

ANT-1776MAX

PRODUCT TECHNICAL SPECIFICATION



Key Features

- AI-driven situational awareness
- Compact, lightweight design for UAV and tactical use
- High-quality video and audio transmission
- Multi-channel video input and processing
- HD-SDI, CVBS and USB Inputs on Board
- Supports encoding, decoding, transcoding, and display
- Ultra-low latency streaming over Ethernet
- Built-in forward error correction (FEC)
- Raw data pre-processing for enhanced reliability
- Real-time intelligence gathering capabilities
- Supports H.264 and H.265 (HEVC) video compression
- Engineered for mission-critical environments

PRODUCT OVERVIEW

A compact and intelligent video surveillance solution, the ANT-1776MAX is engineered for UAV and tactical deployments requiring robust, high-quality video and audio transmission. It supports encoding, decoding, transcoding, and display, along with forward error correction (FEC), raw data pre-processing, and ultra-low latency streaming over Ethernet.

Designed to manage multiple video channels simultaneously, the ANT-1776MAX delivers real-time intelligence gathering and analytics-driven situational awareness. Supporting both H.264 and H.265 codecs, it ensures efficient, high-performance video compression and decoding in mission-critical environments.

HARDWARE SPECIFICATIONS

- Processor: Quad-Core ARM® Cortex®-A53, up to 1.6GHz per core
- Memory: 6GB LPDDR4 @ 4000MHz
- Storage: 32GB eMMC onboard
- Video Input:
 - 4x Composite (CVBS)
 - 2x HD-SDI
 - Or a combination there of - see diagram below for further information.
- Video Processing: Multi-stream HD video engine supporting H.265/H.264 encoding and decoding up to 1080p60
- AI Acceleration: Integrated Hailo-8 AI processor
- External Storage: SD 3.0 / SDXC slot (1x external connector)
- Networking: Dual 1000Mbps Ethernet ports
- USB: USB 3.0 OTG
- Expansion: PCIe Gen 3, 1-lane
- Interfaces: UART and general-purpose I/O for device control

ANT-1776MAX

PRODUCT TECHNICAL SPECIFICATION



Electrical Characteristics

Parameter	Min	Typ	Max	Unit
Main Input Voltage	- -	3.3-5.5	- -	V
Power Consumption	-40		+85	W
Operating Temp	-	7	-	C
CPU Clock		1.6		GHz

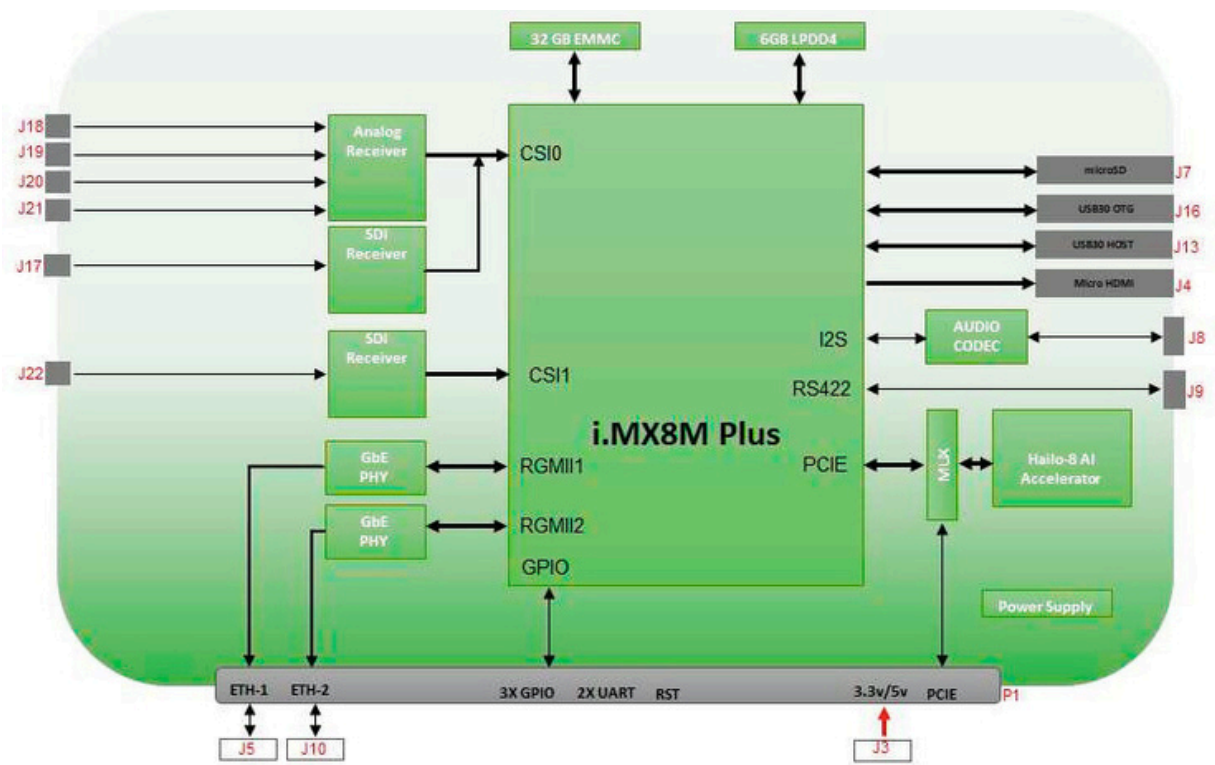
Connector Details

REF	COMPANY MENUFACTURING	PN	NOTE
J17-J22	Huber+Suhner, Inc.	82_MCX-75-0-5/111_NH	SDI/CVBS
P1	SAMTEC	QTH020-02-F-D-DP-A	I/F
J3	JST	SM06B-SRSS-TB	POWER
J39	Molex	532610471	Terminal
J7	Molex	5031820853	microSD
J13	JAE	DX07S024JA2R1200	USB30 HOST
J4	Molex	467650302	Micro HDMI
J5	JST	SM08B-SRSS-TB	ETHERNET -1
J8	JST	SM05B-SRSS-TB	AUDIO
J9	JST	SM05B-SRSS-TB	RS422
J10	JST	SM08B-SRSS-TB	ETHERNET -2
J16	JAE	DX07S024JA2R1200	USB30 OTG

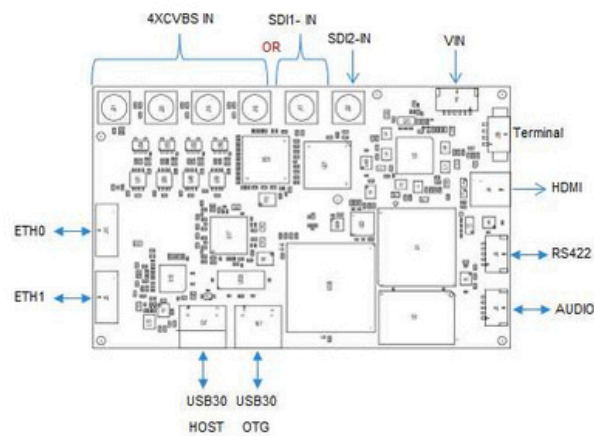
ANT-1776MAX

PRODUCT TECHNICAL SPECIFICATION

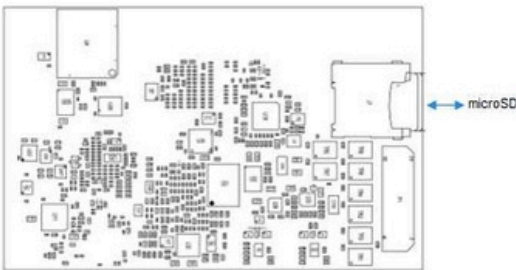
Block Diagram



TOP



BOT



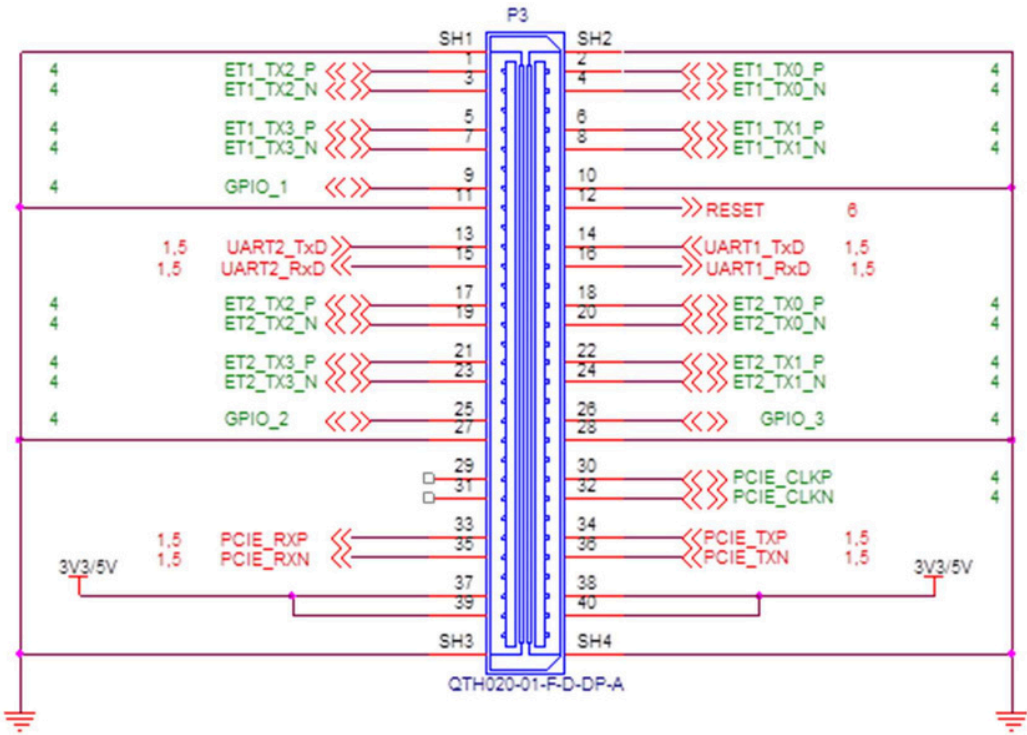
ANT-1776MAX

PRODUCT TECHNICAL SPECIFICATION



Pinout

P1 - I/F			
Pin Number	Signal	Pin Number	Signal
1	ETH1_TX2_P	2	ETH1_TX0_P
3	ETH1_TX2_N	4	ETH1_TX0_N
5	ETH1_TX3_P	6	ETH1_TX1_P
7	ETH1_TX3_N	8	ETH1_TX1_N
9	GPIO-1(3.3 OR 1.8)	10	GND
11	GND	12	RESET(ACTIVE LOW)
13	UART2_TXD	14	UART1_TXD
15	UART2_RXD	16	UART1_RXD
17	ETH2_TX2_P	18	ETH2_TX0_P
19	ETH2_TX2_N	20	ETH2_TX0_N
21	ETH2_TX3_P	22	ETH2_TX1_P
23	ETH2_TX3_N	24	ETH2_TX1_N
25	GPIO-2(3.3 OR 1.8)	26	GPIO-3(3.3 OR 1.8)
27	GND	28	GND
29		30	PCIE_CLKP_OUT
31		32	PCIE_CLKN_OUT
33		34	PCIE_TXP
35	PCIE_RXP	36	PCIE_TXN
37	PCIE_RXN	38	
39	VIN(3.3V OR 5V)	40	VIN(3.3V OR 5V)



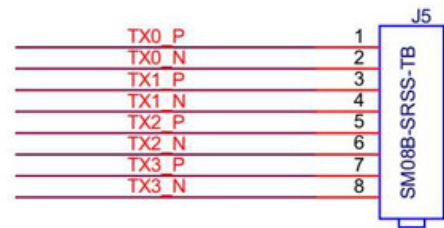
ANT-1776MAX

PRODUCT TECHNICAL SPECIFICATION

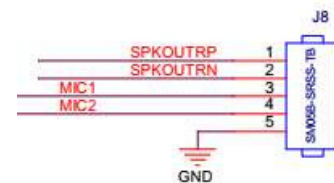
J3 POWER	
Pin Number	Signal
1-3	VIN
4-6	GND



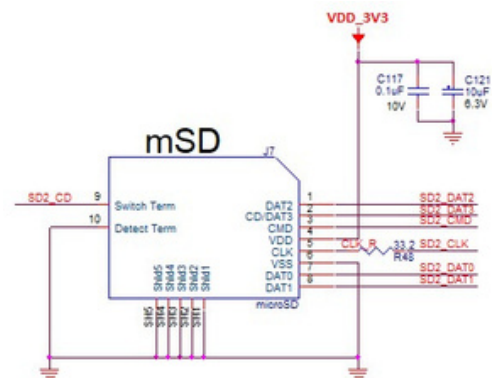
J5&J10 ETHERNET	
Pin Number	Signal
1	TX0_P
2	TX0_N
3	TX1_P
4	TX1_N
5	TX2_P
6	TX2_N
7	TX3_P
8	TX3_N



J8 AUDIO	
Pin Number	Signal
1	SPEAKER_P
2	SPEAKER_N
3	MIC1
4	MIC2
5	GND



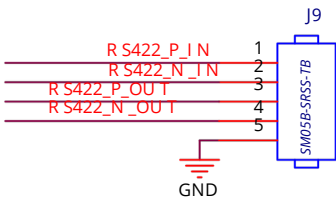
J7 microSD	
Pin Num	Name
1	DATA2
2	DATA3
3	CMD
4	VDD
5	CLK
6	GND
7	DATA0
8	DATA1
9	CD
10	GND



ANT-1776MAX

PRODUCT TECHNICAL SPECIFICATION

Pin Number	Signal
1	RS422_P_IN
2	RS422_N_IN
3	RS422_P_OUT
4	RS422_P_OUT
5	GND



J17-J22 -VIDEO_IN	
Pin Number	Signal
J17,J22	SDI
J18-J21	CVBS

ANT-1776MAX

PRODUCT TECHNICAL SPECIFICATION

Mounting

The overall dimensions of the Jupiter mini board are 80x50mm.

The highest component on the Board to Board side : 2.2mm

