Cypress Semiconductor
Product Qualification Report

QTP# 094505 VERSION 1.0
November 2009

WirelessUSB™ PRoC™ Product Family **B53D-3RF, S4AD-5 Technology, Fab 2/4**	
CYWUSB6953	**WirelessUSB™ PRoC™ Flash Programmable MCU + Radio**

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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PACKAGE QUALIFICATION HISTORY

QUAL REPORT		DESCRIPTION OF QUALIFICATION PURPOSE		DATE COMP.
032005		New Device, CYWUSB693*, B53D-3 Technology in Fab4		Jan 04
042505		PSoC 8C21001A Neutron Product Family on SONOS S4AD-5 Technology, Fab2		Dec 04
052401		For 7B6953B – 48L QFN Package Qualification at MSL3 / 260C		Aug 05
094505		Device paper QTP for the PRoC1 dual-die stack (CYWUSB6953*)		Nov 09

PRODUCT DESCRIPTION (for qualification)	
Qualification Purpose: Device Paper QTP for PRoC1 dual-die stack (CYWUSB6953*)	
Marketing Part #:	CYWUSB6953*
Device Description:	WirelessUSB™ Programmable Radio on Chip Low Power
Cypress Division:	Cypress Semiconductor Corporation – Data Communication Division (DCD)

TECHNOLOGY/FAB PROCESS DESCRIPTION – B53D-3			
Number of Metal Layers:	2	Metal Composition:	Metal 1: 500/6000/300 [Å] Metal 2: 500/6000/300 [Å]
Passivation Type and Materials:	1,000A TEOS + 9,000A Si_2N_4		
Free Phosphorus contents in top glass layer(%):	0%		
Die Coating(s), if used:	N/A		
Number of Transistors in Device	150K		
Number of Gates in Device	30K		
Generic Process Technology/Design Rule (µ-drawn):	CMOS, 0.25 µm		
Gate Oxide Material/Thickness (MOS):	SiO_2 / 55Å		
Name/Location of Die Fab (prime) Facility:	Cypress Minnesota, Fab4		
Die Fab Line ID/Wafer Process ID:	Fab4 / B53D-3		

TECHNOLOGY/FAB PROCESS DESCRIPTION S4AD-5			
Number of Metal Layers:	2	Metal Composition:	Metal 1: 500A Ti/6,000A Al 0.5% Cu /1,200A TiW Metal 2: 500A Ti/8,000A Al 0.5% Cu/300A TiW
Passivation Type and Materials:	3,000A TEOs / 6,000A Si_3N_4		
Free Phosphorus contents in top glass layer (%):	0%		
Number of Transistors in Device:	100,000		
Number of Gates in Device	10,000		
Generic Process Technology/Design Rule (µ-drawn):	Single Poly, Double Metal, 0.35 µm		
Gate Oxide Material/Thickness (MOS):	SiO_2 / 110A		
Name/Location of Die Fab (prime) Facility:	Cypress Semiconductor - Round Rock, TX		
Die Fab Line ID/Wafer Process ID:	Fab2, S4AD-5 CTI, SONOS		

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	LY48
Package Outline, Type, or Name:	48-Lead Quad Flat No Lead (QFN)
Mold Compound Name/Manufacturer:	G700 Sumitomo
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	N/A
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	Pure Sn
Die Backside Preparation Method/Metallization:	Grinding
Die Separation Method:	Sawing
Die Attach Supplier:	Ablestik
Die Attach Material:	8290
Die Attach Method:	Dispensing
Bond Diagram Designation:	10-07126
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au. 1.0mil
Thermal Resistance Theta JA °C/W:	29.4 °C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	001-45814
Name/Location of Assembly (prime) facility:	Amkor-Korea (L)

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	CML-R

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENT

Stress/Test	Test Condition (Temp/Bias)	Result P/F
High Temperature Operating Life Early Failure	Dynamic Operating Condition, Vcc = 3.8V, 125°C Dynamic Operating Condition, Vcc = 3.65V, 125°C Dynamic Operating Condition, Vcc = 4.0V, 125°C Dynamic Operating Condition, Vcc = 3.8V, 150°C Dynamic Operating Condition, Vcc = 5.5V, 125°C	P
High Temperature Operating Life Latent Failure Rate	Dynamic Operating Condition, Vcc = 3.65V, 125°C Dynamic Operating Condition, Vcc = 4.0V, 125°C Dynamic Operating Condition, Vcc = 3.8V, 150°C	P
Long Life Verification	Dynamic Operating Condition, Vcc = 4.0V, 125°C	P
Low Temperature Operating Life	Dynamic Operating Condition, Vcc = 4.3V, -30°C	P
Temperature Cycle	MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30°C/60%RH+3IR-Reflow, 220°C /235°C/260°C +0, -5°C Precondition: JESD22 Moisture Sensitivity Level 1 168 Hrs, 85C/85%RH+3IR-Reflow, 235°C /260°C+0, -5°C	P
High Accelerated Saturation Test	130°C, 3.63V/3.6V, 85%RH MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30°C/60%RH+3IR-Reflow, 220°C /235°C/260°C +0, -5°C Precondition: JESD22 Moisture Sensitivity Level 1 168 Hrs, 85C/85%RH+3IR-Reflow, 235°C+0, -5°C	P
Pressure Cooker Test	121°C, 100%RH, 15 Psig Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30°C/60%RH+3IR-Reflow, 235°C/260°C +0, -5°C Precondition: JESD22 Moisture Sensitivity Level 1 168 Hrs, 85C/85%RH+3IR-Reflow, 235°C/260°C +0, -5°C	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	500V Cypress Spec. 25-00020	P
Electrostatic Discharge Human Body Model (ESD-HBM)	1,600V JESD22, Method A114-B	P
Electrostatic Discharge Human Body Model (ESD-HBM)	2,200V MIL-STD-883, Method 3015.7	P
Acoustics Microscopy	Cypress Spec 12-00292	P
Age Bond Pull	MIL-STD-883C, Method 2011	P
Age Bond Strength	200C, 4hrs MIL-STD-883, Method 883-2011	P
Ball Shear	Cypress Spec. 24-00018	P

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENT (CONT'D)

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Bond Pull	Cypress Spec. 12-00292	P
Data Retention	150°C ± 5°C No Bias	P
Die Shear	Cypress Spec. 12-00292	P
Internal Visual	Cypress Spec. 12-00292	P
High Temperature Storage	150C, No Bias	P
High Temperature Steady State Life	125°C, 3.63V	P
Low Temperature Operating Life	-30°C, 4.3V, 8MHZ	P
Thermal Shock	125C, -55C Cypress Spec. 25-00014	P
X-ray	Cypress Spec. 12-00292	P
Endurance Test	MIL-STD-883, Method 883-1033	P
Current Density	Cypress Spec 22-00029	P
SEM Analysis	MIL-STD-883, Method 883-2018-2	P
Dynamic Latch up	Cypress Spec. 01-00081	P
Latch up Sensitivity	125C, ± 300mA In accordance with JEDEC 17. Cypress Spec. 01-00081	P

RELIABILITY FAILURE RATE SUMMARY

Stress/Test	Device Tested/ Device Hours	# Fails	Activation Energy	Thermal[3] A.F	Failure Rate
High Temperature Operating Life Early Failure Rate[1]	1,007 Devices	0	N/A	N/A	0 PPM
High Temperature Operating Life[1, 2] Long Term Failure Rate	180,000 DHRs	0	0 .7	170	30 FIT

[1] Assuming an ambient temperature of 55°C and a junction temperature rise of 15°C.
[2] Chi-squared 60% estimations used to calculate the failure rate.
[3] Thermal Acceleration Factor is calculated from the Arrhenius equation

$$AF = \exp\left[\frac{E_A}{k}\left[\frac{1}{T_2} - \frac{1}{T_1}\right]\right]$$

Where:

E_A =The Activation Energy of the defect mechanism.
k = Boltzmann's constant = 8.62×10^{-5} eV/Kelvin.
T_1 is the junction temperature of the device under stress and T_2 is the junction temperature of the device at use conditions.

Reliability Test Data

QTP #: 99256

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CY7B993V-AC	1937245	*619937409*	TAIWN-G	COMP	15	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	COMP	15	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	COMP	15	0	
STRESS: HIGH TEMP DYNAMIC OPERTING LIFE - EARLY FAILURE RATE, 125C, 4.0V, >VCC MAX							
CY7B994V-AC	1009007	*610021056*	TAIWN-G	96	672	0	
CY7B993V-AC	1937245	*619937409*	TAIWN-G	96	665	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	96	664	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	96	681	0	
STRESS: HIGH TEMP DYNAMIC OPERTING LIFE-LATENT FAILURE RATE, 125C, 4.0, >Vcc Max							
CY7B993V-AC	1937245	*619937409*	TAIWN-G	168	235	0	
CY7B994V-ACB	1937245	*619937409*	TAIWN-G	770	234	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	168	232	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	770	232	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	168	236	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	770	224	0	
STRESS: LONG LIFE VERIFICATION 125C, 4.0V,>Vcc Max							
CY7B993V-AC	1937245	*619937409*	TAIWN-G	2000	170	0	
STRESS: AGE BOND STRENGTH							
CY7B993V-AC	1937245	*619937409*	TAIWN-G	COMP	3	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	COMP	6	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	COMP	6	0	
STRESS: ESD-CHARGE DEVICE MODEL, 750V							
CY7B994V-AC	1937245	*619936456S*	TAIWN-G	COMP	3	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	COMP	3	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	COMP	3	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 1,100V							
CY7B994V-AC	1937245	*619936456S*	TAIWN-G	COMP	3	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	COMP	3	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	COMP	3	0	

Reliability Test Data

QTP #: 99256

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: DYNAMIC LATCH-UP TESTING, 6.5V							
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	COMP	3	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.3.63V, PRE COND 192 HR 30C/60%RH, MSL3							
CY7B993V-AC	1937245	*619937409*	TAIWN-G	128	46	0	
CY7B993V-AC	1937245	*619937409*	TAIWN-G	256	46	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	128	46	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	128	48	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, PRE COND 192HRS 30C/60%RH, MSL3							
CY7B993V-AC	1937245	*619937409*	TAIWN-G	168	50	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	168	46	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	168	48	0	
STRESS: HIGH TEMP STEADY STATE LIFE TEST, 125C, 3.63V,>Vcc Max							
CY7B993V-AC	1937245	*619937409*	TAIWN-G	168	78	0	
CY7B993V-AC	1937245	*619937409*	TAIWN-G	336	76	0	
STRESS: LOW TEMPERATURE OPERATING LIKE, -30C,4.3V, 8MHZ							
CY7B993V-AC	1937245	*619937409*	TAIWN-G	500	50	0	
CY7B993V-AC	1937245	*619937409*	TAIWN-G	1000	50	0	
STRESS: LONG LIFE VERIFICATION 125C, 4.0V,>Vcc Max							
CY7B993V-AC	1937245	*619937409*	TAIWN-G	2000	170	0	
STRESS: HIGH TEMP STORGAE, PLASTIC, 150C							
CY7B993V-AC	1937245	*619937409*	TAIWN-G	500	50	0	
CY7B993V-AC	1937245	*619937409*	TAIWN-G	1000	50	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	500	48	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	1000	48	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	500	48	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	1000	48	0	

Reliability Test Data

QTP #: 99256

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: TC CONDITION C, -65C TO 150C, PRE COND. 192 HRS 30C/60% RH, MSL3							
CY7B993V-AC	1937245	*619937409*	TAIWN-G	300	50	0	
CY7B993V-AC	1937245	*619937409*	TAIWN-G	500	50	0	
CY7B993V-AC	1937245	*619937409*	TAIWN-G	1000	50	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	300	46	0	
CY7B994V-ACB	1942384	*610003953*	TAIWN-G	500	46	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	300	48	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	500	48	0	
CY7B994V-AC	1949608	*340000124*	TAIWN-G	1000	48	0	

Reliability Test Data

QTP #: 032005

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (125C, 3.8V, Vcc Max)							
CYWUSB6934	4318747	*610336918/9/20*	SEOL-L	96	1025	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 3.8V, Vcc Max)							
CYWUSB6934	4318747	*610336918/9/20*	SEOL-L	48	1093	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 3.8V, Vcc Max)							
CYWUSB6934	4318747	*610336918/9/20*	SEOL-L	168	269	0	
CYWUSB6934	4318747	*610336918/9/20*	SEOL-L	500	266	0	
STRESS: ESD-CHARGE DEVICE MODEL (500V)							
CYWUSB6934	4318747	*610344902/5909*	SEOL-L	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114-B, 1,100V							
CYWUSB6934	4318747	*610344902/5909*	SEOL-L	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 2,200V							
CYWUSB6934	4318747	*610344902/5909*	SEOL-L	COMP	3	0	
STRESS: LOW TEMP OPERATING LIFE (-30C, 4.3V, Vcc Max)							
CYWUSB6934	4318747	*610336918/9/20*	SEOL-L	120	51	0	
CYWUSB6934	4318747	*610336918/9/20*	SEOL-L	500	51	0	
STRESS: STATIC LATCH-UP TESTING (125C, 9.5V, +/-300mA)							
CYWUSB6934	4318747	*610344902/5909*	SEOL-L	COMP	3	0	
STRESS: PRESSURE COOKER, 121C,100%RH, PRECONDITION 192HRS 30C/60%RH, MSL3							
CYWUSB6934	4318747	*610336918/9/20*	SEOL-L	168	96	0	
CYWUSB6934	4318747	*610336918/9/20*	SEOL-L	288	96	0	
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192HRS 30C/60%RH, MSL3							
CYWUSB6934	4318747	*610336918/9/20*	SEOL-L	300	77	0	
CYWUSB6934	4318747	*610336918/9/20*	SEOL-L	500	77	0	
CYWUSB6934	4318747	*610336918/9/20*	SEOL-L	1000	77	0	

Reliability Test Data

QTP #: 010702

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL1							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	COMP	15	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	COMP	15	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	COMP	15	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 3.8V, Vcc Max)							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	48	1005	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	48	1004	1	NON VISUAL
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	48	1005	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 3.8V, Vcc Max)							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	80	120	0	
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	500	120	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	80	120	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	500	120	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	80	120	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	500	120	0	
STRESS: AGE BOND STRENGTH							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	COMP	15	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	COMP	15	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	COMP	15	0	
STRESS: DYNAMIC LATCH-UP TESTING (11.5V)							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	COMP	3	0	
STRESS: LOW TEMPERATURE OPERATING LIFE (-30C, 4.3V)							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	500	48	0	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 3.63V), PRE CONDITION 168 HR 85C/85%RH (MSL1)							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	128	50	0	
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	256	50	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	128	48	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	128	48	0	

Reliability Test Data

QTP #: 010702

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ESD-CHARGE DEVICE MODEL (500V)							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	COMP	9	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	COMP	9	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015 (2,200V)							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	COMP	9	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015 (2,000V)							
CY2414ZC (7C841400A)	2103764	*610106177*	TAIWN-T	COMP	10	0	
STRESS: STATIC LATCH-UP TESTING (125C, 10V, ·300mA)							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	COMP	3	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	COMP	3	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	COMP	3	0	
STRESS: HIGH TEMP STEADY STATE LIFE TEST (150C, 3.63V)							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	80	80	0	
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	168	80	0	
STRESS: ENDURANCE TEST							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	COMP	45	0	
STRESS: DATA RETENTION, PLASTIC, 150C							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	168	80	0	
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	552	80	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	168	80	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	552	80	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	168	80	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	552	80	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), PRE CONDITION 168 HR 85C/85%RH (MSL1)							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	168	50	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	168	49	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	168	51	0	

Reliability Test Data

QTP #: 010702

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: TC COND. C -65C TO 150C, PRECONDITION 168 HRS 85C/85%RH (MSL1)							
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	300	50	0	
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	500	50	0	
CY2414ZC (7C841400A)	2101502	*610106170/1/2*	TAIWN-T	1000	50	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	300	50	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	500	50	0	
CY2414ZC (7C841400A)	2052404	*610106173/4/5*	TAIWN-T	1000	50	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	300	50	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	500	50	0	
CY2414ZC (7C841400A)	2103764	*610106176/7/8*	TAIWN-T	1000	49	0	

Reliability Test Data

QTP #: 042505

Device	*Fab Lot #*	*Assy Lot #*	*Assy Loc*	*Duration*	*Samp*	*Rej*	*Failure Mechanism*
STRESS: ESD-CHARGE DEVICE MODEL, (500V)							
CY8C21334 (8C21334A)	2425372	*610443723*	TAIWN-T	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114-B, (2,200V)							
CY8C21334 (8C21334A)	2425372	*610443723*	TAIWN-T	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, (2,200V)							
CY8C21334 (8C21334A)	2425372	*610443723*	TAIWN-T	COMP	3	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (125C, 5.5V, Vcc Max)							
CY8C21334 (8C21334A)	2427548	*610458304N*	TAIWN-T	96	1007	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), PRE CONDITION 168 HR 85C/85%RH (MSL1)							
CY8C21334 (8C21334A)	2425372	*610443723*	TAIWN-T	168	45	0	
CY8C21334 (8C21334A)	2425372	*610443723*	TAIWN-T	288	45	0	
STRESS: STATIC LATCH-UP TESTING (125C, 11V, ·300mA)							
CY8C21334 (8C21334A)	2425372	*610443723*	TAIWN-T	COMP	3	0	
STRESS: TC COND. C -65C TO 150C, PRECONDITION 168 HRS 85C/85%RH (MSL1)							
CY8C21334 (8C21334A)	2425372	*610443723*	TAIWN-T	300	45	0	
CY8C21334 (8C21334A)	2425372	*610443723*	TAIWN-T	500	45	0	

Reliability Test Data

QTP #: 044508

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	COMP	15	0	
STRESS: ESD-CHARGE DEVICE MODEL (500V)							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114-B (1,600V)							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	COMP	9	0	
ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015 (2,200V)							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	COMP	3	0	
STRESS: BALL SHEAR							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	COMP	10	0	
CYWUSB6953 (7B6953A)	4434283	610501564	SEOUL-L	COMP	10	0	
CYWUSB6953 (7B6953A)	4434283	610501565	SEOUL-L	COMP	10	0	
STRESS: DIE SHEAR							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	COMP	15	0	
CYWUSB6953 (7B6953A)	4434283	610501564	SEOUL-L	COMP	15	0	
CYWUSB6953 (7B6953A)	4434283	610501565	SEOUL-L	COMP	15	0	
STRESS: BOND PULL							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	COMP	10	0	
CYWUSB6953 (7B6953A)	4434283	610501564	SEOUL-L	COMP	10	0	
CYWUSB6953 (7B6953A)	4434283	610501565	SEOUL-L	COMP	10	0	
STRESS: INTERNAL VISUAL							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	COMP	15	0	
CYWUSB6953 (7B6953A)	4434283	610501564	SEOUL-L	COMP	15	0	
CYWUSB6953 (7B6953A)	4434283	610501565	SEOUL-L	COMP	15	0	
STRESS: HIGH TEMPERATURE STORAGE, 150C, No Bias							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	500	50	0	
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	1000	50	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.63V, PRE COND 192 HR 30C/60%RH, MSL3							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	128	49	0	

Reliability Test Data

QTP #: 044508

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: PRESSURE COOKER TEST, (121C, 100%RH, 15 Psig), PRE COND 192 HR 30C/60%RH, MSL3							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	168	49	0	
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	288	49	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	100	125	0	
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	300	125	0	
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	500	125	0	
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	1000	125	0	
CYWUSB6953 (7B6953A)	4434283	610501564	SEOUL-L	100	125	0	
CYWUSB6953 (7B6953A)	4434283	610501564	SEOUL-L	300	125	0	
CYWUSB6953 (7B6953A)	4434283	610501564	SEOUL-L	500	125	0	
CYWUSB6953 (7B6953A)	4434283	610501564	SEOUL-L	1000	125	0	
CYWUSB6953 (7B6953A)	4434283	610501565	SEOUL-L	100	125	0	
CYWUSB6953 (7B6953A)	4434283	610501565	SEOUL-L	300	125	0	
CYWUSB6953 (7B6953A)	4434283	610501565	SEOUL-L	500	125	0	
CYWUSB6953 (7B6953A)	4434283	610501565	SEOUL-L	1000	125	0	
STRESS: THERMAL SHOCK							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	100	50	0	
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	200	50	0	
STRESS: X-RAY							
CYWUSB6953 (7B6953A)	4434283	610501563/4/5	SEOUL-L	COMP	15	0	
CYWUSB6953 (7B6953A)	4434283	610501564	SEOUL-L	COMP	15	0	
CYWUSB6953 (7B6953A)	4434283	610501565	SEOUL-L	COMP	15	0	

Reliability Test Data

QTP #: 094505

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CYWUSB6953 (7B6953B)	4503964	610519424	SEOUL-L	COMP	50	0	
CYWUSB6953 (7B6953B)	4503964	610519425	SEOUL-L	COMP	50	0	
CYWUSB6953 (7B6953B)	4503964	610519426	SEOUL-L	COMP	50	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.6V, PRE COND 192 HR 30C/60%RH, MSL3							
CYWUSB6953 (7B6953B)	4503964	610519424	SEOUL-L	128	50	0	
STRESS: PRESSURE COOKER TEST, (121C, 100%RH, 15 Psig), PRE COND 192 HR 30C/60%RH, MSL3							
CYWUSB6953 (7B6953B)	4503964	610519424	SEOUL-L	168	50	0	
CYWUSB6953 (7B6953B)	4503964	610519424	SEOUL-L	288	50	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3							
CYWUSB6953 (7B6953B)	4503964	610519424	SEOUL-L	300	50	0	
CYWUSB6953 (7B6953B)	4503964	610519424	SEOUL-L	500	50	0	
CYWUSB6953 (7B6953B)	4503964	610519424	SEOUL-L	1000	50	0	
CYWUSB6953 (7B6953B)	4503964	610519425	SEOUL-L	300	50	0	
CYWUSB6953 (7B6953B)	4503964	610519425	SEOUL-L	500	50	0	
CYWUSB6953 (7B6953B)	4503964	610519425	SEOUL-L	1000	50	0	
CYWUSB6953 (7B6953B)	4503964	610519426	SEOUL-L	300	50	0	
CYWUSB6953 (7B6953B)	4503964	610519426	SEOUL-L	500	50	0	
CYWUSB6953 (7B6953B)	4503964	610519426	SEOUL-L	1000	50	0	