TELECOMS - TAIWAN

NCC allocates more spectrum for Internet of Things

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On April 22 2016 the National Communications Commission (NCC) concluded its review on the spectrum assignment plan regarding uses of low-tier radio frequency equipment and has released further spectrum for the Internet of Things. It is a follow-up to a previous invitation for public consultation – mainly from manufacturers of wearable technology – regarding a possible plan on frequency allocation for the Internet of Things which would support numerous applications, such as smart meters deployed in the smart electric grid, wearable devices, road traffic surveillance and traffic control systems (for further details please see "NCC considers frequency allocation for Internet of Things").

The Internet of Things (or machine-to-machine (M2M)) refers to the data exchange between machines via a network link to each other, and the communication of the information which is customised to automatically make the correct decision. For example, a smart grid is a kind of M2M application to which all power-supply components are connected to form the electricity network. As such, the information is properly analysed in order to achieve the best allocation of power resources to improve efficiency.

The government is aiming for a big push in the next decade to develop applied technology for the Internet of Things in order to meet the challenge of decreasing export in 3G products. In 2015 the Ministry of Economic Affairs commissioned domestic research institutes for 4G and beyond-4G application development projects, which have since been heavily coordinated for various local electronic device manufacturers regarding possible spectrum sharing. The ministry has estimated that by 2018 dynamic spectrum sharing applications will have a global market value of around $7 billion. A series of industry trials have been processed for various uses (eg, smart meter, traffic surveillance and control systems and wearable devices).

However, the NCC has highlighted the importance of potential interference issues in conjunction with the release of frequency allocation for the Internet of Things. In September 2015 the NCC decided that low-power radio frequency devices (eg, wireless mice, keyboards, ear sets, selfie sticks, stylus pens and object locators applying Bluetooth in bands from 2.4 gigahertz (GHz) to 2.4835GHz) will be licence exempt and prior type approval will no longer be required. The NCC has postponed the implementation of liberalisation until it has further confirmation that interference will not be an issue.

Nevertheless, the NCC has confirmed the following increase in spectrum allocation for the Internet of Things.(1)

Equipment	Current allocation	Updated allocation	Increased bandwidth	Equiment examples
60GHz band equipment	• 57GHz to 64GHz	• 57GHz to 66GHz	2GHz	• Wireless high-definition devices • Wireless gigabit devices • Wireless home digital interface devices

				• Virtual reality devices.
Radio microphones and wireless headsets	• 227.1 MHz to 227.4MHz • 229.4MHz to 230MHz • 231MHz to 231.9MHz • 794MHz to 806MHz	• 227.1MHz to 227.4MHz • 229.4 MHz to 230MHz • 231MHz to 231.9MHz • 510MHz to 530MHz • 748MHz to 758MHz • 803MHz to 806MHz • 1,790MHz to 1805MHz	36MHz	• Home-use karaoke • Indoor/outdoor navigators
Wireless information transmission	• 5.25GHz to 5.35GHz • 5.47GHz to 5.725GHz • 5.725GHz to 5.825GHz	• 5.15GHz to 5.25GHz • 5.25GHz to 5.35GHz • 5.47GHz to 5.725GHz • 5.725GHz to 5.85GHz	125MHz	• WiFi
Medical device radio communications services	• 402MHz to 405MHz	• 401MHz to 406MHz	2MHz	• Implantable pacemakers • On-skin blood pressure gauges • Wearable wireless insulin pumps
Short-range radars for cars	Not applicable	• 24.25GHz to 26.65GHz (United States) • 77GHz to 81GHz (European Union)	6.4GHz	• Collision-prevention radars • Autopilot systems

Tank level probing radars	Not applicable	• 77GHz to 81GHz	4GHz	• Oil tank capacity monitoring • Measuring equipment.
Ultra-wideband devices	Not applicable	• 4,224MHz to 4,752MHz • 6,336MHz to 7,920MHz • 7,392MHz to 8,976MHz	3,696MHz	• Home theatre audio and video • Transmission equipment • Ultra-wideband digital cameras

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Endnotes

(1) See www.ncc.gov.tw for further details.