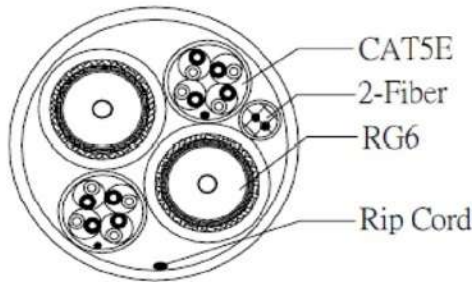


# (2) CAT5E 350MHz UTP + (2) RG-6 Quad + (2) Fiber Composite Cable

## Cable Detail



## Approval



## Applicable Standards

- Combination: Multi-media Cables for Smart Home  
SCTE IPS-SP-001, TIA-568-C.2

## Description

- Two 4 Pair Cat5E UTP Cable:  
Complies to TIA 568-C.2  
24 AWG Solid Bare Copper Conductor / PE Insulation
- Two RG6 Quad Shield Coaxial Cable:  
Complies to SCTE ISP-IP-001  
18 AWG Copper Clad Steel (CCS)  
Al foil / 60% Al-Mg alloy Braid Shield +  
Al foil / 40% Al-Mg alloy Braid Shield
- One 2-Fiber Interconnect Cable  
FDDI-Grade Fiber 62.5/125 UM

## Physical Characteristics

CAT5E UTP LAN CABLE	For details, please see Attachment 1
RG6 Quad Shield Coaxial Cable	For details, please see Attachment 2
Fiber Interconnect Cables	For details, please see Attachment 3
Nominal Weight	110 lbs.

## Electrical Characteristics

CAT5E UTP LAN CABLE	For details, please see Attachment 1
RG6 Quad Shield Coaxial Cable	For details, please see Attachment 2
Fiber Interconnect Cables	For details, please see Attachment 3

## Mechanical Characteristics

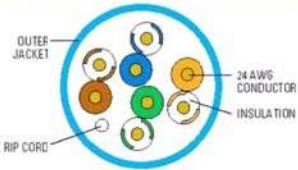

Test Object		Jacket
Test Material		PVC
Before	Tensile Strength (Mpa)	≥1.034
Aging	Elongation (%)	≥200
Aging Condition (°Cxhrs)		113.0 ± 1.0 x 168
After	Tensile Strength (Mpa)	≥85% of unaged
Aging	longation (%)	≥50% of unaged
Cold Bend (-20±2°Cx4hrs)		No crack
Average Thickness		0.0334 (inch)
Min. Point Thickness		0.0299 (inch)
Outer Diameter		0.6889 (inch)
Rip Cord		Yes

## Cable Marking

2 X CAT5E 350 MHZ + 2 X RG6 QUAD 18AWG + 62.5 UM  
MULTIMODE FIBER VERIFIED TO FT4 CMR C(ETL)US 4003289  
CATV SWEPT TO 3.0GHZ \*\*\*\*FT

# (2) CAT5E 350MHz UTP + (2) RG-6 Quad + (2) Fiber Attachment 1

Product Specification

Cable Detail		
		
Description		
24 AWG Cat5E CMR, High-Performance Data Cable		
Applicable Standards		
<ul style="list-style-type: none"> <li>• ETL Listed Type CMR</li> <li>• C(ETL) listed CMG FT4</li> <li>• ETL Verified to TIA - 568-C.2, and ISO/IEC 11801</li> <li>• RoHS Compliant</li> <li>• ATM 155 Mbps</li> <li>• Ethernet 10BASE-T, 100BASE-TX, 100BASE-VG, 100BASE-T4</li> <li>• 1000 Mbps 1000BASE-T Gigabit Ethernet™ (IEEE 802.3)</li> <li>• 16 Mbps Token Ring™ (IEEE 802.5)</li> </ul>		
		
Physical Characteristics		
Conductor Material	Solid Annealed Bare Copper	
Number of Conductor Pairs	4	
Size	24 AWG	
Stranding	Solid	
Insulation Material	Polyethylene	
Overall Diameter	0.035 in. ± 0.0002 in	
Average Thickness	0.0081 in	
Jacket Material	Flame Retardant PVC	
Average Wall Thickness	0.023 in.	
Nominal Outer Diameter	0.200 in. ± 0.008 in.	
Nominal Weight	20 lbs.	
Shield Material	Unshielded	
Ripcord	Yes	
Mechanical Characteristics		
Temperature Rating	Installation	0°C to + 60°C
	Operating	-20°C to + 75°C
Tensile Strength	Before	≥ 13.8 Mpa
	Aging	≥ 100%
Aging Condition		100°C x 240 hours
	After	≥ 85% of unaged
	Aging	≥ 50% of unaged
Insulation Colors		
Pair 1	White / Blue	Blue
Pair 2	White / Orange	Orange
Pair 3	White / Green	Green
Pair 4	White / Brown	Brown

## Electrical Characteristics

Max. Conductor DC Resistance @ 20°C	9.65 Ω / 100 Meters
Maximum DC Resistance Unbalanced @ 20°C	5%
Max. Pair-to-Pair Ground Capacitance Unbalance	330 pF / 100 Meters
Characteristic Impedance (1 ~ 350 MHz)	100 ± 15 Ω
Mutual Capacitance	5.6 nF / 100 Meters
Max. Delay Skew	40 nS / 100 Meters

## Electrical Performance

Frequency (MHz)	Attenuation (dB/100m)		Return loss (dB)		NEXT (dB)		PS-NEXT (dB)	
	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.
0.772	1.8	1.5	23.0	33.0	72.0	81.1	70.0	78.7
1	2.0	1.8	23.0	38.6	70.3	79.4	68.3	76.9
4	4.1	3.6	23.0	39.8	61.2	69.9	59.3	67.4
8	5.8	5.1	24.5	38.2	56.8	61.9	54.8	59.4
10	6.5	5.8	25.0	38.0	55.3	62.4	53.5	59.9
16	8.2	7.4	25.0	37.4	52.3	57.8	50.3	55.2
20	9.3	8.2	25.0	36.8	50.8	56.4	48.8	53.8
25	10.4	9.3	24.3	35.2	49.3	56.3	47.3	53.6
31.25	11.7	10.5	23.6	33.3	47.9	53.8	45.9	51.1
62.5	17.0	14.9	21.5	32.2	43.4	49.8	41.4	47.4
100	22.0	19.2	20.1	31.3	40.3	47.5	38.3	45.0
155	28.1	24.2	18.8	29.8	37.4	45.1	35.4	42.6
200	32.4	27.3	18.0	28.5	35.7	43.3	33.7	40.2
250	38.9	30.9	17.5	27.3	34.8	41.4	32.5	39.0
300	41.0	34.1	16.8	25.6	33.1	40.2	31.1	37.7
350	44.9	37.8	16.3	23.2	32.1	39.0	30.1	36.5

Frequency (MHz)	ELFEXT (dB/100m)		PS-ELFEXT (dB)		ACR Typ (dB)		PS-ACR Typ (dB)	
	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.
0.772	66.0	73.3	63.0	72.7	70.2	79.2	68.2	77.0
1	63.8	71.3	60.8	70.6	68.2	77.6	66.3	75.0
4	51.7	59.4	48.7	58.7	57.2	66.3	55.2	63.5
8	45.7	53.2	42.7	51.1	51.0	59.8	49.0	56.9
10	43.8	50.5	40.8	49.7	48.8	56.6	47.0	53.7
16	39.7	47.0	36.7	45.1	43.0	53.0	42.1	47.4
20	37.7	45.0	34.7	43.6	41.5	50.5	39.5	45.0
25	35.8	43.3	32.8	42.0	38.9	47.0	36.9	43.7
31.25	33.9	41.3	30.9	40.5	36.5	43.3	34.2	40.0
62.5	27.8	35.8	24.8	34.5	26.4	35.0	24.4	31.2
100	23.8	31.3	20.8	30.3	18.3	26.2	16.3	24.2
155	19.9	27.5	16.9	26.9	10.0	20.9	7.3	15.9
200	17.7	24.7	14.7	24.5	5.0	16.0	2.0	10.0
250	17.1	22.2	14.0	22.5	0.0	10.6	-	4.0
300	16.7	20.5	13.5	20.7	-	6.1	-	-1.3
350	16.0	19.4	12.8	19.6	-	1.2	-	-6.4

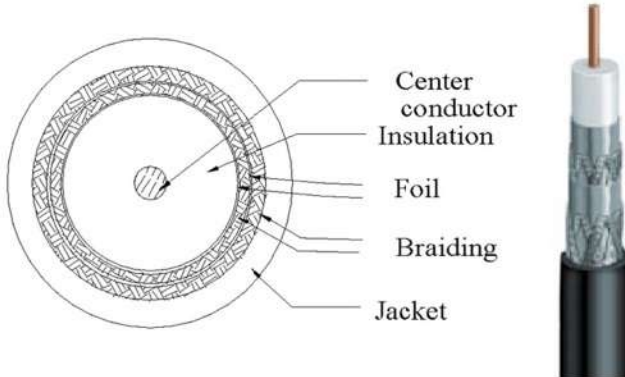
\* Values above 100MHz are information only.

## Cable Marking

CATEGORY 5E 350MHZ 24AWG 4 PR UTP XXXXXXXX CMR FT4 C(ETL)US  
ETL LISTED & VERIFIED TO TIA-568-C.2 \*\*\*\*FT

# (2) CAT5E 350MHz UTP + (2) RG-6 Quad + (2) Fiber Attachment 2

## Cable Detail



## Electrical Characteristics

Temperature Rating	-20 to 60 (°C)
Impedance	75 (± 3.0 Ohms)
Capacitance	15.5 (pF/ft.)
Conductor DCR@20°C	28.6 (ohms/1000ft)
Velocity of Propagation	84 (%)
RoHS Compliant	Yes

## Electrical Performance

Frequency (MHz)	Attenuation (dB/100m)	Frequency (MHz)	Attenuation (dB/100m)
10	2.90	1000	22.00
50	5.25	1200	24.60
100	7.20	1450	27.20
200	9.84	1800	30.50
400	14.10	2200	32.80
700	19.00	2400	32.83
900	21.00	3000	37.88

## Approval



## Applicable Standards

- RG-6/U QUAD CMR CATV 75 Ω Coaxial Cable
- Reference Standard  
SCTE IPS-SP-001 / UL 1655, UL 13, UL 444, RoHS

## Physical Characteristics

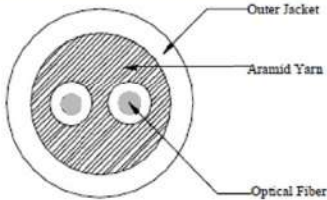

Conductor	Solid	Copper Clad Steel
AWG		18
Diameter	(inches)	0.040
Insulation Material		Foam PE
Nominal Thickness	(inches)	0.073
Insulation Diameter	(inches)	0.186
First Braid Shield		Aluminum
Coverage Area	(%)	60
Second Braid Shield		Aluminum
Coverage Area	(%)	40
Jacket Material		FR-PVC
Nominal Thickness	(inches)	0.0255
Cable Diameter	(inches)	0.2968
Nominal Weight	500 ft.	18 lbs.
	1000 ft.	35 lbs.

## Cable Marking

RG6/U QUAD SHIELD 18AWG CMR FT4 XXXXXX VERIFIED TO C(ETL)US CATV SWEPT TO 3.0 GHZ \*\*\*\*FT



# (2) CAT5E 350 MHz UTP + (2) RG-6 Quad + (2) Fiber Attachment 3

Cable Detail	
	<p>Outer Jacket</p> <p>Aramid Yarn</p> <p>Optical Fiber</p>
Description	
<ul style="list-style-type: none"> <li>• PVC Tight Buffered Optical Fiber, Riser type PVC Jacket</li> <li>• Meets NEC riser (OFNR) safety standards</li> <li>• Intrabuilding backbones &amp; horizontal installations in riser and general purpose environments.</li> </ul>	
Applicable Standards	
<ul style="list-style-type: none"> <li>• UL 1651, UL 1666, TIA/EIA-568-B.3 &amp; BELLCORE GR-409</li> </ul>	
	
Physical Characteristics	
2 Cores	Ultra pure Silica Glass
Core Diameter	62.5 (±3 μ m)
Clad Diameter	125 (±2 μ m)
Cladding Non-Circularity	< 2.0 (%)
Core/Clad Concentricity Error	<= 3.0 (μ m)
Primary Coating Material	UV Curable Acrylate
Primary Coating Dia.	245 (±5 μ m)
Secondary Buffer Material	PVC
Secondary Buffer Dia.	0.9 (±0.05 mm)
Strength Member	Aramid Yarn
Jacket Material	PVC
Nom. Thickness	0.70 (mm)
Min. Thickness	0.53 (mm)
Cable Dia.	3.80 (±0.15 mm)
Mechanical Characteristics	
Low and High Temperature Cable Bend	Mandrel Size of 50mm
Max. Tensile Load	(N) Short Term. 700
	(N) Long Term. 450
Jacket Tensile Strength	(Mpa) 13.8
Aging Conditions	(°C x Hours) 110 ± 2°C x 168 H
Elongation at Break	Before Aging >= 166
	After Aging >= 100
Cable Aging	(°C x Hours) 85 ± 2°C x 168 H
Min. Bending Radius	(mm) Short Term. 45
	(mm) Long Term. 50

## Optical Characteristics

Numerical Aperture	(± 0.015)		
Wavelength	(nm)	At 850nm	At 1300nm
Max. Attenuation	(db/KM)	<= 3.5	<= 1.5
Min. Modal Band with	(MHz KM)	>= 200	>= 500

## Cable Marking

OFNR DUPLEX 62.5/125 75C VERIFIED TO C(ETL)US XXXXXX  
MULTIMODE OPTICAL CABLE \*\*\*\*FT