

VDSL2

The Last Mile Broadband Solution

General Features

Transmission modes

VDSL2 profiles	8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a
Data rate	Up to 100 Mbps upstream / 100 Mbps downstream
Band-plans	Conforms to NA, EUR & Swedish band-plans
Annex	A/B/C
Parameter configurability	997.1 Compliant

Advanced Features from ITU

OLR	Supports bit swapping, SRA and dynamic interleaver depth (D) change
US0	Supported
PBO	Both UPBO and DPBO supported

Unique Features

QoS	Flexible packet sorting based on EtherType, VLAN ID or VLAN priority (supports QinQ).
Booting	RAM can be booted from EEPROM, Flash or external µProcessor
Legacy compatibility	Compatible with POTS and ISDN

Interfaces

MAC	MII/SMII for data and MDIO for control
Host/master	HPI/SPI
Testing	JTAG

AFE

Power saving	PBO and block power down
I/O rate	35MSPS / 70MSPS
Line driver	Integrated

Product Brief MT2301 + MT3301

VDSL2 PHY solution

-Smart configurable PHY for both CO and CPE side



The MT2301 DMT and the MT3301 AFE form the core of Metanoia's VDSL2 solutions. The MT2301 Discrete Multi-Tone (DMT) chip offers a smart and flexible VDSL2 PHY solution which can easily be used with a range of network processors by connecting over standard interfaces. The MT3301 AFE provides all

functions necessary for receiving and transmitting VDSL2 signals according to ITU and ANSI Recommendations. The high level of integration in MT3301 decreases the need for complex and costly external components, reducing the total system cost.

These devices support all T1E1.4 and ITU-T discrete multi-tone VDSL based specifications (e.g.G.993.2), as well as IEEE 802.3 10PASS-TS. This ensures guaranteed interoperability with other chip vendors today and in the future. Furthermore, the MT2301 and MT3301 chips support all profiles described in the VDSL2 standards, which ensure optimal data rates at various distances and for different deployment scenarios.

Standard Compliance

Description	Standards
VDSL2	T1E1.4, ITU-standard G.993.2, G.994.1, G.997.1
10PASS-TS	IEEE 802.3ah
Interfaces	IEEE 802.3 for MII

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Product Brief MT2301 + MT3301

Physical Parameters

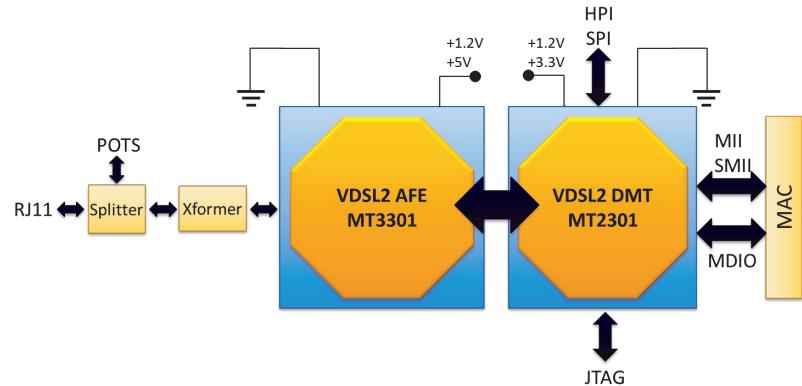
MT2301 DMT

Package	128-LQFP
Size	14mm x 14mm x 3.2mm
Supply voltage	1.2V & 3.3V
ESD class.	2kV

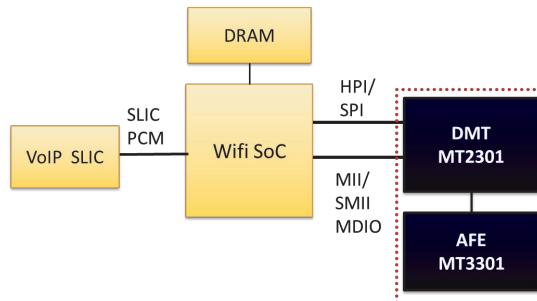
MT3301 AFE

Package	No lead QFN
Size	9x9x0.8mm
Supply voltage	2.5V, 3.3V & 5V
ESD class.	2kV

Interface block diagram



Application Example I: VDSL2 High-end 2x2 802.11n Wifi and VOIP capable Home Gateway



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