CELL C
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Mr Mandla Mchunu
Project Leader
ICASA

Per e-mail: MMchunu@icasa.org.za

Dear Sir

THE USE AND LICENSING OF THE BAND 57-66 GHZ (V BAND) AND THE BAND 71-76 GHZ PAIRED WITH THE BAND 81-86 GHZ (E BAND)

1. Cell C (Proprietary) Limited ("**Cell C**") welcomes the opportunity that has been provided by the Independent Communications Authority of South Africa ("**the Authority**") to provide written responses to the questions as contained in the Discussion Document published in *Government Gazette* 39180 on 8 September 2015.

2. Cell C acknowledges that the V and E Bands are allocated to Fixed Services in terms of ITU Radio Regulations and the 2013 National Radio Frequency Plan. However Cell C has been made aware by the Authority that a licensee may apply for spectrum in these bands for test purposes and commercial purposes for an annual spectrum fee of R120 per link.

3. Cell C also notes that the Amendment of the Radio Frequency Spectrum Fee Regulations as published in *Government Gazette* 38642 provides for the fee for links above 50GHz to be the prescribed minimum fee of R120.

4. Cell C believes that microwave networks do and will continue to play a significant role in the backhaul of radio access sites capacity. As microwave technology evolves, it will support multi-gigabit capacities in the millimetre wave. Fibre rollout is becoming more prevalent with the provision of FTTH services. However, microwave technology will remain as the alternate technology to backhaul capacity from mobile base stations. The reasons for this are that microwave is quick to deploy and very cost efficient. Furthermore, capacities on microwave continue to grow and can be deployed in areas where it is

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technically and economically not feasible to install fibre. This bypasses the bureaucratic processes to rollout network infrastructure.

5. With the introduction of HSPA and LTE/A technologies in South Africa, coupled with the take up of smart devices, there is an immediate need to backhaul and fronthaul significant amounts of data traffic from mobile base stations to the core networks and out to the recipients (internet cloud and telcos). Furthermore, there are ambitious legislative broadband targets in the SA Connect Policy that need to be complied with. Therefore, opportunities need to be explored to meet this demand for the transmission of high capacity data.

6. The V and E bands are candidate bands and are ideally suited to meet this requirement to provide relief for the transmission of high capacity data in short distances. We say this because as the bands are identified for Fixed services, interference is minimal or non-existent due to the technology deployed (pencil beam). They are cost effective to install and Original Equipment Manufacturers (OEM's) are rapidly developing suitable microwave equipment that operate optimally in these bands.

7. Cell C, therefore, welcomes the Authority's intention to finally develop a regulatory framework in determining the licensing process to be adopted for the two bands. In the interest of fast tracking network rollouts, promoting competition in the sector, removing unnecessary spectrum application delays and contributing to technology innovation, Cell C recommends a less intrusive regulatory regime in licensing these bands.

8. Please see below the Cell C response to the questions posed in the Discussion Document. Cell C looks forward to engaging with the Authority should the Authority have any queries on Cell C's response.

9. Cell C records that it wishes to make oral representations on the Discussion Document when scheduled.

Yours faithfully

Zolile Ntukwana
Executive Head: Regulatory Affairs

1. Do you think light licensing would be an appropriate approach for the E band in South Africa?

Cell C supports the adoption of a combination of light licensing approach and dedicated licensing for separate portions of the E-Band.

2. Are there any other licensing approaches that should be considered by the Authority for the E band?

No.

3. What other applications for E-band spectrum should the Authority consider as part of this process, and should such applications impact either the licensing approach?

Cell C believes the application scenarios described are sufficient for the immediate needs in the market and we do not recommend any of the other licensing approaches at this point. Future technological developments and market dynamics will inform future changes to this approach.

4. Do you think a self-coordinated approach is appropriate under certain circumstances in the E band?

Yes, Cell C supports this approach under conditions of certainty where there would be no foreseen interference.

5. Are there any other potential approaches apart from band segmentation to accommodate the different spectrum demands in the E band?

There are none that Cell C is aware of and Cell C supports the channelling arrangements as recommended by the ITU.

6. What other applications for V-band spectrum should the Authority consider as part of this process?

Both applications, Intelligent Transport Systems (ITS) and Multi-Gigabit Wireless Systems (MGWS) as mentioned are supported.

7. What technical sharing criteria should apply in a licence-exempt environment?

The Authority must prescribe a list of technical criteria as recommended by ECC Report 113 to prevent unwanted interference among different spectrum users of the spectrum band.

8. What principles should guide the allocation of spectrum for V band services?

Self-co-ordination of RF channel(s) by licensees as some OEM's like Huawei have V-Band technologies with imbedded functionalities that scan and check frequencies for interference.

9. As a general principle should the Authority relax the transmit power restrictions on case by case basis e.g. rural areas where interference risk is lower than in urban/densely populated areas.

No, there is a potential risk that abuse may occur which may interfere with other licensees' radio equipment thereby degrading its quality of service.

10. Is there another approach that should be considered by the Authority?

No, Cell C believes the four approaches described by the Authority should be explored.

11. Should the Authority consider conventional licensing? If so, please provide reasons.

Cell C supports the adoption of a combination of light licensing approach and dedicated licensing for separate portions of the E-Band. This is a flexible approach and provides for the need for licensees who may seek regulatory protection when quality of services degrades due to congestion or unwanted interference.

12. Do you agree with the concept of segmentation for the purposes of providing both a light-licensing and a full -licensing approach? Please provide reasons for your position.



Yes, since there are ample channels available within the band plan to accommodate segmentation.

13. Do you agree with the segmentation as proposed?

Yes, we fully agree. Channel re-usage is applicable.

14. Will online registration be feasible?

Yes, we support this recommendation.

15. Will a 14 day registration requirement be effective and practical?

YES.

16. Is there another approach that should be considered by the Authority?

No, Cell C is not aware of another approach.

17. Are there any other factors that the Authority should consider?

No.

18. Is this type of regulation (for at least a portion of the E band) really necessary in view of light-licensing looking fairly attractive?

Yes, this approach provides choice, ability to rollout cost effectively and timely.

19. Do you have any views as to whether the self-coordination approach or the regulator-coordinated approach is preferable?

A combination of the self-coordination and regulator coordinated approach is preferable.

20. Do you think an annual licence fee per point-to-point link is an appropriate approach whereby the licensee has exclusive, protected spectrum?

Yes. The prescribed minimum fee should apply in return for administration by the Authority of the spectrum licence which includes the right to use the spectrum and protection from interference originating from other spectrum users.

21. Do you think this is a sensible approach? Please provide alternative suggestions if you disagree.

Yes, this is line with the nationally assigned microwave spectrum to licensees.

22. Do you think it is a reasonable approach to do away with the exclusivity of a frequency channel to a specific user if there is a need for spectrum by other users who cannot be accommodated in alternative channels, because of congestion? Please provide alternative suggestions if you disagree?

No, the probability of this happening is very unlikely due to the abundance of channels in the band.

23. Whether the Authority should specify channels;

South Africa is a member of ITU, Region 1. To benefit from economies of scale, the CEPT band plan channelling arrangement quoted in section 4.2.6 of the discussion document should be adopted.

24. If the Authority should specify channels, whether they should be for FDD or TDD or both;

Cell C believes that due to the short distances, the technology adopted will not be of concern.

25. How the channels should be specified, also considering RF bandwidth.

The CEPT model is sufficient.

26. Please indicate if you agree with the Authority's view.

Yes.

27. What other considerations should guide the Authority's decision in this regard?

We do not foresee any outstanding issues in this regard.

28. Do you think there are any risks or other factors that the Authority should consider before making the decision that a licence-exempt approach is appropriate for the V band?

No.

29. Do you think there may be benefits to requiring link registration in this band and that this should be considered?

No.

30. If you think that links should be registered, would you consider that to be compatible with MWGS to be licence-exempt?

Registrations in a license-exempt environment would contribute to the delay in effectively rolling out network services.

31. Do you agree with the parameters set out above? Please substantiate your response.

YES, they are aligned to National Radio Frequency Plan (NF14) for the E Band parameters and we believe there is existing microwave equipment that complies with these parameters.