

**SENTECH'S WRITTEN COMMENTS
ON THE DRAFT IMT ROAD MAP FOR CONSULTATION
28 JANUARY 2018**



Head Office: Sender Technology Park (STP), Octave Street, Honeydew, 2040
Postal Address: Private Bag X06, Honeydew, 2040
Telephone: 011 471 4400 | Call Centre: 0860 736 832 (International: +2711471 4595)
Fax: 011 246 2610 | E-mail: support@sentech.co.za | www.sentech.co.za



Table of Contents

1. Introduction	3
2. Backhaul	3
3. Terrestrial radio broadcasting	3
1. Radio reaches the most number of people.....	4
2. Radio doesn't run out of air time or data.....	4
3. Radio is democratic.....	4
4. Radio informs and educates.....	4
5. Radio is trusted	4
6. Radio is life-saving	4
7. Radio is portable	4
8. Radio is low cost	4
9. Radio builds community	4
4. Studio transmitter links	5
5. Availability of 700 and 800 MHz bands	6
6. 6.1: Forecasts of overall IMT demand	6
7. 7.3.3: Radio Frequency Migration Plan for 1700 – 2290 MHz	6
8. 7.4.1: 1.427 – 1.518 GHz	6
9. 7.5.5: 37 – 40.5 GHz	6
10. 7.5.11: 57 – 66 GHz	7
11. Conclusion	8

1. Introduction

SENTECH thanks the Independent Communications Authority of South Africa (“Authority”) for the opportunity to make a written submission on the Draft IMT Road Map for Consultation (“Road Map”) published in Government Gazette No. 42021 on 09 November 2018.

2. Backhaul

SENTECH is of the view that the *Draft IMT Road Map* as gazetted is limited in its considerations. The Road Map is silent on network requirements for the support of IMT 2020. Unlike developed nations, South Africa’s fibre density is still very low and therefore wireless backhaul is going to be more crucial towards meeting 5G requirements particularly in underserved and rural areas. It is therefore advisable for the Road Map to also consider spectrum issues for backhaul: point-to-multipoint microwave; point-to-point microwave; and millimetre wave. It is also important to also note that high altitude platform systems (HAPS) and satellite technology can also play a role.

The Authority is currently aware that a number of radio frequency bands identified for IMT consideration include bands currently allocated to FS services on a co-primary basis with other services. The increasing interference events between wireless fixed services and the satellite Ku-band services in the 13 GHz band have been brought to the attention of the Authority. Due to the increasing demand for wireless fixed services as consequence of the densification of mobile networks, the incidents of interference will only get worse due to the limited number of bands currently available to satisfy the requirements of mobile services. Taking into consideration these practicality issues, it is also reasonable for the Road Map to include backhaul issues.

3. Terrestrial radio broadcasting

Radio is still one of the best communication tools for mobility, sparsely populated areas including the rural poor. The medium is still ideal for low-income populations and sparsely-populated areas particularly when radios are still affordable and broadcasts can reach far and wide audiences. Terrestrial radio’s huge impact is also noticeable even with challenges of access and cost of internet. Even in situations of where there are issues of high illiteracy rates, terrestrial radio stations have historically and still continue to play a major role in sharing news and educational information. Terrestrial radio broadcasting has historically and still continues to play

an important role in the massification and democratisation of information/education/entertainment. Lifeline Energy (<https://www.lifelineenergy.org>) has conveniently stated the following nine (9) reasons on the importance of radio:

1. Radio reaches the most number of people

Radio remains the most used mass-communication medium in Africa with the widest geographical reach and has the greatest audiences compared with the Internet, television and newspapers. In Tanzania, 83% of adults surveyed said they get news and information from radio, as did 89% in Kenya. When adding an MP3 recording feature, people need never miss a broadcast.

2. Radio doesn't run out of air time or data

Who needs a phone package, when you have radio? Radio is free. Always and forever.

3. Radio is democratic

It reaches rich and poor alike. Educated. Uneducated. Young. Old. Every tribe, every region, each gender and race.

4. Radio informs and educates

Programs are broadcast in local languages – whether it's nutrition information for mothers, medical updates for health workers, conservation farming for farmers, or school lessons for children.

5. Radio is trusted

Africans trust news and information on the BBC World Service, for example, as well as local and community radio stations. People often refer to the voices on the radio as their "friends".

6. Radio is life-saving

People turn to radio first when disaster strikes. Survivors need to find lost loved ones, access food, shelter or medical aid. It provides psycho-social support to those traumatized. **Information is aid.**

7. Radio is portable

People can listen to radio anytime, anywhere. You don't need to be plugged into the electrical grid to do so.

8. Radio is low cost

Radio sets are more affordable than other forms of tech and cost less to power. The cost of producing radio shows is low in comparison to creating TV and other visual content.

9. Radio builds community

Radio is a social medium, fostering participation and engagement, in people's own home languages.

Taking the above into consideration, it is important that the Authority initiates a regulatory process for the licencing of studio-transmitter-links.

4. Studio transmitter links

As stated previously in SENTECH’s submissions, studio-transmitter-links (STLs) are predominately point-to-point low bandwidth one-way transmission links. They are used mainly to relay radio programme material from the studio to the radio broadcast transmitter site. STLs are overwhelmingly used for community and commercial terrestrial radio broadcasting services. STLs historically have been “grandfathered” and exposed to a soft-touch regulatory framework by the Regulator. Consequently STLs were previously not subjected to spectrum fees regulations.

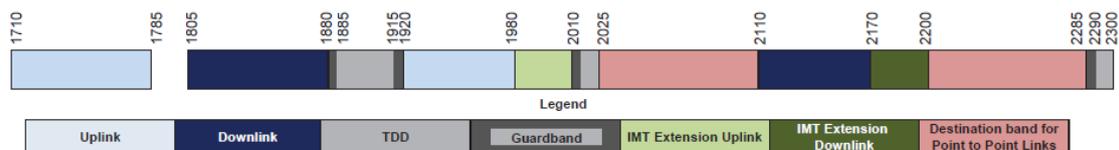


Figure 1: STL target Band (2025 – 2110 / 2200 – 2285 MHz)

It is important to note that SENTECH does not necessarily operate majority of the STLs that exists in the broadcasting industry. The Authority should also take into consideration that a lot of the STLs are deployed on mobile tower infrastructure and therefore subjected to additional specifications from mobile operators.

SENTECH advocates to the Authority to initiate discussions on the practical consideration for the migration of STLs. The discussions can cover the following, inter alia;

- The extent of Telkom’s usage of the band earmarked for the introduction of STL;

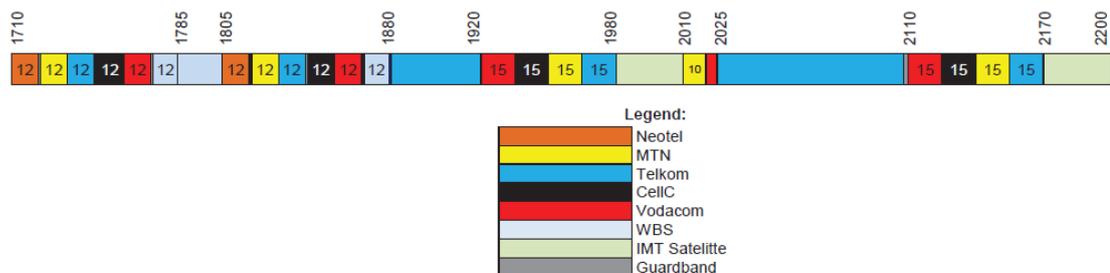


Figure 1: Current assignments with 1700 – 2200 MHz

- The agreeable time schedule for the migration process;
- The licencing of spectrum for STLs without attracting administration costs;
- STLs continued exclusion from paying spectrum fees; etc.

5. Availability of 700 and 800 MHz bands

SENTECH would like to bring to the attention of the Authority that terrestrial broadcasting services have until July 2020 to complete the migration process.

6. 6.1: Forecasts of overall IMT demand

SENTECH seeks further clarity on what the Authority intimates by stating that further spectrum “might be available for IMT (3600 – 4200 MHz)”¹. Clarity on the future allocation of the 3600 – 4200 MHz for IMT services is crucial to SENTECH’s future sustainability plans, particularly when the company operates its primary distribution network in the stated band.

7. 7.3.3: Radio Frequency Migration Plan for 1700 – 2290 MHz

SENTECH does not support the proposal by the Authority for the introduction of an additional allocation for BFWA in the radio frequency band 2025 – 2110 / 2200 – 2285 MHz. The Authority is yet to determine whether this band has sufficient unassigned spectrum for the introduction of studio-transmitter-links (STLs). Therefore the development of RFSAP in the bands 2025 – 2110 / 220 – 2285 MHz whilst considering the migration of STLs into this band is not advised.

8. 7.4.1: 1.427 – 1.518 GHz

During the preparatory meetings leading to WRC-15, there was consensus that the band 1452 – 1492 MHz be supported for an IMT identification since broadcasters are no longer interested in the band. The South African position, sanctioned by Parliament, at the WRC-15 was based on this position.

9. 7.5.5: 37 – 40.5 GHz

SENTECH trusts that the Authority will undertake a study on the usage, by fixed services, of this band once WRC-19 has taken a decision on whether there is consensus on the usage of this band for IMT. It is also important to note that South Africa is yet to have a sanctioned position on the allocation and identification for IMT.

¹ Draft IMT Road Map for Consultation published in Government Gazette No. 42021 on 09 November 2018, p. 57/183

10. 7.5.11: 57 – 66 GHz

With regard to the 57 – 66 GHz band, SENTECH requests the Authority to be mindful of the WRC-19 developments particularly the Agenda Item 1.12: *to consider possible global or regional harmonized frequency bands, to the maximum extent possible, for the implementation of evolving Intelligent Transport Systems (ITS) under existing mobile-service allocations, in accordance with Resolution 237 (WRC-15)*. The radio frequency band 63 – 64 GHz already allows for ITS applications within the SRD framework. The South African band plan references ITU-R SM.1896, the document in turn references Report ITU-R SM.2153: *Technical and operating parameters and spectrum use for short-range radiocommunication devices*. Report ITU-R SM.2153 lists the following as applications considered under SRD:

- Telecommand
- Telemetry
- Voice and video
- Equipment for detecting avalanche victims
- Broadband radio local area networks
- Railway applications
- **Road transport and traffic telematics**
- Equipment for detecting movement and equipment for alert
- Alarms
- Model control
- Inductive applications
- Radio microphones
- RF identification systems
- Ultralow power active medical implant
- Wireless audio applications

Even though the Authority has indicated that no studies will be undertaken regarding the 57 – 66 GHz band, it is important to note that *ITU-R M.2083-0: IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond* has acknowledged ITS. The Authority is well aware that ITS applications are categorised under IoT systems.

11. Conclusion

SENTECH thanks the Authority again for the opportunity to make a submission on the Draft IMT Roadmap 2018. SENTECH hope that the Authority will take into consideration the serious nature of the issues relating to backhaul requirements and the practical matters that must be discussed in relation to the migration of STLs.