Organisation:

David Hall Systems Ltd

Question 1: Do you agree that the spectrum commons class of a technology should be based on its interference characteristics?:

This appears to be an appropriate indicator to use subject to the following comments.

Question 2: Do you think that the ratio of channel bandwidth to the width of the band is a good representation of the use of the frequency domain resource and the interference potential of a technology in this domain?:

It appears to be an appropriate measure of these factors

Question 3: Do you think that the duty cycle is a good representation of the use of the time domain resource and the interference potential of a technology in this domain? Do you agree that the duty cycle should be evaluated at the busy hour?:

The duty cycle appears to be a valid means of determining time domain usage though this may need to be verified by means of a measurement campaign.
Agree that the duty cycle should be evaluated at the busy hour and this appears to be the only means of achieving a valid result.

Question 4: Do you think that the interference coverage plus the density of transmitters give a good representation of the use of the space resource and the interference potential of a technology in this domain?:

Generally this appears to be a valid approach though for propagation characteristics should any account be taken of the location of the transmitter such as in a building and other factors such as building clutter and terrain shielding.

Question 5: Do you agree with our method to calculate the interference coverage area of a transmitter? What is your view on a threshold level of -80 dBm/MHz to determine the interference range? Do you think the threshold level should be expressed as power density (dBm/MHz) or as power (dBm)?:

It appears to be a valid approach and there is valid justification for the threshold value selected. Agree that Power Density (dBm/MHz) would appear to be more technology neutral than use of Power (dBm).

Question 6: Do you agree with using a busy yet realistic scenario to derive the transmitter density of a technology?:

We have some concerns that were there is less dense deployment of devices then the use of a fixed value may have some adverse implications. In particular where there is a lower density of devices could the power density be increased.
The interference indicator is determined during the development phase so could it be subsequently changed if numbers deployed are significantly different.

Question 7: Do you agree with the Interference Indicator being a product of the frequency domain factor, the time domain factor, the interference coverage area and the transmitter density?:

Subject to the above comments this appears to be an appropriate basis for the indicator. However there may need to be a measurement campaign to confirm the validity of this approach.

Question 8: Do you think that three classes of spectrum commons is the right number? What is your view on the proposed boundary values for the three classes?:

Three classes appears to be appropriate for the initial application of this concept and more classes could be introduced later if there is a real need. The selected boundaries appear to be appropriate. Where there are a number of current technologies using a certain frequency band will these devices all be allocated to the same class and how would situation be handled were these are allocated to different classes.

Question 9: Do you agree with our definition of fairness and that all systems should be required to behave in a fair manner?:

The proposal seems to be based on equitable access but does all access have the same value. For a self-managing system can the value or the importance of the different activities be taken into account? The fairness is determined on technical grounds and is this a valid approach.

Question 10: What is your opinion on the effectiveness of blind detection sensing techniques compared to signal specific techniques?:

Given the basis of the concept it appears that signal specific sensing technologies are more appropriate and could result in more efficient spectrum use.

Question 11: Do you agree with the proposed polite rules?:

There is a need to consider if the requirements of paragraphs 8.24 and 8.25 could result in a trend towards a common technology being used and are these requirements consistent with technology neutrality.