



5G DEVICE ECOSYSTEM
REPORT
EXECUTIVE SUMMARY

JUNE 2020

GSA



Executive Summary

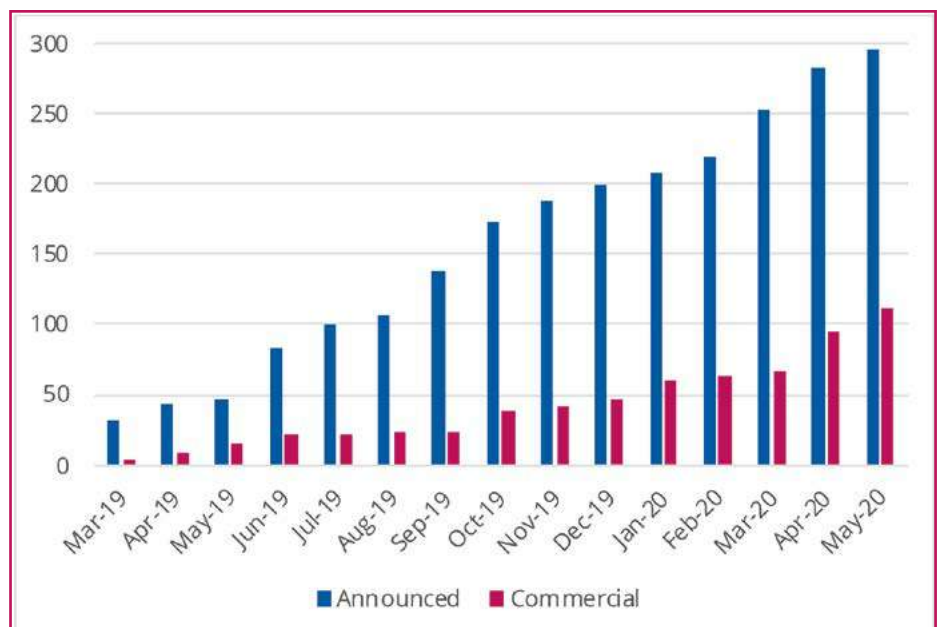
Key facts

The number of announced 5G devices has continued to climb swiftly, accompanied this month by a continued rapid rise in the number of 5G devices that are commercially available. In January 2020, the number of announced 5G devices exceeded 200 for the first time; by end-May 296 devices had been announced, of which at least 112 were commercially available (up from 95 in April). Not all devices are available immediately and specification details remain limited for some devices.

By end May 2020, GSA had identified:

- sixteen announced form factors (phones, head-mounted displays, hotspots, indoor CPE, outdoor CPE, laptops/notebooks, modules, snap-on dongles/adapters, industrial grade CPE/routers/gateways, drones, robots, tablets, TVs, a switch, modems and a vending machine).
- eighty-four vendors who had announced available or forthcoming 5G devices.
- two hundred and ninety-six announced devices (including regional variants, and phones that can be upgraded using a separate adapter, but excluding prototypes not expected to be commercialised and operator-branded devices that are essentially rebadged versions of other phones), including at least 112 that are commercially available:
 - one hundred and nineteen phones, (up 11 from April), at least 77 of which are now commercially available (up 13 in a month). Includes three phones that are upgraded to offer 5G using an adapter.
 - eighty-four CPE devices (indoor, and outdoor, including two Verizon-spec compliant devices not meeting 3GPP 5G standards, and enterprise grade CPE/routers/gateways), at least 16 of which are now believed to be commercially available.
 - forty-seven modules.
 - twenty hotspots (including regional variants), at least ten of which are now commercially available.
 - five laptops (notebooks).

Figure 1: Growth of announced 5G devices (not all commercially available)

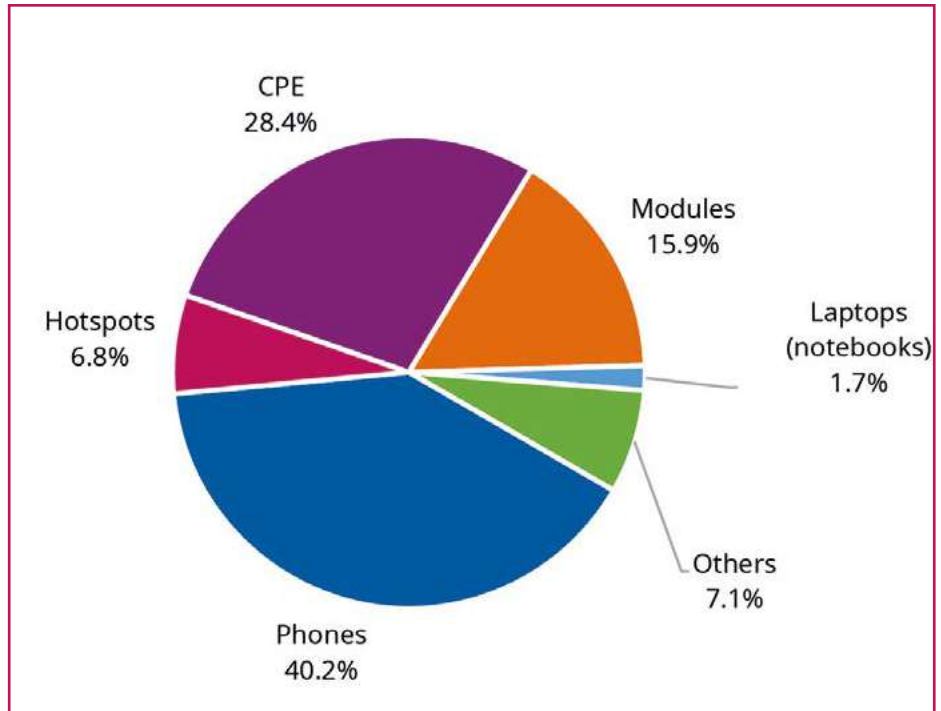


- twenty-one other devices (including drones, head mounted displays, robots, snap-on dongles/adapters, a switch, tablets, TVs, USB terminals/dongles/modems, and a vending machine).

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



Figure 2: Announced 5G devices, by form factor

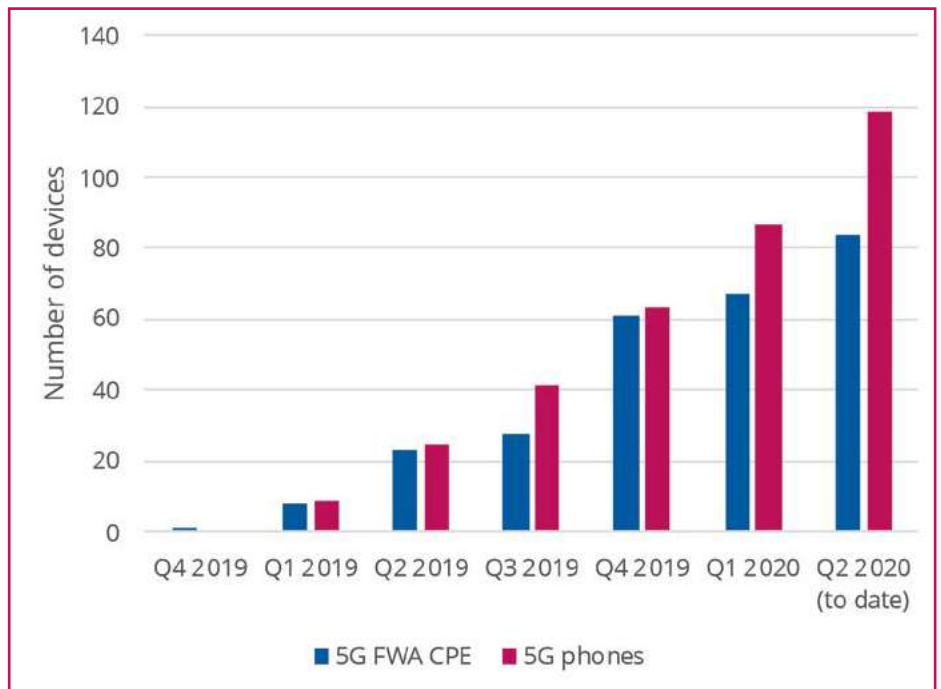


Growth of 5G phones and FWA CPE

The most prevalent 5G devices are phones and FWA CPE. The number of announced devices in each of these categories has grown strongly over the past 18 months.

Twenty-eight vendors have now produced or announced plans to produce 5G phones. Meanwhile 53 vendors have now launched or announced plans to launch their own 5G CPE devices (indoor, outdoor or enterprise grade CPE/routers/gateways).

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





Spectrum band support of 5G devices

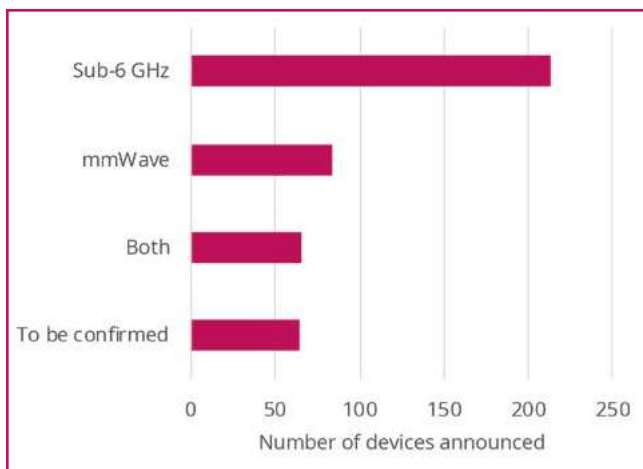
Availability of information about spectrum support is improving as a greater number of devices become commercially available. GSA has identified spectrum support information for just over 78% of all announced devices: 72.0% of all announced 5G devices are identified as supporting sub-6 GHz spectrum bands while 28% are understood to support mmWave spectrum. Just 22.0% of all announced devices are known to support both mmWave and sub-6 GHz spectrum bands.

Only 27 of the commercially available devices (24.1% of them) are known to support services operating in mmWave spectrum, but 85.7% 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, n79 and n77. At the time of writing in May, the number of announced devices known to support band n41 had passed the 100 mark for the first time, reaching 102 devices, while the number of announced devices supporting band n78 had reached 118.

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.

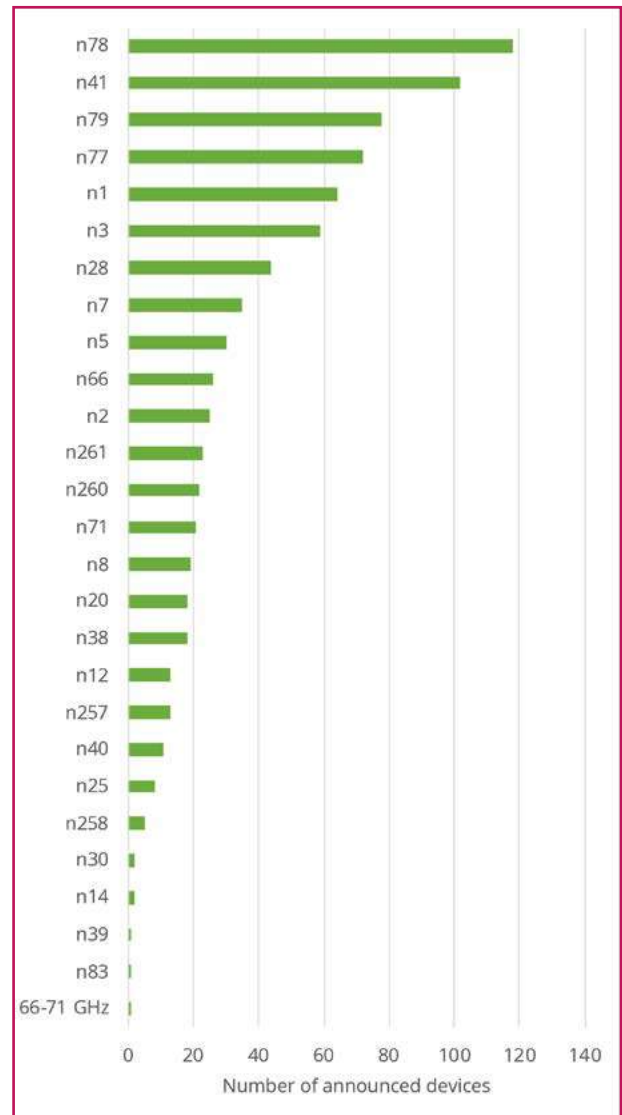
Figure 4: Announced devices with known spectrum support, by specific band (data not available for all devices)



Based on vendors' previous statements, we might see more than 30 additional announced devices become commercially available before the end of June 2020, (although many device launch timetables were announced before COVID-19 had an impact on businesses worldwide, so there is potential for the number of new launches

to be lower than this). 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.

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



A complete list of devices is available for GSA Members and Associates in the full report.

ABOUT GSA

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

GSA GAMBoD Database

Reports are based on data contained in the GSA GAMBoD databases which is a resource available to GSA Members and Associates. Companies and policy makers can subscribe as a GSA Associate to the database to gain insights into the source data behind reports for their own research purposes.

Discounted annual subscription are available to regulators, government agencies and mobile operators.

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