	DOCUMENTATION
Date : Wednesday 21 March 2012	
Document : R:\Projets\USDomoSystem.RSI\@TPr\Conception radio mixte 868-915MHz.0009\USDomoSystem.RSI Radio 915MHz Information.doc	**Radio 915MHz Information**
Version : V 1.1	
Référence : RSI/USDS/TPRW/0009/JLBu/20100120-0840	
Etat : ~~Rédaction~~ Terminé ~~Approuvé~~	

N° TPr	Libellé des travaux liés	Projet	Code
0009	Conception radio mixte 868-915MHz	USDomoSystem.RSI	USDS

Auteurs	Vérificateurs	Approbateurs	Signatures
J-L BUCHER			

Diffusion interne	Pour information interne	Diffusion externe	Société
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Résumé

DOCUMENT HISTORY

Version	Date (J-M-A)	Authors	Subject to modification	Chapter
1.1	22-03-1017	JLBu	Updating conducted power level	1...
1.0	20-01-1010	JLBu	Creation	1...

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REFERENCES

Reference	Name

ABBREVIATIONS

Abbreviation	Designation
FHSS	Frequency Hopping Spread Spectrum

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1. TUNE UP INFORMATION

RF Parameters for US Version		Data
		Wiselink
Frequency	Base frequency:	904.5 MHz
	Channel spacing:	900 kHz
	Frequency Channel 0	904.5 MHz
	…	…
	Frequency Channel 24	926.1 MHz
	Crystal Frequency:	30 MHz
	Crystal tolerance RX:	20 ppm
	Crystal tolerance TX:	20 ppm
Power	Property 'PA_PWR_LVL'	0x4F
	Conducted power level	14 dBm
MODEM	Modulation type:	2GFSK
	Binary Rate:	38.672 kbps
	Deviation:	120 kHz
	Enable PLL AFC:	No
	Bandwidth Filter	330.55 kHz
	Enable IQ calibration:	Yes
Spread Spectrum	Type	FHSS 25 channels
	Hopping rate	synchronous
	Dwell time	2,07 ms (10 bytes)
	Blank time	206,8μs (1 byte)

2. FREQUENCY MAPPING

Channel n	Fequency (MHz)	Pseudo Random Rank
0	904.5	0
1	905.4	10
2	906.3	6
3	907.2	16
4	908.1	22
5	909.0	24
6	909.0	3
7	910.8	5
8	911.7	2
9	912.6	18
10	913.5	14
11	914.4	20
12	915.3	12
13	916.2	1
14	917.1	23
15	918.0	11
16	918.9	15
17	919.8	9
18	920.7	7
19	921.6	17
20	922.5	21
21	923.4	19
22	924.3	4
23	925.2	8
24	926.1	13

➢ The used frequency selection is on a pseudo random base.

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3. PACKETS FORMATS

A given message is divided in several packets (fixed length = 10 bytes). The preamble packets are transmitted first and contain longer preamble bytes for easier synchronization of the receiver. The following data packets contain the payload (5 bytes). The total number of packets is variable.

Preamble packet :

01010101	01010101	01010101	01010101	01010101	01010101	11110010	type | hop | chan#	8-bit	8-bit
learn	learn	learn	learn	learn	learn	sync-P	xx | flag | ccccc	syst Id_lo	syst Id_hi

Usage :

pairing	00 | preamb | async	hop flag + channel #	hop=0 : default hop table
std preamb	01 | preamb sync |	hop flag+ down-counter	hop=1 : alternate hop table
resync	11 | preamb | async	hop flag + channel #	

Data packet :

01010101	01010101	01000001	type | dwn cntr	data1	data2	data3	data4	data5	CRC-8
learn	learn	sync-D	10 | dddddd	(*)	(*)	(*)	(*)	(*)	

◄—————————————————————— Dwell time: 2.068 ms ——————————————————————►
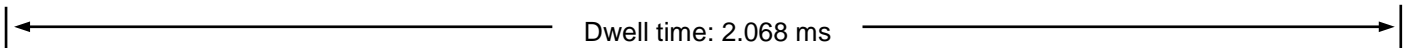
Blank time: ~206.9µs

(*) The data bytes may have any values, included consecutive '0' or '1'. These cases shall not affect the clock recovery function.

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