

ITU BR Monitoring programs

Online Regional Workshop on Spectrum Monitoring
for the Arab Region, 9-12 November 2020

Outline

- Introduction
- International Monitoring System
- List of International Monitoring Stations (List VIII)
- Regular and Special Programmes
- Use of Monitoring Data by BR
- Final remarks

Introduction

Historically, it was the intensive use of the HF bands, which led to the installation of numerous international monitoring stations:

- In 1930, the first regional monitoring station was opened in Brussels (predecessor of the European Broadcasting Union - EBU)
- At the 1947 Atlantic City Conference, Article 18 of the Radio Regulations (RR) laid down the foundation of the international monitoring system
- In 1998, Article 18 became Article 16

International Monitoring System (IMS)

- The international monitoring system (IMS) comprises of monitoring stations and centralizing offices voluntarily designated by administrations
- The characteristics of the monitoring stations are notified to the ITU and published in List VIII (RR Article 20)
- Participating stations may be operated by an administration, a public or private agency, a monitoring service established jointly by several countries or by an international organization

International Monitoring System (IMS)

- One of the main conditions for successful operation of the IMS is uniform coverage of all parts of the world by monitoring stations adequately equipped and participating in monitoring programmes
- Taking into consideration that there are still wide areas of the world where the facilities available to the IMS are inadequate or non-existent, [Resolution ITU-R 23-3 \(2015\)](#) resolves to:
 - Urge the participating administrations to continue to participate in the IMS
 - Urge non-participating administrations to establish monitoring stations and/or take part in the IMS
 - Encourage cooperation and data exchange among stations of different administrations
 - Invite administrations that have more advanced systems to train officials from other administrations
- In accordance with this Resolution, the BR prepares and publishes summaries of monitoring data, supplied by the stations participating in the IMS, pursuant to RR Article 16

List of International Monitoring Stations (List VIII)

- Monitoring station details are notified to the ITU and, in accordance with RR Article 20, published in List VIII
- List VIII contains particulars of monitoring stations participating in international monitoring, together with the addresses of the centralizing offices and includes information on the measurements that each monitoring station is able to perform
- Monitoring stations contained in List VIII may help in the detection and elimination of harmful interference or infringements
- Download free of charge at: <https://www.itu.int/pub/R-SP-LN/en>
- Free online search from: <https://www.itu.int/mmsapp/MonitoringStation/list>

List of International Monitoring Stations (List VIII)

Current edition of List VIII (2019)



- Preface: explanations concerning List VIII contents in 6 official languages
- Part I : particulars of monitoring stations carrying out measurements related to stations of terrestrial radiocommunication services
 - Centralizing offices
 - Particulars and contact information of monitoring stations

List of International Monitoring Stations (List VIII)

- Part II: particulars of monitoring stations carrying out measurements related to stations of space radiocommunication services
 - Centralizing offices
 - Particulars and contact information of monitoring stations
- Part III: map of monitoring stations and CIRAF zones for HFBC
- References: ITU-R Recommendations, Reports relating to monitoring, etc.
- Additional information is available at: <http://www.itu.int/go/ITU-R/ListVIII>

List of International Monitoring Stations (List VIII)

List of administrations and their terrestrial monitoring stations (Table 1A)

SUMMARY LISTINGS			
Symbol	Name of the Station	Symbol	Name of the Station
BIH	Banja Luka (FMS)	CHN <i>(cont.)</i>	Guangzhou Huangshanlu
	Banja Luka (RMS)		Harbin
	Bijeljina (RMS)		Heihe
	Brcko (RMS)		Huoguoosi
	Cazin (RMS)		Jiu Quan New District
	Derвента (RMS)		Kunming Dianchi
	Doboј (RMS)		Lingang
	Mostar (FMS)		Manzhouli
	Mostar (RMS)		Shanghai
	Sarajevo (FMS)		Shanxi
	Sarajevo (RMS)		Shenzhen
	BLR		Minsk (IMS)
BOL	Hamacas	Wentong	
	Quilacollo	Yadong (Rikaze)	
	Satizabel	Yanbian Prefecture Radio - Jilin Province	
	Victoria	Yunnan	
BUL	Blagoevgrad	CLM	El Caribe (Barranquilla-Atlántico)
	Botevo		El Cerrito (Funza-Cundinamarca)
	Burgas		El Mirador (Cúcuta-N. Santander)
	Chernogorovo		La Sultana (Candelaria-Valle)
	Pleven		Llano Grande (Rionegro-Antioquia)
	Plovdiv		Los Comuneros (Bucaramanga-Santander)
	Razgrad	CLN	Kadirana
	Sofia-1	CME	Douala-Bonaberi
	Sofia-2	COD	Kasungulu
	Sofia-3		Kinshasa
	Stalevo	CTI	Abidjan
	Varna	CUB	Cuatro Caminos (IMS)
	Veliko Tarnovo	CZE	Brno
	Vidin		Ceske Budejovice
	Vratsa		Hradec Králové
CHN	Jihlava		
Beijing (IMS)	Karlovice		
Chengdu			
Fujian			

List of International Monitoring Stations (List VIII)

Information concerning monitoring stations carrying out measurements related to stations of Terrestrial services

AFS - South Africa					
Centralizing office		Postal address		Telephone, Telefax, Electronic-mail	Remarks
Department of Posts and Telecommunications Telecommunications Commercial		Private Bag X74 Pretoria 0001		TF : +27 12 2931159	
Stations in the Terrestrial radiocommunication services					
Name of the station		Postal address		Telephone, Telefax, Electronic-mail	
Panorama (Johannesburg) (IMS)		P.O. Box 6 Honeydew 2040 South Africa		TF : + 27 6791140	
Geographical coordinates	Types of measurements	Ranges of frequencies for each measurement	Hours of service (UTC)	Remarks	
26°06'25"S 027°54'45"E	Frequency measurements	10 kHz - 30 MHz	0430-2015		
26°06'25"S 027°54'45"E	Field strength or power flux-density measurements	9 kHz - 30 MHz	0430-2015		
26°06'25"S 027°54'45"E	Bandwidth measurements	100 kHz - 100 MHz	0430-2015		
26°06'25"S 027°54'45"E	Automatic spectrum occupancy surveys	9 kHz - 30 MHz	0430-2015		

PART I - TERRESTRIAL STATIONS

List of International Monitoring Stations (List VIII)

List of administrations and their space monitoring stations (Table 1B)

SUMMARY LISTINGS

TABLE 1B
ADMINISTRATIONS AND THEIR MONITORING STATIONS
IN THE SPACE RADIOCOMMUNICATION SERVICES
 (IN ALPHABETICAL ORDER OF SYMBOLS)

Symbol	Name of the Station
ARG	Benevides ARSAT earth station
	Buenos Aires (IMS)
CHN	Beijing (IMS)
	Shenzhen
	Urumqi
D	Leeheim
IND	Jaina (ISMES)
J	Tokyo (IMS)
KAZ	GCC Akkol
KOR	Icheon
PAK	Wari-II
RUS	Belgorod (IMS)
	Khabarovsk (IMS)
	Smolensk (IMS)
UKR	Kyiv
USA	Columbia, Maryland
VTN	Viet Tri (IMS)

List of International Monitoring Stations (Edition of 2019) Table 1B - 1 of 1

Regular monitoring programme

- Regular monitoring programme in the HF bands (2 850 – 28 000 kHz)
Objectives:
 - Indicate the spectrum occupancy
 - Identify stations whose emissions are not in conformity with the RR
 - Share data with administrations not having HF monitoring facilities
- Submission
 - Data format and report submission procedure are described in [CR/159](#) (2001)
- Summaries and full data are available on the ITU website at:
<http://www.itu.int/en/ITU-R/terrestrial/monitoring/Pages/Regular.aspx>

Example summary of monitoring data for 01.07.20 to 30.09.20



UIT - BUREAU DES
RADIOCOMMUNICATIONS

CONTRÔLE INTERNATIONAL DES ÉMISSIONS

Cette publication contient les résultats de contrôle des émissions soumis par les administrations conformément à la lettre circulaire du BR CR/159 du 9 mai 2001

RÉSUMÉ N°:
SUMMARY N°: **367**
RESUMEN N°:

Colonne description

Col.	Rubrique	Description
1	M_ADM	Administration responsable du centre de contrôle des émissions
2	M_CENTER	Centre de contrôle des émissions où les observations ont été faites
3	M_FREQ	Fréquence mesurée en kHz
4	M_JOUR	Jour pendant lequel l'observation a été faite
5	M_MOIS	Mois pendant lequel l'observation a été faite
6	M_HEURED	Heure de début de l'émission observée
7	M_HEUREF	Heure de fin de l'émission observée
8	M_DB	Valeur du champ mesuré en dB
9	M_IDEN	Identification de l'émission observée
10	M_ADMIN	Administration responsable de l'émission observée
11	M_CLST	Classe de la station contrôlée
12	M_BAND	Largeur de bande occupée
13	M_CLEM	Classe d'émission
14	M_LONG1	Degrés de la longitude
15	M_LONG2	Longitude Est ou Ouest
16	M_LONG3	Minutes de la longitude
17	M_LAT1	Degrés de la latitude
18	M_LAT2	Latitude Nord ou Sud
19	M_LAT3	Minutes de la latitude
20	M_BEAR	Relèvement de la station en degrés.
21	M_PREC	Précision estimée de la position ou la classification du relèvement
22	M_RR	Numéro de la colonne contenant les caractéristiques non conformes
23	M_REMARK	Remarques

ITU - RADIOCOMMUNICATION
BUREAU

INTERNATIONAL MONITORING

This publication contains spectrum monitoring information submitted by administrations in accordance with BR circular letter CR/159 of 9 May 2001

Période :
Monitoring Period: **01.07.20 - 30.09.20**
Periodo:

Column description

Col.	Item	Description
1	M_ADM	Administration code responsible for the monitoring centre
2	M_CENTER	Monitoring centre where the observation was made.
3	M_FREQ	Frequency measured in kilohertz
4	M_JOUR	Day during which the observation was made
5	M_MOIS	Month during which the observation was made
6	M_HEURED	Starting time of the observed emission
7	M_HEUREF	Finishing time of the observed emission
8	M_DB	Field strength measured in dB
9	M_IDEN	Identification of the observed emission
10	M_ADMIN	Administration code responsible for the observed emission
11	M_CLST	Class of station of the monitored emission
12	M_BAND	Occupied bandwidth
13	M_CLEM	Class of emission
14	M_LONG1	Degrees portion of Longitude
15	M_LONG2	East or West Longitude
16	M_LONG3	Minutes portion of Longitude
17	M_LAT1	Degrees portion of Latitude
18	M_LAT2	North or South Latitude
19	M_LAT3	Minutes portion of Latitude
20	M_BEAR	Bearing of the station in degrees
21	M_PREC	Estimated accuracy or the classification of bearing
22	M_RR	Number of the column containing characteristics which are not in conformity
23	M_REMARK	Remarks

UIT - OFICINA DE
RADIOCOMUNICACIONES



COMPROBACIÓN TÉCNICA INTERNACIONAL DE LAS EMISIONES

Esta publicación contiene la información sobre comprobación técnica de emisiones (CTE) presentada por las administraciones de acuerdo con la carta circular CR/159 de la BR del 9 de mayo 2001

Dernière mise à jour des données:
Date of last update: **16.10.20**
Ultima fecha de actualización de datos:

Descripción de columna

Col.	Elemento	Descripción
1	M_ADM	Administración encargada del centro de comprobación
2	M_CENTER	Centro de comprobación en el que se realizó la observación
3	M_FREQ	Frecuencia medida en kHz
4	M_JOUR	Día en que se efectuó la observación
5	M_MOIS	Mes en que se realizó la observación
6	M_HEURED	Hora en que se inicia la emisión observada
7	M_HEUREF	Hora de conclusión de la emisión observada
8	M_DB	Intensidad de campo medida en dB
9	M_IDEN	Identificación de la emisión observada
10	M_ADMIN	Administración responsable de la emisión observada
11	M_CLST	Clase de estación de la emisión observada
12	M_BAND	Anchura de banda ocupada
13	M_CLEM	Clase de emisión
14	M_LONG1	Grados de longitud
15	M_LONG2	Longitud hacia el este o hacia el oeste
16	M_LONG3	Minutos de longitud
17	M_LAT1	Grados de latitud
18	M_LAT2	Latitud norte o sur
19	M_LAT3	Minutos de latitud
20	M_BEAR	Maricación de la estación en grados
21	M_PREC	Precisión estimada de la clasificación de la maricación
22	M_RR	Número de la columna donde figuren las características que no guarden esa conformidad
23	M_REMARK	Observaciones

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
G	BALDOCK	3086.000	09	08	2225			(BELARUSIAN PIRATE)	BLR	FX		A3E	029	E	30	53	N	41	73	C		NON-CONFORMITY RRL5	
J	TOKYO	3205.000	17	09	0422				KRE	BC		D7W	125	E	44	39	N	01	290	A			
KOR	CRMS	3220.000	01	07	1500	1500	26.5		KRE	BC		A3E									11		
KOR	CRMS	3220.000	16	08	0905	0905	6.6		KRE	BC	9K15E	A3E									11		
G	BALDOCK	3236.800	28	08	0332		?		D	FX		G1D								107	A		
G	BALDOCK	3245.000	25	08	2201		?		RUS	FX		PXX									66	B	
G	BALDOCK	3248.000	28	08	0121		?		F	FX		G1D									187	C	
J	TOKYO	3249.990	04	08	0419					BC		A3E									291	A	
J	TOKYO	3249.990	17	08	2352			KOREAN CENTRAL B.S.		BC		A3E										11	
J	TOKYO	3249.990	25	08	1005			KOREAN CENTRAL B.S.		BC		A3E										11	
J	TOKYO	3249.990	01	09	0749				KRE	BC		A3E	125	E	30	39	N	05	291	A			
KOR	CRMS	3250.000	10	08	0058	0058	19.3		KRE	BC		A3E										11	
G	BALDOCK	3250.000	25	08	2304		?			LR		P0N									102	B	OTHR
G	BALDOCK	3259.800	25	08	2307		?		GRC	FX		G1D									121	B	
KOR	CRMS	3320.000	31	07	2112	2112	18.2		KRE	BC		A3E										11	
KOR	CRMS	3320.000	11	08	1224	1224	15.1		KRE	BC		A3E										11	
J	TOKYO	3320.000	17	08	2353			PYONGYANG B.S.		BC		A3E										11	
J	TOKYO	3320.000	25	08	1009			PYONGYANG B.S.		BC		A3E										11	
J	TOKYO	3320.000	01	09	0751			PYONGYANG B.S.		BC		A3E	126	E	31	39	N	12	292	B	11		
G	BALDOCK	3322.400	28	08	0123		?		USA	FX		G1D									296	B	
J	TOKYO	3325.000	25	08	1010			NBC BOUGAINVILLE		BC		A3E									167	C	11
J	TOKYO	3327.160	25	08	1012							A1A											
J	TOKYO	3384.090	25	08	1014							A1A											
G	BALDOCK	3388.000	28	08	0145		?			FX		G1D									247	B	IN THE ATLANTIC
J	TOKYO	3394.020	25	08	1017							F1B									324	B	
G	BALDOCK	3400.000	25	08	2330		?			BC		A3E									300	B	
G	BALDOCK	3413.000	25	08	2335			SHANNON VOLMET	IRL	FD		J3E	008	W	58	52	N	42	280	A		VOLMET	
G	BALDOCK	3455.000	28	08	0200			NEW YORK	USA	FD		J3E									281	C	NEW YORK ATC
J	TOKYO	3474.990	01	09	0755				KOR	BC		A3E	127	E	17	37	N	41	291	B			
J	TOKYO	3479.990	04	08	0425				KOR	BC		A3E	126	E	59	37	N	30	285	A			
J	TOKYO	3479.990	17	08	2356				KOR	BC		A3E	126	E	59	37	N	25	284	B			
J	TOKYO	3479.990	25	08	1019			V.O. PEOPLE		BC		A3E	127	E	02	37	N	22	283	A	11		
J	TOKYO	3479.990	14	09	0604				KOR	BC		A3E	127	E	28	37	N	38	284	B			
J	TOKYO	3479.990	17	09	0430				KOR	BC		A3E	126	E	59	37	N	32	285	A			
J	TOKYO	3479.990	29	09	0138				KOR	BC		A3E	127	E	10	37	N	25	283	B			
J	TOKYO	3480.000	29	09	0147				KRE	BC		A3E	126	E	32	38	N	00	286	B			
G	BALDOCK	3485.000	28	08	0210			GANDER VOLMET	CAN	FD		J3E									286	A	
G	BALDOCK	3501.000	24	08	2009				POL	FX		J7D									62	A	
G	BALDOCK	3582.800	28	08	0245		?		D	FX		J7D									104	A	

Special monitoring programme

- Organised by BR since 1987 in band 406-406.1 MHz allocated exclusively to satellite emergency position-indicating radio beacons (EPRIBs) pursuant to Resolution 205 (Rev.WRC-19)
- Statistics on interfering emissions reported are published at:
<https://www.itu.int/en/ITU-R/terrestrial/monitoring/Pages/Res205.aspx>
- An online database query facility can be found at:
<http://www.itu.int/net4/ITU-R/terrestrial/res205/default.aspx>

Special monitoring programme

- Modification of Resolution 205 at WRC-15 to request BR to additionally organize monitoring programmes of bands 405.9-406 MHz and 406.1-406.2 MHz
- ITU-R Working Party 1C defined the parameters to be measured (see Recommendation ITU-R SM.1051-4 “Priority of identifying and eliminating harmful interference in the band 406-406.1 MHz”)
- BR Circular Letter [CR/438](#) invites administrations to submit monitoring results in bands 405.9-406 MHz and 406.1-406.2 MHz

Monitoring Programme band 406-406.1 MHz (Resolution 205, COSPAS-SARSAT)

This page provides consolidated information extracted from the reports received from Administrations participating in the monitoring programme in the band 406-406.1 MHz in application of Resolution 205(Rev. WRC-15). The objective of this programme is to identify and locate unauthorized emissions in the band 406-406.1 MHz that cause harmful interference to the reception of satellite EPIRB signals of the COSPAS-SARSAT system.

Upon receipt of the reports, the Radiocommunication Bureau immediately contacts the Administrations responsible for the area where the unauthorized transmitters are located, requesting them to take immediate action with a view to stopping the emissions.

For further information on the use of this system, click [here](#).

DATABASE CONTAINING ALL REPORTS RECEIVED BY THE BR (SINCE 2008/01/01)

Please define the criteria for data retrieval:

Observer Administration: Geographical area of unauthorized emissions:
Frequency range: from MHz to MHz Site ID:

Geographical location: Latitude(DD.DDD): Longitude(DD.DDD): Radius(km):

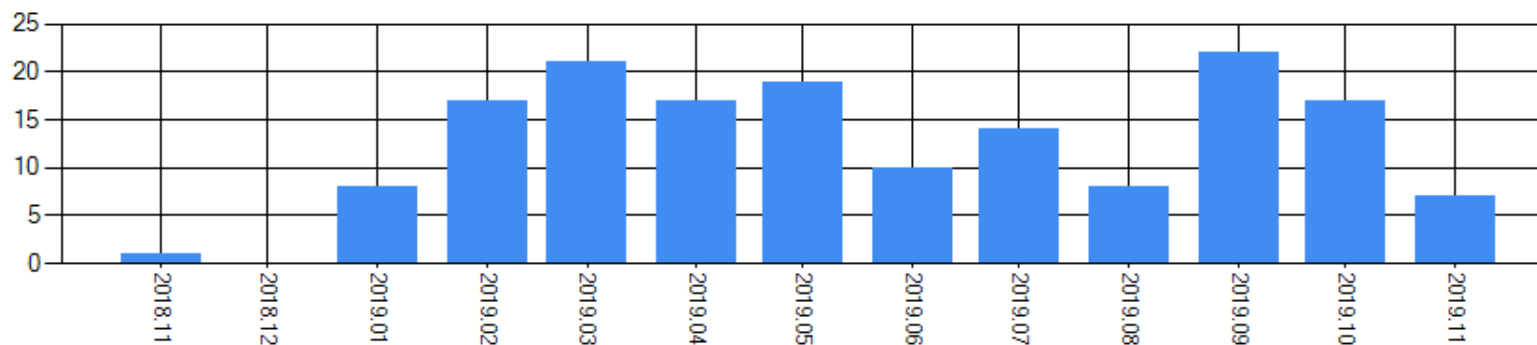
Date of observation: From: To: Paged Results

Total Number of observations retrieved:

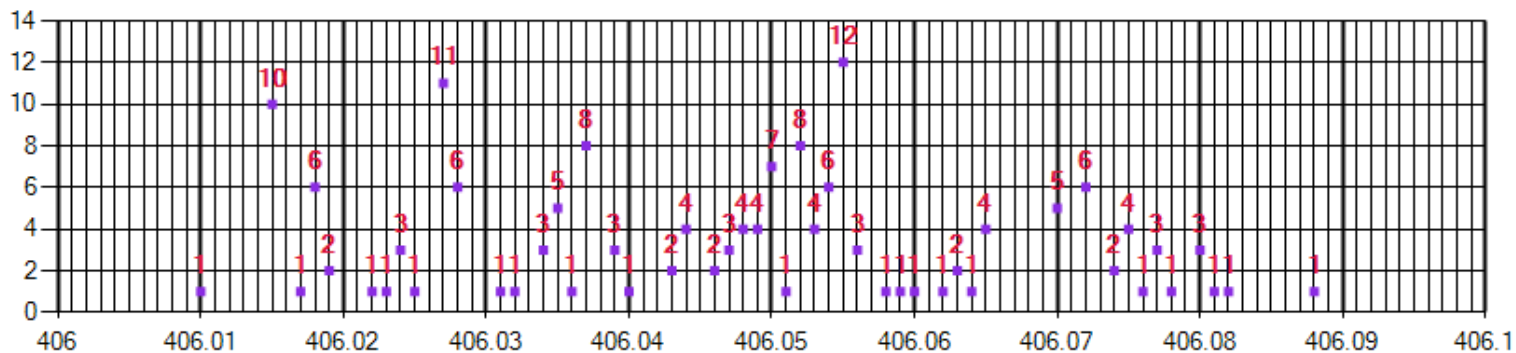
Total Number of observations retrieved: 165

	Observer	SiteID	Country	City	Direction	Distance	Latitude	Longitude	Frequency (MHz)	Observations	Monthly Ratio	First Date	Last Date
1	CHN	477015884	IND	Korba	WSW	16	22.31	82.6	406.07719	45	0.21	20190214	20190301
2	CHN	477015885	IND	Korba	WSW	19.2	22.32	82.57	406.07022	29	0.14	20190214	20190301
3	CHN	477015887	IND	Korba	SW	14.8	22.28	82.63	406.07359	64	0.3	20190214	20190301
4	CHN	477015888	IND	Korba	SW	11.3	22.31	82.65	406.08003	68	0.32	20190214	20190301
5	CHN	477015887	IND	Korba	SW	11.6	22.3	82.66	406.07361	58	0.14	20190214	20190310
6	CHN	477015888	IND	Korba	SW	10.8	22.31	82.66	406.08005	62	0.15	20190214	20190311
7	CHN	477016023	IND	Korba	SW	18.9	22.22	82.64	406.05213	82	0.36	20190314	20190331
8	CHN	477016024	IND	Korba	WSW	15.8	22.31	82.61	406.04712	91	0.4	20190314	20190331
9	CHN	477016025	IND	Korba	SW	7.3	22.31	82.7	406.05475	94	0.4	20190314	20190331
10	CHN	477016026	IND	Korba	WSW	64.8	22.06	82.21	406.05547	46	0.21	20190314	20190331

[1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) ...



Number of emissions reported per month



Number of emissions reported per frequency (MHz)

Final remarks

- BR continues to organize the regular HF band monitoring programme as well as the special programmes on 406-406.1 MHz and the adjacent bands
- Administrations not yet participating in these monitoring programmes are encouraged to take part in these programmes in accordance with RR16.5
- Administrations or BR may request the cooperation of administrations or stations of the IMS that may be able to help in identifying the source of harmful interference

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Thank you!

Ben BA, Head Terrestrial Publication and Registration Division

ITU – Radiocommunication Bureau

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