MESSAGE PARSING PARAMS

Message Byte One:
Short Code : first two bit function type selection -1111-1111-

Device Selection	: 00xx-xxxx -> GPRS
	: 01xx-xxxx -> SMS
	: 10xx-xxxx -> BLE
	: 11xx-xxxx -> WIFI
Flags	: xx1x-xxxx -> Static
SubFlags	: xx11-xxxx -> Save Params To Flash
	: xx10-xxxx -> Does Not Save Params
Flags	: xx0x-xxxx -> Dynamic
SubFlags	: xx01-xxxx -> IsRepeatationActive-(1) Active
	: xx00-xxxx -> IsRepeatationActive-(0) Deactive
	: xx0x-1xxx -> IsTimeOutActive-(1) Active
	: xx0x-0xxx -> IsTimeOutActive-(0) Deactive
SubFlags	: xxxx-x1xx -> Device Master/Slave-(1) Master
	: xxxx-x0xx -> Device Master/Slave-(0) Slave

OPCODE Binary -> hex	OUTPUT
0011 0000 -> 0x30	GPRS, STATIC, SAVE PARAMS TO FLASH
0010 0000 -> 0x20	GPRS, STATIC, DO NOT SAVE PARAMS TO FLASH
0001 0000-> 0x10	GPRS, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT PASSIVE
0000 1000 -> 0x08	GPRS, DIYNAMIC, REPEATATION PASSIVE, TIMEOUT ACTIVE
0001 1000 -> 0x18	GPRS, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT ACTIVE
0111 0000 -> 0x70	SMS, STATIC, SAVE PARAMS TO FLASH
0110 0000 -> 0x60	SMS, STATIC,DO NOT SAVE PARAMS TO FLASH
0101 0000 -> 0x50	SMS, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT PASSIVE
0100 1000 -> 0x48	SMS, DIYNAMIC, REPEATATION PASSIVE, TIMEOUT ACTIVE
0101 1000 -> 0x58	SMS, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT ACTIVE
1011 0100 -> 0xB4	BLE, STATIC, SAVE PARAMS TO FLASH, DEVICE MASTER
1010 0100 -> 0xA4	BLE, STATIC, DO NOT SAVE PARAMS TO FLASH, DEVICE MASTER
1001 0100 -> 0x94	BLE, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT PASSIVE,DEVICE MASTER
1000 1100 -> 0x8C	BLE, DIYNAMIC, REPEATATION PASSIVE, TIMEOUT ACTIVE,DEVICE MASTER
1001 1100 -> 0x9C	BLE, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT ACTIVE,DEVICE MASTER
1011 0000 -> 0xB0	BLE, STATIC, SAVE PARAMS TO FLASH, DEVICE SLAVE
1010 0000 -> 0xA0	BLE, STATIC, DO NOT SAVE PARAMS TO FLASH, DEVICE SLAVE
1001 0000 -> 0x90	BLE, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT PASSIVE,DEVICE SLAVE
1000 1000 -> 0x88	BLE, DIYNAMIC, REPEATATION PASSIVE, TIMEOUT ACTIVE,DEVICE SLAVE
1001 1000 -> 0x98	BLE, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT ACTIVE,DEVICE SLAVE
1111 0100 -> 0xF4	WIFI, STATIC, SAVE PARAMS TO FLASH, DEVICE MASTER
1110 0100 -> 0xE4	WIFI, STATIC, DO NOT SAVE PARAMS TO FLASH, DEVICE MASTER
1101 0100 -> 0xD4	WIFI, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT PASSIVE,DEVICE MASTER
1100 1100 -> 0xCC	WIFI, DIYNAMIC, REPEATATION PASSIVE, TIMEOUT ACTIVE,DEVICE MASTER
1101 1100 -> 0xDC	WIFI, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT ACTIVE,DEVICE MASTER
1111 0000 -> 0xF0	WIFI, STATIC, SAVE PARAMS TO FLASH, DEVICE SLAVE
1110 0000 -> 0xE0	WIFI, STATIC, DO NOT SAVE PARAMS TO FLASH, DEVICE SLAVE
1101 0000 -> 0xD0	WIFI, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT PASSIVE,DEVICE SLAVE
1100 1000 -> 0xC8	WIFI, DIYNAMIC, REPEATATION PASSIVE, TIMEOUT ACTIVE,DEVICE SLAVE
1101 1000 -> 0xD8	WIFI, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT ACTIVE,DEVICE SLAVE

If Device Selects:
1) GRPS:
A) İf Static:
In this section first two byte I the selection mode which count as byte char, the rest of chars consider as string according to parameters.
First Byte is Short Code
Second Bye is Number Of Server can be max 5. Any number which is above 5 is going to consider as 5
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
Number of GPRS no, after that according to second byte 15 bytes IP address added to message, 5 bytes Port Number for exp;
The actual data which will be considered hex (0x30 0x02) string ("114.234.123.023114.234.123.0237777804423 ") hex(0F 57) string(";")
The coming array hex format -> 30 02 31 31 34 2e 32 33 34 2e 31 32 33 2e 30 32 33 31 31 34 2e 32 33 34 2e 31 32 33 2e 30 32 33 37 37 37 37 38 30 34 34 32 33 0f 57 3b
0x30 -> GPRS, STATIC, SAVE PARAMS TO FLASH
0x02 -> Number OF GPRS Server (MAX 8)
0x31 0x31 0x34 0x2e 0x32 0x33 0x34 0x2e 0x31 0x32 0x33 0x2e 0x30 0x32 0x33-> IP one, 15 chars if smaller than 100 padded with zero char string message ("114.234.123.023")
0x30 0x30 0x31 0x2e 0x30 0x37 0x30 0x2e 0x35 0x34 0x33 0x2e 0x31 0x32 0x33-> IP two, 15 chars if smaller than 100 padded with zero char string message ("001.070.543.123")
0x37 0x37 0x37 0x37 0x38 -> PORT one, 5 chars if port less than 5 digit padded with zero char string message ("77778")
0x30 0x34 0x34 0x32 0x33-> Port two, 5 chars if port less than 5 digit padded with zero char string message ("04423")
0x2d 0x0f -> CRC
0x3b -> End char(;)
B) İf Dynamic:
B1) If IsRepeatationActive(if message send fails):
In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is Short Code
Second Byte is Number of Repetition which can be max 5. Any number which is above 5 is going to consider as 5.
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
Third Byte is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0x10 0x01 0x14) string ("this is test message") hex () string (";")
The coming array in hex format -> 10 01 14 74 68 69 73 20 69 73 20 74 65 73 74 20 6d 65 73 73 61 67 65 8C 8A 3b
0x10 -> GPRS, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT PASSIVE
0x01 -> Number of repetition
0x14 -> Number of string message
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65 -> char string message char string message ("this is test message")
0x8c 0x8a -> CRC
0x3b -> End char (;)

B2) If IsTimeOutActive (if message send fails):
In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is Short Code
Second Byte is Time Out Active number (millisecond) which can be max 255. .
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
Third Byte is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0x08 0x64 0x14) string ("this is test message") hex ( ) string (";")
The coming array in hex format -> 08 64 14 74 68 69 73 20 69 73 20 74 65 73 74 20 6d 65 73 73 61 67 65 37 d3 3b
0x08 -> GPRS, DIYNAMIC, REPEATATION PASSIVE, TIMEOUT ACTIVE
0x64 -> Time out time in millisecond (100 ms)
0x14 -> Number of string message
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65 -> char string message char string message ("this is test message")
0x37 0xd3 -> CRC
0x3b -> End char (;)

B3) If IsRepeatationActive & IsTimeOutActive (if message send fails) :
In this section first four bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is Short Code
Second Byte is Number of Repetition which can be max 5. Any number which is above 5 is going to consider as 5.
Third Byte is Time Out Active number (millisecond) which can be max 255. .
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
Fourth Byte is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0x18 0x03 0x64 0x14) string ("this is test message") hex ( ) string (";")
The coming array in hex format -> 18 03 64 14 74 68 69 73 20 69 73 20 74 65 73 74 20 6d 65 73 73 61 67 65 07 fa 3b
0x18 -> GPRS, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT ACTIVE
0x03 -> Number of repetition
0x64 -> Time out time in millisecond (100 ms)
0x14 -> Number of string message
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65 -> char string message char string message ("this is test message")
0x07 0xfa -> CRC
0x3b -> End char (;)

If Device Selects
2) SMS:
A) İf Static:
In this section first two byte I the selection mode which count as byte char, the rest of chars consider as string according to parameters.
NOT: the phone number in SMS format is variating from country to country and company to company to separate number use plus sign"+"
and end with comma","
Before writing the number of country code.
First Byte is Short Code
Second Bye is Number Of SMS can be max 5. Any number which is above 5 is going to consider as 5
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
Number of SMS no, after that according to second byte 15 bytes IP address added to message, 5 bytes Port Number for exp;

The actual data which will be considered hex (0x60 0x02) string ("+905556667788,+4954432143,") hex(86 39) string(";")
The coming array hex format -> 60 02 2b 39 30 35 35 35 36 36 36 37 37 38 38 2c 2b 34 39 35 34 34 33 32 31 34 33 2c 86 39 3b

0x60 -> SMS, STATIC, DO NOT SAVE PARAMS TO FLASH
0x02 -> Number OF SMS (MAX 8)
0x2b 0x39 0x30 0x35 0x35 0x35 0x36 0x36 0x36 0x37 0x37 0x38 0x38 0x2c-> SMS no each number start with plus (+) end with comma (,)
the comma will be excluded after data parse section char string message ("+905556667788,")
0x2b 0x34 0x39 0x35 0x34 0x34 0x33 0x32 0x31 0x34 0x33 0x2c -> SMS no each number start with plus (+) end with comma (,)
the comma will be excluded after data parse section char string message ("+4954432143,")
0x86 0x39 -> CRC
0x3b -> End char(;)
B) İf Dynamic:
B1) If IsTimeOutActive(if message send fails) :
In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is Short Code
Second Byte is Number of Repetition which can be max 5. Any number which is above 5 is going to consider as 5.
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
Third Byte is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0x50 0x01 0x14) string ("this is test message") hex () string (";")
The coming array in hex format -> 50 02 14 74 68 69 73 20 69 73 20 74 65 73 74 20 6d 65 73 73 61 67 65 aa cd 3b
0x50 -> SMS, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT PASSIVE
0x02 -> Number of repetition
0x14 -> Number of string message
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65 -> char string message char string message ("this is test message")
0xaa 0xcd -> CRC
0x3b -> End char(;)

B2) If IsRepeatationActive(if message send fails):
In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is Short Code
Second Byte is Time Out Active number (millisecond) which can be max 255. .
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
Third Byte is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0x48 0x64 0x14) string ("this is test message") hex ( ) string (";")
The coming array in hex format -> 48 64 14 74 68 69 73 20 69 73 20 74 65 73 74 20 6d 65 73 73 61 67 65 04 e7 3b
0x48 -> SMS, DIYNAMIC, REPEATATION PASSIVE, TIMEOUT ACTIVE
0x64 -> Time out time in millisecond (100 ms)
0x14 -> Number of string message
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65 -> char string message char string message ("this is test message")
0x04 0xe7 -> CRC
0x3b -> End char(;)

B3) If IsRepeatationActive & IsTimeOutActive (if message send fails) :
In this section first four bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is Short Code
Second Byte is Number of Repetition which can be max 5. Any number which is above 5 is going to consider as 5.
Third Byte is Time Out Active number (millisecond) which can be max 255. .
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
Fourth Byte is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0x58 0x03 0x64 0x14) string ("this is test message") hex ( ) string (";")
The coming array in hex format -> 58 03 64 14 74 68 69 73 20 69 73 20 74 65 73 74 20 6d 65 73 73 61 67 65 d0 c8 3b
0x58 -> SMS, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT ACTIVE
0x03 -> Number of repetition
0x64 -> Time out time in millisecond (100 ms)
0x14 -> Number of string message
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65 -> char string message char string message ("this is test message")
0xd0 0xc8 -> CRC
0x3b -> End char (;)

If Device Selects
3)BLE:
A) If Master:
A1)If Static:
In this section first two byte I the selection mode which count as byte char , the rest of chars consider as string according to parameters.
First byte is Short Code
Second byte is Number of BLE device to scan can be max 5. Any number which is above 5 is going to consider as 5
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
Number of MAC Address adjusted after that to second byte of sequence . each MAC address is 17 byte long for exp;
The actual data which will be considered hex (0xB4 0x02) string ("AB:CD:EF:DE:CC:CAEA:AB:12:C4:4E:5F") hex(0F 57) string(";")
The Device will scan through the following BLE addresses and when it founds any mac address around it sends the messages through out to BLE connection
The coming array hex format -> b4 02 41 42 3a 43 44 3a 45 46 3a 44 45 3a 43 43 3a 43 41 45 41 3a 41 42 3a 31 32 3a 43 34 3a 34 45 3a 35 46 c9 b4 3b
0xb4 -> BLE, STATIC, SAVE PARAMS TO FLASH, DEVICE MASTER
0x02 -> Number OF MAC Address (MAX 8)
0x41 0x42 0x3a 0x43 0x44 0x3a 0x45 0x46 0x3a 0x44 0x45 0x3a 0x43 0x43 0x3a 0x43 0x41 -> MAC Address No 1 char string message ("AB:CD:EF:DE:CC:CA")
0x45 0x41 0x3a 0x41 0x42 0x3a 0x31 0x32 0x3a 0x43 0x34 0x3a 0x34 0x45 0x3a 0x35 0x46-> MAC Address No 2 char string message ("EA:AB:12:C4:4E:5F")
0xc9 0xb4 -> CRC
0x3b -> End char (;)
A2) If Dynamic:
In dynamic section user must be specify the service and character name first,
A21) If IsTimeOutActive(if message send fails) :
In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is short code
Second byte is the length of service name,
The third byte is the length of character name,
Fourth byte is number of timeout which can be max 255.
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
The fifth is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0x8C 0x0F 0x06 0x64 0x14) string("unknown Service") string("update") string ("this is test message") hex(0xA9 0x69) string(";)
The coming array in hex format -> 8C 0f 06 64 14 75 6e 6b 6e 6f 77 6e 20 53 65 72 76 69 63 65 75 70 64 61 74 65 74 68 69 73 20 69 73 20 74
65 73 74 20 6d 65 73 73 61 67 65 A9 69 3b
0x8C -> BLE, DIYNAMIC, REPEATATION PASSIVE, TIMEOUT ACTIVE, DEVICE MASTER
0x0F -> Length of service name ("unknown Service")
0x06 -> Length of character ("update")
0x64-> Time out time in millisecond
0x14 -> Number of string message ("this is test message")
0x75 0x6e 0x6b 0x6e 0x6f 0x77 0x6e 0x20 0x53 0x65 0x72 0x76 0x69 0x63 0x65 -> char string message ("unknown Service")
0x75 0x70 0x64 0x61 0x74 0x65 -> char string message ("update")
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65->char string message ("this is test message")
0xA9 0x69 -> CRC
0x3b -> End char (;)
A22) If IsRepeatationActive(if message send fails):
In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is short code
Second byte is the length of service name,
The third byte is the length of character name,
Fourth byte is number of repetition which can be max 5. Any number which is above 5 is going to consider as 5.
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
The fifth is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0x94 0x0F 0x06 0x03 0x14) string("unknown Service") string("update") string ("this is test message") hex(0xD1 0x9F) string(";)
The coming array in hex format -> 94 0f 06 03 14 75 6e 6b 6e 6f 77 6e 20 53 65 72 76 69 63 65 75 70 64 61 74 65 74 68 69 73 20 69
73 20 74 65 73 74 20 6d 65 73 73 61 67 65 D1 9F 3b
0x94 -> BLE, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT PASSIVE DEVICE MASTER
0x0F -> Length of service name ("unknown Service")
0x06 -> Length of character ("update")
0x03 -> repeating amount
0x14 -> Number of string message ("this is test message")
0x75 0x6e 0x6b 0x6e 0x6f 0x77 0x6e 0x20 0x53 0x65 0x72 0x76 0x69 0x63 0x65 -> char string message ("unknown Service")
0x75 0x70 0x64 0x61 0x74 0x65 -> char string message ("update")
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65->char string message ("this is test message")
0xD1 0x9F -> CRC
0x3b -> End char (;)
A33) If IsRepeatationActive & IsTimeOutActive (if message send fails) :
In this section first four bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is Short Code
Second byte is the length of service name,
Third byte is the length of character name,
Fourth Byte is Number of Repetition which can be max 5. Any number which is above 5 is going to consider as 5.
Fifth Byte is Time Out Active number (millisecond) which can be max 255. .
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
Sixth Byte is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0x9C 0x0F 0x06 0x03 0x64 0x14) string ("unknown Service") string ("update") string ("this is test message") hex (0x72 0x50) string (";")
The coming array in hex format -> 9C 0f 06 03 64 14 75 6e 6b 6e 6f 77 6e 20 53 65 72 76 69 63 65 75 70 64 61 74 65 74 68 69 73 20 69 73 20
74 65 73 74 20 6d 65 73 73 61 67 65 72 50 3b
0x9C -> BLE, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT ACTIVE
0x0F -> Length of service name ("unknown Service")
0x06 -> Length of character ("update")
0x03 -> repeating amount
0x64 -> Time out time in millisecond (100 ms)
0x14 -> Number of string message
0x75 0x6e 0x6b 0x6e 0x6f 0x77 0x6e 0x20 0x53 0x65 0x72 0x76 0x69 0x63 0x65 -> char string message ("unknown Service")
0x75 0x70 0x64 0x61 0x74 0x65 -> char string message ("update")
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65->char string message ("this is test message")
0x72 0x50-> CRC
0x3b -> End char (;)

B) If Slave
B1) If Static:
In this section first two byte I the selection mode which count as byte char , the rest of chars consider as string according to parameters.
First byte is Short Code
Second byte is Advertisement timeout time
Third byte is Length of device name
Fourth byte is length of password
The actual data which will be considered hex (0xB0 0x32 0x07 0x09) string ("tankLVL") string ("tanklvl_2") string (hex (0F 57) string (";")
The Device will make advertisement the messages through out with Bluetooth any device who knows the password can access the messages.
Incoming array hex format -> b0 32 07 09 74 61 6e 6b 4c 56 4c 74 61 6e 6b 6c 76 6c 5f 32 ba 3b 3b
0xB0 -> BLE, STATIC, SAVE PARAMS TO FLASH, DEVICE SLAVE
0x32 -> Advertisement timeout time in millisecond
0x74 0x61 0x6e 0x6b 0x4c 0x56 0x4c -> device name char string message ("tankLVL")
0x74 0x61 0x6e 0x6b 0x6c 0x76 0x6c 0x5f 0x32-> device password char string message ("tanklvl_2")
0xba 0x3b -> CRC
0x3b -> End char (;)

B2) If Dynamic:
B21) If IsTimeOutActive(if message send fails) :

In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is short code
Fourth byte is number of timeout which can be max 255.
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
The fifth is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0x88 0x0F 0x06 0x64 0x14) string ("this is test message") hex(0x6b 0xC7) string(";)
The coming array in hex format -> 88 0f 06 64 14 75 6e 6b 6e 6f 77 6e 20 53 65 72 76 69 63 65 75 70 64 61 74 65 74 68 69 73 20 69 73 20 74
65 73 74 20 6d 65 73 73 61 67 65 6b c7 3b
0x88 -> BLE, DIYNAMIC, REPEATATION PASSIVE, TIMEOUT ACTIVE
0x0F -> Length of service name ("unknown Service")
0x06 -> Length of character ("update")
0x64-> Time out time in millisecond
0x14 -> Number of string message ("this is test message")
0x75 0x6e 0x6b 0x6e 0x6f 0x77 0x6e 0x20 0x53 0x65 0x72 0x76 0x69 0x63 0x65 -> char string message ("unknown Service")
0x75 0x70 0x64 0x61 0x74 0x65 -> char string message ("update")
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65->char string message ("this is test message")
0x6b 0xc7 -> CRC
0x3b -> End char (;)

B22) If IsRepeatationActive(if message send fails):
In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is short code
Fourth byte is number of timeout which can be max 255.
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
The fifth is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0x90 0x0F 0x06 0x64 0x14) string ("this is test message") hex(0xE0 0x43) string(";)
The coming array in hex format -> 90 0f 06 64 14 75 6e 6b 6e 6f 77 6e 20 53 65 72 76 69 63 65 75 70 64 61 74 65 74 68 69 73 20 69 73 20 74
65 73 74 20 6d 65 73 73 61 67 65 E0 43 3b
0x90 -> BLE, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT PASSIVE
0x0F -> Length of service name ("unknown Service")
0x06 -> Length of character ("update")
0x64-> Time out time in millisecond
0x14 -> Number of string message ("this is test message")
0x75 0x6e 0x6b 0x6e 0x6f 0x77 0x6e 0x20 0x53 0x65 0x72 0x76 0x69 0x63 0x65 -> char string message ("unknown Service")
0x75 0x70 0x64 0x61 0x74 0x65 -> char string message ("update")
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65->char string message ("this is test message")
0xE0 0x43 -> CRC
0x3b -> End char (;)

B32) If IsRepeatationActive & IsTimeOutActive (if message send fails) :
In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is short code
Fourth byte is number of timeout which can be max 255.
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
The fifth is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0x98 0x0F 0x06 0x64 0x14) string ("this is test message") hex (0xEE 0x94) string (";)
The coming array in hex format -> 98 0f 06 64 14 75 6e 6b 6e 6f 77 6e 20 53 65 72 76 69 63 65 75 70 64 61 74 65 74 68 69 73 20 69 73 20 74
65 73 74 20 6d 65 73 73 61 67 65 EE 94 3b
0x98 -> BLE, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT ACTIVE
0x0F -> Length of service name ("unknown Service")
0x06 -> Length of character ("update")
0x64-> Time out time in millisecond
0x14 -> Number of string message ("this is test message")
0x75 0x6e 0x6b 0x6e 0x6f 0x77 0x6e 0x20 0x53 0x65 0x72 0x76 0x69 0x63 0x65 -> char string message ("unknown Service")
0x75 0x70 0x64 0x61 0x74 0x65 -> char string message ("update")
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65->char string message ("this is test message")
0xEE 0x94 -> CRC
0x3b -> End char (;)

If Device Selects
4) WIFI:
If Master:
A) If Master:
A1)If Static:
In this section first two byte I the selection mode which count as byte char, the rest of chars consider as string according to parameters.
First byte is Short Code
Second Byte is the Wi-Fi name length number for connecting to a router
Third byte is the Wi-Fi password length number for connecting to a router.
The actual data which will be considered hex (0xF4 0x0B 0x07) String ("Tplink_8800") string ("iot123!") hex (0x67 0x9E) string (";")
The Device will scan through the following BLE addresses and when it founds any mac address around it sends the messages through out to BLE connection
The coming array hex format -> f4 0b 07 54 70 6c 69 6e 6b 5f 38 38 30 30 69 6f 74 31 32 33 21 67 9e 3b
0xF4 -> WIFI, STATIC, SAVE PARAMS TO FLASH, DEVICE MASTER
0x0B -> Length of Wi-Fi name length
0x07 -> Length of Wi-Fi password
0x54 0x70 0x6C 0x69 0x6E 0x6B 0x5F 0x38 0x38 0x30 0x30 -> char string message ("Tplink_8800")
0x69 0x6F 0x74 0x31 0x32 0x33 0x21 -> char string message ("iot123!")
0x67 0x9E-> CRC
0x3b -> End char (;)
A2) If Dynamic:
In dynamic section user must be specify the service and character name first,
A21) If IsTimeOutActive(if message send fails) :
In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is short code
Second byte is the length of IP name,
The third byte is the length of Port Name,
Fourth byte is number of timeout which can be max 255.
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
The fifth is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0xCC 0x0F 0x04 0x64 0x14) string ("185.168.100.001") string ("7777") string ("this is test message") hex (0x9B) 0x2A) string (";)
The coming array in hex format -> CC 0f 04 64 14 31 38 35 2e 31 36 38 2e 31 30 30 2e 30 30 31 37 37 37 37 74 68 69 73 20 69 73 20
74 65 73 74 20 6d 65 73 73 61 67 65 9b 2a 3b
0xCC -> WIFI, DIYNAMIC, REPEATATION PASSIVE, TIMEOUT ACTIVE, DEVICE MASTER
0x0F -> Length of IP name ("185.168.100.001")
0x04 -> Length of Port name ("7777")
0x64-> Time out time in millisecond
0x14 -> Number of string message ("this is test message")
0x31 0x38 0x35 0x2E 0x31 0x36 0x38 0x2E 0x31 0x30 0x30 0x2E 0x30 0x30 0x31 -> char string message ("185.168.100.001")
0x37 0x37 0x37 0x37 -> char string message ("7777")
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65->char string message ("this is test message")
0x9B 0x2A -> CRC
0x3b -> End char (;)
A22) If IsRepeatationActive(if message send fails):
In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is short code
Second byte is the length of IP name,
The third byte is the length of Port Name,
Fourth byte is number of repetition which can be max 5. Any number which is above 5 is going to consider as 5.
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
The fifth is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0xD4 0x0F 0x04 0x03 0x14) string ("185.168.100.001") string ("7777") string ("this is test message") hex (0x89 0x19) string (";)
The coming array in hex format -> D4 0f 04 03 14 31 38 35 2e 31 36 38 2e 31 30 30 2e 30 30 31 37 37 37 37 74 68 69 73 20 69 73 20 74 65 73 74 20 6d
65 73 73 61 67 65 89 19 3b
0xD4 -> WIFI, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT PASSIVE DEVICE MASTER
0x0F -> Length of IP name ("185.168.100.001")
0x04 -> Length of Port name ("7777")
0x03 -> repeating amount
0x14 -> Number of string message ("this is test message")

0x31 0x38 0x35 0x2E 0x31 0x36 0x38 0x2E 0x31 0x30 0x30 0x2E 0x30 0x30 0x31 -> char string message (“185.168.100.001”)
0x37 0x37 0x37 0x37 -> char string message (“7777”)
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65->char string message (“this is test message”)
0x89 0x19 -> CRC
0x3b -> End char (;)

A33) If IsRepeatationActive & IsTimeOutActive (if message send fails) :
In this section first four bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
First Byte is Short Code
Second byte is the length of IP name,
Third byte is the length of Port Name,
Fourth Byte is Number of Repetition which can be max 5. Any number which is above 5 is going to consider as 5.
Fifth Byte is Time Out Active number (millisecond) which can be max 255. .
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
Sixth Byte is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0xDC 0x0F 0x04 0x03 0x64 0x14) string (“185.168.100.001”) string (“7777”) string (“this is test message”) hex (0x66 0x36) string (“;)
The coming array in hex format -> dc 0f 04 03 64 14 31 38 35 2e 31 36 38 2e 31 30 30 2e 30 30 31 37 37 37 37 74 68 69 73 20 69 73 20 74 65 73 74 20 6d 65 73 73 61 67 65 66 36 3b
0xDC -> BLE, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT ACTIVE
0x0F -> Length of IP name (“185.168.100.001”)
0x04 -> Length of Port name (“7777”)
0x03 -> repeating amount
0x64 -> Time out time in millisecond (100 ms)
0x14 -> Number of string message
0x31 0x38 0x35 0x2E 0x31 0x36 0x38 0x2E 0x31 0x30 0x30 0x2E 0x30 0x30 0x31 -> char string message (“185.168.100.001”)
0x37 0x37 0x37 0x37 -> char string message (“7777”)
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65->char string message (“this is test message”)
0x66 0x36-> CRC
0x3b -> End char (;)

B) If Slave

B1)If Static:
In this section user able to connect the Wi-Fi which can decide the name of the Wi-Fi and password of Wi-Fi which user can able to connect.
First byte is Short Code
Second Byte is the Wi-Fi name length number for connecting to a router
Third byte is the Wi-Fi password length number for connecting to a router.
The actual data which will be considered hex (0xF4 0x0B 0x07) String (“Tplink_8800”) string (“iot123!”) hex (0xAA 0x06) string (“;”)
The Device will scan through the following BLE addresses and when it founds any mac address around it sends the messages through out to BLE connection
The coming array hex format -> f0 0b 07 54 70 6c 69 6e 6b 5f 38 38 30 30 69 6f 74 31 32 33 21 aa 06 3b
0xF0 -> WIFI, STATIC, SAVE PARAMS TO FLASH, DEVICE MASTER
0x0B -> Length of Wi-Fi name length
0x07 -> Length of Wi-Fi password
0x54 0x70 0x6C 0x69 0x6E 0x6B 0x5F 0x38 0x38 0x30 0x30 -> char string message (“Tplink_8800”)
0x69 0x6F 0x74 0x31 0x32 0x33 0x21 -> char string message (“iot123!”)
0xAA 0x06-> CRC
0x3b -> End char (;)

B2)If Dynamic:

B21) If IsTimeOutActive(if message send fails) :
In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
The ip and port number is the numbers which device makes broadcast to other Wi-Fi clients
First Byte is short code
Second byte is the length of IP name,
The third byte is the length of Port Name,
Fourth byte is number of timeout which can be max 255.
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
The fifth is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0xC8 0x0F 0x04 0x64 0x14) string (“185.168.100.001”) string (“7777”) string (“this is test message”) hex (0x18 0x20) string (“;)
The coming array in hex format -> C8 0f 04 64 14 31 38 35 2e 31 36 38 2e 31 30 30 2e 30 30 31 37 37 37 37 74 68 69 73 20 69 73 20 74 65 73 74 20 6d 65 73 73 61 67 65 18 20 3b
0xC8 -> WIFI, DIYNAMIC, REPEATATION PASSIVE, TIMEOUT ACTIVE, DEVICE MASTER
0x0F -> Length of IP name (“185.168.100.001”)
0x04 -> Length of Port name (“7777”)
0x64-> Time out time in millisecond
0x14 -> Number of string message (“this is test message”)
0x31 0x38 0x35 0x2E 0x31 0x36 0x38 0x2E 0x31 0x30 0x30 0x2E 0x30 0x30 0x31 -> char string message (“185.168.100.001”)
0x37 0x37 0x37 0x37 -> char string message (“7777”)
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65->char string message (“this is test message”)
0x18 0x20 -> CRC
0x3b -> End char (;)

B22) If IsRepeatationActive(if message send fails):
In this section first three bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
The ip and port number is the numbers which device makes broadcast to other Wi-Fi clients
First Byte is short code
Second byte is the length of IP name,
The third byte is the length of Port Name,
Fourth byte is number of repetition which can be max 5. Any number which is above 5 is going to consider as 5.
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
The fifth is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0xD0 0x0F 0x04 0x03 0x14) string (“185.168.100.001”) string (“7777”) string (“this is test message”) hex (0x58 0x5D) string (“;)
The coming array in hex format -> D0 0f 04 03 14 31 38 35 2e 31 36 38 2e 31 30 30 2e 30 30 31 37 37 37 37 74 68 69 73 20 69 73 20 74 65 73 74 20 6d 65 73 73 61 67 65 58 5d 3b
0xD0 -> WIFI, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT PASSIVE DEVICE MASTER
0x0F -> Length of IP name (“185.168.100.001”)
0x04 -> Length of Port name (“7777”)
0x03 -> repeating amount
0x14 -> Number of string message (“this is test message”)
0x31 0x38 0x35 0x2E 0x31 0x36 0x38 0x2E 0x31 0x30 0x30 0x2E 0x30 0x30 0x31 -> char string message (“185.168.100.001”)
0x37 0x37 0x37 0x37 -> char string message (“7777”)
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65->char string message (“this is test message”)
0x58 0x5D -> CRC
0x3b -> End char (;)

B33) If IsRepeatationActive & IsTimeOutActive (if message send fails) :
In this section first four bytes are for selection which count as byte char, the rest of chars consider as string according to parameters.
The ip and port number is the numbers which device makes broadcast to other Wi-Fi clients
First Byte is Short Code
Second byte is the length of IP name,
Third byte is the length of Port Name,
Fourth Byte is Number of Repetition which can be max 5. Any number which is above 5 is going to consider as 5.
Fifth Byte is Time Out Active number (millisecond) which can be max 255. .
IF this flag active the min number can be 1 any number below which is below 1 is going to consider as 1.
Sixth Byte is the message length it can be 1 to 255
The rest of bytes considered as string and it will the message of this packet for exp;
Hex (0xD8 0x0F 0x04 0x03 0x64 0x14) string (“185.168.100.001”) string (“7777”) string (“this is test message”) hex (0x62 0x70) string (“;)
The coming array in hex format -> d8 0f 04 03 64 14 31 38 35 2e 31 36 38 2e 31 30 30 2e 30 30 31 37 37 37 37 74 68 69 73 20 69 73 20 74 65 73 74 20 6d 65 73 73 61 67 65 62 70 3b
0xD8 -> BLE, DIYNAMIC, REPEATATION ACTIVE, TIMEOUT ACTIVE
0x0F -> Length of IP name (“185.168.100.001”)
0x04 -> Length of Port name (“7777”)
0x03 -> repeating amount
0x64 -> Time out time in millisecond (100 ms)
0x14 -> Number of string message
0x31 0x38 0x35 0x2E 0x31 0x36 0x38 0x2E 0x31 0x30 0x30 0x2E 0x30 0x30 0x31 -> char string message (“185.168.100.001”)
0x37 0x37 0x37 0x37 -> char string message (“7777”)
0x74 0x68 0x69 0x73 0x20 0x69 0x73 0x20 0x74 0x65 0x73 0x74 0x20 0x6d 0x65 0x73 0x73 0x61 0x67 0x65->char string message (“this is test message”)
0x62 0x70-> CRC
0x3b -> End char (;)