HSRP V1.6 Standard Benchmark Report

Guizhou Huaxintong Semiconductor Technology Co., Ltd.
贵州华芯通半导体技术有限公司
Temporary Administrative Center, Guian New Area, Guizhou Province, P.R. China
贵州省贵安新区临时行政中心

Legal Notice

The document is:

- Confidential and proprietary to Guizhou Huaxintong Semiconductor Technology Co., Ltd. and its affiliates (“HXT Semiconductor”), and provided to designated receivers only, no public disclosure is permitted;
- Restricted to be distributed to anyone without the express written approval of HXT Semiconductor;
- Not permitted to be used, copied, reproduced, modified, disclosed in whole or in part in any manner to others without the express written permission of HXT Semiconductor;

HUAXINTONG and its logo, are trademarks or registered trademarks of HXT Semiconductor in China. All other brand names, product names, or trademarks might belong to their respective holders.

HXT Semiconductor reserves the right to alter product and services offerings, and specifications and pricing at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document.

The technical data included in this document may be subject to U.S. and international export, re-export, or transfer (“export”) laws. Diversion contrary to U.S. and international law is strictly prohibited.

The Reference Evaluation Platform (“REP”) shall be solely used for evaluation on the compatibility with user’s equipment at user’s facilities and at all times user maintains full control and possession of REP (“Limited Purpose”). REP shall be used solely for the Limited Puerpose and for no other purpose and none of the REP will be used for any commercial purposes,sold,placed on the market or otherwise disposed of in any manner. It is hereby explicated that NO license to any patents, trademarks, copyrights,or other intellectual property of any third party software is provided by the RELEASE Notes.The Release Notes does not grant to any user(s) any implied rights under any licensor or third party intellectual property

.

This Release Notes may contain software code and/or materials, including, without limitation,open source software components,which are written or owned by third parties (“Third Party Software”). The Third Party Software are used for user(s)’s testing and evaluation purpose only. The user(s) shall be compliance with all copyright laws and third party licenses.

Furthermore, the user(s) shall not use, modify, compile or distribute any HXT software in any manner that would cause HXT software to become subject to any open source license terms.

1. Summary

Standard	Items		HSRP_V1.6_REP2_HXT1.1_48	HSRP_V1.6_REP2_HXT1.1_46	HSRP_V1.6_REP2_HXT1.1_40	HSRP_V1.6_REP2_AW2.2_40	HSRP_V1.6_REP1_HXT1.1_48
SPECCPU	int		697	676	614	601	N/A
	fp		666	654	610	599	N/A
SPECjbb	max_jops		37485	N/A	31662	31689	N/A
	critical_jops		19831	N/A	15436	15275	N/A
LMbench	memory_latency(ns)		118.353	N/A	N/A	N/A	118.41
	memory_stream(MB/s)		119576.8	N/A	N/A	N/A	122477.75
iPerf	100G	bi_direction(Gbps)	183.7061	183.7061	N/A	N/A	N/A
		uni_direction(Gbps)	91.9346	91.9346	N/A	N/A	N/A
FIO	SSD	sequency_read(MB/s)	543	543	N/A	N/A	N/A
		sequency_write(MB/s)	486	487	N/A	N/A	N/A
		randread(kIOPS)	80	80.4	N/A	N/A	N/A
		randwrite(kIOPS)	26	24.3	N/A	N/A	N/A
	NVMe	sequency_read(MB/s)	3353	3284	N/A	N/A	N/A
		sequency_write(MB/s)	2648	2644	N/A	N/A	N/A
		randread(kIOPS)	682	682	N/A	N/A	N/A
		randwrite(kIOPS)	114	117	N/A	N/A	N/A

2. SOC Configuration

NAME	HSRP_V1.6_REP2_HXT1.1_48	HSRP_V1.6_REP2_HXT1.1_46	HSRP_V1.6_REP2_HXT1.1_40	HSRP_V1.6_REP2_AW2.2_40	HSRP_V1.6_REP1_HXT1.1_48
CPU_Type	HXT1.1	HXT1.1	HXT1.1	AW2.2	HXT1.1
Total_Socket	1	1	1	1	1
Cores_per_Socket	48	46	40	40	48
Threads_per_Core	1	1	1	1	1
Total_Threads	48	46	40	40	48
CPU_Frequency	2600.00	2600.00	2600.00	2500.00	2600.00
CPU_Max_Frequency					
CPU_Min_Frequency					
L1_Cache_Size	32K/64K	32K/64K	32K/64K	32K/64K	32K/64K
L2_Cache_Size	512K	512K	512K	512K	512K
L3_Cache_Size	61440K	61440K	40960k	40960k	61440K

3. Hardware Configuration

NAME	HSRP_V1.6_REP2_HXT1.1_48	HSRP_V1.6_REP2_HXT1.1_46	HSRP_V1.6_REP2_HXT1.1_40	HSRP_V1.6_REP2_AW2.2_40	HSRP_V1.6_REP1_HXT1.1_48
Platform	REP2	REP2	REP2	REP2	REP1
Memory_Total_Size	192G	192G	192G	192G	192G
Total_Memory	6	6	6	6	6
Memory_Speed	2666MHz	2666MHz	2666MHz	2666MHz	2666MHz
Memory_Configured_Clock	1333MHz	1333MHz	1333MHz	1333MHz	1333MHz
NIC_Info	eth0 speed: driver: vendor: bus: eth1 speed: driver: vendor: bus: enP3p1s0 speed: 100G driver: mlx5_core vendor: Mellanox bus: 0003:01:00.0	eth0 speed: driver: vendor: bus: eth1 speed: driver: vendor: bus: enP3p1s0 speed: 100G driver: mlx5_core vendor: Mellanox bus: 0003:01:00.0	eth0 speed: driver: vendor: bus: eth1 speed: driver: vendor: bus: enP3p1s0 speed: 100G driver: mlx5_core vendor: Mellanox bus: 0003:01:00.0	eth0 speed: driver: vendor: bus: eth1 speed: driver: vendor: bus: enP3p1s0 speed: 100G driver: mlx5_core vendor: Mellanox bus: 0003:01:00.0	eth0 speed: driver: vendor: bus: eth1 speed: driver: vendor: bus: enP3p1s0 speed: 100G driver: mlx5_core vendor: Mellanox bus: 0003:01:00.0
Disk_Info	sda size: type: interface: io_scheduler: vendor: sdb size: type: interface: io_scheduler: vendor: sdb size: 480G type: SSD interface: SATA io_scheduler: noop vendor: samsung nvme0n1 size: 900G type: SSD interface: NVMe io_scheduler: noop vendor: toshiba	sda size: type: interface: io_scheduler: vendor: sdb size: type: interface: io_scheduler: vendor: sdb size: 480G type: SSD interface: SATA io_scheduler: noop vendor: samsung nvme0n1 size: 900G type: SSD interface: NVMe io_scheduler: noop vendor: toshiba	sda size: type: interface: io_scheduler: vendor: sdb size: type: interface: io_scheduler: vendor: sdb size: 480G type: SSD interface: SATA io_scheduler: noop vendor: samsung nvme0n1 size: 900G type: SSD interface: NVMe io_scheduler: noop vendor: toshiba	sda size: type: interface: io_scheduler: vendor: sdb size: type: interface: io_scheduler: vendor: sdb size: 480G type: SSD interface: SATA io_scheduler: noop vendor: samsung nvme0n1 size: 900G type: SSD interface: NVMe io_scheduler: noop vendor: toshiba	sda size: type: interface: io_scheduler: vendor: sdb size: type: interface: io_scheduler: vendor: sdb size: 480G type: SSD interface: SATA io_scheduler: noop vendor: samsung nvme0n1 size: 900G type: SSD interface: NVMe io_scheduler: noop vendor: toshiba
PCIe_Info	0000:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0000:01:00.0 Serial Attached SCSI controller: Adaptec Device 028f (rev 01) 0001:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0002:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0002:01:00.0 PCI bridge: ASPEED Technology, Inc. AST1150 PCI-to-PCI Bridge (rev 04) 0002:02:00.0 VGA compatible controller: ASPEED Technology, Inc. ASPEED Graphics Family (rev 41) 0003:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0003:01:00.0 Ethernet controller: Mellanox Technologies MT27800 Family [ConnectX-5]	0000:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0000:01:00.0 Serial Attached SCSI controller: Adaptec Device 028f (rev 01) 0001:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0002:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0002:01:00.0 PCI bridge: ASPEED Technology, Inc. AST1150 PCI-to-PCI Bridge (rev 04) 0002:02:00.0 VGA compatible controller: ASPEED Technology, Inc. ASPEED Graphics Family (rev 41) 0003:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0003:01:00.0 Ethernet controller: Mellanox Technologies MT27800 Family [ConnectX-5]	0000:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0000:01:00.0 Serial Attached SCSI controller: Adaptec Device 028f (rev 01) 0001:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0002:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0002:01:00.0 PCI bridge: ASPEED Technology, Inc. AST1150 PCI-to-PCI Bridge (rev 04) 0002:02:00.0 VGA compatible controller: ASPEED Technology, Inc. ASPEED Graphics Family (rev 41) 0003:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0003:01:00.0 Ethernet controller: Mellanox Technologies MT27800 Family [ConnectX-5]	0000:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0000:01:00.0 Serial Attached SCSI controller: Adaptec Device 028f (rev 01) 0001:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0002:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0002:01:00.0 PCI bridge: ASPEED Technology, Inc. AST1150 PCI-to-PCI Bridge (rev 04) 0002:02:00.0 VGA compatible controller: ASPEED Technology, Inc. ASPEED Graphics Family (rev 41) 0003:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0003:01:00.0 Ethernet controller: Mellanox Technologies MT27800 Family [ConnectX-5]	0000:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0000:01:00.0 Serial Attached SCSI controller: Adaptec Device 028f (rev 01) 0001:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0002:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0002:01:00.0 PCI bridge: ASPEED Technology, Inc. AST1150 PCI-to-PCI Bridge (rev 04) 0002:02:00.0 VGA compatible controller: ASPEED Technology, Inc. ASPEED Graphics Family (rev 41) 0003:00:00.0 PCI bridge: Guizhou Huaxintong Semiconductor Technology Co.,Ltd StarDragon4800 PCI Express Root Port 0003:01:00.0 Ethernet controller: Mellanox Technologies MT27800 Family [ConnectX-5]

4. Software Configuration

NAME	HSRP_V1.6_REP2_HXT1.1_48	HSRP_V1.6_REP2_HXT1.1_46	HSRP_V1.6_REP2_HXT1.1_40	HSRP_V1.6_REP2_AW2.2_40	HSRP_V1.6_REP1_HXT1.1_48
OS	Centos7.5	Centos7.5	Centos7.5	Centos7.5	Centos7.5
Linux_Kernel	4.14.81-3	4.14.81-3	4.14.81-3	4.14.81-3	4.14.81-3
BIOS	0ACJA565 02/20/2019	0ACJA565 02/20/2019	0ACJA565 02/20/2019	0ACJA565 02/20/2019	0ACJA565 02/20/2019
GCC	4.8.5_20150623	4.8.5_20150623	4.8.5_20150623	4.8.5_20150623	4.8.5_20150623
GLIBC	2.17-222.el7	2.17-222.el7	2.17-222.el7	2.17-222.el7	2.17-222.el7
JAVA	openjdk_1.8.0.191	openjdk_1.8.0.191	openjdk_1.8.0.191	openjdk_1.8.0.191	openjdk_1.8.0.191
SPEC_CPU	2006	2006	2006	2006	2006
SPEC_JBB	2015	2015	2015	2015	2015
Lmbench					
Iperf	3	3	3	3	3
FIO	3.3	3.3	3.3	3.3	3.3

5. System Setting

NAME	HSRP_V1.6_REP2_HXT1.1_48	HSRP_V1.6_REP2_HXT1.1_46	HSRP_V1.6_REP2_HXT1.1_40	HSRP_V1.6_REP2_AW2.2_40	HSRP_V1.6_REP1_HXT1.1_48
CPU_Avaiable_Govorner	conservative ondemand userspace powersave performance schedutil	conservative ondemand userspace powersave performance schedutil	conservative ondemand userspace powersave performance schedutil	conservative ondemand userspace powersave performance schedutil	conservative ondemand userspace powersave performance schedutil
CPU_Current_Govorner	conservative	conservative	conservative	conservative	conservative
IRQ_Balance_Status	active	active	active	active	active
Tuned_Profile	balanced	balanced	balanced	balanced	balanced
Firewall_Status	inactive	inactive	inactive	inactive	inactive
Auditd_Status	inactive	inactive	inactive	inactive	inactive
Customization				N/Adddd	