

Mobile ANum +

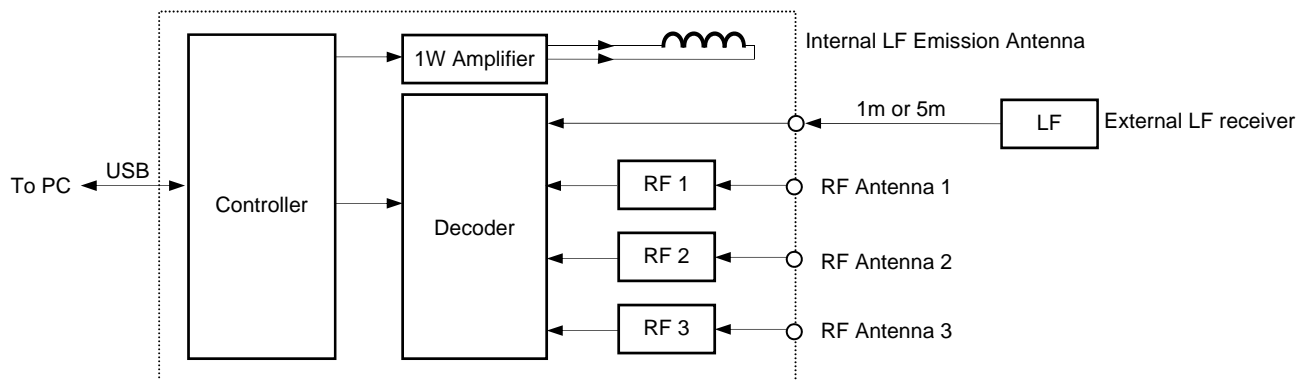


Hardware description

The **MOBILE ANum+** tool allows to send LF Data or LF CW and, in the same time, to decode up to 3 different internal channels and 1 external channel.

The 3 internal channels are RF receivers (ex : 315MHz, 433.92MHz, 434.42MHz).

The external channel is usually an active LF receiver (125kHz), but another receiver can be connected (RF, LF, IR, ..). This tool is powered only with USB power.



Software description

A specific software (ANumLFRF.exe) allows to control this bench with a useful and simple GUI.

RF frames descriptions must be defined. During Run phase, the software find the nearest appropriate description and display all decoded fields.

Note : the software is the same when using ANumLFRF tool. It is designed for a low resolution screen like UMPC (800 x 480 pixels min).

Main characteristics

LF Sending part

Power	1W
Frequency	119kHz , 121.9kHz , 125kHz , 128.2kHz , 131.6kHz
Data Baudrate	1960 bds Manchester to 10kbds Manchester (512 μ s to 100 μ s per Manchester bit)
CW Baudrate	1960 bds Manchester to 10kbds Manchester (512 μ s to 100 μ s per Manchester bit, and 1ms, 5ms, 10ms, 50ms)
Coding	Standard or Inverted Manchester
Data Modes	Manual, Script, Broadcast, Individual

RF receiving part

Frequency	Basis : 315MHz, 433.92MHz, 434.42MHz (ASK and FSK)
Sensibility	-100dBm
Baudrate	1kbds Manchester to 20kbds Manchester
Tolerance	+/- 20% on decoding baudrate
Connectors	SMA

LF external active antenna

Frequency	125kHz
Temperature	max 90°C
Baudrate	1kbds Manchester to 5kbds Manchester

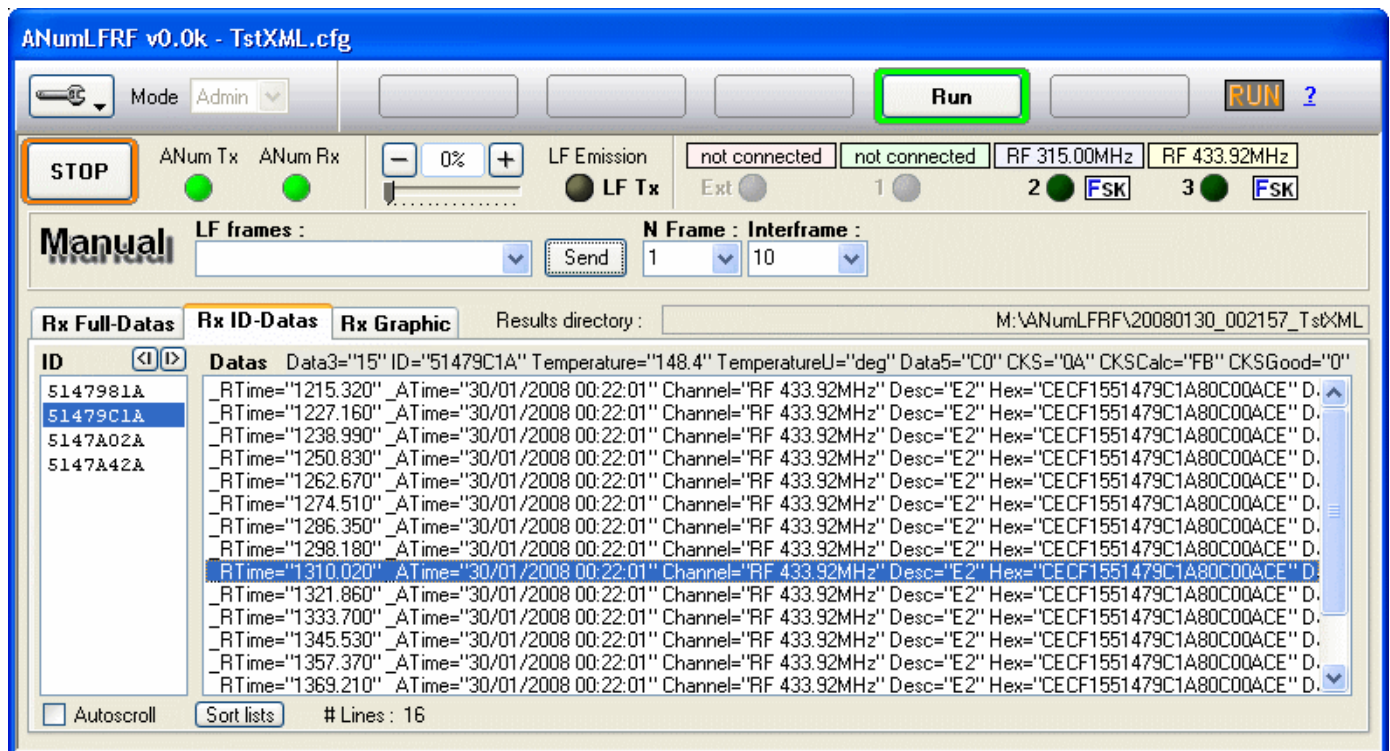
Frame decoding

Protocols	16 different descriptions per channel (baudrate and content)
Coding	Manchester standard or inverted, Biphase-S, PWM
Dating	10 μ s resolution for all channels
Frame length	512 bits max
Fields	- automatic display for each frame field - physical value conversion - conversion table
Checksum	Checksum calculation (Add, Xor, Not, CRC8)
ID	ID filtering

Software

Display	Full datas list, sorted ID lists, graphical view
Files	Full datas file, sorted ID files (all files are in XML format)
Update	Automatic update for correction or new version
Requirements	minimum configuration : Windows XP SP1, 512 MB Ram, 1GHz frequency

Screen shots



ANumLFRF v0.0k - TstXML.cfg

Mode: Admin

Run

STOP

ANum Tx: 0% ANum Rx: 0%

LF Emission: not connected

LF Tx: 1, 2 (FSK), 3 (FSK)

RF 315.00MHz, RF 433.92MHz

Manual

LF frames: [dropdown] N Frame: 1 Interframe: 10





Rx Full-Datas Rx ID-Datas Rx Graphic

Results directory: M:\ANumLFRF\20080130_002157_TstXML

ID	Datas
5147981A	Data3="15" ID="51479C1A" Temperature="148.4" TemperatureU="deg" Data5="C0" CKS="0A" CKSCalc="FB" CKSGood="0"
51479C1A	_RTime="1215.320" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
5147A02A	_RTime="1227.160" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
5147A42A	_RTime="1238.990" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
	_RTime="1250.830" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
	_RTime="1262.670" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
	_RTime="1274.510" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
	_RTime="1286.350" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
	_RTime="1298.180" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
	_RTime="1310.020" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
	_RTime="1321.860" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
	_RTime="1333.700" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
	_RTime="1345.530" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
	_RTime="1357.370" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.
	_RTime="1369.210" _ATime="30/01/2008 00:22:01" Channel="RF 433.92MHz" Desc="E2" Hex="CECF1551479C1A80C00ACE" D.

Autoscroll Sort lists # Lines : 16

Comment : Text
Name : Text
Preamble : Binary, Hexa or both
Baudrate : bauds Manchester
Coding : Standard Inverted

Standard	Inverted
0 	0 
1 	1 

Fields :

Name	Size	Offset	Resolution	Unite	Display
Data1	8	0	1		N
Data2	8	0	1		N
Data3	8	0	1		N
ID	32	0	1		N
Temperature	8	-5.2	1.2	deg	Y
Data5					
CKS					

Field description

Name	Size	Offset	Resolution	Unite	Display
Temperature	8	-5.2	1.2	deg	Y

"ID" must be used for the identifier
 "CKS" must be used for the checksum
 Display = Y or N

CKS Calculation
Mask : Ex : FF FF FF 00 FF
Method : ADD XOR **NOT :**