

# DATASHEET

DM29N

## Change Log

Ver.	Description	Edit	Review	Date
V1.0	Initial version			2023.02.17

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# Chapter 1 Overview

## 1.1 Scope of Application

DM29 is an OPS android signage player designed to pair with Promethean Interactive flat panel. It supports true 4K video playback with hardware-assisted support for various video formats and was designed with display integration in mind, and can be plugged directly into any Displaying device supporting the Open Pluggable Specification (OPS).

Due to the high performance level, the playback of Android-based Software Applications and the wide range of connectivity options, it is ideally suited for Digital Signage applications in Retail, Aviation and Transportation, Restaurants, Digital out of Home or most conventional signage uses.

## 1.2 Chip Introduction

- The RK3588 chip integrated in the DM25N board features powerful embedded hardware engines, providing excellent performance for high-end applications. It supports H.265 and VP9 decoders for 8K@60fps, H.264 decoder for 8K@30fps, and AV1 decoder for 4K@60fps. It also supports H.264 and H.265 encoders for 8K@30fps, high-quality JPEG codec, dedicated image preprocessor and postprocessor.
- RK3588 introduces a new generation totally hardware-based maximum 48-Megapixel ISP (image signal processor). It implements a lot of algorithm accelerators, such as HDR, 3A, LSC, 3DNR, 2DNR, sharpening, dehaze, fisheye correction, gamma correction and so on.
- The embedded NPU supports INT4/INT8/INT16/FP16 mixed algorithm with a computing power of up to **6TOPs**. In addition, with its strong compatibility, it can easily convert network models based on frameworks like TensorFlow / MXNet / PyTorch / Caffe.
- RK3588 has a high-performance 4-channel external memory interface (LPDDR4/LPDDR4X/ LPDDR5) that can support demanding memory bandwidth. It also provides a complete set of peripheral interfaces to support highly flexible applications.

## 1.3 Using Scenes



## Chapter 2 Datasheet

PARAMETER		
SoC	RockChip RK3588 octa-core (4×Cortex-A76+4×Cortex-A55) up to 2.4GHz	
GPU	ARM Mali-G610 MP4 quad-core support OpenGL ES3.2 / OpenCL 2.2 / Vulkan1.1, 450 GFLOPS	
NPU	6 TOPs, supporting mixed algorithm of INT4/INT8/INT16, enabling network model conversion based on TensorFlow / MXNet / PyTorch / Caffe and other frameworks.	
SYSTEM		
OS	Android	12 or above
	Linux	Ubuntu Desktop, Ubuntu Server, Debian11, Buildroot, RTLinux
		* Support UEFI booting
VIDEO DECODER & ENCODER		
Decode	8K@60fps H.265/VP9/AVS2 、 8K@30fps H.264 AVC/MVC 、 4K@60fps AV1、 1080P@60fps MPEG-2/-1/VC-1/VP8	
Encode	8K@30fps H.265 / H.264	
	<b>* Simultaneously implement 1080P@30fps x 32 lanes decoding &amp; 1080P@30fps x 16 lanes encoding</b>	
HARDWARE & I/O		
Storage	DDR	4GB/8GB/16GB/32GB 64bit LPDDR4/LPDDR4x/LPDDR5
	eMMC	16GB/32GB/64GB/128GB
Network	LAN	1 × 1000M Ethernet (POE optional)
	WiFi	1 × 2.4GHz/5GHz Dual band WiFi6, BT 5.0
	Data	1 × SIM card slot(5G/4G LTE)
Input/Output	Video	1 × HDMI output2.0 (8K@60fps) , 1 x standard OPS output
	Audio	1 × HDMI audio output, 1 x standard OPS output
External Storage	USB interface	2 × USB 3.0
	TF card	1 × TF Card
	SSD	1 × M.2 SSD (up to 128GB)
	RTC	1 × RTC (optional)
	Extension	1 × Debug
Power Supply	Power	DC12V (5.5*2.1mm, 9V~18V is optional, voltage deviation ±5%)
	POE	Power over Ethernet (Output power is 30W)
Consumption	Standby	0.3W (12V/110mA)
	Average	4.8W (12V/400mA)
	Maximum	7W (12V/1700mA)
Environment	Working temp.	-20°C- 60°C
	Stored temp.	-20°C- 70°C
	Stored humidity	10%~ 90 %

## Chapter 3 Product photos

