GRAPHITI

VHF AND UHF FREQUENCY ALLOCATIONS (30 MHz to 3 GHz)

You can say something about the main graphic and why this segment of the spectrum is interesting. You can say something about the main graphic. You can say something about the main graphic and why this segment of the spectrum is interesting. You can say something about the main graphic.

AUCTION VALUE OF SPECTRUM

You can say something about the graphic and why this segment. You can say something about the graphic and why this segment. You can say something about the graphic and why this segment.

$19.0 BILLION

700 MHz BAND

"700" Band Auction

$124 MILLION

1.4 GHz

Name Here

$13.8 BILLION

1.X & 2.Y GHz

Advanced Wireless Services

ALLOCATED USES

FREQUENCY (MHz)

30 54 88 108 138 174 216 225 406 470 512 608 698 806 902 928 960 1240 1300 1400 1525 1710 1850 1990 2110 2200 2300 2360 2390 2500 2686 2900 3000

Broadcasting
- Amatuer
- Television
- Radio

TV channels 2-4 | TV 5-6 | FM radio | TV 7-13 | TV 14-36 | Unlicensed

Communication
- Fixed *(Point-to-point/multi-point)*
- Mobile *(tktktk tktktkt tktktk)*
- Land mobile *(public safety)*

SMS[2] | 4G[4] | AWS-2[8] | AWS-1[6] | PCS[7] | Cellular and two-way radio | Mobile broadband[9] | ISM[10]

Science, Navigation, Land & Sea
- Science/meteorological
- Radiolocation/navigation
- Aeronautical
- Maritime

Air Traffic Control[1] | GPS[3] | GPS[5]

OWNERSHIP

- GOVERNMENT
- SHARED
- PRIVATE

FREQUENCY BAND OCCUPANCY RATES

You can say something about the graphic and why this segment of the spectrum is interesting. You can say something about the main graphic. You can say something about the main graphic and why this segment of thespectrum is interesting. You can say something about the main graphic.

15% 12% 4% 14% 95% 3% 12% 20% 80% 7% 63% 14% 4% 54% 3% 45% 31% 11% 14% 17%

ALL U.S. FREQUENCY ALLOCATIONS

3 kHz **Very Low Frequency (VLF)** 30 kHz **Low Frequency (LF)** 300 kHz **Medium? Frequency (MF)** 3 MHz **High Frequency (HF)** 30 MHz **Very High Frequency (VHF)** 300 MHz **Ultra High Frequency (UHF)** 3 GHz **Super? High Frequency (SHF)** 30 GHz **Extra? High Frequency (EHF)** 300 GHz

Broadcasting

Communication

Science, Navigation, Land & Sea

Ground Wave Emergency Network (Nuclear War) 150 kHz-175 kHz

AM radio 535 kHz-1.7 MHz

Short wave radio 5.9 MHz-26.1 MHz

CB radio (27 MHz)

Police/Construction comapnies(30-50MHz)

Digital mobile phones (X.X GHz)

Wi-Fi, BlueTooth (2.4 GHz)

Microwave ovens (2.45GHz)

Iridium Satellite (18.8-20.2 GHz)

Radio Band Width Visualized

WEALTHY COUNTRIES RACE TO GET TO MORE PEOPLE, WHILE THE REST

The U.S. Federal Communications Commission recently announced a 10-year plan to improve and expand the country's broadband infrastructure (see "Broadband Plan Review," p. tk). The initiative is largely in response to data showing that the United States is lagging behind other developed nations like Korea, Japan, and the Scandinavian countries, which—as the graph at right reveals—have significantly faster connections and higher rates of broadband penetration. Korea is the global pacesetter, with the latest data from Internet connection testing firm Ookla showing a blisteringly fast average download speed of over 30 megabits per second—three times as fast as typical speeds in the United States. While some critics question whether it's useful to compare the performance of small, dense countries like Japan and Korea with a larger, more heterogeneous population spread out over a larger area like the U.S. (or China for that matter), by almost any measure the richest, most powerful country in the world is in the middle of the pack in broadband—and is now prepared to spend billions to improve its position.

– Matt Mahoney

Information graphic by
TOMMY McCALL
and MATT MAHONEY

*Note: 1121.5 MHz: Air Traffic Control, 2901-902, 930-931.940-941 MHz SMS, 929-930 MHz Paging, 31227.6 MHz:GPS,41390*1395 MHZ, 1432-1435 MHz: 4G and/or Smart Grid applications, 51575.42 MHz: GPS, 61710-1755 MHz: AWS-1, 7PCS Mobile Phone Bands, 82100-2155 MHz: AWS -2, 92305-2320 MHz, 2345-2360 Mobile Broadband, 101ndustrial, Scientific, and Medical (ISM) but also unlicensed devices such as microwaves, cordless phones, and Bluetooth*