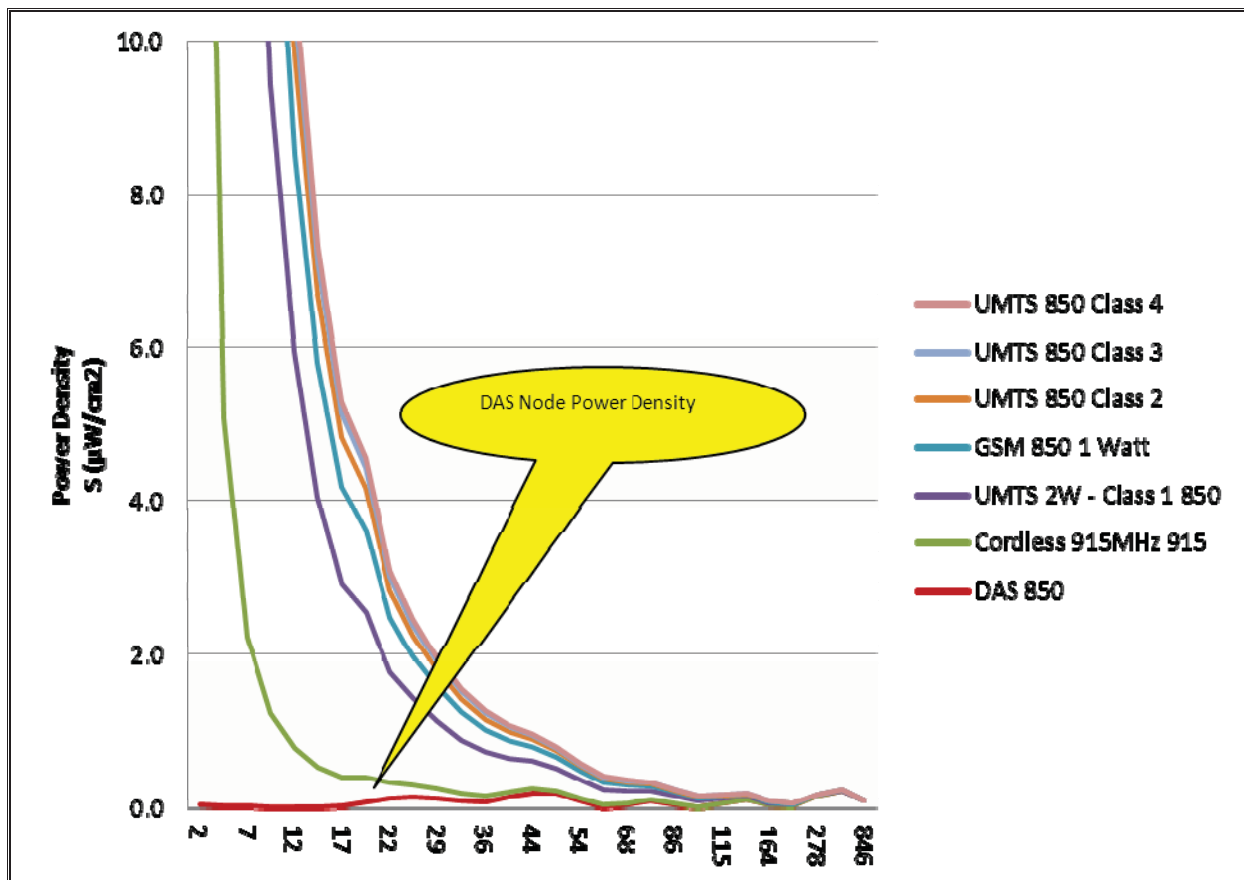


Excerpt from the report titled “RF Radiation Comparison between a Typical DAS Node and Typical Household Appliances” dated February 6, 2012.

## 5. Power Density Comparison between a DAS Node and Typical Household Electronics

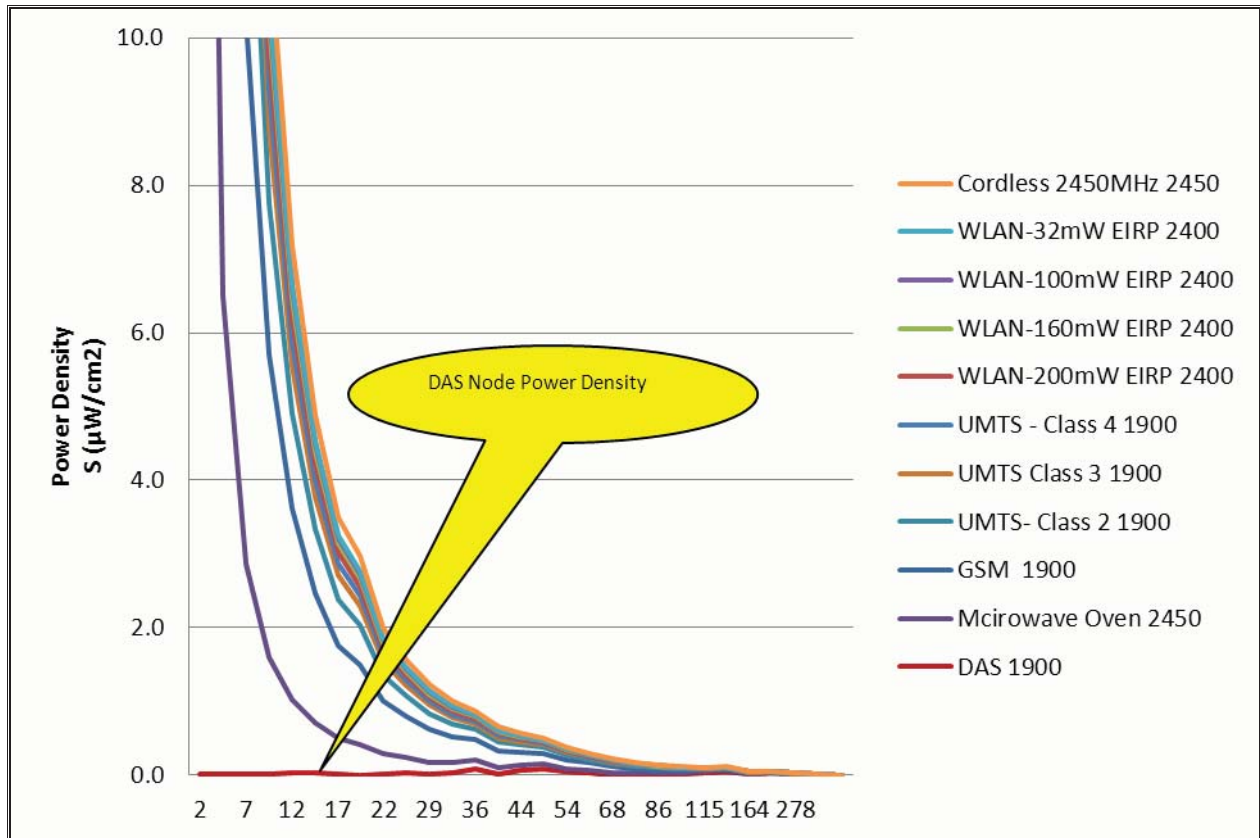
DAS node and typical household electronics emitting RF energy operate in two distant frequency bands, 300-1500 MHz and 1500-100000 MHz<sup>1</sup>. The power density comparison between each of the household devices and the DAS node is shown in Exhibits 5.1 and 5.2

Exhibit 5.1 Power Density Comparison between DAS Node and Other Home Appliances Operating in Band 4 as a Function of Distance



<sup>1</sup> - Refer to Exhibit 2.2 for specific frequencies within each band.#

**Exhibit 5.2 Power Density Comparison between DAS Node and Other Home Appliances Operating in Band 5 as a Function of Distance**



As can be seen from Exhibits 5.1 & 5.2, in comparison with other household appliances that emit RF waves, DAS node has substantially lower power density than that of typical household appliances.

#### Exhibit 4.2.1 - Typical Cell Phone Type and RF Output Power

Cell Phone Type	Power	dBm level
Max. output from a GSM, UMTS/3G cell phone (Power class 1 mobiles)	2 W	33 dBm
Max. output power from GSM 1900 MHz cell phone	1 W	30 dBm
Max. output from a UMTS/3G cell phone (Power class 2 mobiles)	500 mW	27 dBm
Max. output from a UMTS/3G cell phone (Power class 3 mobiles)	250 mW	24 dBm
Max. output from a UMTS/3G cell phone (Power class 4 mobiles)	125 mW	21 dBm

Using the power density calculations referenced in Section 3, the power density for each handset is found in Exhibits 4.2.2 to 4.2.7.##

A wireless local area network (WLAN) links two or more devices using some wireless distribution method (typically spread-spectrum or OFDM radio), and usually provides a connection through an access point to the wider internet.

Exhibit 4.3.1 provides the listing of the maximum output power for WLAN typically used in households in the US.

#### Exhibit 4.3.1 - Typical WLAN Output RF Power

Household Wireless Electronics	Power	dBm Level
EIRP for IEEE 802.11n Wireless LAN 40MHz-wide (5mW per MHz) channels in 5GHz sub-band 4 (5735-5835 MHz).	200 mW	23 dBm
	160 mW	22 dBm
EIRP for IEEE 802.11b/g Wireless LAN 20 MHz-wide channels in the 2.4 GHz ISM band (5mW per MHz)	100 mW	20 dBm
Typical Wireless LAN transmission power in laptops.	32.0 mW	15 dBm
	10.0 mW	10 dBm
	4.0 mW	6 dBm
	3.2 mW	5 dBm