



ERO INFORMATION DOCUMENT

on

GSM Frequency Utilisation

within Europe

Updated: June 2008

This document summarizes the information collected from administrations and operators concerning the frequency sub-bands licensed to GSM operators (900 and 1800 MHz bands) across Europe. The information reflects the June 2007 status.

This document contains GSM networks in Europe using the following frequency ranges:

E-GSM: 880-890 / 925-935 MHz (2 x 10 MHz)
GSM-900: 890-915 / 935-960 MHz (2 x 25 MHz)
GSM-1800: 1710-1785 / 1805-1880 MHz (2 x 75 MHz)

Details are given about the following countries:

1. [ALBANIA](#)
2. [ANDORRA](#)
3. [AUSTRIA](#)
4. [AZERBAIJAN](#)
5. [BELGIUM](#)
6. [BOSNIA AND HERZEGOVINA](#)
7. [BULGARIA](#)
8. [CROATIA](#)
9. [CYPRUS](#)
10. [CZECH REPUBLIC](#)
11. [DENMARK](#)
12. [ESTONIA](#)
13. [FINLAND](#)
14. [FRANCE](#)
15. [GERMANY](#)
16. [GREECE](#)
17. [HUNGARY](#)
18. [ICELAND](#)
19. [IRELAND](#)
20. [ITALY](#)
21. [LATVIA](#)
21. [LIECHTENSTEIN](#)
22. [LITHUANIA](#)
23. [LUXEMBOURG](#)
24. [MACEDONIA](#)
25. [MALTA](#)
26. [MOLDOVA](#)
27. [NORWAY](#)
28. [POLAND](#)
29. [PORTUGAL](#)
30. [ROMANIA](#)
31. [RUSSIAN FEDERATION](#)
32. [SLOVAK REPUBLIC](#)
33. [SLOVENIA](#)
34. [SPAIN](#)
35. [SWEDEN](#)
36. [SWITZERLAND](#)
37. [THE NETHERLANDS](#)
38. [TURKEY](#)
39. [UKRAINE](#)
40. [UNITED KINGDOM](#)

Frequency Utilisation of the Frequency Bands
 880-890/ 925-935, 890-915/ 935-960. 1710-1785/ 1805-1880 MHz

Albania, January 2001

GSM Subscriber	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
30.000	0		2 x 12.4 MHz	0	1 %
Operator	Service start	License expires	Frequencies	No. of Subscriber	
Albanian Mobile Communications (AMC)	MAY 96	19 AUG 2014	890.0-902,4/935,0-947,4 MHz (2 X 12,4 MHz)	30.000	
Analogue	-	-	None	-	

A second Albanian GSM operator is planned and will be given the frequency sub-bands 907-915 / 952-960 MHz (2 x 8 MHz). The rest of the GSM shall be reserve. The E-GSM bands are not yet operational.

Andorra, January 2001

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
26 000	0		2 x 25.0 MHz	0	40.0 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
STA (Mobiland)	1993	unlimited	890.0 – 915.0 / 935.0-960.0 MHz (2 x 25.0 MHz)	26 000	
Average			2 x 25.0 MHz		
Analogue:			none		

The Andorran government is planning to grant a 1800 MHz license to STA.

Austria, April 2007

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
9.254,600	2 x 10 MHz		2 x 25.0 MHz	2 x 71.4 MHz	111 %*)
Operator	Service start	License expiry	Frequencies		
Mobilkom Austria AG (2x 32 MHz)	DEC 92	DEC 2015	890.2-892.6 / 935.0-937,6 MHz (2x 2.8 MHz) 883.6-892.6 / 928.6-937.6 MHz (2x 6.4 MHz) 898.2-905.8 / 943.2-950.8 MHz (2x 7.8 MHz) 1712.4-1722.4/1807.4-1817.4 MHz (2 x 10.2 MHz) 1731.6-1733.8/1826.6-1828.8 MHz (2x 2.4 MHz) 1741.4-1742.4/1836.4-1837.4 MHz (2x 1.2 MHz) 1755.4-1756.4/1850.4-1851.4 MHz (2x 1.2 MHz)		3.630,500
One GmbH	SEP 98	DEC 2017	880.2-883.2 / 925.2-928.2 (2 x 3.2 MHz) 1734.2-1739.6/1829.2-1834.6 MHz (2 x 5.6 MHz) 1758.2-1781.4/1853.2-1876.4 MHz (2x 23.4 MHz)		2.211,600*)
T-Mobile Austria GmbH (2x 37,6 MHz)	OCT 96	DEC 2015	893.0-897.8 / 938.0-942.8 MHz (2x 5.0 MHz) 906.2-913.8 / 951.2-958.8. MHz (2x 7.8 MHz) 1710.2-1712.0/1805.2-1807,0 MHz (2 x 2.0 MHz) 1722.8-1731.2/1817.8-1826.2 MHz (2 x 8.6 MHz) 1740.0-1741.0/1835.0-1836.0 MHz (2x 1.2 MHz) 1744.2-1747.6/1839.2-1842.6 MHz (2 x 3.6 MHz) 1748.0-1750.2/1843.0-1845.2 MHz (2x 2.4 MHz) 1742.8-1743.8/1837.8-1838.8 MHz (2x 1.2 MHz) 1750.6-1755.0/1845.6-1850.0 MHz (2 x 4.6 MHz) 1756.8-1757.8/1851.8-1852.8 MHz (2x 1.2 MHz)		3.412,500
Available (will be auctioned off in 2007)	n/a	n/a	914.2-914.6/959.2-959.6 MHz (2 x 0,8 MHz)		n/a
Average			2 x 33,93 MHz per operator		

Notes:

*) Subscriber figures do not differentiate between GSM and UMTS subscribers. The penetration rate includes UMTS-subscribers of Hutchison 3G Austria (405,300). Resale and MNVO subscribers are included in the figures of the mobile network operators. As of Jan 2007, source: Mobile operators and Mobile Communications.

Azerbaijan, December 2005

GSM Subscriber	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
			Two operators	-	1 %
Operator	Service start	License expires	Frequencies		No. of Subscriber
Bakcell			880-888; 890-902.5; 925-933; 935-947		
Azercell			902.5-915; 947.5-960		
Average			2 x 20.8 MHz		-

Belgium, April 2006

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
9,383,475	2 x 7.8 MHz		2 x 24.8 MHz	2 x 59.2 MHz	90 %
Operator	Service start	License expiry	Frequencies		No. of Subscribers
Belgacom Mobile (Proximus)	JAN 94	Licence given on 2/7/96 for 15 yrs: 2/7/2011	890.1-896.1/935.1-941.1 MHz and 902.1-908.1/947.1-953.1 MHz and 1710.1-1725.1/1805.1-1820.1 MHz additional 2 x 3.6 MHz to be identified in GSM-1800 band		4,311,435
Mobistar	AUG 96	Licence given on 27/11/95 for 15 yrs: 27/11/2010	896.1-902.1/941.1-947.1 MHz and 908.1-914.1/953.1-959.1 MHz 1725.1-1740.1/1820.1-1835.1 MHz additional 2 x 3.6 MHz to be identified in GSM-1800 band		3,018,607
Base	APR 99	Licence given on 2/7/98 for 15 yrs: 2/7/2013	1762.9-1784.9/1857.9-1879.9 MHz and 880.1-884.9/925.1-929.9 MHz and 887.1-990.1/932.1-935.1 MHz and 914.1-914.9/959.1-959.9 MHz		2,053,433
Average			2 x 30.6 MHz per operator		
Analogue			None		

Frequency Band	Other existing use in the GSM bands	License duration, Trends, When will band be available?
884.9-887.1 / 929.9-932.1 MHz	CT1+	Band will be available from 26/12/2009

Bosnia and Herzegovina, December 2006

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
Operator	Service start	License expiry	Frequencies		No. of Subscribers
Telekom Srpske	1999	2019	890,20-898,00 935,20-943,00	1842,8-1854,6 1747,8-1759,6	640.000
BH Telecom	1996	2019	906,20-914,00 951,20-959,00	1805,2-1817,0 1710,2-1722,0	930.000
HT Mostar - ERONET	2000	2019	898,20-906,00 943,20-951,00	1823,0-1830,8 1728,0-1735,8	320.000
Average			2 x 8MHz	2 x 10,6 MHz	

Bulgaria, December 2005

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
5 170 617 *	2 x 4.1 MHz		2 x 24.1 MHz	2 x 30 MHz	66.2 % *
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
Mobiltel AD	SEP 95	08.06.2014	895.7-905.1/940.7-950.1 MHz 1710.1-1720.1/1805.1-1815.1 MHz (2 x 19.4 MHz)	3 234 491 *	
Cosmo Bulgaria Mobile EAD	SEP 01	23.01.2016	905.5-914.9/950.5-959.9 MHz 1720.5-1730.5/1815.5-1825.5 MHz (2 x 19.4 MHz)	1 936 126 *	
BTC Mobile EOOD	NOV 05	07.06.2024	885.9-895.3/930.9-940.3 MHz 1730.9-1740.9/1825.9-1835.9 MHz (2 x 19.4 MHz)	-	
Average			2 x 19.4 MHz		

* Information updated June 2005

Croatia, May 2007

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
2 463 827	0		2 x 24.0 MHz	2 x 12.0 MHz	102.5 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
T-Mobile Hrvatska	OCT 95	SEP 2009	896.2-908.0 / 941.2-953.0 MHz (2 x 12.0 MHz)	-	
VIPNET	JUL 99	SEP 2008	890.2-895.8 / 935.2-940.8 MHz and 908.4-914.4 / 953.4-959.4 MHz (2 x 12.0 MHz)	-	
Tele2	DEC 2004	DEC 2024	1710.2-1722.0 / 1805.2-1817.0 MHz (2 x 12.0 MHz)	-	
Average			2 x 12.0 MHz		
Analogue			None		

Cyprus, May 2007

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
					<i>117,6% (April 2007)</i>
Operator	Service start	License expiry	Frequencies		No. of Subscribers
<i>CYTA</i>	<i>1995</i>	<i>27/2/24</i>	<i>902,6-914,8 MHz / 947,6-959,8 MHz / 1710,2-1735 MHz / 1805,2-1830 MHz</i>		<i>793.489, (pre-/post-paid, April 2007)</i>
<i>AREEBA LTD</i>	<i>5/9/04</i>	<i>1/12/23</i>	<i>890,2-902,4 MHz / 935,2-947,4 MHz / 1735,2-1760 MHz / 1830,2-1855 MHz</i>		<i>90.256 (end of 2006)</i>
			<i>(2 x 12.2 MHz) for each operator (GSM-900)</i>		
			<i>(2 x 24.8 MHz) for each operator (GSM-1800)</i>		

Czech Republic, June 2007

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
12,75 Mio (December 2006)	2 x 4 MHz	2 x 25 MHz	2 x 47,2 MHz	around 125 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers
Telefónica O2 Czech Republic, a.s. (former Eurotel)	JUL 96	20 years	880.2 - 881.8 / 925.2 - 926.8 MHz 897.2-899.8 / 942.2-944.8 MHz and 902.2-904.0 / 947.2-949.0 MHz and 906.2-909.2 / 951.2-954.2 MHz and 911.8-912.8 / 956.8-957.8 MHz 1711.4 -1721.8 / 1806.4 - 1816.8 MHz and 1724.0 -1727.2 / 1819.0 - 1822.2 MHz	Not publicly available
T-Mobile Czech Republic a.s. (former Radio Mobil)	SEPT 96	20 years	888.2 - 889.8 / 933.2 - 934.8 MHz and 894.4 - 897.0 / 939.4 - 942.0 MHz and 900.0 - 902.0 / 945.0 - 947.0 MHz and 904.2 - 906.0 / 949.2 - 951.0 MHz and 909.4 - 911.6 / 954.4 - 956,6 MHz 1729.4 - 1747.2 / 1824.4 - 1842.2 MHz	Not publicly available
Vodafone Czech Republic a.s. (former Oskar Mobil)	MAR 2000	20 years	890.2 - 894.2 / 935.2 - 939.2 MHz and 913.0 - 914.8 / 958.0 - 959.8 MHz 1763.0 - 1778.8 / 1858.0 -1873.8 MHz	Not publicly available
Average			2 x 25,4 MHz	
Analogue			none	

Frequency Band	Other existing use in the GSM bands	License duration, Trends, When will band be available?

Denmark, December 2006

GSM Subscribers (not including UMTS subscriptions)	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration (not including UMTS subscriptions)
5,514,021	2 x 8.6 MHz		2 x 24.8 MHz	2 x 74.8 MHz	101.2%
Operator	Service start	License expiry	Frequencies	No. of Sub scribers (not including UMTS subscriptions)	
Sonofon	MAR 92	GSM900: MAR2012 GSM1800: JUN2007/ DEC2010	905.0-913.8 / 950.0-958.8 MHz and 1710.2-1729.4 / 1805.2-1824.4 MHz (2x28.4 MHz)	1,092,537	
TDC	MAR 92	GSM900: MAR2012 GSM1800: JUN2007/D EC2010	896.0-904.8 / 941.0-949.8 MHz and 1729.6-1746.0/1824.6-1841.0 MHz 1775.0-1784.8/1870.0-1879.8 MHz (2 x 35.6 MHz)	1,737,175	
Telia Nätjänster Norden AB	MAR 98	GSM900: JAN2011 GSM1800: JUN2007	880.2-881.6/925.2-926.6 MHz 882.8-885.4/927.8-930.4 MHz 885.6-892.8/930.6-937.8 MHz 893.0-895.8/938.0-940.8 MHz 1746.2-1760.4 / 1841.2-1855.4 MHz (2x21.8 MHz) 1760.6-1774.8 / 1855.6-1869.8 MHz (2x21.8 MHz)	1,115,467	
CBB-mobil			Service provider using the network of Sonofon	252,815	
Telmore			Service provider using the network of TDC	568,635	
Debitel	Aug97		Service provider using the network of both Sonofon and TDC	238,266	
Other service providers				509,154	
Average					
Analogue:			None		

Estonia, September 2007

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
Not available	2x9.6 MHz		2 x 23.4 MHz	2 x 41,2 MHz	125 %
Operator	Service start	License expiry	Frequencies	No. Of Subscribers	
EMT AS	1995	2007 (the validity of license shall be extended once a year)	898.2-905.8/943.2-950.8 MHz (2x7.8 MHz) 880.2-883.200/925.2-928.2 MHz (2x3.2 MHz) 1759.4-1759.8/1854.4-1854.8 MHz 1770.0-1784.8/1865.0-1879.8 (2x15,6 MHz)	746 000	
Elisa Mobiilsideteen- used AS	1995	2007 the validity of license shall be extended once a year	906.2-913.8/951.2-958.8 MHz (2x7.8 MHz) 883.6-886.6/928.6-931.6 MHz (2x3.2 MHz) 1736.0-1736.8/1831.0-1831.8 MHz 1753.4-1758.6/ 1848.4-1853.6 MHz 1760.2-1769.6/1855.2-1864.6 (2x16 MHz)	300 000	
Tele2 Eesti AS	2003	2007 the validity of license shall be extended once a year	890.2-897.8/935.2-942.8 MHz (2x7.8 MHz) 887.0-890.0/932.0-935.0 MHz (2x3.2 MHz) 1739.6-1746.2/1834.6-1841.2 MHz 1749.8-1752.4 /1844.8-1847.4 MHz (2x9.6 MHz)	500 000	
Average			2 x 74.2 MHz		

Finland, June 2007

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
Ca. 5 670 000 ¹	2 x 9.4 MHz	2 x 23.4 MHz	2 x 44.8 MHz	ca. 102,5 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers
Radiolinja Origo Oy	for GSM: JAN 92	NOV 2017	Whole country except Åland: 1746.5-1762.3 / 1841.5-1857.3 MHz (2 x 15.8 MHz) Whole country except Åland: 887.3 - 888.5 / 932.3 - 933.5 MHz (2 x 1.2 MHz) 904.1 - 913.9 / 949.1 - 958.9 MHz (2 x 9.8 MHz)	ca. 1 932 400
Sonera Mobile Networks Oy	for GSM: JUL 92	NOV 2017	1710.1-1713.3 / 1805.1-1808.3 MHz 1717.9-1728.9 / 1812.9-1823.9 (total 2 x 14.2 MHz) Whole country (except Åland): 888.7 - 889.9 / 933.7 - 934.9 MHz (2 x 1.2 MHz) 890.1 - 899.9 / 935.1 - 944.9 MHz (2 x 9.8 MHz) Åland: 888.7 - 889.9 / 933.7 - 934.9 MHz (2 x 1.2 MHz) 890.1 - 901.7 / 935.1 - 946.7 MHz (2 x 11.6)	ca. 2 107 000
Ålands Mobiltelefon Ab	JUN 93	DEC 2017	Åland: 902.1 - 913.9 / 947.1 - 958.9 MHz (2 x 11.8 MHz)	ca. 9 500
DNA Verkot Oy	start: JAN 01	DEC 2019	Whole country except Åland: 1731.5-1746.3 / 1826.5-1841.3 MHz (2 x 14.8 MHz) and 1768.3-1771.3 / 1863.3-1866.3 MHz (2 x 3 MHz) 880.1 - 887.1 / 925.1 - 932.1 MHz (2 x 7.0 MHz) 900.1 - 903.9 / 945.1 - 948.9 MHz (2 x 3.8 MHz)	ca. 915 000
Average				
Analogue			none (service closed 31.12.2000)	

¹ Note, this number includes in UMTS subscribers too, since they are also GSM subscribers.

France, May 2007

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
50 111 500 (metropolitan, Mar. 2007, including MVNO)	2*10 MHz	2 x 24.8 MHz	2 x 75 MHz	81,9% (metropolitan, Mar. 2007, including MVNO)
Operator	Service start	License expiry	Frequencies	No. of Subscribers
Bouygues Telecom	May 1996	December 2009	GSM 900: 900.1-904.9 / 945.1-949.9 MHz (2*4,8 MHz) except in very densely populated areas. E-GSM: 880.1-889.9 / 925.1-934.9 MHz (2*9.8 MHz) in very densely populated areas and progressively in the remaining metropolitan territory (within 2005 and except some military areas). GSM 1800: 1758.3-1784.9 / 1853.3-1879.9 MHz (2*26.6 MHz) in very densely populated areas, 1763,3-1784,9 / 1858.3-1879.9 MHz and duplex (2*21.6 MHz) in the remaining metropolitan territory.	7 970 659 (metropolitan, Dec. 2005)
SFR	April 1993	March 2021	GSM 900: 902.5-914.9 / 947.5-959.9 MHz (2*12.4 MHz) in very densely populated areas and 904,9-914,9 / 949.9-959.9 MHz (2*10 MHz) in the remaining metropolitan territory. GSM 1800: 1710.1-1712.9 / 1805.1-1807.9 MHz (2*2.8 MHz) and 1737.1-1758.1 / 1832.1-1853.1 MHz (2*21 MHz).	16 608 999 (metropolitan, Dec. 2005)
Orange France	July 1992	March 2021	GSM 900: 890.1-902.5 / 935.1-947.5 MHz (2*12.4 MHz) in very densely populated areas and 890.1-900.1 / 935.1-945.1 MHz (2*10 MHz) in the remaining metropolitan territory. GSM 1800: 1713.1-1736.9 / 1808.1-1831.9 MHz and duplex (2*23.8 MHz).	21 599 778 (metropolitan, Dec. 2005)
Average			2 x 36.2 MHz per operator in very densely populated areas	
Analogue			None	

Frequency Band	Other existing use in the GSM bands	License duration, Trends, When will band be available?
890-915x935-960 MHz	None	15 years licenses, ending 2021 (Orange France & SFR) or 2009 (Bouygues Telecom).
880-890x925-935 MHz	Some tactical radio relays and other military applications	This frequency resource was progressively given to Bouygues Telecom, except on some military areas.
1710-1785x1805-1880 MHz	None	15 years licenses, ending 2021 (Orange France & SFR) or 2009 (Bouygues Telecom).

GSM authorisations of Orange France & SFR were renewed for 15 years in March 2006. The renewal issue of Bouygues Telecom's GSM authorisation is currently under study.

Germany, May 2008

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
64 800 000	2 x 10 MHz	2 x 24.8 MHz	2 x 45.2 MHz	80 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers
T-Mobile Deutschland GmbH	JUL 92	DEC 16	892.5-899.9 / 937.5-944.9 MHz and 906.1-910.5 / 951.1-955.5 MHz and 914.3-914.9 / 959.3-959.9 MHz and 1725.1-1730.1 / 1820.1-1825.1 MHz (2x17.4 MHz)	31 398 000
Vodafone D2 GmbH	JUL 92	DEC 16	890.1-892.5 / 935.1-937.5 MHz and 899.9-906.1 / 944.9-951.1 MHz and 910.5-914.3 / 955.5-959.3 MHz and 1752.7-1758.1 / 1847.7-1853.1 MHz (2x17.8 MHz)	30 600 000
E-Plus Mobilfunk GmbH & Co KG	MAY 94	DEC 16	880.1-885.1 / 925.1-930.1 MHz and 1763.1-1780.5 / 1858.1-1875.5 MHz (2x22.4 MHz)	12 654 000
O2 (Germany) GmbH & Co OHG	MAR 98	DEC 16	885.1-890.1 / 930.1-935.1 MHz and 1735.1-1752.5 / 1830.1-1847.5 MHz (2x22.4 MHz)	11 025 000
Average			2 x 19.9 MHz	
Analogue			none	

It is planned to newly award 2 x 10 MHz of the 1800 MHz bands, in 2008. The rest of the 1800 MHz band is still used by other (military) services.

Greece, January 2001

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
5932000	0	2 x 20 MHz	2 x 25 MHz	57 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers
Panafon SA	JUL 93	SEP 2012	905-915 / 950-960 MHz (2 x 10 MHz)	2 226 000
TeleSTET	JUL 93	SEP 2012	890-900 / 935-945 MHz (2 x 10 MHz)	1 645 000
Cosmote	MAR 98	MAR 2023	1760-1785 / 1855-1880 MHz (2 x 25 MHz)	2 061 000
Average			2 x 15 MHz	
Analogue			none	

Hungary, December 2005

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
9 074 121	0	2 x 24,6 MHz	2 x 59,0 MHz	90,0%

Operator	Service start	License expiry	Frequencies	No. of Subscribers
Pannon GSM	MAR 94	NOV 09	897,9-905,9 / 942,9-950,9 MHz	3 080 664
	NOV 00	JUL 14	1758.1-1773.1/1853.1-1868.1 MHz	
	JAN 05	OCT 14	1740,1-1743.1/1835.1-1838.1 MHz 1773.1-1784.1/1858.1-1879.1 MHz (2x37 MHz)	
T-Mobile	MAR 94	NOV 09	905,9-913,9 / 950,9-958,9 MHz and	4 095 151
	NOV 00	JUL 14	1743.1-1758.1 /1838.1-1853.1 MHz (2 x 23 MHz)	
Vodafone	DEC 99	JUL 14	890,1-897,9 /935,1-942,9 + 913,9-914,7/958,9-959,7 MHz	1 898 306
	NOV 00	JUL 14	1710.1-1725.1/1805.1-1820.1 MHz (2x 23.6 MHz)	
Average			2 x 27.86 MHz	

Frequency Band	Other existing use in the GSM bands	License duration, Trends, When will band be available?
881.5-883.5/ 926.5-928.5 MHz and 887.1-887.7/932.1-932.7 MHz	Aeronautical radionavigation	Bands will be available without limitation for GSM after concluding coordination with the Governmental Frequency Management Agency only.
914 - 915 /959 - 960 MHz	CT1 applications	CT1 licenses will be expired by 31 December 2007.

Iceland, April 2007

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
301.800	0		2 x 23.8 MHz	2 x 36 MHz	100 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
Iceland Telecom	1994	2008	900.1-913.9 / 945.1-958.9 MHz and 1710.1-1725.1 / 1805.1-1820.1 MHz (2x28.8 MHz)	191.000	
Og fjarskipti (Vodafone)	2001	2011	890.1-900.1 / 935.1-945.1 MHz and 1730.3-1748.5/1825.3-1843.4 MHz (2 x 28.2 MHz)	108.000	
IMC a Islandi	2000	2010	1766.3-1769.1 /1861.3-1864.1 MHz (2 x 2.8 MHz)	2.800	
Average			2 x 20 MHz		
Analogue			None		

Frequency Band	Other existing use in the GSM bands	License duration, Trends, When will band be available?
914-915/959-969 MHz	CT1	2008

Ireland, April 2007

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
4,690,000	0		2 x 21.6 MHz	2 x 43.2 MHz	111%
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
O2	MAR 97	2011	907.5-914.7 / 952.5-959.7 MHz (2 x 7.2 MHz) 1750.9-1765.3 / 1845.9-1860.3 MHz (2x14.4 MHz)	35.4%	
Vodafone	JUL 93	2011	900.1-907.3 / 945.1-952.3 MHz (2 x 7.2 MHz) 1736.3-1750.7 / 1831.3-1845.7 MHz (2x14.4 MHz)	47.2%	
Meteor	FEB 01	2015	892.7-899.9/937.7-944.9 MHz (2 x 7.2 MHz) 1765.5-1779.9/1860.5-1874.9MHz (2 x 14.4 MHz)	17.4%	
Average			2 x 21.0 MHz		
Analogue			None		

Italy, December 2005

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
61.102.000	2x4.2 MHz		2 x 24 MHz	2 x 50.0 MHz	105 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
VODAFONE	DEC 95	FEB/2015	904.00-912.8 / 949.00 - 957.8 MHz Nation wide 1770-1785 / 1865-1880 MHz Nation wide 902.8-904.00 / 947.8-949.00 MHz. Inside 16 large cities	22.785.000 (includes UMTS subscribers)	
TIM	OCT 95	FEB/2015	Outside 16 large cities 891.6 - 900.4 / 936.6 - 945.4 MHz Inside 16 large cities 891.6 - 902.4 / 936.6 - 947.4 MHz Nation wide 883.4 - 884.4 / 928.4 - 929.4 MHz 1735-1750 / 1830-1845 MHz	26.117.000 (includes UMTS subscribers)	
Wind Telecomunicazioni	MAR 99	JUN/2018	Nation wide 913.2 – 914.8 / 958.2 – 959.8 MHz 880.2 – 883.00 / 925.2 – 928.00 MHz 1755-1770 / 1850-1865 MHz Outside 16 large cities 900.8 – 903.6 / 945.8 – 948.6 MHz 1750-1755 / 1845-1850 temporarily Wind will release 24 channels temporarily assigned in 16 large cities in band 1800 MHz, when available the 24 channels Nation wide assigned in Primary band.	12.200.000	
Average			2 x 24.4 MHz		

*) According to the National Table of Frequency Allocations (NTFA) the TACS system will be phased out within 31 /12/2005. Therefore the table takes into account the reallocation made in band 900 MHz.

Frequency Band	Other existing use in the GSM bands	License duration, Trends, When will band be available?
914 -915 958 - 960	CT1	CT1 to expire within 31.12.2008
1710 – 1735 1805 – 1830	Reserved to the Ministry of Defence	20 MHz of this band could be allocated to GSM (1715 -1735 /1810 - 1830 MHz)

Latvia, September 2002

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
775 000	0	2x25MHz	2x50MHz	92% of territory; 95% of population; 32% of population are subscribers;

Operator	Service Start	License expiry	Frequencies	Subscribers
LMT	Jan 1995	2006	890-903/935-950MHz (2x13); 1710-1735/1805-1830MHz (2x25);	440 000
Lele2	Apr 1997	2006	903-913/948-958MHz (2x10); 1735-1760/1830-1855MHz (2x25);	335 000
Average			2x36.5MHz	

Liechtenstein, June 2007

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
~20'500	2 x 1.6 MHz		2 x 8.4 MHz	2 x 12.2 MHz	~95 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
MOBILKOM (LIECHTENSTEIN) AG	APR 00	DEC 09	889.2-889.8 / 934.2-934.8 MHz (E-GSM) 1747.8-1750.0 / 1842.8-1845.0 MHz and 1753.6-1755.0 / 1848.6-1850.0 MHz	---	
Tele2 Aktiengesellschaft	APR 00	DEC 09	897.6-899.8 / 942.6-944.8 MHz and 910.0-911.6 / 955.0-956.6 MHz	---	
Swisscom Mobile AG	APR 00	DEC 09	892.6-896.6 / 937.6-941.6 MHz and 1739.4-1740.0 / 1834.4-1835.0 MHz and 1750.2-1753.4 / 1845.2-1848.4 MHz	---	
Orange (Liechtenstein) AG	APR 00	DEC 09	888.4-889.0 / 933.4-934.0 MHz (E-GSM) 1717.8-1719.0 / 1812.8-1814.0 MHz and 1731.4-1733.8 / 1826.4-1828.8 MHz	---	
Analogue			none		

Lithuania, December 2006

GSM Subscribers*	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration*
4.718 million**	No info		No info	No info	139%**
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
Omnitel	1995.03.16	2007.10.31	2x8 MHz (GSM-900)	1.730 million**	
	1999.01.01	2008.09.23	2x16,8 MHz (GSM-1800)		
	2005.01.01	2014.01.01	2x3,2 MHz (E-GSM)		
Bitė Lietuva	1995.10.24	2007.10.31	2x8 MHz (GSM-900)	1.188 million**	
	1999.01.04	2008.09.23	2x15,2 MHz (GSM-1800)		
	2005.01.01	2014.03.01	2x2,0 MHz (E-GSM)		
Tele2	2001.03.30	2010.12.29	2x7,8 MHz (GSM-900)	1.655 million**	
	1999.12.10	2008.09.23	2x16,8 MHz (GSM-1800)		
	2005.01.01	2014.03.01	2x2,6 MHz (E-GSM)		
Average			2 x 26.8 MHz	1.524 million**	

* - the total number of active subscribers (including subscribers of alternative GSM operators)

** - data for the last quarter of 2006

Luxembourg, December 2006

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
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713800	2x10 MHz		2 x 24 MHz	2 x 39.2 MHz	155%
Operator	Service start	License expiry	Frequencies		No. of Subscribers
Entreprise des P&T (LUXGSM)	11/1997	11/2012	890.1-894.7 / 935.1-939.7 MHz and 899.9-907.3 / 944.9-952.3 MHz and 1774.9-1784.9 / 1869.9-1879.9 MHz 1770.3-1774.9/1865.3-1869.9 MHz		383000
TANGO S.A.	11/1997	11/2012	895.1-899.7 / 940.1-944.5 MHz and 907.5-914.9 / 952.5-959.9 MHz and 1760.1-1770.1 / 1855.1-1865.1 MHz		239300
VoxMobile SA	12/2004 5/2006	12/2019 5/2021	1710.1-1724.7 / 1805.1-1819.7 MHz 880-890/925-935 MHz		91500
Average			2x24.4 MHz		
Analogue			None		

Macedonia, May 2001

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
150.000	0	2 x 12.5 MHz	0	7,5 %
Operator	Service start	License expires	Frequencies	No. Of Subscriber
Mobimak	OCT 96	Not limited ¹⁾	890.0-902,5 / 935,0-947,5 MHz (2 X 12,5 MHz)	150.000
Average			2 x 12.5 MHz	
Analogue	-	-	None	-

A second Macedonian GSM operator is planned for the second half of 2001 in the GSM bands 900 and 1800 MHz.

The E-GSM bands are not yet operational.

1) Should be registered every 5 years

Malta, December 2006

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
346,771	0		2 x 22.8	2 x 29.8	85.8%
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
Vodafone Malta Limited	SEP '97	JUL '10	893 – 913 / 938 – 958 MHz 1775 – 1779.6 / 1870 – 1874.6 MHz	182,759	
MobIsle Communiatio ns Ltd.	DEC '00	SEP '10	890 – 892.8 / 935 – 937.8 MHz 1710 – 1735 / 1805.2 – 1830 MHz	164,012	
Average			2 x 26.3 MHz		
Analogue			None		

Moldova, April 2007

GSM penetration in Moldova is 41 per cent

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
Voxtel SA	1998	2013	50 per cent of GSM 900 MHz band (12,5 MHz) plus 2 MHz in GSM 1800 MHz	915,000	
Moldcell SA	2000	2015	50 per cent of GSM 900 MHz band (12,5 MHz)	500,000	
Eventis Mobile SA	2006		GSM network is under construction Eventis uses 22 channels of e-GSM band (4,4 MHz)		
Average					

Norway, May 2001

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
2 637 500	0		2 x 19.2 MHz	2 x 20 MHz	61.1 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
NetCom	DEC 92 MAR 98	NOV 05 MAR 10	904.3-913.9 / 949.3-958.9 MHz (2 x 9.6 MHz) 1754.5-1764.5/1849.5-1859.5 (2 x 10 MHz)	800 000	
Telenor Mobil	DEC 92 MAR 98	NOV 05 MAR 10	894.5-904.1 / 939.5-949.1 MHz (2 x 9.6 MHz) 1771.3-1781.3/1866.3-1876.3 (2 x 10 MHz)	2 070 000	
Average			2 x 19.6 MHz		

Analogue: Telenor Mobil	DEC 86 JAN 81	JUL 2001 NOV 2003	890-894.5 / 935-939.5 MHz (2 x 4.5 MHz) 453-457.5/463-467.5 MHz (2 x 4.5 MHz)	216 000
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Frequency Band	Other existing use in the GSM bands	License duration, Trends, When will band be available?
930.5 MHz ± 4.0MHz	EISCAT radar	Current licence expires 31.12.2002, but will be extended. Limited GSM use around EISCAT sites.
914-915 MHz	CT1	

Poland, December 2005

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
Operator	Service start	License expiry	Frequencies		No. of Subscribers
POLKOMTEL Spółka Akcyjna	23.02.1996 01.03.2000	23.02.2011 01.03.2015	2 x 9 MHz 2 x 9,6 MHz		No data
Polska Telefonia Cyfrowa Spółka z o.o.	23.02.1996 01.03.2000	23.02.2011 01.03.2015	2 x 9 MHz 2 x 9,6 MHz		No data
Polska Telefonia Komórkowa "Centertel" Spółka z o.o.	01.03.2000 21.08.1997	01.03.2015 21.08.2012	2 x 6,8 MHz 2 x 9,6 MHz		No data
Average			2 x 24,8 MHz		2 x 28,8 MHz

Portugal, December 2005

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
10 720 700 ^(*)	0	2 x 23.8 MHz	2 x 18.0 MHz	102,3 % ^(*)
Operator	Service start	License expiry	Frequencies	No. of Subscribers
TMN	OCT 92	MAR 2007	905.9-913.9 / 950.9-958.9 MHz (2 x 8 MHz) 1763.5-1766.7/1858.5-1861.7 MHz and 1770.1-1772.9/1865.1-1867.9 MHz (2 x 6 MHz)	
Telecel	OCT 92	OCT 2006	890.1-898.1 / 935.1-943.1 MHz (2 x 8 MHz) 1759.9-1763.1 / 1854.9-1858.1 MHz 1772.9-1775.7 / 1867.9-1870.7 (2 x 6 MHz)	
Optimus	AUG 98	NOV 2012	898.1-905.9 / 943.1-950.9 MHz (2 x 7.8 MHz) 1775.7-1781.7 / 1870.7-1876.7 MHz (2 x 6 MHz)	
Average			2 x 13.9	
Analogue			None	

Frequency Band	Other existing use in the GSM bands	License duration, Trends, When will band be available?
880 – 915 MHz	CT1-Cordless telephones from 914-915 MHz	To be phased out by 2008.12.31
925 – 960 MHz	CT1-Cordless telephones from 959-960MHz	To be phased out by 2008.12.31
1710 – 1785 MHz	-----	
1805 – 1880 MHz	-----	

^(*) 2nd quarter 2005

Romania, June 2007

GSM 900/1800 Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
16 985 000	2x10 MHz		2 x 25 MHz	2 x 37.5 MHz	78.7 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
Vodafone Romania	MAR 97	2011	890.0-902.5/935.0-947.5 MHz (2 x 12.5 MHz) 1735.1-1747.5/ 1830.1-1842.5 MHz (2 x 12.4 MHz)		
Orange Romania	JUN 97	2011	902.5-915.0/947.5-960.0 MHz (2 x 12.5 MHz) 1722.7-1735.1 / 1817.7-1830.1 MHz (2x 12.4 MHz)		
Cosmote RMT	APR 00	2009	880-890 / 925-935 MHz (2x 10 MHz) 1710.0 – 1722.7 / 1805.0 – 1817.7 MHz (2x 12.7 MHz)		
Average			2 x 24.2 MHz		
Analogue Telemobil CDMA 450	JULY 03	2012	None 453.000-457.475 / 463.000-467.475 MHz (2 x 4.475 MHz)		

Frequency Band	Other existing use in the GSM bands	License duration, Trends, When will band be available?
1747.5-1785 MHz 1842.5-1880 MHz	Military use	Shared band civil/military

Russian Federation, September 2002

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
12500000	2 x 1.6 MHz	2 x 25 MHz	2 x 75 MHz	8.5 %
Operator	Service start	License expiry	Frequencies	No. of subscribes
Mobile TeleSystems	1994	2007	GSM 900: From 2 x 4.8 up to 2 x 11,4 MHz per operator (non-consecutive channels shared with ARNS) depending on EMC conditions and market demand within licensing area GSM 1800: From 2 x 8 up to 2 x 20.0 MHz per operator (non-consecutive channels shared with FS) depending on local EMC conditions and market demand within licensing area	4 685 000
VympelCom	1997	2007	GSM 900: From 2 x 4.8 up to 2 x 10,0 MHz per operator (non-consecutive channels shared with ARNS) depending on EMC conditions and market demand within licensing area GSM 1800: From 2 x 8 up to 2 x 20.0 MHz per operator (non-consecutive channels shared with FS) depending on local EMC conditions and market demand within licensing area	3 630 000
MegaFon	1997	2011	GSM 900: From 2 x 3.0 up to 2 x 12,0 MHz per operator (non-consecutive channels shared with ARNS) depending on EMC conditions and market demand within licensing area GSM 1800: From 2 x 8 up to 2 x 20.0 MHz per operator (non-consecutive channels shared with FS) depending on local EMC conditions and market demand within licensing area	1 880 000
Regional operators	duration 10 years from licence issue		GSM 900: From 2 x 4.0 up to 2 x 10,0 MHz per operator (non-consecutive channels shared with ARNS) depending on EMC conditions and market demand within licensing area GSM 1800: From 2 x 8 up to 2 x 18 MHz per operator (non-consecutive channels shared with FS) depending on local EMC conditions and market demand within licensing area	2 305 000
Average			GSM900 - 2 x 7.6 MHz GSM1800 – 2 x 9 MHz	
Analogue:			none	

Frequency Band	Other existing use in the GSM bands	License duration, Trends, When will band be available?
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880-890/925-935	Aeronautical Radio Navigation Service	till the end of lifetime, regional reassignment in order to release GSM channels
890-915/935-960	Aeronautical Radio Navigation Service	till the end of lifetime, regional reassignment in order to release GSM channels
1710-1785/1805-1880	Fixed Service	till the end of lifetime, no new assignments

Slovak Republic, June 2007

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
3 772 096					99.4%
Operator	Service start	License expiry	Frequencies		No. of Subscribers
T-Mobile Slovensko, a.s.	10.02.1997	30.08.2011	GSM - 900 896,2/941,2 – 902,0/947,0 MHz 905,2/950,2 – 908,0/953,0 MHz 909,4/954,4 MHz 910,4/955,4 – 910,8/955,8 MHz 911,8/956,8; 912,0/957,0 MHz GSM – 1800 1726,6/1821,6 – 1733,8/1828,8 MHz 1747,2/1842,2 – 1747,8/1842,8 MHz GSM – 1800 (after 01.04.2001) 1725,2/1820,2 – 1726,4/1821,4 MHz 1734,0/1829,0 – 1738,4/1833,4 MHz 1746,2/1841,2 – 1747,0/1842,0 MHz		2 056 035
ORANGE Slovensko, a.s.	15.01.1997	30.08.2011	GSM – 900 890,2/935,2 – 896,0/941,0 MHz 902,2/947,2 – 905,0/950,0 MHz 909,0/954,0; 909,2/954,2 MHz 912,2/957,2 MHz 913,2/958,2 – 913,6/958,6 MHz GSM 1800 1717,4/1812,4 – 1723,4/1818,4 MHz 1748,0/1843,0 – 1749,8/1844,8 MHz GSM 1800 (after 01.04.2001) 1716,4/1811,4 – 1717,2/1812,2 MHz 1723,6/1818,6 – 1724,0/1819,0 MHz 1738,6/1833,6 – 1743,8/1838,8 MHz		1 316 061
Telefónica O2 Slovakia s.r.o.	7.09.2006	07.09.2026	GSM – 900 908,2/953,2 – 908,8/953,8 MHz 909,6/954,6 – 910,2/955,2 MHz 911,0/956,0 – 911,6/956,6 MHz 912,4/957,4 – 913,0/958,0 MHz 883,0/928,0 – 889,8/934,8 MHz GSM – 1800 1750,4/1845,4 – 1765,4/1860,4 MHz		400 000
Average			2 x 20.8 MHz		

Slovenia, January 2001

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
1 155 236	0		2 x 24.4 MHz	3 x 30 MHz	57.8 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
Mobitel	OCT 96	APR13	902.6-914.8 / 947.6-959.8 MHz (2 x 12.2 MHz)	1 003 236	
Simobil	APR 99	OCT13	890.0-902.4 / 935.0-947.4 MHz (2 x 12.2 MHz)	152 000	
Average			2 x 12.2 MHz		
Western Wireless		JAN16	1710.1-1725.1/1805.1-1820.1 MHz (2 x 15 MHz)		
Mobitel		JAN16	1740.1-1755.1/1835.1-1850.1 MHz (2 x 15 MHz)		
Simobil		JAN16	1725.1-1740.1/1820.1-1835.1 MHz (2 x 15 MHz)		
Average			2 x 15 MHz		
Analogue	Mobitel	JUL91	411.675-415.850/421.675-425.850 MHz (2x4.175 MHz)	41.212	

Spain, update January 2008

GSM (*) Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
48.403.211	2 x 10 MHz		2 x 24 MHz	2 x 75 MHz	107.1 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
Vodafone	OCT 95 JUL 98	FEB 20 JUL 23	902.9-914.9 / 947.9-959.9 MHz (2x12 MHz) 1735.1-1759.9 / 1830.1-1854.9 MHz (2x24.8 MHz)	14.773.572	
Teléfono Móviles	JUL 95 JUL 98 JUL 05	FEB 10 JUL 23 JUL 20	890.1-898.1 / 935.1-943.1 MHz and 898.7-902.7 / 943.7-947.7 MHz (2x12 MHz) 1710.1-1734.9 / 1805.1-1829.9 MHz (2x24.8 MHz) 886,1-890,1 / 931,1-935,1 (2 x 4 MHz)	21 813.128	
Orange	JUL 98 JUL 05	JUL-23 JUL 20	1760.1-1784.9 / 1855.1-1879.9 MHz (2x24.8 MHz) 880,1-886,1 / 925,1-931,1 (2 x 6 MHz)	10.908.968	

(*) Total number of subscribers (lines), including Xfera Móviles and MVNO operators.

Sweden, April 2007

Mobile Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM+3G Penetration 30/6 -06
9 222 000	2 x 5 MHz	2 x 24 MHz	2 x 71 MHz	101 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers
TeliaSonera	NOV 92	10-12-31 10-12-31	936.9-944.1 / 891.9-899.1 MHz and 1816.5-1834.9 / 1721.5-1739.9 MHz and 1853.3-1857.9 / 1758.3-1762.3 MHz (2x 30.2 MHz)	Not official
Tele2	SEP 92	10-12-31 10-12-31	944.3-951.5 / 899.3-906.5 MHz and 1810.1-1813.1 / 1718.3-1721.3 MHz 1835.1-1853.1 / 1740.1-1758.1 MHz (2x28.2 MHz)	Not official
Telenor	SEP 92 (Europolitan)	10-12-31 10-12-31	951.7-958.9 / 906.7-913.9 MHz and 1813.3-1816.3 / 1718.3-1721.3 MHz 1862.5-1877.9 / 1767.5-1782.9 MHz (2x25.6 MHz)	Not official
SweFour, Springmobil	MAY 04	17-06-31	929.9-936.7 / 884.9-891.7 MHz (2x6.8 MHz) 1806.9-1809.9 / 1711.9-1714.9 MHz (2x9.8 MHz)	Not official
Average			2 x 23.5 MHz	
MCP	2003	10-12-31	1805,1-1806,7 / 1710,1-1711,6 MHz (shared) GSM On Board Vessels - GSMOBV	--
Satpoint	2005	10-12-31	1805,1-1806,7 / 1710,1-1711,6 MHz (shared) GSMOBV	--
Seanet	2006	10-12-31	1805,1-1806,7 / 1710,1-1711,6 MHz (shared) GSMOBV	--
NMT450 TeliaSonera	DEC 82	07-12-31	464.8-467.5 / 454.8-457.5 MHz until 2007-12-31	Not official
Nordisk Mobiltelefon CDMA450	--	20-03-04	453,0-457,5 / 463-467,5 MHz 2x1,8 MHz	--

Frequency Band	Other existing use in the GSM bands	License duration, Trends, When will band be available?
925-935 / 880-890 MHz	Research	Geographical restrictions to protect EISCAT receiver.
1718.8-1722.2 MHz	Radio astronomy	No changes foreseen.
1878-1880 / 1783 -1785 MHz	Test system, manufacturers and R&D.	

Switzerland, March 2007

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
7'562'000	2 x 9.6 MHz		2 x 24.2 MHz	2 x 72.6 MHz	106 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
Swisscom Mobile	MAR 93	31 MAY 2008	890.1-902.3 / 935.1-947.3 MHz 907.5-908.9 / 952.5-953.9 MHz 1736.5-1751.7 / 1831.5-1846.7 MHz (2x28.8 MHz)	4'707'000	
TDC Switzerland	DEC 98	31 MAY 2008	883.5-889.9 / 928.5-934.9 902.5-907.3 / 947.5-952.3 MHz 909.1-914.9 / 954.1-959.9 MHz 1751.9-1760.3 / 1846.9-1855,3 MHz 1763.9-1766.9 / 1858.9-1861.9 MHz 1781.9-1784.1 / 1876.9-1879.1 MHz (2x30.6 MHz)	1'402'000	
ORANGE Communications	JUN 99	31 MAY 2008	880.1-883.3 / 925.1-928.3 MHz 1710.1-1736.3 / 1805.1-1831.3 MHz 1760.5-1763.7 / 1855.5-1858.7 MHz (2x32.6 MHz)	1'416'000	
Tele2	FEB 04	31 DEC 2013	1767.1-1775.7 / 1862.1-1870.7 (2x8.6 MHz)	37'000	
In&Phone	FEB 04	31 DEC 2013	1775.9-1781.7 / 1870.9-1876.7 (2x5.8 MHz)	n.a.	
Average			2 x 21.3 MHz		

The Netherlands, December 2005

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
14.8 million	2 x 10.0 MHz		2 x 23.8 MHz	2 x 72.0 MHz	92.5 %
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
Vodafone	SEPT 95	MAR 2010 FEB 2013	894.1-903.1 / 939.1-948.1 MHz and 911.5-913.9 / 956.5-958.9 MHz and 1710.1-1712.7 / 1805.1-1807.7 MHz and 1775.1-1777.7 / 1870.1-1872.7 MHz (2x16.6 MHz)	3.5 million	
KPN Mobile	JUL 94	MAR 2010 FEB 2013	890.1-894.1/935.1-939.1 MHz and 903.1-911.5/948.1-956.5 MHz and 1712.7-1715.1/1807.7-1810.1 MHz and 1720.1-1722.7/1815.1-1817.7 MHz and 1725.1-1730.1/1820.1-1825.1 MHz and 1735.1-1737.7/1830.1-1832.7 MHz and 1770.1-1775.1/1865.1-1870.1 MHz (2 x 30 MHz)	5.8 million	
Orange	JAN 99	FEB 2013	880.1-880.9/925.1-925.9 MHz and 882.3-886.5/927.3-931.5 MHz and 1740.1-1755.1/1835.1-1850.1 MHz (2x20 MHz)	1.5 million	
Telfort	OCT 98	FEB 2013	880.9-882.3/925.9-927.3 MHz and 886.5-890.1/931.5-935.1 MHz and 1755.1-1770.1/1850.1-1865.1 MHz and 1717.7-1720.1/1812.7-1815.1 MHz (2x 22.4 MHz)	1.7 million	
T-Mobile	FEB 99	FEB 2013	1715.1-1717.7/1810.1-1812.7 MHz and 1730.1-1732.7/1825.1-1827.7 MHz and 1722.7-1725.1/1817.7-1820.1 MHz and 1732.7-1735.1/1827.7-1830.1 MHz and 1737.7-1740.1/1832.7-1835.1 MHz and 1777.7-1782.1/1872.7-1877.1 MHz (2x16.8 MHz)	2.3 million	
Average			2 x 21MHz		
Analogue:			None		

The bands 914-915 MHz and 959-960 MHz are not used for cellular mobile due to the CT1 application.

Turkey, March 2004

GSM Subscribers	Total E-GSM		Total GSM-900	Total GSM-1800	GSM Penetration
Operator	Service start	License expiry	Frequencies	No. of Subscribers	
TELSIM	1998	2023	894.200-896.000/939.200-941.000 MHz 898.000-905.800/943.000-950.800 MHz	7 255 452	
TURKCELL	1998	2023	892.000-893.800/937.000-938.800 MHz 906.200-914.000/951.200-959.000 MHz	17 058 282	
ARIA	2000	2025	1710.200-1725.000/1805.200-1820.000 MHz 896.400-897.700/941.400-942.700 MHz	2 007 062	
AYCELL	2001	2026	1725.400-1740.200/1820.400-1835.200 MHz 890.100-891.400/935.100-936.400 MHz	1 566 739	
Average			2 x 52.6 MHz	27 887 535	

Ukraine, January 2001

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
210 000	0	2 x 16.4 MHz	2 x 6.4 MHz	0.5%
Operator	Service start	License expiry	Frequencies	No. of Subscribers
Golden Telecom	MAR 97		(2 x 6.4 MHz)	26 000
Ukrainian Mobile Communication	SEPT 97		(2 x 5.6 MHz)	116 000
Kyivstar	DEC 97		(2 x 5.4 MHz)	54 000
Ukrainian Radio Systems (WellComm)	OCT 98		(2 x 5.4 MHz)	14 000
Average			2 x 5.7 MHz	
Digital AMPS: Dig Cellular Com	OCT 96		(2 x 3.75 MHz)	36 000

United Kingdom, December 2006

GSM Subscribers	Total E-GSM	Total GSM-900	Total GSM-1800	GSM Penetration
52,993,770	2*10 MHz	2*24.8	2 x 71.6 MHz	89%
Operator	Service start	License expiry	Frequencies	No. of Subscribers
02(UK) Limited	JAN 94	No expiry date	885.1-890.1 / 930.1-935.1 MHz 894.7-902.1 / 939.7 - 947.1 MHz 909.9-914.9 / 954.9 -959.9 MHz 1710.1-1715.9/1805.1-1810.9 MHz (2x23.2 MHz)	17,793,229
T-Mobile (UK) Limited	SEP 93	No expiry date	1721.7-1751.7/1816.7-1846.7 MHz (2 x 30 MHz)	16,406,880
Orange Personal Communication Services Ltd	APR 94	No expiry date	1751.7-1781.7/1846.7-1876.7 MHz (2 x 30 MHz)	14,411,136
Vodafone Limited	JUL 92	No expiry date	880.1-885.1 / 925.1-930.1 MHz 890.1-894.7 / 935.1-939.7 MHz 902.1-909.9 / 947.1-954.9 MHz 1715.9-1721.7/1810.9-1816.7 MHz (2x23.2 MHz)	13,225,303
Average			2 x 26.6MHz	
Analogue:			Services ceased	

Frequency Band	Other existing use in the GSM bands	License duration, Trends, When will band be available?
888 – 889 MHz	Low Power Devices	31 December 2003

