



## Monitoring Report: February 2016

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH (BW)	DETAILS
80m band informational only! Primary but shared with other primary allocated services									
3525.0	2259	02	02			DQPSK	14x75	5k9	LINK 11 CLEW (STANAG 5511)
3530.0	2312	11	02			DQPSK	14x75	5k9	LINK 11 CLEW (STANAG 5511)
3532.0	2247	02	02			DQPSK	14x75	5k9	LINK 11 CLEW almost daily
3553.8	2251	02	02			PSK8	2400	~2k4	Stanag 4285 daily
3574.3	2306	25	02			J7D	12x120	2k7	PSK-2: CIS12 = AT3004D
3593.8	2254	02	02	RUS	P	A1A			Beacon P daily
3595.0	2316	11	02			DQPSK	14x75		LINK 11 CLEW (STANAG 5511)
3608.0	2327	22	02			F1B	50	200	often
3653.0	2256	02	02			F1B	75	250	
3658.0	2257	02	02	UZB	V	A1A			Beacon V
3712.0	2329	22	02			DQPSK	14x75	5k9	LINK 11 CLEW (STANAG 5511)
6998.0	2111	02	02			H3E-U Bursts		~3k6	"Buzzer" up to ≥7001.5kHz modulated with 120Hz BD 1.2", BRI 3" Pause 1.8s
7000.0	2143	01	02			J3E-U			English
7000.0	0834	10	02			MFSK8	125	1750	MIL 188-141A
7000.0	0939	10	02			N0N			long lasting carrier often
7010.0	0928	22	02			J7D	12x120	2k7	PSK-4: CIS12 – AT3104D
7014.0	1815	03	02			J7D	12x120	2k7	PSK-2: CIS12 – AT3004D
7017.5	1124	02	02			F1B	100	2000	
7018.0	1739	02	02		REA4	F1B	100	800	
7018.0	1741	02	02		REA4	F1A		800	letters and figures; ID REA4
7020.0	1958	01	02		820605	MFSK8	125	1750	MIL 188-141A To:RS008D
7020.0	1919	03	02		CS004A	MFSK8	125	1750	MIL 188-141A To:RS0012D
7020.0	2139	03	02		820699	MFSK8	125	1750	MIL 188-141A To:RS008D
7020.0	1907	05	02		810602	MFSK8	125	1750	MIL 188-141A To:RS008D
7020.0	1936	05	02		810613	MFSK8	125	1750	MIL 188-141A To:RS008D
7020.0	1958	05	02			J3E-U		2k4	unid. language
7020.0	0831	10	02			J3E-U		2k4	Russian
7022.0	0931	10	02			J7D	12x120	2k7	PSK-4: CIS12 = AT3104D
7023.0	1734	02	02			FMCW	50 sps	~13k	OTHR; occup. BW approx 30k
7026.0	1731	11	02			FMCW	50 sps	~13k	OTHR; occup. BW approx 30k
7030.0	0919	10	02			J7D	12x120	2k7	PSK-2: CIS12 = AT3004
7032.0	0725	11	02			J7D	12x120	2k7	PSK-2: CIS12 = AT3004
7034.0	2218	02	02			FMCW	63 sps	~10k	Burst system; BD 4s
7039.0	1254	19	02	RUS	C	A1A			Beacon C Moscow
7039.4	2031	01	02	RUS	M	A1A			Beacon M Magadan daily
7050.0	1614	08	02			J3E-L			Voice, jammed (no ham)
7053.0	2203	23	02			FMCW	50 sps	~13k	OTHR; occup. BW approx 30k
7055.0	1251	19	02			J3E-L			Voice, music, jammed (no ham)
7060.0	1835	22	02			FMCW	50 sps	~13k	OTHR; occup. BW approx 30k
7070.0	2241	28	02		811104	MFSK8	125	1750	MIL 188-141A
7070.0	2248	28	02		820211	MFSK8	125	1750	MIL 188-141A
7070.0	2255	28	02		811199	MFSK8	125	1750	MIL 188-141A
7070.0	1744	29	02		288	MFSK8	125	1750	MIL 188-141A; To: 571 often
7070.0	1750	29	02		820203	MFSK8	125	1750	MIL 188-141A
7089.0	0933	10	02			J7D	(12x120)	2k7	CIS12 idling
7089.8	0939	22	02			G1D	2400	2k4	LINK 11 SLEW often 1800Hz single tone waveform



# USKA - Bandwacht

## Member of IARU Monitoring System R1



kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH (BW)	DETAILS
7120.0	1628	03	02	SOM		A3E			BC: Radio Hargaysa daily
7137.0	1601	05	02			J7D	12x120	2k7	PSK-2: CIS12 = AT3004D
7162.0	1618	09	02			J7D	12x120	2k7	PSK-2: CIS12 = AT3004D
7169.0	1300	18	02			J7D	12x120	2k7	PSK-4: CIS12 = AT3104D
7175.0	1211	10	02			J7D	(12x120)	2k7	CIS12 system idling
7177.0	1626	05	02			F1B	50	200	CIS 50-50
7180.0	2205	29	02			FMCW	63 sps	~10k	Burst system
7186.0	2156	29	02			FMCW	50 sps	~10k	Burst system
7188.0	2157	29	02			FMCW	50 sps	~10k	Burst system
7197.0	2207	02	02	TUR	312013	MFSK8	125	1750	MIL 188-141A
7197.0	2210	02	02	TUR	348013	MFSK8	125	1750	MIL 188-141A
7197.0	2210	02	02	TUR	363013	MFSK8	125	1750	MIL 188-141A
7197.0	2211	02	02	TUR	123466	MFSK8	125	1750	MIL 188-141A
7197.0	2211	02	02	TUR	375018	MFSK8	125	1750	MIL 188-141A
7197.0	2243	18	02	TUR	332018	MFSK8	125	1750	MIL 188-141A
7197.0	2244	18	02	TUR	319018	MFSK8	125	1750	MIL 188-141A
7197.0	2247	18	02	TUR	83401	MFSK8	125	1750	MIL 188-141A
7197.0	2252	18	02	TUR	357018	MFSK8	125	1750	MIL 188-141A
7197.0	2254	18	02	TUR	315018	MFSK8	125	1750	MIL 188-141A
7197.0	2254	18	02	TUR	358013	MFSK8	125	1750	MIL 188-141A
7197.0	2255	18	02	TUR	349018	MFSK8	125	1750	MIL 188-141A
7197.0	2257	18	02	TUR	8241	MFSK8	125	1750	MIL 188-141A
7197.0	2259	18	02	TUR	309018	MFSK8	125	1750	MIL 188-141A
7197.0	2259	18	02	TUR	364013	MFSK8	125	1750	MIL 188-141A
7197.0	2300	18	02	TUR	360013	MFSK8	125	1750	MIL 188-141A
7197.0	2302	18	02	TUR	302013	MFSK8	125	1750	MIL 188-141A
7197.0	2304	18	02	TUR	310013	MFSK8	125	1750	MIL 188-141A
7197.0	2318	28	02	TUR	332013	MFSK8	125	1750	MIL 188-141A
7200.0	1301	19	02			A3E		~10k	BC; sounds like "Chinese" lower sideband down to 7195 daily
7200.0	1309	19	02					~18k	strong jammer
14000.0	0852	10	02			J3E-U			unid language
14001.5	0857	10	02			F1B	200	200	Pactor bursts; "encrypted connect"
14050.0	0851	10	02			F1B	50	250	
14089.0	0846	10	02			FMCW	50	~13k	OTHR
14160.0	0904	10	02			F1B	50	250	
14166.0	0905	23	02			FMCW	10 sps	~10k	OTHR
14185.0	0800	26	02			FMCW	10 sps	~10k	OTHR
14192.0	1136	02	02			F1B	50	500	CIS 50-50 often
14278.0	1059	16	02			?	10 sps	~160k	OTHR
14287.0	1052	05	02			FMCW	50 sps	~13k	OTHR
14295.0	0857	08	02	TJK		A3E			BC: almost daily 3 <sup>rd</sup> of Radio Tajik at 4765 kHz
14300.0 VFO USB	0854	08	02			BPSK	16x75	2k2	Burst system; 16 tones, often 2 pilottones (origin: far east)
18100.0	0922	25	02		W7	MFSK8	125	1750	MIL 188-141A; LQA; To: ET
18100.0	0929	25	02		A201	MFSK8	125	1750	MIL 188-141A; LQA; To: C3
18100.0	0943	25	02		B301	MFSK8	125	1750	MIL 188-141A; LQA; To: C3
18100.0	0945	25	02		A2	MFSK8	125	1750	MIL 188-141A; LQA; To: A5
21145.0	1142	02	02		S301	MFSK8	125	1750	MIL 188-141A, LQA; To: C3
21145.0	0932	25	02		A201	MFSK8	125	1750	MIL 188-141A, LQA; To: C3
21296.0	1024	29	02			FMCW	50	20k	OTHR
21307.0	1033	05	02			FMCW	50	9k	OTHR; BD 5s, BRI 25s
21416.0	0913	10	02			FMCW	50	9k	OTHR; BD 5s, BRI 25s



kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH (BW)	DETAILS
21438.0	0844	08	02		RCV	A1A			letters and figures almost daily
21444.0	1008	05	02			FMCW	50	9k	OTHR; BD 5s, BRI 25s

Errors and omissions excepted

**Digital transmissions: Frequency indications mostly center frequency; otherwise indicated**  
**ALE MIL 188-141A = is usually USB VFO!**

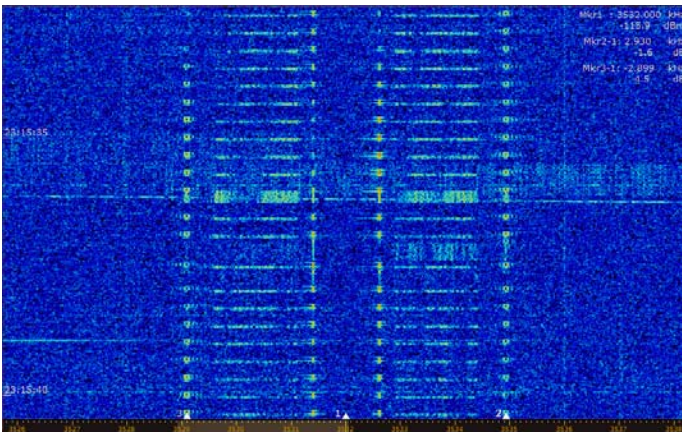
**BC** = Broadcast // **BD** = Baud, or also Burst duration // **BRI** = Burst repetition interval // **SH** = Shift or Spacing (Hz)  
**BW** = Bandwidth // **OTHR** = over the horizon radar // **FMCW** = frequency modulated continuous wave //  
**FMOP** = frequency modulated on pulse // **sps** = sweeps per second // **vd** = various dates // **vt** = various times

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## Link 11 CLEW

also known as TADIL A or TDL A, STANAG 5511, MIL-STD-6011

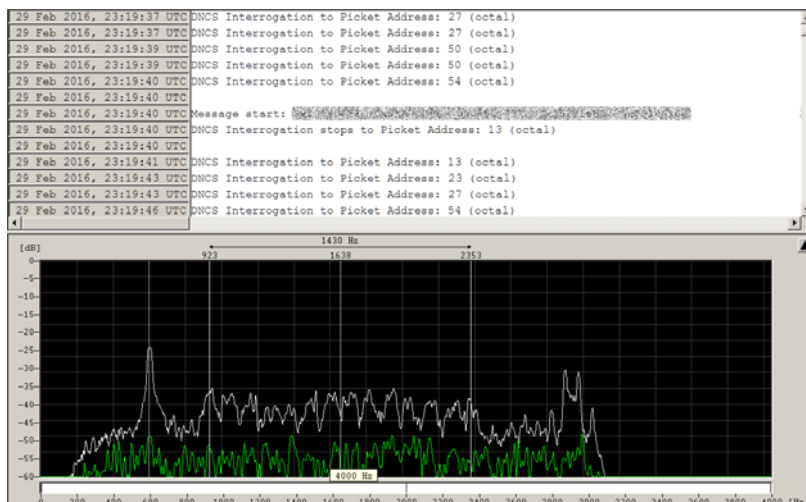


Link11 CLEW at 3532 kHz (Center) with a Perseus SDR

For information only (operation is legal)

On several frequencies in the 80m band we found almost daily during night time LINK 11 CLEW signals with its very typical sound, operating mostly in DSB (double sideband) mode (screenshot).

Link 11 is a NATO standard for secure tactical data exchange over radio among airborne-, land-based- and maritime stations.



Link 11 analysis with Wavcom W-Code 8.8 decoder

16 tone multicarrier system  
Doppler tone at 605Hz  
14 data tones 75Bd DQPSK modulated  
tone spacing 110Hz  
16<sup>th</sup> tone at 2915 Hz for synchronization.