

Color

Outer Jacket Color:
Per Customer Request

Outer Jacket Marking

E223070 (UL) CM 2 x 18AWG + 2 x 4pr x 24AWG 75C --- C(UL) CMG 2 x 18AWG + 2 x 4pr x 24AWG 75C --- ***** FEET

Performance

The Characteristics of RG6 and CAT5e refer to attachment

Description

Rated Temperature (°C)	75
Product Standard Certification	UL file E223070
Flammability Test	CM,CMG

Two 4 Pair CAT5e UTP Cables
Complies to TIA/EIA 568A
24AWG Solid Bare Copper Conductor / PE Insulation

Two RG6 Quad Shield Coaxial Cables
Complies to SCTE ISP-IP-001
18AWG Copper Clad Steel Conductors
Al foil / 60% Al Braid Shield + Al foil / 40% Al Braid Shield

Application
Multi-media Cables for Smart Home

Reference Standard
SCTE IPS-SP-001, TIA/EIA-568-A & TIA/EIA-570A

Outer Jacket Mechanical Characteristics:

Test Object		PVC
Test Material	Before	Tensile Strength (Mpa) >=1.034
	Aging	Elongation (%) >=200
Aging Condition (°C×hrs)		113.0±1.0 × 168
	After	Tensile Strength (Mpa) >= 85% unaged
	Aging	Elongation (%) >= 50% unaged
Cold Bend (-20±2°C×4hrs)		No crack

Construction

2xCAT5E UTP LAN Cable
Detail See Attachment 1

2xRG6 Quad Shield Coaxial Cable
Detail See Attachment 2

Cabling Lay Length(±100mm)	350
PET Tape Wrapping	

Outer Jacket **PVC**

Average Thickness(±0.05mm)	0.9
Min. Point Thickness(mm)	0.75
Outer Dia.(±0.5mm)	18.0
Rip Cord	Yes

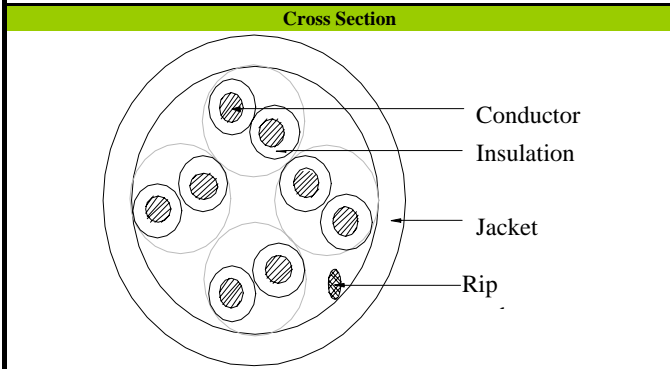
Weight(kg/km) 151.1

Part No.: 20306

Ref. spec No. : HYBRI-004 Rev.: 1

Revision History

Prepared by: David Kim 2006.2.4 #A046 Rev.:2
Approved by: Kevin Chang 2006.2.4 Page 1 of 3



Marking

E223070 (UL) CMR 4PR 24AWG UTP 75C --- C(UL) CMR 4PR 24AWG UTP 75C --- (UL) VERIFIED ENHANCED CATEGORY 5 ***** FEET

Description

Reference Standard

UL Subject 444,EIA/TIA568-A & ISO/IEC 11801

Construction

Conductor	Solid Bare Copper
AWG	24
Conductor Dia. (+0.008/-0.01mm)	0.49
Insulation	PE
Average Thickness(±0.03mm)	0.21
Min. Point Thickness(mm)	0.17
Insulation Dia.(±0.03mm)	0.93
Twisting Lay Length(mm)	30underneath
Cabling Lay Length(±20mm)	140
Inner Jacket	PVC
Average Thickness(±0.05mm)	0.5
Min. Point Thickness(mm)	0.43
Cable Dia.(±0.2mm)	4.7
Rip Cord	Yes

Color

Insulation colors are:
Blue, White/Blue
Orange, White/Orange
Green, White/Green
Brown, White/Brown
Inner Jacket colors:
Blue, Green

Part No.: 20306

Ref. spec No.: HYBRI-004 Rev.: 1

Revision History

Performance

Electrical Characteristics:

Frequency (MHz)	Return loss (dB)	Attenuat (dB/100)	NEX (dB)	ACR (dB)
0.772	19.4	1.8	67.0	65
1	20.0	2.0	65.3	63
4	23.0	4.1	56.3	52
8	24.5	5.8	51.8	46
10	25.0	6.5	50.3	44
16	25.0	8.2	47.3	39
20	25.0	9.3	45.8	37
25	24.3	10.4	44.3	34
31.25	23.6	11.7	42.9	31
62.5	21.5	17.0	38.4	21
100	20.1	22.0	35.3	13
200	18.0	32.4	34.7	2.3
250	17.3	36.9	29.3	0.0
300	16.8	41.0	28.2	-
350	16.3	44.9	27.2	-

Mechanical Characteristics:

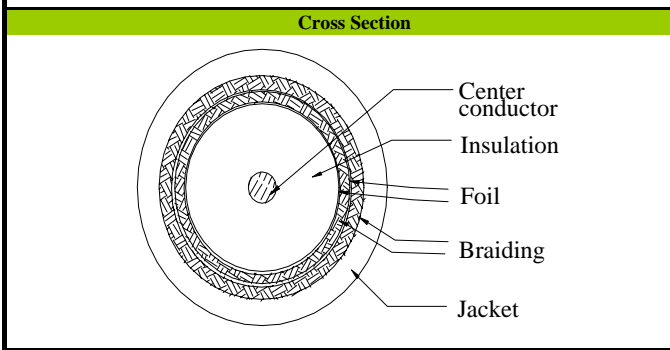
Frequency (MHz)	PSNEXT (dB)	ELFEXT/ELFE. (dB/100m B/100m)	Prop'n Delay (ns/100m)	
0.772	64.0	66.0	63.0	575.0
1	62.3	63.8	60.8	570.0
4	53.3	51.7	48.7	552.0
8	48.8	45.7	42.7	546.7
10	47.3	43.8	40.8	545.4
16	44.3	39.7	36.7	543.0
20	42.8	37.7	34.7	542.0
25	41.3	35.8	32.8	541.2
31.25	39.9	33.9	30.9	540.4
62.5	35.4	27.8	24.8	538.6
100	32.3	23.8	20.8	537.6
200	27.8	17.7	14.7	536.5
250	26.3	15.8	12.8	536.3
300	25.2	14.2	11.2	536.1
350	24.2	12.9	9.9	535.9

3.0-350 MHZ impedance (ohms)	100 ± 15
3.0-350 MHZ Delay Skew (ns/100m)	>=45
Pair-to-Ground Capacitance Unbalance (pF/100)	>=330
Max. Conductor DC Resistance 20°C (ohms/km)	93.8
Resistance Unbalance (%)	>=5

Mechanical Characteristics:

Test Object	Inner Jacket
Test Material	PVC
Before Tensile Strength (Mpa)	>=13.8
Aging Elongation (%)	>=100
Aging Condition (°Cxhrs)	100x240
After Tensile Strength (Mpa)	>=85% of unaged
Aging Elongation (%)	>=50% of unaged
Cold Bend(-20±2°Cx4hrs)	No crack

Prepared by: David Kim 2006.2.4 7A046 Rev.:2
Approved by: Kevin Chang 2006.2.4 Page 2 of 3



Marking
 E223070 (UL) CM RG-6/U QUAD SHIELD 18 AWG 75C --- CATV RG-6/U QUAD SHIELD 18AWG 75C ***** FEET

Description
Reference Standard
 UL1655, UL13, UL444

Construction	
Center Conductor	Copper Clad Steel
AWG	18
Dia.	1.02
Insulation	Skin Foam PE
Nom. Thickness(mm)	1.78
Insulation Dia. (±0.08mm)	4.57
The first Al-maylar Shield (Overlapping, %)	>=25
The first Braid Shield	Aluminium Wire
Construction (mm)	16/4/0.16
Coverage Area (%)	>=60
The Second Al-maylar Shield (Overlapping, %)	>=25
The Second Braid Shield	Aluminium Wire
Construction (mm)	16/3/0.16
Coverage Area (%)	>=40
Inner Jacket	PVC
Nom. Thickness (mm)	0.65
Min. Thickness(mm)	0.55
Cable Dia.(±0.15mm)	7.30

Color
Inner Jacket Color:
 White,Black

Part No.: 20306

Ref. spec No. : HYBRI-004 Rev.: 1

Revision History

Performance

Electrical Characteristics:

Frequency (MHz)	Attenuation (dB/100m)
1	0.89
10	2.66
50	4.79
100	6.72
200	9.28
400	13.28
700	18.36
900	20.43
1000	21.61
1200	23.67
1450	26.03
1800	28.98
2200	32.03
2400	32.83
3000	37.88

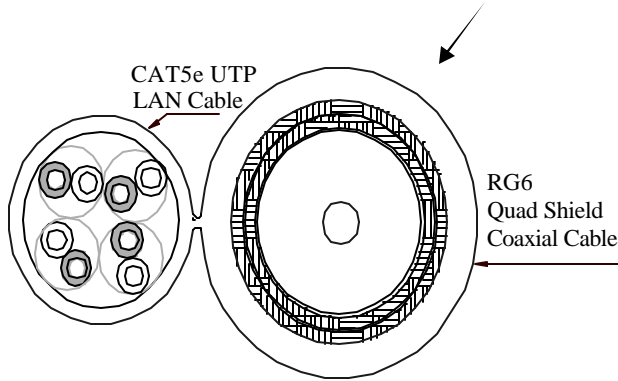
Dielectric Strength (kV/min)	1.0
Impedence (±3.0ohms)	75.0
SRL (dB,5~1000MHz)	>=20
Capacitance (pF/m)	53.1
Conductor DCR@ 20oC (ohms/km)	<=21.4
Nom. Velocity Of Propagation (%)	82

Mechanical Characteristics:

Test Object		Inner Jacket
Test Material		PVC
Before Tensile Strength (Mpa)		>=1.034
Aging Elongation (%)		>=200
Aging Condition (°C×hrs)		113.0±1.0 × 168
After Tensile Strength (Mpa)		>= 85% unaged
Aging Elongation (%)		>= 50% unaged
Cold Bend (-20±2°C×4hrs)		No crack
Inner Jacket impact test(-15°C)		No crack
Inner Jacket Longitudinal Shrinkage (%)		<=5
Center Conductor Break Strength (N)		>=641
Center Conductor Bond To dielectric (N)		>=2.3

Prepared by: David Kim 2006.2.4 F046 Rev.: 2
 Approved by: Kevin Chang 2006.2.4 Page 3 of 3

Cross Section



Color

Outer Jacket Color: Blue

Outer Jacket Marking

E223070 UL OR C-UL CM 75C CAT5E ENHANCED 350MHZ 4PR 24AWG UTP AND RG6 QUAD SHIELD 1 x 18 AWG **** FEET

Description

Rated Temperature (°C)	75
Product Standard Certification	UL file E223070
Flammability Test	CM

One 4 Pair CAT5e UTP Cable

Complies to TIA/EIA 568A
24AWG Solid Bare Copper Conductor / PE Insulation

One RG6 Quad Shield Coaxial Cable

Complies to SCTE ISP-IP-001
18AWG Copper Clad Steel (CCS)
Al foil / 60% Al-Mg alloy Braid Shield + Al foil / 40% Al-Mg alloy Braid Shield

Application

For use in Home Network systems

Reference Standard

SCTE IPS-SP-001, TIA/EIA-568-A, TIA/EIA-568-B & TIA/EIA-570A

Construction

CAT5E UTP LAN Cable

Detail See Attachment 1

RG6 Quad Shield Coaxial Cable

Detail See Attachment 2

Part No.:

Ref. spec No. : HYBRI-804 0

Revision History

Performance

The Characteristics of RG6,CAT5e See Attachment

Outer Jacket Mechanical Characteristics:

Test Object

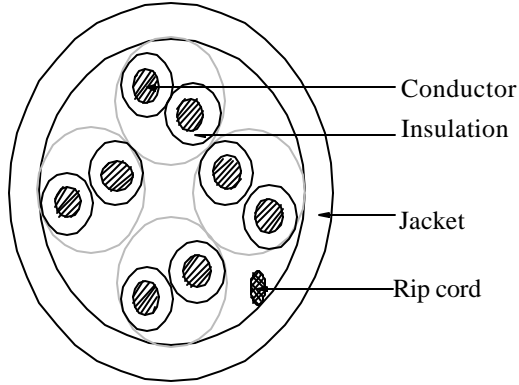
Test Material	PVC
Before Tensile Strength (Mpa)	>=1.034
Aging Elongation (%)	>=200
Aging Condition (°C×hrs)	113.0±1.0 × 168
After Tensile Strength (Mpa)	>= 85% unaged
Aging Elongation (%)	>= 50% unaged
Cold Bend (-20±2°C×4hrs)	No crack

Prepared by: David Kim 02/21/2007
Approved by: Kevin Chang 02/21/2007

Rev.: 0
Page 1 of 3

HOME NETWORKING CABLE Attachment 1 ---- 4 Pair CAT5e UTP Cable

Cross Section



Marking

Description

Reference Standard

UL Subject 444,EIA/TIA568-A & ISO/IEC 11801

Construction

Conductor	Solid Bare Copper
AWG	24
Conductor Dia. (+0.008/-0.01mm)	0.5
Insulation	PE
Average Thickness(±0.03mm)	0.21
Min. Point Thickness(mm)	0.17
Insulation Dia.(±0.03mm)	0.93
Twisting Lay Length(mm)	30underneath
Cabling Lay Length(±20mm)	140
Jacket	PVC
Average Thickness(±0.05mm)	0.5
Min. Point Thickness(mm)	0.43
Cable Dia.(±0.2mm)	5
Rip Cord	Per Customer request

Color

Insulation colors are:

- Blue, White/Blue
- Orange, White/Orange
- Green, White/Green
- Brown, White/Brown

Jacket colors:

Per Customer Request

Part No.:

Ref. spec No.: HYBRI-804

Revision History

Performance

Electrical Characteristics:

Frequency (MHz)	Return loss (dB)	Attenuation (dB/100m)	NEXT (dB)	ACR (dB)
0.772	19.4	1.8	67.0	65
1	20.0	2.0	65.3	63
4	23.0	4.1	56.3	52
8	24.5	5.8	51.8	46
10	25.0	6.5	50.3	44
16	25.0	8.2	47.3	39
20	25.0	9.3	45.8	37
25	24.3	10.4	44.3	34
31.25	23.6	11.7	42.9	31
62.5	21.5	17.0	38.4	21
100	20.1	22.0	35.3	13
200	18.0	32.4	34.7	2.3
250	17.3	36.9	29.3	0.0
300	16.8	41.0	28.2	-
350	16.3	44.9	27.2	-

Frequency (MHz)	PSNEXT (dB)	ELFEXT (dB/100m)	PSELFEXT (dB/100m)	Prop'n Delay (ns/100m)
0.772	64.0	66.0	63.0	575.0
1	62.3	63.8	60.8	570.0
4	53.3	51.7	48.7	552.0
8	48.8	45.7	42.7	546.7
10	47.3	43.8	40.8	545.4
16	44.3	39.7	36.7	543.0
20	42.8	37.7	34.7	542.0
25	41.3	35.8	32.8	541.2
31.25	39.9	33.9	30.9	540.4
62.5	35.4	27.8	24.8	538.6
100	32.3	23.8	20.8	537.6
200	27.8	17.7	14.7	536.5
250	26.3	15.8	12.8	536.3
300	25.2	14.2	11.2	536.1
350	24.2	12.9	9.9	535.9

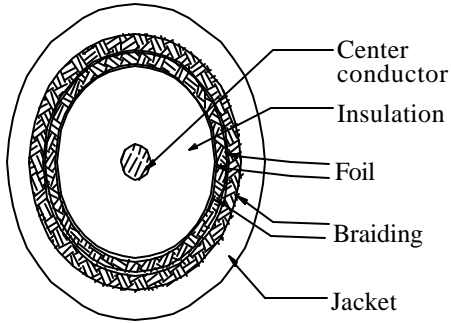
1.0-100.0MHz Impedance (ohms)	100 ± 15
1.0-100.0MHz Delay Skew (ns/100m)	<=45
Pair-to-Ground Capacitance Unbalance (pF/100m)	<=330
Max. Conductor DC Resistance 20°C (ohms/km)	93.8
Resistance Unbalance (%)	<=5

Mechanical Characteristics:

Test Object	Jacket
Test Material	PVC
Before Tensile Strength (Mpa)	>=13.8
Aging Elongation (%)	>=100
Aging Condition (°Cxhrs)	100x240
After Tensile Strength (Mpa)	>=85% of unaged
Aging Elongation (%)	>=50% of unaged
Cold Bend(-20±2°Cx4hrs)	No crack

HOME NETWORKING CABLE Attachment 2 ----RG6 Quad Shield Coaxial Cable

Cross Section



Marking

Description

Reference Standard

SCTE IPS-SP-001, UL1655, UL13, UL444

Construction

Center Conductor	Copper Clad Steel	
AWG	18	
Dia.	1.02	
Insulation	Skin Foamed PE	
Nom. Thickness(mm)	1.78	
Insulation Dia. (±0.08mm)	4.57	
The first Al-maylar Shield (Overlapping, %)	>=25	
The first Braid Shield	Aluminium & Magnesium alloy Wire	
Construction (mm)	16/4/0.16	
Coverage Area (%)	>=60	
The Second Al-maylar Shield (Overlapping, %)	>=25	
The Second Braid Shield	Aluminium & Magnesium alloy Wire	
Construction (mm)	16/3/0.16	
Coverage Area (%)	>=40	
Jacket	PVC	
Nom. Thickness (mm)	0.65	
Min. Thickness(mm)	0.60	
Cable Dia.(±0.10mm)	7.30	

Color

Jacket Color:

Per Customer Request

Part No.:

Ref. spec No. : HYBRI-804 0

Revision History

Performance

Electrical Characteristics:

Frequency (MHz)	Attenuation (dB/100m)
1	0.89
10	2.66
50	4.79
100	6.72
200	9.28
400	13.28
700	18.36
900	20.43
1000	21.61
1200	23.67
1450	26.03
1800	28.98
2200	32.03
2400	32.83
3000	37.88

Dielectric Strength (kV/min)	1.0
Impedence (±3.0ohms)	75.0
SRL (dB,5~1000MHz)	>=20
Capacitance (pF/m)	53.1
Conductor DCR@ 20°C (ohms/km)	<=21.4
Velocity Of Propagation (%)	>=82

Mechanical Characteristics:

Test Object		Jacket
Test Material		PVC
Before Tensile Strength (Mpa)		>=1.034
Aging Elongation (%)		>=200
Aging Condition (°C×hrs)		113.0±1.0 × 168
After Tensile Strength (Mpa)		>= 85% unaged
Aging Elongation (%)		>= 50% unaged
Cold Bend (-20±2°C×4hrs)		No crack
Jacket impact test(-15°C)		No crack
Jacket Longitudinal Shrinkage (%)		<=5
Center Conductor Bond To dielectric (N)		>=2.3

Prepared by: David Kim 02/21/2007
 Approved by: Kevin Chang 02/21/2007

Rev.: 0
 Page 3 of 3