Rockchip

瑞芯微电子

PROFESSIONAL IC DESIGN

About Rockchip

◆ Set up in 2001.

◆ 380 employees, engineers accounts for 80%.

◆ Focuses on 3G internet mobile solution and IC design.

◆ Terminal products target on smart phone, MID, e-book and multimedia player.

◆Customers include domestic and overseas renowned brands, such as: Samsung, Philips, Archos, BBK, Hanwang, OPPO, etc. Set up global strategic partnership with Microsoft in 2007.

Rockchip Roadmap
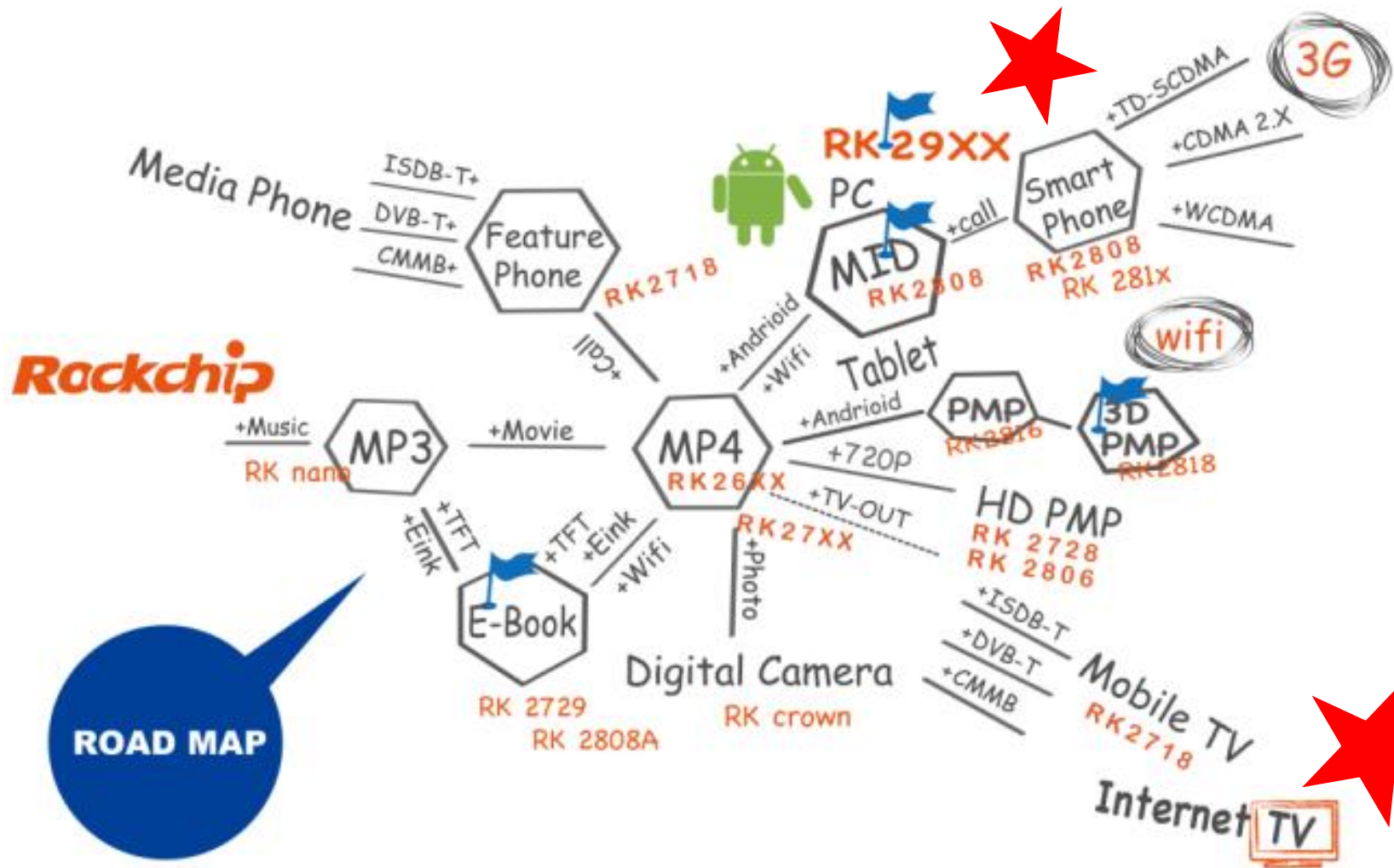
Y 2011 Products Planning

	Q1	Q2	Q3	Q4
2011	**Android Gingerbread: RK2918 SDK RK2918 CS Android Honeycomb: RK2918 ES**	**Android Gingerbread: RK2918 MP Android Honeycomb: RK2918 CS RK2918 MP**	**RK30XX**	**RK30XX Sample ES**
2012	**RK30XX CS MP**			

RK29XX Solution

World 1st 1080P web ►m
VP8 Hardware Decoder

RK29XX MID

Android 2.3
Flash 10.1
IMS
Triple Core
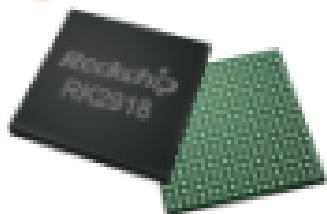
CPU	1.2G ARM V7
GPU	60M tri/s
Video	Processor 1080P

RK29XX Solution

RK29XX Introduction

- 1.2G ARM Cortex A8 core with Neon and 512KB L2 cache

- High performance 2D/3D processors support OPENGL ES 2.0 and OPEN VG, Support 60M tri/s max

- 1080P video decoding for H.264, VP8, RV, WMV, AVS, H.263, MPEG4,etc.

- 1080P video encoding for H.264

- Support DDRIII, DDRII, Mobile DDR memory

- 24bit HW ECC for MLC NAND, support e-MMC boot

- Three USB ports for Device,Host,3G module

- Two SD ports for SD card and WIFI

- Sensors interface for front and rear camera, up to 5M

- Standard TFT/EPD controller for variable panels

- MAX 8 channel I2S and SPDIF output for HD movie

- TS port for mobile and terrestrial TV, ATSC-T/MH···

- Ethernet networking interfaces

RK2918

System Peripheral

- Clock & Reset
- PMU
- PLL x 4
- System register
- RTC
- Timerx4
- PWMx3
- WatchDog
- SAR-ADC
- Interrupt Controller
- DMACx2 (13ch)

Cortex-A8

- 32KB ICache
- 32KB DCache
- ETM
- NEON
- 512KB L2 Cache
- TrustZone

Multi-Media Processor

- 2D Graphics Engine
- 3D Graphics Engine
- JPEG Decoder
- JPEG Encoder
- Image pre processor
- Image post processor
- 1080p Video decoder (H263/H264/MPEG3/MPEG4/VC-1/VP8/RMVB/AVS)
- 1080p Video encoder (H.264)

Connectivity

- USB HOST 1.1
- USB OTG 2.0
- USB HOST 2.0
- I2S/PCM (M/S) (2ch)
- I2S/PCM (M/S) (8ch)
- SPDIF (1ch)
- UARTx4
- SPI(M/S) x2
- MAC (MII/RMII)
- SDIO
- Modem I/F
- I2C x4
- TS I/F
- GPIO

Image Interface

- Camera I/F (8bits CCIR / 8bits Sensor)
- EPD driver I/F
- LCD Controller (1920x1080 output 24 bits panel 4-layer window Scale up/Down)

External Memory Interface

- Inand /eMMC I/F
- Nor Flash /Async SRAM
- SD2.0 / HS-MMC4.2 (8bits)
- SDR/DDR/LBA Nand Flash (24bit ECC)
- DDRII (400MHz, 32bits/16bits)
- LPDDR (200MHz, 32bits)

Memory

- SRAM (16KB) (security/non-security)
- ROM (10KB)
- eFuse (128 x 8bits)

RK2918 3D Performance

GLBenchmark 2.0 -- High Level 3D Performance Test
(FPS, high is better)
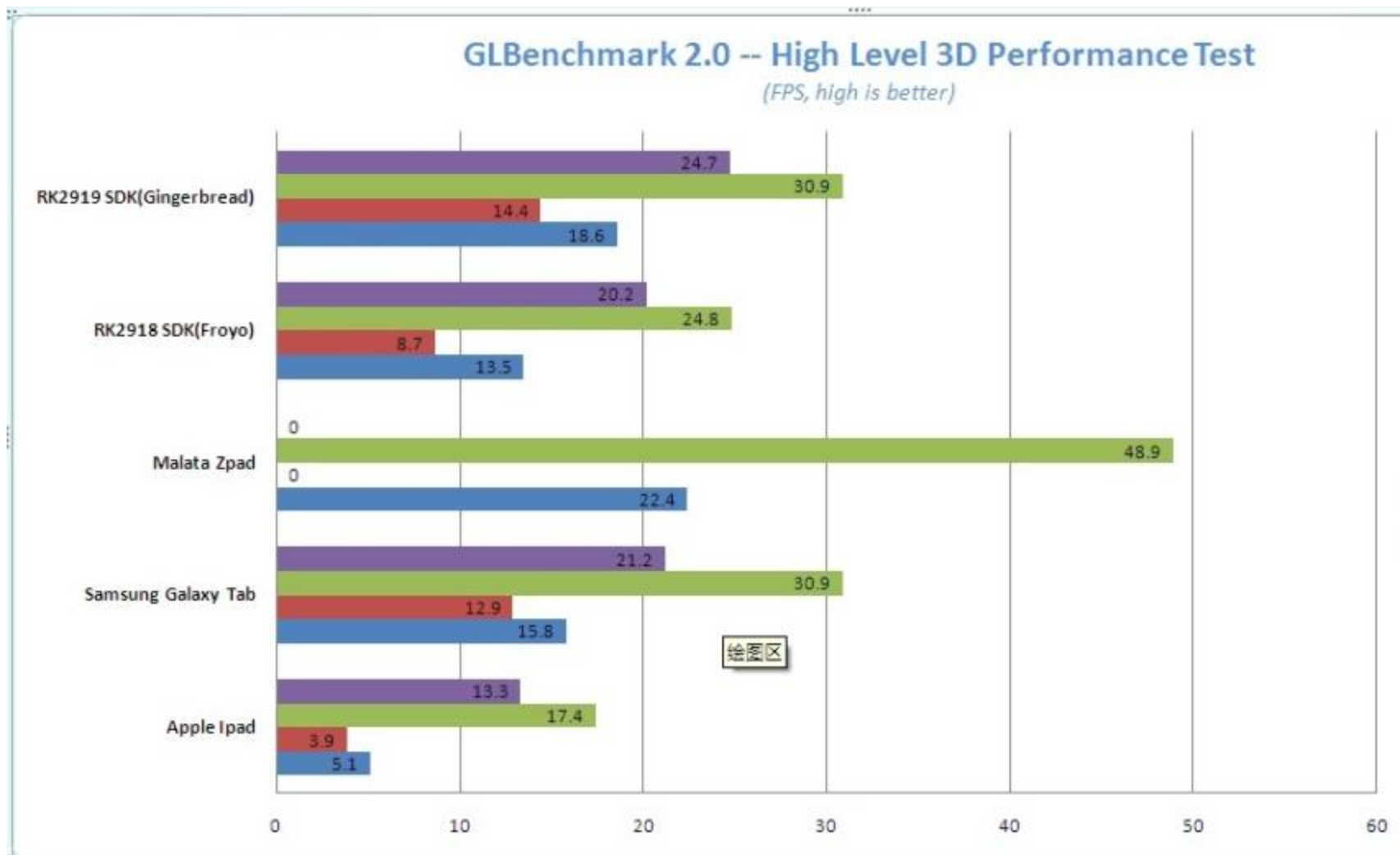
RK2918 Parameter

Part			Item
Processor			RK2918
CPU Speed			Cortex A8(1.2 GHZ)
RAM			DDR2(512MB), DDR3 Optional
OS			Android 2.2/2.3
Connectivity			BT,WIFI
Control			Touch Panel
Display			TFT
Decoder	MPEG4		1080P
	H.264		1080P
	VP8		1080P
	RMVB		1080P
Encoder	H.264		1080P
VOIP			Will be supported
OTG			SUPPORT
Micro-USB			for service, support and local file copy
HDMI			HDMI * 1
WIFI			802.11n (/b/g compatible),wireless video streaming requires 802.11g or 802.11n
Power			DC 12V/2A(AC optional)

RK28XX Solution

RK2818

- android 2.1

- 65 nm

- Dual Core (ARM+DSP)，ARM: 600M; DSP: 550M

- Support android OS

- Support 3G

- Support Online Video Player

- Support 720P（1280×720）Multi-Format Video Decoding

- Support High-Pixel Photo & Camera

RK2808

RK2808 is a high-integration, high-performance, low-power digital multimedia processor with hardware acceleration capacity and 65 nm technology based on (DSP+CPU) dual core for portable PC, smart phone, MID, GPS, E-book, can operate fluently based on android OS.

RK2729   RK2808A

RK2808A and RK2729 are solutions for TFT/E-ink, can operate fluently based on android OS.

W967.TIF

w968.TIF

RK crown is a high-integration, high-performance, low-power digital multimedia processor based on DSP core and video co-processor core for high-end PMP.

RK crown

RK nano

RK nano is a high-integration, high-performance, low-power digital multimedia processor for MP3.
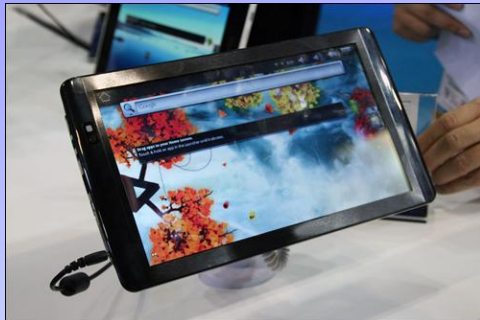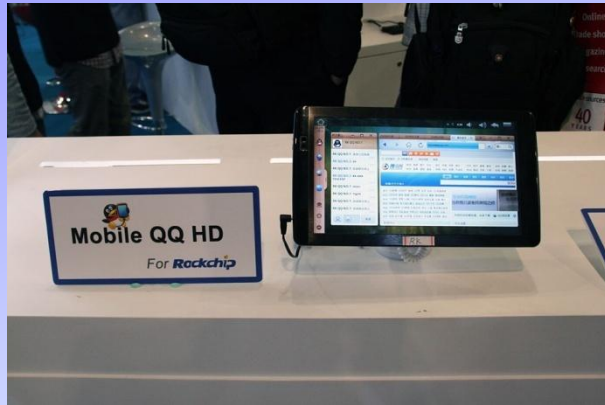
Terminal Products

MID

MID

Y2011 MID Market

- Global shipments of MID are set to rise to 57.6 million units in 2011.
- RK shipments will be more than 10 million pieces in 2011.

Tier 1 Project	
No.	**Customer**
1	FIH
2	TMSBG
3	TOSHIBA/Skyworth
4	TCL/ZTE
5	Archos
6	Yifang

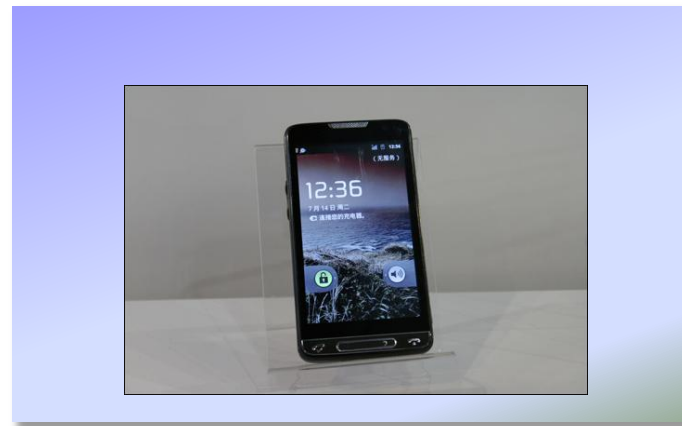| Tier 2 Project	
No.	**Customer**
1	AIGO
2	Winaccord
3	Newsmy
4	Hanwang
5	GPS Technology
6	FOXDA
7	COBY
8	Malata
9	Quanta

Smart Phone

Cortex A8 1.2G
2D/3D GPU
1080P VP8
VoIP
ATSC-T/MH
android 2.3

RK 29xx

3G Smart Phone

Smart Phone

TD SCDMA
Glasses-free 3D
720P Video
Digital TV

3G

RK-1

RK-2

MORE…

3G Smart Phone

Rockchip 3G smartphone solution

Video call & 720P video & Digital TV

Share your life & make your life more wonderful

RK2818+TD-SCDMA/HSDPA+ANDROID 2.1/2.3+WIFI

- 3G Video call by TD-SCDMA
- Exciting video experience of 720P video in all-format
- Support Online Videos & TV & Games、Blog、E-mail、E-Book、Real-time Information
- Digital TV include CMMB、DVB、ISDB、DMB
- HD Screen with capacitive touch
- Embedded sensors (accelerometer or Position sensor or Light sensor) for comfortable daily use
- Support Bluetooth & WIFI & GPS

Rockchip RK2818

RK2818+23D

Rockchip GPRS/EDGH smartphone solution

Low cost Smartphone

Android can also enjoy low cost

RK2818+GPRS/EDGH+android 2.1/2.3+WIFI

- RK2818:660Mhz（ARM）+500Mhz（DPS）
- 3.2'~4.3' WVGA Resistive or Capacitive panel
- Exciting video experience of 720P video in all-format
- 3.0 Mega Pixels camera
- Support Blue tooth & WIFI & GPS
- 256MB DDRII RAM+512MB NAND FLASH
- Support Online Videos & TV & Games、Blog、E-mail、E-Book、Real-time Information

Multi-Media/Digital TV Phone

Rockchip Multimedia & DTV phone solution

Multimedia & Digital TV

3 in 1(ISDB-T+DVB-T+CMMB)

RK2718+Moblie phone Baseband

- 3.2' HVGA Resistive panel
- Support all formats of D1(720X480) video files(MPEG-4、WMV9、RMVB、FLV、H.264…)
- Support for all global standard of Digital TV(CMMB、ISDB、DVB、DMB…)
- Support all formats of audio files（MP3, WMA, OGG, AAC, AAC+, RA, APE,FLAC…）

Glasses-free 3D Phone

Rockchip 3D smartphone solution

Magic Naked eye 3D

Bring you into the lives of 3D

RK2818+Naked eye 3D+android 2.1/2.3+WIFI

- Naked eye 3D with Grating membrane technology
- 5.0 Mega Pixels camera
- 3.5' WVGA HD screen & 5 point touch panel
- Exciting video experience of 720P video in all-format
- Support Online Videos & TV & Games、Blog、E-mail、E-Book、Real-time Information
- 256MB DDRII RAM+512MB NAND FLASH
- Support Bluetooth & WIFI & GPS
- Embedded sensors (accelerometer or Position sensor or Light sensor) for comfortable daily use

Smart Information Machine

RK-1

RK-2

MORE…

Glasses-free 3D Player

E-BOOK

OPPO ENJOY

MORE…

Android TV Box
R-Box

Android TV Box
R-Box

Android TV Box
R-Box

for android TV
Ethernet/WiFi/4G
web▶m

Brand	Deom of Rockchip
Processor	RK2918
CPU Speed	Cortex A8(1.2 GHZ)
RAM	DDR2(512MB), DDR3 Optional
OS	Android 2.2/2.3
Mode of Operation	Build-in bluetooth receiver
Display	TV with HDMI
Decoder	MPEG4:1080P H.264:1080P VP8:1080P RMVB:1080P
Encoder	H.264:1080P
VOIP	Will be supported
OTG	SUPPORT
Micro-USB	for service, support and local file copy
Camera	Will be supported
HDMI	HDMI * 1
WIFI	802.11n (/b/g compatible),wireless video streaming requires 802.11g or 802.11n
Ethernet	10/100BASE-T
USB	HIGH SPEED USB2.0
Power	DC 12V/2A(AC optional)

Android TV Box R-Box

Compare to Google TV

1, support the Terrestrial Television Standard around the world (cmmb，isdb，dvb，atsc)

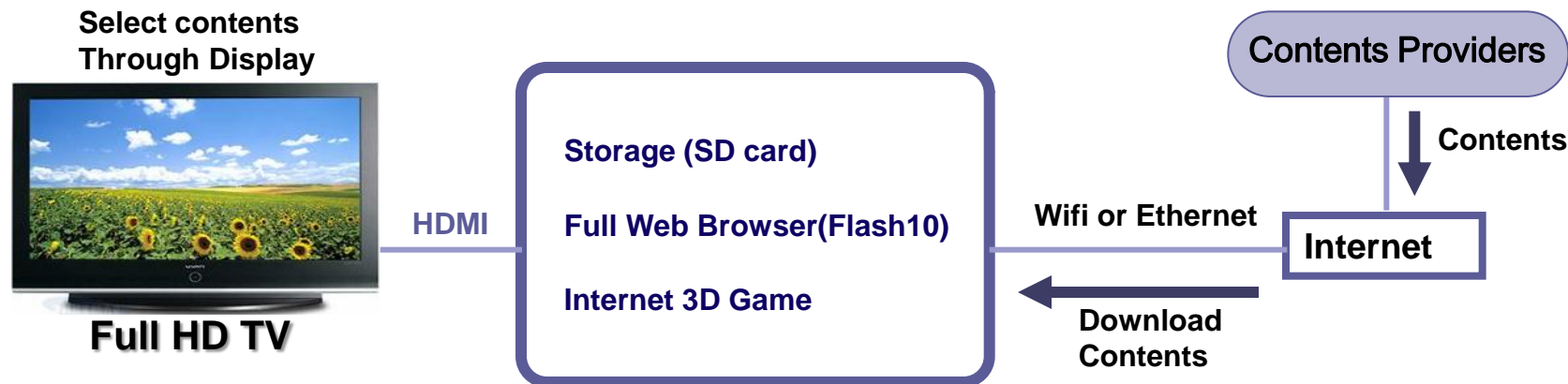2, can surf and watch TV at the same time, has preview function

Compare to traditional Internet TV

1, has stronger and united platform

2, has richer internet TV resources (Rockchip develops and integrates the analysis of all internet video websites independently)

3, new remote controller

4, more convenient wireless connection with other electric appliances (by Bluetooth, wifii)

Select contents Through Display

Full HD TV

HDMI

Storage (SD card)

Full Web Browser(Flash10)

Internet 3D Game

Contents Providers

Contents

Wifi or Ethernet

Internet

Download Contents

RK Product Show
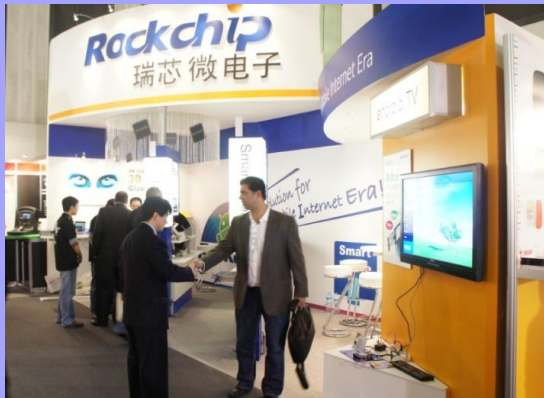
RK Exhibition Review

Coming Soon

MAY 2011 COMPUTEX

Apr 2011 CSF

RK Exhibition Review

Feb 2011 MWC

Jan 2011 CES

RK Exhibition Review

P&T/EXPO COMM CHINA 2010 (Oct)

Oct 2010 Hong Kong Electronics Fair

RK Exhibition Review

April 2010 Hong Kong Electronics Fair

Aug 2010 IFA

RK Global Partners

RK Honors

Dec 2010   China Chip " Leading Company '.

Mar 2010   "Fujian Science & Technology Progress First Award"

Dec 2009   China Chip "Best Design Company".

Oct 2009   "Fuzhou Science & Technology Progress First
Award".

Dec 2008   China Chip "Best Market Performance Prize".

Dec 2007   China Chip "Best Market Performance Prize".

Aug 2007   Set up Global Strategic Partnership with Microsoft.

June 2007 Eleventh China International Software Expo Gold.

Y 2006   Number One in MP3 High-end Chip Industry.

Y 2006   First China Chip "Best Market Performance Prize".

Y 2005   Passed Government Approval for IC Design Company.

Y 2002   Passed Government Approval for Hi-tech Software
Company.

Thank You!