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NOMENCLATURE

S	Symb	ol	Unit
1	A_k	surface area of the chip module	m^2
	В	module height	т
4	B _X	length of PCB	т
	B _Y	width of PCB	т
(C_{X}	module spacing in X direction	т
15	C _Y	module spacing in Y direction	т
	D_h	Hydraulic diameter	
Ż	h_k	heat transfer coefficient	$\frac{W}{m^{2 o}C}$
	H _{cw}	space between the module and the opposite wall of the air channel	т
j	k _{PCB}	thermal conductivity of PCB $\frac{W}{m^{o}C}$	
1	L_X	module length	т
	L_{Y}	module width	т
	Nu	Nusselt Number $\left(\frac{h_k L_x}{k}\right)$	
q	q_k	heat generated from the k module	Watt
]	Re _H	Reynolds number	
]	Г	temperature	°C
Ţ	V_0	inlet air velocity, (m/s)	

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NOMENCLATURE(Continued)

Symbol		Unit
V	air velocity over the module	m/s
VG _H	height of vortex generator	m
VGL	length of vortex generator	т
Suffices		
V(1)	with vortex(row 1)	
NV(1)	no vortex(row 1)	
V(k) wit	th vortex(row k)	
NV(k)	no vortex(row k)	
V20	with vortex(°20 attack angle)	
fd	fully developed flow	

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