



**Response of Broadnet to the Public
consultation document concerning the
authorisation of use of the
radiofrequencies band 1790 -1800 MHz**

Nicosia

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What follows is the response of Broadnet to the Public consultation document questions concerning the authorisation of use of the radiofrequencies band 1790 -1800 MHz

Section 2

Q2.1 Do you agree that the use of the 1790-1800 MHz band should be based on the principles of technological neutrality and service neutrality?

Yes

Q2.2 Do you agree with the proposed terms and obligations of use of the 1790 – 1800 MHz band?

Yes

Q2.3 Do you judge that the external safety bands and the rest of the relevant conditions ensure the smooth operation of the GSM systems that operate in the neighbouring bands?

Yes

Q2.4 Do you agree with the proposed coordination framework, both with systems which operate in Cyprus and with radio-communication systems based outside Cyprus?

Yes

Q2.5 Do you believe that some restrictions should be enforced as far as Energetic Isotropically Radiated Power (EIRP) emission is concerned? If yes, which should be the maximum limit of EIRP emissions in your opinion and why?

The maximum EIRP emission should be bound by the maximum EIRP emitted by the new system that does not cause interference to other existing systems.

Please note that when using adaptive antennas, we need to specify power per spatial channels, as each frequency can be used many time in the same cell. For each packet sent (IP packet), a stream is formed by all antennas delivering the necessary power to the vicinity of the user terminal for each spatial channel of each cell. EIRP is given per antenna and per stream and the maximum composite power is the maximum delivery power per spatial channel.

Typical values:

- **Maximum stream power per antenna: 30.0 dbm/stream/antenna EIRP (or 1 Watt/stream/antenna)**
- **Composite output power: 44.6dbm EIRP (or 9.6 Watts per spatial channel)**

Q2.6 Comments concerning the proposed approach for the wireless microphones are called for. Do you agree that the use of wireless microphones in the 1790-1800 MHz band should not be allowed without the acquisition of authorisation³?

Wireless microphone usage should remain the same as before.

Section 3

Q3.1 Comments relating to the number of individual rights of use of Radiofrequencies are called for. Do you believe that one, two or more individual rights of use of Radiofrequencies should be granted?

We recommend the grant of the 10 MHz spectrum to a single operator with the constraint on providing a nationwide ALL IP mobile broadband utility for Cyprus. Please refer to the text in appendix A.

Q3.2 Comments relating to the needs of your enterprise in radio-spectrum are called for. You are kindly asked to state the breadth of spectrum needed in order to provide your services.

Coverage must be nation wide in order to let a smooth growth in the whole country by bringing data mobility to all corporate users and their service providers through the created broadband telecommunication utility as explained in appendix A

Q3.3 Will geographical coverage obligations have to be included, and if yes, which will these be and why?

The objective is to provide a pervasive broadband ALL IP access throughout Cyprus. This is done in two phases: An initial phase covering main towns within 2 years followed by a second phase covering roads and main rural centres within 5 years. Please refer to the explanatory document attached and the financial projection report.

Q3.4 Comments relating to the time duration of the authorisation are called for.
A minimum of 10 years is required, 15 years would be better

Q3.5 Comments relating to the intention to terminate the individual right of use in the event of the spectrum not being used within a specified time interval are called for.

If the spectrum is not utilised within the specified spectrum timeline, the individual right of using it should be terminated and taken back.

Q3.6 Comments relating to the co-installation of antennae and the communal use of accommodations are called for.

Please refer to text in appendix A

Q3.7 Comments relating to the type of terms and/or special obligations in view of a General Authorisation, in the event of use of the band for the operation of Electronic Communications networks and/or provision of Electronic Communications services.

Broadnet has already set up a pilot and intend to continue using Mega towers in order to achieve a complete coverage. A rooftop system will be rolled out and shown to the TRA

Section 4

Q4.1 Do you agree with the proposed methodology of auction?

We accept the auction idea as a general idea; nevertheless we propose a new approach to the usage of this band as explained in appendix A.

Q4.2 Comments relating to the starting price are called for.

As explained in appendix A we believe the minimum price should be the lowest possible in order to build the lowest cost access infrastructure for boosting Cyprus economy.

Q4.3 Comments relating to potential additional criteria which the applicants must fulfil are called for.

- **The applicant must introduce a technology that maximizes user numbers and throughput.**
- **The technology must have a spectral efficiency of at least 3 (bit/s/Hz).**
- **The applicant must be able to cover all Cyprus in a pervasive manner, with an IP cloud, in order to enable seamless value added data services.**
- **The applicant must have proven his competency through the rollout of a pilot system showing the performance to the TRA**

General Questions

GQ.1 Which is the potential market which you wish to serve through your networks/systems (large-small and medium sized enterprises, domestic users) and which services do you intend to provide?

Please refer to Appendix A

GQ.2 Comment on any other aspect of the subject (for which no specific comments are called for) with justification of your positions.

See Appendix B: A Nationwide IP Broadband Mobile Access Network for Cyprus

Appendix A:

We are aware that the main concern of the regulatory body of Cyprus (CY TRA) is to ensure the maximum benefits for the end users in Cyprus through high quality and competitive prices for value added communication services. Furthermore, safeguarding and ensuring that environmental and health issues are well accounted for and respected by companies providing the mentioned services. Broadnet also share these goals.

In what follows we will elaborate on Broadnet plans and try to clarify, in response to CY TRA consultation, why the award of a single licence of 10 MHz to Broadnet, at the lowest possible acquisition cost, is a fundamental enabler for the benefits of all the users in Cyprus and more broadly for the economy of Cyprus.

Broadnet team, through Kleos, its major shareholder, has been behind all the iBurst realizations worldwide in the GSM guard band. Our team has created a quasi-standard in this band. This explains why, when we first contacted the CY TRA, we were the only pretender for this band, to which after the initial hearings, we were the only entity entitled to bid. Consequently, we decided to invest more than 350 thousands Euros in mounting a pilot in order to demonstrate to the TRA and to various Cypriot key players the capabilities and advantages of the system.

Since 2006, we have been pushing and lobbying so that this technology is implemented in Cyprus what would consequently lead to the creation of further wealth in the country.

From the onset, Broadnet main goal in brining this new technology has been to build a national IP infrastructure by using the most environmentally friendly ALL IP wireless technology available today.

In an effort to clarify our plans, we elaborate in the next paragraph why our business approach in this industry is new and would be a world first, if and only if CY TRA decides to support Broadnet efforts.

Broadnet goal is to create a national IP transport infrastructure (similar to roads or electricity) that all players can use for their services. This new disruptive IP infrastructure will be shared amongst everybody in Cyprus, including operators who already have had fixed wireless licences and even GSM operators and ISPs or even new content providers or MVNOs.

All these players will be able to create wealth in Cyprus through value added services, using Broadnet unique ability to provide ubiquitous and equal access to its infrastructure. It is clear that this shared access infrastructure must provide the lowest access cost and must be able to expand whenever various successful service providers ask for such expansion (thus the reason behind requiring the 10 MHz band).

The cost lowering that we mention above can be achieved through a nationwide optimization. Consequently, low cost of wireless access can be provided by

Broadnet and then on the service layer, every player that is providing its value added services by using this transport infrastructure can compete with others while everybody has the same generic access quality.

Most of the benefits resulting from a light shared RAN that can serve all of Cyprus and limit the pollution and interferences will disappear if two players are competing. Hence not only a competition will not lower the access cost, but it will cause it to rise due to a sharp rise in the OPEX and even CAPEX (Additional costly blocking techniques to limit the interference caused by the same operator in the same band need to be implemented). This is without considering sites and radio pollution, similar to those that we can observe in Europe through 3G fights!!

In the light of the above explanation, it clearly appears that Broadnet business approach and specific know how optimize the cost of the new infrastructure for all existing communication service providers, leading to tremendous benefits to Cyprus and its residents. We believe that CY TRA can support us in this endeavour by providing an exclusive access to the band at the lowest possible cost.