

tec-speed 20.0 - VT-870 / VT-870 Bondply

UL Approval: E214381 Version: B1.0

Laminate/Prepreg

General Information

- > High Tg Ceramic Filled Hydrocarbon Laminate & Prepreg
- > Dk (3.0~3.48) and Df (0.002~0.0037)
- > Excellent Thermal Reliability
- > Excellent peel strength

Application

- > Cellular Base Station Antenna and Power Amplifiers
- > WiMax antenna networks
- > Power Amplifier
- > Automotive Radar
- > LNB (Low Noise Block) for Broadcast Satellites
- > RF Identification Tags (RFID)

Availability

Material	VT-870 L300	VT-870 L330	VT-870 L340*	VT-870 H348
Dk	3.0	3.3	3.4	3.48
Dielectric thickness (mil)	10, 20, 30, 40, 60	20, 30, 32, 40, 60	32, 40, 62	3.3, 4.0**, 6.6, 10, 16.6, 20, 30, 40, 60
Copper thickness	Hoz, 1oz	Hoz, 1oz	Hoz, 1oz	Hoz, 1oz, 2oz

* VT-870 L340 is available in Asia only.

** Please note Dk of 4mil VT-870 H348 is 3.33 and Df is 0.0035@10GHz. Other thickness data refers to property sheet.

Storage Condition & Shelf Life

Properties		Prepreg	Laminate
Storage Condition	Temperature	≤5 °C	Room
	Relative humidity	/	/
Shelf Life		6 months	24 months

Note: The prepreg exceeding shelf life should be retested.

CORPORATE HEADQUARTERS

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Properties Sheet

Properties	Test Method	Units	VT-870 L300	VT-870 L330	VT-870 L340*	VT-870 H348
Dielectric Constant @10GHz	IPC-TM-650 2.5.5.5 Clamped Stripline	-	3.0±0.05	3.3±0.05	3.4±0.05	3.48±0.05
Design Dk (1.7~5GHz)	Differential Phase Length Method	-	2.98	3.45	3.55	3.66
Dissipation Factor @2.5GHz	IPC TM650 2.5.5.13	-	0.0023	0.002	0.0022	0.0032
@10GHz	Cavity resonator	-	0.0027	0.0025	0.0027	0.0037
PIM*1	43dBm, 1900MHz	dBc	-165	-160	-160	-160
Tg	IPC-TM-650 2.4.24	°C	280	280	280	280
Td	ASTM D3850	°C	418	402	406	410
Z-CTE (50~250°C)	IPC-TM-650 2.4.24	ppm/°C	30	35	33	31
Thermal Conductivity	ASTM D5470	W/mK	0.75	0.72	0.70	0.69
Peel Strength (1oz)	IPC-TM-650 2.4.8	Lb/in	5.0	6.0	6.0	6.0
Flammability	UL-94	Rating	V-0	V-0	V-0	V-0
IPC4103	-	-	/230	/10 /240	/11 /240	/10 /240

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All test data provided are typical values and not intended to be specification values.

Prepreg (VT-870 Bondply)

Glass Style	Pressed Thickness	Dielectric Constant @ 10GHz (IPC-TM-650 2.5.5.5 Clamped stripline)	Dissipation Factor @ 10GHz (Cavity Resonator)
VT-870 BL300	0.005" (125µm)	3.00±0.05	0.0027
VT-870 BH348	0.004" (100µm)	3.52±0.05	0.0035

VT-870 Bondply is compatible in multi-layer constructions with VT-870 laminate.

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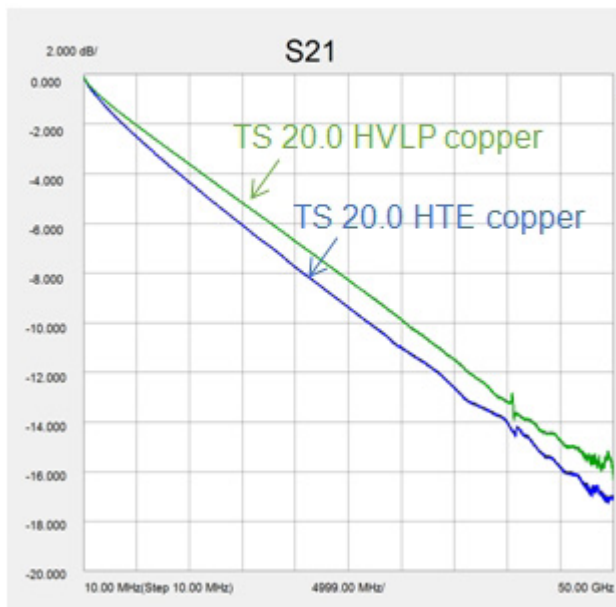
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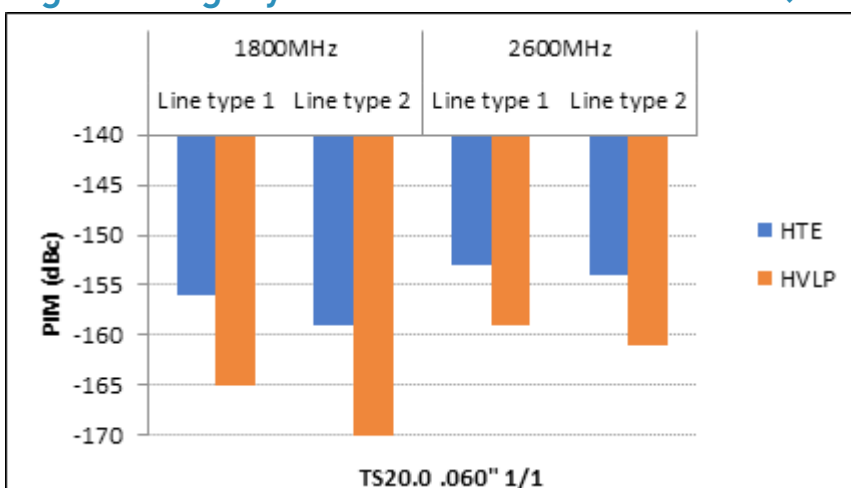
Laminate/Prepreg

Signal Integrity – Insertion Loss

12.4 mil trace width



Signal Integrity – Passive Intermodulation (PIM)



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