

Lao PDR's RF Coordination Experience with Neighboring Countries

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Ministry of Technology and Communication**

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Radio Frequency Coordination



Joint Technical Committee (JTC) on Coordination and Assignment of Frequency along Common Border Meeting.

- **Thailand**
- **Vietnam**
- **Cambodia**

JTC focusses on

- Mobile Service
- Broadcasting Service



Agenda

- **Implementation principles for Mobile Service between Laos-Thailand**
- **Examples of principles that have been implemented Mobile Service between Laos-Thailand**
- **The use of radio frequencies in the 700 MHz band by Laos and Thailand**
- **The use of radio frequencies in the 2600 MHz band by Laos and Thailand**
- **Agreed band plan for Broadcasting Service between Laos –Thailand**
- **Agreed band plan for PPDR between Laos –Thailand (Public Protection and Disaster Relief)**

Implementation principles for Mobile Service between Laos-Thailand

Bands

- 850 MHz
- 900 MHz
- 1800 MHz
- 2100 MHz
- 2300 MHz

Align center frequency & Same Tech	Technology	Channel assignment operations	signal threshold level
	2G (GSM)	BCCH	Use agreed signal threshold level
	3G (HSPA/UMTS/WCDMA)	PSC	
	4G (LTE)	PCI	

Different center frequency	Technology	signal threshold level
	2G (GSM)	Use agreed signal threshold level
	3G (HSPA/UMTS/WCDMA)	
	4G (LTE)	

BCCH: Broadcast Control Channel

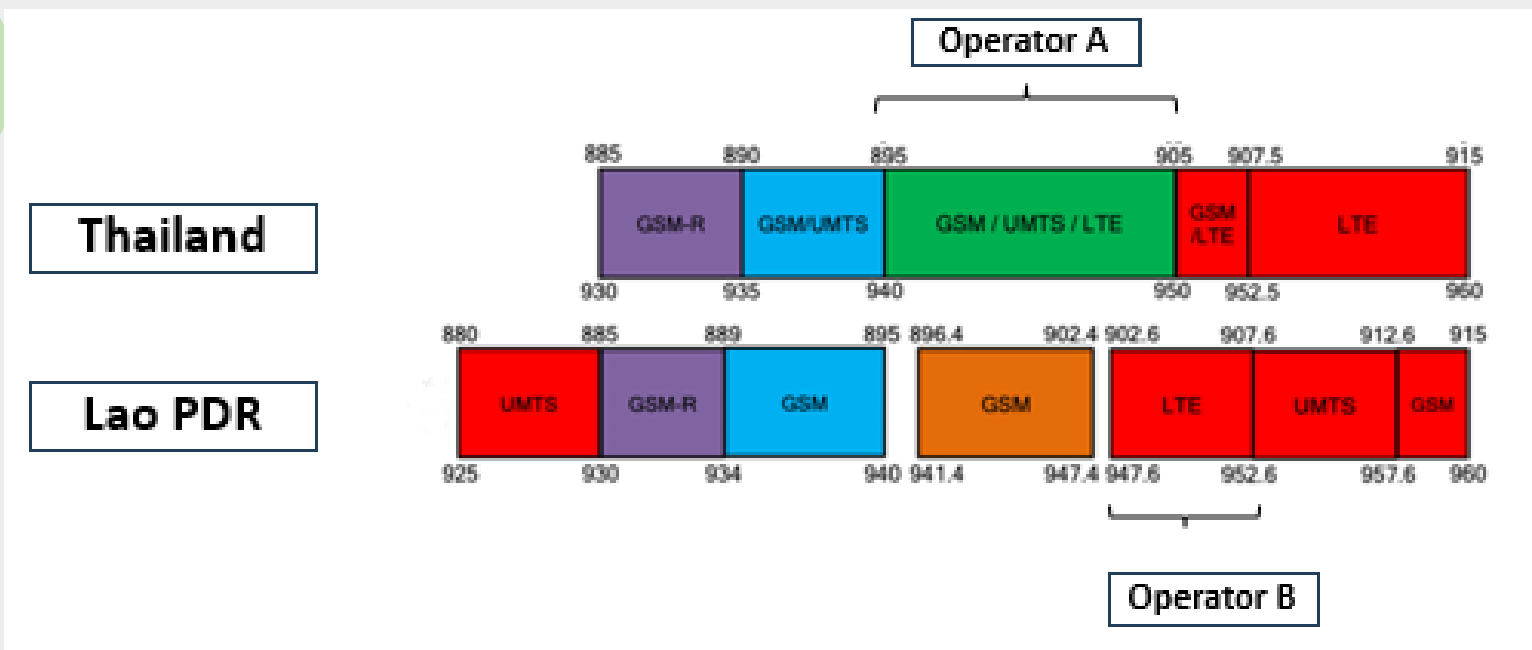
PSC: Primary Scrambling Code

PCI: Physical Cell Identity

Agreed signal threshold level	Other Areas	Specific Areas : some northern areas
Signal Level	The determination of signal levels varies across different frequency bands and technologies in use.	
Distance (From reference line)	1 Km	700 m

Examples of principles that have been implemented Mobile Service between Laos-Thailand

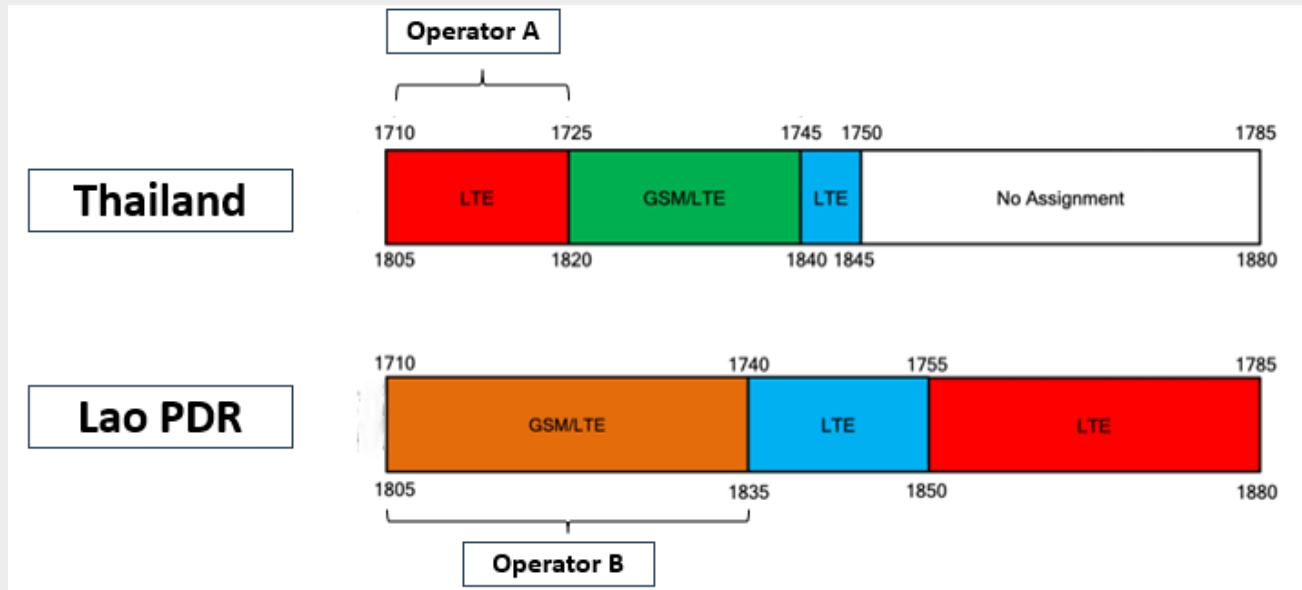
Band 900 MHz



Thailand Mobile Operator	Lao PDR Mobile Operator	Agreements
Operator A	Operator B	<p>Between GSM Technology B does not use GSM</p> <p>LTE Technology Use PCI number A : 0-251 B : 252-503</p> <p>Between GSM and LTE Use agreed signal threshold level</p>

Examples of principles that have been implemented Mobile Service between Laos-Thailand

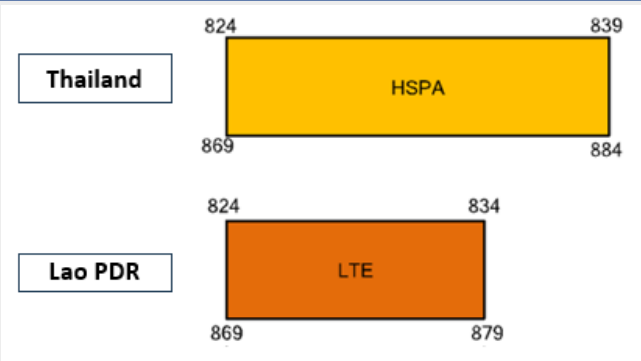
Band 1800 MHz



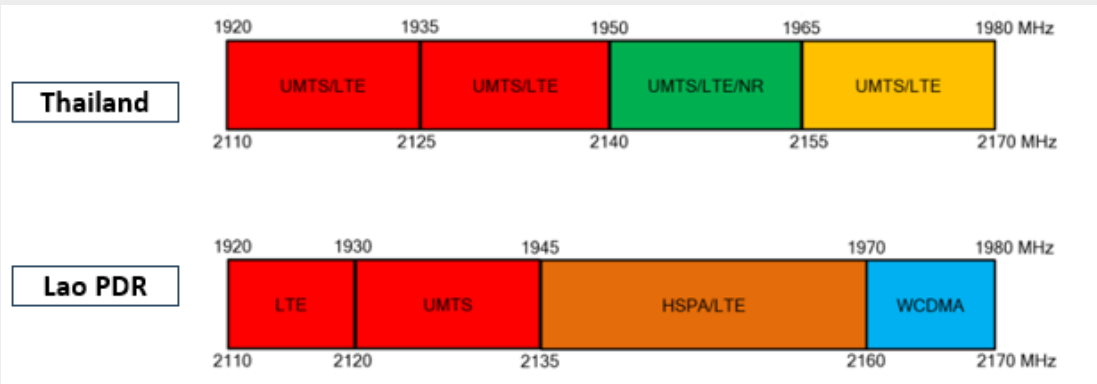
Thailand Mobile Operator	Lao PDR Mobile Operator	Agreements
Operator A	Operator B	<u>Between LTE Technology</u> Use PCI number A : 0-251 B : 252-503 <u>Between LTE and GSM</u> Use agreed signal threshold level

Examples of principles that have been implemented Mobile Service between Laos-Thailand

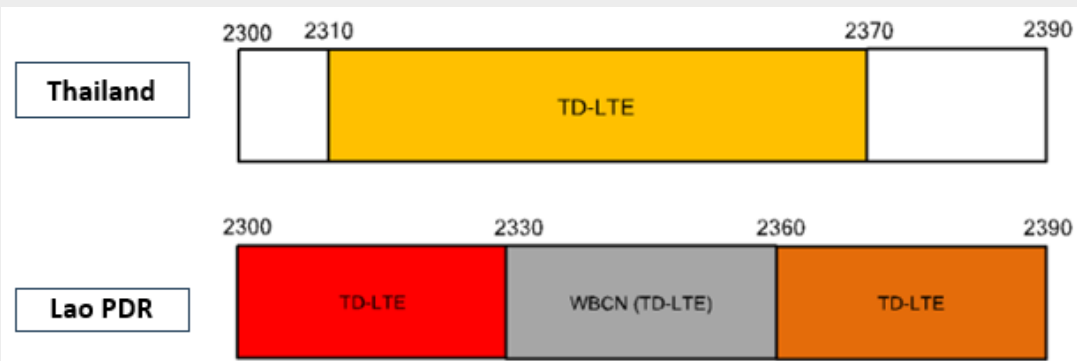
Band 850 MHz



Band 2100 MHz



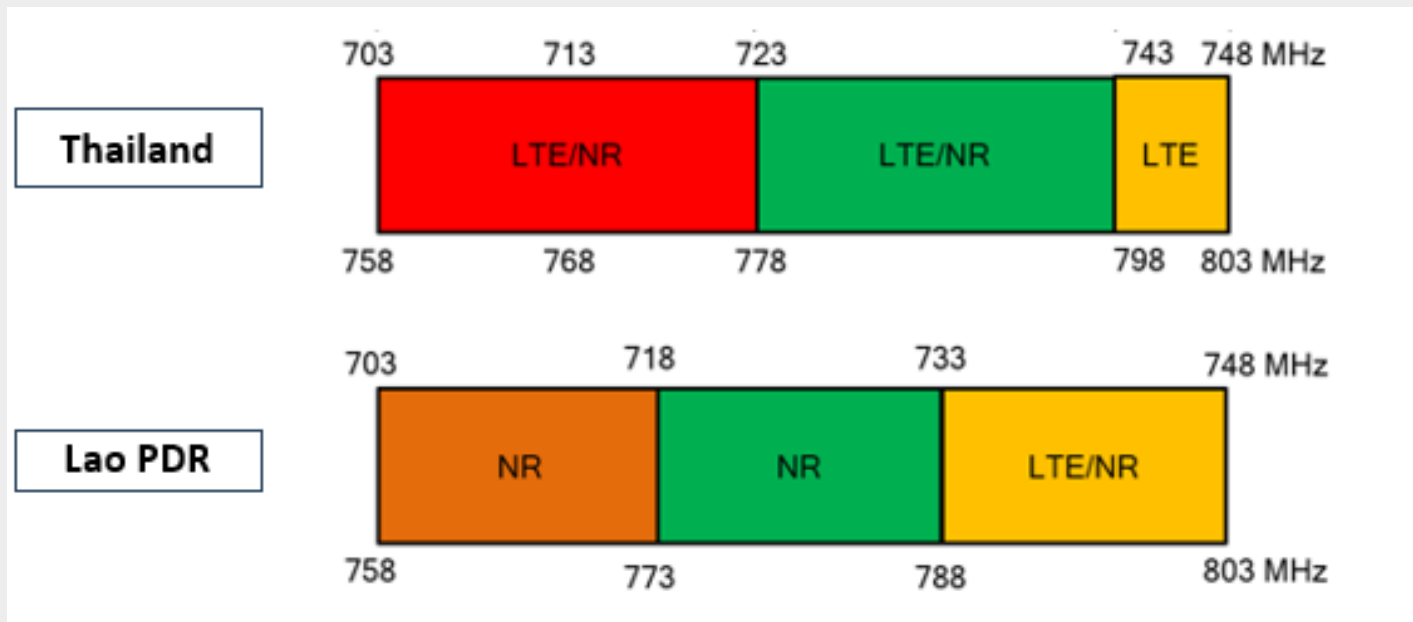
Band 2300 MHz



The use of radio frequencies in the 700 MHz band by Laos and Thailand

Band 700 MHz

- No agreement from both sides.

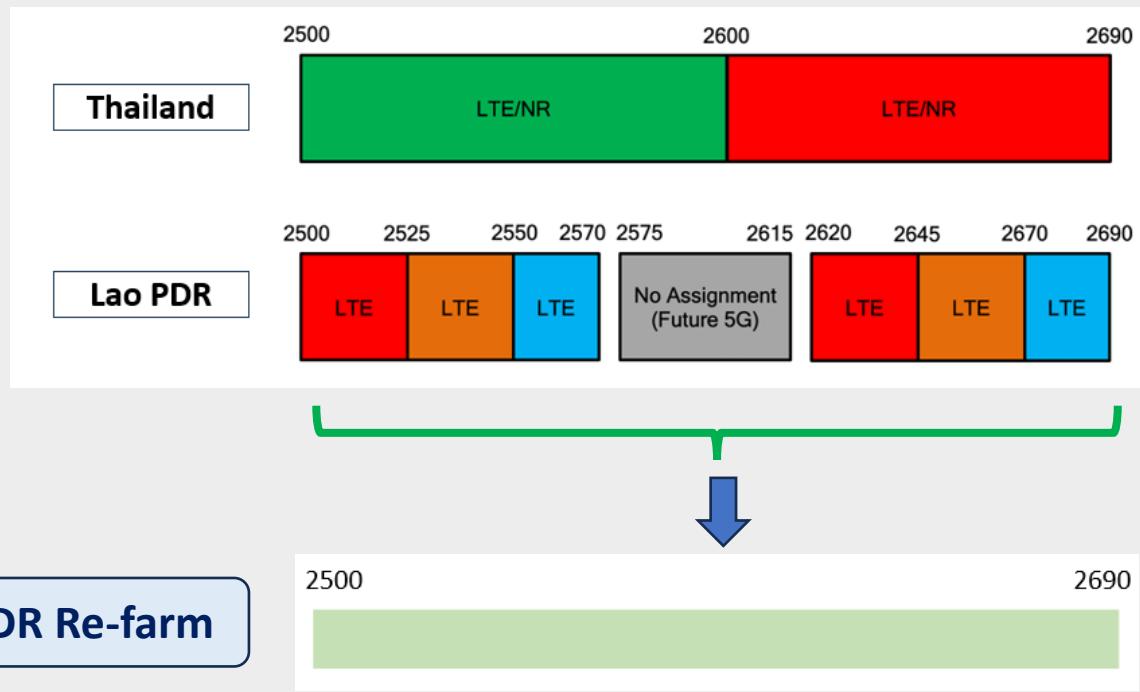


The use of radio frequencies in the 2600 MHz band by Laos and Thailand

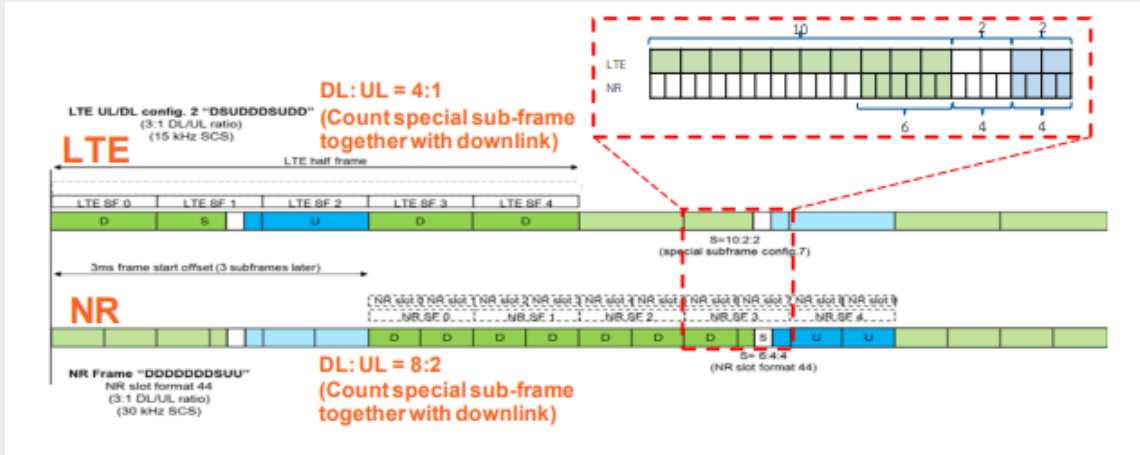
Band 2600 MHz

Both side agreed to use the technical parameter, including GPS time synchronization and TDD frame structure.

- LTE 4G DL:UL = 4:1
- NR 5G DL:UL = 8:2



Lao PDR Re-farm



Soruce:

- CEPT: ECC Report 296, ECC Report 216;
- APT: Spectrum for future IMT system in Myanmar (October 2019).

Agreed band plan for Broadcasting Service between Laos -Thailand

Sound Broadcasting Service

Band plan for FM Radio (87-108 MHz) agreed.

Coordination type: Notification.

Technology: FM Radio.

Coordination distance : Within coordination zone (30 Km from the borderline).

Television Broadcasting Service

Band plan agreed.

Band plan: Band Segmentation.

- Laos uses odd channels: 21, 23, 25,....., 47.
- Thailand uses even channels: 22, 24, 26,.....48.

Technology: Digital TV.

Coordination type: Notification.

Coordination distance : Within coordination zone (30 Km from the borderline).

Agreed band plan for PPDR between Laos –Thailand

(Public Protection and Disaster Relief)

HF bands

Frequency Band	Channel	Bandwidth
3 MHz	3341 KHz	25 KHz
	3815 KHz	25 KHz
	3825 KHz	25 KHz
6 MHz	6314 KHz	25 KHz
	6314.7 KHz	25 KHz
	6450.1 KHz	25 KHz
	6771 KHz	25 KHz

VHF bands

Frequency Band	Channel	Bandwidth
VHF	163.175 MHz	25 KHz

Thank you for your attention

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