FCC RADIO TEST REPORT

Applicant's Company Applicant Address	SIRIUS SATELLITE RADIO. 989 Lenox Drive Suite 212 Lawrenceville,
	New Jersey 08648
Manufacturer's Company	Wistron NeWeb Corporation
Manufacturer Address	No. 10-1, Li-hsin Road I, Science-Baded Industrial Park, Hsinchu 300, Taiwan, R.O.C.
Product Name	Starmate 4

Product NameStarmate 4Brand NameSiriusModel NameST4TK1Received DateDec. 17, 2009Final Test DateDec. 20, 2009

1. General Description of Equipment under Test

For 88.1 MHz

Part	Description of Test	Under Limit
3.1	Radiated Emissions	5.04 dB
3.2	Field Strength of Fundamental Emissions	7.16 dB

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

For 96.9 MHz

Part	Description of Test	Under Limit
3.1	Radiated Emissions	4.38 dB
3.2	Field Strength of Fundamental Emissions	0.32 dB

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

For 107.9 MHz

Part	Description of Test	Under Limit
3.1	Radiated Emissions	6.02 dB
3.2	Field Strength of Fundamental Emissions	9.02 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

<For 88.1 MHz>

Mode 1: Medium Car (Ford, MONDEO) + ST4TK1 Mode 2: Small Car (Mitsubishi, Lancer) + ST4TK1 Mode 3: Large Car (Ford, IXION) + ST4TK1 <**For 96.9 MHz>** Mode 4: Medium Car (Ford, MONDEO) + ST4TK1 Mode 5: Small Car (Mitsubishi, Lancer) + ST4TK1 Mode 6: Large Car (Ford, IXION) + ST4TK1 <**For 107.9 MHz>** Mode 7: Medium Car (Ford, MONDEO) + ST4TK1 Mode 8: Small Car (Mitsubishi, Lancer) + ST4TK1 Mode 8: Small Car (Ford, IXION) + ST4TK1

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

- 1. 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, SDPIV1(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>

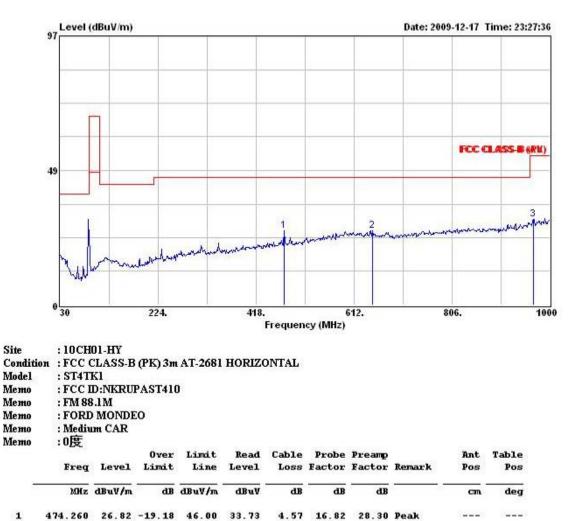
Receiver Parameter	Setting
Attenuation	Auto
Center Frequency	Fundamental Frequency
RB	120 KHz
Detector	Peak / QP / Average

3. TEST RESULT

3.1 Results for Radiated Emissions

Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 0 $^{\circ}$ / Mode 1		

Horizontal



5.23 19.52 28.35 Peak

6.08 21.65 27.33 Peak

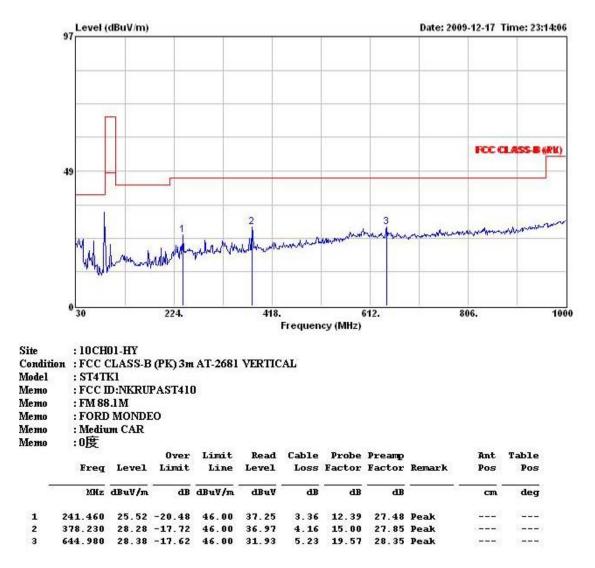
2

3

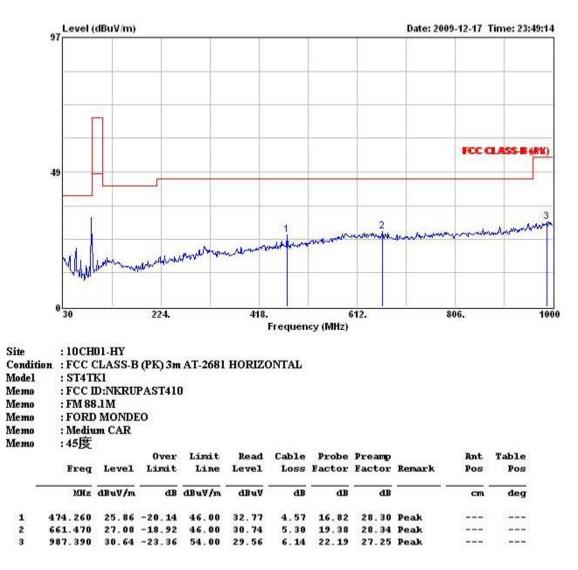
648.860 26.66 -19.34 46.00 30.26

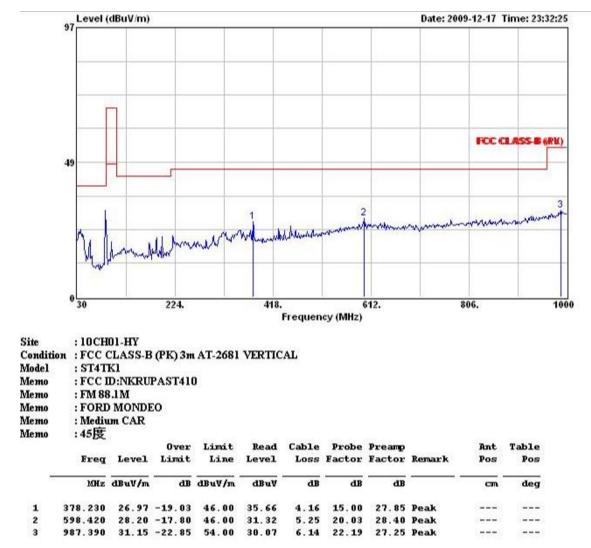
967.020 30.92 -23.08 54.00 30.52

(a) (a)

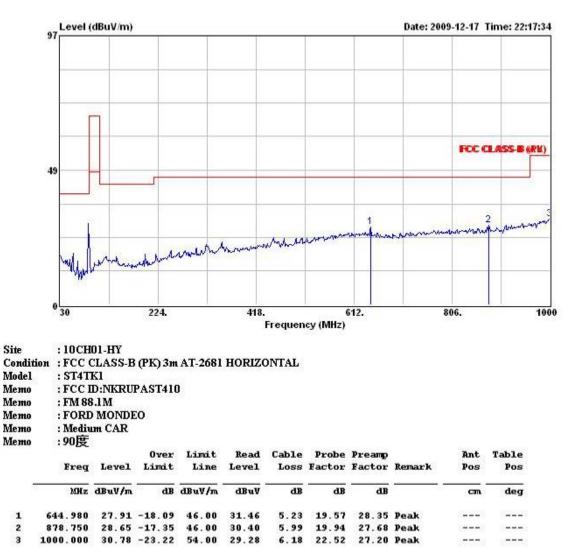


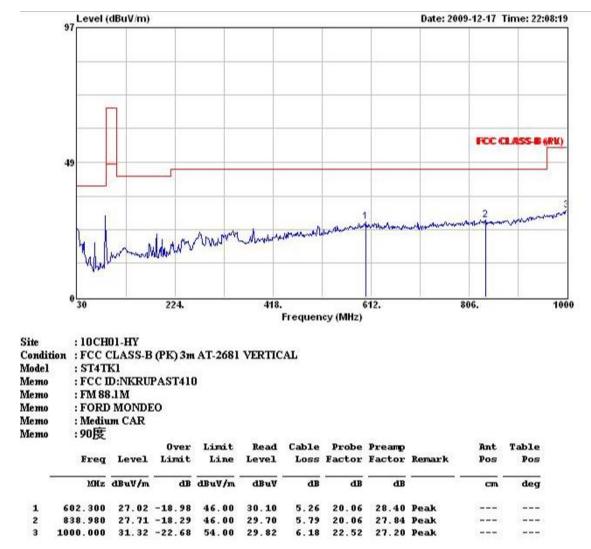
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 45 $^\circ$ / Mode 1		



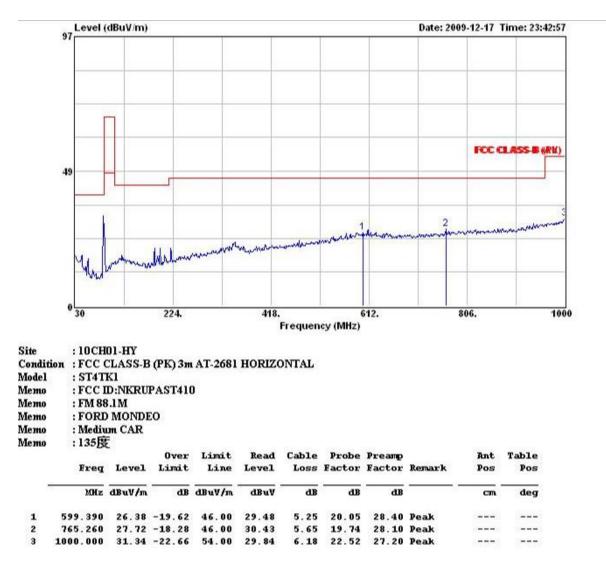


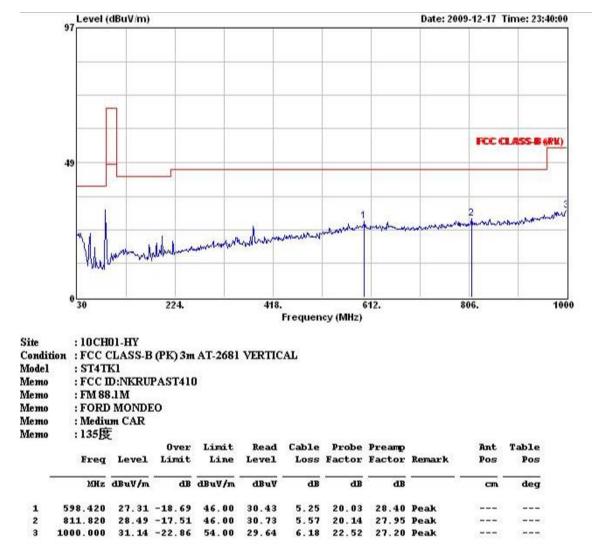
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 90 $^\circ$ / Mode 1		





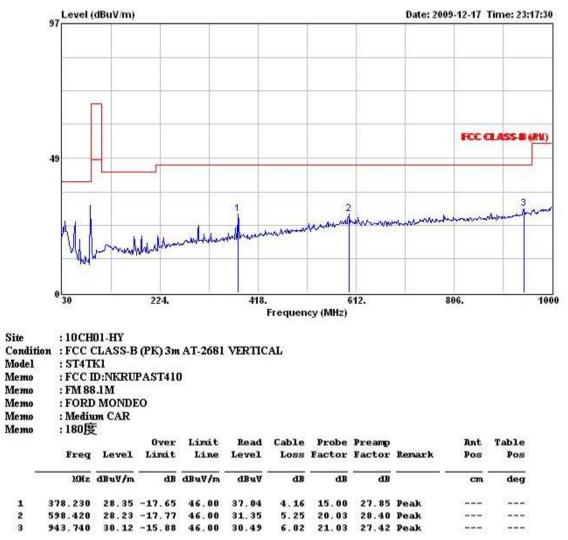
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 135° / Mode 1		



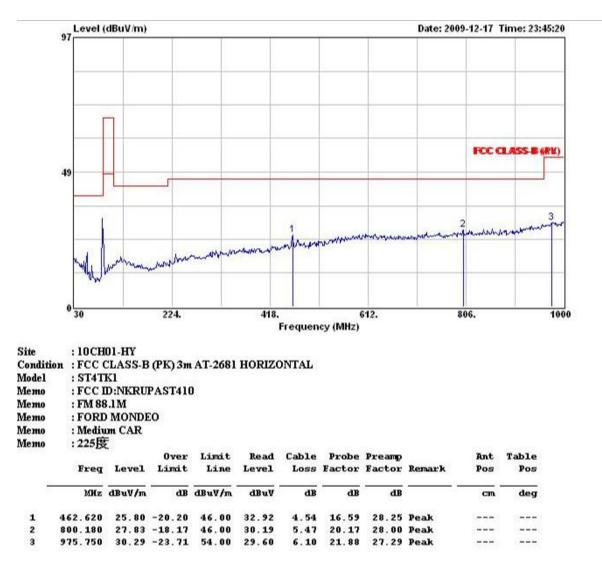


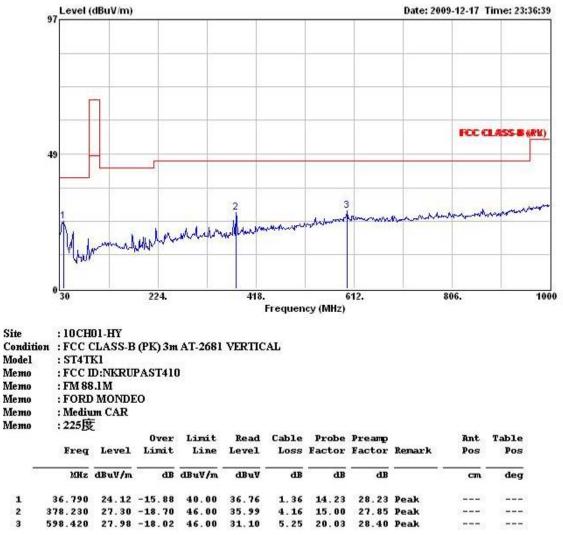
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 180 $^{\circ}$ / Mode 1		



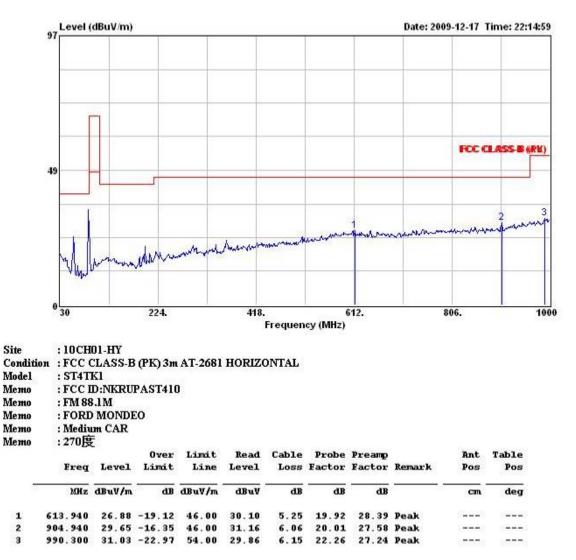


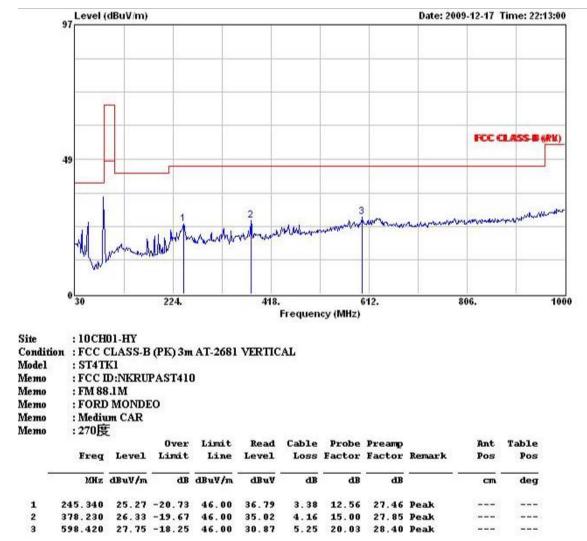
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 225 $^{\circ}$ / Mode 1		





Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 270 $^{\circ}$ / Mode 1		

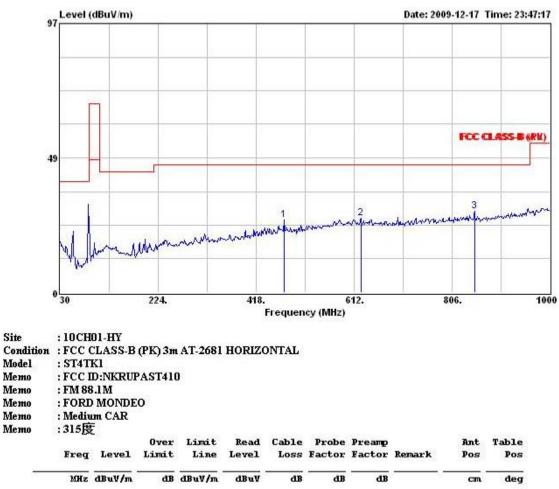




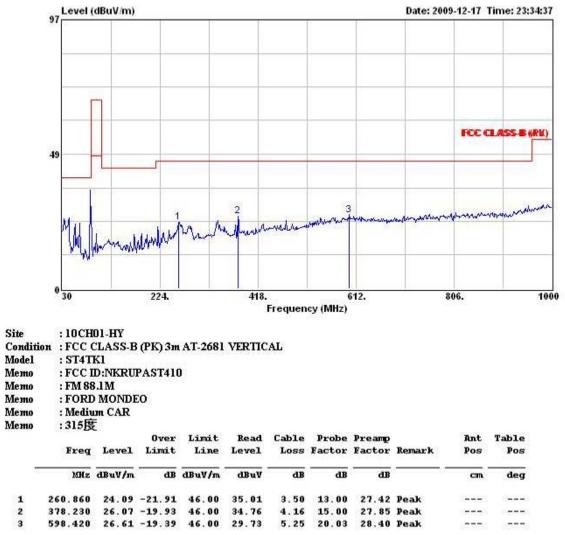
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 315 $^{\circ}$ / Mode 1		

Horizontal

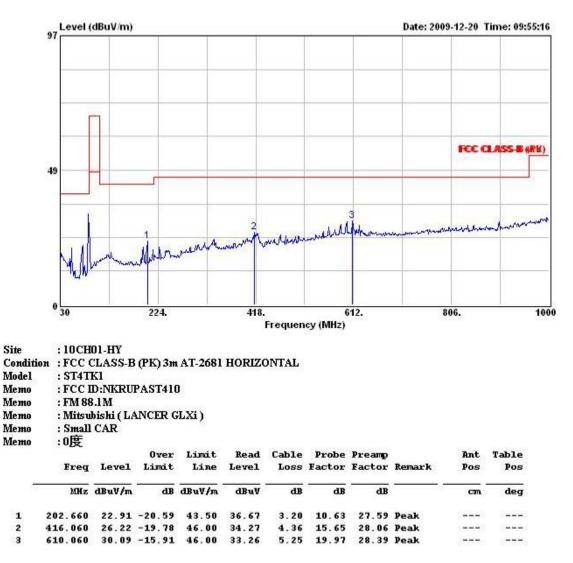
Site

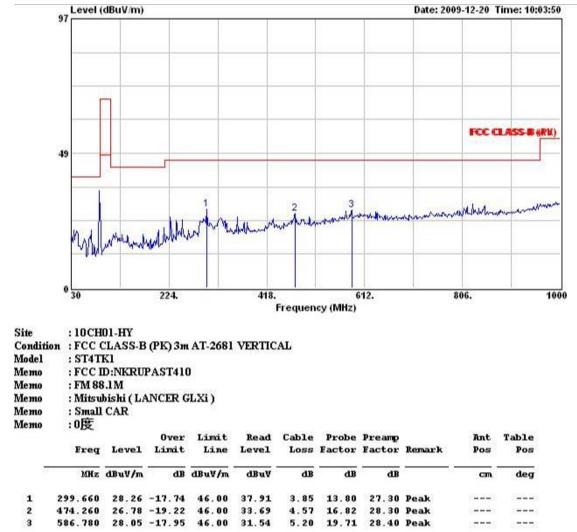


	Freq	Level	Limit	Line	Level	Loss	Factor	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	474.260	26.18	-19.82	46.00	33.09	4.57	16.82	28.30	Peak		
2	625.580	26.79	-19.21	46.00	30.13	5.24	19.79	28.37	Peak		
3	850.620	29.15	-16.85	46.00	31.04	5.89	20.02	27.80	Peak		

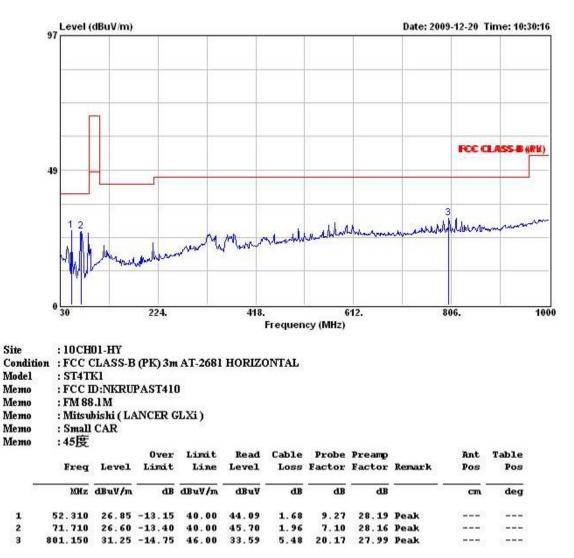


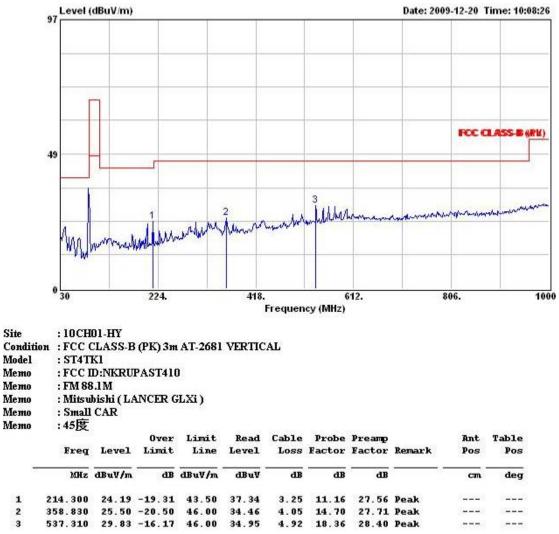
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 0 $^{\circ}$ / Mode 2		



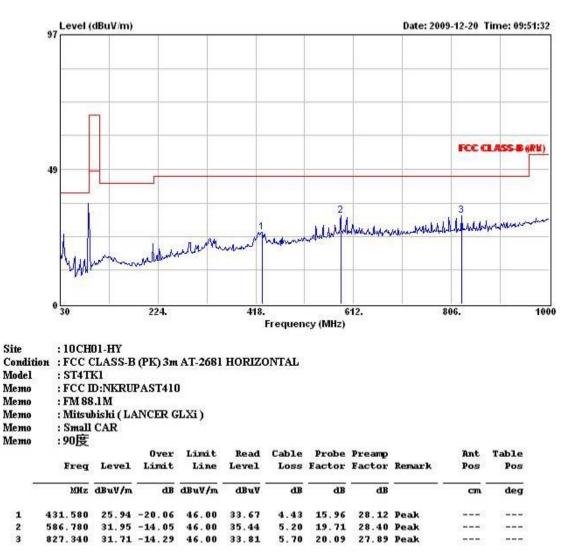


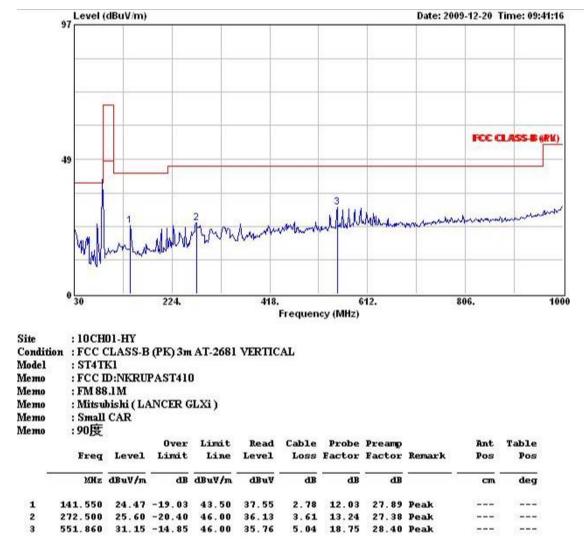
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 45 $^\circ$ / Mode 2		



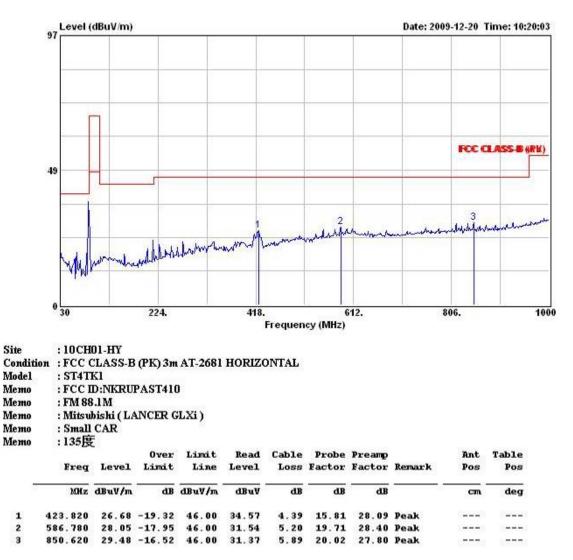


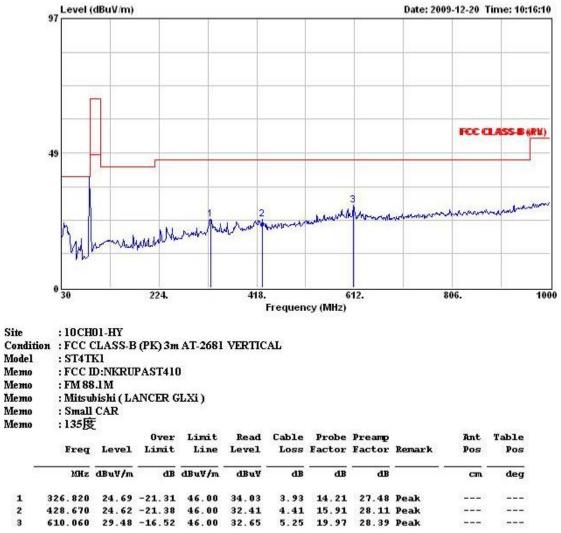
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 90 $^\circ$ / Mode 2		



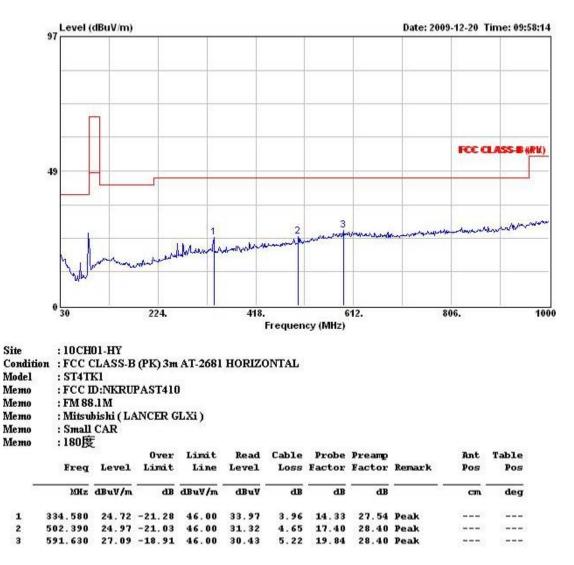


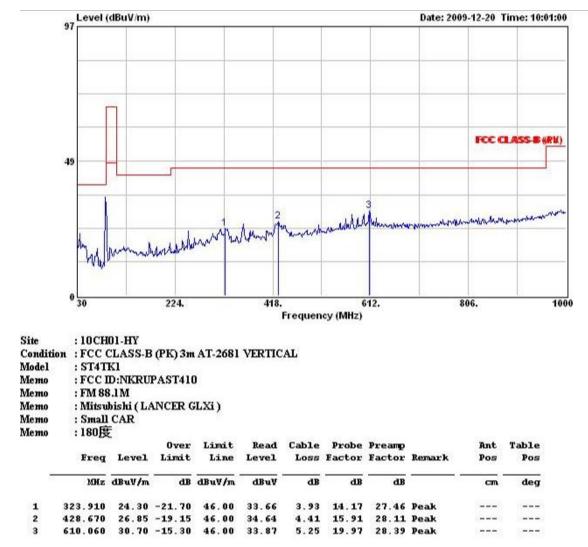
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 135 $^{\circ}$ / Mode 2		



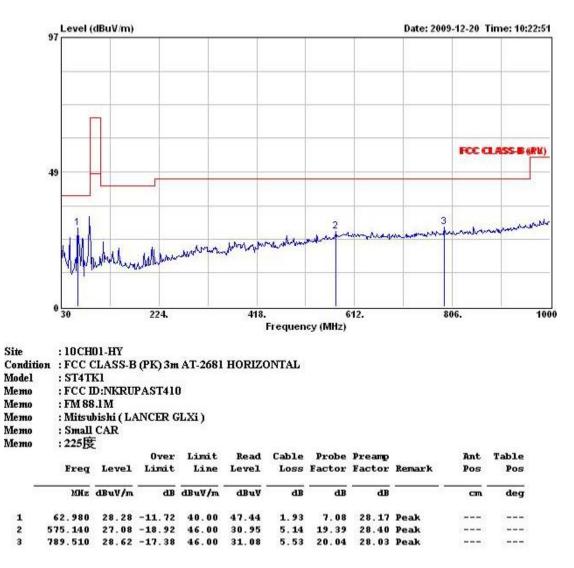


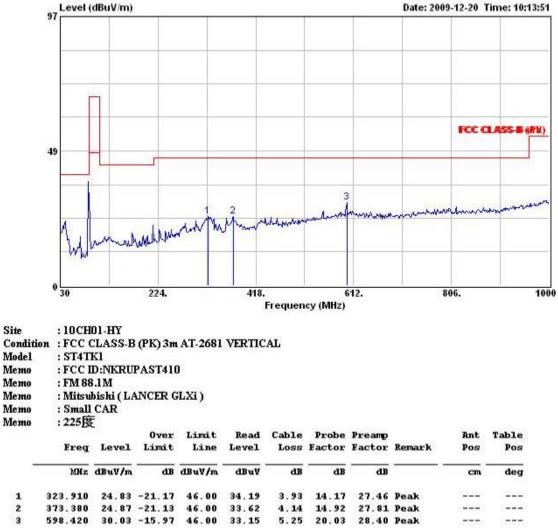
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 180 $^{\circ}$ / Mode 2		



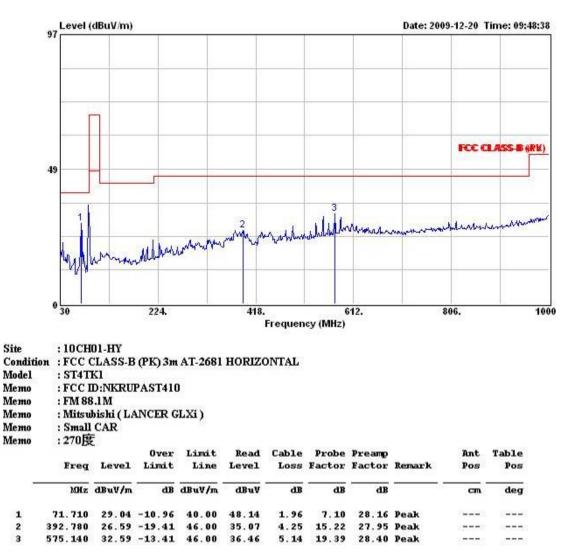


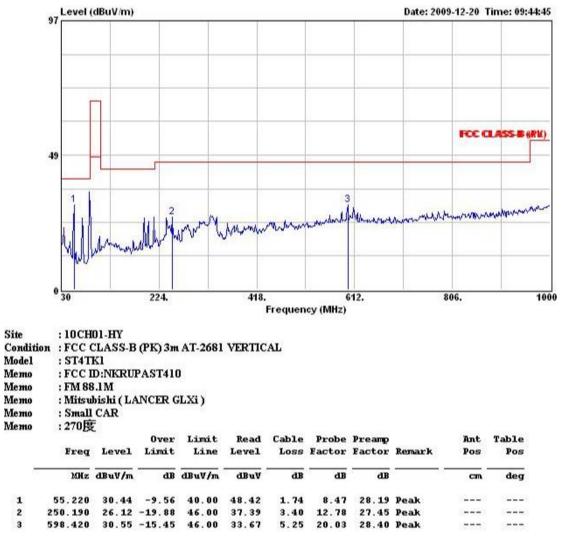
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 225 $^{\circ}$ / Mode 2		



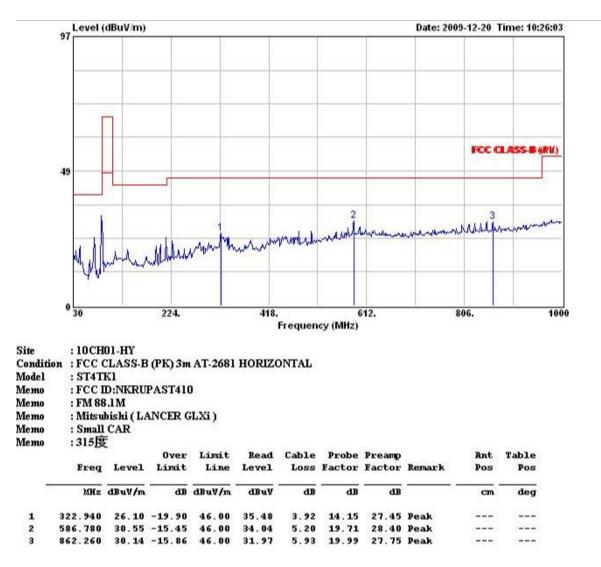


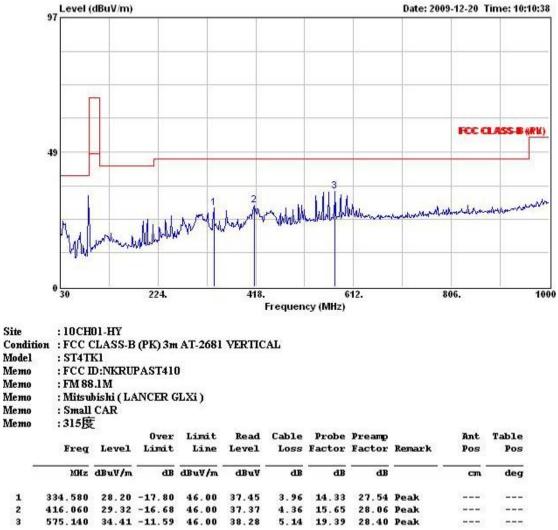
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 270 $^{\circ}$ / Mode 2		





Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 315 $^{\circ}$ / Mode 2		



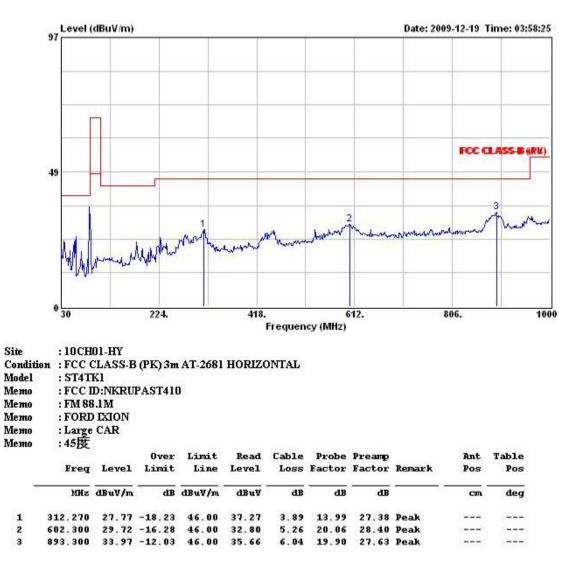


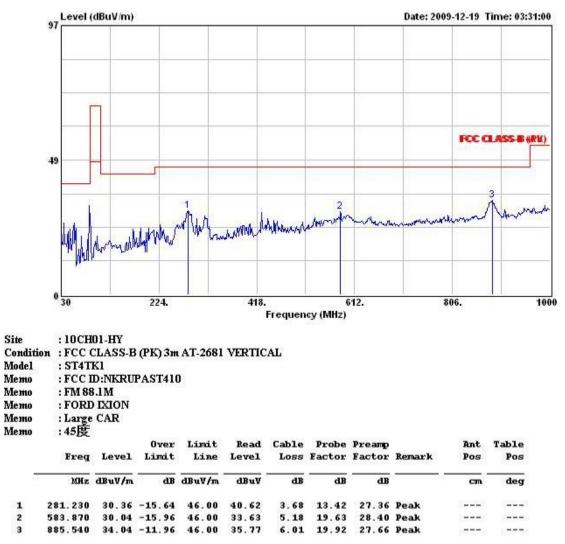
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 0 $^{\circ}$ / Mode 3		



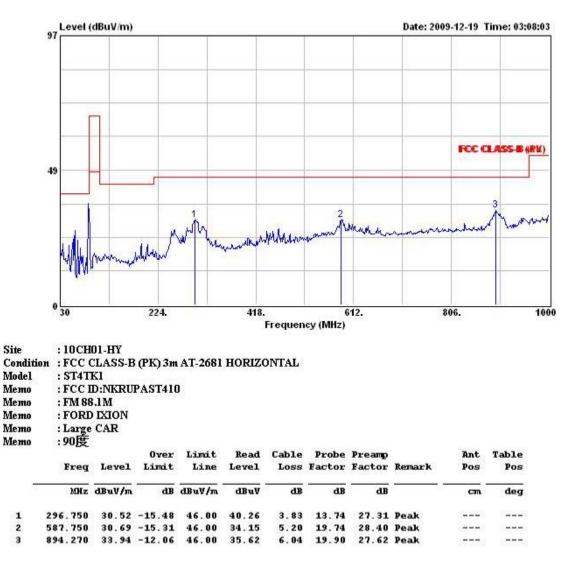


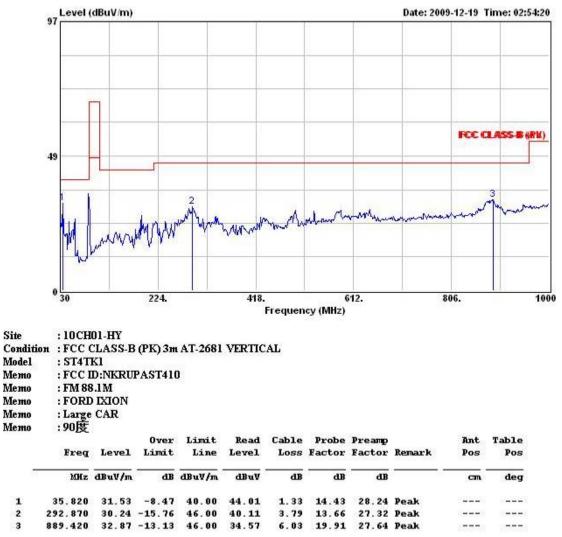
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 45 $^{\circ}$ / Mode 3		





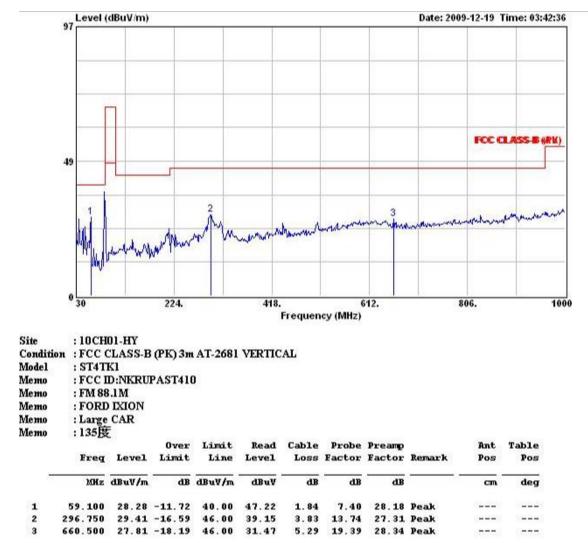
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 90 $^\circ$ / Mode 3		



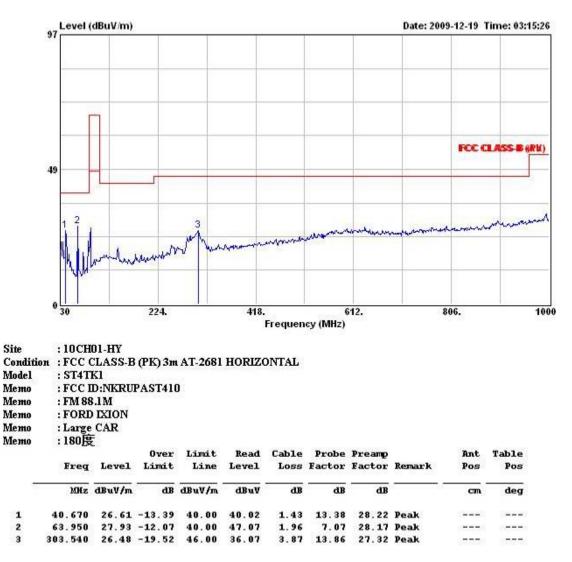


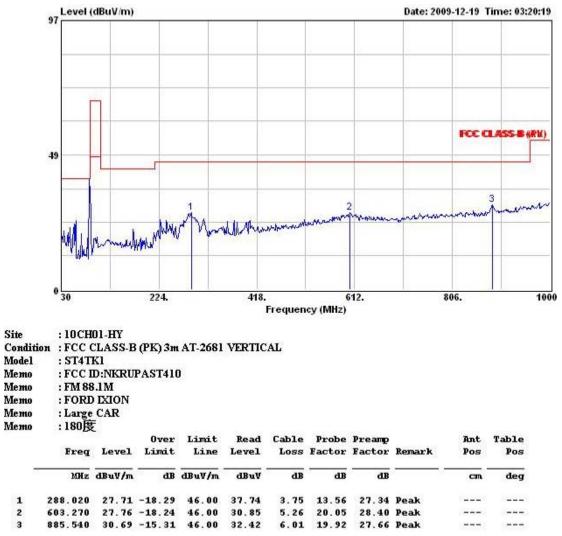
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 135° / Mode 3		





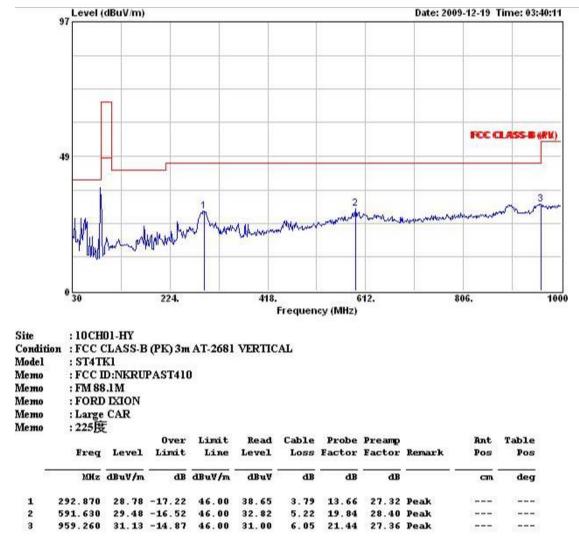
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 180 $^{\circ}$ / Mode 3		



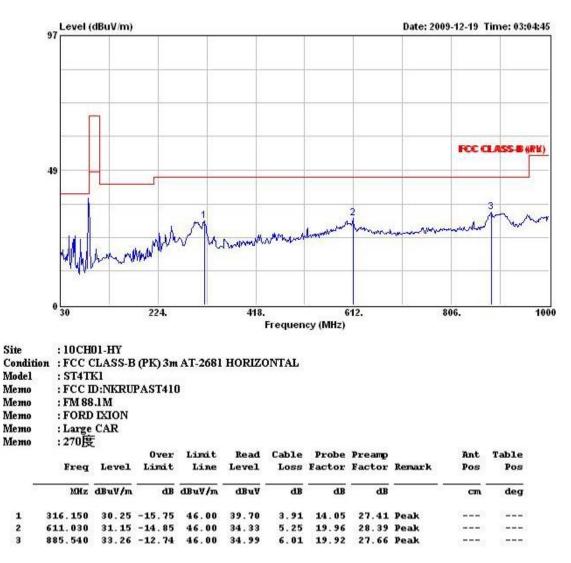


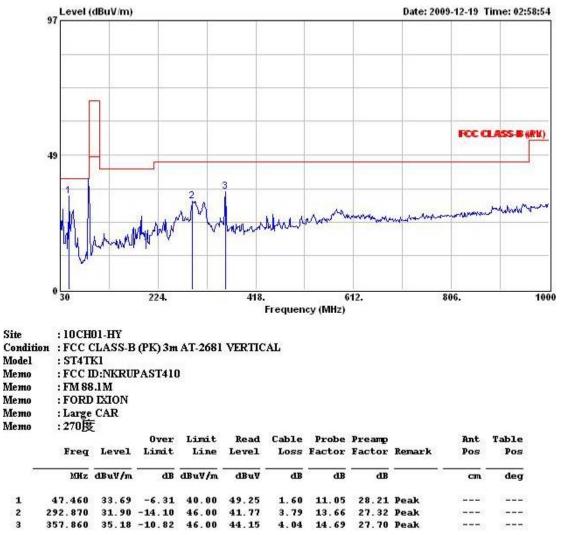
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 225 $^{\circ}$ / Mode 3		



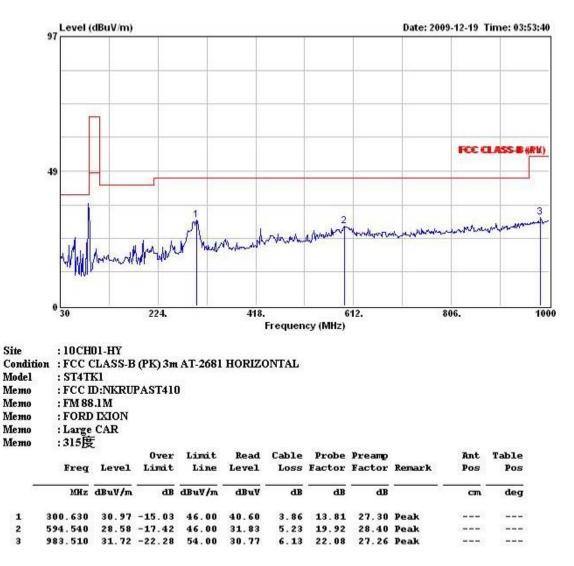


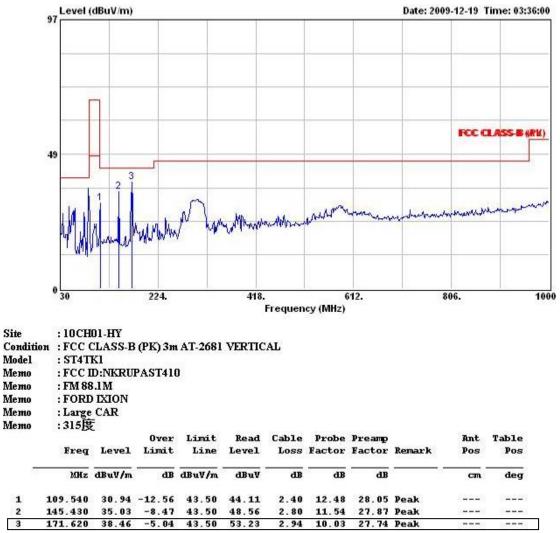
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 270 $^{\circ}$ / Mode 3		



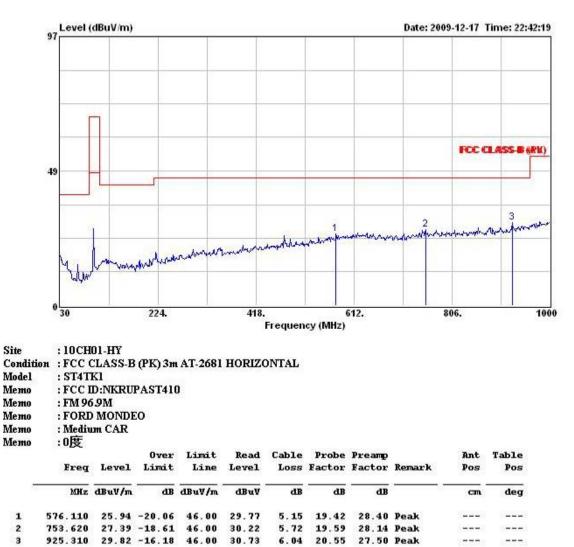


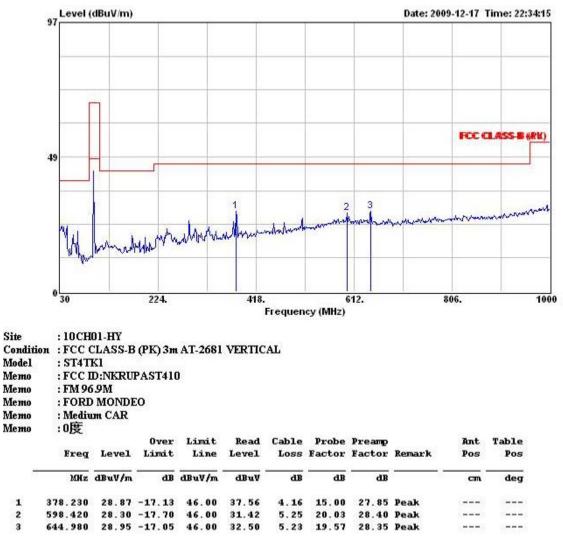
Temperature	20.3 ℃	Humidity	57.8%
Configurations	88.1 MHz/ 315 $^{\circ}$ / Mode 3		





Temperature	20.3 ℃	Humidity	57.8%
Configurations	96.9 MHz/ 0 $^{\circ}$ / Mode 4		





Temperature	20.3 ℃	Humidity	57.8%
Configurations	96.9 MHz/ 45 $^\circ$ / Mode 4		

