

Release No : 08E010039

Product Model	COM-945GSE			
Description	Intel N270 (ATOM: Diamondville)+ 945GSE+ICH7-M COM Express CPU Module			
Test Configuration	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> CPU Board : COM-945GSE A1.0 <input checked="" type="checkbox"/> BIOS : COM-945GSE BIOS Rev 1.0 (11/05/2008) <input checked="" type="checkbox"/> Carrier Board : ECB-916M A1.0 <input checked="" type="checkbox"/> Chipset : <input checked="" type="checkbox"/> CPU : Intel ATOM N270 1.6GHz <input checked="" type="checkbox"/> North Bridge : Intel 945GSE <input checked="" type="checkbox"/> South Bridge : ICH7-M <input checked="" type="checkbox"/> VGA Chipset : Mobile Intel ® 945 Express Chipset Family <input checked="" type="checkbox"/> Audio Chipset : Realtek ALC888 <input checked="" type="checkbox"/> Ethernet Chipset : Intel ® 82574L Gigabit Network Connection Intel ® PRO/1000 PL Network Connection <input checked="" type="checkbox"/> Remark : QE NPDP P5 Report for COM-945GSE			
Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0
<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation Comment: _____ _____				

2008/11/21

Issue date

Wenyuan Yang

Manager

Anderson Lin

Test Engineer

Summary Table of contents :

Summary Table of contents	2
Platform Information	3
1. I/O Peripheral Function Test	3
2. Power Consumption Test	6
3. Timer Accuracy Test	8
4. Network HUB / LAN Connection Test	8
5. Hardware compatibility	8
6. O.S. Compatibility Test	12
7. BIOS Function Test	12
8. Performance Test	13

There are 3 test results in this document; they are described as follows:

Pass: Function worked perfectly

Fail: Function failed and must be modified in the next version

N/A: Outside of specification or no test equipment

Platform Information:

Item	Device Information
PCB Model / Version	COM-945GSE A1.0
Carrier Board	ECB-916M RevA1.0
BIOS / Version	COM-945GSE BIOS Rev 1.0 (11/05/2008)
CPU Type	Intel ATOM N270 1.6GHz
Memory Type	Kingmax KKEA88B4IAUQ-370A DDR 2 - 533 1GB
SATA	N/A
Primary IDE Master	Seagate ST3160815A 160GB
Primary IDE Slave	N/A
CRT	ViewSonic E653
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	N/A
Expansion Board	N/A
	N/A
Operating System	[<input type="checkbox"/>] Linux-RedHat 9.0 or [<input checked="" type="checkbox"/>] Fedora Core 8
	Windows XP Professional English Version Service Pack 3
	Windows Vista 32-bit
	ATX Power Supply : Seventeam ST-352UAG-05E
	AT Power Supply: LEMACS SP2-4300F 300W

Test Result for Certification

1. I/O Peripheral Function Test

I/O Function	Result			Note
	Pass	Fail	N/A	
Floppy Connector / Driver A:			X	
Primary IDE Master	X			
Primary IDE Slave	X			
Secondary IDE Master			X	
Secondary IDE Slave			X	
Third IDE Master			X	
Third IDE Slave			X	
RAID 0 Function Test			X	
RAID 1 Function Test			X	
SATA1 / Serial ATA Connector 1	X			
SATA2 / Serial ATA Connector 2	X			
SATA3 / Serial ATA Connector 3			X	
SATA4 / Serial ATA Connector 4			X	
Compact Flash – Type I	X			
Compact Flash – Type II			X	
Onboard Debug LED			X	
DOM (Disk On Module) – 40 Pin	X			Transcend / TS512MDOM40V / 512MB / IDE 40 Pin
DOM (Disk On Module) – 44 Pin			X	Transcend / TS512MDOM44V / 512MB / IDE 44 Pin
COM 1-232	X			
COM 2-232	X			
COM 3-232	X			
COM 4-232	X			
COM 2-422	X			
COM 2-485	X			
PS/2 Mouse & Keyboard (Internal)			X	
PS/2 Mouse & Keyboard (External)	X			
Audio Connector	X			
Audio 5.1 Channel / S/P DIF			X	

LPT 1	X			
SIR / 115.2 Kbps			X	
FIR / 4M bps			X	
USB 1/2 Ports	X			
USB 3/4 Ports	X			
USB 2.0 1/2 Ports	X			
USB 2.0 3/4 Ports	X			
DVI Function			X	
DIO Connector	X			
PC/104			X	
PC/104-Plus			X	
PCI-104			X	
CD-In Connector	X			
TFT TTL LCD			X	
TFT LVDS LCD	X			
TV-out / S Terminal	X			
TV-out / AV Terminal	X			
Touch Screen – 8 Wire			X	
Touch Screen – 4/5 Wire			X	
DIMM Slots	X			
Watchdog IRQ n			X	
Watchdog Software Control	X			
FAN1 Connector	X			
FAN2 Connector	X			
Express card	X			
Speaker Connector	X			
LCD Backlight Power Connector	X			
DC in Connector			X	
PCI Express Mini Card	X			
Power Button	X			
Front Panel (CN22)	Result			Notes
	Pass	Fail	N/A	
Power On Button	X			
IDE LED	X			
Beep	X			
Power LED	X			

Reset Switch	X			
Jumpers Function	Result			Notes
	Pass	Fail	N/A	
Auto Power Button Selection and Auto Reset Button Selection	X			
FAN Power Selection	X			
BIOS Write Protection Selection			X	
COM4 +12V/+5V/RING Selection	X			
Jumper for Testing & Debug	X			
CMOS Clear Selection	X			
Backlight Enable Level Selection			X	
LVDS Voltage Selection	X			
BIOS Boot Selection	X			
Backlight Power Selection			X	
COM1 +12V/+5V/RING Selection	X			
COM3 +12V/+5V/RING Selection	X			
COM2 +12V/+5V/RING Selection	X			
Power Connector & Function	Result			Notes
	Pass	Fail	N/A	
Standard AT Power Connector	X			
Standard ATX Power Connector	X			
5V Only Power Connector			X	
DC Adapter			X	
LAN Connector & Function	Result			Notes
	Pass	Fail	N/A	
LAN Link / Speed LED	LAN1	X		
	LAN2	X		
LAN Active LED	LAN1	X		
	LAN2	X		
LAN 10/100 Ethernet	X			
LAN 1G Ethernet	X			
PCI Connector & Function	Result			Notes
	Pass	Fail	N/A	
Mini PCI Slot	X			
PCI Slot	X			
PCI Express x1			X	

Express card	X			
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2. Power Consumption Test (Run Prime95 Program) Platform Information

CPU Board	COM-945GSE A0.1
Carrier Board	ECB-916M RevA1.0
BIOS	COM-945GSE BIOS Rev 1.0 (11/05/2008)
Operating System	Windows XP Professional SP3
CRT	ViewSonic E653
LCD	N/A
Compact Flash	N/A
Expansion Board	N/A
	N/A
Chipset Software	Intel ® Chipset Device Software 9.0.0.1008 (5/1/2008)
Graphics Media	Mobile Intel ® 945 Express Chipset Family 6.14.10.4926 (2/28/2008)
LAN Driver	Intel ® PRO/1000 PL Network Connection (2/6/2008) 9.12.18.0
	Intel ®82574L Gigabit Network Connection 10.3.49.0(8/5/2008)
Audio Driver	Realtek High Definition Audio (7/24/2008) 5.10.0.5672
Touchscreen Driver	N/A
Power Supply	ATX Power Supply : Seventeam ST-352UAG-05E
	AT Power Supply : LEMACS SP2-4300F 300W

Test Equipment:

Equipment	AC/DC Clamp Meter
Manufacturer	PROVA
Model name	CM-01
Standard	Reference to CE EN 61010 Test Procedure
	Reference to UL Test Procedure

Equipment Certified Calibration:

Calibrated Company	IPE (儀寶)
S/N	00004072 (DM215)
Report No	7C21P566
Calibration Date	Jan. 14,2008
Next Calibration Date	Jan. 13, 2009
Test By	Mick

Test	ATX Power: Seventeam ST-352UAG-05E.		AT Power: LEMACS SP2-4300F 300W		Note
Environment	ATX Power: Seventeam ST-352UAG-05E.		AT Power: LEMACS SP2-4300F 300W		Note
Model					
CPU	Intel ATOM N270 1.6GHz		Intel ATOM N270 1.6GHz		
HDD	SEAGATE SATA 3.5 ST3160815AS 160GB		SEAGATE IDE 3.5 ST380215A 80GB		
RAM	Transcend (hynix) HY5PS12821A FP-C3)DDR2-533 512MB		Transcend (hynix) HY5PS12821A FP-C3)DDR2-533 512MB		
OS Environment	Windows XP Professional SP3		Windows XP Professional SP3		
Normal Mode (+5V)	0.76	A	0.77	A	
Suspend Mode (+5V)	0.32	A	N/A	A	
5VSB in Power Off Mode (just for ATX)	-----	A	-----	A	
5VSB in Power On Mode (just for ATX)	-----	A	-----	A	
Normal Mode (+12V)	1.17	A	1.09	A	
Suspend Mode (+12V)	0.33	A	N/A	A	
Normal Mode (+3.3V) (just for ATX)	0	A	0	A	
Suspend Mode (+3.3V) (just for ATX)	0	A	0	A	
Normal Mode (-12V)	0	A	0	A	
Suspend Mode (-12V)	0	A	0	A	
Normal Mode (-5V)	0	A	0	A	
Suspend Mode (-5V)	0	A	0	A	

3. Timer Accuracy Test

System Clock & RTC Clock Test				
Test Method	Margin for error	Result		
		Pass	Fail	N/A

System Clock in Power On Mode	±1 second during 24 hours	X		
RTC Clock in Power On Mode	±1 second during 24 hours	X		
RTC Clock in Power Off Mode	±1 second during 24 hours	X		
Watchdog Timer Test		Result		
		Pass	Fail	N/A
Time-out Interval	10 sec	X		
	60 sec	X		
	255 sec	X		

4. Network HUB / LAN Connection Test

Location		LED Type				Result		
						Pass	Fail	N/A
LAN1 LED		Active LED				X		
		Link LED				X		
		Speed LED				X		
Location	Speed	HUB Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
						Pass	Fail	N/A
		D-Link DGS-1008T	100M	1GBps	100	X		
		Accton DeskTop-3005	100M	100 MBps	100	X		
		SVEC FD916H (10 Mbps HUB)	100M	10 MBps	10	X		

5. Hardware Compatibility

CPU Compatible Test							
CPU Type		FSB			Result		
					Pass	Fail	N/A
Intel ATOM N270 1.6GHz		533MHz			X		
Memory Compatibility Test							
Memory Brand	Memory Chipset	Frequency	Size	MemTest86 Version	Result		
					Pass	Fail	N/A
Transcend	hynix HY5PS12821A FP-C3	533	512MB	V1.65	X		
Kingmax	Kingmax KKEA88B4IAUQ-370 A	533	1GB	V1.65	X		
Audio Basic Function Test					Result		
System Sound					X		
CD_In					X		
CD_In Sound Recorder					X		

Play Sound Recorder			X		
Line Out			X		
Line In			X		
Line In Sound Record			X		
MIC Speaker	Dynamic		X		
	Condenser		X		
MIC Sound Recorder	Dynamic		X		
	Condenser		X		
Audio 5.1 Channel with S/P DIF Function Test			Result		
			Pass	Fail	N/A
2-channel mode for stereo speaker output			X		
4-channel mode for 4 speaker output					X
6-channel mode for 5.1 speaker output					X
S/P DIF function Test	Input				X
	Output				X
On Board TV Function Test			Result		
			Pass	Fail	N/A
NTSC	AV Terminal		X		
PAL			X		
NTSC	S Terminal		X		
PAL			X		
On Board LCD Function Test					
TFT LCD	Type	Voltage	Result		
			Pass	Fail	N/A
LVDS	AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3)	3.3V	X		
	AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3)	3.3V			X
	AU B104SN05 / 10.4" / 800*600 / 18bit (4:3)	3.3V	X		
	AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3)	3.3V	X		
	AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4:3)	3.3V			X
	Toshiba LTD121EX1S / 12.1" / 1280x768 / 18bit (16:9)	3.3V	X		
	AU M170EG01 / 17" / 1280*1024 / 48bit (4:3)	5V			X
	AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)	5V			X
	AUO T260XW02 / 26" / 1366x768 / 24bit	5V			X
	AU M201UN02 V.5 / 20.1" / 1600x1200x48bit	5V			X
AUO T370HW01 / 37" / 1920x1080 / 48bit	5V			X	
TTL	Toshiba LTM10C209A / 10.4" / 640*480 / 18bit (4:3)	5V			X
	NEC NL8060AC31-12 / 12.1" / 800*600 / 18bit (4:3)	3.3/5V			X
	Sharp LQ121S1DG11 / 12.1" / 800*600 / 18bit (4:3)	3.3V			X
	LG LM151X2-C2TH / 15.1" / 1024x768 / 18bit (4:3)	3.3V			X
	Fujitsu FLC38XGC6V-06 / 15" / 1024*768 / 36bit (4:3)	5V			X
PCI Slot Function (PCI Adapter Card) Test					
Model	Type	Result			
		Pass	Fail	N/A	
PCI VGA Card ATI REDEON 9250 256MB	VGA Card	X			
SB Sound Live ! 5.1 SB0100	Sound Card			X	
ADAPTEC Ultra160 SCSI ASC-29160	SCSI Card			X	

I-VIEW CP-1400AS (with Age STD-477FAI CCD)	Capture Card			X
Intel GD82559 10/100 Mbps Fast Ethernet Adapter	LAN Card			X
3Com 3C905C-TXM ETHERLINK 10/100 PCI	LAN Card			X
D-Link DWL-520+ Wireless LAN	LAN Card	X		
ADAPTEC 1420SA RoHS 4-Port SATA II RAID	RAID Card			X
LEMEL MD V1456VQH-P2 PCI MODEM Card	Modem Card			X
D-Link DU-520 USB 2.0	USB Hub Card			X
Tekram TR-822 Serial ATA 150 [SA-001] + SATA HDD Seagate ST3120026AS 120GB	SATA Card			X
PCI-Express Function Test				
Model	Result			
	Pass	Fail	N/A	
SUNIX SATA1414 VER 1.1 PCI-Express x1 SATA Card				X
SksKonnect SK-9E21D 10/100/1000 Base-T Adapter PCI-Express x1 LAN Card				X
Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card				X
ASUS EAX1600PRO/TD/256M/A (ATI Chipset) PCI-Express x16 VGA Card				X
WinFast PX6200 TC TDH PCI-Express x16 VGA Card				X
HDD Compatibility Test				
Model	Result			
	Pass	Fail	N/A	
Seagate IDE 40 pin 3.5" ST316815A 160GB	X			
Seagate 40 pin 3.5" ST340014A 40GB	X			
CD/DVD-ROM Compatibility Test				
Model	Result			
	Pass	Fail	N/A	
SONY DVD-RW DRU-840A IDE 40 pin	X			
USB Function Test				
USB Basic Function Test	Result			
	Pass	Fail	N/A	
USB Controller	X			
USB 2.0 Controller	X			
USB Keyboard Support	X			
USB Mouse Support	X			
USB 1.1 Compatible Test	Result			
	Pass	Fail	N/A	
USB 1.1 Compatible Test	X			
USB 2.0 Compatible Test	Result			
	Pass	Fail	N/A	
USB 2.0 Compatible Test	X			
USB 2.0 Function Test	Result			
	Pass	Fail	N/A	
Install Windows XP Professional from HighSpeed Device: USB2.0 DRW-1604P-D/WHT/G/ASUS	X			

Peripheral Compatibility-Storage Device					
Model	Interface	Result			
		Pass	Fail	N/A	
Type-I CF	Fix / PIO Mode	X			
Type-I CF	Fix / UDMA Mode	X			
Digital I/O Connector Test		Result			
Input Address: 2A1H		X			
Output Address:2A1H		X			
VCC: (5V)		X			
DIO-1 Function Test		X			
DIO-2 Function Test				X	
Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104 Modules					
Interface	Model	Type	Result		
			Pass	Fail	N/A
PC/104	AAEON PCM-5600	Modem Module			X
	AAEON PCM-3115B	PCMCIA Module			X
PC/104+	AAEON PCM-3430	SCSI Module			X
PCI-104	AAEON PCM-FA00	Mini-PCI Converter			X
	AAEON PCM-3794	SCSI Module			X
	AAEON PCM-3730	Intel 82559 LAN Module			X
On-Board RAID Function Test					
Model	Interface	Result			
		Pass	Fail	N/A	
Set SATA HDDs as RAID 0	SATA			X	
Set SATA HDDs as RAID 1	SATA			X	
Set SATA HDDs as RAID 10	SATA			X	
Set SATA HDDs as RAID 5	SATA			X	
PCI Card Compatibility Test					
Model	Interface	Result			
		Pass	Fail	N/A	
PCI VGA Card ATI REDEON 9250 256MB	VGA	X			
D-Link DWL-520+ Wireless LAN	LAN	X			
ADAPTEC 1420SA RoHS 4-Port SATA II RAID	SATA			X	
PCI-Express Card Compatibility Test					
Model	Interface	Result			
		Pass	Fail	N/A	
SUNIX SATA1414 VER 1.1 PCI-Express x1 SATA Card	PCI-Express x1			X	
Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card	PCI-Express x4			X	

ASUS EAX1600PRO/TD/256M/A (ATI Chipset) PCI-Express x16 VGA Card	PCI-Express x16			X
COM/LPT Ports & RS-232/422/485 Function Test		Result		
		Pass	Fail	N/A
RS-422 for COM2		X		
RS-485 for COM2		X		
COM1		X		
COM2		X		
COM3		X		
COM4		X		
COM5				X
COM6				X
LPT1		X		
LPT2				X

6. O.S. Compatibility Test

Installation Operation System Compatibility Test	Result		
	Pass	Fail	N/A
Windows XP Professional English Version Service Pack 3	X		
Windows Vista 32-bit	X		
Fedora Core 8	X		

7. BIOS Function Test

Test Item	Result		
	Pass	Fail	N/A
Memory Beep Test	X		
Standard CMOS Setup Test	X		
Boot Sequence Test	X		
Power Management Test			
APM Power Management Test	X		
ACPI Power Management Test	X		
Power On Function Test			X
Wake Up Event Test	X		
Power On after Power Failure Test	X		
CMOS Backup / Clear CMOS Test	X		
Boot ROM Test (PXE)	X		
Supervisor / User Password Test	X		
Init Display First Function Test	X		
On-Chip Serial ATA Function Test	X		
SATA Mode-IDE/RAID Function Test			X
LPT Address / IRQ Test	X		
BIOS AWDFLASH Program Test	X		

8. Performance Test

Platform Information

CPU Board	COM-945GSE A1.0
Carrier Board	ECB-916M RevA1.0
BIOS	COM-945GSE BIOS Rev 1.0 (11/05/2008)
Operating System	English Windows XP Professional Service Pack 3
CPU	Intel ATOM N270 1.6GHz
Memory	Kingmax KKEA88B4IAUQ-370A DDR2-533 1GB
SATA HDD	N/A
Primary IDE Master	Seagate ST3160815A 160GB
Primary IDE Slave	N/A
CRT	ViewSonic E653
LCD	N/A
Compact Flash	N/A
Expansion Board	N/A
	N/A
Chipset Software	Intel ® Chipset Device Software 9.0.0.1008 (5/1/2008)
Graphics Media	Mobile Intel ® 945 Express Chipset Family 6.14.10.4926 (2/28/2008)
LAN Driver	Intel ® PRO/1000 PL Network Connection (2/6/2008) 9.12.18.0
	Intel ®82574L Gigabit Network Connection 10.3.49.0(8/5/2008)
Audio Driver	Realtek High Definition Audio (7/24/2008) 5.10.0.5672
Touchscreen Driver	N/A
Power Supply	ATX Power Supply : Seventeam ST-352UAG-05E

Test result:

Testing Software	Result	Unit
PCMark2002		
CPU	3339	
Memory	3480	
HDD	1583	
Final Reality V1.01—BenchMark Test		
2D image	18.1	
3D	4.68	
Bus transfer	25.26	

Overall	11.94	Reality marks
3Dmark2001		
3DMark2001SE Build 330_Benchmark mode	2725	

Test Result:

Testing Software	Result	Unit
PCMark05		
PCMark	N/A	PCMarks
CPU	1626	
Memory	1677	
Graphics	556	
HDD	4511	
3Dmark2003 v360		
3Dmark Score	693	
CPU Score	274	

Remark: Please uses below two performance software to test mainboard if the chipset is new enough.
(ex. Intel Core 2 Duo CPU)