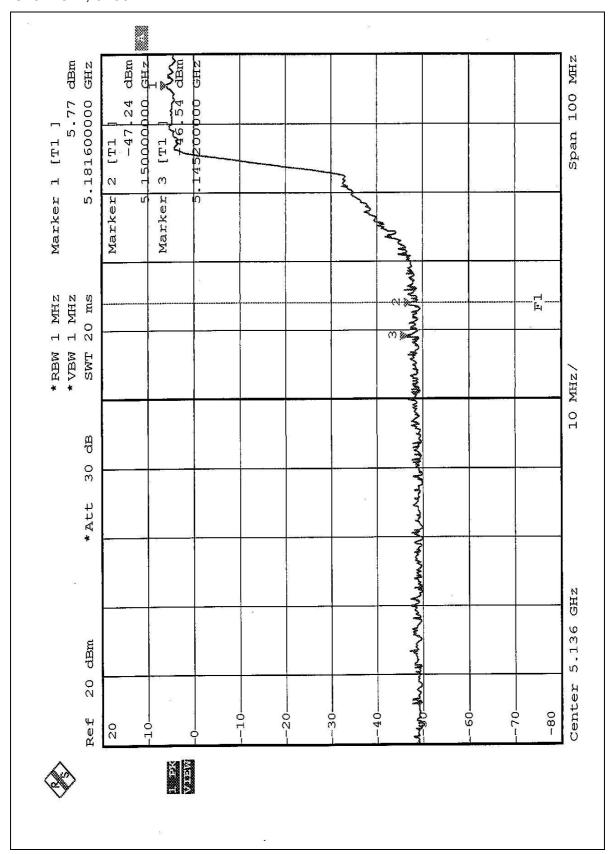
Channel 8 (5320 MHz)

The band edge emission plot on the following 3~4 pages show 50.08dBc (Peak) / 52.17dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 94.54dBuV/m, so the maximum field strength in restrict band is 94.54-52.17=44.46dBuV/m which is under 54dBuV/m limit.

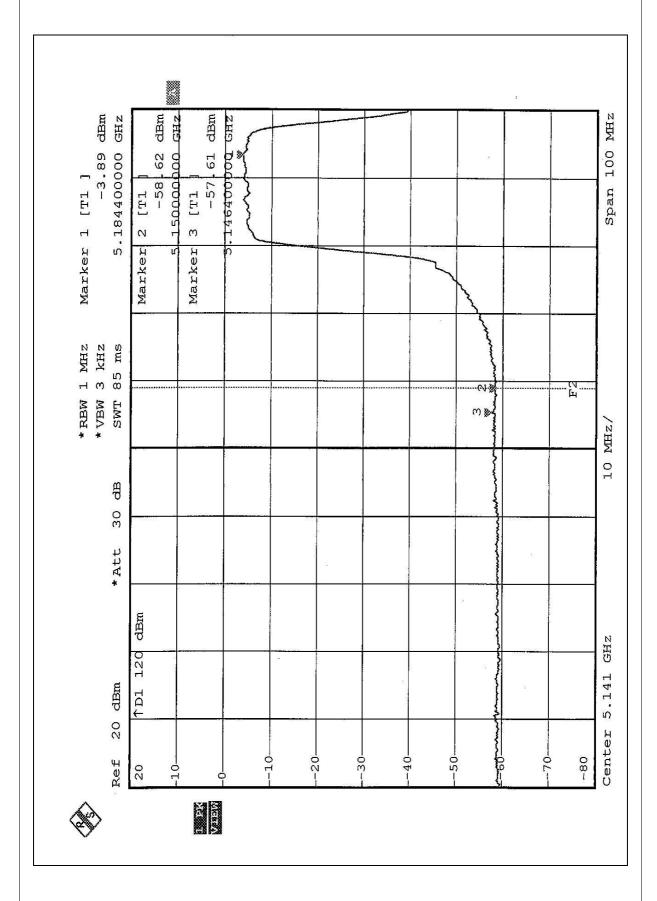
FCC ID: MXF-M930112AG



Channel 1, 5180 MHz



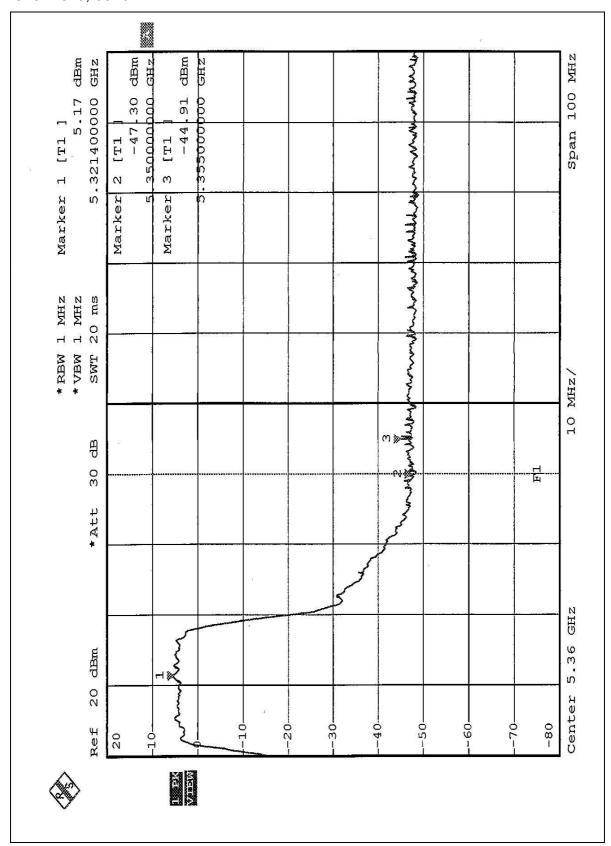




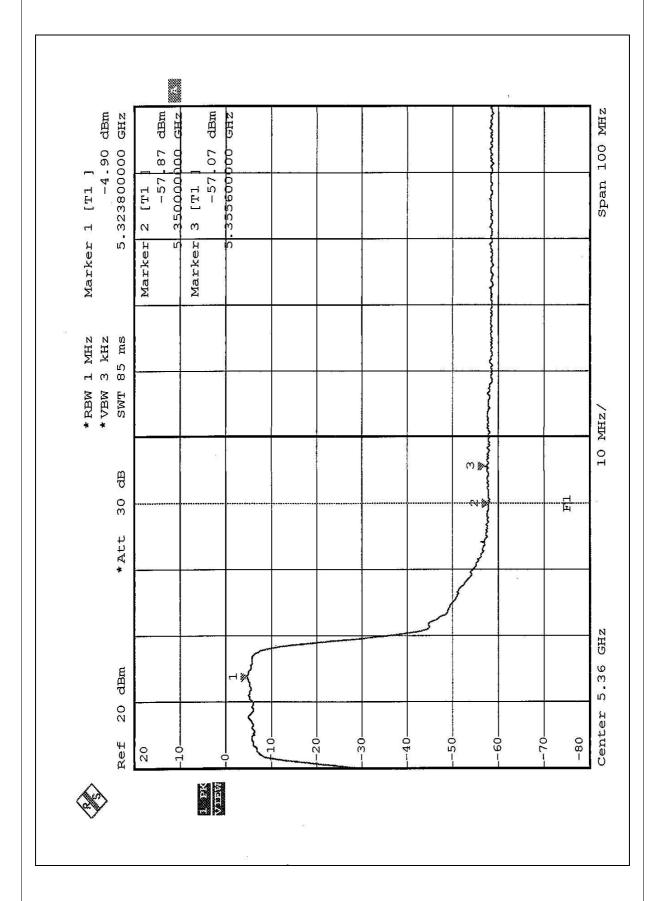
FCC ID: MXF-M930112AG



Channel 8, 5320 MHz









6.8 ANTENNA REQUIREMENT

6.8.1 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.

6.8.2 ANTENNA CONNECTED CONSTRUCTION

The antennas used in this product are Metal PIFA which is main antenna and Metal IFA which is auxiliary antenna with UFL connector. The maximum Gain of the antenna is –3.21dBi.



7. PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST







RADIATED EMISSION TEST





FCC ID: MXF-M930112AG



8. INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom 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 Norway NEMKO

Canada INDUSTRY CANADA, CSA

R.O.C. CNLA, BSMI, DGT

Netherlands Telefication

Singapore PSB, GOST-ASIA(MOU)

Russia CERTIS(MOU)

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:

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Hwa Ya EMC/RF/Safety Lab Linko RF & Telecom Lab

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