

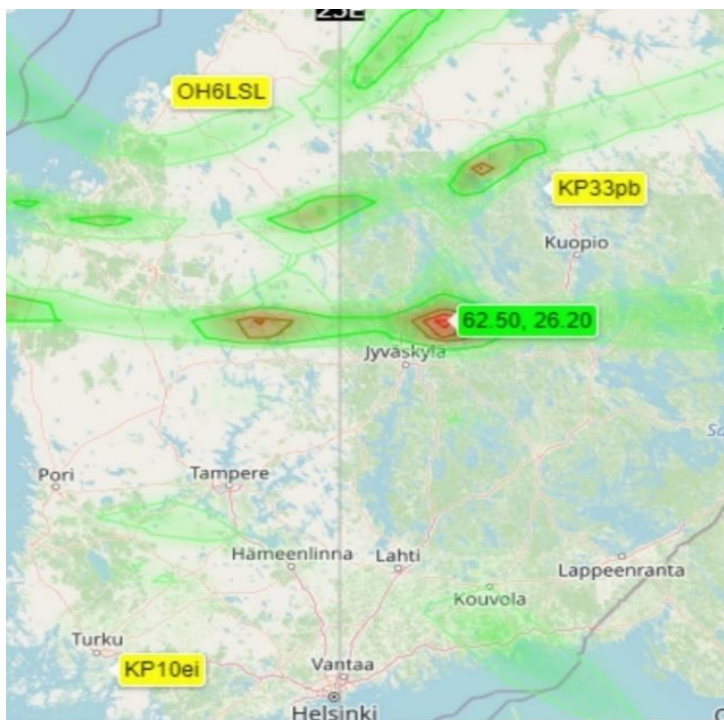
IARU Monitoring System Region 1



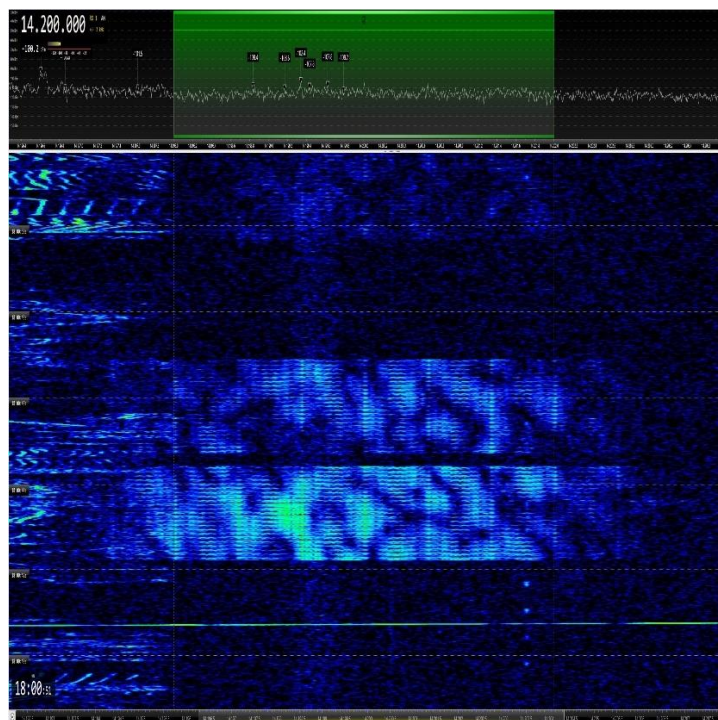
Monthly Newsletter - April 2023

News and info

In April we received transmissions from the Super Dual Auroral Radar Network (SuperDARN) radar in the 20 m band. These transmissions, consisting of bursts with an approximate bandwidth of 4K50E, come, as shown by the KiwiSDR TDoA radiolocations performed by the SRAL (Finland) IARUMS Coordinator, Pekka, OH2BLU, from the NE of the Jyväskylä (FIN) area, close to Hankasalmi, the Finnish municipality where one of the transmitters of this radar network is located. These bursts were received from 14200 kHz CF up to 14335 kHz CF.



14200 kHz CF: SuperDARN radar. TDoA: NE of Jyväskylä (FIN); TDoA by the SRAL (Finland) IARUMS Coordinator, Pekka, OH2BLU,



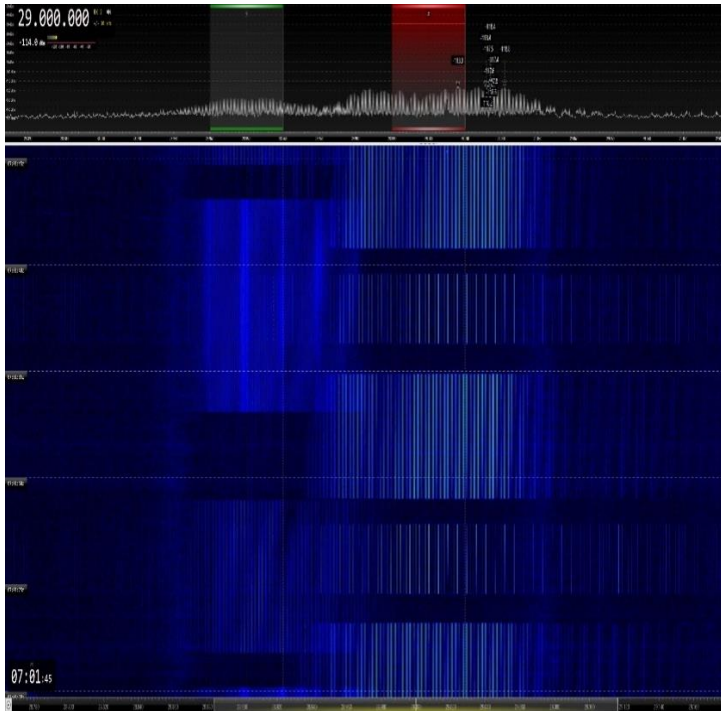
14200 kHz CF: Superdarn radar bursts. BW ca 4K5E. Bursts received also on 14305 kHz CF, 14320 kHz CF and 14335 kHz CF (see screenshot on the newsletter's last page).

The transmissions from this radar were received in addition to the sadly usual ones from other radars operating in the HF amateur radio bands that we receive every month for many years.

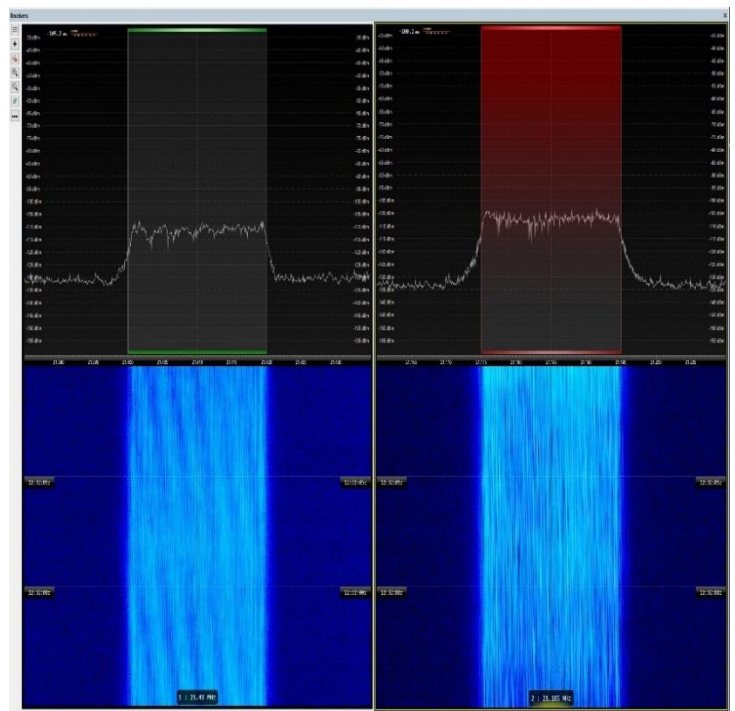
In April we highlight the transmissions sent in the 10 m band by the Iranian Over The Horizon (OTH) radar, very active during the last months, BW = 45K0E, alternating bursts of different sweep rates (150 and 313 sps; 307 and 870 sps), which we were able to receive operating on up to 3 frequencies simultaneously in this band.

The British OTHR located at the UK Sovereign Base Area in Cyprus was also received on this band on some occasions, as well as on the 15 m band, where it was most active, and on the 17 m band.

We also received numerous transmissions from Chinese OTH radars, sending short bursts (BW = 10K0E; 41.7, 50 or 66.7 sps) operating mostly on the 15 m bands, but also on the 17 and 20 m bands), as well as several transmissions from the OTH radar Contayner (RUS; BW = 12K0E; 40 sps), received on the 40, 20 and 15 m bands.

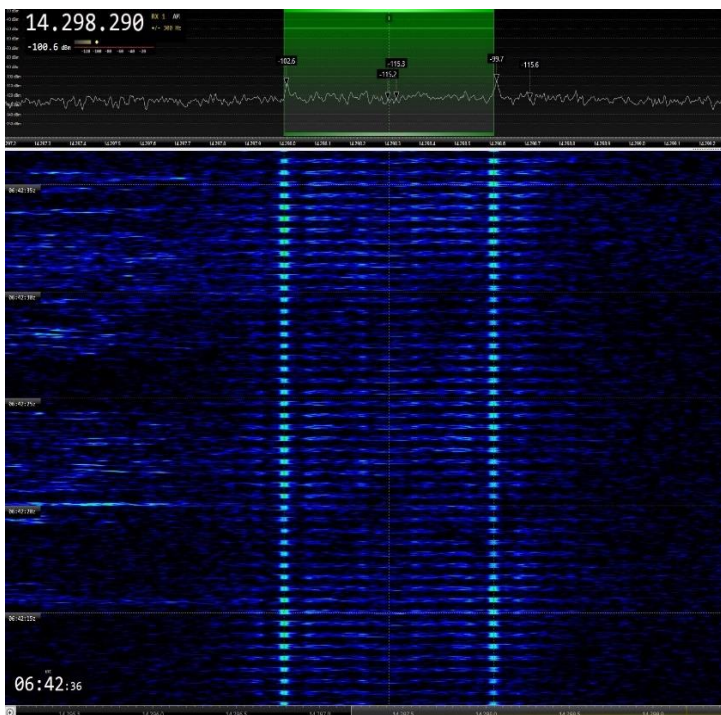


2 x OTHR IRN on 10 m (BW =45K0E): 28960 kHz CF (150 / 313 sps bursts and 29000 kHz CF (307 / 870 sps busts).

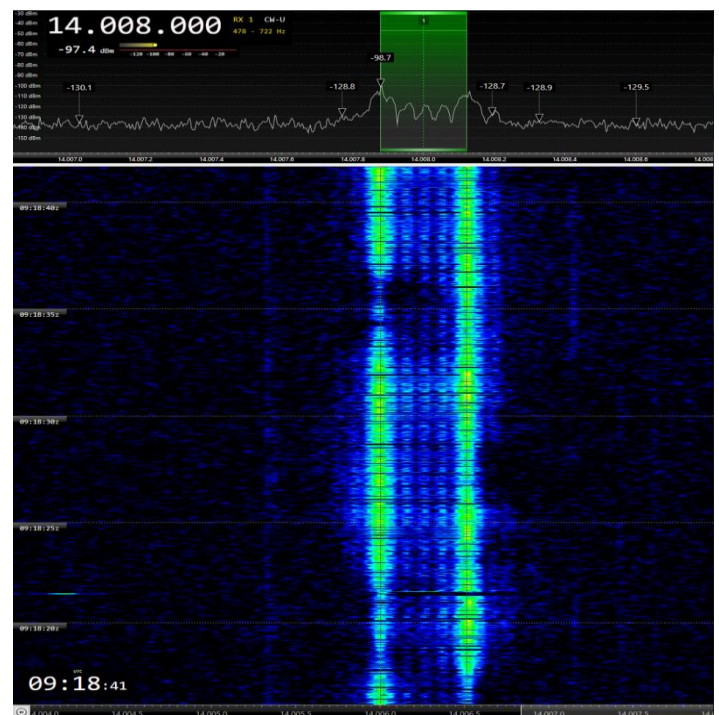


2 x OTHR G (UK SBA, Cyprus. BW = 20K0E; 50 sps): 21185 kHz CF and 21410 kHz CF.

Amongst the usually MIL modes received in the amateur HF bands, this month we often received F1B (FSK) transmissions sent in DPRK-FSK 600 ARQ mode (SH = 600 Hz; Bauds = 600) on 20 m and 15 m, along with other CIS## F1B modes, such as those on 7080 kHz CF (RUS; SH = 200 Hz; 50 Bd), 7162 kHz CF (SH = 250 Hz; 75 Bd) or on 14.0008 kHz CF (RUS, BW = 250 Hz, 50 Bd). We also received some CIS-12 (J7D; BW = 2K7E, 12 x 120 Bd + pilot line) on 40 and 20 m., as some LINK-11 CLEW DSB (B7D; BW = 6K0E, 75 Bd) and LINK-11 CLEW SSB (BW = 2K40E; 75 Bd) transmissions on 7159 kHz CF.



14298.29 kHz CF: DPRK-FSK 600 ARQ (F1B. SH = 600 Hz; Bd = 600)



14008 kHz CF: F1B. SH: 250 Hz; 50 Bd; RUS

The Spanish fishermen keep on frequently operating on 21000 kHz, J3E-U (USB). The DARC (Germany) IARUMS Coordinator, Daniel, DL3RTL, recently announced that the BnetzA had been involved in their monitoring.

Other pirates were received using SSB (J3E) on 40 m band (7055 kHz LSB, “Indonesian “village-radio”) and on the 10 m band (USB, J3E-U, Brazilian CBers) and F3E on the 10 m band (CBers and unidentified stations sending short traffic).

Detailed reports of national coordinators

Abbreviations used (as per IARUMS definitions)

aka = also known as | **BC** = Broadcast | **BD** = Baud, (or also Burst duration) | **BRI** = Burst repetition interval | **BW** = Bandwidth | **ca** = approximate | **CHN** = PRC = People’s Republic of China | **CF** = Center frequency | **DF** = Direction finding (radio location; see also TDoA) | **FMCW** = frequency modulated continuous wave | **FMOP** = frequency modulated on pulse | **OTHR** = over the horizon radar | **Radar** = if exact mode unknown | **SH** = Shift (Hz) | **sps** = sweeps per second | **TDoA** = Time difference of arrival | **ui** = **unid** = unidentified.

DARC; Daniel, DL3RTL. Credit to monitors: DL8LAQ, Norbert; DL2SCH, Jürgen; DL4YWO, Wolfgang; DJ0CC, Viktor; DH1BDU, Jochen; DC7RF, Robert; DG4KM, Kai; DL1MKK, Veit; DB4UP, Christoph; DL8WX, Andre; DL5MFW, Jan; DL2RBY, Robert; DO2ITH, Michael; DO4BY, Tobias; DF8GV, Heinz; DL8GBS, Andreas; DL8AI, Stefan; DB3TA, Alex

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7013,0	2126	05	04	RUS		FMOP	40	12k	OTHR Contayner
7020,0	0138	11	04	RUS		FMOP	40	12k	OTHR Contayner
7025,8	vt	vd	04	RUS		PSK		2k4	CIS-12
7031,0	2110	28	04	RUS		FMOP	40	12k	OTHR Contayner
7050,0	1920	28	04			J3E-L		3k	UKR/RUS radio war
7055,0	vt	vd	04	UKR		J3E-L		3k	UKR/RUS radio war
7057,0	2024	05	04	RUS		FMOP	40	12k	OTHR Contayner
7060,0	2145	05	04	RUS		FMOP	40	12k	OTHR Contayner
7063,0	2110	28	04	RUS		FMOP	40	12k	OTHR Contayner
7085,0	2046	05	04	RUS		FMOP	40	12k	OTHR Contayner
7131,0	2046	05	04	RUS		FMOP	40	12k	OTHR Contayner
7181,8	1725	03	04	RUS		PSK		2k4	CIS-12
14100,0	1110	02	04	G		FMCW	50	20k	OTHR Pluto Cyprus
14114,0	1920	28	04	RUS		FMOP	40	12k	OTHR Contayner
14151,0	0613	01	04	RUS		FMOP	40	12k	OTHR Contayner
14154,0	1842	04	04	RUS		FMOP	40	12k	OTHR Contayner
14160,0	1300	28	04			J3E-U		3k	probably UKR/RUS radio war
14187,0	0535	23	04	RUS		FMOP	40	12k	OTHR Contayner
14189,0	1200	18	04	RUS		FMOP	40	12k	OTHR Contayner
14199,0	1552	23	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
14205,0	1505	10	04	CHN		FMCW	50	10k	OTHR 5,1s bursts
14208,0	1414	10	04	RUS		FMOP	40	12k	OTHR Contayner
14224,0	1730	03	04	CHN		FMCW	50	10k	OTHR 5,1s bursts
14250,0	1505	10	04	CHN		FMCW	50	10k	OTHR 5,1s bursts
14252,0	0725	03	04			F1B		200	most likely CIS-75-200
14259,0	1552	23	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts

DARC; Daniel, DL3RTL. Credit to monitors: DL8LAQ, Norbert; DL2SCH, Jürgen; DL4YWO, Wolfgang; DJ0CC, Viktor; DH1BDU, Jochen; DC7RF, Robert; DG4KM, Kai; DL1MKK, Veit; DB4UP, Christoph; DL8WX, Andre; DL5MFW, Jan; DL2RBY, Robert; DO2ITH, Michael; DO4BY, Tobias; DF8GV, Heinz; DL8GBS, Andreas; DL8AI, Stefan; DB3TA, Alex

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14262,0	0547	23	04	RUS		FMOP	40	12k	OTHR Contayner
14271,8	0935	10	04	RUS		PSK		2k4	CIS-12
14293,0	1505	10	04	CHN		FMCW	50	10k	OTHR 5,1s bursts
14306,0	1745	26	04	RUS		FMOP	40	12k	OTHR Contayner
14335,0	1505	10	04	CHN		FMCW	50	10k	OTHR 5,1s bursts
14344,0	1645	12	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
18100,0	0558	10	04	G		FMCW	50	20k	OTHR Pluto Cyprus
18100,0	0741	10	04	G		FMCW	50	20k	OTHR Pluto Cyprus
18107,0	vt	vd	04	RUS		F1B	50	200	CIS-50-50
18124,0	1418	23	04	CHN		FMCW	50	10k	OTHR 5,1s bursts
21100,0	1450	03	04	G		FMCW	50	20k	OTHR Pluto Cyprus
21110,0	0556	01	04	G		FMCW	50	20k	OTHR Pluto Cyprus
21118,0	1005	16	04	CHN		FMCW	50	10k	OTHR 5,1s bursts
21167,0	1008	23	04	CHN		FMCW	41,67	10k	OTHR 6,1s bursts
21168,0	1008	23	04	CHN		FMCW	50	10k	OTHR 5,1s bursts
21174,0	1157	18	04	RUS		FMOP	40	12k	OTHR Contayner
21195,0	0956	23	04	G		FMCW	50	20k	OTHR Pluto Cyprus
21235,0	1125	26	04	G		FMCW	50	20k	OTHR Pluto Cyprus
21255,0	0726	16	04	CHN		FMCW	50	10k	OTHR continous mode
21266,0	0811	01	04	CHN		FMCW	50	10k	OTHR 5,1s bursts
21270,0	1120	26	04	G		FMCW	50	20k	OTHR Pluto Cyprus
21275,0	0658	30	04	G		FMCW	50	20k	OTHR Pluto Cyprus
21277,0	0738	23	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21321,0	0730	16	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21324,0	0928	10	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21340,0	0738	23	04	CHN		FMCW	50	10k	OTHR 5,1s bursts
21341,0	1005	16	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21342,0	0928	10	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21350,0	0718	09	04	G		FMCW	50	20k	OTHR Pluto Cyprus
21360,0	0815	07	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21368,0	0956	23	04	CHN		FMCW	50	10k	OTHR continous mode
21389,0	0730	16	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21399,0	0813	07	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21400,0	0658	30	04	G		FMCW	50	20k	OTHR Pluto Cyprus
21407,0	0738	23	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21410,0	0725	10	04	G		FMCW	50	20k	OTHR Pluto Cyprus
21415,0	1459	03	04	RUS		FMOP	40	12k	OTHR Contayner
21425,0	0730	16	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21433,0	0812	01	04	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21435,0	1038	30	04	G		FMCW	50	20k	OTHR Pluto Cyprus
21438,0	1530	02	04	RUS		A1A			RUS NVY Sevastopol; RIP90
21438,0	0848	16	04	RUS		A1A			RUS NVY Sevastopol
28110,0	1642	12	04	G		FMCW	25	20k	OTHR Pluto Cyprus
28270,0	1445	16	04	G		FMCW	25	20k	OTHR Pluto Cyprus
28290,0	1205	08	04	G		FMCW	25	20k	OTHR Pluto Cyprus
28320,0	1345	24	04	G		FMCW	25	20k	OTHR Pluto Cyprus

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kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
28340,0	1234	01	04	G		FMCW	50	20k	OTHR Pluto Cyprus
28590,0	1107	18	04	G		FMCW	25	20k	OTHR Pluto Cyprus
28690,0	1207	15	04	G		FMCW	50	20k	OTHR Pluto Cyprus
28700,0	vt	vd	04	IRN			307/870	45k	Iranian OTHR 5,81/3,26s bursts
28750,0	1335	23	04	IRN			150/313	45k	Iranian OTHR 9,98/7,19s bursts
28960,0	1007	16	04	IRN			150/313	45k	Iranian OTHR 9,98/7,19s bursts
29000,0	vt	vd	04	IRN			307/870	45k	Iranian OTHR 5,84/3,26s bursts
29470,0	1157	15	04	G		FMCW	50	20k	OTHR Pluto Cyprus

IRTS; Michael, EI3GYB

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3737	1600	11	4	HOL or MM		USB			Dutch fishermen chatting. Loud motor noise from both ships.
6990	1815	27	4			RADAR			Radar from 6990 to 7014 kHz. On and off.
7000	1710	11	4	INS		LSB			"Village radio". Men chatting and singing. Medium signals. Heard often during the month.
7050	1720	29	4	RUS/ UKR		LSB			Russian-Ukrainian radio war with loads of "Russki pederatski", "Russki Swinja" and "Putina Khuila". Medium signal.
7055	1805	6	4	RUS/ UKR		LSB			More Russian-Ukrainian radio war. Rebroadcasting of a Russian speaking radio station. Huge signal. Chaotic traffic all day long, every day.
7058	2025	6	4			RADAR			Radar from 7058 to 7074 kHz. Strong and persistent.
7082	2135	30	4			RADAR			Radar from 7082 to 7110 kHz. Very strong and persistent.
7085	2105	26	4	RUS/ UKR		LSB			Rebroadcasting of a Russian speaking propaganda radio programme. Big signal, persistent.
7088	2205	26	4			RADAR			Radar from 7088 to 7112 kHz. Huge and persistent.
7110	1700	11	4	ETH		AM			Radio Ethiopia. Medium signal. Heard several times during the month.
14000	1520	11	4	B		USB			Brazilian CBers. Male voices. Medium signals.
14175	1150	23	4			RADAR			Radar from 14175 to 14190 kHz. Medium signal. On and off.
14185	1025	4	4			RADAR			Radar from 14185 to 14203 kHz. Strong and persistent.
14226	1610	18	4			RADAR			Radar from 14266 to 14240 kHz. Medium signal Intermittend.
14243	1420	17	4			RADAR			Radar from 14243 to 14257 kHz. Strong and persistent.
14252.5	1510	14	4			F1B			Very strong and persistent signal.
14308	1345	1	4	CHN		RADAR			Chinese Foghorn. 14295 to 14308 kHz. Medium signals, on and off.
14331	1710	29	4	AUS		RADAR			JORN. 14331 to 14343 kHz. Medium signal.
18080	645	30	4	TWN		AM			Sound of Hope in Chinese. Weak signal.

IRTS; Michael, EI3GYB

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
18160	1500	18	4			RADAR			Radar from 18160 to 18185 kHz. Weak intermittend signal
21000	1145	10	4	E or MM		USB			Spanish fishermen. Medium signal. Heard on and off during the day.
21118	1135	24	4	G		RADAR			Radar from 21188 to 21212 kHz. Huge and persistent.Pluto. UK SBA, Cyprus
21263	810	30	4	G		RADAR			Radar from 21263 to 21285 kHz. Huge and persistent. Pluto. UK SBA, Cyprus
21282	1020	19	4	G		RADAR			Radar from 21282 to 21304. Very strong and persistent. Pluto. UK SBA, Cyprus
21289	820	5	4	G		RADAR			Radar from 21289 to 21309 kHz. Strong and persistent. Pluto. UK SBA, Cyprus
21307	920	24	4	G		RADAR			Radar from 21307 to 21318 kHz. Weak. In and out. Pluto. UK SBA, Cyprus
21350	845	5	4	CHN		RADAR			Chinese Foghorn. 21350 to 21360 kHz. Medium signal. On and off.
21410	1250	5	4			RADAR			Radar from 21410 to 21422 kHz. Very weak signal.
21415	1550	21	4	G		RADAR			Radar from 21415 to 21430 kHz. Very strong and persistent.Pluto. UK SBA, Cyprus.
21438	1240	4	4	UKR		CW			Russian Navy, Sevastopol. Strong signals, daily, all day long.
28000	1300	5	4	IRN		RADAR			Iranian radar operating from 28 to 32 MHz most days. Moving up and down the spectrum or staying in specific sections of the band. A section used on the 30th at 1125z was 28930 to 29030 kHz. Heard most days with very strong signals.
28275	1155	23	4	G		RADAR			Radar from 28275 to 28310 kHz. Huge and persistent.Pluto. UK SBA, Cyprus
28412	1145	28	4	G		RADAR			Radar from 28412 kHz.Huge and persistent. Pluto. UK SBA, Cyprus
28618	1305	1	4			RADAR			Radar from 28618 kHz to 28640 kHz.Medium signal, persistent
29360	1330	6	4			FM			Asian fishermen. Weak signals, in and out.

OëVSV; Christoph, OE1VMC

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
18100	0722	10	04			RADAR		20KOE	From Direction 100° (Cyprus?)
24410	0734	10	04			RADAR		20KOE	Dir east (russia, china, cyprus)
28700	0753	10	04			RADAR			
28700	1430	10	04	IRN		RADAR		45KOE	
28700	1501	11	04	IRN		RADAR		45KOE	
28700	0725	12	04	IRN		RADAR		45KOE	
14107	2100	13	04	RUS		RADAR		12KOE	
29000	0857	14	04	IRN		RADAR		45KOE	
29500	0858	14	04	IRN		RADAR		45KOE	
28960	1119	21	04	IRN		RADAR		100KOE	two radar nearby next 29000
28960	0829	22	04	IRN		RADAR		45KOE	
28740	0830	22	04	IRN		RADAR		45KOE	
28740	0645	23	04	IRN		RADAR		45KOE	

OëVSV; Christoph, OE1VMC

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7162	1730	23	04	D		F1B		250	long duration FSK transmission
29000	1047	28	04	IRN		RADAR		45K0E	
29000	0935	30	04	IRN		RADAR		45K0E	
21275	0941	30	04	G		RADAR		20K0E	
21430	1507	30	04	G		RADAR		20K0E	

PZK; SP3AMO, SP5GNI

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7016.0	vt	vd	04			F1B		250H	
7026.0	vt	vd	04			CIS-12		2K7	S9+12dB
7057.0	2015	05	04	G		RADAR		12K0E	S9+30dB TNX SP5ELA
14007,9	0840	19	04			NON			
14008.0	vt	vd	04			F1B		250H	
14013.0	1105	27	04			CIS-12		2K7	S5
14026.0	1020	12	04			CIS-12		2K7	S8
14153.0	14:00	09	04			RADAR		10K0E	Burst
14184.0	1722	15	04	G		RADAR		10K0E	S9+20dB just finished
14188.0	1425	20	04			Radar	40	12K0E	
14201.0	0835	21	04	G		RADAR		20K0E	S9++
14254.0	1529	11	04			Radar	50	10K0E	Bursts
14289.0	1530	11	04			Radar	66	10K0E	Bursts
14311.0	1454	05	04			Radar	66	10K0E	Bursts
14336.0	1110	25	04	G		RADAR		20K0E	S9++
14338.0	1910	20	04			RADAR		10K	short bursts
18080.0	0755	08	04			A3E		6K0	like Chinese
18100.0	vt	10	04			RADAR		20K0E	S8
18107.0	vt	vd	04			F1B		200H	
18148.0	1102	27	04			RADAR		10K	short bursts
21000.0	0702	11	04			Radar	85	10K0E	21100, 21200, 21300, 2140 kHz
21040.0	0850	17	04			Radar	40	10K0E	Bursts
21100.0	1425	03	04	G		RADAR		20K0E	S9
21115.0	0720	05	04			Radar	66	10K0E	Bursts
21180.0	1104	27	04	G		RADAR		20K0E	S9++ together with 21295.0
21215.0	0657	07	04			Radar	50	20K0E	599 +40 dB
21230.0	0719	05	04			Radar	50	20K0E	
21250.0	0851	17	04			Radar		10K0E	Bursts
21251.0	1035	09	04			Radar	50	10K0E	Bursts
21255.0	1722	11	04			RADAR		10K0E	Burst
21269.0	0854	17	04			Radar	66	10K0E	Bursts
21288.0	0722	05	04			Radar	66	10K0E	Bursts
21295.0	vt	vd	04	G		RADAR		20K0E	S9++
21300.0	0738	05	04			Radar	50	20K0E	
21301.0	1425	03	04			RADAR		10K	short bursts
21306.0	0940	14	04			RADAR		10K0E	S6 continous
21315.0	1455	03	04			RADAR		12K	S6 continous
21322.0	1438	16	04			RADAR		10K	short bursts also at other frequencies

PZK; SP3AMO, SP5GNI

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21335.0	1025	08	04			RADAR		10K	short bursts
21341.0	vt	21	04			RADAR		10K0	long bursts
21354.0	0930	18	04			RADAR		10K	short bursts also at other frequencies
21370.0	0940	06	04			RADAR		10K0E	short bursts also at other frequencies
21375.0	0725	05	04			Radar	66	10K0E	Bursts
21391.0	1015	10	04			RADAR		10K0E	Burst
21403.0	0940	14	04			RADAR		10K0E	bursts also 21370.0
21419.0	1440	16	04			RADAR		12K0E	S5 continous
21425.0	0900	16	04			RADAR		10K	short bursts
21450.0	1103	14	04			A3E		10K0	Strong radio in unknown language
28290.0	1030	08	04			RADAR		20K0E	S7
28630.0	1400	16	04			RADAR		20K0E	S8
28700.0	vt	vd	04	IRN		Radar	300/870	46K0E	
28950.0	0730	05	04	IRN		Radar	150/300	46K0E	
28960.0	vt	vd	04	IRN		Radar	150/300	46K0E	
29000.0	vt	vd	04	IRN		RADAR		60K0E	
29195.0	1420	03	04			RADAR		20K0E	S6 continous
29450.0	vt	vd	04	IRN		Radar	150/300	46K0E	
29500.0	vt	vd	04	IRN		Radar	150/300	46K0E	
29645.0	0904	16	04			RADAR	25	20K0E	
51300.0	1050	04	04	IRN		RADAR		60K0E	S4

REF; Francis, F5MIU

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21230	0732	05	04			fmcw	50	20kHz	OTH Radar pulsed 20ms, S9+10dB
18100	0730	10	04			fmcw	50	20kHz	OTH Radar pulsed 20ms, S9
21310	0751	14				fmcw	50	20kHz	OTH Radar pulsed 20ms, S9+10
21102	0746	17				fmcw	50	20kHz	OTH Radar pulsed 20ms, S9+10
29000	0800	18				fmcw	Multiple	50kHz	OTH Radar pulsed multiple rate, S8
24935	0730	21				fmcw	25	20kHz	OTH Radar pulsed 40ms, S9+
21170	0740	21				fmcw	50	20kHz	OTH Radar pulsed 20ms, S9+20
21425	1618	21				fmcw	40	20kHz	OTH Radar pulsed 25ms, S9+20dB
28530	1632	25				fmcw	25	20kHz	OTH Radar pulsed 40ms, S9+
28595	1635	25				fmcw	50	20kHz	OTH Radar pulsed 20ms, S9

RSGB; Richard, G4DYA

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3756.0	1834	01	04			J3E		2K20E	USB 'The Pip'. Daily. Also heard 121957z, 212031z, 281946z
7016.0	1654	26	04			F1B		250	FSK. Also heard 270705z
7026.0	1837	01	04			J7D		2K70E	USB 7024.0 / CIS-12. Also heard 021658z, 041656z, 051624z, 061944z
7030.0	1722	23	04			F1B		250	FSK
7075.00	1835	01	04			A1N			Continuous groups of 16 dashes. Also heard 131751z
7075.01	1658	04	04			A1N			Continuous groups of 16 dashes. Also

RSGB; Richard, G4DYA

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
									heard 061044z
7080.0	1952	05	04			F1B		200	FSK. Also heard 091747z, 131750z, 181933z, 202038z, 212032z, 231720z, 261704z, 281934z
7110.0	1745	13	04	ETH		A3E			BC
7159.0	0808	10	04			J7D		2K40E	USB 7159.0 / Link 11 CLEW
7159.0	0810	11	04			B7D		6K00E	DSB / Link 11 CLEW. Also heard 121952z, 181934z
7162.0	1719	23	04			F1B		250	FSK
14008.0	0742	09	04			F1B		250	FSK
14218.0	1020	03	04	RUS		P0N	40	14K0E	Container pulse radar
14243.0	1642	26	04	CHN		F3N	50	10K0E	FMCW radar bursts
14253.0	0709	03	04			F1B		250	FSK. Also heard 100759z
14281.0	1949	05	04			F3N	40	10K0E	FMCW radar bursts
14337.0	1832	29	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
14346.0	1744	09	04	CHN		F3N	50	10K0E	FMCW radar bursts
18080.0	0707	04	04			A3E			BC. Also heard 090754z
18100.0	0753	10	04	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
18107.0	0828	01	04	RUS		F1B	50	200	FSK. Also heard 020920z, 030708z, 040835,051622z, 090752z, 101027z, 110819z, 120701z, 130816z, 180820z, 200732z, 220714z, 230912z, 261701z, 271020z, 281252z, 291114z
18138.0	0858	02	04			F3N	40	10K0E	FMCW radar bursts
21000.0	0828	02	04	CHN		F3N	47.6	10K0E	FMCW radar
21050.0	0831	04	04	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21104.0	0817	11	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21167.0	0817	11	04	CHN		F3N	50	10K0E	FMCW radar bursts
21182.0	1612	20	04	RUS		P0N	40	14K0E	Container pulse radar
21187.0	0745	22	04	CHN		F3N	41.7	10K0E	FMCW radar bursts
21195.0	0907	23	04	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21198.0	0737	13	04	CHN		F3N	41.7	10K0E	FMCW radar bursts
21215.0	0812	18	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21220.0	1113	29	04	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21230.0	0841	11	04	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21243.0	0813	18	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21266.0	0823	01	04	CHN		F3N	50	10K0E	FMCW radar bursts
21275.0	0714	30	04	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21293.0	0652	23	04	CHN		F3N	50	10K0E	FMCW radar
21295.0	1013	27	04	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21296.0	0814	13	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21310.0	0825	02	04	CHN		F3N	10	160KE	FMCW radar bursts
21317.0	1143	05	04	CHN		F3N	41.7	10K0E	FMCW radar bursts
21327.0	1016	03	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21340.0	0701	23	04	CHN		F3N	50	10K0E	FMCW radar bursts
21340.0	0836	27	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21342.0	0934	09	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21339.0	0814	11	04	CHN		F3N	66.7	10K0E	FMCW radar bursts

RSGB; Richard, G4DYA

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21340.0	0812	11	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21350.0	0835	02	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21350.0	0739	09	04	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21355.0	0836	02	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21365.0	0814	11	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21368.0	0910	23	04	CHN		F3N	50	10K0E	FMCW radar
21380.0	0657	23	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21390.0	0954	04	04	CHN		F3N	50	10K0E	FMCW radar bursts
21400.0	0715	30	04	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21402.0	0837	04	04	CHN		F3N	50	10K0E	FMCW radar bursts
21407.0	0658	23	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21410.0	0742	10	04	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21413.0	0739	13	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21416.0	0914	02	04	CHN		F3N	50	10K0E	FMCW radar bursts
21425.0	1015	27	04	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21433.0	0823	01	04	CHN		F3N	66.7	10K0E	FMCW radar bursts
21434.0	0838	02	04	CHN		F3N	50	10K0E	FMCW radar bursts
21435.0	0916	02	04	CHN		F3N	41.7	10K0E	FMCW radar bursts
21438.0	0854	02	04	RUS	RCV	A1A			Morse
21455.0	1246	28	04	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
24974.0	0845	13	04	RUS		P0N	40	14K0E	Container pulse radar
28000.0	1243	28	04	G		F3N	25	20K0E	FMCW radar, UK SBA, Cyprus
28700.0	1023	10	04	IRN		P0N		45K0E	Pulse radar 307.1 / 869.5 pps
28860.0	1013	03	04	IRN		P0N		45K0E	Pulse radar 150.2 / 313.0 pps
29000.0	1245	28	04	IRN		P0N		45K0E	Pulse radar 307.1 / 869.5 pps. Also heard 291829z
29400.0	1031	06	04	IRN		P0N		45K0E	Pulse radar 150.2 / 313.0 pps
29450.0	0924	02	04	IRN		P0N		45K0E	Pulse radar 150.2 / 313.0 pps. Also heard 061040z, 090932z, 200729z
29490.0	0735	13	04	G		F3N	25	20K0E	FMCW radar, UK SBA, Cyprus

SRAL; Pekka, OH2BLU

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7 MHz	2100-0510	24	4	RUS		RADAR	40sps	13k0E	(WebSDR 24d)
7006.5	0730-0830	03	4	RUS		F1B/ N0N		500H	
7008.0	0740-1400	01 11	4	RUS		J7D	120	2k60E	
7008.5	0800-1514/	10 15	4	RUS		J7D	120	2k60E	
7013.0	1300-1430	01	4	RUS		J7D	120	2k60E	
7014.0	1325-1855	*	4	RUS		J7D	120	2k60E	*)Days: 24. 26. 27.
7016.0	0710-1925	26 27	4	RUS		F1B		250H	
7018.0	0905-1800	*	4	RUS		J7D	120	2k60E	*)Days: 5. 13. 16. 24.

SRAL; Pekka, OH2BLU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7020.0	0730-1805	*	4	RUS		F1B		200/250H	*)Days: 12. 16. 17.
7026.0	0500-1830	01 - 08	4	RUS		J7D	120	2k60E	
7030.0	0830-1450	*	4	RUS		F1B		200H	*)Days: 10. 17. 23.
7032.0	0415-0600	01 - 30	4	RUS		J3E-u		3k50	Non-stop Russian anthem / mx
7032.0	0830-1230	03 10	4	RUS		J7D	120	2k60E	
7036.0	1710-1855	*	4	RUS		F1B		500H	Unstable fq
7048.0	0445-1400	*	4	RUS		A1A		60H	*) Days: 3. - 7. 10. - 14. 17. -19. 21. 25. - 28. 5BL, mainly key failure
7054.0	1515-1815	*	4	RUS		F1B		200H	*) Days: 3. - 5. 7. 9. 11. - 15.
7054.4	0645	13	4	RUS		A1A	18 wpm	40H	5F
7057.5	0500-1600	01 - 30	4	RUS	XML9 etc	A1A	10-24 wpm	40H	5BL, 5F
7080.0	1715-1830	*	4	RUS		F1B/A		200H	*) Days: 2. 15. 19. 20. 23. 5F
7110.0	1600-1810/	01 - 31	4	ETH	R. Ethiopia	A3E		9k0	
7114.0	0500-0600	*	4	RUS		F1B/ NON		250H	*) Days: 15. 17. 18.
7120.0	1220-1245	29	4	RUS		J7D	120	2k60E	
7122.0	1220-1245	29	4	RUS		J7D	120	2k60E	
7136.0	0500-0545	29	4	RUS		F1B		200H	
7140.0	0500-1700	*	4	RUS		J7D	120	2k60E	*) Days: 6. 7. 11.
7147.0	0500-1500	*	4	RUS		J7D	120	2k60E	*) Days: 1. 2. 3. 6. 28. - 30.
7159.0	0500-0700	09 14	4			G7D		2k30E	LINK usb, ship
7160.0	0745-0800	18	4	RUS	RBL88	A1A	14 wpm	40H	5F
7162.0	0630-1830	*	4	RUS		F1B		250H	*) Days: 2. 4. 6. 17. 23.
7172.0	0730	06	4	RUS	RIR2	A1A		40H	5BL
7182.0	1600-1730	03	4	RUS		J7D	120	2k60E	
7192.0	0630-1430	*	4	RUS		J7D	120	2k60E	*) Days: 1. 3. 6. 22.
7196.0	0610-1330	*	4	RUS	QC9Y etc	A1A	18 wpm	40H	*) Days: 2. 4. 6. 10. 16. 17. 20. 21. 22. 27. 28. 29. also dotter
7196.0	0550-1700	*	4			N0N			*) Days: 2. 8. 17. 20. 21.
7200.0	1200-1457/	06 - 30	4	TWN	NUR	A3E		9k0	National unity radio to KRE. Frequency offset – 7 Hz
10 MHz			4	G		RADAR	50sps	20k0	(WebSDR 2d)
10 MHz			4	RUS		RADAR	40sps	13k0E	(WebSDR 0d)
10125 A	1500-	01 -	4	GUM	TWR	A3E?		4k0E	Spurious from 9900 kHz

SRAL; Pekka, OH2BLU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
	1600/	27							
10135 A	1150-1230	*	4	GUM	TWR	A3E?		4k0E	*) Days: 9. 10. 11. 13. 14. 18. 19. 20. 23. 24. 25. 28. Spurious from 9910 kHz, also DRM reported
14 MHz	0330-2300	*	4	RUS		RADAR	40sps	13k0E	*) Days: 1. 3. 7. 9. 14. 18. 20. - 22. 25. 26. 29. (WebSDR 21d)
14 MHz	1130-1830	*	4	CHN		RADAR	50/67sp s	10k0E	*) Days: 1. 3. - 5. 7. - 17. 20. 22. - 28. 'foghorn'
14000.0	1300-1500/	01 - 30	4	CHN	RCI	A3E		9k0	TX intermod. // 13710 & 13855 kHz
14008.0	0500-1325	*	4	RUS		F1B		250H	*) Days: 4. 5. 6. 8. 15. 16. 17. 21. 27. 29.
14045.0	1220-1330	26	4	RUS		J7D	120	2k60E	
14200.0	0500-1830	02 - 30	4	FIN	Cutlass	RADAR	10.47 sps	4k5E	Alternates fq from 14000 to 14335 kHz. Remote controlled from G. SuperDARN Hankasalmi tx
14221.0	0430-0600/	01 - 30	4	KAZ		F1B		200H	
14253.0	0610-1600	*	4	RUS		F1B		250H	*) Days: 3. 7. 10. 14. 17. 24. (ERP > 400 W)
14294.0	0635-1105	16 17	4	RUS		J7D	120	2k60E	
18 MHz	0400-1200	*	4	G		RADAR	50 sps	20k0	*) Days: 6. 10. 13. 22. (WebSDR 9d)
18 MHz	1400-1430	24	4	RUS		RADAR	40 sps	13k0E	(WebSDR 2d)
21 MHz	0400-1500	*	4	G		RADAR	25/50sp s	20k0	*) Days: 1. - 12. 14. 15. 17. - 21. 23. 24. 26. - 30. (WebSDR 24d)
21 MHz	0630-1730	*	4	RUS		RADAR	40 sps	13k0E	*) Days: 3. 7. 11. 12. 14. 18. 21. 29. (WebSDR 10d)
21 MHz	0445-1800	*	4	CHN		RADAR	50/67sp s	10k0E	*) Days: 1. - 13. 15. 23. 25. 26. 30. 'foghorn'
21 MHz	0445-1600	*	4	CHN		RADAR	50 sps	10k0E	*) Days: 8. 11. 14. 16. 20. - 25.
21438.0	/0830-1600	01 - 30	4	RUS	RCV	A1A	24 wpm	40H	navip
21450.0	1230-1530	14	4	ALG?		A3E		9k0	
28 MHz	0500-1630	*	4	G		RADAR	25/50sp s	20k0	*) Days: 1. 3. 6. - 10. 12. 13. 15. 16. 18. 20. 22. 23. 26. (WebSDR 19)
28 MHz	0500-0700	08 09	4	G		RADAR	12.5 sps	40k0	(WebSDR 2d)
28 MHz	0430-1730	*	4	IRN		RADAR	150/ 313	60k0E	*) Days: 1. - 5. 7. - 23. 25. 26. 28. 30. (WebSDR 11d)
28 MHz	0450-1800	*	4	IRN		RADAR	310/ 870	120k0E	*) Days: 1. - 4. 6. - 16. 18. - 23. 26. 28. 29. (WebSDR 27d)
28860.0	0500-1630	*	4	IRN		RADAR	150/ 313	60k0E	*) Days: 1. 2. 4. 5. 14. - 23. 25. - 30. (WebSDR 21d) QSY to 28960 or 28750 kHz
28 MHz	0745-1300	*	4	RUS	Taxi disp.	F3E		3k0E	*) Days: 1. 3. 7. 9. 16. 20. 16 reports

URE; Gaspar, EA6AMM									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7005.0	18:44	06	04			J3E-L			Unid sts. Male voices
7026.0	08:56	05	04			J7D	120	2K70E	CIS-12
7026.0	18:42 vt	06 vd	04			J7D	120	2K70E	Idling
7075.0	18:46 vt*	06 vd*	04			A1N			Series of 16 dashes. *Often
7080.0	18:48 vt*	06 vd*	04	RUS		F1B	50	200H	*Often
10133.0	19:28	27	04			XXX		10K0E	Unid Digital signal.
14001.8	07:58 vt*	27 vd*	04			XXX		CA3K0E	Digital bursts. *Often
14007.9	08:52	05	04			NON			Carrier of F1B RUS system om 14008 kHz.
14008.0	09:05 vt*	05 vd*	04	RUS		F1B	50	250H	*Often
14141.0	18:06	29	04	CHN		RADAR	66.7	10K0E	Short bursts
14198.5	07:09	25	04			F1B	600	600H	DPRK-FSK 600 ARQ
14200.0	18:03 vt*	26 vd*	04			RADAR		4K50E	SuperDARN bursts. *Daily since 26/04
14221.0	20:16 vt	27 vd*	04	KAZ		F1B	50	200H	*Often
14253.0	14:14	28	04			F1B	75	250H	
14298.3	07:13 vt	27 vd	04			F1B	600	600H	DPRK-FSK 600 ARQ
14298.3	07:28	29	04			F1B	600	600H	DPRK-FSK 600 ARQ. 0730 UTC, QSY to 14298.5 kHz CF
14298.5	07:31	25	04			F1B	600	600H	DPRK-FSK 600 ARQ
14298.5	07:31	25	04			OTHER		1K20E	DPRK-1200
14302.0	14:21	30	04	CHN		RADAR	50	10K0E	Short bursts
14305.0	18:10 vt*	29 vd*	04			RADAR		4K50E	SuperDARN bursts. *Daily since 26/04
14306.0	18:00	26	04	RUS		RADAR	40	12K0E	OTHR Contayner
14320.0	19:07 vt*	27 vd*	04			RADAR		4K0E	SuperDARN bursts. *Daily since 26/04
14332.0	18:11	29	04	CHN		RADAR	66.7	10K0E	Short bursts
14335.0	11:30	25	04	RUS		RADAR	40	12K0E	OTHR Contayner
14335.0	18:09 vt*	26 vd*	04			RADAR		4K50E	SuperDARN bursts. *Daily since 26/04
14337.0	18:12	29	04	CHN		RADAR	66.7	10K0E	Short bursts
18080.0	07:04 vt*	27 vd*	04			A3E			BC. "Sound of Hope". *Often
18107.0	09:08 vt*	05 vd*	04	RUS	RDL	F1B	50	200H	*Daily
18145.0	14:19	30	04	CHN		RADAR	41.7	10K0E	Short bursts
18151.0	18:19	29	04	CHN		RADAR	66.7	10K0E	Short bursts
21001.5	10:42	26	04			F1B	600	600H	DPRK-FSK 600 ARQ
21050.0	07:20	28	04	CHN		RADAR	62.5	10K0E	Short bursts
21110.0	07:59	30	04	CHN		RADAR	50	10K0E	Short bursts
21174.0	07:38	30	04	CHN		RADAR	50	10K0E	Short bursts
21185.0*	12:29	29	04	G		RADAR	50	20K0E	UK SBA; Cyprus. *Also on 21410 kHz CF. 2 TX on 15m.
21220.0	11:37	29	04	G		RADAR	50	20K0E	UK SBA; Cyprus

URE; Gaspar, EA6AMM

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21220.0	11:35	30	04	CHN		RADAR	66.7	10K0E	Short bursts
21235.0*	08:49	29	04	G		RADAR	50	20K0E	OTHR G. UK SBA, Cyprus. *Also on 21360 kHz CF
21241.0	11:34	30	04	CHN		RADAR	66.7	10K0E	Short bursts
21251.0	11:32	30	04	CHN		RADAR	66.7	10K0E	Short bursts
21270.0	11:22	26	04	G		RADAR	50	20K0E	UK SBA, Cyprus
21275.0	07:38	27	04	G		RADAR	50	20K0E	UK SBA, Cyprus. *Also on 21400 kHz CF (2TX on 15 m)
21275.0*	07:35	30	04	G		RADAR	50	20K0E	UK SBA, Cyprus. *Also on 21400 kHz CF. 2 TX on 15 m.
21295.0	10:32	27	04	G		RADAR	50	20K0E	UK SBA, Cyprus
21300.0	08:37	05	04	G		RADAR	50	20K0E	UK SBA, Cyprus
21301.0	07:44	27	04	CHN		RADAR	41.7	10K0E	Short bursts
21305.0	11:43	30	04	CHN		RADAR	66.7	10K0E	Short bursts
21340.0	08:24	26	04	G		RADAR	50	20K0E	UK SBA, Cyprus
21340.0	12:55	29	04	G		RADAR	50	20K0E	UK SBA, Cyprus
21345.0	10:59	30	04	G		RADAR	50	20K0E	UK SBA, Cyprus
21346.0	07:14	28	04	CHN		RADAR	66.7	10K0E	Short bursts
21360.0*	08:49	29	04	G		RADAR	50	20K0E	UK SBA, Cyprus. *Also on 21235 kHz CF. 2 TX on 15 m.
21400.0*	07:36	30	04	G		RADAR	50	20K0E	UK SBA, Cyprus. *Also on 21275 kHz CF
21401.0	06:55	26	04	CHN		RADAR	50	10K0E	Short bursts
21405.0	10:54	28	04	G		RADAR	50	20K0E	UK SBA, Cyprus
21407.0	10:34	27	04	CHN		RADAR	50	10K0E	Short bursts
21410.0	12:30	29	04	G		RADAR	50	20K0E	UK SBA, Cyprus. *Also on 21185 kHz CF. 2 TX on 15 m.
21428.0	07:10	29	04	CHN		RADAR	66.7	10K0E	Short bursts
21438.0	08:40	05	04	RUS	RCV	A1A			RUS navy QTC. Daily
21455.0	12:51	28	04	G		RADAR	50	20K0E	UK SBA, Cyprus
28000.0	12:52	28	04	G		RADAR	25	20K0E	UK SBA, Cyprus
28170.0	10:36	27	04	G		RADAR	25	20K0E	UK SBA, Cyprus
28530.0	15:19	25	04	G		RADAR	25	20K0E	UK SBA, Cyprus
28600.0	10:54	26	04	IRN		RADAR	307	45K0E	Alternating 307 and 870 sps bursts
28650.0	13:53	30	04	IRN		RADAR	150	45K0E	Alternating 150 and 313 sps bursts
28700.0	08:45	05	04	IRN		RADAR	307	45K0E	Alternating 307 and 870 bursts
28750.0	06:49 vt	27 vd	04	IRN		RADAR	150	45K0E	Alternating 150 and 313 sps short bursts.
28860.0	08:43 vt*	05 vd*	04	IRN		RADAR	150	45K0E	Alternating 150 and 313 sps bursts. *Often
28960.0	10:40 vt*	27 vd*	04	IRN		RADAR	150/ 313	45K0E	OTHR IRN. 2 Systems side by side: 28960 kHz CF (150/313 sps) + 29000 kHz CF (307/870 sps). *Often
28960.0	07:58 vt	28 vd	04	IRN		RADAR	150/ 313	45K0E	Alternating 150 and 313 sps.
29000.0	06:51 vt*	27 vd*	04	IRN		RADAR	307/ 870	45K0E	Alternating 307 and 870 sps short bursts. Often
29205.0	11:21	26	04	G		RADAR	50	20K0E	UK SBA, Cyprus
29250.0	10:54	30	04	IRN		RADAR	150/ 313	45K0E	Alternating 150 and 313 sps bursts
29450.0	10:19	30	04	IRN		RADAR	150/ 313	45K0E	Alternating 150 and 313 sps bursts

URE; Gaspar, EA6AMM

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
29500.0	08:47	05	04	IRN		RADAR	150/ 313	45K0E	Alternating 150 and 313 sps bursts
29600.0	10:52	30	04	IRN		RADAR	150/ 313	45K0E	Alternating 150 and 313 sps bursts
29700.0	11:34	06	04	IRN		RADAR	307	45K0E	Alternating 307 and 870 bursts

USKA; Peter, HB9CET

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7016.0	0712	26	04			F1B	75 Bd	250H	FSK
7026.0	0918	01	04			J7D	12x120 Bd	2k70E	CIS12; BPSK
7030.0	0947	17	04			F1B	75 Bd	250H	FSK
7080.0	1952 2043	03 19	04			F1B	50 Bd	200H	FSK often
7111.0 LSB	1954	12	04			PSK-4	30x 60 Bd	2k50E	CHN-30; Burst system; Preamble; pilot tone at 450Hz
7159.0 DSB	0829	11	04			B7D DQPSK	75 Bd	ca 6k0E	LINK11 CLEW DSB or ISB mode often
7159.0 USB	2143 1117	11 16	04			G7D QPSK	75 Bd	ca 2k40E	LINK11 CLEW SSB mode; 16 tones spacing 110Hz often
7162.0	0944	17	04			F1B	75 Bd	250H	FSK often
7171.0 LSB	2056	02	04			PSK-4	30x 60 Bd	2k50E	CHN-30; Burst system; Preamble; pilot tone at 450Hz
14001.7	1949	19	04			F1B	100	170H	Sitor, FEC,weak, fading
14008.0	0947	27	04			F1B	50 Bd	250H	FSK often
14222.0	0931	29	04			FMOP	40 sps	12K0E	OTHR; Contayner
14253.0	0803	17	04			F1B	75 Bd	250H	FSK often
14303.4	0820	26	04			F1B ARQ	600 Bd	600	DPRK ARQ FSK 600-600 often
14305.0	1446	15	04					ca 6k	Super DARN often
14335.0	1137	25	04			FMOP	40 sps	14K0E	OTHR; Contayner (BW 14kHz!)
18080.0	0719	12	04			A3E		ca 9k0E	BC: "Sound of Hope", Taiwan daily
18107.0	0931	01	04			F1B	36+50 Bd	200H	CIS 36-50 almost daily
18148.0	1412	07	04			FMCW	50 sps	10k0E	OTHR; bursts
21230.0	0840	11	04	G		FMCW	50 sps	20k0E	OTHR; UK base Cyprus often
21254.0	0911	17	04			FMCW	66.66 sps	10k0E	OTHR; bursts
21314.0	0922	25	04			FMCW	50 sps	10k0E	OTHR; continuos, long lasting
21345.0	0814	17	04	G		FMCW	50 sps	20k0E	OTHR; UK base Cyprus often
21380.0	0850	01	04			FMCW	50 sps	10k0E	OTHR; bursts
21403.0	0920	01	04			FMCW	42 sps	10k0E	OTHR; bursts
21403.3	0826	17	04			QPSK	75 Bd	ca 2k4	
21424.0	1537 1122	01 08	04			F1B	50 Bd	400H	FSK, weak; 2nd of 10712.0 kHz
21425.0	0754	16	04			OTHR	X	10k0E	OTHR; bursts
21435.0	0957	02	04			FMCW	42 sps	10k0E	OTHR; bursts
21438.0	0916	01	04	RUS	RCV	A1A		10H	Area of Sevastopol; since years daily
21440.0	0754	16	04			OTHR	X	10k0E	OTHR; bursts
28165.0	1349	15	04			F3E			short traffic only; female voice
28175.0	1340	15	04			F3E			short traffic only; female voice

USKA; Peter, HB9CET

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
28600.0	0839	26	04	IRN		OTHR	307 + 870 sps	ca 45k	OTHR; Bursts; long lasting, sweeprate alternating often
28700.0	0856 0725	01 12	04	IRN		OTHR	307 + 870 sps	45k0	OTHR; sweep rate alternating often
28860.0	1005	02	04	IRN		OTHR	150 + 313 sps	ca 50k	OTHR; Bursts; long lasting, sweep rate alternating almost daily
28960.0	1139	16	04	IRN		OTHR	150 + 313 sps	ca 50k	OTHR; Bursts; long lasting, sweep rate alternating often
28975.0	1344	15	04			F3E			short traffic only; female voice
29000.0	0848 1012	13 28	04	IRN		OTHR	307 + 870 sps	ca 45k	OTHR; Bursts; long lasting, sweeprate alternating often
29020.0	1237	07	04	G		FMCW	50 sps	20k0E	OTHR; UK base Cyprus
29449.975	1331	07	094			F1B	81.9 Bd	ca 140Hz	FSK, maybe Waverider buoy
29450.0	1404 0942	07 20	04	IRN		OTHR	150 + 313 sps	ca 45k0	OTHR; Bursts: sweep rate alternating often
29500.0	1427	15	04	IRN		OTHR	150 + 313 sps	ca 45k0	OTHR; Bursts: sweep rate alternating
29565.0	1231	07	04	G		FMCW	50 sps	20k0E	OTHR; UK base Cyprus
29595.0	1403	09	04			FMCW	12.5 sps	40k0E	OTHR

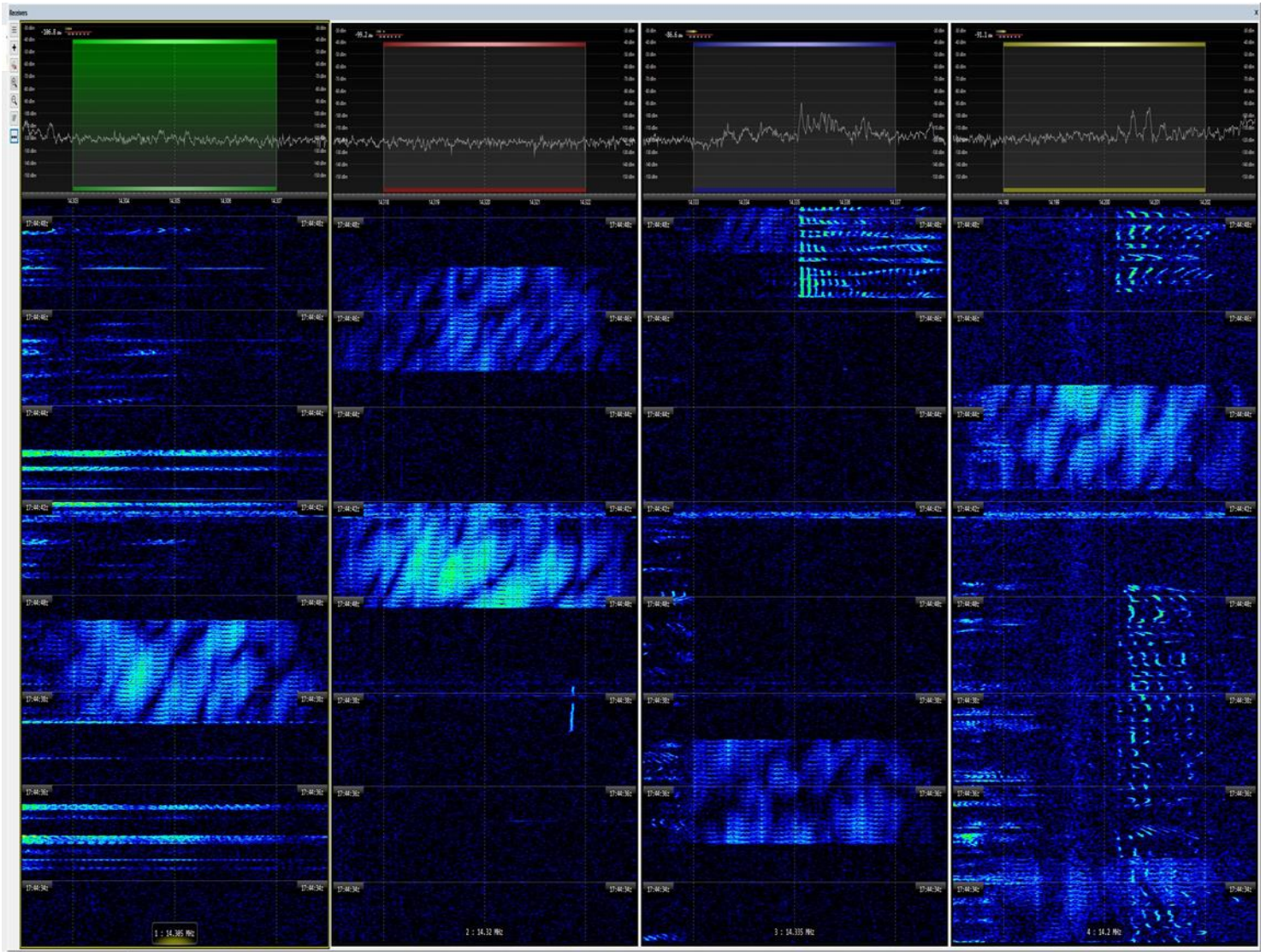
VERON; Ruud, PG1R. Credits to observers: Dick PA0GRU, Arie PA3CNK

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3797.0	1920	29	04	RUS	3QNL	A1A			3QNL QTC 134 67 18 0210 134 = NAWIP (shared band)
7000.0	1852	23	04			J3E-L			Male voice; Italian language: testing, testing, etc.
7000.0	1822	28	04		5L	A1A			UiCW; traffic 5L qru 73
7005.0	1856	06	04			J3E-L		2K70E	SE Asian language (Indonesian?) male speech & songs; S7, QSB
7016.0	0653	26	04	RUS		F1B		250H	Printer; S4-5
7016.0	0744	26	04	RUS		F1B		250H	UiPtr
7026.0	1903	06	04	RUS		J7D		2K70E	CIS-12; long lasting
7162.0	1849	23	04			F1B		250H	Printer; long lasting; S6-7
14008.0	0914	05	04	RUS		F1B		250H	UiPtr
14008.0	0734	12	04	RUS		F1B		200H	UiPtr
21274.0	0718	30	04	G		RADAR	50	20K0E	CF; loc British AB Cyprus; S5
28300.0	1002	13	04			RADAR		20K0E	OTHR
28339.0	1159	01	04	G		RADAR	50	20K0E	CF; loc British AB Cyprus

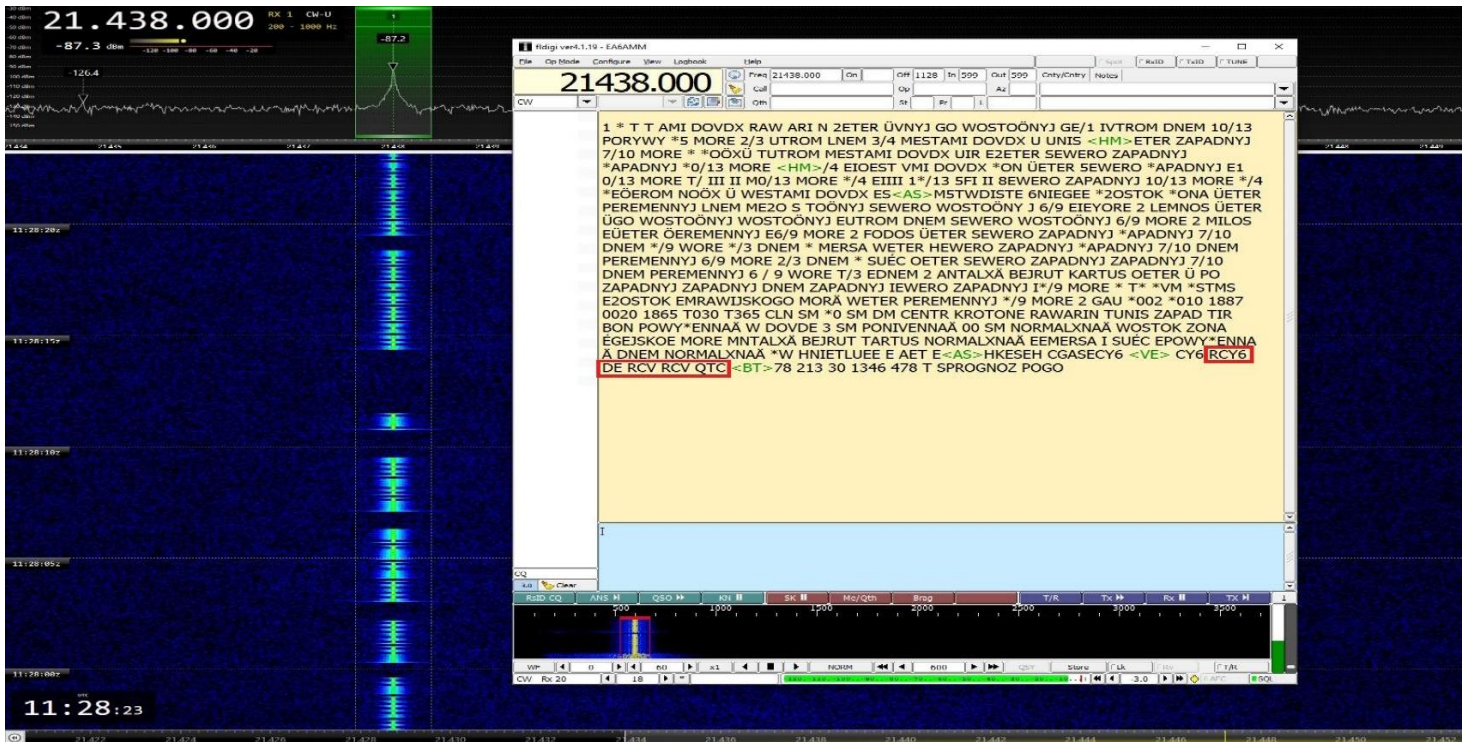
Contact: Gaspar Miró, EA6AMM, ea6amm@iaru-r1.org

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SuperDARN radar. Hankasalmi, Finland. BW ca 4K50E. Short burst from 14200 kHz CF to 14335 kHz CF. Screenshot: almost simultaneous Burst on 14200 kHz CF, 14305 kHz CF, 14320 kHz CF and 14335 kHz CF.



RUS navy A1A (CW) QTC on 15m: 21438 kHz. St ID = „RCV“. Daily for many years.