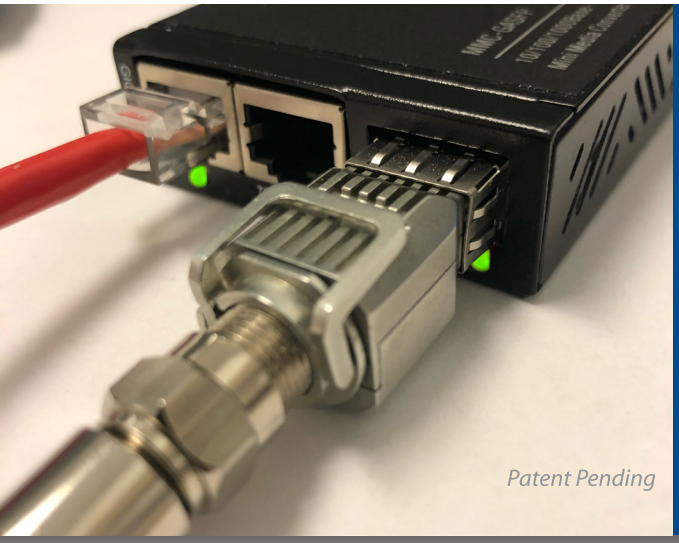
Solving the LAST MILE Bandwidth Challenge



The MaGiC-SFP™ is the most cost-effective solution for last mile connectivity. MaGiC-SFP™ uses existing coaxial cable in the home and/or building, is easy to install and works with existing network equipment. MaGiC-SFP™ extends fiber and coaxial based networks, and has been tested to symmetrical data rates of up to 2.5 Gbps.

EASY TO INSTALL
Install and deploy MaGiC-SFP™ in minutes.

COST-EFFECTIVE
Dramatically reduces the cost of installation by using existing coaxial cable with field proven open standards. No trenching or cable pulling required.

EXTREMELY FAST PERFORMANCE
2.5Gbps can be easily deployed within the building or from the curb.

USE OF EXISTING COAXIAL CABLE
Works over coaxial cable regardless of type or age. Works over RG59, RG6, RG7 and RG11.

RANGE
Up to: 1,550'
Typical: 800-1,000'

THE CHALLENGE


Many products currently in use do not work with installed equipment and/or require new installation of Ethernet or Fiber which dramatically increases the network costs, while others suffer massive bandwidth asymmetries.

THE SOLUTION
The MaGiC-SFP™ (Small Form-factor Pluggable) provides symmetrical gigabit speeds with a one-time installation cost that uses existing cabling, works with current equipment, and eliminates the cost of new installation and new equipment.

QUESTIONS
Please contact Jim Luciano at jim.luciano@mslink.com or call at 1.215.350.6386.

MDS Link | 116 Research Drive | Bethlehem, PA 18015 | 800.467.1394 | www.mdslink.com

ABSOLUTE MAXIMUM RATINGS

	Min	Max	Unit
Input Voltage Range (Vi)	3.1	3.3	V
Source Current (Is)	0.36	0.89	A
Operating Virtual Junction Temperature Range	-40 C	85 C	Celsius
Storage Temperature Range	-40 C	120 C	Celsius

PRODUCT FEATURE

Sr. No	Feature	
1.	Support MoCA 2.5	Backward compatible to MoCA 2.0,1.5 and 1.0
2.	Interfaces	SFI Interface Port, F-Type Connecter
3.	Regulatory Approvals	FCC, CE, UL, CSA
4.	Protection	OCP, OVP and SCP
5.	Max PER	1e-6 / 1e-8
6.	Latency	<6.1mS/<3mS(LLF)

RF SPECIFICATION

Sr. No	Specification	Limit / Comment
1.	Max Transmit Power	4dBm
2.	Receiver Sensitivity*	-55dBm
3.	RF Interface	F- Type Connector
4.	RF Impedance	75 E
5.	RF Frequency Band	400 MHz – 1675 MHz
6.	Modulation	Up to 1024 QAM
7.	Throughput	2.5Gbps

THERMAL DISSIPATION

Below approach is for heat dissipation:

CASE 1 SFP– 3 CFM

Description	Part #	Power Dissipation(W)	Allowable Temperature Limit	Reference Designator	Maximum Junction Temperature	Thermal Margin
MX3701	MXL3710	3.722	125	U1	105.91	19.01
LV Regulator IC 100mA SOt 23-5	TPS79118	0.308	125	u4	103.19	21.81
Buck Switching Regulator IC 1.8V 2A 6-VFDFN	TPS62825x	1.8	125	u5	171.52	-46.52

CASE 2 SFP– 3 CFM

Description	Part #	Power Dissipation(W)	Allowable Temperature Limit	Reference Designator	Maximum Junction Temperature	Thermal Margin
MX3701	MXL3710	2.228	125	U1	91.81	33.19
LV Regulator IC 100mA SOt 23-5	TPS79118	0.308	125	u4	88.11	36.89
Buck Switching Regulator IC 1.8V 2A 6-VFDFN	TPS62825x	0.315	125	u5	96.27	28.73

CASE 3 SFP– .5 CFM

Description	Part #	Power Dissipation(W)	Allowable Temperature Limit	Reference Designator	Maximum Junction Temperature	Thermal Margin
MX3701	MXL3710	2.228	125	U1	99.2	25.8
LV Regulator IC 100mA SOt 23-5	TPS79118	0.308	125	u4	103.2	21.8
Buck Switching Regulator IC 1.8V 2A 6-VFDFN	TPS62825x	0.315	125	u5	104.9	20.1

CASE 4 SFP– .5 CFM

Description	Part #	Power Dissipation(W)	Allowable Temperature Limit	Reference Designator	Maximum Junction Temperature	Thermal Margin
MX3701	MXL3710	2.228	125	U1	119.3	5.7
LV Regulator IC 100mA SOt 23-5	TPS79118	0.308	125	u4	126.1	-1.1
Buck Switching Regulator IC 1.8V 2A 6-VFDFN	TPS62825x	0.315	125	u5	128.9	-3.9

1. Internal Heat sink design in mechanical casing
2. PCB with enough copper to dissipate heat
3. SFP with Heat Sink Fins

Estimated Performance Range

Channel Centered at 550MHz	Typical: 1000′	Best Case: 1550′
Channel Centered at 1650MHz	Typical: 500′	Best Case: 800′