



Digital Radio Mondiale

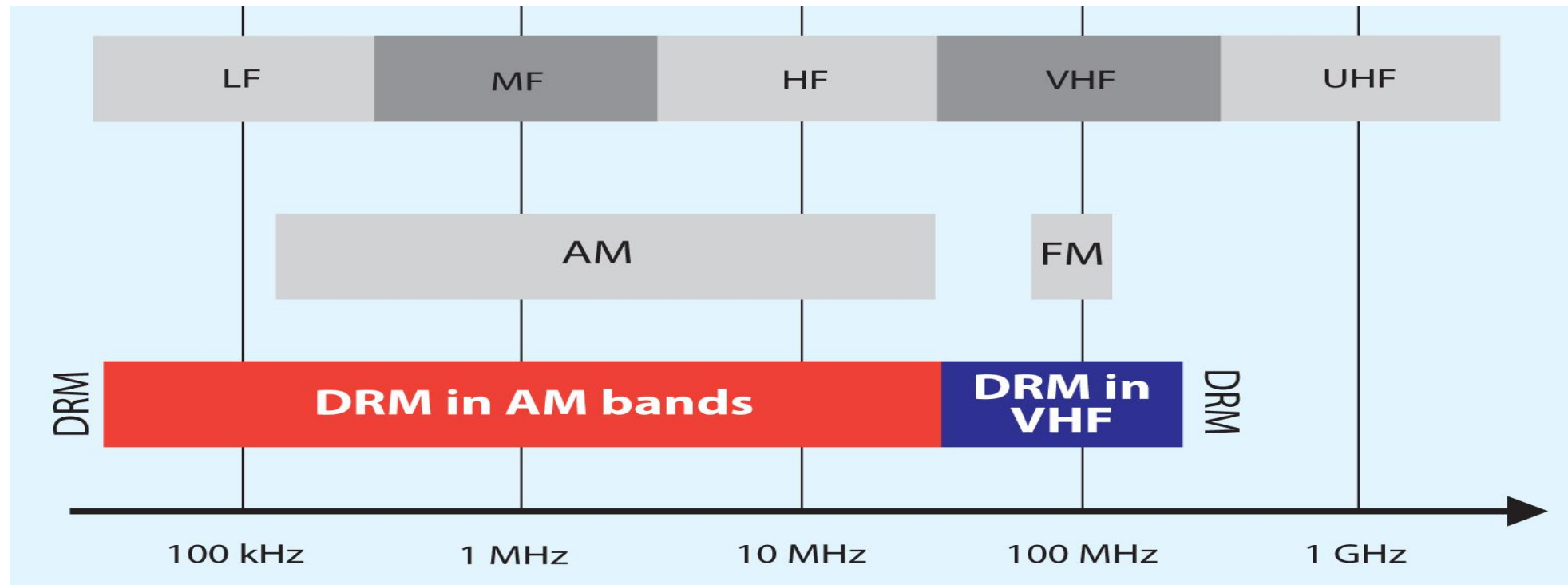
Multichannel configuration

DRM Forum
Nauen, 19. Juli 2023

Detlef Pagel, RFmondial GmbH



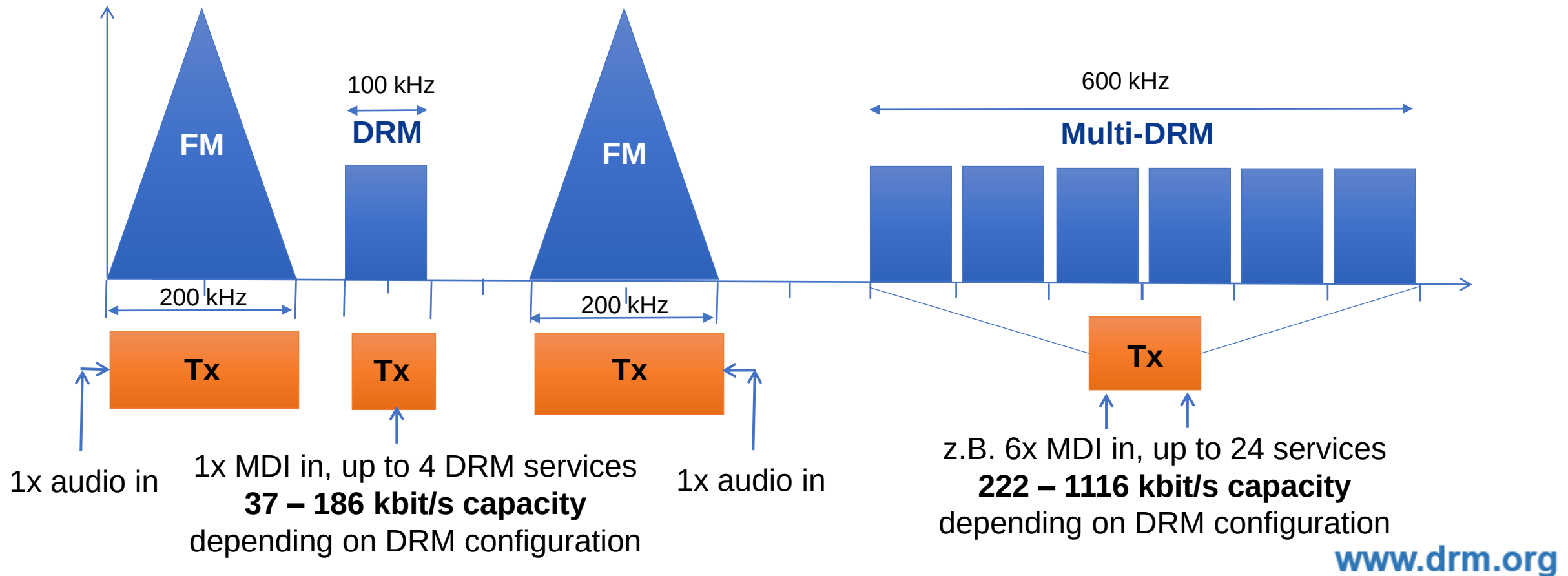
DRM is the Global Digital Radio Standard for all Bands



DRM is one single standard for all bands (AM and VHF/FM, Band III).
The features and benefits are exactly the same throughout.

DRM ist in das FM Band einplanbar als Einzel-DRM-Block oder als Multi-DRM-Signal zwischen existierende FM-Träger

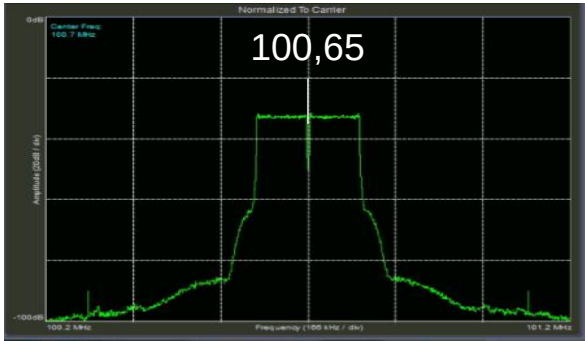
- Multi-DRM = Bis zu 6/8 DRM-Blöcke können im praktischen Fall parallel von einem DRM Sender ausgesendet werden



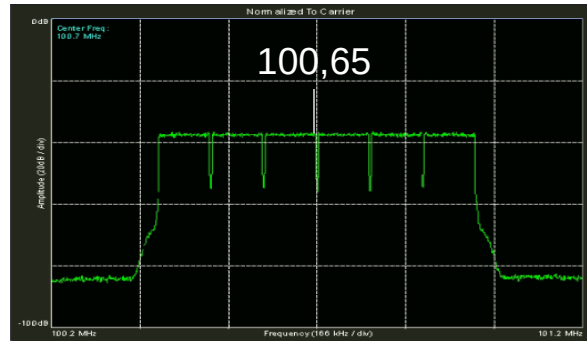
Multichannel DRM - Übersicht

- Keine speziellen Empfänger notwendig
- Erstmalig demonstriert auf der IBC 2019 mit 6 x DRMs, bis zu 15 x DRMs möglich
- Erfolgreich demonstriert in Indien 2020 on-air
- Hohe Spectrums-Effizienz
- Einfache Sendertechnik, da keine Combiner etc. notwendig sind
- FM Sendeinfrastruktur kann weiter genutzt werden - kosteneffizient
- Die Leistung jedes DRM Blocks kann auf den individuellen Versorgungsauftrag abgestimmt werden.

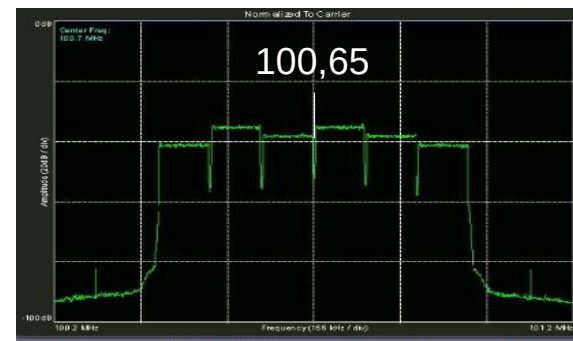
Pure Digital – Multi-DRM configuration presented in India



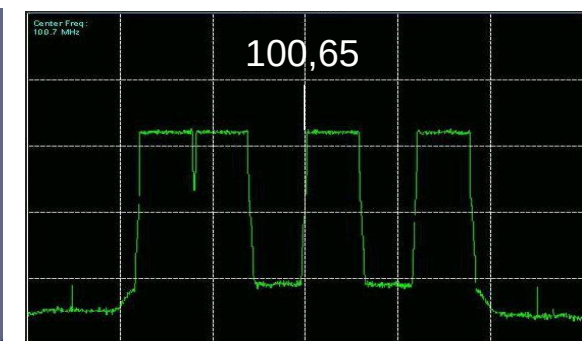
Test case 1



Test case 2



Test case 3



Test case 4

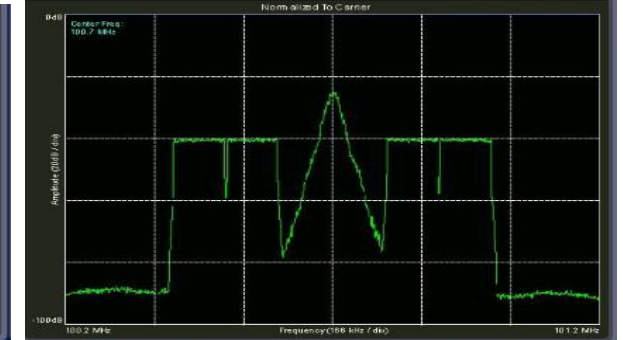
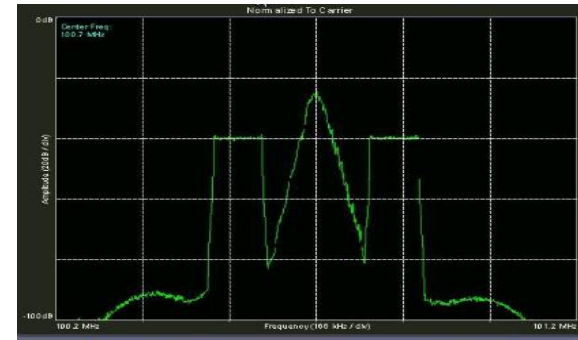
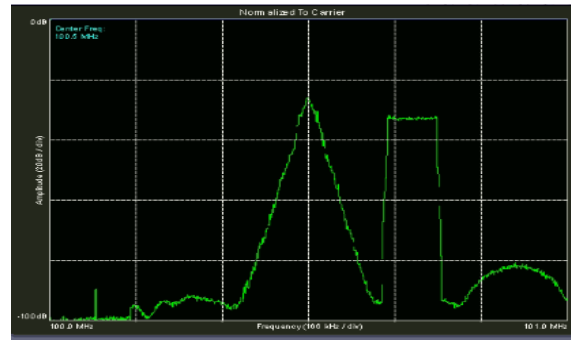
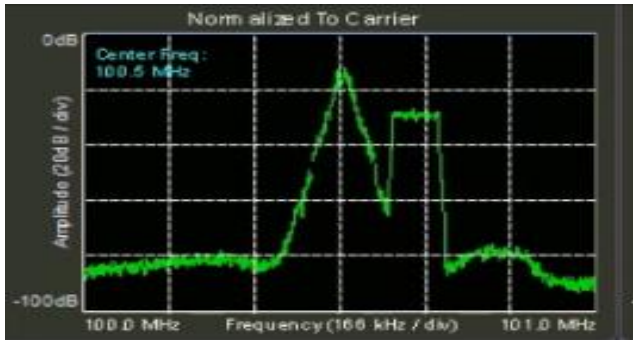
Test case	Transmitter		Signal Configuration and Receiver Tuning Frequency (MHz)												
	Center (MHz)	Power (W)	100,35	100,4	100,45	100,5	100,55	100,6	100,65	100,7	100,75	100,8	100,85	100,9	100,95
Test case 1: "Multi-DRM Showcase A"	100,65	200						100%	100%						
Test case 2: "Multi-DRM Showcase B"	100,65	600		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Test case 3: "Multi-DRM Showcase C"	100,65	100		25%	100%	50%	100%	50%	100%	50%	100%	25%	100%	100%	
Test case 4: "Multi-DRM Showcase D"	100,65	100		100%	100%			100%	100%			100%	100%	100%	

Colour code:

DRM

**Up to 6 or more DRM signals (24 or more different services)
side-by-side from the same transmitter in different combinations**

Simulcast DRM operation



Test case	Transmitter		Signal Configuration and Receiver Tuning Frequency (MHz)												
	Center (MHz)	Power (W)	100,35	100,4	100,45	100,5	100,55	100,6	100,65	100,7	100,75	100,8	100,85	100,9	100,95
Test case 1: "Simulcast Showcase A"	100,5	1100			FM			10%							
Test case 2: "Simulcast Showcase B"	100,5	1100			loud processed FM			10%							
Test case 3: "Simulcast Showcase C"	100,5	400			equal				equal						
Test case 4: "Simulcast Showcase D"	100,5	400			FM			10%		10%					
Test case 5: "Simulcast Showcase E"	100,7	400					10%	FM			10%				
Test case 6: "Simulcast Showcase F"	100,7	400			10%		10%	FM			10%			10%	

Colour code:

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analogue FM

**Both analogue FM service and up to 4 DRM signals
(12 Audio + 4 Multimedia Journaline services) from the same transmitter**



Ihre Fragen bitte