

HF-300 Presentation

TACONIC



. Data sheet values of HF-300

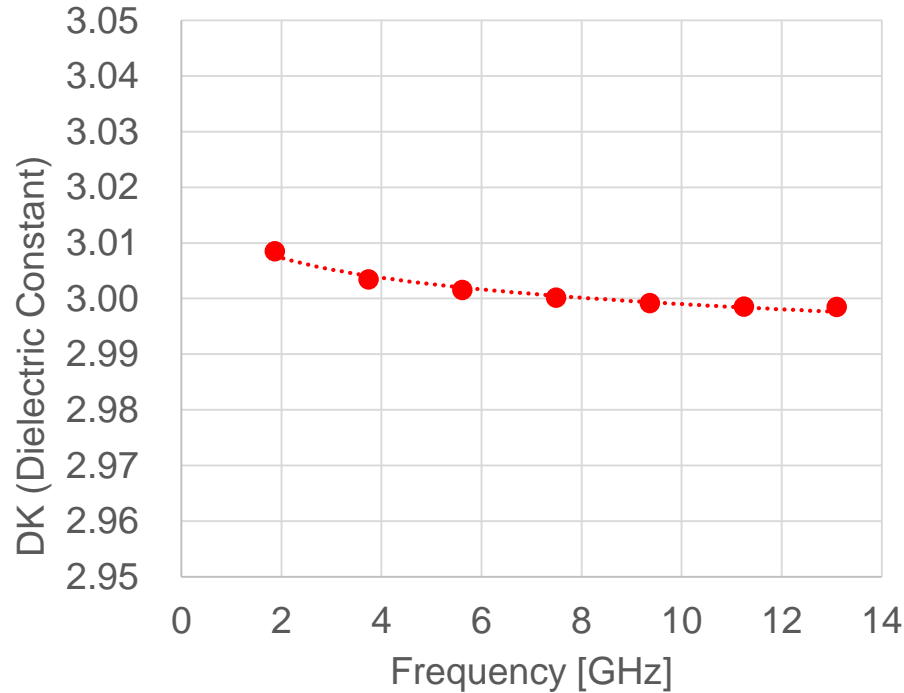
HF-300 TYPICAL VALUES

Property	Test Method	Units	Value	Remark
Dielectric Constant @ 10 GHz	IPC-TM 650 2.5.5.5.1 Mod	-	3.00±0.05	
Dissipation Factor @ 2 GHz	IPC-TM 650 2.5.5.5.1 Mod	-	0.0016	
Dissipation Factor @ 10 GHz	IPC-TM 650 2.5.5.5.1 Mod	-	0.0025	
PIMD (Imm Tin finishing)	43dBm swept @1800MHz	dBc	-160	
Water absorption	IPC-TM 650 2.6.2.1	%	0.06	
Peel Strength (1 oz. RTF copper)	IPC-TM 650 2.4.8 (Solder)	lbs. / inch	5	
Dimensional Stability	IPC-TM-650 2.4.39 (Etch)	%	-0.01	
Dimensional Stability	IPC-TM-650 2.4.39 (Bake)	%	-0.04	
Dimensional Stability	IPC-TM-650 2.4.39 (Stress)	%	-0.06	
Density	IPC-TM-650 2.3.5	g/cm ³	1.5	
Specific Heat	IPC-TM-650 2.4.50	J/g°C	1.0	
Thermal Conductivity (Unclad)	IPC-TM-650 2.4.50	W/m/K	0.55	
Td (2% wt loss)	IPC-TM-650 2.4.24.6/TGA	°C	405	
Td (5% wt loss)	IPC-TM-650 2.4.24.6/TGA	°C	435	
x-y CTE (50 ~ 150°C)	IPC-TM 650 2.4.41	ppm/°C	14-15	
z CTE (50 ~ 150°C)	IPC-TM 650 2.4.41	ppm/°C	55	
Tg	IPC-TM 650 2.4.24	°C	>280	

■ . Dk/Df of HF-300

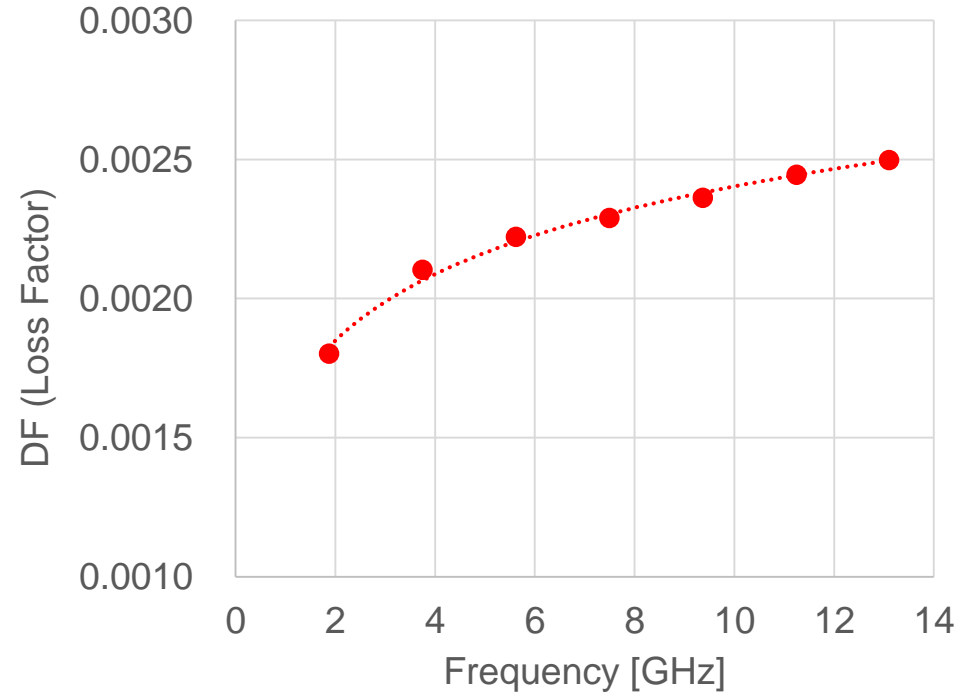
▷ DK for laminate process control by clamped strip line methods.

DK vs Frequency [GHz]



● DK - HF-300

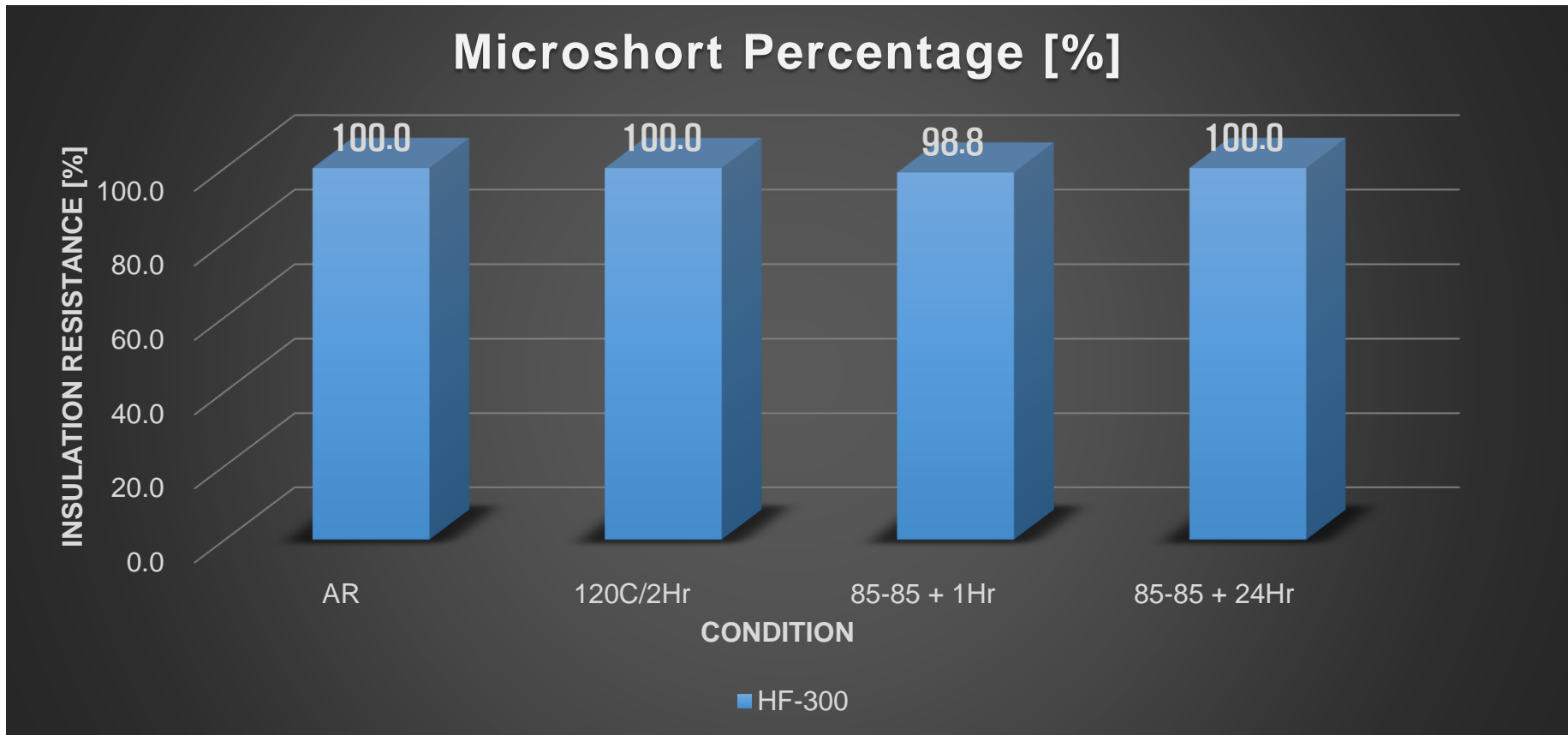
DF vs Frequency [GHz]



● DF - HF-300



■. Microshort of HF-300



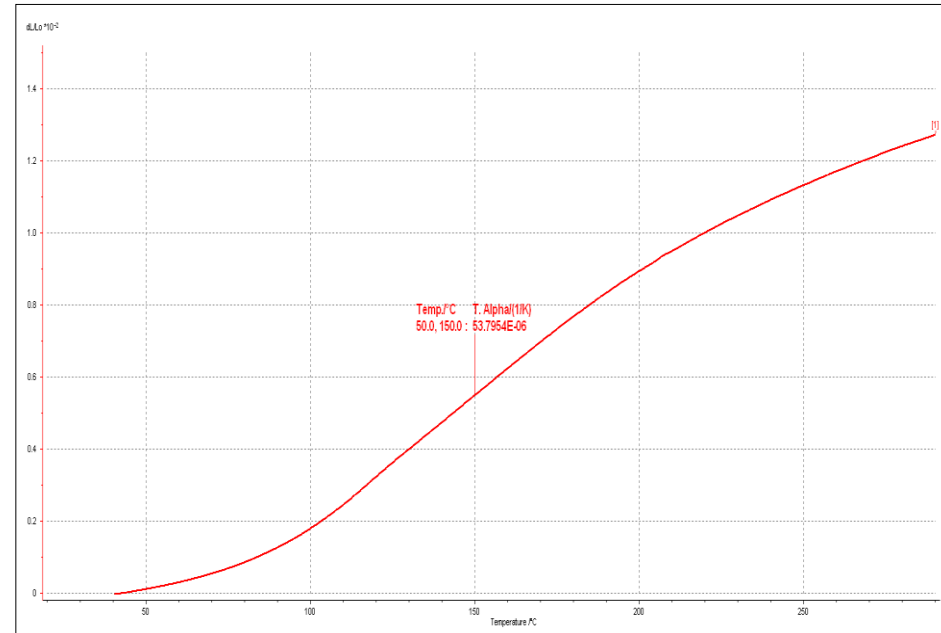
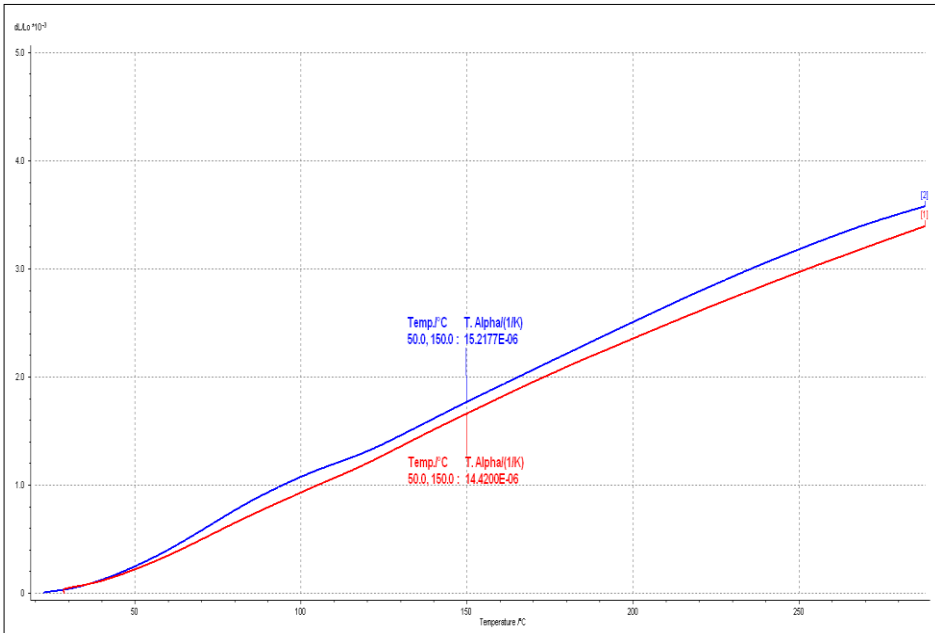
※ All micro-short properties of “hole to hole” are 100% and parts of line to line properties from etching issue show a little bit dropped results.

※ 100% is equal to 60Giga-Ohm.



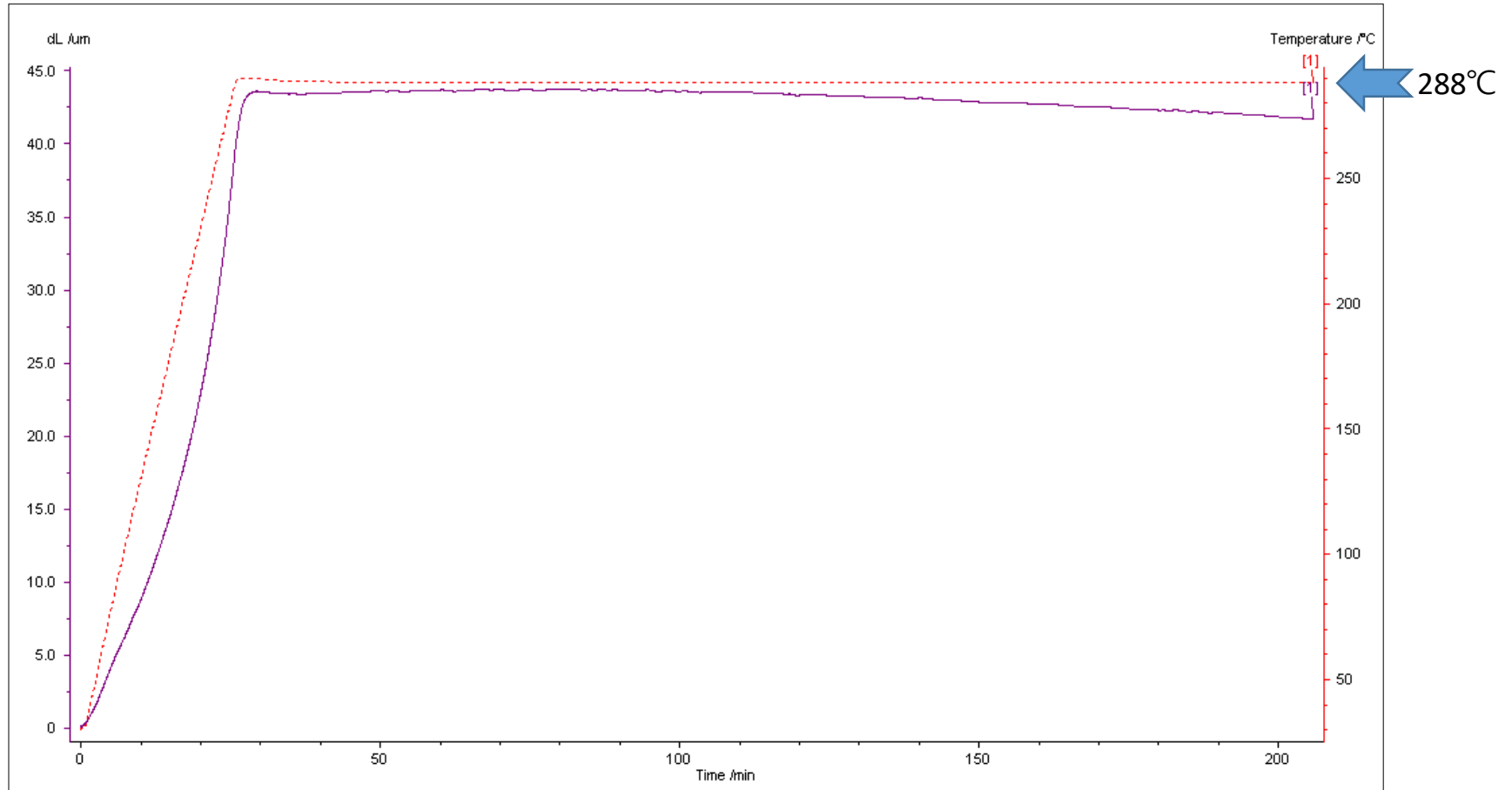
CTE of HF-300

Material	HF-300-0600			Remark
Direction	X	Y	Z	
CTE [ppm/°C]	14.42	15.22	53.80	50~150°C



■ . T288 of HF-300

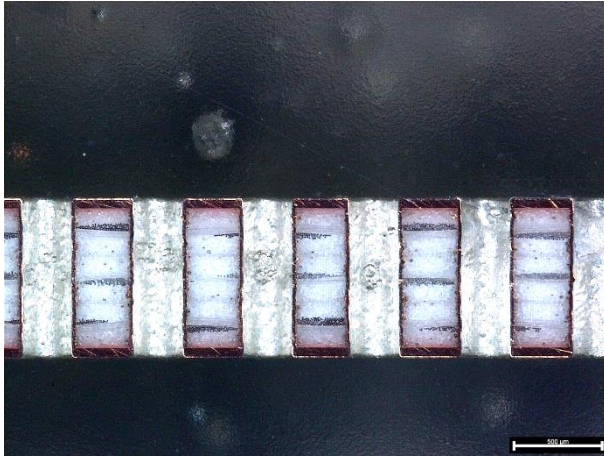
▷ Time to delamination test at 288°C [>60min, tested for 200min]



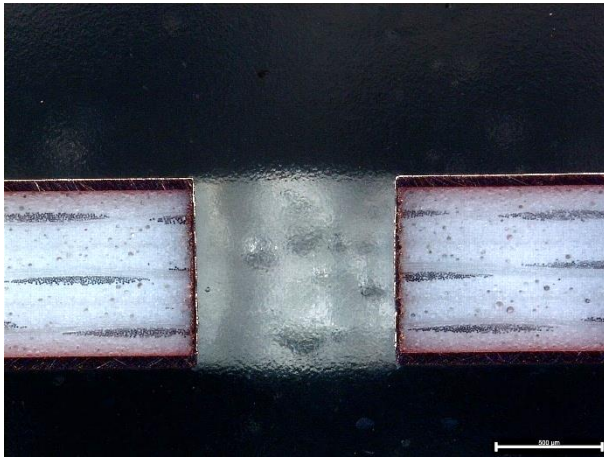
PTH of HF-300

▷ PTH of PCBs using HF-300-0300 & 0600-CL1/CL1

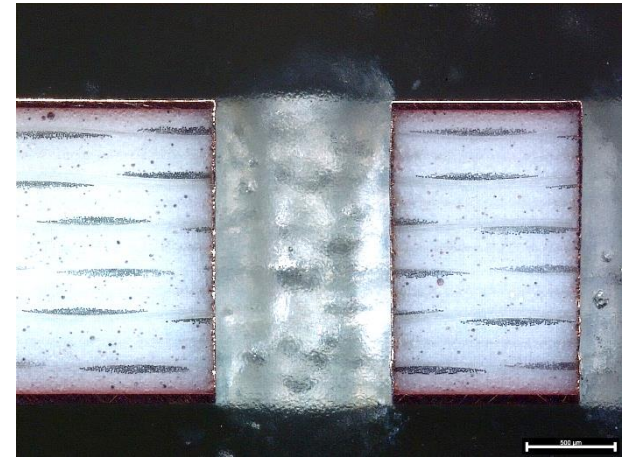
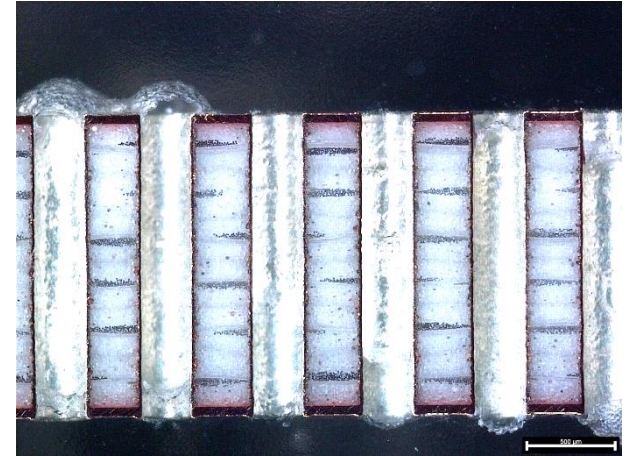
HF-300-0300-CL1/CL1



Hole Dia. = 0.3mm
hole to hole = 0.3mm

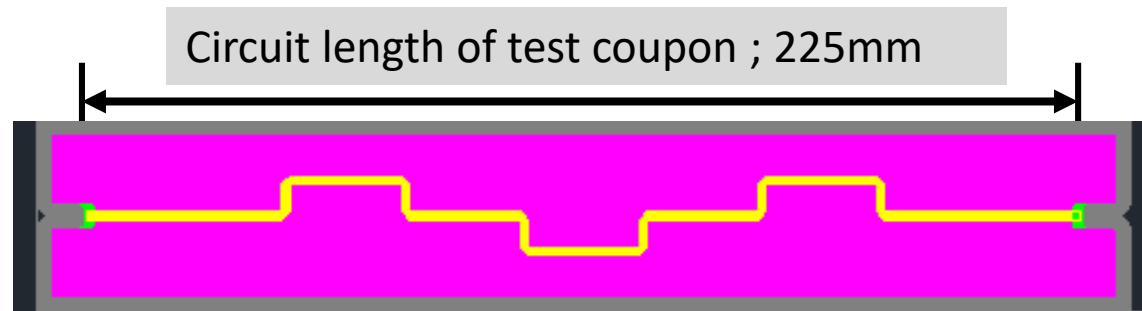
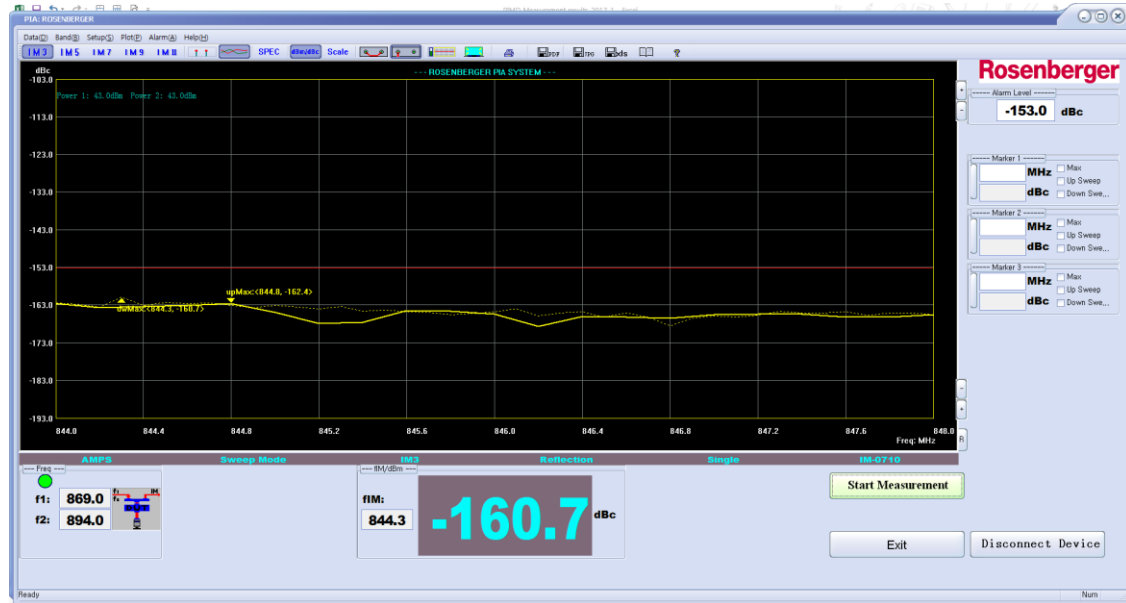


HF-300-0600-CL1/CL1



■. PIMD of HF-300

Material	HF-300-0300	
Frequency	800MHz	1800MHz
1	-160.9	-159.1
2	-159.8	-159.7
3	-162.2	-161.2
4	-162.4	-160.5
5	-167.1	-164.3
6	-167.5	-165.0
7	-164.7	-163.4
8	-164.1	-165.9
9	-161.0	-161.2
10	-160.9	-160.7
11	-161.2	-164.6
12	-161.5	-163.4
13	-164.8	-166.5
14	-166.7	-168.9
15	-164.6	-160.2
16	-164.7	-161.6
Average	-163.4	-162.9



▷ Test coupon ; Circuitry (width 1.78mm) finishing by Immersion TIN without Solder Mask



■. Comparison

Test Items	HF-300	Competitor R
DK [@10GHz]	3.00 (3.0±0.05)	3.00 (3.0±0.05)
DF [@10GHz]	0.0025	0.0027
Peel Strength [Lbs/inch]	5 (RTF 10z.)	8.4 (RTF 10z.)
X-Y CTE [ppm/°C]	12-18	11.3 – 13.5
Z-CTE [ppm/°C]	55	21
Thermal conductivity [W/m K]	0.55	0.49
Moisture Absorption	0.06% (24/23)	0.14% (48/50)

