

4. Measurement Condition

4.1 EUT Operation.

- The EUT was in the following operation mode during all testing
- The EUT is connected with PDA. And check to normal mode operation
- The operational conditions of the EUT was determined by the manufacturer according to the typical use of the EUT with respect to the expected highest level of emission.

4.2 Cable Connecting

Start Equipment		End Equipment		Cable Standard			Remark
Name	I/O port	Name	I/O port	Length	Pin No.	Form	
Game pad	Serial	PDA	Serial	0.5	12	Dsub	
PDA	Power	Adpter	-	2	2	Din	

4.3 EUT Configurations

Equipment Name	Model Name	Manufacturer	Country of origin	Remark
Game Pad	Zeta Joypad	Be Interactive Co., Ltd	Korea	-
PDA	Agency Series PE2030	Compaq Computer Corporation	-	-

5. Measurement of radiated disturbance

Above 30 MHz Electric Field strength was measured in accordance with **FCC Part 15 (2001) & ANSI C 63.4 (1992)**. The test setup was made according to **FCC Part 15 (2001) & ANSI C 63.4 (1992)** on an open test site, which allows a 3m distance measurement. The EUT was placed in the center of wooden turntable. The height of this table was 0.8m. The measurement was conducted with both horizontal and vertical antenna polarization. The turntable has fully rotated. For further description of the configuration refer to the picture of the test set-up.

5.1 Measurement equipments

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
LogBicon Antenna	VULB 9160	Schwarzbeck	3090	2002.12.27
Spectrum Analyzer	8568B	HP	2928A04802	2002. 06
RF Preselector	85685A	HP	2510A00137	2002.06.15
Quas-Peak Adapter	85650A	HP	2811A01224	2002.06.15
Pre-Amplifier	8447F	HP	2944A03711	

5.2 Environmental Conditions

Section	Temperature (°C)	Humidity (%)	Pressure (hPa)
Radiated	11	40	1015
Test Place	Open site : 3m		

5.3 Test data sheet

Frequency (MHz)	Position (V/H)	Height (m)	Angle (°)	Correction Factor (dB)		Result Value (dBuV/m)		Margin
				Air Line	Cable etc.	Limit	Result	
67.11	H	2.4	150	9.90	1.28	40	18.60	-21.40
77.26	V	1.0	220	8.08	1.45	40	16.54	-23.46
110.58	V	1.0	110	10.34	1.71	43.5	20.69	-22.81
165.89	H	1.5	250	12.30	2.06	43.5	19.29	-24.21
Remark		H : Horizontal, V : Vertical						

6. Measurement of conducted disturbance

The continuous disturbance voltage of AC Mains in the frequency from 0.45 to 30 MHz was measured in accordance to **FCC Part 15 (2001) & ANSI C 63.4 (1992)**. The test setup was made according to **FCC Part 15 (2001) & ANSI C 63.4 (1992)** in a shielded. The EUT was placed on a non-conductive table at least 80 above the ground plan. A grounded vertical reference plane was positioned in a distance of 40cm from the EUT. The distance from the EUT to other metal surfaces was at least 0.8m. The EUT was only earthen by its power cord through the line impedance stabilizing network. The power cord has been bundled to a length of 1.0m.. The test receiver with Quasi Peak detector complies with CISPR 16.

6.1 Measurement equipments

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
LISN	ESHS-Z5	Polarad	872461/048	2002. 01
LISN	ESH3-Z5	Schwarzbeck	836679/025	2001. 10
TEST Receive	ESPC	Rohde & Schwarz	845296/021	2001. 10
Pulse Limiter	ESH3Z2	Rohde & Schwarz	None	N/A

6.2 Environmental Conditions

Section	Temperature (°C)	Humidity (%)	Pressure (hPa)
Conducted	22	35	1015
Test Place	Shield Room		

6.3 Test data sheet

Frequency (MHz)	Correction Factor (dB)		Quasi-peak Value (dBuV/m)			Margin
	Lisn	Cable etc.	Limit	Result	Line	
0.52	0.09	0.0	48	34.39	H	-13.61
0.73	0.10	0.1	48	28.22	H	-19.78
0.82	0.10	0.1	48	30.67	H	-17.33
0.93	0.11	0.2	48	32.23	H	-15.77
1.13	0.12	0.2	48	24.63	H	-23.37
1.34	0.12	0.2	48	25.72	H	-22.28
1.55	0.13	0.2	48	26.88	H	-21.12
1.86	0.13	0.2	48	25.30	H	-22.70
2.79	0.16	0.2	48	23.80	H	-24.20
0.61	0.11	0.0	48	32.26	N	-15.74
0.72	0.12	0.1	48	33.45	N	-14.55
0.82	0.12	0.1	48	28.32	N	-19.68
1.13	0.12	0.2	48	24.61	N	-23.39
1.44	0.12	0.2	48	31.52	N	-16.48
1.65	0.13	0.2	48	30.85	N	-17.20
1.74	0.13	0.2	48	34.25	N	-13.75
2.16	0.14	0.2	48	33.01	N	-14.99
2.88	0.16	0.2	48	28.29	N	-19.71
Rema2.16rk	H : Hot Line, N : Neutral Line					



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**Electromagnetic
Interference
Test Report**

6.4 Spectral Diagram

- Hot Line

ES TECH

HOT

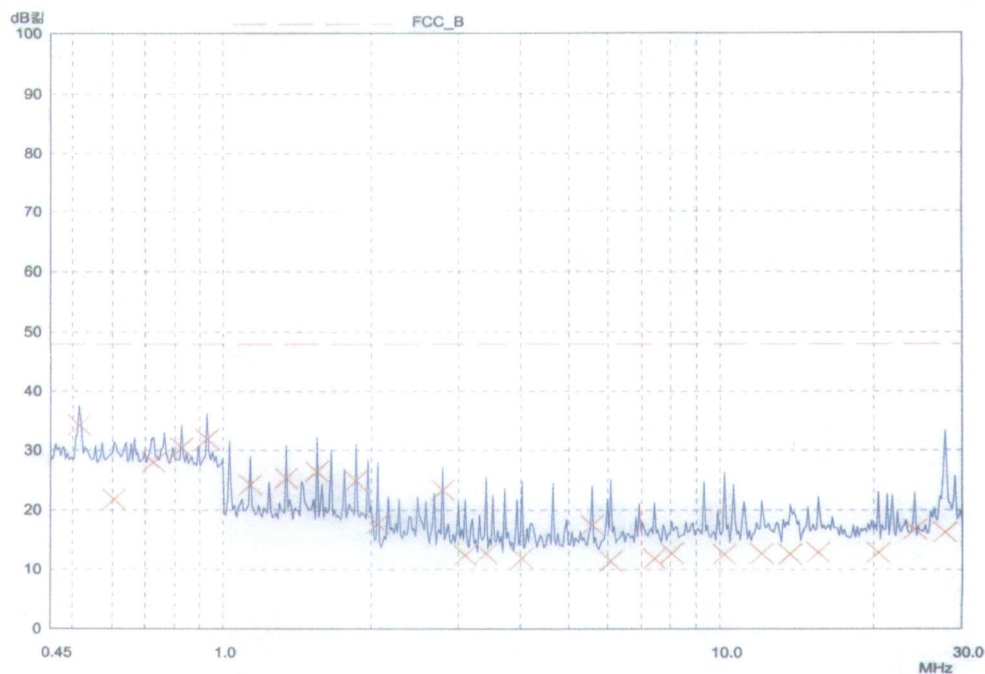
EUT: Zeta Joypad
Manuf: (주)바이인티렉티브
Op Cond: 220 V
Operator: 주임연구원 양진모
Test Spec: FCC Part15 CLASS B
Comment:

File: 1309_h.dat : (주)바이인티렉티브

Scan Settings (1 Range)

Frequencies		Step	IF BW	Detector	Receiver Settings		Atten	OpRge
Start	Stop				M-Time			
450kHz	30MHz	0.8%	10kHz	PK	20msec	Auto	60dB	

Final Measurement: X QP
Meas Time: 1sec
Subranges: 25
Acc Margin: 60 dB





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**Electromagnetic
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- Neutral Line

12 Dec 2001 12:05

ES TECH NEUTRAL

EUT: Zeta Joypad
Manuf: (주)비이인티렉티브
Op Cond: 220 V
Operator: 주임연구원 왕진모
Test Spec: FCC Part15 CLASS B
Comment:

File: 1309_n.dat : (주)비이인티렉티브

Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten
450kHz	30MHz	0.8%	10kHz	PK	20msec	Auto
						OpRge
						60dB

Final Measurement: X QP
Meas Time: 1sec
Subranges: 25
Acc Margin: 60 dB

