Annex B: GSM - Hearing aid interference modelling parameters

GSM - HEARING AID INTERFERENCE

MODELLING PARAMETERS

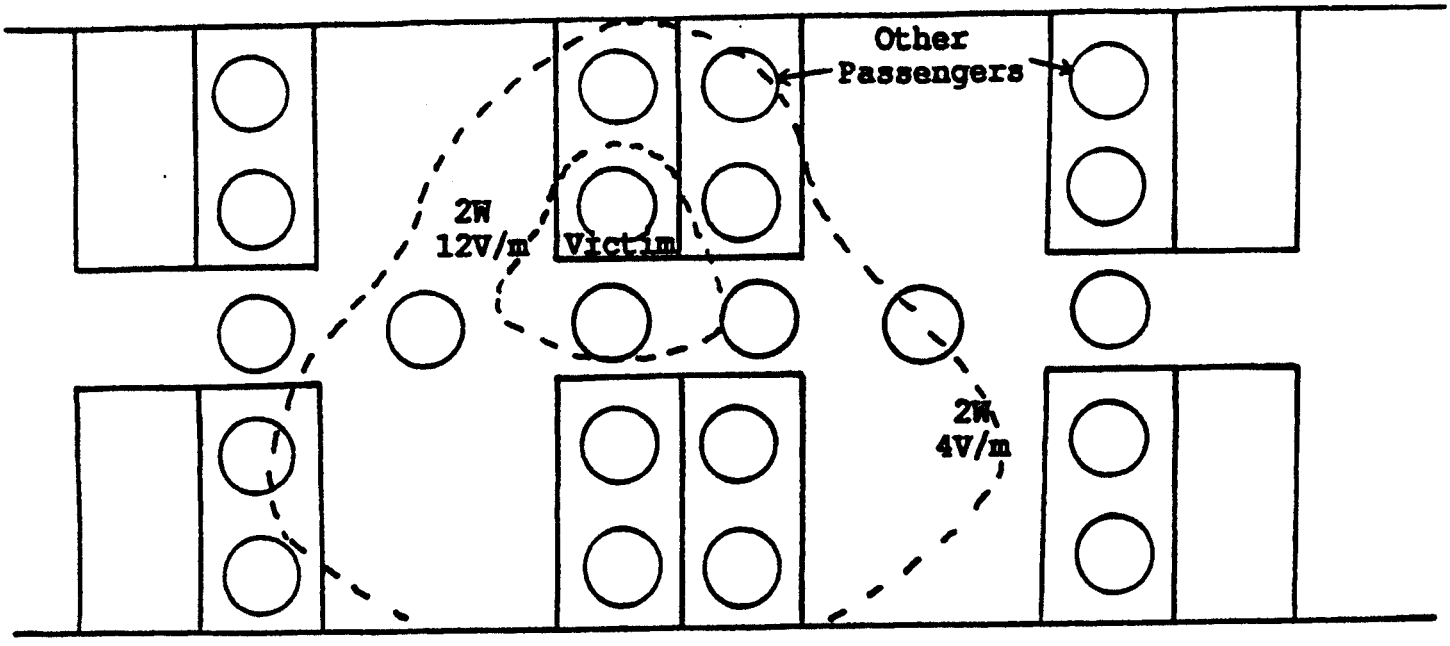
Interference levels causing "audible slightly annoying" interference. } 4V/m in model (5 to 8.5 V/m measured)

Attenuation produced by wearer's head: Up to 8 dB

GSM Power Level	Distance from GSM Transmitter
2W	0.8m to 1.9m
5W	1.3m to 3.0m
8W	1.6m to 3.8m
20W	2.4m to 6.0m

↑ Best side of head ↑ Worst side of head

Note - Metallising hearing aid case gave about 10dB reduction in susceptibility



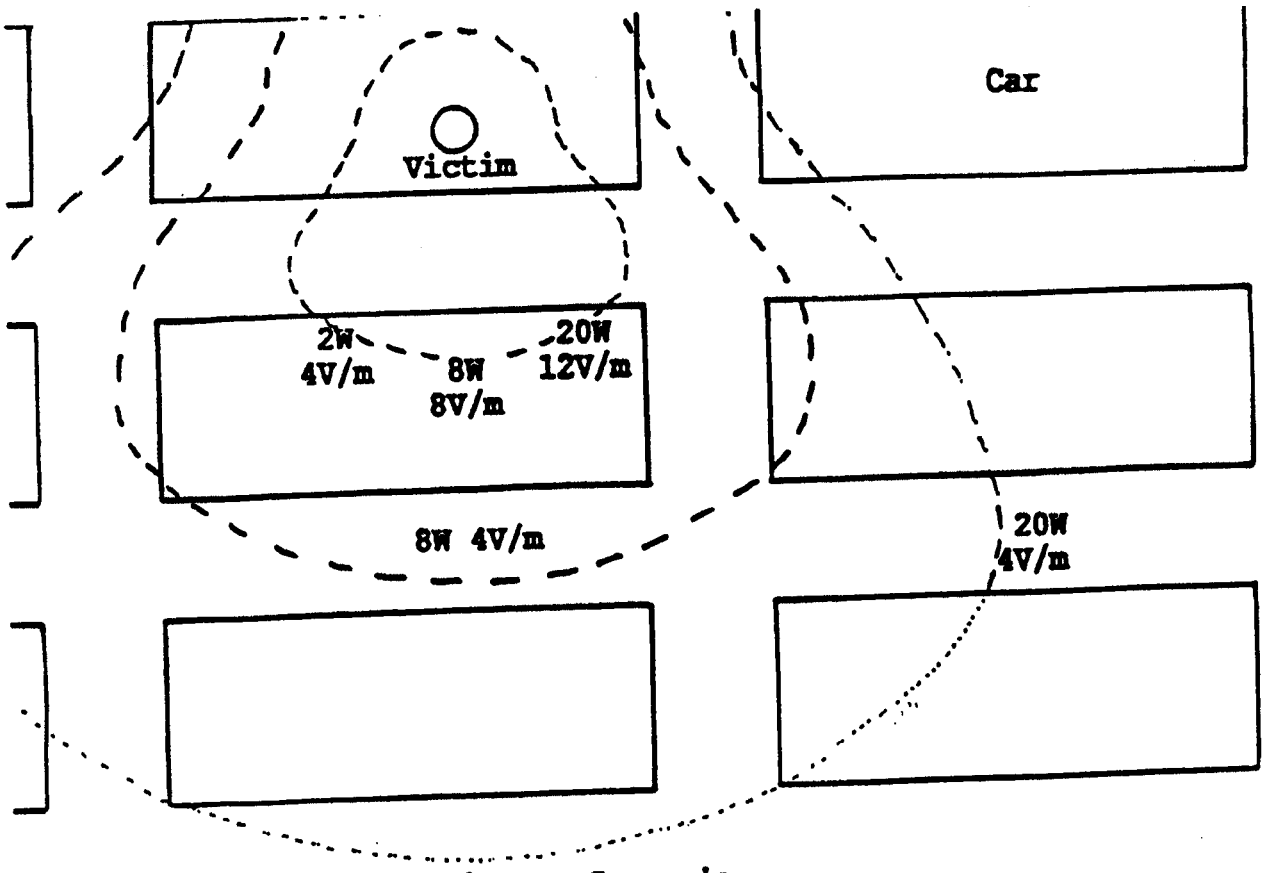
1 other passenger in 2W,12V/m area
10 other passengers in 2W, 4V/m area

Crowded Train Scenario

Crowded Train Scenario

Assume: Half GSM HPU's used on a given journey
Average call lasts 2 min

Passengers with 2W GSM HPU	Probability of 2 min interference on a given journey	
	4V/m	12V/m
1%	5%	0.5%
3%	14%	1.5%
10%	40%	5%



Motorway Traffic Jam Scenario

Motorway Traffic Jam Scenario

Assume: 5% of vehicles have GSM phone
20% of GSM phones active at a time
Average calls last 2 minutes

Traffic	Interference	2W 4V/m	8W 8V/m	20W 12V/m	8W 4V/m	20W 4V/m
Stationary	2 min interference bursts with Prob →		2%		5%	10%
Lanes passing at 10km/hr	Interference bursts → (on average)		0.7s every 3 min		2s every 3 min	3s every 2.5 m