## **Measurement Report**

Issued Date: Jun. 20, 2005

Project No.: 0506050

Equipment: Multimedia Mobile Phone

Model No.: V66

Applicant: ASUSTeK Computer Inc.

No. 150, Li-Te Rd., Peitou, Taipei, Taiwan

R.O.C.

Tested by:

Neutron Engineering Inc. EMC Laboratory

Data of Test:

Jun. 15, 2005 ~ Jun. 16, 2005

**Testing Engineer** 

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#### Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

#### **Assessment Authorities**









#### Test Standard/Scope/Item Acceptance

FCC Part 15 Subpart B IEC/CISPR22 AS/NZS CISPR 22 CNS 13438

FCC Part 15 Subpart B

CISPR 22/EN 55022

IEC/EN 61000-4-4

IEC/EN 61000-3-2 IEC/EN 61000-4-5 IEC/EN 61000-3-3 IEC/EN 61000-4-6 IEC/EN 61000-4-2 IEC/EN 61000-4-8 IEC/EN 61000-4-3 IEC/EN 61000-4-11

IEC/EN 61000-4-4

**VCCI** -Technical Requirement

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	N <i>EMC</i>	

#### 1. General Information

### 1.1 Applicant

Name : ASUSTeK Computer Inc.

Address: No. 150, Li-Te Rd., Peitou, Taipei, Taiwan R.O.C.

#### 1.2 Manufacturer

Name : ASUSTeK Computer Inc.

Address: No. 150, Li-Te Rd., Peitou, Taipei, Taiwan R.O.C.

## 1.3 Equipment Under Tested

Name : Multimedia Mobile Phone

Trade Name: ASUS Model No.: V66

### 1.4 OEM Brand/Model (if applicable)

OEM Brand(s)/Model(s) except the basic model in sub-clause 1.3 is (are) the follows:

OEM Brand: N/A Model No.: N/A

## 1.5 Model Difference (Series, Versions, if any)

Except the basic model no. (model designation of the sample tested in this test report), additional model no. covered is(are):

N/A

#### **NEUTRON EMC LAB.**

Report No.: NEI- FCCE-1-0506050

#### 1.6 Product Descriptions (Application/Features/Specification)

The EUT is a Multimedia Mobile Phone.

Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual

#### 1.7 Connecting I/O Port(s)

Please refer to the User's Manual

#### 1.8 Power Supplied

Power Source: AC Mains/ Battery supplied.
Power Cord: Detachable, non-shielded type.

Power Rating: AC I/P: 100~240V/ 50~60Hz 0.15A; DC O/P:5.2V 430mA/ 3.7V 720mA

#### 1.9 Products Covered (if applicable)

The sample tested including the following sub-system/module/accessory:

Sub-system/ Module/ Accessory Model/Type No. Int. Inst./ Ext. Cont. AC/DC Adapter MU03-5052043-A1 Ext. Cont.

#### 1.10 Description of Test Mode(s)

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Mode 1: FM 88MHz+EarPhone+DC Charge

Mode 2 : FM 88MHz+USB Interface+ DC Charge

Mode 3: PCS LINK(CH 512)+EarPhone+ DC Charge

Mode 4 : PCS LINK(CH 512)+ USB Interface + DC Charge

Mode 5 : PCS LINK(CH 661)+EarPhone+ DC Charge

Mode 6 : PCS LINK(CH 661)+ USB Interface + DC Charge

Mode 7: PCS LINK(CH 810)+EarPhone+ DC Charge

Mode 8 : PCS LINK(CH 810)+ USB Interface + DC Charge

The EUT system operated Mode 2/4/6/8, mentioned above were found to be the worst case during the pre-scanning test.

These operation modes were used for final testing and collecting test data included in this report.

#### 1.11 EUT Modifications (if applicable)

No any modification required for the EUT to comply with the standards.

	N <i>EMC</i>	

## 1.12 Summary of Test Results

Test procedures according to the technical standards:

EMC Emission					
Standard	Test Item	Limit	Judgment	Remark	
FCC Part15, Subpart B CISPR 22:1997+A1: 2000	Conducted Emission	Class B	PASS		
ICES-003: 2004	Radiated Emission	Class B	PASS		

## NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

### **NEUTRON EMC LAB.**

Report No.: NEI-FCCE-1-0506050

#### 2. RFI Emissions Measurement

#### 2.1 Test Facility

The test facilities used to collect the test data in this report is OS02/OS02 at the location of No.132-1, Lane 329, Sec. 2, Palain Road, Shijr City, Taipei, Taiwan.

#### 2.2 Standard Compliance

The test data contained in this report relate only to the item(s) listed below:

Limitation Class B

FCC Part15, Subpart B/CISPR 22:1997+A1: 2000

ICES-003: 2004

#### 2.3 Test Methodology

Both conducted and radiated tests were performed during the max. EMI emission evaluation.

Antenna to EUT distance is 10 m.

Test procedures according to the technical standards:

FCC Part15, Subpart B / ANSI C63.4: 2003.

ICES-003: 2004

#### 2.4 Deviations from Standard Test Method

N/A

#### 2.5 Sample(s) Tested

The representative sample tested in this reports is(are): <u>V66</u>

Test results in this test report relate only to the sample(s) tested.

The EUT has been tested according to the following environmental condition:

Input Power	120Vac/60Hz
Environmental Conditions	Please refer to the measurement data.

#### 2.6 Measurement Instruments

Valid measurement instruments used in this report refer to **Table-1** enclosed.

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#### 2.7 Measurement Uncertainty

The reported uncertainty of measurement  $\mathbf{y} \pm \mathbf{U}$ , where expended uncertainty  $\mathbf{U}$  is based on a standard uncertainty multiplied by a coverage factor of  $\mathbf{k=2}$ , providing a level of confidence of approximately 95 %  $\circ$ 

A. Conducted Measurement :5.05dB

#### B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)	NOTE
OS-01	ANSI	30MHz ~ 200MHz	Н	4.59	
		30MHz ~ 200MHz	V	4.80	
		200MHz ~ 1,000MHz	Н	4.47	
		200MHz ~ 1,000MHz	V	5.03	
OS-01	VCCI	30MHz ~ 200MHz	Н	4.59	Only for VCCI Report
	30MHz ~ 200MHz		V	4.48	Only for VCCI Report
		200MHz ~ 1,000MHz H		4.47	Only for VCCI Report
		200MHz ~ 1,000MHz	V	4.73	Only for VCCI Report
OS-02	ANSI	30MHz ~ 200MHz	Н	4.34	
		30MHz ~ 200MHz	V	5.15	
		200MHz ~ 1,000MHz	Н	5.28	
		200MHz ~ 1,000MHz	V	4.53	
OS-02	VCCI	30MHz ~ 200MHz	Н	4.34	Only for VCCI Report
	30MHz ~ 200MHz		V	4.77	Only for VCCI Report
		200MHz ~ 1,000MHz	Н	4.91	Only for VCCI Report
		200MHz ~ 1,000MHz	V	4.53	Only for VCCI Report

#### 2.8 Tested System Set-Up/Configuration Details

The system was configured for testing in a typical fashion (as a user would normally use) or in-accordance with the operating configuration specified in the user's manual. A Block Diagram (please refer to the Diagram - 1) and Photos (please refer to the attachment - A) showing the set-up/configuration of system tested. In addition, **Table-2** and **Table-3** provide a detail of all equipment items and cables information used in the system tested.

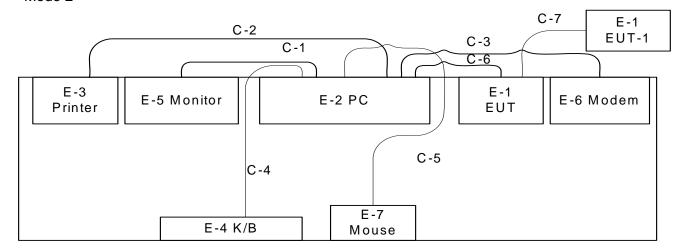
## **Table 1 Measurement Instruments List**

Item	Instruments	Mfr/Brand	Model/Type No.	Serial No.	Calibrated Date	Next Cali. Date	Note
1	LISN	EMCO	3825/2	9605-2539	2004-10-01	2005-09-30	✓
2	LISN	Rolf Heine	NNB-2/16Z	98083	2004-08-03	2005-08-02	
3	LISN	Rolf Heine	NNB-2/16Z	98053	2004-12-24	2005-12-23	
4	4L-V-LISN	Rolf Heine	NNB-4/63TL	02/10040	2005-04-08	2006-04-07	
5	LISN	EMCO	3816/2	00042991	2005-01-12	2007-01-11	
6	LISN	EMCO	4825/2	00028234	2005-04-01	2006-03-31	
7	ISN	SCHAFFNER	ISN T400	16017	2004-12-07	2005-12-06	
8	Pulse Limiter	Electro-Metrics	EM-7600	112644	2004-12-07	2005-12-06	✓
9	50 $\Omega$ Terminator	N/A	N/A	N/A	2005-05-12	2007-05-11	✓
10	Test Cable	N/A	C01	N/A	2004-12-08	2005-12-07	✓
11	Log-Bicon Antenna	MESS-ELEKTRONIK	VULB 9160	3058	2004-10-20	2005-10-19	✓
12	Log-Bicon Antenna	MESS-ELEKTRONIK	VULB 9160	3177	2005-02-07	2007-02-06	
13	Log-Bicon Antenna	MESS-ELEKTRONIK	VULB 9161	4022	2004-07-15	2005-07-14	
14	Test Cable	N/A	10M_OS01	N/A	2004-12-08	2005-12-07	
15	Test Cable	N/A	OS01-1/-2	N/A	2004-12-08	2005-12-07	
16	Test Cable	N/A	10M_OS02	N/A	2004-12-08	2005-12-07	✓
17	Test Cable	N/A	OS02-1/-2/-3	N/A	2004-12-08	2005-12-07	✓
18	RF Switch	Anritsu	MP59B	M65982	2004-12-07	2005-12-06	
19	Pre-Amplifier	Anritsu	MH648A	M09961	2004-11-24	2005-11-23	✓
20	Spectrum Analyzer	ADVAN TEST	R3261C	81720298	2004-09-01	2005-08-31	
21	Spectrum Analyzer	ADVAN TEST	R3132	81700025	2005-02-23	2006-02-22	
22	EMI Test Receiver	R&S	ESCI	1166.5950.03	2005-02-02	2007-02-01	✓
23	Test Receiver	R&S	ESH3	860156/018	2004-12-31	2005-12-30	
24	Test Receiver	R&S	ESVP	860687/009	2004-12-31	2005-12-30	
25	Test Receiver	MEB	SMV41	130	2004-12-06	2005-12-05	✓
26	Test Receiver	PMM	PMM 9000	4310J01002	2005-02-25	2006-02-24	
27	Horn Antenna	EMCO	3115	9605-4803	2005-06-15	2006-06-14	
28	Absorbing Clamp	R&S	MDS-21	841077/011	2004-09-09	2005-09-08	
29	Voltage Probe	R&S	ESH2-Z3	841.800/023	2004-09-07	2005-09-06	
30	Antenna Mast	Chance Most	CMTB-1.5	N/A	N/A	N/A	✓
31	Turn Table	Chance Most	CMTB-1.5	N/A	N/A	N/A	✓
32	Loop Ant	R&S	HFH2-Z2	830749/020	2004-10-01	2005-09-30	
33	Loop Ant	EMCO	6502	00042960	2005-01-14	2008-01-13	

<sup>(1)&</sup>quot; ✓" indicates the instrument used in Test Report.(2)" N/A" denotes No Model No. / Serial No. and No Calibration specified.

# Diagram - 1 Block diagram showing the configuration of system tested

#### Mode 2



C-1 Video Cable

C-2 Centronics Cable

C-3 Interface Cable

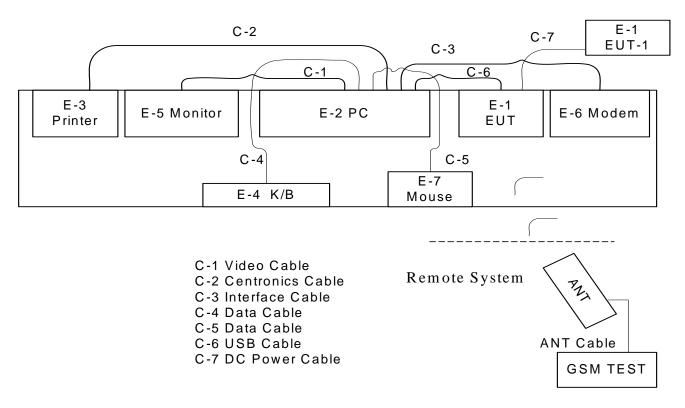
C-4 Data Cable

C-5 Data Cable

C-6 USB Cable

C-7 DC Power Cable

Mode 4, 6,8



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## **Table 2 Equipments Used in Tested System**

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	Multimedia Mobile Phone	ASUS	V66	DOC	N/A	EUT
E-2	PC	IBM	8175-I5V	DOC	99MYG14	
E-3	Printer	SII	DPU-414	DOC	1045105A	
E-4	PS/2 K/B	HP	5181	DOC	N/A	
E-5	19"TFT LCD Monitor	Samsung	SyncMaster 193T	DOC	NB19HMEX101919K	
E-6	Modem	ACEEX	DM-1414V	DOC	8041708	
E-7	PS/2 Mouse	HP	P8131	DOC	5185-1212	

#### Note:

- (1) Unless otherwise denoted as EUT in 『Remark』 column , device(s) used in tested system is a support equipment.
- (2) Unless otherwise marked as % in  $^{\mathbb{F}}$  Remark  $_{\mathbb{F}}$  column, Neutron consigns the support equipment to the tested system.
- (3) The support equipment was authorized by Declaration of Confirmation.

### **Table 3 Information of Interface Cable**

Item	Shielded Type	Ferrite Core	Length	Note
C-1	YES	YES	1.8M	
C-2	YES	NO	1.8M	
C-3	YES	NO	1.5M	
C-4	YES	NO	1.5M	
C-5	YES	NO	1.5M	
C-6	YES	NO	1.2M	
C-7	NO	NO	1.2M	

#### Note:

- (1) Unless otherwise marked as % in  $^{\mathbb{F}}$  Remark  $_{\mathbb{F}}$  column, Neutron consigns the support equipment to the tested system.
- (2) For detachable type I/O cable should be specified the length in cm in <code>"Length\_"</code> column.

#### 2.9 EUT Operating Conditions

- (a) Both conducted and radiated testing were performed during the max. EMI emission evaluation.
- (b) The system was configured for testing in a typical fashion (as a customer would normally use it). The EUT was connected to support equipment-personal computer. Peripherals of PC, such as monitor, keyboard, modem, and printer were contained in this system in order to comply with the CISPR22 Rules requirement. The PC operated in the default 800 x 600 VGA Graphic mode. This operating condition was tested and used to collect the included data.
- (c) The EUT exercise program used during radiated and/or conducted emission measurement was designed to exercise the various system components in a manner similar to a typical use. The program contained on a PC hard disk and is auto-starting on power-up. Once loaded, the program sequentially exercises each system component in turn. The sequence used is:
  - 1. Read (write) from (to) mass storage device (Disk).
  - 2. Send "H" pattern to video port device (Monitor).
  - 3. Send "H" pattern to parallel port device (Printer).
  - 4. Send "H" pattern to serial port device (Modem).
  - 5. EUT sent "H" messages to PC.
  - 6. Repeated from 2 to 5 continuously.

As the mouse is strictly input device, no data is transmitted to (from) them during test. They are, however, continuously scanned for data input activity.

#### 3. Justification

3.1 Limitations

3.1.1 Power Line Conducted Emission (Frequency Range 150KHz-30MHz)

Measurement	Mains Terminal		Mains Terminals		Note
Frequency	Class A	\ Limits	Class E	B Limits	CISPR
Range	(dB	uV)	(dB	uV)	FCC
(MHz)	QP Mode	AV Mode	QP Mode	AV Mode	Std.
0.15 - 0.50	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 - 5.00	73.00	60.00	56.00	46.00	CISPR
5.00 - 30.0	73.00	60.00	60.00	50.00	CISPR
0.15 - 0.50	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 - 5.00	73.00	60.00	56.00	46.00	FCC
5.00 - 30.0	73.00	60.00	60.00	50.00	FCC

#### Notes:

- (1). The tighter limit applies at the band edges.
- (2). The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

#### 3.1.2 Radiated Emission Limits (Frequency Range 30MHz-1000MHz)

Measurement	Quasi-Pe	Quasi-Peak Mode		ak Mode	Note
Frequency	Class A	\ Limits	Class E	3 Limits	CISPR
Range	(dBu	V/m)	(dBu	V/m)	FCC
(MHz)	10m	30m	10m	3m	Std.
30.00 -230.00	40.00	30.00	30.00	40.00	CISPR
230.0 -1000.0	47.00	37.00	37.00	47.00	CISPR
30.00 - 88.00	39.00	N/A	30.00	40.00	FCC
88.00 - 216.0	43.50	N/A	33.50	43.50	FCC
216.0 -960.0	46.00	N/A	36.00	46.00	FCC
above 960.0	49.50	N/A	46.00	54.00	FCC

#### Notes:

- (1). The tighter limit applies at the band edges.
- (2). Emission level (dBuV/m)=20log Emission level (uV/m).
- (3). A measuring distance 0f 10m is a primary used. However, either 3m or 10m (instead of 10m) distance my be allowed. If the distance is 3m, add 10dB to the QP-limit above. If the distance is 10m, subtract 10dB from the QP-limit above.

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$M \vdash I$	ITRON	<i>                                     </i>	IAH

#### 3.2 Measurement Justification

#### 3.2.1 Conducted Emission

The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and these signals are then Quasi Peak detector mode and Average detector mode re-measured.

Data of **Table - 4**. lists the significant emission frequencies, measured levels, limits and safe margins. All readings are Peak Mode measured unless otherwise stated as QP or AV in column of "Remark".

If the Peak Mode measured value lower than both QP Mode and AV Mode Limit, EUT shall be deemed to compliance with both QP & AV Limits and then no additional QP Mode or AV Mode measurement performed.

If additional QP or AV Mode measurement needed, and if the QP Mode measured value compliance with the QP Mode Limit and lower than AV Mode Limit, the EUT shall be deemed to meet both QP & AV Limits and then only QP Mode was measured, but AV Mode was not performed  $\circ$ 

#### 3.2.2 Radiated Emission

The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

Data of **Table - 5**. lists the significant emission frequencies, measured levels, limits and safe margins. All readings are Peak Mode measured unless otherwise stated as QP in column of "Remark".

If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.

#### 3.3 Measurement Data

Table - 4. Conducted Emission Data

Table - 5. Radiated Emission Data

## **Table 4 Conducted Emission Data**

EUT: Multimedia Mobile Phone Model/Type No.: V66

Temperature: 26 °C Relative Humidity: 83 % Pressure: 1002 hPa

Special Notes: (EUT Operation Mode or Test Configuration Mode, if applicable)

Mode 2

## Minimum passing margin is -0.48dB at 3.49MHz

Freq.	Terminal	Measure	ed(dBuV)	Limits	s(dBuV)	Safe I	Margins
(MHz)	L/N	QP-Mode	AV-Mode	QP-Mode	AV-Mode	(dBuV)	Note
0.40	Line	54.31	42.18	57.77	47.77	-3.46	(QP)
0.53	Line	48.90	38.42	56.00	46.00	-7.10	(QP)
0.66	Line	53.91	40.59	56.00	46.00	-2.09	(QP)
2.28	Line	45.90	37.29	56.00	46.00	-8.71	(AV)
3.49	Line	55.52	38.75	56.00	46.00	-0.48	(QP)
4.48	Line	51.41	40.13	56.00	46.00	-4.59	(QP)
					40.00		(4) ()
0.39	Neutral	49.10	42.15	58.08	48.08	-5.93	(AV)
0.78	Neutral	52.00	39.25	56.00	46.00	-4.00	(QP)
0.95	Neutral	51.96	38.74	56.00	46.00	-4.04	(QP)
1.25	Neutral	53.23	38.10	56.00	46.00	-2.77	(QP)
2.01	Neutral	53.52	40.13	56.00	46.00	-2.48	(QP)
3.35	Neutral	51.01	38.77	56.00	46.00	-4.99	(QP)

- (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz; SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.3 sec./MHz ∘ Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=1MHz,VBW=10Hz, Swp. Time =0.3 sec./MHz ∘
- (2) All readings are QP Mode value unless otherwise stated AVG in column of 『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform  $\circ$  In this case, a " \* " marked in AVG Mode column of Interference Voltage Measured  $\circ$
- (3) Measuring frequency range from 150KHz to 30MHz o

## **Table 4 Conducted Emission Data**

EUT: Multimedia Mobile Phone Model/Type No.: V66

Temperature: 26 °C Relative Humidity: 83 % Pressure: 1002 hPa

Special Notes: (EUT Operation Mode or Test Configuration Mode, if applicable)

Mode 4

## Minimum passing margin is -0.49dB at 0.54MHz

Freq.	Terminal	Measure	ed(dBuV)	Limits	s(dBuV)	Safe I	Margins
(MHz)	L/N	QP-Mode	AV-Mode	QP-Mode	AV-Mode	_(dBuV)_	Note
0.40	Line	55.42	23.67	57.77	47.77	-2.35	(QP)
0.52	Line	46.90	26.50	56.00	46.00	-9.10	(QP)
0.67	Line	54.83	23.59	56.00	46.00	-1.17	(QP)
0.83	Line	51.57	22.69	56.00	46.00	-4.43	(QP)
1.05	Line	50.86	22.18	56.00	46.00	-5.14	(QP)
1.37	Line	55.18	23.59	56.00	46.00	-0.82	(QP)
0.54	<b>N</b> I ( 1	45.00	22.52	50.00	40.00	40.00	(O.D.)
0.51	Neutral	45.62	26.59	56.00	46.00	-10.38	(QP)
0.54	Neutral	55.51	26.59	56.00	46.00	-0.49	(QP)
0.66	Neutral	52.81	22.15	56.00	46.00	-3.19	(QP)
1.05	Neutral	50.29	21.68	56.00	46.00	-5.71	(QP)
1.32	Neutral	53.63	20.57	56.00	46.00	-2.37	(QP)
1.89	Neutral	53.54	20.11	56.00	46.00	-2.46	(QP)

- (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz; SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.3 sec./MHz ∘ Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=1MHz,VBW=10Hz, Swp. Time =0.3 sec./MHz ∘
- (2) All readings are QP Mode value unless otherwise stated AVG in column of <code>『Note』</code>. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform  $\circ$  In this case, a " \* " marked in AVG Mode column of Interference Voltage Measured  $\circ$
- (3) Measuring frequency range from 150KHz to 30MHz o

## **Table 4 Conducted Emission Data**

EUT: Multimedia Mobile Phone Model/Type No.: V66

Temperature: 26 °C Relative Humidity: 83 % Pressure: 1002 hPa

Special Notes: (EUT Operation Mode or Test Configuration Mode, if applicable)

Mode 6

## Minimum passing margin is -0.63dB at 0.53MHz

Freq.	Terminal	Measure	ed(dBuV)	Limits	s(dBuV)	Safe I	Margins
(MHz)	L/N	QP-Mode	AV-Mode	QP-Mode	AV-Mode	_(dBuV)	Note
0.94	Line	44.51	37.65	56.00	46.00	-8.35	(AV)
1.32	Line	46.99	39.41	56.00	46.00	-6.59	(AV)
1.71	Line	45.18	38.28	56.00	46.00	-7.72	(AV)
2.41	Line	46.86	36.44	56.00	46.00	-9.14	(QP)
2.93	Line	45.24	37.50	56.00	46.00	-8.50	(AV)
3.94	Line	43.21	37.14	56.00	46.00	-8.86	(AV)
0.53	Neutral	55.37	38.65	56.00	46.00	-0.63	(QP)
0.68	Neutral	46.48	38.75	56.00	46.00	-7.25	(AV)
0.83	Neutral	50.87	38.86	56.00	46.00	-5.13	(QP)
0.93	Neutral	53.19	39.71	56.00	46.00	-2.81	(QP)
1.36	Neutral	50.30	38.20	56.00	46.00	-5.70	(QP)
2.07	Neutral	47.74	38.75	56.00	46.00	-7.25	(AV)

- (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz; SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.3 sec./MHz ∘ Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=1MHz,VBW=10Hz, Swp. Time =0.3 sec./MHz ∘
- (2) All readings are QP Mode value unless otherwise stated AVG in column of <code>『Note』</code>. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform  $\circ$  In this case, a " \* " marked in AVG Mode column of Interference Voltage Measured  $\circ$
- (3) Measuring frequency range from 150KHz to 30MHz o

#### Table 4 Conducted Emission Data

EUT: Multimedia Mobile Phone Model/Type No.: V66

Temperature : 26  $^{\circ}$ C Relative Humidity : 83  $^{\circ}$ C Pressure : 1002 hPa

Special Notes: (EUT Operation Mode or Test Configuration Mode, if applicable)

Mode 8

## Minimum passing margin is -1.30dB at 2.38MHz

Freq.	Terminal	Measured(dBuV)		Limits	Limits(dBuV)		Safe Margins	
(MHz)	L/N	QP-Mode	AV-Mode	QP-Mode	AV-Mode	(dBuV)	Note	
0.94	Line	50.11	39.10	56.00	46.00	-5.89	(QP)	
1.37	Line	51.34	38.96	56.00	46.00	-4.66	(QP)	
1.71	Line	49.18	35.14	56.00	46.00	-6.82	(QP)	
2.54	Line	54.60	42.22	56.00	46.00	-1.40	(QP)	
3.07	Line	50.31	41.69	56.00	46.00	-4.31	(AV)	
4.27	Line	52.41	40.54	56.00	46.00	-3.59	(QP)	
0.91	Neutral	49.10	39.61	56.00	46.00	-6.39	(AV)	
1.33	Neutral	52.22	39.20	56.00	46.00	-3.78	(QP)	
1.72	Neutral	52.87	40.11	56.00	46.00	-3.13	(QP)	
2.10	Neutral	53.16	38.75	56.00	46.00	-2.84	(QP)	
2.38	Neutral	54.70	40.15	56.00	46.00	-1.30	(QP)	
3.03	Neutral	50.68	37.85	56.00	46.00	-5.32	(QP)	

- (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz; SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.3 sec./MHz  $^{\circ}$  Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=1MHz,VBW=10Hz, Swp. Time =0.3 sec./MHz  $^{\circ}$
- (2) All readings are QP Mode value unless otherwise stated AVG in column of <code>『Note』</code>. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform  $\circ$  In this case, a " \* " marked in AVG Mode column of Interference Voltage Measured  $\circ$
- (3) Measuring frequency range from 150KHz to 30MHz o

## **Table 5 Radiated Emission Data**

EUT: Multimedia Mobile Phone Model/Type No.: V66

Temperature: 26 °C Relative Humidity: 83 % Pressure: 1002 hPa

Special Notes: (EUT Operation Mode or Test Configuration Mode, if applicable)

Mode 2

## Minimum passing margin is -5.25dB at 98.11MHz

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Safe M	largins
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Note
73.53	Н	30.70	- 9.17	21.53	30.00	- 8.47	
78.62	Н	33.61	- 10.06	23.55	30.00	- 6.45	
78.92	V	33.99	- 10.11	23.88	30.00	- 6.12	(QP)
98.11	V	34.74	- 9.99	24.75	30.00	- 5.25	
98.35	Н	31.01	- 9.95	21.06	30.00	- 8.94	
143.64	V	28.99	- 6.48	22.51	30.00	- 7.49	
497.85	V	28.50	0.34	28.84	37.00	- 8.16	
595.47	Н	25.61	3.14	28.75	37.00	- 8.25	
640.14	V	25.56	3.99	29.55	37.00	- 7.45	
642.05	Н	25.65	4.03	29.68	37.00	- 7.32	
932.21	V	18.77	9.55	28.32	37.00	- 8.68	
932.66	Н	18.86	9.56	28.42	37.00	- 8.58	

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time =  $0.3 \text{ sec./MHz} \circ$
- (2) All readings are Peak unless otherwise stated QP in column of  $\lceil$ Note $_{
  m J}$ . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measure-ment didn't perform  $_{
  m O}$
- (3) Measuring frequency range from 30MHz to 1000MHz o
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not how in table  $\circ$

### **Table 5 Radiated Emission Data**

EUT: Multimedia Mobile Phone Model/Type No.: V66

Temperature: 26 °C Relative Humidity: 83 % Pressure: 1002 hPa

Special Notes: (EUT Operation Mode or Test Configuration Mode, if applicable)

Mode 4

## Minimum passing margin is -4.57dB at 98.30MHz

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Safe N	/largins
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Note
38.34	V	31.02	- 7.75	23.27	30.00	- 6.73	(QP)
74.80	Н	31.48	- 9.39	22.09	30.00	- 7.91	
78.82	Н	34.01	- 10.10	23.91	30.00	- 6.09	
78.85	V	34.46	- 10.10	24.36	30.00	- 5.64	
98.29	Н	32.83	- 9.96	22.87	30.00	- 7.13	
98.30	V	35.39	- 9.96	25.43	30.00	- 4.57	
517.70	Н	27.45	0.81	28.26	37.00	- 8.74	
527.32	Н	28.36	1.04	29.40	37.00	- 7.60	
599.58	Н	26.40	3.28	29.68	37.00	- 7.32	
641.55	V	24.67	4.02	28.69	37.00	- 8.31	
667.46	V	24.42	4.62	29.04	37.00	- 7.96	
933.89	V	18.38	9.57	27.95	37.00	- 9.05	

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time =  $0.3 \text{ sec./MHz} \,^{\circ}$
- (2) All readings are Peak unless otherwise stated QP in column of <code>『Note』</code> . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measure-ment didn't perform  $\circ$
- (3) Measuring frequency range from 30MHz to 1000MHz o
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not how in table  $\circ$

## **Table 5 Radiated Emission Data**

EUT: Multimedia Mobile Phone Model/Type No.: V66

Temperature: 26 °C Relative Humidity: 83 % Pressure: 1002 hPa

Special Notes: (EUT Operation Mode or Test Configuration Mode, if applicable)

Mode 6

## Minimum passing margin is -4.69dB at 99.64MHz

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Safe N	Margins (
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Note
74.80	Н	31.80	- 9.39	22.41	30.00	- 7.59	
78.52	V	34.90	- 10.04	24.86	30.00	- 5.14	(QP)
78.81	Н	34.11	- 10.09	24.02	30.00	- 5.98	
98.29	Н	32.74	- 9.96	22.78	30.00	- 7.22	
99.64	V	35.02	- 9.71	25.31	30.00	- 4.69	
196.26	V	32.84	- 8.15	24.69	30.00	- 5.31	
499.47	V	28.87	0.38	29.25	37.00	- 7.75	
517.68	Н	27.72	0.81	28.53	37.00	- 8.47	
527.41	Н	27.51	1.05	28.56	37.00	- 8.44	
597.38	Н	26.86	3.20	30.06	37.00	- 6.94	
638.04	V	26.01	3.96	29.97	37.00	- 7.03	
667.51	V	24.15	4.62	28.77	37.00	- 8.23	

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time =  $0.3 \text{ sec./MHz} \,^{\circ}$
- (2) All readings are Peak unless otherwise stated QP in column of  $\lceil$ Note $_{
  m J}$ . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measure-ment didn't perform  $_{
  m O}$
- (3) Measuring frequency range from 30MHz to 1000MHz o
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not how in table  $\circ$

### **Table 5 Radiated Emission Data**

EUT: Multimedia Mobile Phone Model/Type No.: V66

Temperature: 26 °C Relative Humidity: 83 % Pressure: 1002 hPa

Special Notes: (EUT Operation Mode or Test Configuration Mode, if applicable)

Mode 8

## Minimum passing margin is -4.86dB at 98.30MHz

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Safe Margins	
(MHz)	H/V	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Note
38.37	V	30.70	- 7.74	22.96	30.00	- 7.04	(QP)
74.80	Н	31.41	- 9.39	22.02	30.00	- 7.98	
78.49	Н	33.69	- 10.04	23.65	30.00	- 6.35	
78.54	V	35.00	- 10.05	24.95	30.00	- 5.05	
98.27	Н	32.02	- 9.96	22.06	30.00	- 7.94	
98.30	V	35.10	- 9.96	25.14	30.00	- 4.86	
527.44	Н	28.21	1.05	29.26	37.00	- 7.74	
599.54	Н	26.93	3.28	30.21	37.00	- 6.79	
636.65	V	25.28	3.94	29.22	37.00	- 7.78	
643.01	Н	24.48	4.05	28.53	37.00	- 8.47	
667.45	V	23.22	4.62	27.84	37.00	- 9.16	
933.91	V	18.28	9.57	27.85	37.00	- 9.15	

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time =  $0.3 \text{ sec./MHz} \,^{\circ}$
- (2) All readings are Peak unless otherwise stated QP in column of <code>『Note』</code> . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measure-ment didn't perform  $\circ$
- (3) Measuring frequency range from 30MHz to 1000MHz o
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not how in table  $\circ$

NEITRON	EMC LAB.	
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## **Attachment**

Table Contents

A. EUT Test Photos

NFI.	ITRO	M	FM	CI	ΔR

## Attachment - A

## **EUT Test Photos**

- 1. Conducted Measurement Photos
- 2. Radiated Measurement Photos

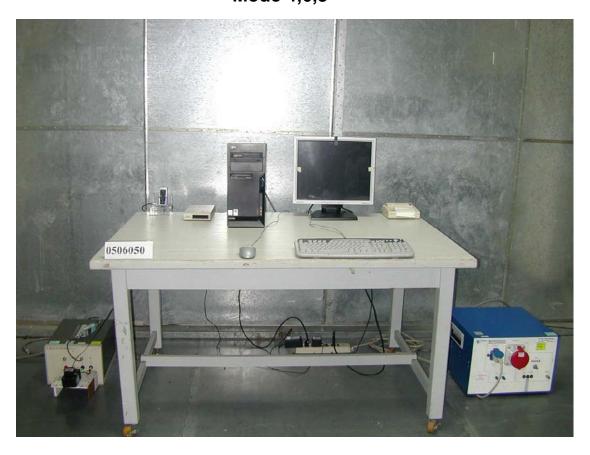
## **Conducted Measurement Photos**

## Mode 2





## Conducted Measurement Photos Mode 4,6,8





## **Radiated Measurement Photos**

## Mode 2





## **Radiated Measurement Photos**

## Mode 4,6,8





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## **ATTACHMENT**

## 0506050

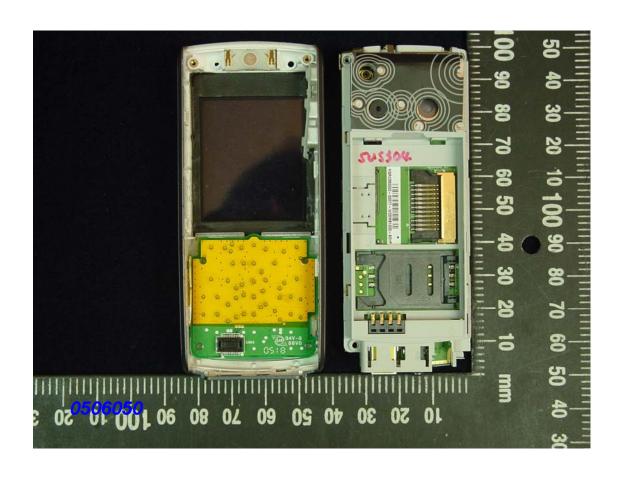
## **PHOTOGRAPHS OF EUT**



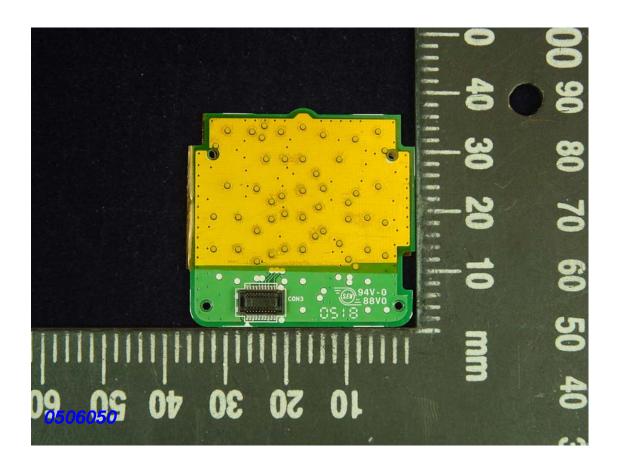


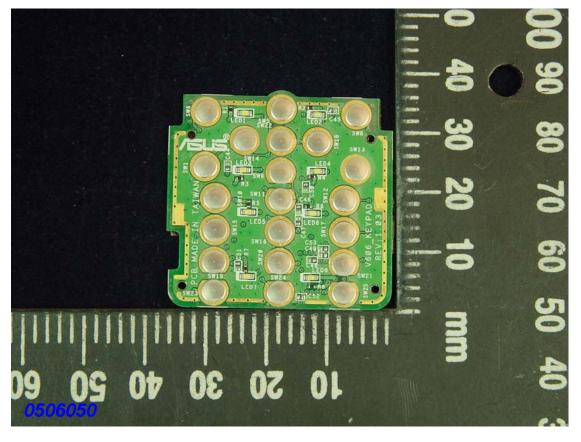


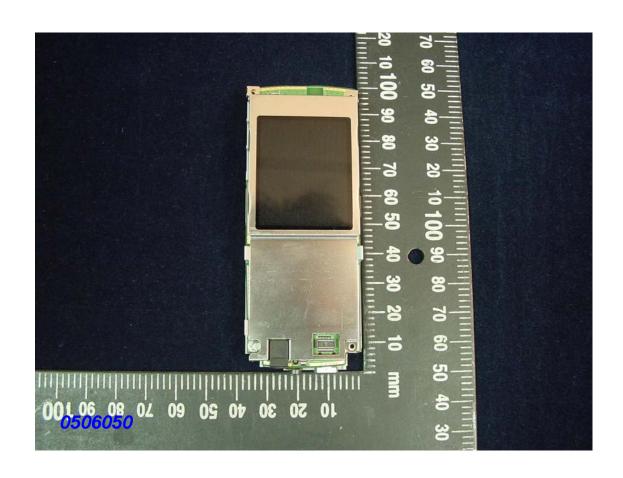


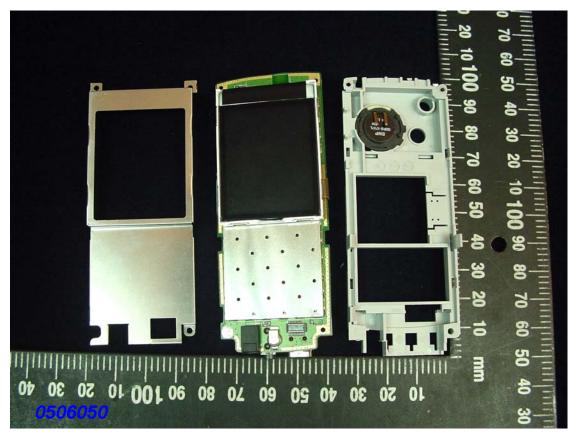


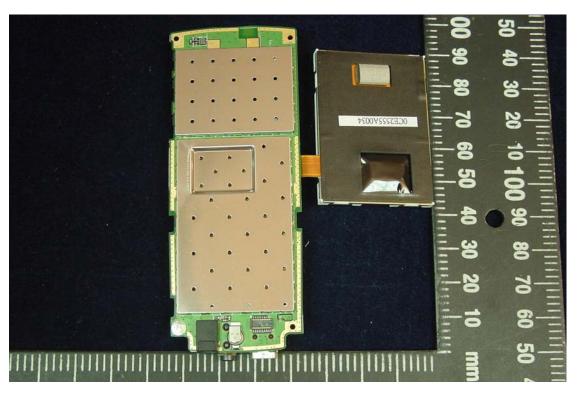












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