Representing:

Self

Organisation (if applicable):

Licensed Amateur Radio operator / IT engineer

What additional details do you want to keep confidential?:

No

If you want part of your response kept confidential, which parts?:

e-mail address and surname

Ofcom may publish a response summary:

Yes

I confirm that I have read the declaration:

Yes

1. IoT definition, applications and demand:

I can see that the demand for these devices and this technology is going to increase. I can understand the requirement to use wireless technology as the transport layer for such devices.

I wonder if such technology could be allowed within the Ham radio community (experiment and advance the hobby as good engineers?)

2. Spectrum requirements :

As such as I am open to these new technologies and I would really like to get my hands on and use them.
I have some concerns that the band requirements especially 400 MHz and GHz bands for Ham radio may get reduced (again)

3. Network-related issues:

We need to ensure this technology is protected against interference, especially as most devices will be lower powered.
Could the use of encoded squelch (CTCSS) type systems be used to assist?

4. Security and resilience:

I believe the use of clustered networks and access to the public internet as backup should be used as needed. I agree that privacy is key and as such something like SSL is essential? 2 or 3 form factor security should be essential to any backend application.

5. Data privacy:

I would agree that privacy over the air is of importance and as such SSL etc. should be used and in fact mandatory for anyone using RF / radio as a means of transport (public sector)
Consumers (customers) should be made aware that their data is being *transmitted* wirelessly and informed about the security steps in place to protect them.

6. Numbering and addressing:

I think that the IPV6 should be used for all networking to the public internet. There are enough IP addresses in that space to give each grain of sand an IP address so we will not run out. There are plenty of IPV4/6 gateways to allow interaction back to the older ipV4 network.
IPV6 also has its own private (internal) address scheme and I believe this should also be used.
Phone numbers should / could be used for devices which actually use the phone or need a phone number.
I think you have an opportunity to STOP using IPV4 for these future devices. This is a good way to almost force a hand.

7. Devices:

I would hope that any devices given frequency allocation close to other users (especially us poor HAM's) are properly screened and avoid interference to secondary or close used bands. I would hope that the device would be intelligent enough to swap between Wi-Fi and phone / external wireless networks and reduce its power based on reception strength.
If experimentation were allowed of this type of technology could devices be *hand build* or things adapted (in the spirit of the hobby)

8. Digital literacy:

9. Data analysis and exploitation:

Once permission is given to a company, I think an initial 3-6 month period of monitoring data transmissions on the frequency should be conducted. This would allow both the customer and Ofcom to see how the frequency is being used; look into interference, packet drops and retransmissions etc. Also other users of the spectrum could pass feedback.
From a hobbyist point of view, it would be quite interesting to be able to view some of the available data going over these networks using a computer or app.
I am thinking weather faxes, tracking ships (aprs), GPS traffic data etc. How many soft drink have been sold

10. International developments:

Standards should be created and followed to allow interaction between each country and network.

Have consideration of the existing frequencies in other countries and to ensure that foreign devices do not interfere with existing services here in the UK.

11. Ofcom’s role :

I would hope that Ofcom would look to protect the small amount of 400 MHz assigned as a secondary basis to Amateur radio and also the GHz parts.
I think it's a good opportunity to ensure the use of IPV6 as a serious transport protocol for all future devices and networks going forward.
I think allowing Amateur radio operators to use some of this technology within their allocated bands we can help engineer the future of such technology.

12. Additional comments: