5G ECOSYSTEM REPORT MEMBER REPORT

DECEMBER 2020

GSA

5G Devices List Member Report

December 2020

Executive Summary

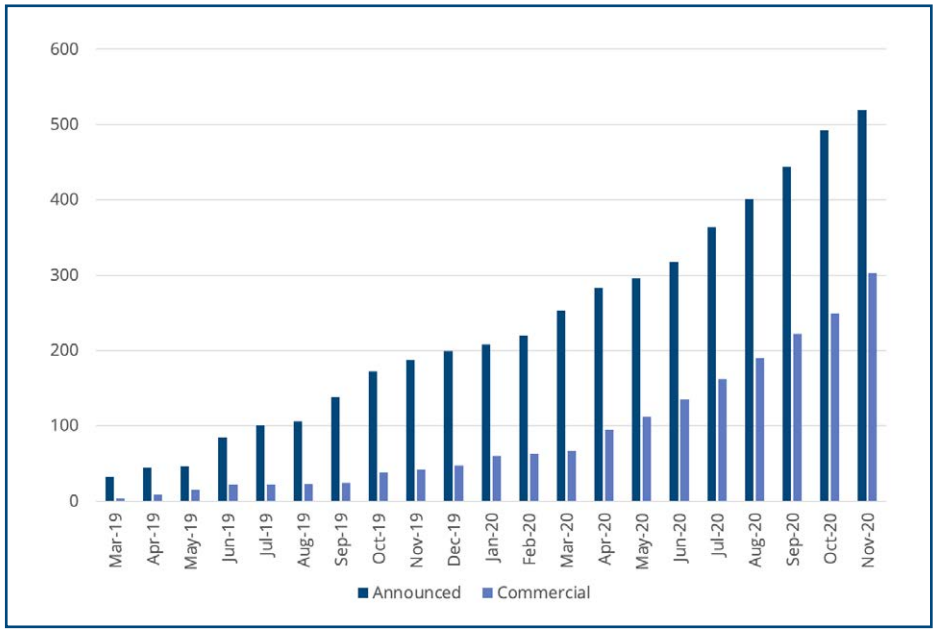
Key facts

The number of announced 5G devices has surpassed 500 for the first time, accompanied by rapid increase in the number of commercially available 5G devices. By the end of November 2020, 519 5G devices had been announced, of which 303 were understood to be commercially available. The number of commercially available 5G devices has exceeded 300 for the first time, representing more than 58% of all announced 5G devices. In the last three months, the number of announced 5G devices has grown by 29.4%, while there has been a 59.5% increase in the number of commercially available 5G devices over the same period.

By end-November 2020, GSA had identified:

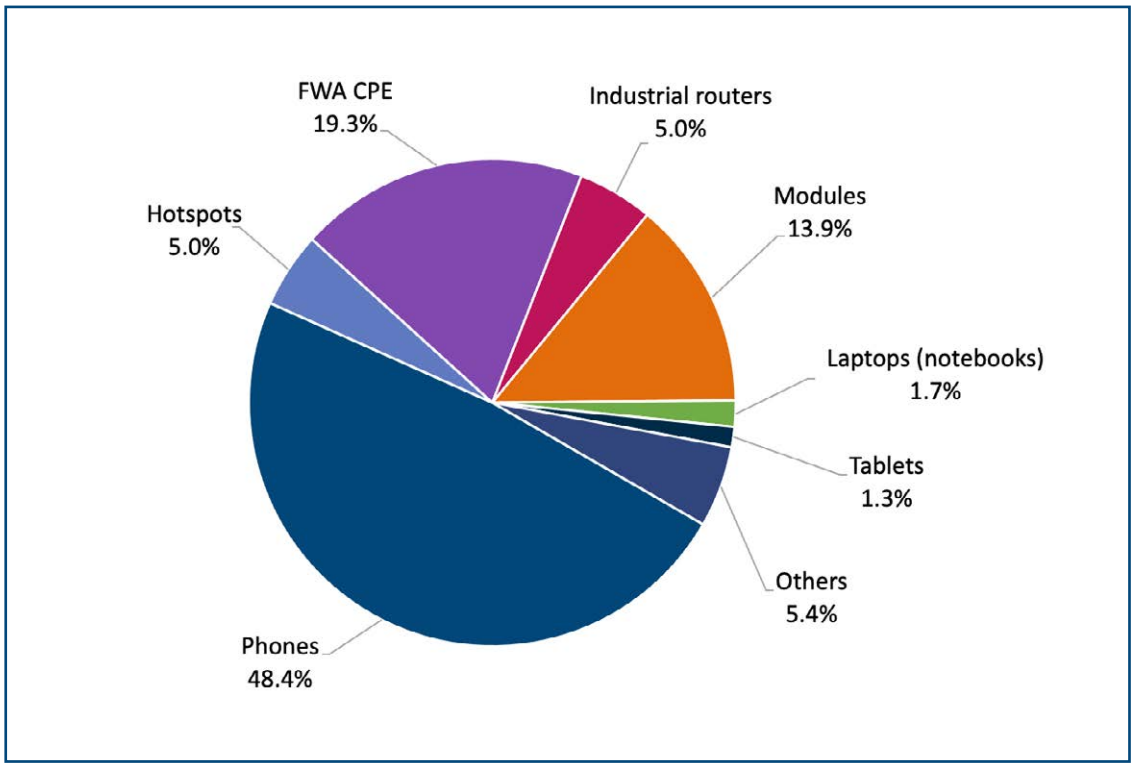
- twenty announced form factors (phones, head-mounted displays, hotspots, indoor CPE, outdoor CPE, laptops/notebooks, modules, snap-on dongles/adapters, industrial grade CPE/routers/gateways/modems, in-vehicle routers/modems/hotspots, drones, robots, tablets, TVs, cameras, USB modems, a switch, a vehicle OBU, a vending machine and an encoder).
- one hundred and four vendors who had announced available or forthcoming 5G devices.
- five hundred and nineteen announced devices (including regional variants, and phones that can be upgraded using a separate adapter, but excluding operator-branded devices that are essentially rebadged versions of other phones), including 303 that are understood to be commercially available:
  - two hundred and fifty-one phones (up 10 from October), at least 205 of which are now commercially available (up 36 in a month). Includes three phones that are upgraded to offer 5G using an adapter.
  - one hundred FWA CPE devices (indoor and outdoor, including two Verizon-spec compliant devices not meeting 3GPP 5G standards), at least 34 of which are commercially available. These numbers have been restated this month with fixed wireless industrial/enterprise gateway devices (generally designed for IoT or private network applications rather than public broadband services) now excluded from the count.
  - seventy-two modules, at least 23 of which are commercially available.
  - twenty-six industrial/enterprise routers/gateway/modem, at least 14 of which are commercially available.
  - twenty-six hotspots (including regional variants), at least 16 of which are commercially available.
  - nine laptops (notebooks), at least one of which is commercially available.
  - seven tablets, at least five of which are commercially available.
  - twenty-eight other devices (including drones, head-mounted displays, including in-vehicle routers/modems/hotspots, robots, snap-on dongles/adapters, a switch, TVs, USB terminals/dongles/modems, cameras, a vehicle OBU, a vending machine and an encoder).

Figure 1: Growth of announced 5G devices (announced and commercially available)



Not all devices are available immediately and specification details remain limited for some devices.

Figure 2: Announced 5G devices, by form factor

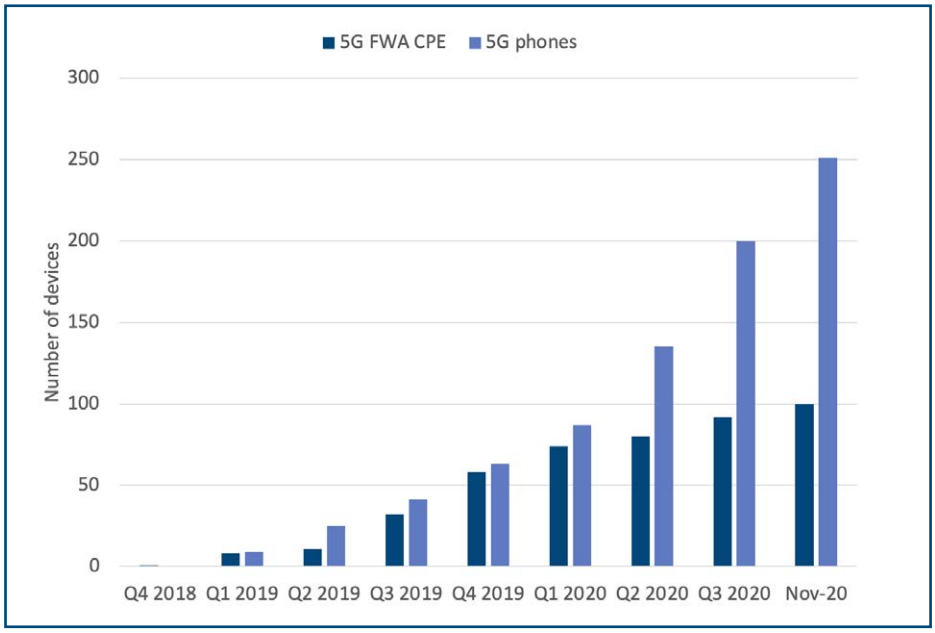


Growth of 5G phones and FWA CPE

Phones and indoor/outdoor FWA CPE continue to be the most prevalent 5G devices. The number of announced devices in each of these categories has grown strongly throughout 2020. In particular, the number of announced phones has risen rapidly, increasing by 25% since the end of September.

Thirty-four vendors have now produced or announced plans to produce 5G phones. Meanwhile, 55 vendors have now produced or announced plans to launch their own indoor or outdoor 5G FWA CPE devices.

Figure 3: Number of announced 5G phones and 5G FWA CPE devices



Spectrum band support of 5G devices

Availability of information about spectrum support is improving as a greater number of devices become commercially available. GSA has identified some spectrum support information for over 84% of all announced devices: 80.3% of all announced 5G devices are identified as supporting sub-6 GHz spectrum bands, while 19.7% are understood to support mmWave spectrum and 15.6% of all announced devices are known to support both mmWave and sub-6 GHz spectrum bands.

Figure 4: Announced devices with known spectrum support, by broad category (data not available for all devices)

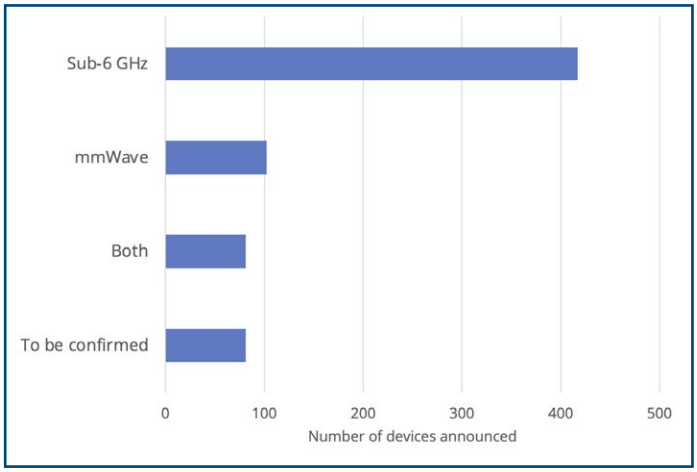
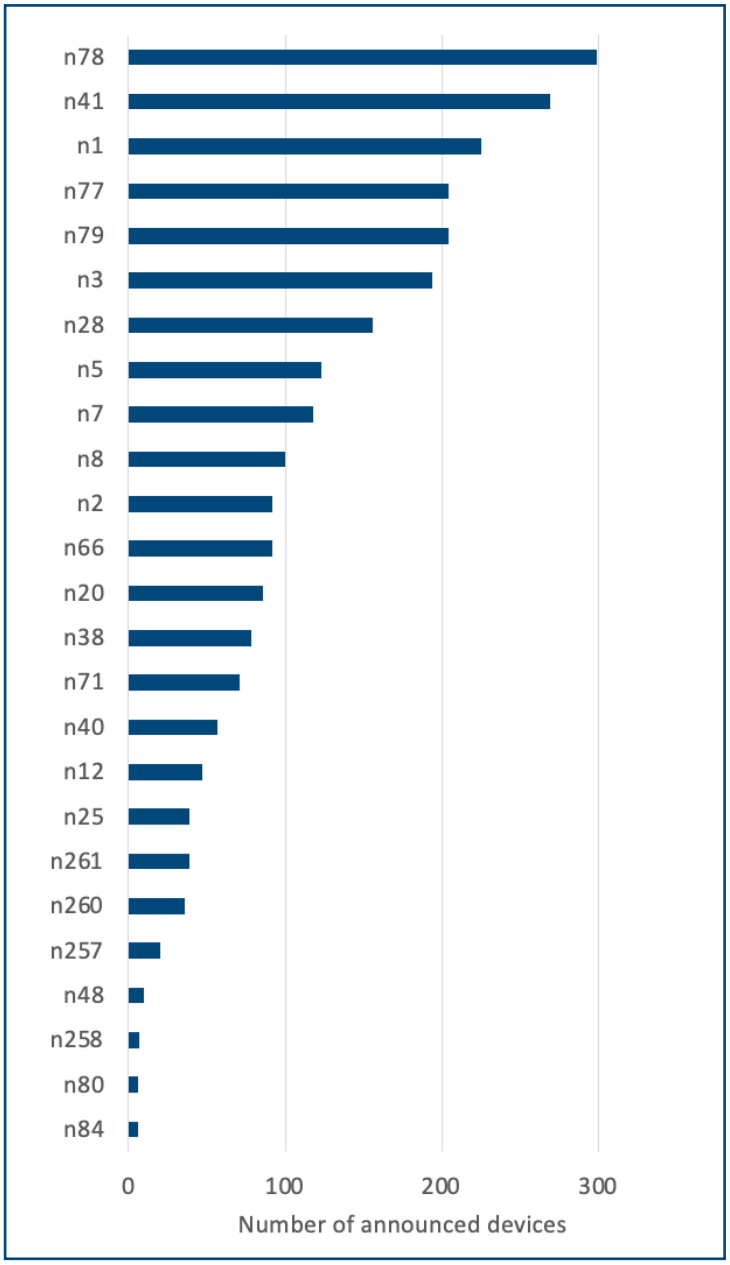


Figure 5: Announced devices with known spectrum support, by broad category (data not available for all devices)



Fifty-four of the commercially available devices (17.8%) are understood to support services operating in mmWave spectrum, but 91.1% of the commercially available devices are known to support sub-6 GHz spectrum.

The bands known to be most supported by all announced 5G devices are n78, n41 and n1; the number of announced devices with support for these bands has risen to 299, 269 and 225 devices respectively. The number of announced devices known to support Bands n77 and n79 have also now passed the 200 mark for the first time, reaching 204 devices each. Meanwhile the numbers of announced devices identified as supporting Bands n3 and n28 are not far behind: there are now 194 announced devices with support for Band n3, and 156 devices with support for Band n28.

We can expect the device ecosystem to continue to grow quickly and for more information about announced devices to become available as they reach the market. Based on vendors' previous statements and recent rates of device release, we might expect to see the number of commercial devices surpassing the 330 mark by the end of Q4 2020. GSA will be tracking and reporting regularly on these 5G device launch announcements. Its GAMBoD database contains key details about device form factors, features and support for spectrum bands. Summary statistics are released in this regular monthly publication.Summary statistics are released in this regular monthly publication.

Full list of 5G Devices can be found in Annex 1, available for Members and Associates.

ABOUT GSA

GSA is the voice of the global mobile ecosystem and has been representing mobile suppliers since 1998.

GSA GAMBoD Database

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