

ASEAN Workshop

*Promote the use of L-band spectrum for
IMT Services*

**Towards a possible
harmonized band plan for
ASEAN countries**

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1. L-bands: IMT-MSS coexistence

- **CEPT studies**

- **ECC Report 263**

- + Main issue: current MSS earth station performance.
- + Focussed on compatibility with land MSS.
- + Minimum in-band **blocking characteristic** for land mobile earth stations receivers from a 5 MHz broadband signal interferer (LTE) operating below 1518 MHz shall be **-30dBm** above 1520 MHz.
- + The base station **unwanted emission limits** e.i.r.p. for a broadband signal interferer (LTE) operating below 1518 MHz shall be **-30dBm/MHz** above 1520 MHz.

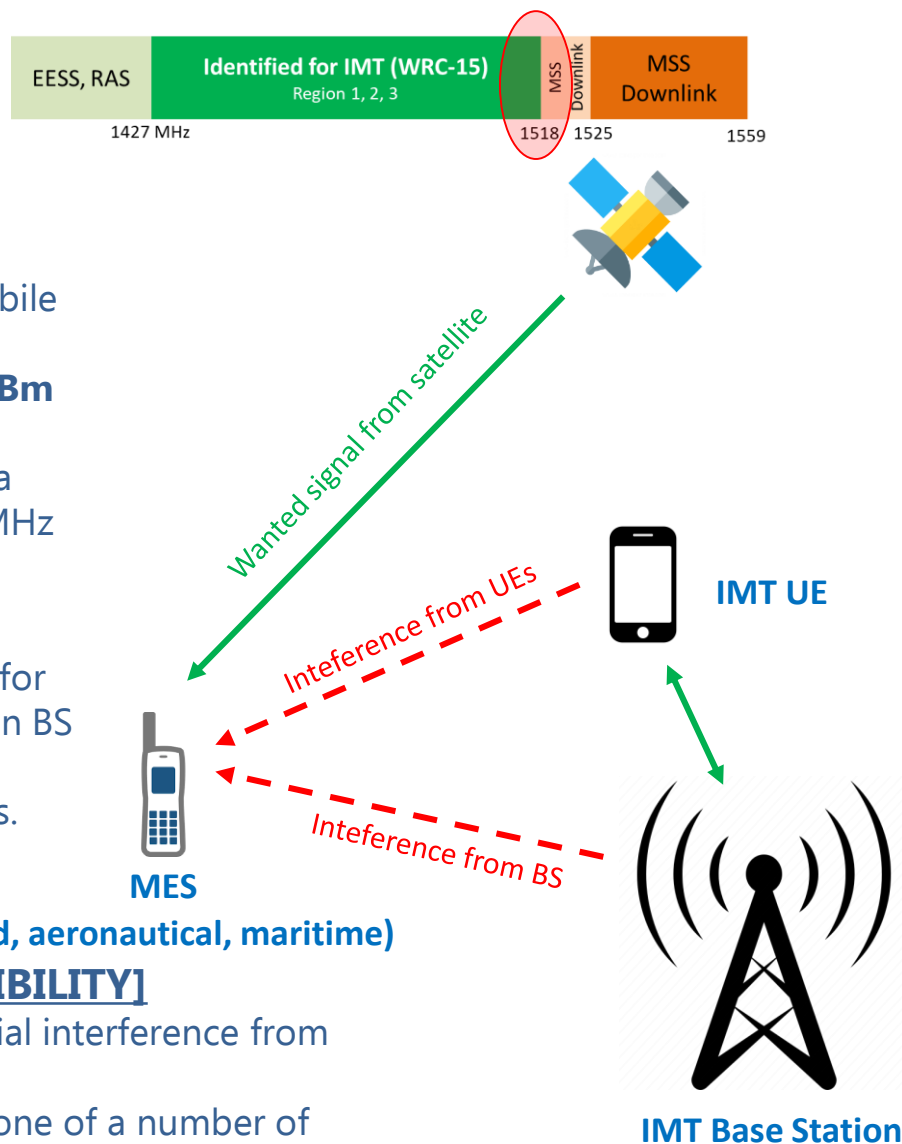
- **ECC Report 299**

- + Recommends additional protection measures required for ports and airports through the application of PFD limits on BS
- + Some example PFD limits that may be used to enhance compatibility in sensitive areas at airports and/or seaports.

- **ITU-R**

- **The preliminary draft new Report** (land, aeronautical, maritime)
ITU-R M.[REP.MSS & IMT L-BAND COMPATIBILITY]

- + Contains eight compatibility studies to evaluate potential interference from IMT to MSS (4 studies from BS, 4 studies from UEs)
- + Based on the current results of these ongoing studies, one of a number of possible measures to facilitate adjacent band compatibility, is for administrations to consider additional frequency separation below 1 518 MHz at the upper part of G1, G2, or G3 (e.g. a total separation of different values up to 6 MHz).



2. L-bands: Frequency Arrangement Options

MHz	1427	1518
G1	SDL	
	1427	1517
G2		
	1427	1518
G3	TDD	
	1427	1517

Options	Pros	Cons
G1 (SDL)	<ul style="list-style-type: none"> - Does not require a centre gap, which can utilize more spectrum compared to an FDD arrangement. Maximum spectrum: 90 MHz - Provision of additional IMT downlink capacity aimed at supplementing the capability of other FDD bands already in use by IMT systems 	<ul style="list-style-type: none"> - Requires another frequency arrangement containing an uplink frequency band to be operated in an IMT network.
G2 (FDD)	<ul style="list-style-type: none"> - Gives flexibility to administrations when assigning the frequency band to mobile operators 	<ul style="list-style-type: none"> - Require a centre gap. Maximum spectrum: 2x43 MHz. - More spectrum needs to be abandoned to meet guard band requirement (2xGB).
G3 (TDD)	<ul style="list-style-type: none"> - Does not require a centre gap, which can utilize more spectrum compared to an FDD arrangement. Maximum spectrum: 90 MHz - Gives flexibility to administrations when assigning the frequency band to mobile operators - Allows for further flexibility and spectrum efficiency thanks to possible adaptation to asymmetrical traffic between DL/UL. 	

3. ASEAN: there are two countries assigned MSS in L-band



4. A harmonized L-band plan for ASEAN countries

+ To maximize the benefits for ASEAN countries, the frequency arrangements for IMT should be harmonized to the maximum practical extent to facilitate interoperability, for economies of scale and to enable seamless roaming by users.

+ The interest from many other countries using the same provides for a harmonization and possible healthy ecosystem.

+ L-band is suitable for providing wide coverage due to its good propagation characteristics compared to higher 5G frequency bands (e.g. 2.6 GHz and 3.5 GHz bands), so it is essential to plan the maximum amount of spectrum in this band.

- **Proposal**

+ Agree on Option G3, 90 MHz TDD (1427-1517 MHz).

+ For ASEAN countries wishing to use both MSS and IMT in L-band, when implementing the frequency arrangements, administrations are also encouraged to take into account the results of the compatibility studies, e.g. in order to address IMT-MSS coexistence in certain areas (around seaports and airports, etc.).

Thank you for your kind attention!