# FCC RADIO TEST REPORT

Applicant's Company Applicant Address	SIRIUS SATELLITE RADIO. 989 Lenox Drive Suite 212 Lawrenceville, New Jersey 08648
Manufacturer's Company Manufacturer Address	Wistron NeWeb Corporation No. 10-1, Li-hsin Road I, Science-Baded Industrial Park, Hsinchu 300, Taiwan, R.O.C.
Product Name	Starmate 5

Product Name	Starmate 5
Brand Name	Sirius
Model Name	ST5TK1
Received Date	Dec. 17, 2009
Final Test Date	Dec. 20, 2009

# **1. General Description of Equipment under Test**

Part	Description of Test	Under Limit
3.1	Radiated Emissions	6.98 dB
3.2	Field Strength of Fundamental Emissions	10.4 dB

Note: Due to the frequency shift for PK data equipment, the PK frequency should follow the AV data equipment in section 3.2.

# 2. GENERAL INFORMATION

## 2.1 Table for Carrier Frequencies

Frequency Band	Channel No.	Frequency
	1	88.1 MHz
	2	88.3 MHz
	:	:
88 ~ 108MHz	50	97.9 MHz
	51	98.1 MHz
	52	98.3 MHz
	:	:
	99	107.7 MHz
	100	107.9 MHz

## 2.2 Test Modes

Mode 1: Medium Car (Ford, MONDEO) + ST5TK1 Mode 2: Small Car (Mitsubishi, Lancer ) + ST5TK1 Mode 3: Large Car (Ford, IXION) + ST5TK1

## 2.3 Table for Testing Locations

Test Site No.	Site Category	Location
10CH01-HY	SAC	Hwa Ya

Semi Anechoic Chamber (SAC)

## 2.4 Test Procedure

- Put the vehicle in the center of turn table and put the Radio with Van Mount in the car. The distance between Vehicle edge and Bi-Log antenna is 3 meters (Need to adjust for different Radial Angel). Connect DNP, SDP1V1(car dock), iFMCLA, Car antenna and audio adapter.
- 2. Play SMIQ and to make sure Radio works properly with channel name showing.
- 3. Tune the FM TX to specified frequency (Refer to Table 1). Set the polarization to vertical.
- 4. Turn 8 radial angles and continuously move antenna height from 1m to 4m to record the maximum emission strength, antenna height with frequency range from 30MHz to 1100MHz. Record the azimuth (specified 8 radials) for each data point.
- 5. Change polarization to horizontal and process the step 4 again.
- 6. Change Radio to other Radio and process the step 3 to 5 again.
- 7. Change to other 2 vehicles and process the step 3 to 6 again.

## 2.5 Measuring Instruments and Setting

#### <Radiated Emissions>

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

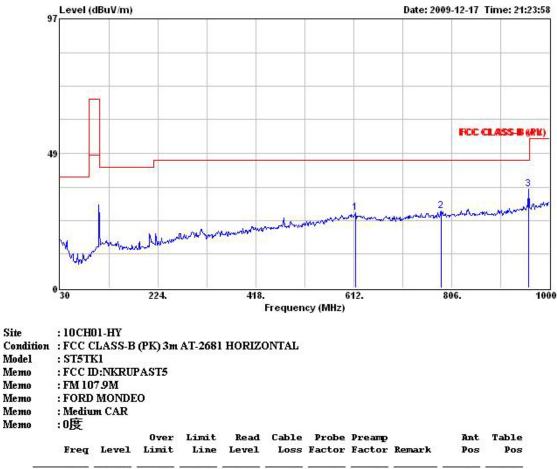
#### <Field Strength of Fundamental Emissions>

Receiver Parameter	Setting
Attenuation	Auto
Center Frequency	Fundamental Frequency
RB	120 KHz
Detector	Peak / QP / Average

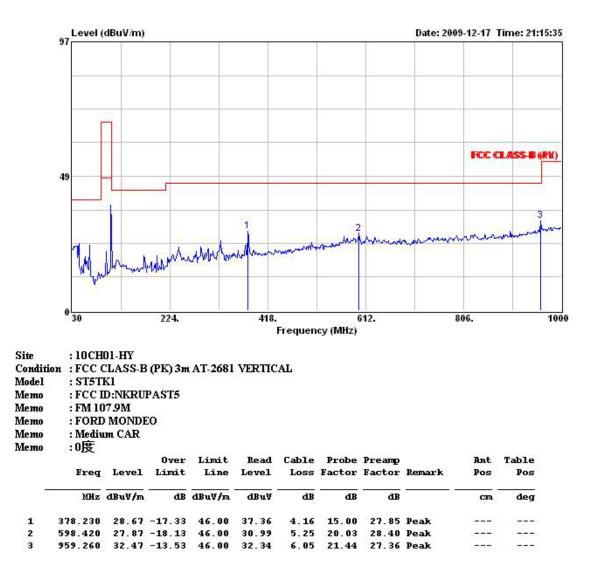
## 3. TEST RESULT

## 3.1 Results for Radiated Emissions

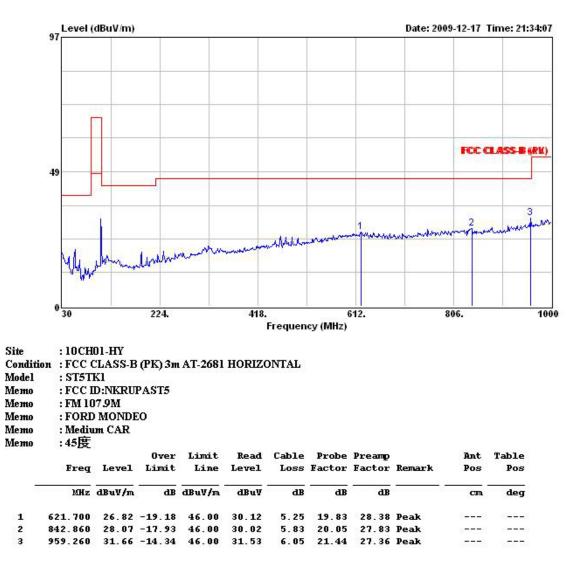
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 0 $^{\circ}~$ / Mode 1		

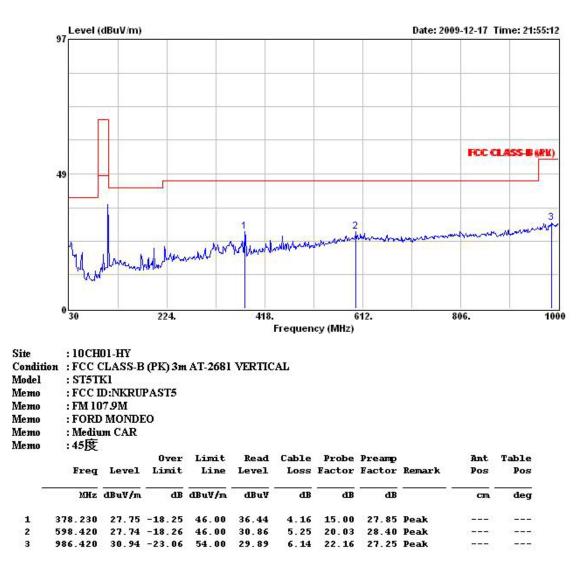


	Freq	Level		Limit Line				그는 말을 하는 것을 수가 있다. 이렇게 하는 것을 하는 것을 하는 것을 수가 있다. 이렇게 아니는 것을 수가 있다. 이렇게 아니는 것을 수가 있다. 이렇게 아니는 것을 수가 있다. 이야 하는 것을 수가 있다. 이렇게 아니는 것을 수가 있다. 이렇게 하는 것을 수가 있다. 이렇게 아니는 것을 수가 있다. 이렇게 아니는 것을 수가 있다. 아니는 것을 수가 있다. 이렇게 아니는 것을 수가 있다. 아니는 것을 수가 있다. 이렇게 아니는 것을 수가 있다. 이 것이 아니는 것이 하는 것이 같아요. 아니는 것이 아니는 것이 하는 것이 아니는 아니는 것이 아니는	Remark	Ant Pos	Table Po <i>s</i>
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	614.910	27.24	-18.76	46.00	30.46	5.25	19.91	28.38	Peak		
2	784.660	27.71	-18.29	46.00	30.22	5.55	19.98	28.04	Peak		
3	959.260	35.51	-10.49	46.00	35.38	6.05	21.44	27.36	Peak		

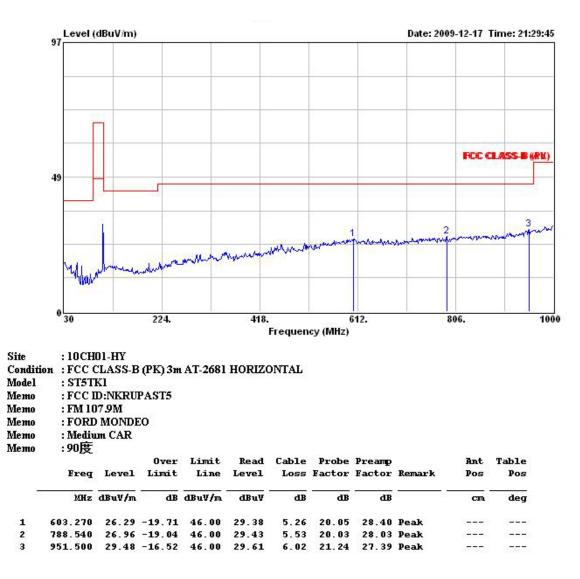


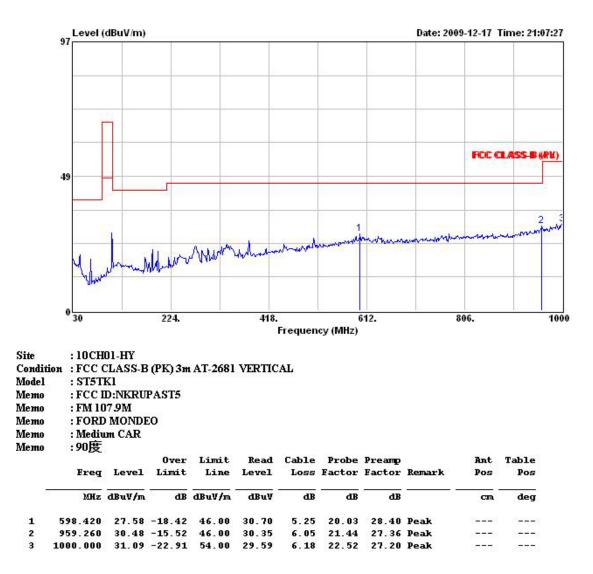
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 45 $^{\circ}$ / Mode 1		



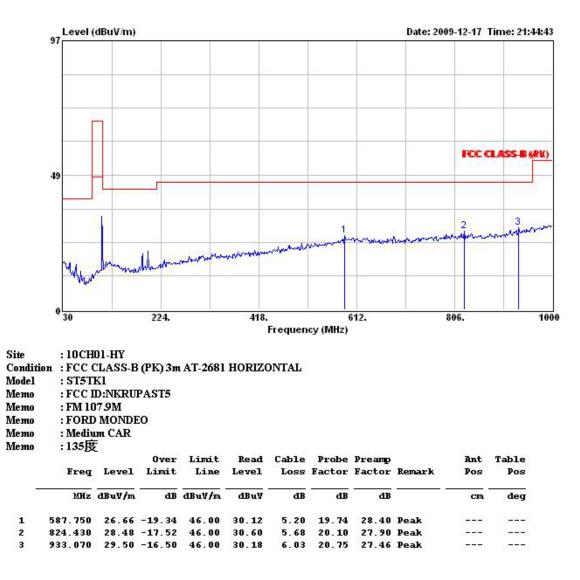


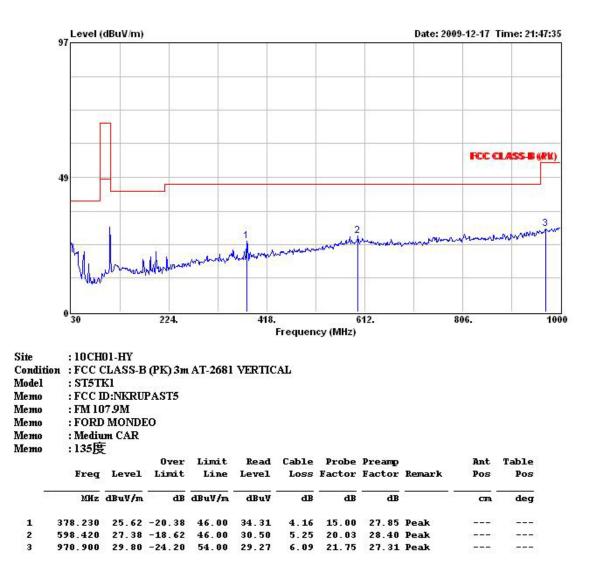
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 90 $^\circ$ / Mode 1		



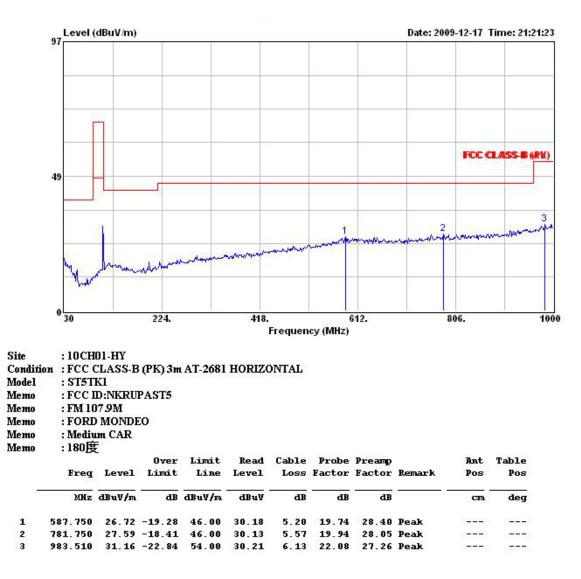


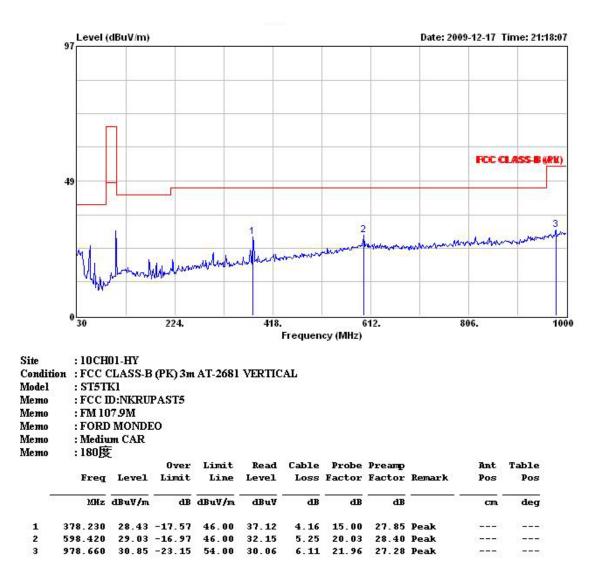
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9MHz/ 135 $^\circ$ / Mode 1		



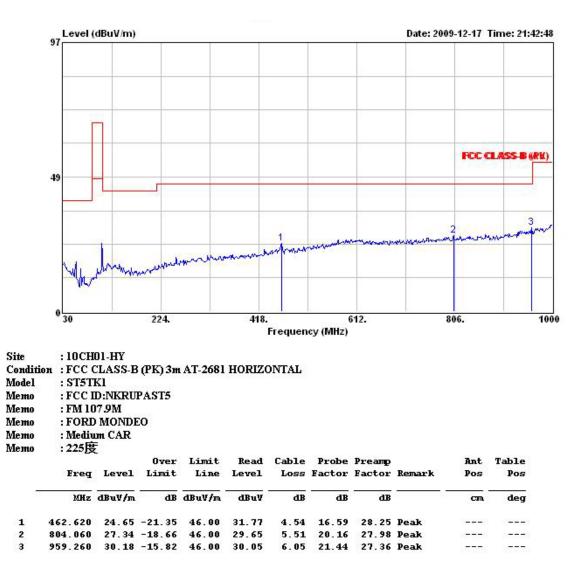


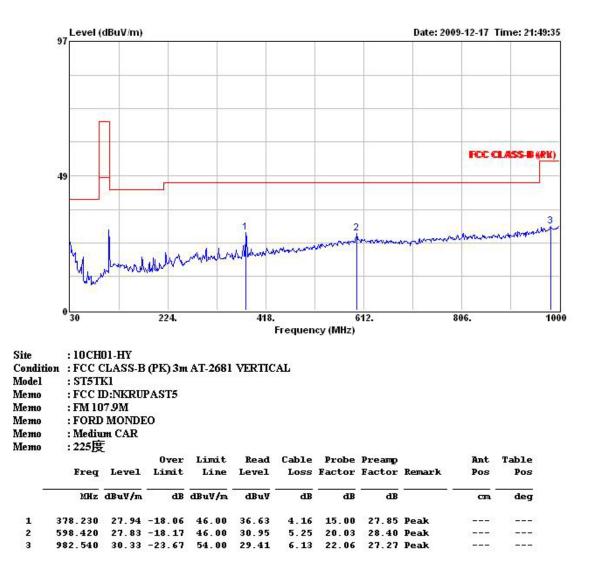
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 180 $^\circ$ / Mode 1		



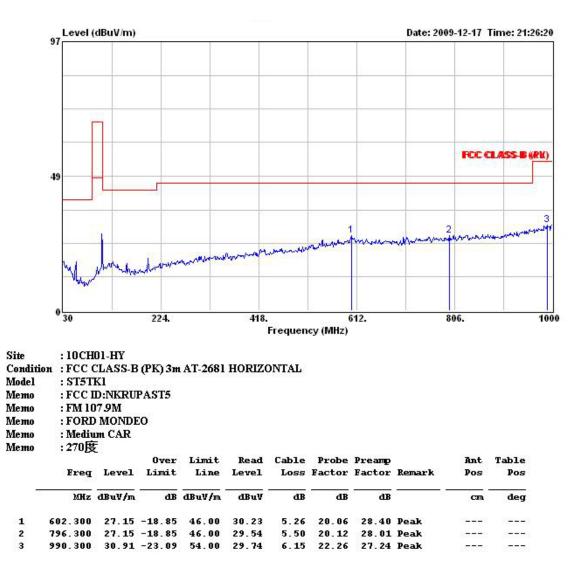


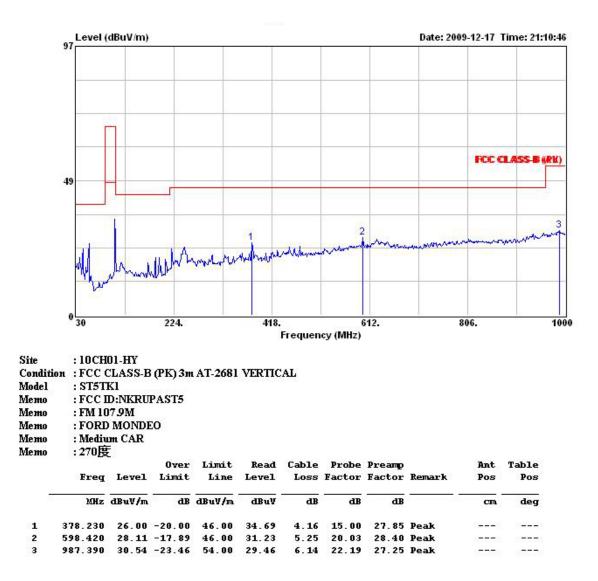
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 225 $^\circ$ / Mode 1		



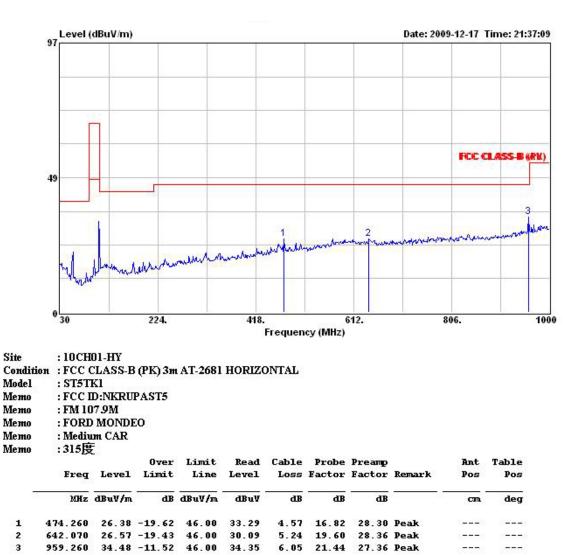


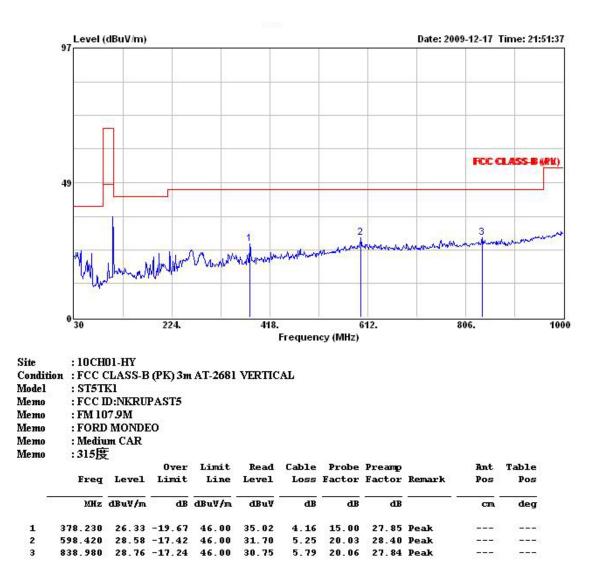
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 270 $^\circ$ / Mode 1		



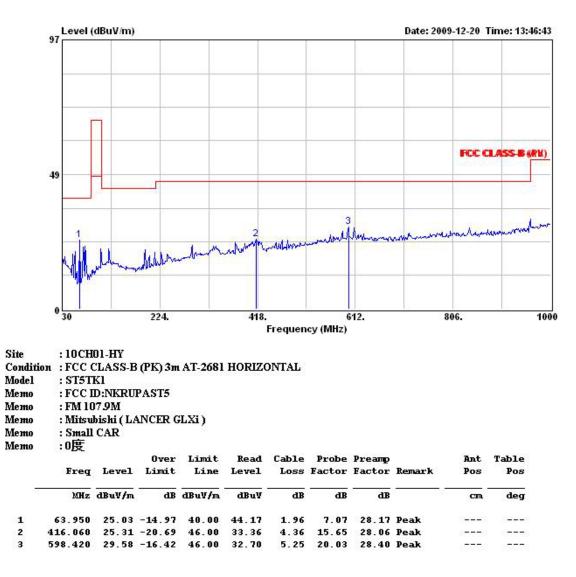


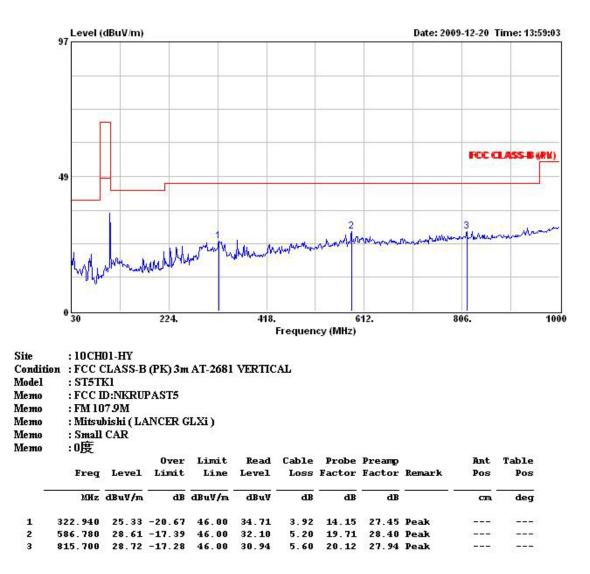
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 315 $^\circ$ / Mode 1		



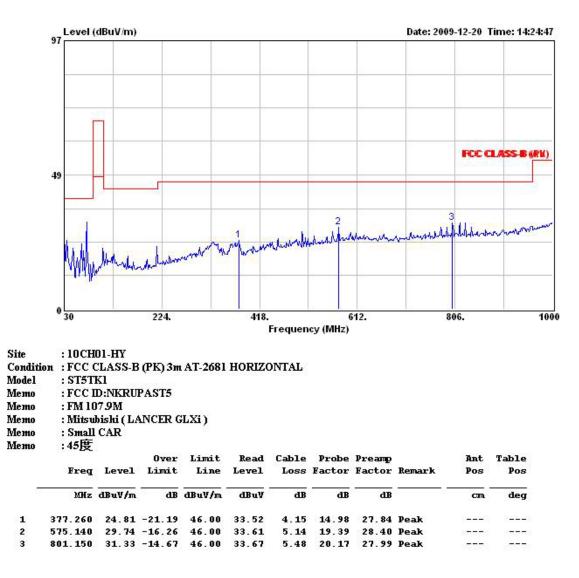


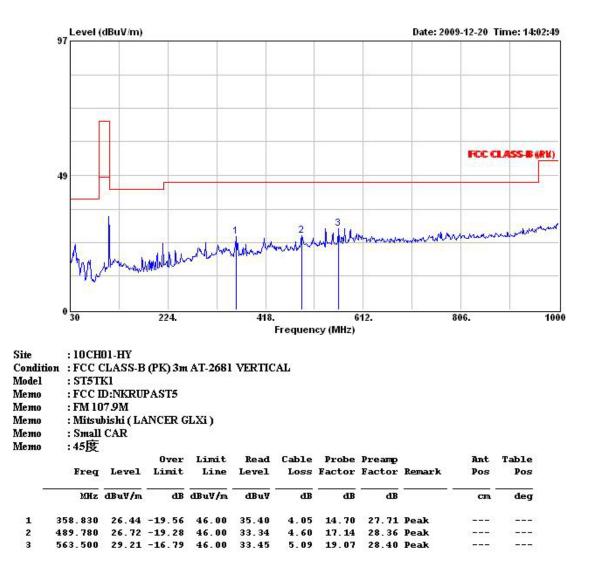
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 0 $^\circ$ / Mode 2		



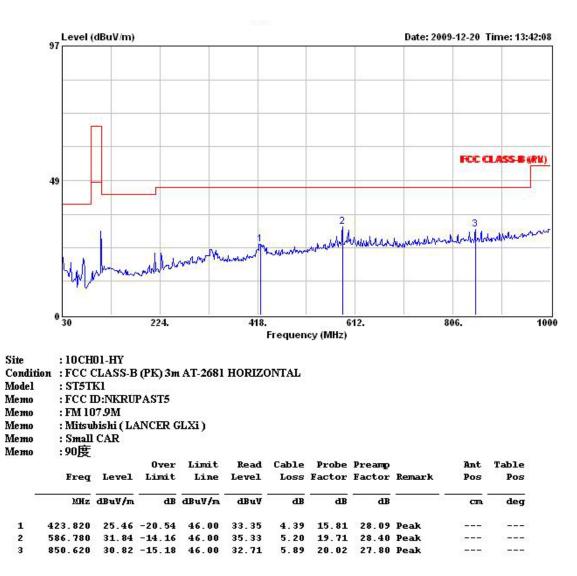


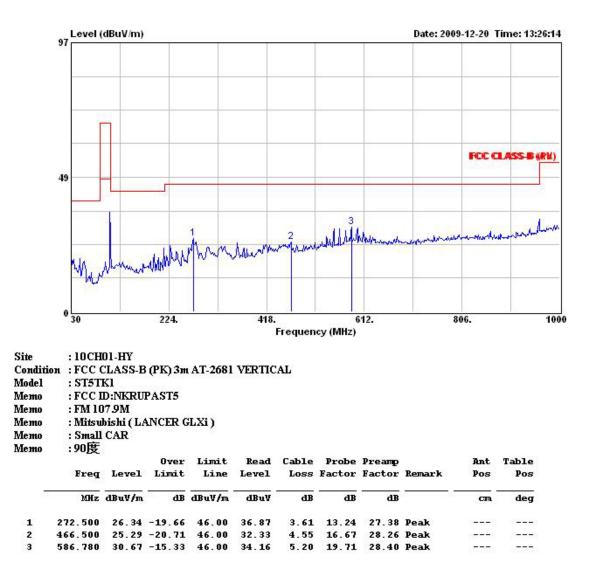
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 45 $^{\circ}$ / Mode 2		



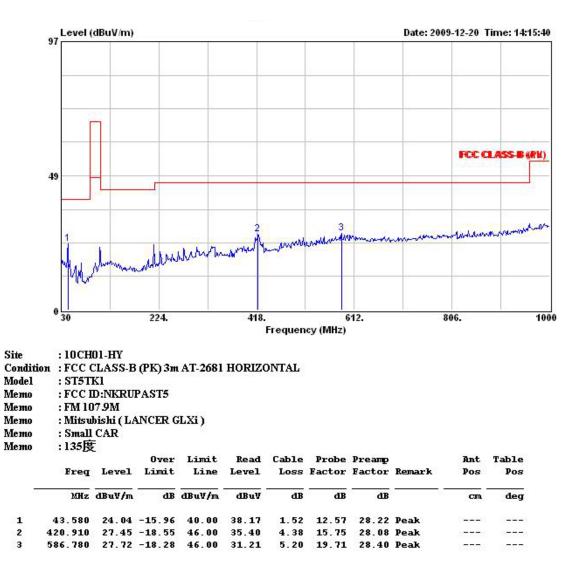


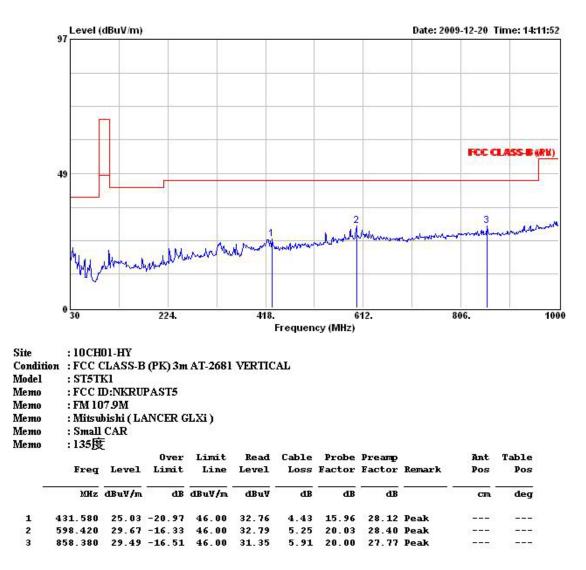
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 90 $^\circ$ / Mode 2		



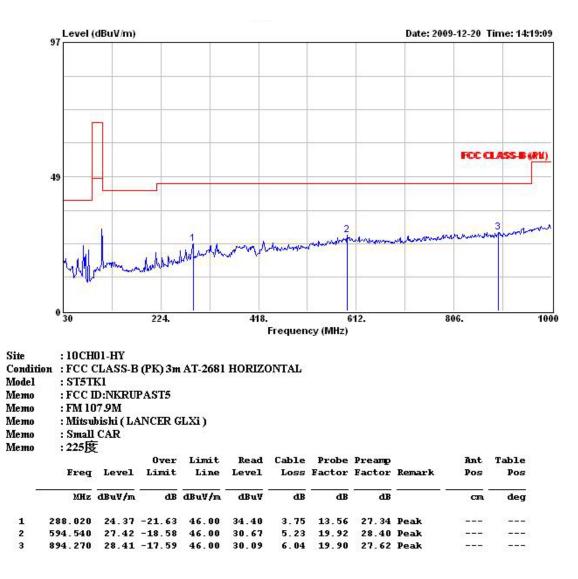


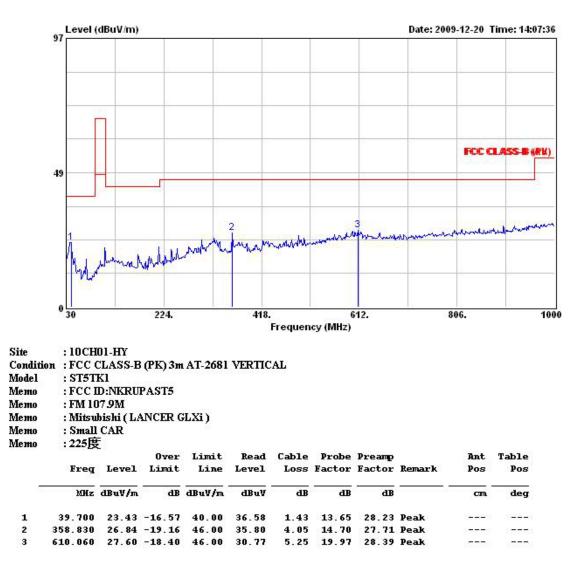
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 135 $^\circ$ / Mode 2		



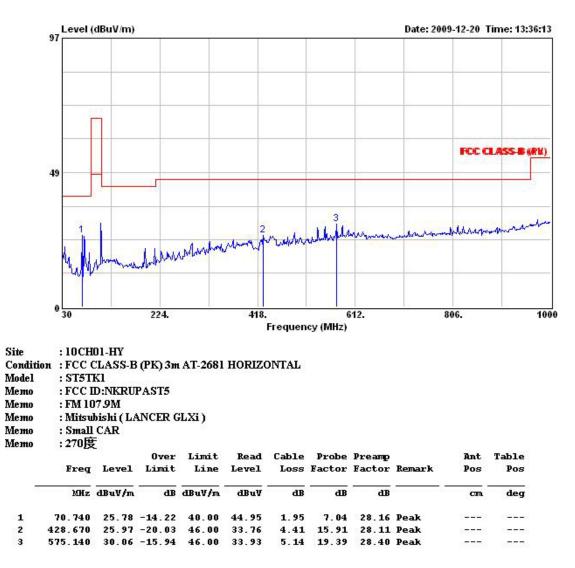


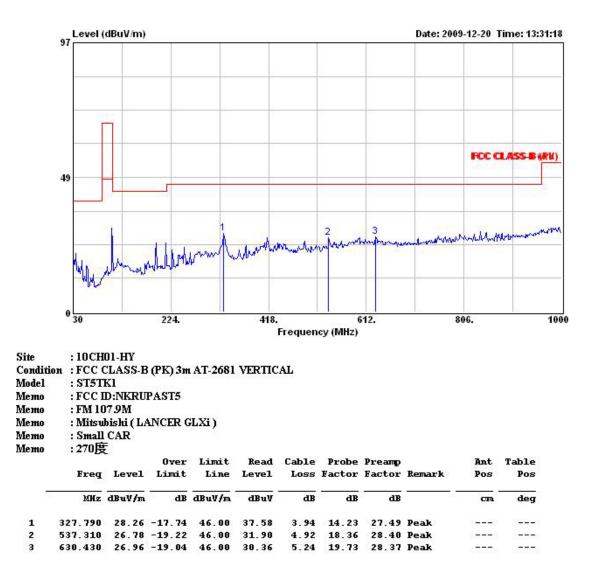
Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 225 $^{\circ}$ / Mode 2		





Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 270 $^\circ$ / Mode 2		





Temperature	<b>20.3</b> ℃	Humidity	57.8%
Configurations	107.9 MHz/ 315 $^\circ$ / Mode 2		

