

MT279 EIRP Discrepancy Clarification

FCC ID: BGBMT279XG01A

EIRP we are requesting = 1 Watts

1) Calculated EIRP

$$\text{EIRP(dBm)} = \text{Antenna Gain(dBi)} + \text{Conducted Power(dBm)}$$

Antenna gain provided by antenna vendor(Allgon Telecom)

Type Antenna	Mode	Minimum gain peak values over PCS TX & RX band.	
		dBd	dBi*
Retractable	Up	-2	0.16
	Down	-3	-0.84
Fixed	Fixed	-3	-0.84

*Note that $\text{dBi} = \text{dBd} + 2.16$

Conducted power taken from the exhibit 5.2 of MT279 FCC App

Channel	Freq(MHz)	Conducted Power(dBm)*
Low	1850.2	29.25
Mid	1880	29.14
High	1909.8	29.09

Type Antenna	Mode	Channel	Calculated EIRP(dBm)
Retractable	Up	Low	29.41
		Mid	29.3
		High	29.25
Fixed	Fixed	Low	28.41
		Mid	28.3
		High	28.25

2) Calculated EIRP based on the measured field strength of fundamental.

We call refer to this as "Measured EIRP"

Calculated EIRP(W) = $[\text{FS(V/m)} * 3]^2 / 30$, assume antenna gain = 0 dBi or 1

Type Antenna	Mode	Channel	Measured FS (dBuV/m)	Calculated EIRP (V/m)	(Watts)	(dBm)
Retractable	Up	Low	126.9	2.21	1.47	31.66
		Mid	126.7	2.163	1.40	31.47
		High	126.7	2.162	1.40	31.47
Fixed	Fixed	Low	127.4	2.344	1.65	32.17
		Mid	128.2	2.57	1.98	32.97
		High	128.5	2.66	2.12	33.27

3) Comparison of calculated and measured EIRP.

Type	Mode	Channel	Calculated EIRP	Measured EIRP	Difference
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Antenna			(dBm)	(dBm)	(dBm)
Retractable	Up	Low	29.41	31.66	-2.25
		Mid	29.3	31.47	-2.17
		High	29.25	31.47	-2.22
Fixed	Fixed	Low	28.41	32.17	-3.76
		Mid	28.3	32.97	-4.67
		High	28.25	33.27	-5.02