		Testing Script Parameters
<u> </u>		T VI . 1 D .
Command	Meaning	Value - 1 Range
0	Set Modem/Packet type	O = GFSK
		I = LORA
	Set transmit Power	0 = 10 (DBM)
		[= 14
		2 = 15
		3 = 17
		4 = 20
		5 = 22
2	Set Frequency	150 000 000 - 960 000 000 (Hz)
3	Calibrate	0 = 64 KHz RC Oscillator
		1 = 13 Huz 00 0-1114 - 1
		2 = Phase - locked loop
		3 = Applicanto-Digital Oulse
		4 = Anglog - to - Digital BulkiN
		2 = Phase - lacked loop 3 = Analog-to-Digital pulse 4 = Analog-to-Digital Bulk N 5 = Analog-to-Digital Bulk P 6 = Image
		b = Tange
+ + +		7 = All Valve_2 Range
4	Calibrate image	150 - 960 (Lower bound) 150 - 960 (Upper bound)
5	Set Oper (1 D. 1 1.	0 - 63 (Multiply by 2.5 for ml)
T L	Set trimming capacitars	
7	Set Lora CRC	O= CRC Disabled
+ (+	SET LOTA CRC	1= CRC Active
0		O T I D II
8	Set Lora invert iq (for gateway compatability	0= Invert iq Disable
	(tor gateway compatability	of 1 = Lovert in Active
9	Set Lora header type	0 = Explicit
		1 = Implicit
10	Set Lora Payload length	(0-255 (bytes)
11	Set Lora Preamble length	10-65555 (Symbols)
12	Set Lora Spreadfactor	5-12
13	Set Lora Bandwidth	6 = 500 (kHz)
		5 = 250
		4 = 125
		3 = 62
		10 = 41
		2 = 31
		9 = 20
		1 + 15
		8 = 10
		0 = 7
14	Forward error correction	1 = 4/5
	code rate	2 = 4/6
		3 = 4/7
		4 = 4/8
15	Low Data Rate	0 = Idra Disabled
	Optimization	1 = Idra Active
16	Auto Low Data Rate	0 = auto Idro Disabled
	Optimization	1 = acto Idro Active
17	GFSK Preamble length	8-65535 (bits)
18	GFSK Preamble Detection	O = Dectector off
		4 = Detect minimum 8 bits
		5 = Detect minimum 16 bits
-		6 Detect minimum 24 bits
		7 = Detect minimum 32 bits

<u> </u>		Value - 1 Range
Command	Meaning	
19	Set GFSK Node Address (
20	Set GFSK Broadcast Address C	5+255
21	Set Address Filtering 0	- Address filtering disabled - Address filtering (Node) - Address filtering (Node+Broadcast)
		= Address filtering (Node)
	2:	= Address filtering (Node+Broadcast)
22	Set GFSK header type 0	= Fixed Packet legath
	Tel VISA ICAGE! INDE	Variable Packet length
23	C L GESK P IL La H O	-255 (254 if address filtering on)
	C I GECIL C I	= CRC OFF
24	Set GFSK Cyclic 1	= CRC OFF
	Redundancy Check (CRC) O	* 1 byte CRC
		= 2 byte CRC
	4	= 1 byte inverted CRC
		= 2 byte inverted CRC
25		DC Free Whitening off
		= DC Free Whitening
26		0-300 000 (bps)
27	Set GFSK frequency deviation 601	0-200 000 (Hz)
28	C L CFCV I I I	= Pulse shape off
40	Set GFSK pulse shape 0	- C
		= Gaussian BT 0.3
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Gaussian BT 0.5
		Gaussian BT 0.7
	11	Gaussian BT 1
29	Set GFSK bandwidth 31	= 4800 (H2)
	23	3 = 580o
		5 = 7300
		0 = 97 aa
		2 = 11 700
		1 = 14 600
		0 = 19 500
		= 23 400 Reference Equation
		3 = 29 300
		3 = 39 000 BW > 2× Fdev × 2 ²⁵ (32 × XTAL) 3 = 46 900 BW > XTAL + bit rate + 2× Frequency Error
		3=46 900 XTAL bit rate 2 regional from
	12	2 = 58 600
		7 = 78 200 XTAL = 32 000 000
		9 = 93 800 Frequency error = Crystal Frequency error
		+ 117 300 in stact - pagents
		= 117 300 in start - params
+++-		3 = 187 200
		0 = 234 300
		5 = 3 2 000
		7 = 373 600
		=467 000
30		lue-1 value-2 value-3 value-4 value-5 value-6 value-7 value-8 value-9
	0-	255 0-255 0-255 0-255 0-255 0-255 0-255 0-255 0-255 0-8 (length)
31	Set GFSK CRC Seed D	
32	Set GFSK CRC Polymonial O	7-65535
33	Set GFSK Whitening seed O	
34	Set Transmit Timeout O	
35	Read Transmit Buffer N	
36	Set Transmit Buffer o	-255
	1 1 IN 1 1 1 1 1 1 1 1 1	
	Base Address	
37	Transmit val	lue - value 2 value - 3 value + value - 5 value - 6 value - 7 value - 8 value - 9 -255 0-255 0-255 0-255 0-255 0-255 0-255 0-255

Command	Meaning Value - I Range Set Lora Symbol Timeout 0-248
38	Set Receive Timeout 0-262 142 (ms) or 16 777 215 for re-continuous
39	Det Receive lineaut 10-202 112 (m3) of 16 177 213 for 12 continuous
40	Read Receive Biffer N/A
4 l	Set Receive Buffer 0-255
11.0	Base Address
42	Set chip to Receive mode N/A
43	Set chip to Receive mode value - 1 = Receive mode time
	with duty cycling value_2 = Sleep time
44	Set chip to Standby mode 0 = 13 MHz RC Oscillator
	1 = x0\$C
45	Set Receive / Transmit 32 = Standby (13 MHz Oscillator) Fallback Mode 48 = Standby (XOSC)
	Fallback Mode 48 = Standby (XOSC)
	64 = trequency Synthesis Mode
46	Set chip into sleep 0= Cold Start
	mode H= Warm Start
47	Wakeup chip N/A
48	Set personalized Value-1 Value-2 Value-3 Value-4 Value-5
	(ns) CAD Parameters 0=1 (symbol) 0-255 0-255 0= (AD only = cod fineaut (ns)
	Refer to section 13.4.7 1 = 2 (cod detect (Cod detect 1 = Rx) (32 bit integer
	2=4 peak) min) 16= LBT max:mum)
	3=8 (fallback
	4=16 mode)
49	Channel Activity 0= with personalized cad parameters
	detection I = with best known parameters
	I
	1
50	1Set Fragency Synthesis N/A Untasheet: 13.1.5
51	Set TX continuous wave N/A Datasheet: 13.1.9 Set TX infinite preamble N/A Datasheet: 13.1.10
52	Set TX infinite preamble N/A Datashoet: 13.1.10
53	Get interrupts N/A
54	Clear interrupts N/A
55	Get time on air N/A
56	Get API Status N/A 0=OK 1=Unsupported Feature 2=Unknown Value 3 = Error
57	Get Chip Status N/A Datasheet: 13.5.1
58	Get Perice Errors N/A Datasheet: 13.6.1
59	Check Receive Buffer N/L
60	Check Lara Packet N/A
61	Check GFSK Packet N/A Datasheet: 13.5.3
62	Check Payload Length N/A
63	Check Premble Length N/A
64	Get Lora Parameters N/A
	from header of received
	packet
65	Get Packet type /Modern N/A
66	Get Lara Statistics N/A
57	Get GFSK Statistics NJA
28	Reset Statistics N/A
59	Get Lara Sync Word N/A
70	Get GFSK Sync Word N/A
	TOO! VI 20 SYNC WILD NA
\perp	

Default Settings	after Initialization
Parameter	Setting
Transmit better base address	
Receive buffer base address	0
Transmit Timeout	SX126X-MAX_TIMEOUT_IN_MS
Receive Timeout	SX126X_RX - SINGLE_MODE
Frequency	915 000 000 (Hz)
	1.7V with timeout 320 ms
Calibration	AII
	ON
cfg_rx_boosted	
Receive / Transmit Fallback Mode	
Startep Mode	Standby (XOSC)
Transmit Power	I4 (DBM)
Set Moden (Command O)	onnerdations
Set Payload Length According to	the modern (Command 10 or 23)
Set Receive Mode for Receiver (C	
Transmit with Transmitter (Commar	
Note for GFSK Modulation:	
- Use Rx - continuous by executing	command 39 16777215
-Sync Word must be configured,	or else received data mill be incorrect
- Gaussian Filter must be configured	the largest is the safest aption
- Sync word connot be all zero's	
- All Sync word bytes must be filled	
_	in predictable when I was testing it.
These recommendations made it work for	
I halse Calcobage adoltion of the Hell Hall Lile L.	- - - 1 1 1 - - -

Lora Parameters	Setting
Auto bu data rate optimization	OFF OFF
Syne Word	0×14 (20)
Spreadfactor	7
Bandwidth	500 (KHZ)
Code Rate	4/8
Low Data Rate Optimization	OFF
Preamble Length	16 (symbols)
Hender Type	Explicit
Payload Length	O (bytes)
CRC	ON
Invert IQ	OFF
Symbol Number Timeout	
GFSK Parameters	Setting
Bit Rate	600 (bps)
	600 (H ₂)
Frequency Deviation	
Pulse Shape	OFF
Bandwidth	373 600 (Hz)
Preamble Length	32 (Li+s)
Preamble Detector	OFF
Sync Word Length	64 (bits)
Address Filtering	OFF
Header Type	Fixed Packet Length
Payload Length	(bytes)
ĆRC	OFF
DC Free Whitening	OFF