ETS Product Service GmbH

Maximal Permissible Exposure

FCC ID: S9PWGC1000 IC: 7083A-WGC1000

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy in excess limit for maximum permissible exposure.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 and RSS-102 this device has been defined as a mobile device whereby a distance of 0.2 m, normally can be maintained between the user and the device.

The following calculation presents the exposure value against the limits for occupational / controlled use.

Operating mode: FHSS

					la acce	-1		
name			nature v	alue	log v	aiue		
max conducted power			422,67	mW	26,26	dBm		
max Antenna gain dBi			1,58		2,00	dBi		
max Antenna gain dBd			0,97			dBd		
calculated radiated power		EIRP	669,88	mW	28,26	dBm		
		ERP	408,47	mW	26,26	dBm		
measured radiated power		EIRP	1,00	mW		dBm		
		ERP	1,00	mW		dBm		
duty cycle factor								
frequency	2400	MHz						
dwell time			100	ms				
Time of occupancy/puls-train time			100	ms				
duty cycle factor	10log(dwell time/100 ms)		100,00%		0,00	dB		
ma	x source-based time	-averaged po	wer					
conducted power			422,67		26,26	dB		
calculated radiated power		EIRP	669,88	mW	28,26	dB		
measured radiated power		EIRP	1,00	mW	0,00	dB		
	MPE							
$S = \frac{PG}{4\pi R^2}$	calculated with max source-based time-averaged power measured condacted power							
4 πR ²		r [cm]	20	2,5	1,5	7,303		
		S [mW/cm ²]	0,133	8,534	23,704	1		
Limit general population		[mW/cm ²]	1,000					
Limit occupational population		[mW/cm ²]	5,00	for f	2400	MHz		
$S = \frac{EIRP}{} = \frac{1.64 \ ERP}{} = \frac{0.41 \ ERP}{} = \frac{0.41 \ ERP}{}$ calculated with max source-based time-average power measured radiated power						aged		
$\frac{3}{4\pi R^2} = \frac{1}{4\pi R^2}$	πR ²	r [cm]	20	2,5	1,5			
		S [mW/cm ²]	-		, ,	1		

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Operation Mode: GSM 850

name			nature v	<i>r</i> alue	log va	due			
name		_	nature	raiuc	109 10	iiuc			
max conducted power			2023,02	mW	33,06	dBm			
max Antenna gain dBi			1,58		2,00	dBi			
max Antenna gain dBd			0,97		-0,15	dBd			
calculated radiated power		EIRP							
		ERP	1955,04	mW	32,91	dBm			
measured radiated power		EIRP							
		ERP	1145,51	mW	30,59	dBm			
	dı	ity cycle fac	ctor						
frequency		MHz							
dwell time			100	ms					
Time of occupancy/puls-train time			100	ms					
	10log(dwell		100,00%		0,00	۸D			
duty cycle factor	time/100 ms)	acad tima a		· · · · · · · · · · · · · · · · · · ·	0,00	ub			
	max source-b	ased time-a			00.00	ın			
conducted power		ERP	2023,02		33,06				
calculated radiated power			1955,04		32,91				
measured radiated power		EIRP	1145,51	mvv	30,59	dВ			
		MPE							
$S = \frac{PG}{}$									
$S = \frac{PG}{4\pi R^2}$	4 πR ²			calculated with max source-based time-averaged power measured condacted power					
		r [cm]	20	2,5	1,5				
		r [cm]							
power denity		[mW/cm ²]	0,389			0,567			
Limit general population		[mW/cm ²]	0,567						
Limit occupational									
population		[mW/cm ²]	2,83	for f =	850	MHz			
S = EIRP = 1.64 ERP = 0.41 ERP		calculated with max source-based time-averaged power measured radiated power							
$S = \frac{EIRP}{4\pi R^2} = \frac{1.64 \text{ ERP}}{4\pi R^2} = \frac{0.41 \text{ ERP}}{\pi R^2}$		r [cm]	20	2,5	1.5				
		S							
		[mW/cm ²]				1,000			

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Operation mode: GSM 1900

name			nature v	alue	I	og value	
			1000.00	\A./	00.40	15	
max conducted power			1023,29	mvv	30,10		
max Antenna gain dBi			1,58		2,00		
max Antenna gain dBd			0,97	-	-0,15	dBd	
calculated radiated power		EIRP	1621,81	mW	32,10	dBm	
		ERP		-			
measured radiated power		EIRP	714,50	mW	28,54	dBm	
		ERP					
duty cycle factor							
frequency	1880	MHz					
dwell time			100	ms			
Time of occupancy/puls-train time			100	ms			
	10log(dwell					· -	
duty cycle factor	time/100 ms)		100,00%	-	0,00	dB	
	max source-b	ased time-a			T		
conducted power			1023,29		30,10		
calculated radiated power		EIRP	1621,81		32,10		
measured radiated power		EIRP	714,50	mW	28,54	dB	
MPE							
$S = \frac{PG}{4\pi R^2}$		calculated with max source-based time-averaged power measured condacted power					
4 πR ²		r [cm]	20	2,5	1,5		
		S [mW/cm ²]	0,323			1	
Limit general population		[mW/cm ²]	1,000				
Limit occupational							
population		[mW/cm ²]	5,00	for f =	1880	MHz	
$S = \frac{EIRP}{4\pi R^2} = \frac{1.64 \text{ ERP}}{4\pi R^2} = \frac{0.41 \text{ ERP}}{\pi R^2}$		calculated with max source-based time-averaged power measured radiated power					
$4\pi R^{2}$ $4\pi R^{2}$ πR^{2}		r [cm]	20	2,5	1,5		
		S					
		[mW/cm ²]				1	