Bureau Telecommunications and Post St. Maarten

ANFR
AGENCE NATIONALE DES FRÈQUENCES

Dutch Authority for Digital Infrastructure
Ministry of Economic Affairs and Climate Policy

AGREEMENT BETWEEN THE ADMINISTRATIONS OF ANGUILLA, FRANCE, SINT MAARTEN AND THE STATE OF NETHERLANDS FOR SABA AND ST. EUSTATIUS CONCERNING THE SPECTRUM COORDINATION OF LAND MOBILE RADIOCOMMUNICATION NETWORKS IN THE FREQUENCY RANGE 698 MHz to 3800 MHz

By correspondence, February 2023

1 INTRODUCTION

The representatives of the Administrations of Anguilla (AIA), France (F), St. Maarten (SXM) and the Netherlands (HOL) for Saba and St. Eustatius (BES), taking into account the recommendations of the International Telecommunication Union, under Article 6 of the Radio Regulations, have concluded this Agreement on the cross-border coordination of frequencies used by land mobile radio communication networks in the spectrum range 698 MHz to 3800 MHz.

This Agreement abrogates the previous one concluded in 2016 between Anguilla (AIA), France (F) and St Maarten (SXM) and Saba and St. Eustatius (BES) in the frequency bands 694 MHz to 3600 MHz.

The geographical area concerned includes the territories of St Maarten (SXM)/Saint-Martin (F), Anguilla (AIA), Saint-Barthélemy (F), Saba and St Eustatius (BES)[1]. A global map of the area is set out in **Annex 4**.

This geographical area is part of ITU Region 2. Co-existence between ITU Region 2 frequency plans (especially North American frequency plans: 700 MHz, GSM/UMTS/LTE 850 MHz and PCS 1900 MHz systems, 2600 MHz) and ITU Region 1 frequency plans (especially European frequency plans: PPDR 700 MHz, 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz), 2.3 GHz, 2.6 GHz and 3.4-3.8 GHz requires specific coordination efforts.

The provisions of this Agreement add to the mandatory requirements of the ITU Constitution and the ITU Radio Regulations, which have both the status of an International Treaty, and in particular:

- No.°197 of the ITU Constitution: "*All stations, whatever their purpose, must be established and operated in such a manner as not to cause harmful interference to the radio services or communications of other Member States or of recognized operating agencies, or of other duly authorized operating agencies which carry on a radio service, and which operate in accordance with the provisions of the Radio Regulations.*" (This exact disposition is repeated in Article°**0.4** of the ITU Radio Regulations.)
- No.°198 of the ITU Constitution: "*Each Member State undertakes to require the operating agencies which it recognizes and the other operating agencies duly authorized for this purpose to observe the provisions of No. 197 above.*"
- No.°199 of the ITU Constitution: "*Further, the Member States recognize the necessity of taking all practicable steps to prevent the operation of electrical apparatus and installations of all kinds from causing harmful interference to the radio services or communications mentioned in No. 197 above.*"
- Article°**15.2** of the ITU Radio Regulations: "*Transmitting stations shall radiate only as much power as is necessary to ensure a satisfactory service*"
- Articles°**15.3**, **15.4** & **15.5** of the ITU Radio Regulations: "*In order to avoid interference [...], a) locations of transmitting stations and, where the nature of the service permits, locations of receiving stations shall be selected with particular care; b) radiation in and reception from unnecessary directions shall be minimized by taking the maximum practical advantage of the properties of directional antennae whenever the nature of the service permits*"

[1] Bonaire, also part of the geographical area BES, is not subject to this agreement

In accordance with the above articles and dispositions of the ITU Constitution and the ITU Radio Regulations:

- Emission aiming at a territory coming from any other neighbouring territories must be reproved
- The location, the output power and the antenna height and pattern of all base stations in the network shall be selected in such a way that their range is confined, as far as possible, to the zone to be covered by the intended service within the national territory. For example, in border areas, directional antennas shall be used in order to minimise the potential interference in adjacent territories.

Taking into account the unique geographical situation of the area of St Maarten (SXM)/Saint-Martin (F), Anguilla (AIA), Saint-Barthélemy (F), Saba and St. Eustatius (BES), this actual frequency coordination Agreement has been established with a view to:

- Reducing problems of harmful interference[2] between land mobile radiocommunication systems operating in neighbouring countries;
- Optimising the use of spectrum resources in the border areas.

In particular, this Agreement has been established with a view to find a balanced solution between:

- On the one hand, minimising harmful emissions coming from the neighbouring territories. These harmful emissions may cause harmful interference, harmful coverage (international roaming issues) or may prevent an Administration from utilising / allocating portions of its national spectrum.
- On the other hand, defining satisfactory frequency-usage conditions for land mobile operators to operate their networks while maintaining a good quality of service and good coverage upon the national territory.

This leads Administrations to accept and agree upon a certain level of interference (as defined in Article°1.168 of the ITU Radio Regulations[3]) and/or a certain level of coverage from neighbouring countries.

2 Article°1.169 of the ITU Radio Regulations

3 Accepted interference: Interference at a higher level than that defined as permissible interference and which has been agreed upon between two or more administrations without prejudice to other administrations.

2 FREQUENCY USAGE AND PREFERENTIAL FREQUENCY PLANS

This Agreement, covers the 3GPP frequency bands set out in Annex 1.

The frequency usage for each territory is as follow:

Frequency band designation	Concerned country	Base receive (MHz)	Base transmit (MHz)
B85_PPDR_700	AIA	698-703	728-733
B17_US_700	AIA	704-716	734-746
B67_SDL_700	F	NA	738-753
B68_PPDR 700	F	698-703	753-758
B13_US_700	AIA	777-787	746-756
B28_CEPT_700	F, [SXM]	703-733	758-788
B28_APT_700	BES	703-748	758-803
B28_PPDR_700 (1)	F, [SXM, BES]	733-736	788-791
B20_800	F	832-862	791-821
B5_850	AIA	824-844	869-889
B8_900	F, SXM, BES, AIA	890-915	935-960
B3_1800	F, SXM, BES, AIA	1710-1785	1805-1880
B2_1900	AIA	1900-1910	1980-1990
B1_FDD_2100	F, SXM, BES, AIA	1920-1980	2110-2170
B33_TDD 2100	[SXM, BES, AIA]	1900-1920	1900-1920
B34_TDD 2100	[SXM, BES, AIA]	2010-2025	2010-2025
B40_TDD 2300	[SXM, BES, AIA]	2300-2400	2300-2400
B7_LTE FDD 2600	F	2500-2570	2620-2690
B38_LTE TDD 2600	F	2570-2620	2570-2620
B42_TDD 3800	F, SXM	3400-3600	3400-3600
B43_TDD 3800	F, SXM	3600-3800	3600-3800

Table 1: frequency usage for each territory

(1) Recommendation ITU-R M.2015: Frequency arrangements for public protection and disaster relief radiocommunication systems in accordance with Resolution 646 (Rev.WRC-15)

The Administrations recognise that the use of different frequency plans may lead to interferences. Taking into account the frequency usage of each Administration, three cases of incompatibility have been identified:

- between the APT, EU and US plans in the 700 MHz band
- between the 850 MHz and 900 MHz bands
- between the 1800 MHz, 1900 MHz and 2100 MHz bands

In order to alleviate the incompatibilities between the different frequency plans usage, the signatory administrations agree on a preferential frequency plan which designates the primary type of uses.

The agreed preferential frequency plan taking into account the identified usages in the territories of the APT, EU and US band plans in the 700 MHz frequency band is as follow:

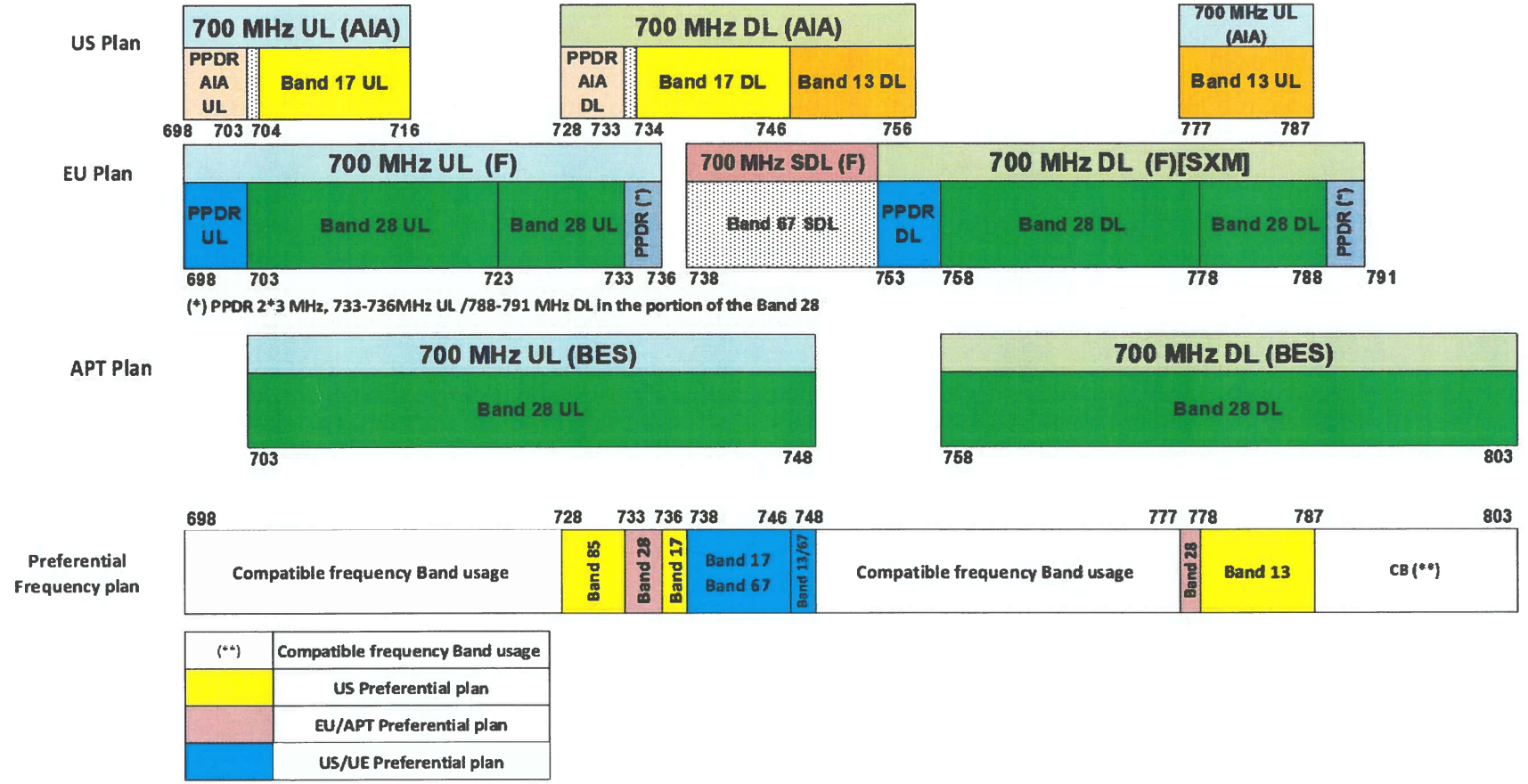
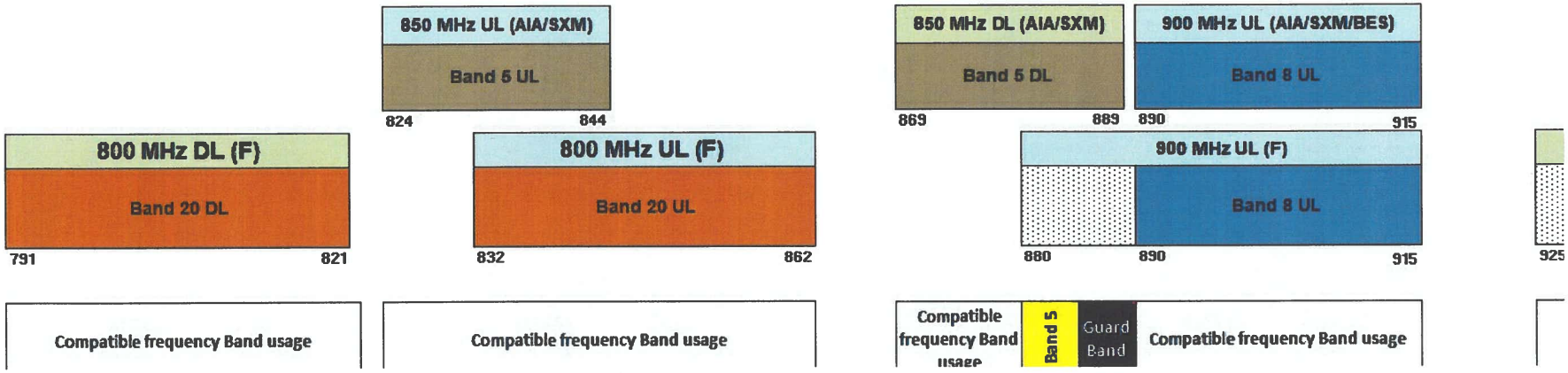


Figure 1: Preferential frequency plan in the 700 MHz frequency band

The agreed preferential frequency plan taking into account the identified usages in the 850 MHz and 900 MHz frequency bands is as follow:



(*) The APT Plan Band28 (703-748MHz UL/758-803MHz DL) is compatible with the Band 20 800 MHz (791-821MHz DL/ 832-862MHz UL)

Figure 2: Preferential frequency plan in the 850 MHz and 900 MHz frequency bands

The agreed preferential frequency plan taking into account the identified usages in the 1800 MHz, 1900 MHz and 2100 MHz frequency bands is as follow:

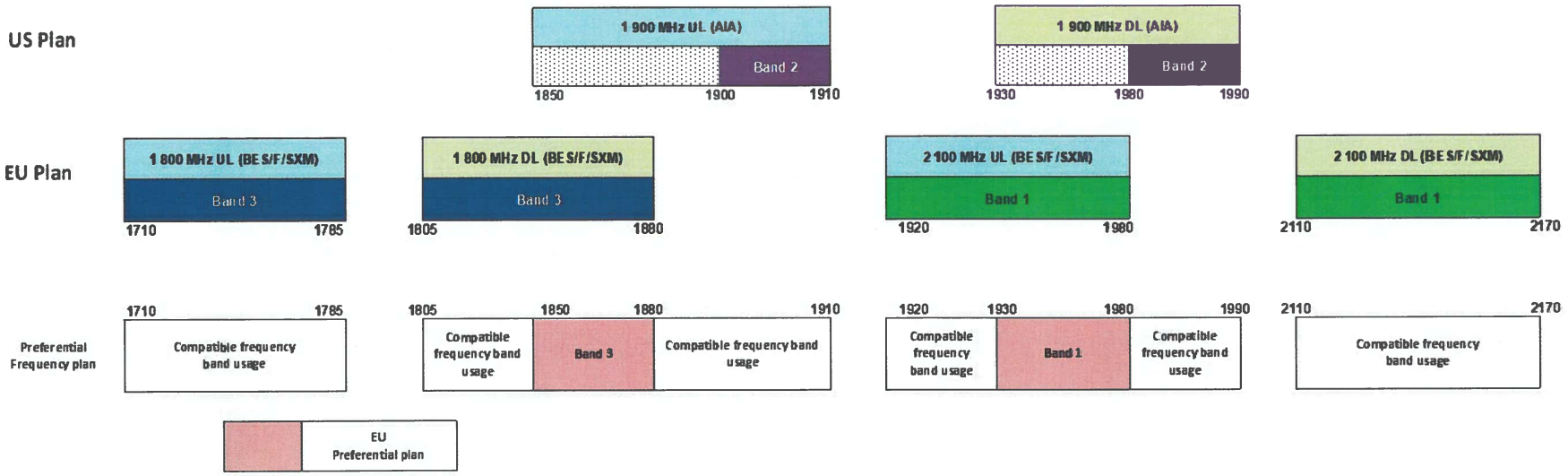


Figure 3: Preferential frequency plan in the 1800 MHz, 1900 MHz and 2100 MHz frequency bands

3 SPECTRUM COORDINATION

3.1 Coordination for GSM systems in the 900 MHz and 1800 MHz frequency bands

The coordination procedure shall be based on the concept of preferential frequencies. The uplink and downlink frequency bands shall be split into groups of frequencies which shall be assigned between the four countries as "preferential channels in GSM". In order to limit possible mutual interference between the GSM and UMTS / LTE networks, frequency blocks of 5 MHz or 10 MHz are allocated to the deployment of UMTS or LTE. The allocation is given as follow:

a) Preferential channels for GSM systems and frequency blocks for UMTS/LTE systems in 900 band

The allocation of GSM 900 preferential channels shall be as followed:

GSM ARFCN	Number of channels	Country	Base transmit Frequency range (MHz)
1000-0	25	Guard Band	
1-12	12	**AIA/SXM/BES**	935,2-937,4
13	1	Guard band	
14-24	11	**F**	937,8-939,8
25	1	Guard band	
26-39	14	**AIA/SXM/BES**	940,2-942,8
40	1	Guard band	
41-54	14	**F**	943,2-945,8
55	1	Guard band	
56-64	8	**AIA/SXM/BES**	946,2-947,8
65	1	Guard band	
66-75	10	**F**	948,2-950

For GSM 900, the formula for centre frequency is: Frequency (Uplink) = 890 + 0,2*n and Frequency (Downlink) = 935 + 0,2*n, where n = 1 to 124.

In the 900 MHz frequency band, 2 frequency blocks, 5 MHz and 10 MHz bandwidth has been identified for the deployment of UMTS/LTE systems.

Base receive	Base transmit	Applicable System
905 - 915	950 - 960	UMTS/LTE

Figure 4: GSM versus UMTS/LTE allocation in the 900 MHz frequency band

For the GSM versus UMTS/LTE case, arrangements between operators are needed to deviate from the allocation above between **GSM 900** and **UMTS/LTE 900**.

b) Preferential channels for GSM systems and frequency blocks for LTE systems in 1800 band

The allocation of preferential GSM 1800 channels shall be as followed:

GSM ARFCN	Number of channels	Country	Base transmit Frequency range (MHz)
512-535	24	**AIA/SXM/BES**	1805.1-1809.9
587-610	24	**F**	1820.1-1824.9
611	1	Guard band	
612-635	24	**AIA/SXM/BES**	1825.1-1829.9
687-710	24	**F**	1840.1-1844.9
762-773	12	**F**	1855.1-1857.5
774	1	Guard band	
775-785	11	**AIA/SXM/BES**	1857.7-1859.9
786	1	Guard band	
787-810	24	**F**	1860.1-1864.9
862-885	24	**AIA/SXM/BES**	1875.1-1879.9

For GSM 1800, the formula for center frequency is: Frequency (Uplink) = 1710.2 + 0.2·(n−512) and Frequency (Downlink) = 1805.2 + 0.2·(n−512), where n = 512 to 885.

In the 1800 MHz frequency band, 4 frequency blocks of 10 MHz has been identified for the deployment of LTE systems.

Base receive	Base transmit	Applicable Systems
1715-1725	1810-1820	LTE
1735-1745	1830-1840	LTE
1750-1760	1845-1855	LTE
1770-1780	1865-1875	LTE

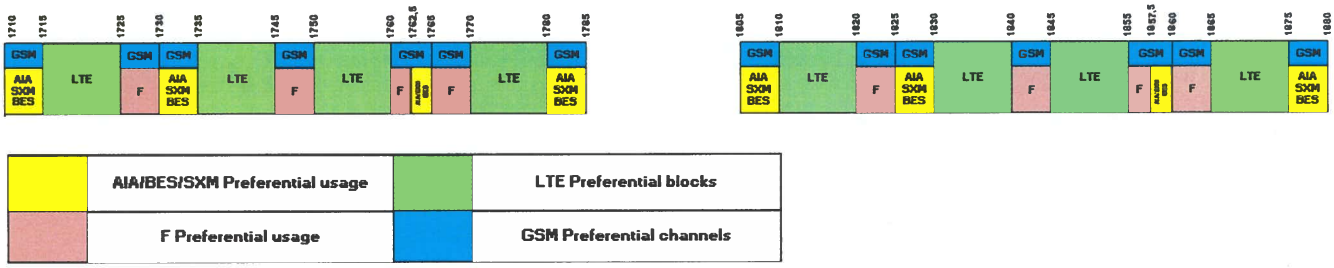


Figure 5: GSM versus LTE allocation in the 1800 MHz frequency band

To introduce LTE 1800 in the spectrum allocated to GSM 1800 arrangements between operators are needed (introduction of GSM channels in the spectrum allocated to LTE is not allowed).

3.1.1 Technical requirements applicable for the use of GSM preferential and non-preferential channels

GSM 900 and GSM850 (respectively **GSM 1800 and GSM 1900**) using preferential channels may be operated without coordination with the neighbouring country if the predicted mean field strength of each channel produced by the base station does not exceed a value of **52.5 dBµV/m/200 kHz** (respectively **58 dBµV/m/200 kHz)** at a height of 1.5 m above ground at the border/coastline of the neighbouring country.

GSM 900 and GSM 850 (respectively **GSM 1800 and GSM 1900**) using non-preferential channels may be operated without coordination with the neighbouring country if the predicted mean field strength of each channel produced by the base station does not exceed a value of **19 dBµV/m/200 kHz** (respectively **25 dBµV/m/200 kHz)** at a height of 1.5 m above ground at the border/coastline of the neighbouring country.

3.1.2 Non-Preferential frequencies/channels

Country A base stations using non-preferential frequencies/channels shall not cause harmful interference to the neighbouring country B to which these frequencies are preferential frequencies.

Country A base stations using non-preferential frequencies/channels cannot claim protection from harmful interference from the neighbouring country B base stations to which these frequencies are preferential frequencies.

Any use of non-preferential frequencies must be officially coordinated in line with the procedure described section 6.

3.2 Technical requirements applicable for UMTS, LTE and NR systems

Base stations may be operated without coordination if the predicted mean field strength of each carrier produced by the base station does not exceed the values given in the following table at a height of 1.5 m above ground.

Compatible frequency band or Preferential frequency plan	For information	Base transmit (MHz)	Systems	Maximum field strength at the border/coastline of the neighbouring country for preferential codes/PCI(4)
Band 85	B85_PPDR_700	728-733	LTE	59 dBµV/m/5MHz
Band 17		736-746	LTE	59 dBµV/m/5MHz
Band 67	B67_SDL_700	738-753	LTE	59 dBµV/m/5MHz
Band 13	B13_US_700	746-756	LTE	59 dBµV/m/5MHz
Band 68	B68_PPDR 700	753-758	LTE	59 dBµV/m/5MHz
Band 28		758-778	LTE/NR	59 dBµV/m/5MHz
Band 28	PPDR 788-791	787-803	LTE	59 dBµV/m/5MHz
Band 20	B20_800	791-821	LTE	59 dBµV/m/5MHz
Band 05	850	869-885	LTE / UMTS (1)	59 dBµV/m/5MHz
Band 08	900	950 - 960	LTE / UMTS (2)	59 dBµV/m/5MHz
Band 03	1800	1810-1820 1830-1840 1845-1855 1865-1875	LTE (2)	65 dBµV/m/5MHz
Band 02	B2_1900	1980-1990	LTE	65 dBµV/m/5MHz
Band 01	B1_FDD_2100	2110-2170	LTE / UMTS	65 dBµV/m/5MHz
Band 33	B33_TDD 2100	1900-1920	LTE / UMTS	21 dBµV/m/5MHz
Band 34	B34_TDD 2100	2010-2025	LTE / UMTS	21 dBµV/m/5MHz
Band 07	B7_LTE FDD 2600	2620-2690	LTE	65 dBµV/m/5MHz
Band 38	B38_LTE TDD 2600	2570-2620	LTE	32 dBµV/m/5MHz
Band 40	B40_TDD 2300	2300-2400	LTE (3)	32 dBµV/m/5MHz
Band 42	B42_TDD 3800	3400-3600	NR (3)	79 dBµV/m/5MHz (5) for synchronised networks 15 dBµV/m/5MHz for unsynchronised networks
Band 43	B43_TDD 3800	3600-3800	NR (3)	79 dBµV/m/5MHz (5) for synchronised networks 15 dBµV/m/5MHz for unsynchronised networks

Table 2: technical and operational requirements

(1) Requiring arrangements between operators in order to avoid harmful interference between GSM and UMTS/LTE networks
(2) Identification of frequency blocks for the deployment of LTE/UMTS (see section 3.2)
(3) Administrations recognize existing different services in this band. A more detail coordination procedure must be developed between the Administrations
(4) For all frequency bands, the division of preferential codes FDD, TDD and codes PCIs is given in Annex 2.
(5) In order to ease measurement, associated SSB values are given below:
The field strength value of 79 dBµV/m/5 MHz at the coastline corresponds to the following SSB trigger values:
- 69 dBµV/m//30 kHz for a single beam antenna pattern
- 76 dBµV/m//30 kHz for a multi beam antenna pattern

The field strength value of 15 dBµV/m/5 MHz at the coastline corresponds to SSB trigger values of:

- 2 dBµV/m/(30 kHz) for single beam antenna pattern
- 7 dBµV/m/(30 kHz) for multi-beam antenna pattern

If centre frequencies of UMTS signals or if synchronisation signals blocks of LTE/ NR are not aligned, mobile operators can use the field strength values defined for "*preferential codes/PCIs*" for all codes or PCIs.

In cases of other frequency block sizes 10 x Log10 (frequency block size/5MHz) should be added to the field strength values.

If TDD systems are synchronized across the border, FDD trigger values could be applied.

In order to ensure the optimum network performance, the administrations shall encourage operators to coordinate the use of physical-layer cell-identity groups for LTE/NR, scrambling code for UMTS and other radio parameters given in **Annex 2**.

3.3 Synchronization in the TDD 3400-3800 MHz band for NR

In the TDD frequency band 3400-3800 MHz, the administrations agreed to deploy NR base stations with the following parameters for the synchronisation:

a) Reference Clock

The time reference (t0) of base stations deployed in the frequency band 3400-3800 MHz, is defined according to Coordinated Universal Time (UTC) +/-1.5 µs.

b) NR Frame structure

The NR frame structure identified is DDDSU (periodicity 2.5ms, with an SCS of 30 kHz)

The format of the slot S identified is **10: 2: 2** (number of symbols, DL: GP: UL).

Base stations compliant with the parameters given above and deployed in accordance to the coordination thresholds for synchronised networks given in section 3.2 may be used without prior coordination.

Base stations not compliant with these parameters and deployed in accordance to the coordination thresholds for unsynchronised networks given in section 3.2 may be used without prior coordination.

Base stations exceeding the applicable coordination threshold must be coordinated before being used.

3.4 PPDR

Public Protection and Disaster Relief (PPDR) radio communications refers to radio applications designed for public safety, security and defense. National authorities or relevant operators use the applications to respond to emergency situations.

The administrations of AIA, BES, F and SXM ensure that the spectrum made available for public safety and protection, civil protection and disaster relief, must be used without being interfered.

The following frequency bands has been identified by the administration to deploy their equipment:

Country name	Base Receive	Base Transmit	System
Anguilla (AIA)	698-703	728-733	
Saba and Sint Eustatius (BES)	no planned use	no planned use	
St. Maarten (SXM)	no usage	no usage	
Saint-Martin and Saint-Barthélémy (F)	698-703	753-758	LTE
Saint-Martin and Saint-Barthélémy (F)	733-736	788-791	LTE

The commercial operators should, in the event of a disaster, let the priority to allow the usage of BB-PPDR/PPDR services in the identified spectrum.

4 ARRANGEMENT FOR PLANNING AT AN OPERATIONAL LEVEL

Further cooperation between the operators should be encouraged to promote local solutions and coordination efforts.
Given the size of St Maarten/St. Martin and the social structure resulting in a lot of interaction between the two sides of the island also further integration and cooperation between the operators on each side is encouraged as long as it stays within the legal framework of applicable French, Anguilla and St. Maarten laws.

Administrations should encourage and facilitate the establishment of arrangements between operators of different countries with the aim to enhance the efficient use of the spectrum and the national coverage in the border areas. Those arrangements will be subject to approval by the Administrations concerned.

5 SPECTRUM MONITORING AND ENFORCEMENT

Spectrum monitoring will be implemented by the Administrations of Anguilla (AIA), France (F), St Maarten (SXM) and the Netherlands for Saba and St. Eustatius (BES). Joint measurements and site inspections are planned to optimize resources and to prevent double work based on cost-related compensation between the Administrations.

Time schedule for enforcement:

- Regular monitoring: two times in a year, joining measurements agreed upon monitoring executed by the administrations;
- Infringement events: whenever monitoring shows infringements on the agreed frequency coordination principles, within 6 weeks.

Administrations agree to exchange on a regular basis any relevant information resulting from spectrum monitoring.

6 COORDINATION PROCEDURE

In the event of deployments using frequencies which are not a part of the agreement or in which the field strength exceeds the limits laid down in section 3.1 and 3.2 the frequencies shall be coordinated.

The requesting administration must issue a notification following the technical parameters as described in **Annex 3** for the frequency coordination. The notification issued by the requesting Administration shall in addition contain information on the foreseen starting date of operation and the type of system foreseen to be deployed.

The affected Administration shall evaluate the coordination request and within 60 days shall notify the result of its evaluation to the other Administration.

If no reply is received by the requesting Administration after the 60 days, it may send a reminder to the affected Administration. An Administration not having responded within 30 days following communication of the reminder shall be deemed to have given its consent.

7 HARMFUL INTERFERENCE

If an operator suffers from harmful interference and/or notices a degradation of the quality of service on its network – due to the rise of the field strength coming from a neighbouring Administration for example – it should immediately inform its Administration, which will contact its counterparts.

The time limit to solve problems of established harmful interference shall be no longer than 6 weeks.

A list of contact points for each Administration, including the operators shall be exchanged regularly.

8 REVIEW AND FOLLOW UP OF THE AGREEMENT

Any signatory Administration may request a review of this Agreement. Any part of this Agreement may be revised in the light of future developments, i.e. introduction of new technologies and experience in the operation of the networks covered by the Agreement.

9 WITHDRAWAL

Any Signatory Authority may withdraw from this Technical Agreement by the end of a calendar month by giving notice of its intention at least six months in advance. A declaration to that effect shall be addressed to the other Signatory Authority.

Frequency assignments made within the framework of this Technical Agreement prior to the date of entry into force of the withdrawal shall remain valid and be protected according to their status.

10 LANGUAGE OF THE TECHNICAL AGREEMENT

The original text of this Technical Agreement exists in English in four originals.

11 DATE OF ENTRY INTO FORCE

This Agreement will enter into force on the

For Anguilla	For France	For Sint Maarten	For Saba and St Eustatius
Mr. K. VD. Hodge	Mr. A. Fodil	Mrs. J. Labega-Hoeve	Mr. S. Hamstra-Couperus

Mr. D. Harrigan

Ministry of Infrastructure Communications Housing and Utilities ANGUILLA STRENGTH AND ENDURANCE

Bureau Telecommunications and Post Sint Maarten

Annex 1:

3GPP frequency bands

3GPP Band(s)	Base receive	Base transmit
85	698-716	728-746
17	704-716	734-746
67	NA	738-758
13	777-787	746-756
68	698-728	753-783
28	703-748	758-803
20	832-862	791-821
5	824-849	869-894
8	880-915	925-960
3	1710-1785	1805-1880
2	1850-1910	1930-1990
33	1900-1920	1900-1920
1	1920-1980	2110-2170
34	2010-2025	2010-2025
40	2300-2400	2300-2400
7	2500-2570	2620-2690
38	2570-2620	2570-2620
42	3400-3600	3400-3600
43	3600-3800	3600-3800

Reference documents:

Recommendation ITU-R M.1073: Digital cellular land mobile telecommunication systems

Recommendation ITU-R M.1036: Frequency arrangements for implementation of the terrestrial component of International Mobile Telecommunications-2000 (IMT-2000) in the bands 806-960 MHz, 1710-2025 MHz, 2110-2200 MHz, 2500-2690 and 3400-3600 MHz

Annex 2:

Allocation of preferential codes for UMTS systems and physical-layer cell-identity groups for LTE and NR systems

In order to ensure the optimum network performance for UMTS, LTE and NR systems deployed in Sint-Maarten (SXM), Saint-Martin (F), Anguilla (AIA), Saint-Barthélemy (F), Saba and Sint-Eustatius (BES), the administrations shall encourage operators to coordinate the use of scrambling code groups for UMTS, physical-layer cell-identity groups for LTE and NR and other radio parameters, in accordance with CEPT Recommendation ECC (01)01, (08)02 , 11(04) (11)05 and (15)01 for UMTS,LTE and NR signals **using the same centre frequency in border areas or when synchronisation signals are aligned.**.

The country numbers allocated are:

- F: code group of Country 3
- SXM: code group of Country 2
- AIA: code group of Country 1
- BES: Code group of Country 4

UMTS systems

For the FDD mode; 3GPP TS 25.213 defines 64 "scrambling code groups" in § 5.2.2, numbered {0 to 63}.

	Set A	Set B	Set C	Set D	Set E	Set F
Country 1	0..10	11..20	21-31	32..42	43..52	53..63
Border 1-2	■	■				■
Zone 1-2-3	■	■				
Border 1-3	■	■	■			
Zone 1-2-4	■					■
Border 1-4	■		■			■
Zone 1-3-4	■		■			

	Set A	Set B	Set C	Set D	Set E	Set F
Country 2	0..10	11..20	21..31	32..42	43..52	53..63
Border 2-1			■	■	■	
Zone 2-3-1			■	■		
Border 2-3		■	■	■		
Zone 2-1-4			■	■		
Border 2-4			■	■		■
Zone 2-3-4			■	■		

	Set A	Set B	Set C	Set D	Set E	Set F
Country 3	0..10	11..20	21..31	32..42	43..52	53..63
Border 3-2	■				■	■
Zone 3-1-2					■	■
Border 3-1				■	■	■
Zone 3-1-4					■	■
Border 3-4			■		■	■
Zone 3-2-4					■	■

	Set A	Set B	Set C	Set D	Set E	Set F
Country 4	0..10	11..20	21..31	32..42	43..52	53..63
Border 4-1		■		■	■	
Zone 4-1-2		■			■	
Border 4-2	■	■			■	
Zone 4-2-3	■	■				
Border 4-3	■	■		■		
Zone 4-3-1		■		■		

■ Preferential code

Non-preferential cc

Source: ECC Recommendation (08)02, 27 April 2012).

Example: applying this to the area involving AIA, SXM and F results in:

SCRAMBLING CODE GROUPS	0-20	21-42	43-63
AIA	PREFERENTIAL	NON PREFERENTIAL	NON PREFERENTIAL
SXM	NON PREFERENTIAL	PREFERENTIAL	NON PREFERENTIAL
F	NON PREFERENTIAL	NON PREFERENTIAL	PREFERENTIAL

A similar table can be derived for the area Saint-Barthélemy (F), Sint Maarten (SXM) and Saba and Sint Eustatius (BES) by applying the border 2-3-4.

For the TDD mode, 3GPP TS 25.223 defines 32 "scrambling code groups" in § 7.2, numbered {0 to 31}.

	Set A	Set B	Set C	Set D	Set E	Set F
Country 1	0..4	5..10	11..15	16..20	21..26	27..31
Border 1-2	■	■				■
Zone 1-2-3	■	■				
Border 1-3	■	■	■			
Zone 1-2-4	■					■
Border 1-4	■		■			■
Zone 1-3-4	■		■			

	Set A	Set B	Set C
Country 2	0..4	5..10	11..1
Border 2-1			■
Zone 2-3-1			■
Border 2-3		■	■
Zone 2-1-4			■
Border 2-4			■
Zone 2-3-4			■

	Set A	Set B	Set C	Set D	Set E	Set F
Country 3	0..4	5..10	11..15	16..20	21..26	27..31
Border 3-2	■				■	■
Zone 3-1-2					■	■
Border 3-1				■	■	■

	Set A	Set B	Set C
Country 4	0..4	5..10	11..1
Border 4-1		■	
Zone 4-1-2		■	
Border 4-2	■	■	

Source: Revised ERC Recommendation 01-01

Example: applying this to the area involving AIA, SXM and F results in:

SCRAMBLING CODE GROUPS	0-10	11-20	21-31
AIA	PREFERENTIAL	NON PREFERENTIAL	NON PREFERENTIAL
SXM	NON PREFERENTIAL	PREFERENTIAL	NON PREFERENTIAL
F	NON PREFERENTIAL	NON PREFERENTIAL	PREFERENTIAL

A similar table can be derived for the area Saint-Barthélemy (F), Sint Maarten (SXM) and Saba and Sint Eustatius (BES) by applying the border 2-3-4.

LTE systems

3GPP TS 36.211 defines 168 "unique physical-layer cell-identity groups" in § 6.11, numbered 0…167, hereafter called "PCI groups". Within each PCI group there are three separate PCIs giving 504 PCIs in total. Each country can use all PCI groups away from the border areas.

PCI	Set A	Set B	Set C	Set D	Set E	Set F
Country 1	0..83	84..167	168..251	252..335	336..419	420..503
Border 1-2	■	■				■
Zone 1-2-3	■	■				
Border 1-3	■	■	■			
Zone 1-2-4	■					■
Border 1-4	■		■			■
Zone 1-3-4	■		■			

PCI	Set A	Set B	Set C	
Country 2	0..83	84..167	168..251	2
Border 2-1			■	■
Zone 2-3-1			■	■
Border 2-3		■	■	■
Zone 2-1-4			■	■
Border 2-4			■	■
Zone 2-3-4			■	■

PCI	Set A	Set B	Set C	Set D	Set E	Set F
Country 3	0..83	84..167	168..251	252..335	336..419	420..503
Border 3-2	■				■	■
Zone 3-1-2					■	■

PCI	Set A	Set B	Set C	
Country 4	0..83	84..167	168..251	2
Border 4-1		■		■
Zone 4-1-2		■		■

Source: ECC/REC/(11)04

Example: applying this to the area involving AIA, SXM and F results in:

PCI GROUPS	0-167	168-335	336-503
AIA	PREFERENTIAL	NON PREFERENTIAL	NON PREFERENTIAL
SXM	NON PREFERENTIAL	PREFERENTIAL	NON PREFERENTIAL
F	NON PREFERENTIAL	NON PREFERENTIAL	PREFERENTIAL

A similar table can be derived for the area Saint-Barthélemy (F), Sint Maarten (SXM) and Saba and Sint Eustatius (BES) by applying the border 2-3-4.

NR systems

3GPP TS 38.211 defines NR Physical channels and modulation, in NR 2-step identification using PSS/SSS detection of the Physical Cell ID (same as LTE), the number of different cell IDs has been increased from 504 in LTE to 1008 for NR.

PCI	Set A	Set B	Set C	Set D	Set E	Set F
Country 1 NR	0..83 504-587	84..167 588..671	168..251 672..755	252..335 756..839	336..419 840..923	420..503 924..1007
Border 1-2	■	■				■
Zone 1-2-3	■	■				
Border 1-3	■	■	■			
Zone 1-2-4	■					■
Border 1-4	■		■			■
Zone 1-3-4	■		■			

PCI	Set A	Set B	Set C	Set D	Set E	Set F
Country 2 NR	0..83 504-587	84..167 588..671	168..251 672..755	252..335 756..839	336..419 840..923	420..503 924..1007
Border 2-1			■	■	■	
Zone 2-3-1			■	■		
Border 2-3		■	■	■		
Zone 2-1-4			■	■		
Border 2-4			■	■		■
Zone 2-3-4			■	■		

PCI	Set A	Set B	Set C	Set D	Set E	Set F
Country 3 NR	0..83 504-587	84..167 588..671	168..251 672..755	252..335 756..839	336..419 840..923	420..503 924..1007
Border 3-2	■				■	■
Zone 3-1-2					■	■
Border 3-1				■	■	■
Zone 3-1-4					■	■
Border 3-4			■		■	■
Zone 3-2-4					■	■

PCI	Set A	Set B	Set C	Set D	Set E	Set F
Country 4 NR	0..83 504-587	84..167 588..671	168..251 672..755	252..335 756..839	336..419 840..923	420..503 924..1007
Border 4-1		■		■	■	
Zone 4-1-2		■			■	
Border 4-2	■	■			■	
Zone 4-2-3	■	■				
Border 4-3	■	■		■		
Zone 4-3-1		■		■		

Source: ECC/REC/(15)01

Example: applying this to the area involving AIA, SXM and F results in:

PCI GROUPS	0-167and 504-671	168-335 and 672-839	336-503 and 840-1007
AIA	PREFERENTIAL	NON PREFERENTIAL	NON PREFERENTIAL
SXM	NON PREFERENTIAL	PREFERENTIAL	NON PREFERENTIAL
F	NON PREFERENTIAL	NON PREFERENTIAL	PREFERENTIAL

A similar table can be derived for the area Saint-Barthélemy (F), Sint Maarten (SXM) and Saba and Sint Eustatius (BES) by applying the border 2-3-4.

Annex 3:

Exchange of information for the frequency coordination procedure

When requesting coordination, at least the following characteristics of base stations shall be forwarded to the Administration to be affected, unless otherwise laid down in bi/multi-lateral agreements:

a) carrier frequency []
b) name of transmitter station
c) country of location of transmitter station
d) geographical coordinates [latitude, longitude]
e) effective antenna height [m]
f) antenna polarization
g) antenna azimuth [deg]
h) directivity in antenna systems or antenna gain [dBi]
i) effective radiated power [dBW]
j) expected coverage zone or radius [km]
k) date of entry into service [month, year]
l) antenna tilt (deg / Electric and mechanic tilt)
m) antenna pattern or envelop

In case of TDD systems, specific additional parameters may be needed:

n) Frame structure including the special slot "S" configuration (the format at symbol level for slots between downlink and uplink slots)
o) Clock phase, frequency and time synchronisation
p) Global Synchronisation Channel Number (GSCN) in case of NR

The Administration to be affected shall evaluate the request for coordination and shall within 30 days notify the result of its evaluation to the Administration requesting coordination.

If in the course of the coordination procedure the Administration to be affected requires additional information, it may request such information.

If no reply is received by the Administration requesting coordination within 30 days it may send a reminder to the Administration to be affected. An Administration not having responded within 30 days following communication of the reminder shall be deemed to have given its consent and the code coordination may be put into use solely with the characteristics given in the request for coordination.

The periods mentioned above may be extended by common consent.

In general, Administrations may diverge from the technical parameters, calculation method and procedures described in this Technical Agreement subject to multi-lateral agreements.

Annex 4:

Global map