



EPoC RF Channel Definition

Structure & Control

RF Spectrum Ad Hoc

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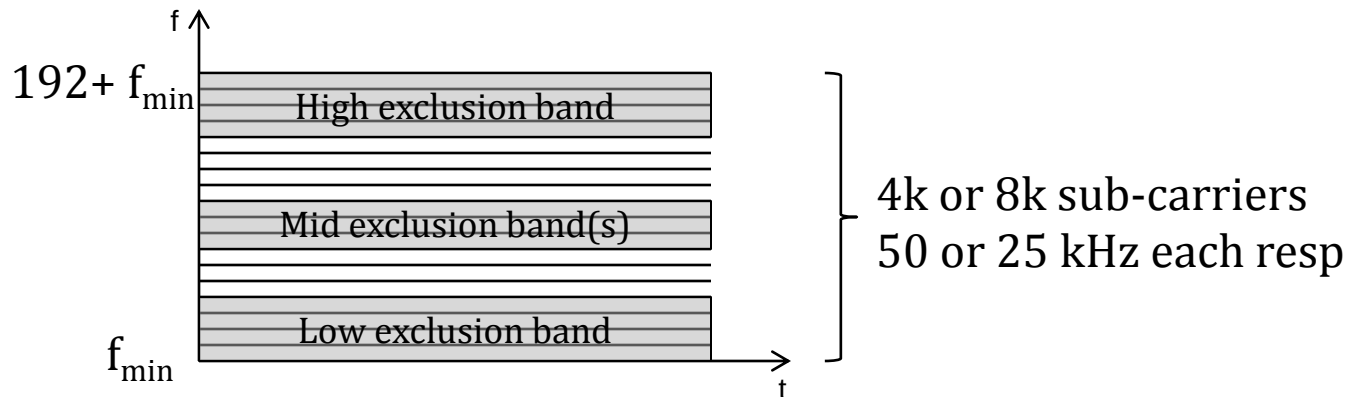
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Defined to date (DS only)

- RF Channel 192 MHz wide sampled at 10.24 MHz
 - (Geneva motion 12)
- High/Low/Mid Exclusion Bands
 - (Geneva motion 10 & Phoenix motion 6)
- Two possible FFT sizes: 4096 or 8192
 - Sub-carriers of 50 or 25 kHz respectively (Phoenix motion 11)



Terms

- RF Channel – the 192 MHz of spectrum defined in GVA-12
- Exclusion Band – a part of the RF Channel in which the PHY is not allowed to transmit. Typically used for: narrowing the RF Channel boundaries, protecting legacy services within the RF Channel, or prevent egress interference.

Spectrum Granularity

Straw Poll #1

- The granularity for setting the Center Frequency (f_c) of the RF Channel should be:

8 MHz 0

6 MHz 0

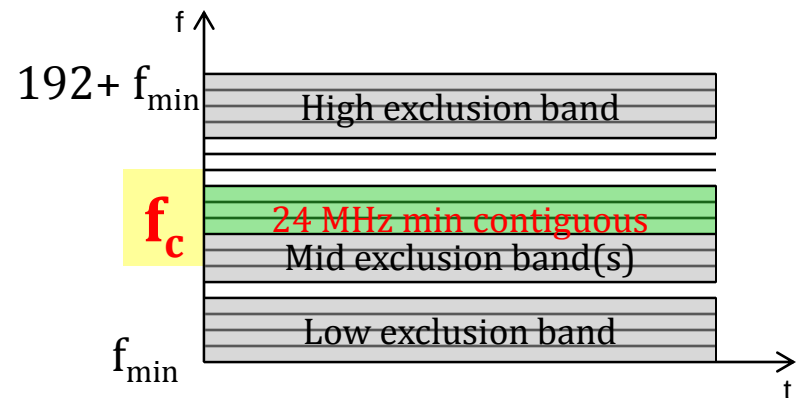
2 MHz 2

1 MHz 8

500 kHz 0

200 kHz 0

Undecided 1



RF Spectrum Upper Bound

Straw Poll #2a

- The system should be capable of communicating an upper bound of the RF spectrum of:

1 GHz __0__

1.2 GHz __0__

1.8 GHz __0__

2.5 GHz __0__

5.0 GHz _11_

Other _____ GHz

RF Spectrum Upper Bound

Straw Poll #2b

- I prefer the minimum upper bound of the RF spectrum supported by the PHY to be:

	TDD	FDD	
1.0 GHz	<u> 2 </u>	<u> 2 </u>	
1.2 GHz	<u> 3 </u>	<u> 7 </u>	
1.8 GHz	<u> 1 </u>	<u> 1 </u>	
3.0 GHz	<u> 0 </u>	<u> 0 </u>	
Other	<u> 0 </u>	<u> 0 </u>	GHz
Don't know	<u> 5 </u>	<u> 1 </u>	

RF Spectrum Upper Bound

Straw Poll #3a

- I prefer the minimum Lower bound of the RF spectrum supported by the PHY to be:

FDD DS

85 MHz _2_____

108 MHz _6_____

120 MHz _0_____

240 MHz _0_____

300 MHz _0_____

550 MHz _2_____

Other _0.0_____ MHz

Don't know _0_____

RF Spectrum Upper Bound

Straw Poll #3b

- I prefer the minimum Lower bound of the RF spectrum supported by the PHY to be:

TDD (low band)

5 MHz _9_

54 MHz _0_

85 MHz _0_

108 MHz _0_

120 MHz _0_

240 MHz _0_

300 MHz _0_

550 MHz _1_

Other _ MHz

Don't know _1_

RF Spectrum

Straw Poll #3a

- The FDD downstream Frequency band edges of 108 MHz & 1200 MHz
- I support FDD downstream Frequency band edges of 108 MHz & 1200 MHz

Yes 5

No 5

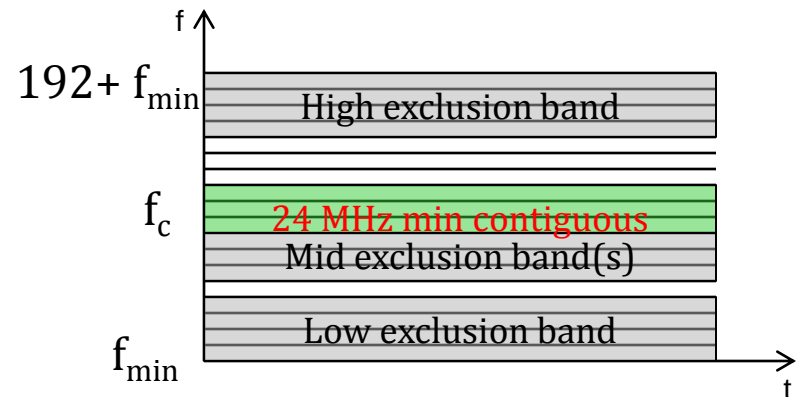
Exclusion Band Granularity

Straw Poll #4

- The granularity for setting the location and width of DS Exclusion Bands should be

Chicago rules

2 MHz	<u> 7 </u>
1 MHz	<u> 9 </u>
500 kHz	<u> 4 </u>
200 kHz	<u> </u>
50 kHz	<u> </u>
25 kHz	<u> </u>
Other	<u> </u>



Setting Exclusion Bands

- Relative to Center Frequency?
 - High Band – first excluded band
 - Low Band – last excluded band
 - Mid Band
 - First excluded band & width?
 - First & last excluded band?
- I (drr) don't think absolute freq. makes any sense.

Exclusion Band example (1 MHz steps)

- Relative to RF Channel Center Frequency
 - High Band – distance in MHz from the upper frequency limit of channel;
 - $0 < \text{Low Band} < 96 \text{ MHz}$
 - In 1 MHz steps
 - Uses 7 bits
 - Low Band - distance in MHz from the lower frequency limit of channel
 - $0 < \text{Low Band} < 96 \text{ MHz}$
 - In 1 MHz steps
 - Uses 7 bits
 - Mid Band
 - Start - distance in MHz from lower frequency limit of the channel to the center of the exclusion band
 - $0 < \text{Mid Band Start} < 192 \text{ MHz}$
 - In 1 MHz steps
 - Uses 8 bits
 - Width – width in MHz of the exclusion band above and below exclusion band center frequency
 - $1 < \text{Width} < 32\text{MHz}$ (total of 64 MHz possible coverage)
 - 1 MHz steps
 - Uses 5 bits
 - Total for Lower, Upper & 8 Mid Exclusion Bands is 118 bits

Exclusion Band example (250 kHz steps)

- Relative to RF Channel Center Frequency
 - High Band – distance in MHz from the upper frequency limit of channel;
 - $0 < \text{Low Band} < 96 \text{ MHz}$
 - In 250 kHz steps
 - Uses 9 bits
 - Low Band - distance in MHz from the lower frequency limit of channel
 - $0 < \text{Low Band} < 96 \text{ MHz}$
 - In 250 kHz steps
 - Uses 9 bits
 - Mid Band
 - Start - distance in MHz from lower frequency limit of the channel to the center of the exclusion band
 - $0 < \text{Mid Band Start} < 192 \text{ MHz}$
 - In 250 kHz steps
 - Uses 8 bits
 - Width – width in MHz of the exclusion band above and below exclusion band center frequency
 - $1 < \text{Width} < 32 \text{ MHz}$ (total of 64 MHz possible coverage)
 - 250 kHz steps
 - Uses 3 bits
 - Total for Lower, Upper & 8 Mid Exclusion Bands is 154 bits

Exclusion Band example (50 kHz steps)

- Relative to RF Channel Center Frequency
 - High Band – distance in MHz from the upper frequency limit of channel;
 - $0 < \text{Low Band} < 96 \text{ MHz}$
 - In 50 kHz steps
 - Uses 11 bits
 - Low Band - distance in MHz from the lower frequency limit of channel
 - $0 < \text{Low Band} < 96 \text{ MHz}$
 - In 50 kHz steps
 - Uses 11 bits
 - Mid Band
 - Start - distance in MHz from lower frequency limit of the channel to the center of the exclusion band
 - $0 < \text{Mid Band Start} < 192 \text{ MHz}$
 - In 50 kHz steps
 - Uses 12 bits
 - Width – width in MHz of the exclusion band above and below exclusion band center frequency
 - $1 < \text{Width} < 32 \text{ MHz}$ (total of 64 MHz possible coverage)
 - 50 kHz steps
 - Uses 10 bits
 - Total for Lower, Upper & 8 Mid Exclusion Bands is 198 bits

Minimum Spectrum

- The minimum contiguous DS spectrum should be 24 MHz

Yes 10

No

Setting Exclusion Bands

Straw Poll #5

- I would prefer to set internal exclusion bands by:
- A) Specifying start location and width
- B) Specifying start location and end location
- C) Specifying center frequency and width
- D) Abstain

A	<u> 5 </u>
B	<u> 7 </u>
C	<u> 5 </u>
D	<u> 1 </u>

Chicago rules

