



Agentschap Telecom
Ministerie van Economische Zaken

Dutch Guild

Frequentiecoördinatie
tijdens grootschalige
evenementen

vrijdag 7 april 2017





Agentschap Telecom

- Circa 280 medewerkers
- Kantoren in Groningen en Amersfoort
- Opgericht in 1927 als onderdeel van PTT
- Sinds 1989 onderdeel van het ministerie van Economische Zaken
- Twee taakgebieden:
 - beleidsuitvoering
 - toezicht





Agentschap Telecom
Ministerie van Economische Zaken

Inhoud

- Ontwikkelingen
- Licensed Shared Access
- Evenementen
- Mediapark
- Uitdagingen

vrijdag 7 april 2017



Ontwikkelingen



Nota Frequentiebeleid 2016



Ontwikkelingen



Toenemende maatschappelijke afhankelijkheid van draadloze communicatie



Nieuwe technologie schept mogelijkheden



Steeds drukker in de ether

Inzet van beleid



Efficiënt werkende markt



Aansluiten op maatschappelijke ontwikkelingen



Borgen publieke belangen

Acties



Opstellen meerjarenstrategie voor mobiel, omroep



Stimuleren gedeeld gebruik van frequenties



Faciliteren bedrijfs-toepassingen



Toezicht en bemiddeling bij verstoringen





P4 Molenpoortdak 210
Mariënborg 237
Route 258 27

ERICSSON

Digital
Oyster

HOUSE

TEL

RADIO & TV

 **SENNHEISER**

 **WISYCOM**
WIRELESS SYSTEMS FOR COMMUNICATIONS

 **SENNHEISER**

UHF
800 MHz
Made in Germany

PROVINCIE
GELDERLAND
GG
GELDERLAND.NL

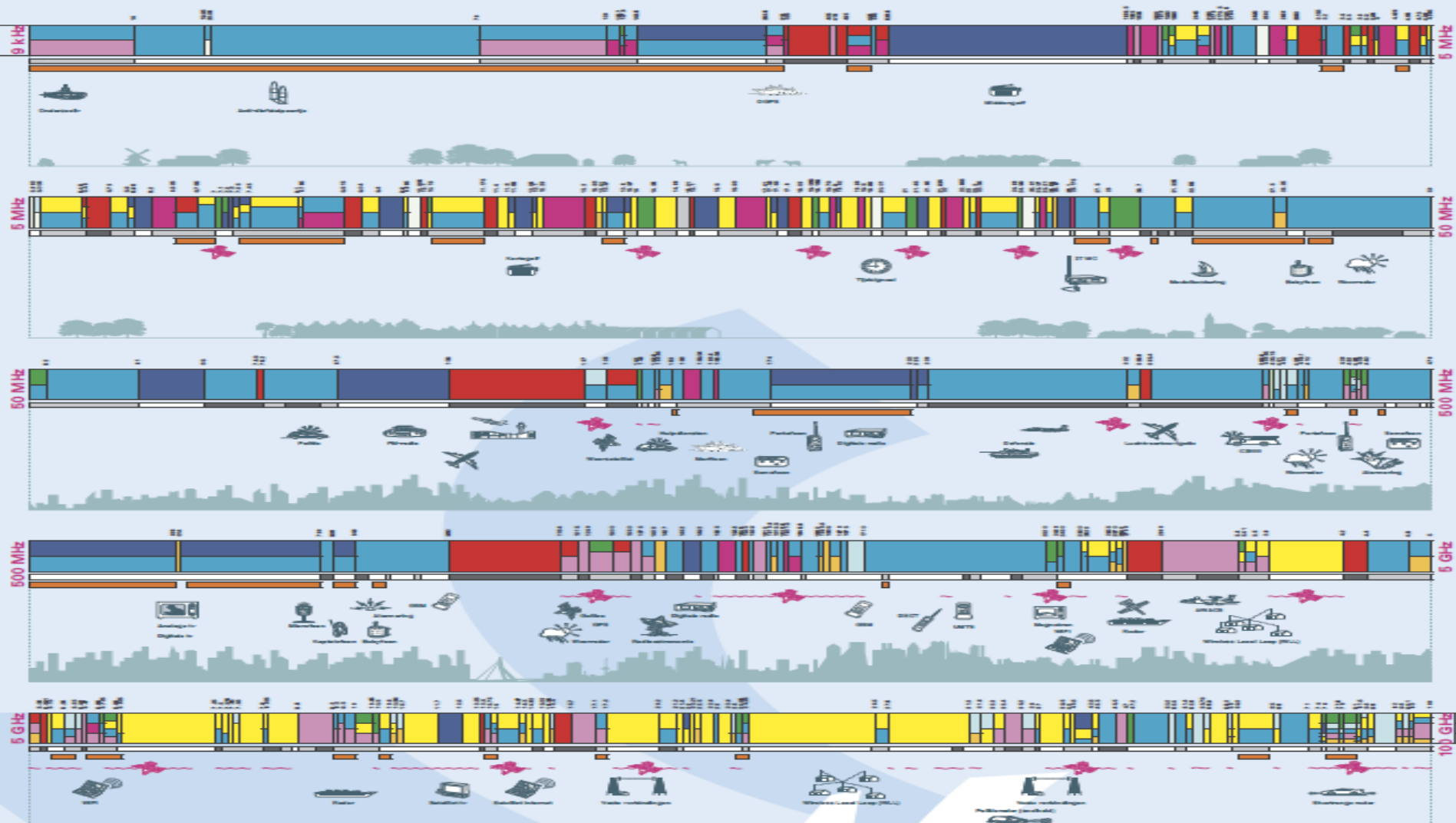
OO

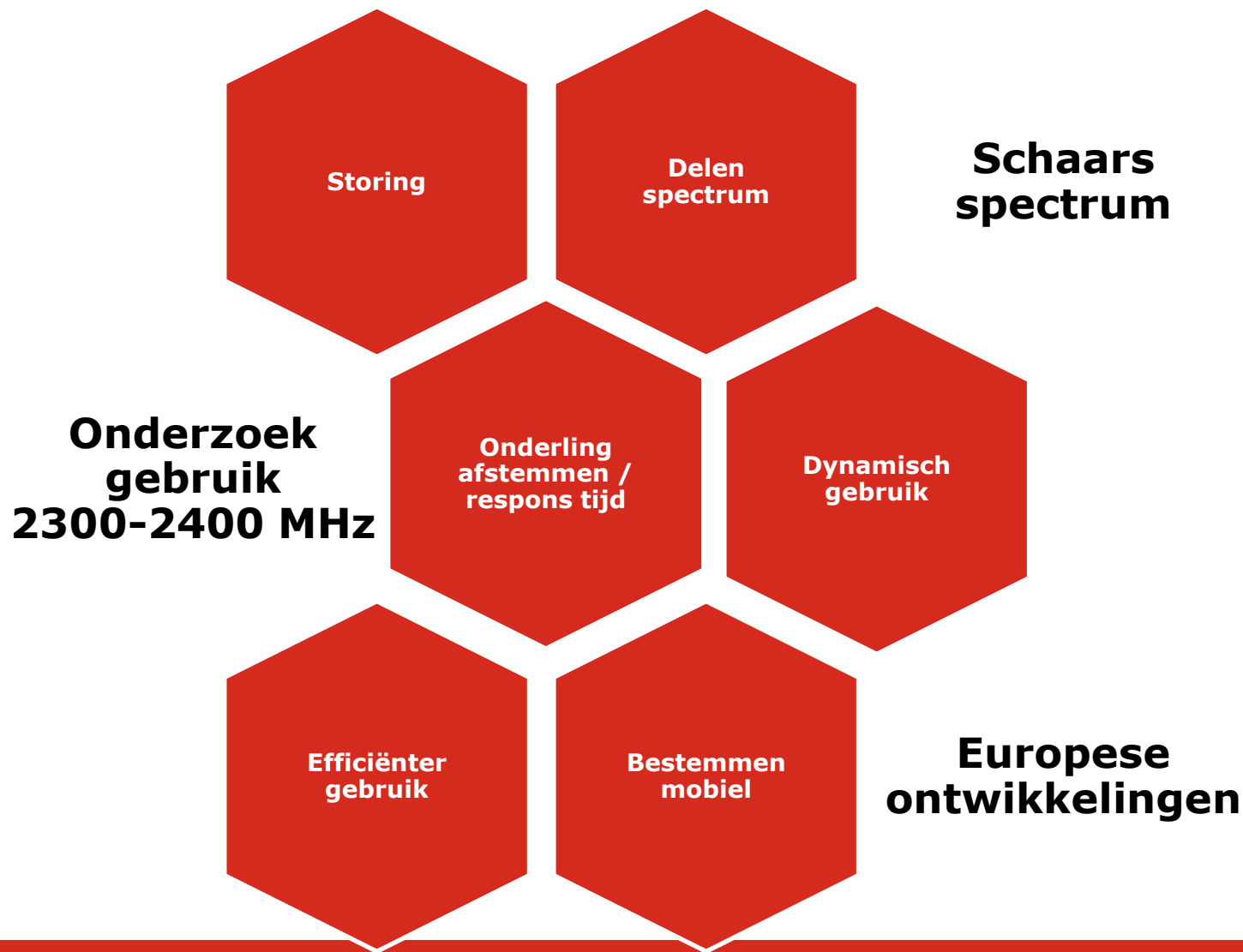




Licensed Shared Access









Efficiënt en effectief gebruik van
frequentieruimte waarbij de bestaande
gebruikers dezelfde QoS blijven behouden



New reservation

Latitude	Longitude	Coverage (meters)
<input type="text" value="52.370680482753775"/>	<input type="text" value="4.897544880141352"/>	<input type="text" value="820.45"/>



Availability

Unique code: 8544196

Channels	Available	Selection	Reason
2320 - 2330	Yes	<input type="checkbox"/>	
2330 - 2340	Yes	<input type="checkbox"/>	
2380 - 2390	Yes	<input type="checkbox"/>	
2390 - 2400	Yes	<input type="checkbox"/>	

Event name

Contact

Telephone number

[Back \(change input\)](#)

[Confirm reservation](#)

[Queue reservation](#)



Parameters

Block and release

Reservations

Change licensees

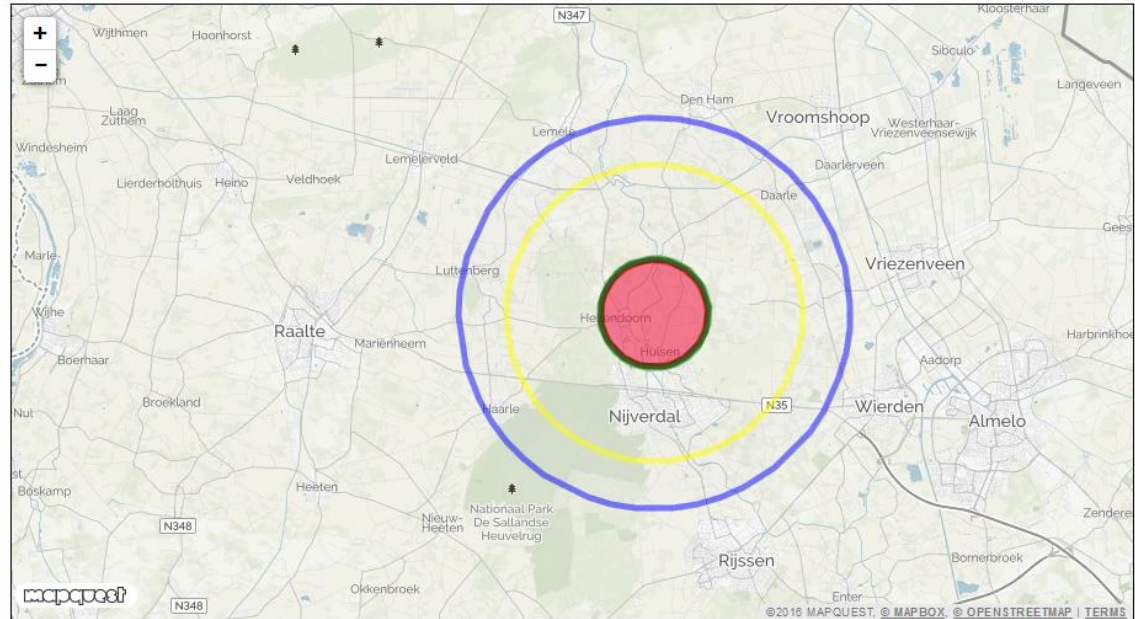
Export

Documentation

Unique ID	Licensee	Event name	Contact	Tele no.	Start time	Stop time	Action
8558991	Disseldorp	Nieuws	Peter Disseldorp	7219	2016-09-28 20:30	2016-09-28 21:30	Map Delete

Channels: 2320 - 2330 MHz | 2330 - 2340 MHz | 2380 - 2390 MHz | 2390 - 2400 MHz

Close map



Red: Reservation area – Area reserved by the Licensee (possible transmitter locations).

Yellow: Protection area – Area which can contain Licensee receivers and should be protected (calculated based on Licensee's device parameters).

Blue: Co-channel interference area – Area where other licensees are susceptible to harmful interference due to Licensee's co-channel transmission.

Green: Adjacent channel interference area – Area where other licensees are susceptible to harmful interference due to Licensee's adjacent channel leaked power.

Black: Alternate channel interference area – Area where other licensees are susceptible to harmful interference due to Licensee's alternate channel leaked power.

Export resources

Show reservations on the map



Evenementen






AMXX
STER
DAM
2016




AMXX
STER
DAM
2016




AMXX
STER
DAM
2016



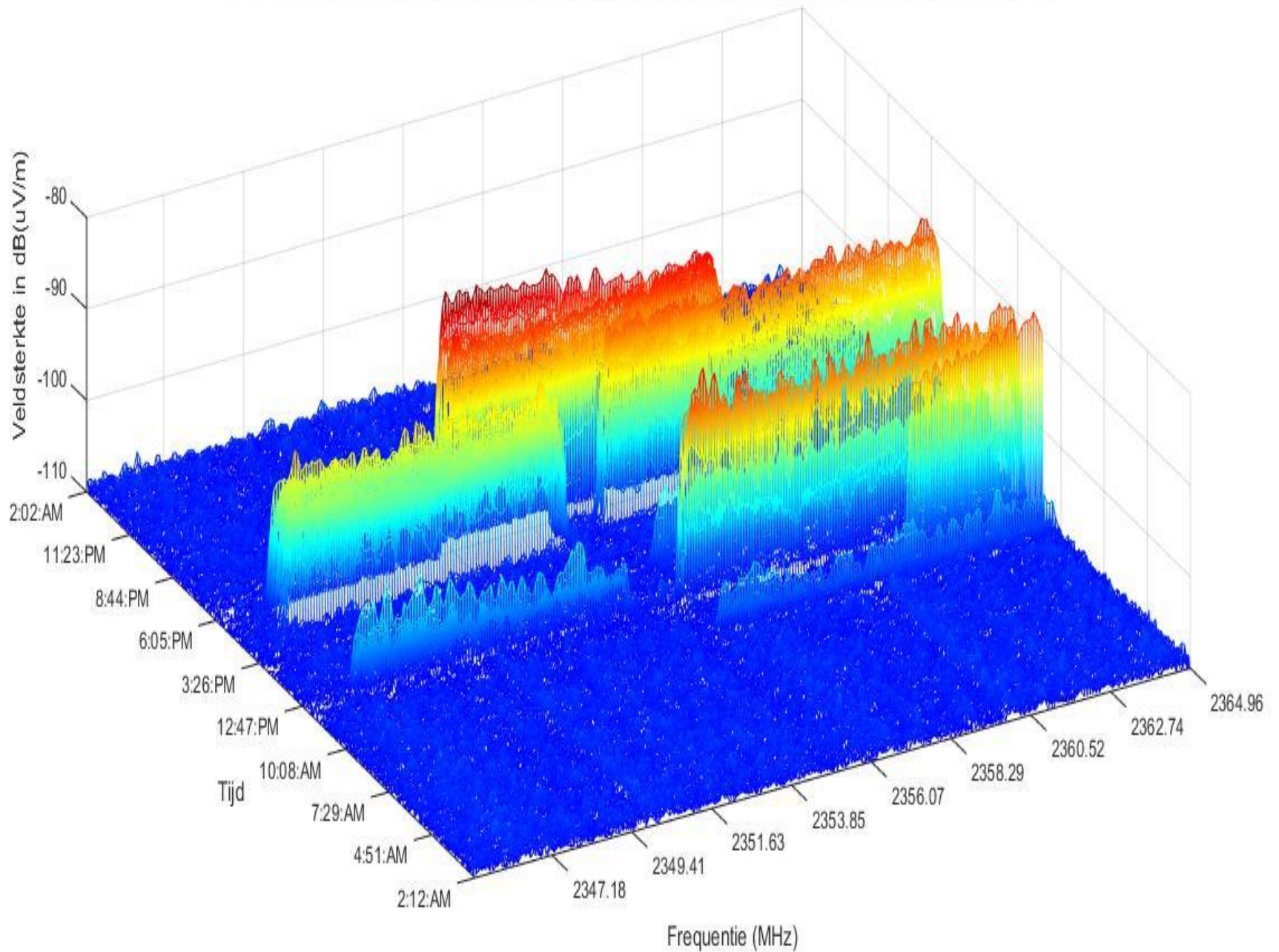
2015

TOUR DE FRANCE
4-26 juillet • 102^e édition

Le
de TOUR
France



Frequentiespectrum van 2344.9609 MHz tot 2364.9609 MHz, LMT meetpunt rfeye000214. Datum: 15/07/05



JOUR DE FRANCE 2015 Etape en Hollande le 05/07



antenne 9 db G02 3.4/3.6
 3415 M1 M4 H Son C
 + data GPS
 3515 M2 M3 M5 Son D

Dpro 20
 16QAM
 FEC 2/3
 GI 1/16
 Inter 30ms
 39.031Mbits/s



antenne 9 db G02 3.5/3.7
 3679 M2 M3 H Son A
 + data GPS
 3704 M5 M1 M4 Son B
 + data capteur

Dpro 20
 16QAM
 FEC 2/3
 GI 1/16
 Inter 30ms
 39.031Mbits/s

R: Souf



2095 H

Dpro 8
 16QAM
 FEC 1/2
 GI 1/16
 Inter 30ms
 11.709Mbits/s



1405
 1: mic
 2: NATO

H1: Eric
 Quick 6



1415
 1: mic
 2: NATO

H2: Vincent
 Quick 7

Modulation motos + Helicos:
 Dpro 8
 16QAM
 FEC 1/2
 GI 1/8
 Inter 320ms
 11.058 Mbits/s

Modulation Velos :
 Dpro 8
 QPSK
 FEC 1/2
 GI 1/4
 Inter 320ms
 4.976Mbits/s

Velo 1: 2430 Quick 8

Velo 2: 2440 Quick 9

Capteurs: 443.7625
 444.8750
 444.0125
 444.6750

2065: Cam HF 1

2075: Cam HF 2

Datas SDF:
 458.0375 Mhz
 458.1125 Mhz
 Ordres technique S
 443.0125Mhz

France2
 cam hf :2420 Mhz
 data :461 600 Mhz

1430
 1: coupleL
 2: coupleR
 3: mono
 4: J1



Moto image 1
 Quick 1

1460
 1: coupleL
 2: coupleR
 3: mono
 4:



Moto image 2
 Quick 2

1473
 1: coupleL
 2: coupleR
 3: mono
 4: J2



Moto image 3
 Quick 3

1483
 1: coupleL
 2: coupleR
 3: mono
 4:



Moto image 4
 Quick 4

1493
 1: coupleL
 2: coupleR
 3: mono
 4:



Moto image 5
 Quick 5

1430



Moto Relais
 Velos





Maryland
54362M4
www.maryland.gov



Mediapark







6

Summit
PENS

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

- DAVE
- [unclear]
- JAN
- [unclear]
- [unclear]
- [unclear]
- [unclear]
- [unclear]
- [unclear]
- [unclear]

TO

	NAME	PHONE
	NAME	PHONE
	NAME	PHONE
	NAME	PHONE

EN



Ref: -36.5 dBm

• RBW: 30 kHz

SWT: 2.22 s

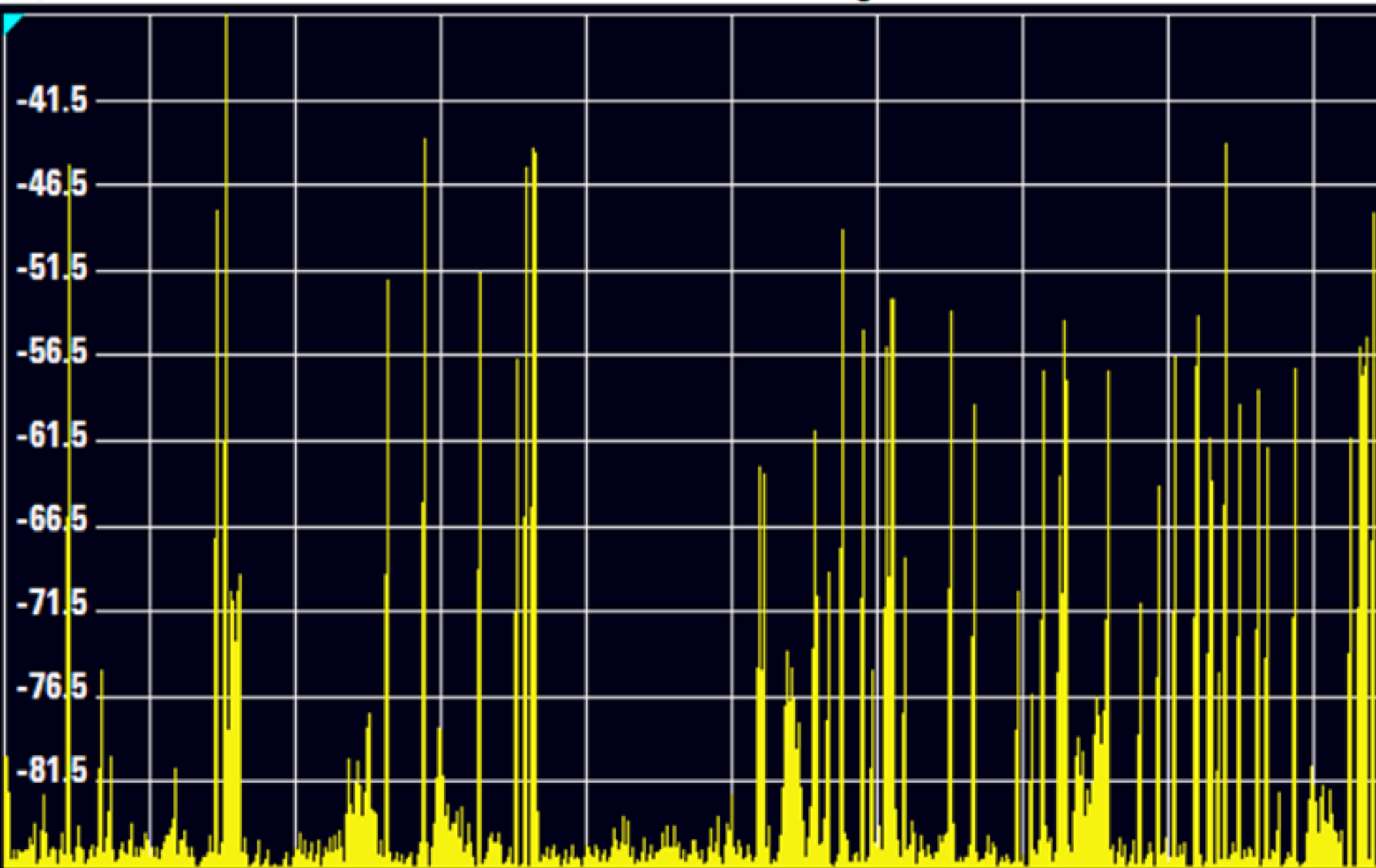
Trace: Clear/

• Att: 10 dB

VBW: 30 kHz

Trig: Free Run

Detect: Auto P

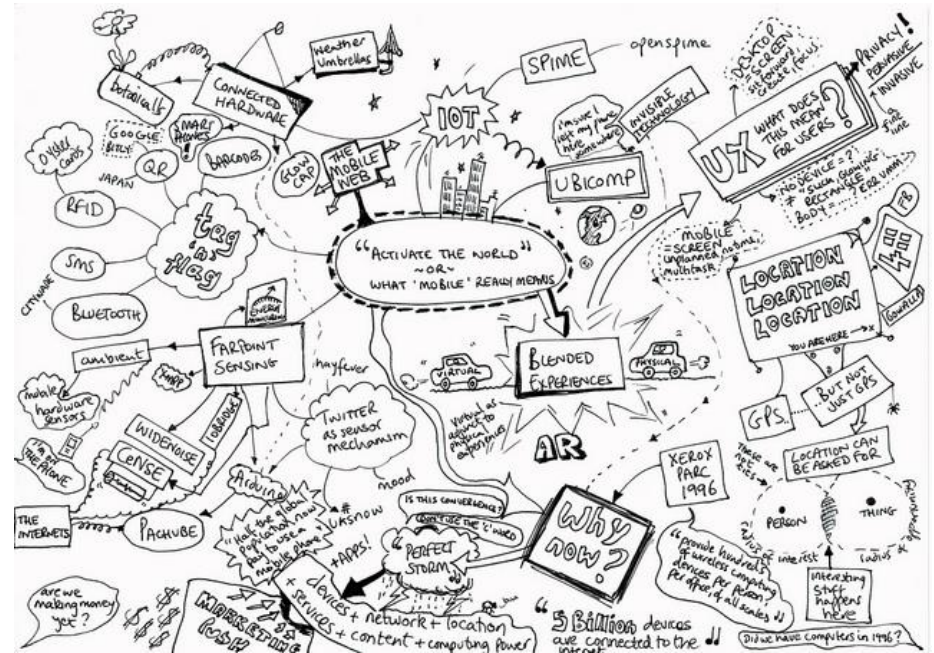


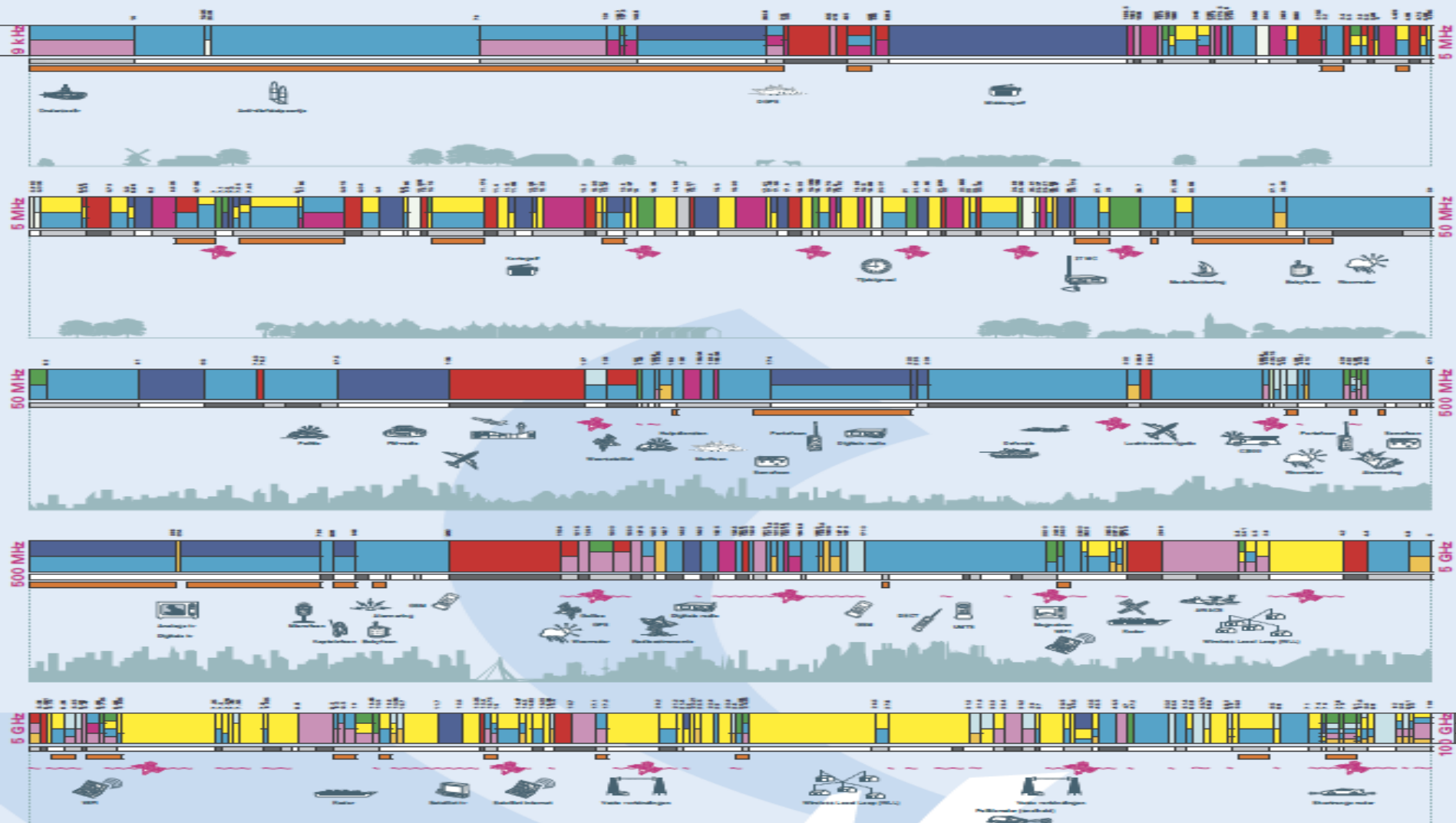
Start: 400 MHz

Stop: 800 MHz



Uitdagingen







Memory (MHz)

01 ---

Demodulation

WFM

Step

25kHz

Span

5MHz

Span AV

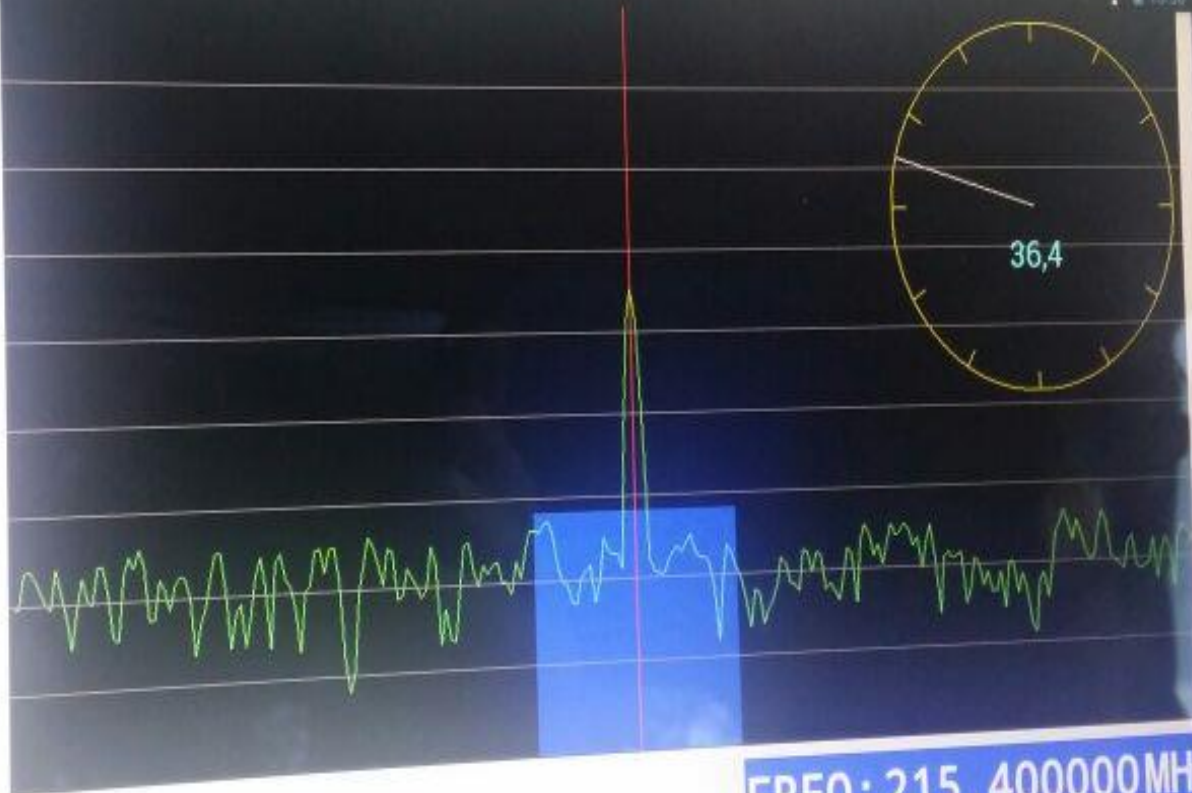
0.2s

Peiler AV

1s

Volume

SCALE LOG



0dB Bandwidth: 150kHz

FREQ: 215,400000MHz

MAP

RDS:

RDS:



COMMUNICATION DISTANCE Vs. POWER



INCREASING POWER



SOMETIMES, LESS IS MORE

WILLIAM SHAKESPEARE

PICTUREQUOTES.COM







