IEC-SAR Compliance

IEC compliance is attained by operation of Siemens systems in the normal or first level controlled modes and by adhering to the first level controlled mode SAR limits found below for Varian systems.

Table 201.105 – SAR limits for volume transmit coils

Averaging time	6 min		
	WHOLE BODY SAR	**PARTIAL BODY SAR**	**HEAD SAR**
Body region →	Whole body	Exposed body part	Head
Operating mode ↓	(W/kg)	(W/kg)	(W/kg)
NORMAL	2	2 – 10 [a]	3,2
FIRST LEVEL CONTROLLED	4	4 – 10 [a]	3,2
SECOND LEVEL CONTROLLED	>4	>(4 –10) [a]	>3,2
Long MR EXAMINATION specific absorbed energy	The maximum allowed specific absorbed energy is 14,4 kJ/kg (= 240 W·min/kg) per MR EXAMINATION provided that the limits of this standard are still met		
Short duration SAR	The SAR limits over any 10 s period shall not exceed two times the stated values.		

[a] The limit scales dynamically with the ratio "exposed PATIENT mass / PATIENT mass":

NORMAL OPERATING MODE :

PARTIAL BODY SAR = 10 W/kg - (8 W/kg * exposed PATIENT mass / PATIENT mass)

FIRST LEVEL CONTROLLED OPERATING MODE :

PARTIAL BODY SAR = 10 W/kg - (6 W/kg * exposed PATIENT mass / PATIENT mass)

Table 201.106 – SAR limits for local transmit coils

Averaging time	6 min		
	LOCAL SAR		
Body region →	Head	Trunk	Extremities
Operating mode ↓	(W/kg)	(W/kg)	(W/kg)
NORMAL	10 [a]	10	20
FIRST LEVEL CONTROLLED	20 [a]	20	40
SECOND LEVEL CONTROLLED	>20 [a]	>20	>40
Short duration SAR	The SAR limits over any 10 s period shall not exceed two times the stated values		

[a] NOTE In cases where the orbit is in the field of a small LOCAL RF TRANSMIT COIL, care should be taken to ensure that the temperature rise is limited to 1 °C.

(*limits from the IEC's 2010 60601-2-33 Guidance Document are provided in tables 201.105 and 201.106*)