

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

name			nature value	log value
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	
dwel time			100 ms	
Time of occupancy/puls-train time			100 ms	
duty cycle factor	10log(dwel time/100 ms)		100,00%	0,00 dB
max source-based time-averaged power				
conducted power			422,67 mW	26,26 dB
calculated radiated power		EIRP	669,88 mW	28,26 dB
measured radiated power		EIRP	1,00 mW	0,00 dB
M P E				
$S = \frac{PG}{4\pi R^2}$		calculated with max source-based time-averaged power measured conducted power		
		r [cm]	20	2,5
		S [mW/cm²]	0,133	8,534
Limit general population		[mW/cm²]	1,000	
Limit occupational population		[mW/cm²]	5,00	
$S = \frac{EIRP}{4\pi R^2} = \frac{1.64 ERP}{4\pi R^2} = \frac{0.41 ERP}{\pi R^2}$		calculated with max source-based time-averaged power measured radiated power		
		r [cm]	20	2,5
		S [mW/cm²]		
				1

Operation Mode: GSM 850

name			nature value		log value	
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	
duty cycle factor						
frequency		850 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	
max source-based time-averaged power						
conducted power			2023,02 mW		33,06 dB	
calculated radiated power		ERP	1955,04 mW		32,91 dB	
measured radiated power		EIRP	1145,51 mW		30,59 dB	
M P E						
$S = \frac{PG}{4\pi R^2}$		calculated with max source-based time-averaged power measured conducted power				
power density		r [cm]	20	2,5	1,5	
		S [mW/cm²]	0,389			0,567
Limit general population		[mW/cm²]	0,567	for f = 850 MHz		
Limit occupational population		[mW/cm²]	2,83			
$S = \frac{EIRP}{4\pi R^2} = \frac{1.64 ERP}{4\pi R^2} = \frac{0.41 ERP}{\pi R^2}$		calculated with max source-based time-averaged power measured radiated power				
		r [cm]	20	2,5	1,5	
		S [mW/cm²]				1,000

Operation mode: GSM 1900

name			nature value	log value
max conducted power			1023,29 mW	30,10 dBm
max Antenna gain dBi			1,58	2,00 dBi
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			
dwel time			100 ms	
Time of occupancy/puls-train time			100 ms	
duty cycle factor	10log(dwel time/100 ms)		100,00%	0,00 dB
max source-based time-averaged power				
conducted power			1023,29 mW	30,10 dB
calculated radiated power		EIRP	1621,81 mW	32,10 dB
measured radiated power		EIRP	714,50 mW	28,54 dB
M P E				
$S = \frac{PG}{4\pi R^2}$		calculated with max source-based time-averaged power measured conducted power		
		r [cm]	20	2,5 1,5
		S [mW/cm²]	0,323	
Limit general population		[mW/cm²]	1,000	
Limit occupational population		[mW/cm²]	5,00	for f = 1880 MHz
$S = \frac{EIRP}{4\pi R^2} = \frac{1,64 ERP}{4\pi R^2} = \frac{0,41 ERP}{\pi R^2}$		calculated with max source-based time-averaged power measured radiated power		
		r [cm]	20	2,5 1,5
		S [mW/cm²]		
				1