UFRO 5722 Noise Diode Ouput Temperature Calculation

ref Francisco Reyes's notes

T0	290	K
e	1.602E-19	C
I	**70.0**	**mA**
R	50.0	Ω
k	1.381E-23	J/K
eR/2K	290007.2411	
T_gen	**20,591**	**K**

$$T_{gen} = T_0 + \frac{e\,I\,R}{2k}$$

$$T_{gen} = 290 + 290\,I = 290(1+I) \text{ where } I \text{ is in mA}$$

Measurement of HP amplifiers performed 30-Jun-2013

using UFRO 5722 w/ AJ4CO mods

Stated attenuation is that which is needed on HP 461's to make RSP 15-second average read the same as it does with the 5722 (except for the Flagg unit, which was measured against a different standard).

	AJ4CO HP 461A #1	SUG Loaner AJ4CO HP 461A #2	AJ4CO HP 462A
dB attenuation	35.2	35.6	33.5
Calculated temp (MK)	**68.2**	**74.8**	**46.1**

	LGM HP 461A	Jim Brown HP 461A	Flagg HP 461A
dB attenuation	34.1	36.6	N/A
Calculated temp (MK)	**52.9**	**94.1**	**72.0**

	UFRO 461A w/ big atten	Live Oak HP 462A	"Tucker" HP 461A
dB attenuation	34.9	35.3	35.6
Calculated temp (MK)	**63.6**	**69.8**	**74.8**