ELECTROMAGNETIC EMISSION COMPLIANCE REPORT
FOR SUPERHETRODYNE RECEIVER

Test report file number	**: E057R-073**
Applicant	**: Dadam Micro Inc.**
Address	**: #719 Keumkang Hitech Valley, 133-1 Sangdaewon1-dong, Jungwon-gu, Sungnam Gyeonggi-do Korea**
Manufacturer	**: Dadam Micro Inc.**
Address	**: #719 Keumkang Hitech Valley, 133-1 Sangdaewon1-dong, Jungwon-gu, Sungnam Gyeonggi-do Korea**
Type of Equipment	**: Wireless Thermo-Hygro Monitor**
FCC ID	**: TH7-GMS220A1**
Model / Type No.	**: GMS-220**
Serial number	**: N/A**
Total page of Report	**: 11 pages (including this page)**
Date of Incoming	**: June 22, 2005**
Date of issuing	**: July 22, 2005**

SUMMARY

The equipment complies with the regulation; **FCC PART 15 SUBPART B §15.101**

This test report contains only the result of a single test of the sample supplied for the examination. It is not a general valid assessment of the features of the respective products of the mass-production.

Prepared by: _____
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EMC Div.
ONETECH Corp.

Reviewed by: _____
Y. K. Kwon / Director
EMC Div.
ONETECH Corp.

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EMC Testing Dept : 426-1 Daessangryung-Ri, Chowol-Myun, Kwangju-Kun, Kyunggi-Do 464-860 Korea. (TEL: 82-31-765-8289 FAX: 82-31-766-2904)

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1. VERIFICATION OF COMPLIANCE

APPLICANT	: Dadam Micro Inc.
ADDRESS	: #719 Keumkang Hitech Valley, 133-1 Sangdaewon1-dong, Jungwon-gu, Sungnam Gyeonggi-do Korea
CONTACT PERSON	: Iksoo Jum / President
TELEPHONE NO	: 82-31-777-5432
FCC ID	: TH7-GMS220A1
MODEL NO/NAME	: GMS-220
SERIAL NUMBER	: N/A
DATE	: July 22, 2005

EQUIPMENT CLASS	CYY- Communications Receiver used w/Part 15 Transmitter
E.U.T. DESCRIPTION	Wireless Thermo-Hygro Monitor -SUPERHETRODYNE RECEIVER
THIS REPORT CONCERNS	ORIGINAL GRANT
MEASUREMENT PROCEDURES	ANSI C63.4/2003
TYPE OF EQUIPMENT TESTED	PRE-PRODUCTION
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	CERTIFICATION
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 §15.101
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	No
FINAL TEST WAS CONDUCTED ON	3 METER OPEN AREA TEST SITE

-. This device has shown compliance with the conducted emissions limits in 15.207 adopted under FCC 02-107 (ET Docket 98-80). The device may be marketed after July 11, 2005 and is not affected by the 15.37(j) transition provisions.

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

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2. GENERAL INFORMATION

2.1 Product Description

The Dadam Micro Inc.., Model GMS-220 (referred to as the EUT in this report) is a receiver for displaying and receiving temperature and humidity from the transmitter, Model GMS-120, FCC ID TH5-GMS120B1, which was manufactured by Dadam Micro Inc. The EUT can be monitored maximum 16 wireless sensing units simultaneously. The product specification described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	Plastic
RECEIVING FREQUENCY	426.075 MHz
MAX. Sensing Unit Number	16
MEASUREMENT DISPLAY RANGE	Temperature: -40˚C~120˚C, Humidity: 1%~99%RH
LIST OF EACH OSC. OR CRY. FREQ.(FREQ.>=1MHz)	8MHz and 426.075MHz
NUMBER OF LAYERS	2 Layers
ANTENNA TYPE	Helical Antenna
RATED SUPPLY VOLTAGE	DC 5V, 0.5A
EXTERNAL CONNECTOR	DC Input Port

Model Differences:

-. No other model differences have been mentioned.

2.2 Related Submittal(s) / Grant(s)

Original submittal only.

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2.3 Test System Details

The EUT was tested with the following all equipment used in the tested systems are:

Model	Manufacturer	FCC ID	Description	Connected to
GMS-220	Dadam Micro Inc.	TH7-GMS220A1	RECEIVER	BATTERY
MT15-5050100-A1	N/A	N/A	AC/DC Adapter	EUT
8657A	HP	N/A	Signal Generator	N/A

2.4 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4/2003. Radiated testing was performed at a distance of 3 meters from EUT to the antenna.

2.5 Test Facility

The open area test site and conducted measurement facilities are located on at 426-1 Daessangryung-Ri, Chowol-Myun, Kwangju-Kun, Kyunggi-Do 464-080 Korea. Description details of test facilities were submitted to the Commission on October 02, 2002. (Registration Number: 529838)

3. SYSTEM TEST CONFIGURATION

3.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
MAIN BOARD	Dadam Micro Inc	GMS-220	N/A
RX Module	Automan	NFRX4DW	N/A

3.2 EUT exercise Software

Set the signal generator to transmit at 426.075MHz and then the EUT receives the signal.
To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes.

3.3 Equipment Modifications

None

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3.4 Configuration of Test System

Line Conducted Emission Test:

The power cord of the EUT was connected to LISN. All supporting equipments were connected to another LISN. Preliminary Power lines Conducted Emission tests were performed by using the procedure in ANSI C63.4/2001 7.2.3 to determine the worse operating conditions.

Radiated Emission Test:

Preliminary radiated emissions tests were conducted using the procedure in ANSI C63.4/2001, 8.3.1.1 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 meters open area test site.

Coherent Test:

During Radiated Emission Tests, H.P. signal generator model no: 8657A was used to radiate an unmodulated CW signal to EUT at 426.075 MHz in order to cohere the individual components of the characteristic broadband emissions from EUT.

Antenna Power Conduction Test:

This equipment was only with a permanently attached antenna, so the radiated emission measurement was performed with the antenna attached.

4. PRELIMINARY TEST

4.1 AC Power line Conducted Emissions Tests

During Preliminary Tests, the following operating mode was investigated

Operation Mode	The Worse operating condition (Please check one only)
RX mode	X

4.2 Radiated Emissions Tests

During Preliminary Tests, the following operating modes were investigated

Operation Mode	The Worse operating condition (Please check one only)
RX mode	X

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5. FINAL RESULT OF MEASURMENT

Preliminary test was done in normal operation mode. And the final measurement was selected for the maximized emission level

5.1 Conducted Emission Test

Humidity Level : 56% Temperature: 25 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.107(a)

Type of Test : CLASS B

Result : PASSED BY -11.37at 1.60 MHz at Peak Mode

EUT : Wireless Thermo-Hygro Monitor Date: July 22, 2005

Operating Condition : The EUT was in receiving mode continuously during the test.

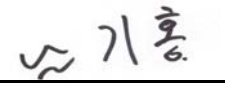
Detector : CISPR Quasi-Peak (6 dB Bandwidth: 9 kHz)

Frequency (MHz)	Line	Quasi-Peak (dBuV)			Margin (dB)	Average (dBuV)		Margin (dB)
		Emission level	Detect Mode	Limits		Emission level	Limits	
0.15	H	54.13	P	66.00	-11.87	21.63	56.00	34.37
0.155	N	54.07	P	65.73	-11.66	22.37	55.73	-33.36
0.24	N	46.60	P	62.10	-15.50	-	-	-
0.41	H	45.53	P	57.65	-12.12	-	-	-
0.415	N	44.89	P	57.55	-12.66	-	-	-
1.60	N	44.63	P	56.00	-11.37	30.66	46.00	-15.34

Line Conducted Emission Tabulated Data

Remark: “H”: Hot Line, “N”: Neutral Line, “P”: Peak Detector mode.

See next page for an overview sweep performed with peak and average detector.



Tested by: Ki-Hong, Nam / Test Engineer

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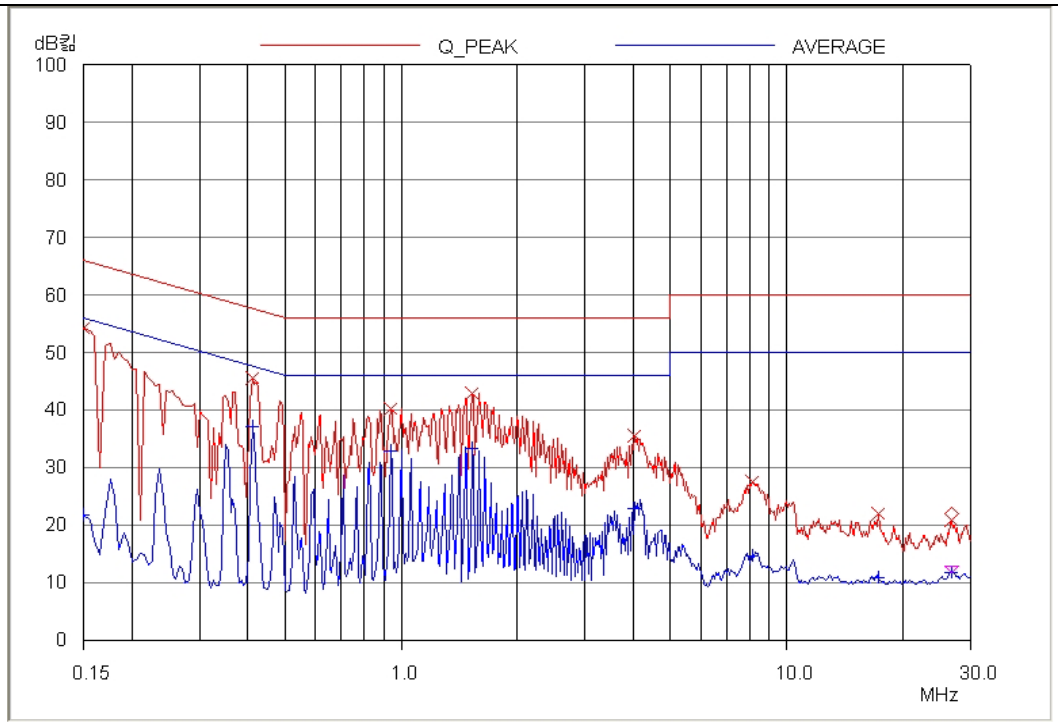
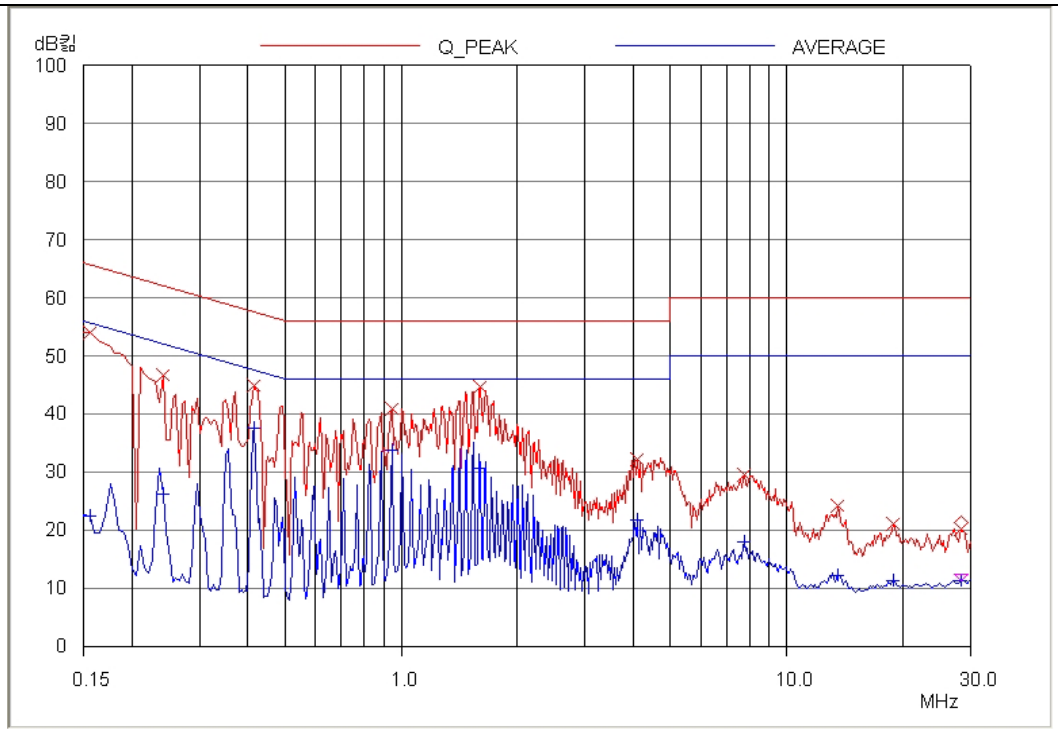


HOT LINE



NEUTRAL LINE

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5.2 Radiated Emission Test

The following table shows the highest levels of radiated emission on both polarizations of horizontal and vertical.

Humidity Level : 58 % Temperature: 24 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.109(g)
Type of Test : CLASS B
Result : PASSED BY –5.01 dB at724.43 MHz

EUT : Wireless Thermo-Hygro Monitor Date: June 28, 2005
Operating Condition : The EUT was in receiving mode continuously during the test.
Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)
Distance : 3 Meter

Radiated Emission		Ant	Correction Factors		Total	FCC CLASS B	
Freq. (MHz)	Amp. (dBuV)	Pol.	Antenna (dB/m)	Cable (dB)	Amplitude (dBuV/m)	Limit (dBuV/m)	Margin (dB)
61.07	22.60	V	7.22	1.42	31.24	40.00	-8.76
94.92	25.26	V	9.16	1.90	36.32	43.52	-7.20
319.97	12.70	V	13.99	3.96	30.65	46.02	-15.37
383.98	12.80	H	15.10	4.34	32.24	46.02	-13.78
608.00	13.30	H	18.75	5.36	37.41	46.02	-8.61
669.23	9.60	H	19.76	5.97	35.33	46.02	-10.69
724.43	13.40	H	20.94	6.67	41.01	46.02	-5.01
958.10	6.23	V	22.57	8.22	37.02	46.02	-9.00
Emissions from other frequencies were not observed up to 2000 MHz							

Radiated Emission Tabulated Data

Tested by: Ki-Hong, Nam / Test Engineer

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6. FIELD STRENGTH CALCULATION

Meter readings are compared to the specification limit correcting for antenna and cable losses

+	Meter reading	(dBuV)
+	Cable Loss	(dB)
+	Antenna Factor (Loss)	(dB/meter)
=	Corrected Reading	(dBuV/meter)
-	Specification Limit	(dBuV/meter)
=	dB Relative to Spec	(+/- dB)

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7. LIST OF TEST EQUIPMENT

No.	EQUIPMENTS	MFR.	MODEL	SER. NO.	LAST CAL	DUE CAL	USE
1.	Test receiver	R/S	ESVS 10	827864/005	DEC/04	12MONTH	■
2.	Test receiver	R/S	ESHS10	834467/007	MAY/05	12MONTH	■
3.	Spectrum analyzer	HP	8567A	3021A00773	MAR/05	12MONTH	■
4.	RF preselector	HP	85685A	3107A01268	MAR/05	12MONTH	■
5.	Quasi-Peak Adapter	HP	85650A	3107A01550	MAR/05	12MONTH	■
6.	Biconical antenna	EMCO	3104C	9109-4441 9109-4443 9109-4444	JUL/04	12MONTH	■
7.	Log Periodic antenna	EMCO	3146	9109-3213 9109-3214 9109-3217	JUL/04	12MONTH	■
8.	Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA9120D294	JUN/05	12MONTH	■
9.	LISN	EMCO	3825/2	9109-1867 9109-1869	JUL/04 NOV/04	12MONTH	
10.	RF Amplifier	HP	8347F	3307A01354	JUN/05	N/A	
11.	Spectrum Analyzer	HP	8564E	3650A00756	JUL/04	12MONTH	■
12.	Plotter	HP	7475A	30052 22986	N/A	N/A	
13.	Position Controller	HD	HD100	100/788	N/A	N/A	■
14.	Turn Table	HD	DS420S	N/A	N/A	N/A	■
15.	Antenna Master	HD	HD240	N/A	N/A	N/A	■
16.	Isolation Transformer	Digitek Power	DPT	DPF-22027	N/A	N/A	■
17.	Isolation Transformer	Digitek Power	DPT	DPF-22028	N/A	N/A	■
18.	Frequency Converter	Digitek Power	VFS/DEFC	N/A	N/A	N/A	■

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