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Representing:

Organisation

Organisation (if applicable):

GS1UK

Email:

What do you want Ofcom to keep confidential?:

Keep nothing confidential

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

Ofcom may publish a response summary:

Yes

I confirm that I have read the declaration:

Yes

Ofcom should only publish this response after the consultation has ended:

You may publish my response on receipt

Comments:

Introduction

This response to the OFCOM consultation document is submitted on behalf of the nearly 22,000 members of GS1 UK.

GS1 UK has driven innovation in the supply chain for over thirty years. It is part of the global

GS1 organisation, dedicated to the development and implementation of global data standards and solutions for the supply chain. The GS1 System is the most widely used supply chain standards system in the world. GS1 UK helps industry to implement these data standards through the use of bar codes, RFID, Global Data Synchronisation and electronic business messaging.

Following the consultation meeting between Ofcom, BIS, GS1UK and others it was agreed that GS1UK should present the commercial case on behalf of its end user community members and defer to TG34?s response for the technical case.

Of the two choices presented by Ofcom: selling the band to the highest bidder/s or making it available for use by RFID/SRDs on an unlicensed or light licensed basis, GS1 UK is strongly in favour of the latter option.

In Summary

? Using frequency bands that are close to those used in America, will improve interoperability. In theory tags currently optimised to work in the US, also work in Europe and vice-versa. However, in reality there is loss of performance due to the difference between US and European bands.
? It is probable that a larger band will be required when item-level tagging increases in the UK. There is evidence of this already starting to happen in retail apparel and pharmaceuticals.
? A band dedicated to RFID will increase performance. The current band in Europe is allocated to Short Range Devices including RFID. The proposal would be to use the current band for SRDs only and the new band for RFID only.

Forecasts of increased demand for RFID usage in European supply chains

Current predictions indicate major growth in the technology. It is important therefore that we have adequate spectrum in place before it is required.

Representing the users of RFID technology, we are especially interested in this consultation because the deployment of an RFID system depends on the availability of harmonised appropriate radio frequencies under specific regulatory conditions. Harmonisation is necessary to build RFID hardware that is interoperable and to ensure that RFID tags can be read regardless of the geographical location. This is especially the case because of the cross-border nature of fast moving consumer goods (FMCG) supply chains both within the EU and globally.

Because modern supply chains, almost by definition, extend over different borders and connect several regulatory territories, international coordination is of utmost importance to ensure the global interoperability of RFID systems. Globally, technology providers and users agreed on an EPC technology that ensures the functionality of RFID tags between 860 and 960 MHz. In Europe only 2 MHz can be used at 2w erp under the current conditions. Thus at least 4 MHz additional spectrum should be available on a pan-European basis under license-exempt conditions.
Greater adoption of UHF passive RFID in the UK will be good for the economy and will mean that consumers will be able to benefit from reduced costs and better choice. Any barriers to that adoption that we can remove, the better it will be for everyone. Currently the technology is operating at its limits in order to comply with existing regulations and this has a

negative impact. The freeing up of more spectrum would enable the technology to be less finely tuned, make it easier to install, and reduce technology infrastructure costs, all adding up to there being a better chance of an RFID deployment having a business case in UK supply chains and stores. More deployment will mean we all benefit from a better controlled supply chains and better product availability for the consumer.

The spectrum available also causes issues of interoperability in international supply chains. The same tags do function in the different bands used in the different regulatory regions but this comes at the expense of sub-optimal performance. Spectrum closer to that used in the USA would bring performance benefits.

We are seeing the installed base of UHF RFID in the UK continue to grow steadily. On top of Marks & Spencer?s trail blazing and shrewd deployment on apparel, large Consumer Packaged Goods (CPG) manufacturers are using UHF passive RFID at case level to gain better control and visibility in both domestic and international supply chains to reduce product diversion i.e. grey market sales where the product does not make it on to the shelves of the retailer it was sold to. This issue, particularly in the recession, is costing the CPG manufacturers dearly and RFID would help them to reduce this loss. It is estimated that during 2009 Marks and Spencer will consume 130M tags, moving to 200M in 2010. (Source IDTechEx)

As referred to above, there is growing interest in using RFID tags for item level tagging of clothing. Published studies state that this can increase sales by up to 15% due to better inventory control and reduced out-of-stock items. Both C&A and Metro have announced that they are introducing item level tagging. We are aware that a number of UK retailers are considering and trialling the use of UHF passive RFID for just these reasons.

The UK is also seeing growing interest in passive UHF RFID from healthcare and defence, particularly in the tracking of assets and improved patient care.

ID Tech Ex is forecasting that over the next ten years, the largest use of RFID in healthcare by volume will be labels on drugs at item level and the infrastructure and services to support this throughout the supply chain and in healthcare facilities. The systems needed will be complex, because drugs change hands up to ten times before reaching the consumer and databases must be securely but widely accessible. The primary purpose of this implementation will be to eliminate counterfeiting by establishing the full history of legitimate packages at all times ? called pedigree. This will be underpinned by scientific analysis of the drugs inside the package. Each item will be individually identified through mass serialisation employing tranches of numbers issued by EPCglobal to the so-called Electronic Product Code (EPC) standard. The serial numbers will be carried in standard tags and the specification for the air interface will be ISO 18000. The US is driving this, although progress has been much slower than anticipated. Challenges include the cost of tags, cost of infrastructure (and little hope for much payback without it in place) and disagreement over what should be the standard frequency. The frequency employed is as yet uncertain because Ultra High Frequency UHF tags have been delivered to Wal-Mart on millions of Type 2 drugs in the last year (primarily for anti-theft and for stock control). The table below shows the predicted use of RFID in healthcare.

It is likely that in future agencies like the National Health Service and the Ministry of Defence are going to need to do more with less or with what they already have (if they can find it). In the NHS the combination of RFID, a key or code to identify the item and tighter process will help to free up nurses? time. In a recent survey (February 2009) of almost 1,000 nurses conducted by GS1 UK and Nursing Times, it was revealed that nurses lose up to one quarter of their working day looking for medical items. This is equivalent to 40 hours per month or more than £900 million of salary expenditure. The use of passive UHF RFID and GS1 keys will help to reduce that wasted time.

In defence, there are high profile cases of the right things not being where they are needed, when they are needed which can cost lives as well as money. The UK MoD has started to look at the use of passive UHF RFID in their logistics function. Today we have no accurate forecasts of the uptake of the technology. However, if RFID does, as is widely expected, deliver the visibility and control in the MoD supply chains then it is only a matter of time before one of the largest supply chains in the world adopts the technology at pace and in volume.

Conclusion

In summary, the use of passive UHF RFID in the UK is on an upward trend. We have left the hype behind and are on a realistic path to widespread adoption of the technology in many UK industries. Trying to forecast the adoption of this technology tens years out from a small but growing base in the UK is tough and we would be happy for Ofcom to work with us and IDTech Ex to review the numbers we are basing our case on. However, the one thing we would like Ofcom to bear in mind is that the projections across retail, pharmaceutical, defence all show an expected increase in the usage of RFID. For the additional spectrum on offer in this consultation not to be made available to this market could well constrict an initiative that will benefit UK PLC and UK Consumer now but more importantly, will help to underpin supply chain efficiency in this country, drive sales up, costs down and give the UK consumer more choice, better care when they are ill and a more efficient defence system in the long term.

Question 1: Do you believe that the uses listed in this section (Section 3) are possible candidates of the 872/917 MHz bands?:

Question 2: Are there additional applications/services (not listed above (from Section 3) that could make viable use of the 872/917 MHz bands that Ofcom should be aware of?:

Question 3: What services do you believe should be authorised to use this band? Could you supply relevant information supporting your preference and include any economic data relating to the value of the spectrum in providing these services?:

Question 4: Do you agree with the methods used to assess the potential to interfere with adjacent band services in a full licensed approach?:

Question 5: Do you consider that the proposed technical licence conditions would be justified and appropriate?:

Question 6: Do you agree with the methods used to asses the likelihood of services interfering with adjacent band services under the light regulatory approach?:

Question 7: We would like stakeholder views on the cost and performance impact of the UMTS900 filters described above.:

Question 8: Are there are any other methods that would give the same protection as the filters? What costs and performance impacts would these have?:

Question 9: What are your views on the need for and justification of such mitigation measures and how their cost should be borne?:

Question 10: Stakeholders views are sought on whether the spectrum should be awarded as a single lot by frequency, or whether it should be split in to smaller frequency lots.:

Question 11: We would like stakeholder?s views on whether the packaging should be split GB/NI or if we should proceed with UK wide packages.:

Question 12: Would it be practical for RFID users and adjacent operators (e.g. GSM, UMTS, GSM-R) to co-ordinate locally on a case by case basis? The answers to this will help Ofcom develop its views on whether a database would be required.:

Question 13: Do you agree with Ofcom?s preliminary proposal that the separation distances suggest a light licensing regime if SRD/RFID use in this band were to be supported? If not, how should the interference into adjacent bands be managed?: