

Zigbee 2.4 GHz Repeaters to Extend HAN - Questions for Industry on the Proposition for Government to set up a Framework Agreement

Energy UK Response

3 May 2018

Introduction

Energy UK welcomes the opportunity to respond to the request for views on the proposition for BEIS to set up a framework agreement, based on a specification, for the provision of ZigBee 2.4GHz repeaters.

Energy UK fully recognises the risks to Dual Band Communications Hub (DBCH) and sub-GHz (868MHz) Home Areas Network (HAN) delivery and supports BEIS in considering mitigations and putting in place appropriate actions to ensure appropriate and timely delivery. Energy suppliers want smart metering to be delivered as efficiently and effectively as possible. We continue to see sub-GHz HAN as a key tool to facilitate this objective at this stage of the Programme to support Energy Suppliers' rollout targets. However, we are still unclear on why BEIS is bringing this proposal for consideration at this late stage of the Programme (in respect of DBCH / 868 MHz delivery) – we note that BEIS has made clear this proposal is not a risk mitigation for potential Release 2 / DBCH delays.

Whilst Energy UK is fully supportive of any risk mitigation activities introduced by BEIS, we believe that proceeding with the 2.4GHz HAN repeater proposal as the key risk mitigation is not the right approach and could be counterproductive given the current status of the Programme. We believe the proposal would add significant cost to the Programme and places further risk on sub-GHz delivery¹. The benefits of the proposition are unclear and it is evident that potential for unintended consequences exists. Energy UK would prefer that resources targeted at this proposition are redeployed. Energy UK believes there is more value to be derived by ensuring DCC continues to deliver Release 2.0 and DBCH to plan and quality and that sub-GHz device manufacturers remain incentivised and engaged.

Further detail on the rationale for our position is set out below. This was mostly shared with BEIS at TBDG and its relevant sub-group meetings. This response focuses on the key points and provides high-level observations for further consideration. It is not intended to provide detailed commentary on the draft Outline Technical Specification or views on the Questions and Answers set out in the document; Energy UK's individual members may provide further comments on these aspects.

We would be happy to discuss any of the points made in further detail with BEIS.

General comments

Whilst Energy UK acknowledges that ZigBee 2.4GHz repeaters are a potential HAN extending solution it is important that the following points are considered by BEIS.

- Energy UK is unclear on the overall effect of this proposition on the Smart Metering Implementation Programme Impact Assessment – a cost benefit analysis should be conducted and used to influence next steps actions;

¹ We further note the unhelpful text in the PA Report that "*BEIS would like to evaluate an alternative solution to DBCH*"; we recognise this may not be the intention of BEIS however it is stated and sends the wrong signals to industry – the PA Report's coverage information in supporting repeaters also appears to emphasise this point.

- The proposition will inject risk and potential delay into the sub-GHz device market – eroding this market will further disincentivise device manufacturers from early delivery (in an environment where it has been historically challenging to gain sign-on for sub-GHz HAN);
- Costs are likely to increase for DBCH and sub-GHz devices – discounts from the benefits of scale will be reduced and, due to market uncertainty, risk premiums are likely to follow;
- In consideration of the necessary energy supplier procurement activities (and associated timescales) required to deliver a repeater solution (i.e. from now to being available in an installer's van) it is highly likely that repeater availability would be significantly later than when the sub-GHz solution should be in place (according to the Joint Industry Plan);
- The operational challenges and costs of installing and maintaining devices within the consumer's premises (e.g. consumer's unplugging devices, removing them completely on Change of Tenant, etc...) should not be underestimated – energy suppliers have considered the issues at length for Alt HAN delivery and remain concerned on the implications for the relatively small Alt HAN market where no other solution exists. Energy suppliers have little appetite to increase this exposure further through use of 2.4GHz repeaters in situations where a non-intrusive solution exists (i.e. sub-GHz);
- No evidence has been presented on how successful similar repeater solutions could be in extending smart metering HANs in the GB building/housing stock and the extent to which they have been deployed in SMETS1 installations (e.g. number of energy suppliers that have used the solution, numbers deployed, success rates, issues found, etc...);
- It is unclear what form of assurance processes these devices have been subjected to – security of the smart metering end to end solution is clearly a key consideration and there is no evidence that a security risk assessment has been conducted (i.e. to understand if the total system could be compromised by introducing repeater solutions);
- Consumer acceptance is key to any initiative that requires a device to be fitted within a consumer's premises – there is no evidence that consumer groups have been consulted on this proposition; and
- Linked to the point above, consumer acceptance will require aesthetics and form-factor options to be available – whilst this is essential there will be significant knock-on impacts to energy supplier logistics, operations and installers/installation due to having to provide more variant repeater devices (in addition to the burden of having another smart metering device type to implement and manage).

From a high-level perspective it is clear that many important aspects are missing from the draft Outline Technical Specification. Energy suppliers would need significantly more detail and requirements under procurement processes they operate. In particular, there is no reference to product safety, quality, standards, form factors, design initiatives to influence removal or disconnection from the power supply, joining the HAN or remaining connected to the HAN following a loss of power supply. We believe that the Mean Time Before Failure (MTBF) is insufficient when considered in the context of other connected devices.

The commercial approach is also unclear as BEIS has stated that use of the 2.4 GHz repeater would be discretionary leading to no firm volume commitment. Therefore the procurement is likely to be compromised as vendors will not be incentivised to bid or they will seek to manipulate pricing to minimise their risk exposure from lack of volume certainty (i.e. leading to higher prices for energy suppliers).

We hope this response is helpful and supports BEIS in confirming its next steps for SMDG consideration.