

# Napas QR payment

## 1. QR code structure

Data type:

N: numeric. can be represented by all digits

S: string

ANS: can be represented by the Common Character Set as defined in [EMV Book 4]. Each Alphanumeric Special alphabet in QR code binary characters defined in [Unicode]

Name	ID	Length (2 digits)	Data type	Static QR	Dynamic QR	Default value
Payload Format Indicator	"00"	"02"	N	M	M	"01"
Point of Initiation Method	"01"	"02"	N	M	M	"11" : Static QR "12" : Dynamic QR
Consumer Account Information	"38"	Maximum "99"	S	M	M	
Transaction Currency	"53"	"03"	N	M	M	"704"
Transaction Amount	"54"	Maximum "13"	S		M	
Country Code	"58"	"02"	S	M	M	"VN"
Additional Data Field Template	"62"	Maximum "99"	ANS		M	
CRC (Cyclic Redundancy Check)	"63"	"04"	N	M	M	

## 2. Original data object:

### 2.1. Payload Format Indicator (ID 00)

Format: Number

Length: 2

Required: Mandatory

Meaning:

The data version is the first data object in the QR code, used to define the QR code version and the ID, length, and value conventions. The data version has a value of "01". Other values are registered fallback.

### 2.2. Point of Initiation Method (ID 01)

Format: Number

Length: 2

Required: Optional

Meaning:

The constructor defines the communication technology and distinguishes whether the data is dynamic or static.

### 2.3. Consumer Account Information (ID 38)

Format: String

Length: Max 99

Required: Mandatory

Meaning:

QR IBFT service identifies the beneficiary Consumer and the beneficiary Bank.

Name	ID	Format	Required	Description
Globally Unique Identifier - GUID	"00"	S	Mandatory	The ID specifies data with one of the following values: AID: always has the value "A000000727".

Payment organization	"01"	S	Mandatory	Association of data objects with IDs and data object types specific to the GUID.  (Refer to Subtab table)
Service code	"02"	S	Mandatory	Specify the data of each type of service:  <ul style="list-style-type: none"> <li>• QRIBFTTC: 24/7 money transfer service by QR code to card</li> <li>• QRIBFTTA: 24/7 money transfer service by QR code to Account.</li> </ul>

#### SubTab table

Subtab	Length	Format	Meaning
00	"06"	S	BNB ID (Beneficiary Bank) <b>BNB ID of Übank is 546035</b>
01	Maximum "19"	S	Beneficiary Account number/Card number

Ex: 000697040301162112995044604025

Subtab	Length	Value
00	06	970403
01	16	2112995044604025

Ex: IBFT service by QR to the account

38570010A00000072701270006970468011300110099504460208QRIBFTTA

Name	ID	Length	Value
GUID	00	10	A000000727
Payment Organization	01	27	000697046801130011009950446 (Refer to Subtab table)
Service Code	02	08	QRIBFTTA

#### 2.4. Transaction Currency (ID 53)

Format: Number

Length: 3

Required: Mandatory

Meaning:

ISO 4217 compliant currency code, specifying the currency of the transaction that can be recognized by the customer through the mobile app each time the transaction amount is displayed or when the customer enters the amount application.

#### 2.5. Transaction Amount (ID 54)

Format: String

Length: 13 (Max)

Required: Conditional option

Meaning:

If present, the transaction amount will be displayed to the customer through the mobile application. The transaction amount has a non-zero value, consisting of only the numbers "0" through "9" and may contain a single "." character. If the amount includes decimals, the "." will be used to separate the decimal part from the integer and the character "." may appear even without the decimal part.

The number of characters after the decimal must match the currency exponent associated with the currency code as specified in ISO 4217.

The amount must not contain any other characters (e.g. do not use space characters to separate thousands).

Ex: Valid transaction amount: "50000", "50000."

Invalid transaction amount: "50 000"

If the transaction amount is not displayed on the mobile app, the customer will enter the amount.

2.6. Country Code (ID 58)

Format: String

Length: 2

Required: Mandatory

Meaning:

Identify the country in which the IIT conducts the transaction. Country codes are specified according to [ISO 3166-1 alpha 2]. The country code may be displayed to the customer through the mobile application during transaction processing.

2.7. Additional Data Field Template (ID 62)

Format: ANS (Special characters contain only values defined in the generic character set of [EMV Book 4]. Each character encoded in a QR code in binary is defined according to the [Unicode] rules.)

Length: Max 99

Required: Optional

Meaning:

The Supplementary Information field provides additional data supporting different scenarios and includes at least 1 data object.

Name	ID	Format	Length	Required	Description
Bill Number	"01"	ANS	maximum "25"	Optional	Bill Number
Mobile Number	"02"	ANS	maximum "25"	Optional	Mobile Number
Store Label	"03"	ANS	maximum "25"	Optional	Store code
Loyalty Number	"04"	ANS	maximum "25"	Optional	customer Loyalty Number
Reference Label	"05"	ANS	maximum "25"	Optional	reference number, to determine transaction
Customer Label	"06"	ANS	maximum "25"	Optional	value can be customer code, customer phone number, bill number, etc.
Terminal Label	"07"	ANS	maximum "25"	Optional	store terminal code
Purpose of Transaction	"08"	ANS	maximum "25"	Optional	transaction narrative
Additional Consumer Data Request	"09"	ANS	maximum "03"	Optional	Information which customer needs to supplement "A": customer address "M": customer phone number "E": customer email addresss
RFU for EMVCo	"10" -"49"	ANS		Optional	Registered by EMV for future purpose
Payment System specific templates.	"50"-"99"	ANS		Optional	

2.8. CRC (Cyclic Redundancy Check) (ID 63)

Format: ANS (Special characters contain only values defined in the generic character set of [EMV Book 4]. Each character encoded in a QR code in binary is defined according to the [Unicode] rules.)

Length: Max "04"

Required: Mandatory

Meaning:

CRC - Checksum is calculated according to ISO/IEC 13239 using polynomial '1021' (hex) and initial value 'FFFF' (hex). The checksum is calculated for all data objects, including the ID, Length and Value in the QR code in the correct order of appearance, in addition to the ID and Length of the CRC (but excluding the Value). of the CRC).

3. Guide to create QR code:

Step	Data input	Expected
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Create CRC <a href="https://www.lammertbies.nl/comm/info/crc-calculation">https://www.lammertbies.nl/comm/info/crc-calculation</a>	00020101021238570010A000000727012700 06970403011300110123456780208QRIBFTT A530370454061800005802VN62340107NPS 68690819thanh toan don hang6304	2E2E
Create QR code	00020101021238570010A000000727012700 06970403011300110123456780208QRIBFTT A530370454061800005802VN62340107NPS 68690819thanh toan don hang63042E2E	



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