

MPE with ELS61-US - Band 2

MPE Radio 1 - Bluetooth (ZATZ3-SCMB100)

	Power Density (mW/cm2)	US Limit	Canada Limit
17.68 Conducted Power (dBm)	0.020736246	1	0.534775942
58.61382 Conducted Power (mW)			
2.5 Antenna Gain (dBi)			
1.778279 Antenna Numeric Gain			
20 Distance cm			
2400 Frequency MHz			
100 Duty Cycle (%)			

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500

MPE Radio 2 - Zigbee (SZ9TM-ZP05X)

	Power Density (mW/cm2)	US Limit	Canada Limit
17.2 Conducted Power (dBm)	0.018566504	1	0.534775942
52.48075 Conducted Power (mW)			
2.5 Antenna Gain (dBi)			
1.778279 Antenna Numeric Gain			
20 Distance cm			
2400 Frequency MHz			
100 Duty Cycle (%)			

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500

MPE Radio 3 - Cellular (QIPELS61-US Band 2)

	Power Density (mW/cm2)	US Limit	Canada Limit
22.85 Conducted Power (dBm)	0.171289265	1	0.447631518
192.7525 Conducted Power (mW)			
6.5 Antenna Gain (dBi)			
4.466836 Antenna Numeric Gain			
20 Distance cm			
1850 Frequency MHz			
100 Duty Cycle (%)			

Note: Worst case power was at WCDMA channel 9400, 1880MHz, RMC 12.2Kbps

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500

MPE Radio 4 - Cellular (QIPELS61-US Band 4)

	Power Density (mW/cm2)	US Limit	Canada Limit
23.03 Conducted Power (dBm)	0	1	0.424194507
200.9093 Conducted Power (mW)			
6.5 Antenna Gain (dBi)			
4.466836 Antenna Numeric Gain			
20 Distance cm			
1710 Frequency MHz			
0 Duty Cycle (%)			

Note: Worst case power was at WCDMA channel 1413, 1732.6MHz, RMC 12.2Kbps

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500
 Note: Duty cycle set to 0 to reflect that Band 4 radio is off

MPE Radio 5 - Cellular (QIPELS61-US Band 5)

	Power Density (mW/cm2)	US Limit	Canada Limit
23.37 Conducted Power (dBm)	0	0.549333	0.257561031
217.2701 Conducted Power (mW)			
6.5 Antenna Gain (dBi)			
4.466836 Antenna Numeric Gain			
20 Distance cm			
824 Frequency MHz			
0 Duty Cycle (%)			

Note: Worst case power was at WCDMA channel 4182, 836.4MHz, RMC 12.2Kbps

Note: Frequency was chosen at low edge of band to show worst-case US & Canada limits
 Note: Duty cycle set to 0 to reflect that Band 5 radio is off

MPE Radio 6 - Cellular (QIPELS31-V Band 12)

	Power Density (mW/cm2)	US Limit	Canada Limit
22.12 Conducted Power (dBm)	0	0.465333	0.22994623
162.9296 Conducted Power (mW)			
6.5 Antenna Gain (dBi)			
4.466836 Antenna Numeric Gain			
20 Distance cm			
698 Frequency MHz			
0 Duty Cycle (%)			

Note: Worst case power was at LTE channel 23017, 699.7MHz, QPSK, RB Size 1, RB Offset 0

Note: Frequency was chosen at low edge of band to show worst-case US & Canada limits
 Note: Duty cycle set to 0 to reflect that Band 12 radio is off

Co Location	US		Canada	
	Total Ratio	Limit	Total Ratio	Limit
	0.210592015	1	0.45615071	1

MPE with ELS61-US - Band 4

MPE Radio 1 - Bluetooth (2ATZ3-SCMB100)

		Power Density (mW/cm2)	US Limit	Canada Limit
17.68	Conducted Power (dBm)	0.020736246	1	0.020736246
58.61382	Conducted Power (mW)			0.534775942
2.5	Antenna Gain (dBi)			
1.778279	Antenna Numeric Gain			
20	Distance cm			
2400	Frequency MHz			
100	Duty Cycle (%)			

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500

MPE Radio 2 - Zigbee (SZ9TM-ZP05X)

		Power Density (mW/cm2)	US Limit	Canada Limit
17.2	Conducted Power (dBm)	0.018566504	1	0.018566504
52.48075	Conducted Power (mW)			0.534775942
2.5	Antenna Gain (dBi)			
1.778279	Antenna Numeric Gain			
20	Distance cm			
2400	Frequency MHz			
100	Duty Cycle (%)			

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500

MPE Radio 3 - Cellular (QIPELS61-US Band 2)

		Power Density (mW/cm2)	US Limit	Canada Limit
22.85	Conducted Power (dBm)	0	1	0
192.7525	Conducted Power (mW)			0.447631518
6.5	Antenna Gain (dBi)			
4.466836	Antenna Numeric Gain			
20	Distance cm			
1850	Frequency MHz			
0	Duty Cycle (%)			

Note: Worst case power was at WCDMA channel 9400, 1880MHz, RMC 12.2Kbps

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500
 Note: Duty cycle set to 0 to reflect that Band 2 radio is off

MPE Radio 4 - Cellular (QIPELS61-US Band 4)

		Power Density (mW/cm2)	US Limit	Canada Limit
23.03	Conducted Power (dBm)	0.178537786	1	0.178537786
200.9093	Conducted Power (mW)			0.424194507
6.5	Antenna Gain (dBi)			
4.466836	Antenna Numeric Gain			
20	Distance cm			
1710	Frequency MHz			
100	Duty Cycle (%)			

Note: Worst case power was at WCDMA channel 1413, 1732.6MHz, RMC 12.2Kbps

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500

MPE Radio 5 - Cellular (QIPELS61-US Band 5)

		Power Density (mW/cm2)	US Limit	Canada Limit
23.37	Conducted Power (dBm)	0	0.549333	0
217.2701	Conducted Power (mW)			0.257561031
6.5	Antenna Gain (dBi)			
4.466836	Antenna Numeric Gain			
20	Distance cm			
824	Frequency MHz			
0	Duty Cycle (%)			

Note: Worst case power was at WCDMA channel 4182, 836.4MHz, RMC 12.2Kbps

Note: Frequency was chosen at low edge of band to show worst-case US & Canada limits
 Note: Duty cycle set to 0 to reflect that Band 5 radio is off

MPE Radio 6 - Cellular (QIPELS31-V Band 12)

		Power Density (mW/cm2)	US Limit	Canada Limit
22.12	Conducted Power (dBm)	0	0.465333	0
162.9296	Conducted Power (mW)			0.22994623
6.5	Antenna Gain (dBi)			
4.466836	Antenna Numeric Gain			
20	Distance cm			
698	Frequency MHz			
0	Duty Cycle (%)			

Note: Worst case power was at LTE channel 23017, 699.7MHz, QPSK, RB Size 1, RB Offset 0

Note: Frequency was chosen at low edge of band to show worst-case US & Canada limits
 Note: Duty cycle set to 0 to reflect that Band 12 radio is off

Co Location	US	Canada
Total Ratio	Limit	Total Ratio Limit
	0.217840537	1 0.49438047 1

MPE with ELS61-US - Band 5					
MPE Radio 1 - Bluetooth (2ATZ3-SCMB100)					
		Power Density (mW/cm2)	US Limit	Canada Limit	
17.68	Conducted Power (dBm)	0.020736246	1	0.020736246	0.534775942
58.61382	Conducted Power (mW)				
2.5	Antenna Gain (dBi)				
1.778279	Antenna Numeric Gain				
20	Distance cm				
2400	Frequency MHz				
100	Duty Cycle (%)				

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500

MPE Radio 2 - Zigbee (SZ9TM-ZP05X)					
		Power Density (mW/cm2)	US Limit	Canada Limit	
17.2	Conducted Power (dBm)	0.018566504	1	0.018566504	0.534775942
52.48075	Conducted Power (mW)				
2.5	Antenna Gain (dBi)				
1.778279	Antenna Numeric Gain				
20	Distance cm				
2400	Frequency MHz				
100	Duty Cycle (%)				

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500

MPE Radio 3 - Cellular (QIPELS61-US Band 2)					
		Power Density (mW/cm2)	US Limit	Canada Limit	
22.85	Conducted Power (dBm)	0	1	0	0.447631518
192.7525	Conducted Power (mW)				
6.5	Antenna Gain (dBi)				
4.466836	Antenna Numeric Gain				
20	Distance cm				
1850	Frequency MHz				
0	Duty Cycle (%)				

Note: Worst case power was at WCDMA channel 9400, 1880MHz, RMC 12.2Kbps

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500
Note: Duty cycle set to 0 to reflect that Band 2 radio is off

MPE Radio 4 - Cellular (QIPELS61-US Band 4)					
		Power Density (mW/cm2)	US Limit	Canada Limit	
23.03	Conducted Power (dBm)	0	1	0	0.424194507
200.9093	Conducted Power (mW)				
6.5	Antenna Gain (dBi)				
4.466836	Antenna Numeric Gain				
20	Distance cm				
1710	Frequency MHz				
0	Duty Cycle (%)				

Note: Worst case power was at WCDMA channel 1413, 1732.6MHz, RMC 12.2Kbps

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500
Note: Duty cycle set to 0 to reflect that Band 4 radio is off

MPE Radio 5 - Cellular (QIPELS61-US Band 5)					
		Power Density (mW/cm2)	US Limit	Canada Limit	
23.37	Conducted Power (dBm)	0.193076823	0.549333	0.193076823	0.257561031
217.2701	Conducted Power (mW)				
6.5	Antenna Gain (dBi)				
4.466836	Antenna Numeric Gain				
20	Distance cm				
824	Frequency MHz				
100	Duty Cycle (%)				

Note: Worst case power was at WCDMA channel 4182, 836.4MHz, RMC 12.2Kbps

Note: Frequency was chosen at low edge of band to show worst-case US & Canada limits

MPE Radio 6 - Cellular (QIPELS31-V Band 12)					
		Power Density (mW/cm2)	US Limit	Canada Limit	
22.12	Conducted Power (dBm)	0	0.465333	0	0.22994623
162.9296	Conducted Power (mW)				
6.5	Antenna Gain (dBi)				
4.466836	Antenna Numeric Gain				
20	Distance cm				
698	Frequency MHz				
0	Duty Cycle (%)				

Note: Worst case power was at LTE channel 23017, 699.7MHz, QPSK, RB Size 1, RB Offset 0

Note: Frequency was chosen at low edge of band to show worst-case US & Canada limits
Note: Duty cycle set to 0 to reflect that Band 12 radio is off

Co Location	US		Canada	
	Total Ratio	Limit	Total Ratio	Limit
	0.39077755	1	0.823129097	1

MPE with ELS61-US - Band 12					
MPE Radio 1 - Bluetooth (2ATZ3-SCMB100)					
		Power Density (mW/cm2)	US Limit	Canada Limit	
17.68	Conducted Power (dBm)	0.020736246	1	0.020736246	0.534775942
58.61382	Conducted Power (mW)				
2.5	Antenna Gain (dBi)				
1.778279	Antenna Numeric Gain				
20	Distance cm				
2400	Frequency MHz				
100	Duty Cycle (%)				

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500

MPE Radio 2 - Zigbee (SZ9TM-ZP05X)					
		Power Density (mW/cm2)	US Limit	Canada Limit	
17.2	Conducted Power (dBm)	0.018566504	1	0.018566504	0.534775942
52.48075	Conducted Power (mW)				
2.5	Antenna Gain (dBi)				
1.778279	Antenna Numeric Gain				
20	Distance cm				
2400	Frequency MHz				
100	Duty Cycle (%)				

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500

MPE Radio 3 - Cellular (QIPELS61-US Band 2)					
		Power Density (mW/cm2)	US Limit	Canada Limit	
22.85	Conducted Power (dBm)	0	1	0	0.447631518
192.7525	Conducted Power (mW)				
6.5	Antenna Gain (dBi)				
4.466836	Antenna Numeric Gain				
20	Distance cm				
1850	Frequency MHz				
0	Duty Cycle (%)				

Note: Worst case power was at WCDMA channel 9400, 1880MHz, RMC 12.2Kbps

Note: Frequency was chosen at low edge of band to show worst-case Canada limit; US limit is 1.0 for any frequency above 1500
 Note: Duty cycle set to 0 to reflect that Band 2 radio is off

MPE Radio 4 - Cellular (QIPELS61-US Band 4)					
		Power Density (mW/cm2)	US Limit	Canada Limit	
23.03	Conducted Power (dBm)	0	1	0	0.424194507
200.9093	Conducted Power (mW)				
6.5	Antenna Gain (dBi)				
4.466836	Antenna Numeric Gain				
20	Distance cm				
1710	Frequency MHz				
0	Duty Cycle (%)				

Note: Worst case power was at WCDMA channel 1413, 1732.6MHz, RMC 12.2Kbps

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MPE Radio 5 - Cellular (QIPELS61-US Band 5)					
		Power Density (mW/cm2)	US Limit	Canada Limit	
23.37	Conducted Power (dBm)	0	0.549333	0	0.257561031
217.2701	Conducted Power (mW)				
6.5	Antenna Gain (dBi)				
4.466836	Antenna Numeric Gain				
20	Distance cm				
824	Frequency MHz				
0	Duty Cycle (%)				

Note: Worst case power was at WCDMA channel 4182, 836.4MHz, RMC 12.2Kbps

Note: Frequency was chosen at low edge of band to show worst-case US & Canada limits
 Note: Duty cycle set to 0 to reflect that Band 5 radio is off

MPE Radio 6 - Cellular (QIPELS31-V Band 12)					
		Power Density (mW/cm2)	US Limit	Canada Limit	
22.12	Conducted Power (dBm)	0.144787192	0.465333	0.144787192	0.22994623
162.9296	Conducted Power (mW)				
6.5	Antenna Gain (dBi)				
4.466836	Antenna Numeric Gain				
20	Distance cm				
698	Frequency MHz				
100	Duty Cycle (%)				

Note: Worst case power was at LTE channel 23017, 699.7MHz, QPSK, RB Size 1, RB Offset 0

Note: Frequency was chosen at low edge of band to show worst-case US & Canada limits

Co Location	US		Canada	
	Total Ratio	Limit	Total Ratio	Limit
	0.350450011	1	0.703150596	1

US MPE Limits 1

0.3	1.34	100
1.34	30	0.00003125
30	300	0.2
300	1500	1.6
1500	10000	1

Canada MPE Limits 1

10	20	0.2
20	48	0.018257
48	300	0.1291
300	6000	0.534776
6000	15000	1

US MPE Limits 2

0.3	1.34	100
1.34	30	0.00003125
30	300	0.2
300	1500	1.6
1500	10000	1

Canada MPE Limits 2

10	20	0.2
20	48	0.018257
48	300	0.1291
300	6000	0.534776
6000	15000	1

US MPE Limits 3

0.3	1.34	100
1.34	30	5.25931E-05
30	300	0.2
300	1500	1.233333333
1500	10000	1

Canada MPE Limits 3

10	20	0.2
20	48	0.020794
48	300	0.1291
300	6000	0.447632
6000	15000	1

US MPE Limits 4

0.3	1.34	100
1.34	30	6.15574E-05
30	300	0.2
300	1500	1.14
1500	10000	1

Canada MPE Limits 4

10	20	0.2
20	48	0.021629
48	300	0.1291
300	6000	0.424195
6000	15000	1

US MPE Limits 5

0.3	1.34	100
1.34	30	0.000265105
30	300	0.2
300	1500	0.549333333
1500	10000	1

Canada MPE Limits 5

10	20	0.2
20	48	0.031158
48	300	0.1291
300	6000	0.257561
6000	15000	1

US MPE Limits 6

0.3	1.34	100
1.34	30	0.000369455
30	300	0.2
300	1500	0.465333333
1500	10000	1

Canada MPE Limits 6

10	20	0.2
20	48	0.033854
48	300	0.1291
300	6000	0.229946
6000	15000	1