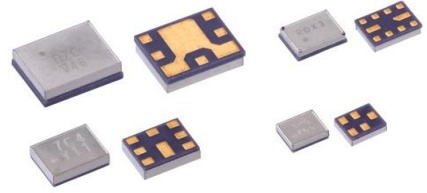


Datasheet



SAW Duplexer

Application : Band 28 Block A

P/N : FSDCSR8N773MK3NC
D5FC773M0K3NC

Version : 4.4

Date : February 8th, 2022

Features

- Size : 1.8 mm x 1.4 mm
- 5G NR Supported



* Pb Free Part



MSL1

TAIYO YUDEN CO., LTD.

The data is reference only. Electrical characteristics vary depending on environment or measurement condition.
TAIYO YUDEN reserves the right to make change to the data at any time without notice.
Before making final selection, please check product specification.

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

History

Version No.	Date	Description
4.3	Oct. 19, 2020	Datasheet Format Revised
		1. Absolute Maximum Ratings Updated
4.4	Feb. 08, 2022	Changed to New P/N
		1. Absolute Maximum Ratings Updated

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

1. Absolute Maximum Ratings

Table-1

Item	Symbol	Ratings	Unit	Remarks
Operating Temperature Range	Ta	-30 to +85	°C	
Device Storage Temperature	Tstg1	-40 to +100	°C	
Carrier Tape Storage Temperature Range	Tstg2	-5 to +40	°C	Shelter from the Direct Sunlight
Maximum Input Power	Pin	+29.0	dBm	703 - 733 MHz Continuous Wave Ta = +50 °C Ant, Rx Port : Loaded at 50 Ω Input Time : 5000 h
		+29.0	dBm	703 - 733 MHz LTE SC-FDMA, 3MHz, 1RB 5G DFT-s-OFDM, 5MHz, 1RB Ta = +50 °C Ant, Rx Port : Loaded at 50 Ω Input Time : 5000 h
		+29.0	dBm	703 - 733 MHz 5G CP-OFDM, 5MHz, 1RB Ta = +50 °C Ant, Rx Port : Loaded at 50 Ω Input Time : 5000 h
		+29.5	dBm	703 - 733 MHz Continuous Wave Ta = +50 °C Ant, Rx Port : Loaded at 50 Ω Input Time : 2000 h
		+29.5	dBm	703 - 733 MHz LTE SC-FDMA, 3MHz, 1RB 5G DFT-s-OFDM, 5MHz, 1RB Ta = +50 °C Ant, Rx Port : Loaded at 50 Ω Input Time : 2000 h
		+30.0	dBm	703 - 733 MHz Continuous Wave Ta = +50 °C Ant, Rx Port : Loaded at 50 Ω Input Time : 1000 h
		+30.0	dBm	703 - 733 MHz LTE SC-FDMA, 3MHz, 1RB 5G DFT-s-OFDM, 5MHz, 1RB Ta = +50 °C Ant, Rx Port : Loaded at 50 Ω Input Time : 1000 h
Maximum DC Voltage	-	+/-5	V	Device Only

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

2. Evaluation Circuit

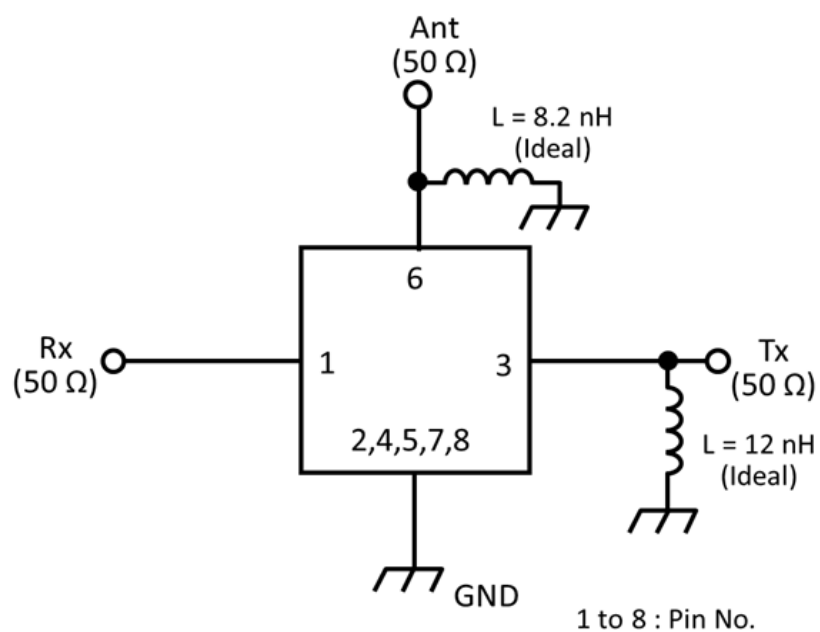


Figure-1

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

3. Electrical Specification

Table-2

Item			Condition (MHz)	Specification			Unit	Remarks
				Min.	Typ.	Max.		
Tx to Ant	Insertion loss		703 - 733	-	2.0	2.9	dB	
			703.25 - 732.75	-	2.0	2.7	dB	
	Ripple		703 - 733	-	1.3	2.4	dB	
	VSWR	Tx	703 - 733	-	1.9	2.2	-	
		Ant	703 - 733	-	1.8	2.1	-	
	Absolute attenuation		10 - 694	18	30	-	dB	
			694 - 698	3	11	-	dB	
			758 - 788	47	54	-	dB	Rx
			1406 - 1466	23	29	-	dB	2f0
			1565 - 1606	20	24	-	dB	GPS
			2109 - 2199	30	34	-	dB	3f0
			2400 - 2500	35	40	-	dB	ISM
Ant to Rx	Insertion loss		758 - 788	-	1.8	2.6	dB	
	Insertion loss		758.25 - 787.75	-	1.7	2.4	dB	
	Ripple		758 - 788	-	0.9	2.0	dB	
	VSWR	Ant	758 - 788	-	1.8	2.0	-	
		Rx	758 - 788	-	1.8	2.0	-	
	Absolute attenuation		703 - 733	50	64	-	dB	Tx
			2400 - 2500	30	68	-	dB	ISM
Tx to Rx	Isolation		703 - 733	60	63	-	dB	Tx
			758 - 788	55	58	-	dB	Rx
Terminating Impedance			Tx port	50//12 nH			Ω	
			Rx port	50			Ω	
			Ant port	50//8.2 nH			Ω	
DC impedance to ground				100			MΩ	Device only

*Typical Value at +25 +/- 2 °C

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

4. Dimensions & Marking Information

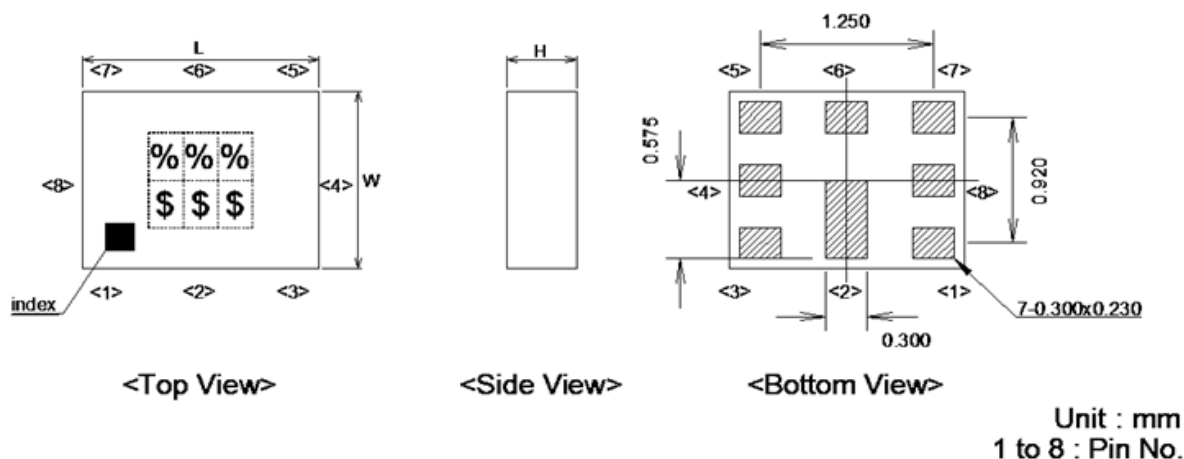


Figure-2

%%% : BNC (Part Symbol)
\$\$\$: Product Trace Code

L = 1.8 +/- 0.1 mm
W = 1.4 +/- 0.1 mm
H = 0.44 mm Max

Note) This Marking Information is not applied to products before production.

5. Pin Configuration

Table-3

Pin No.	Symbol	Function
1	Rx	Receiver
2	GND	Ground
3	Tx	Transmitter
4	GND	Ground
5	GND	Ground
6	Ant	Antenna
7	GND	Ground
8	GND	Ground

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

6. Recommended Foot Print Pattern

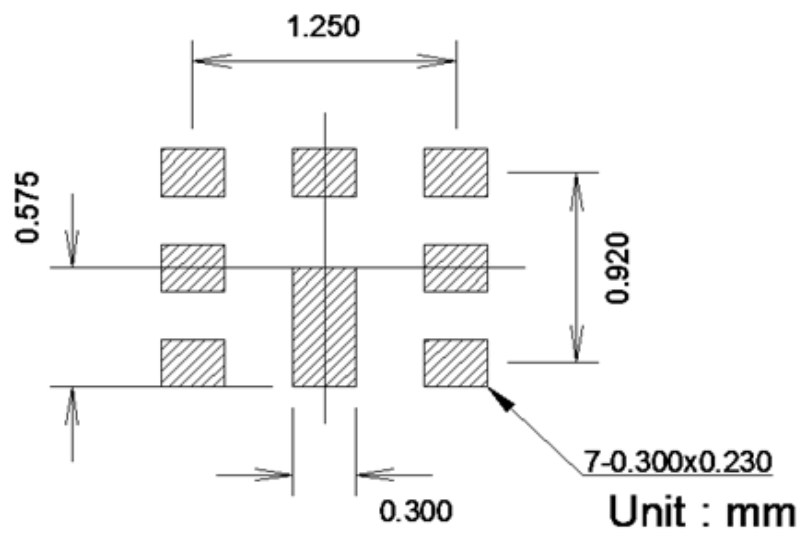


Figure-3

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

7. Electrical Characteristics

Tx to Ant

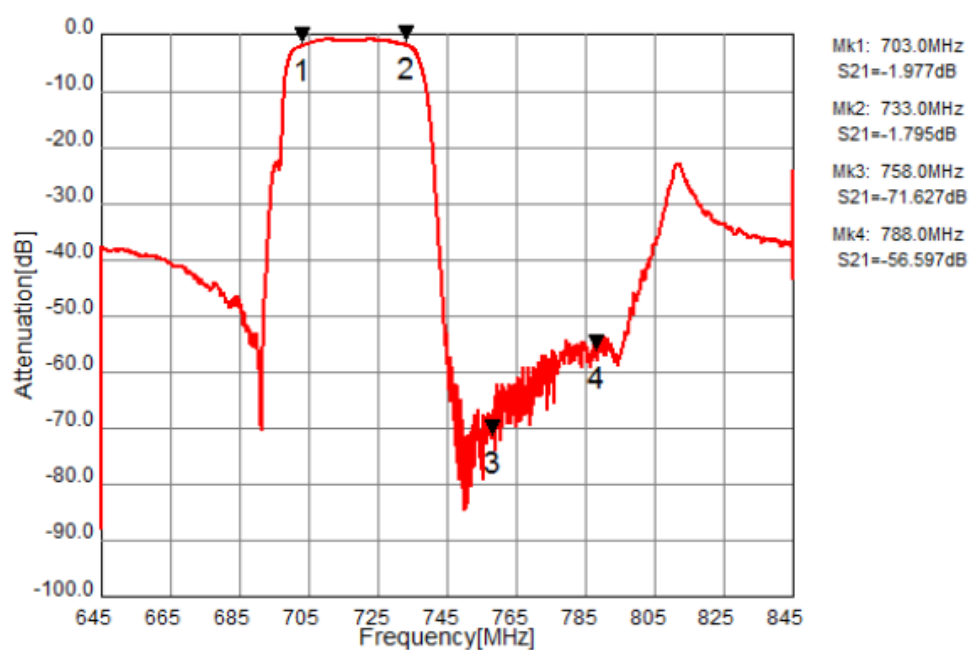


Figure-4-1

Ant to Rx

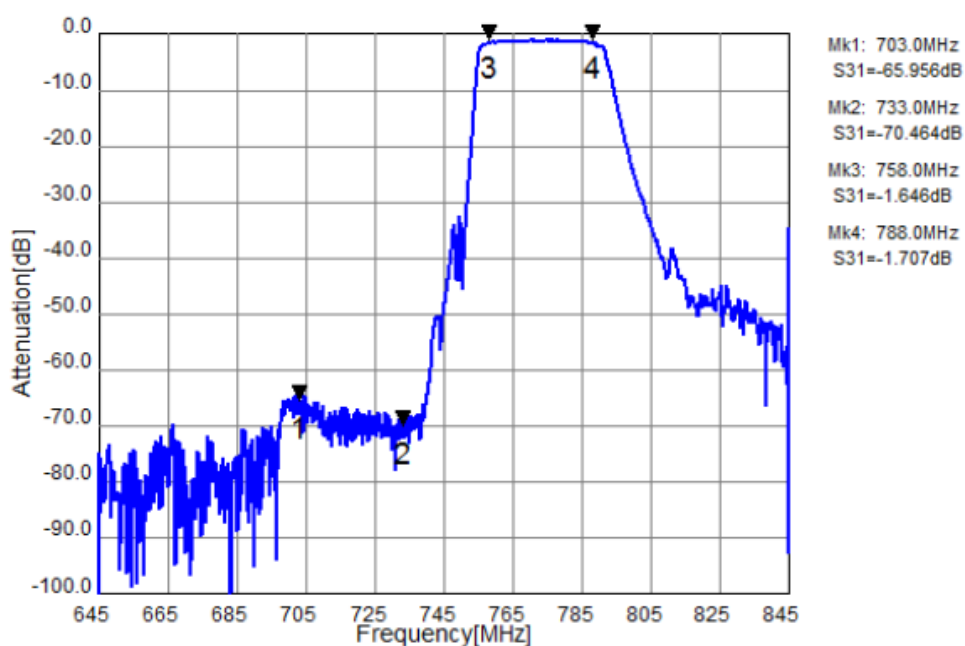


Figure-4-2

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

Tx to Ant, Ant to Rx

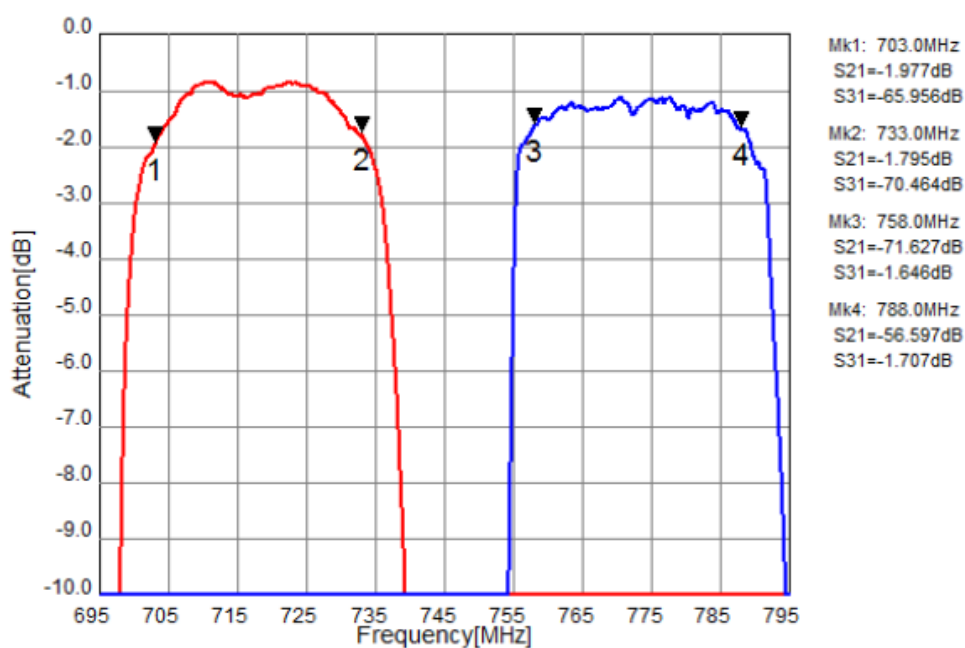


Figure-4-3

Tx to Rx Isolation

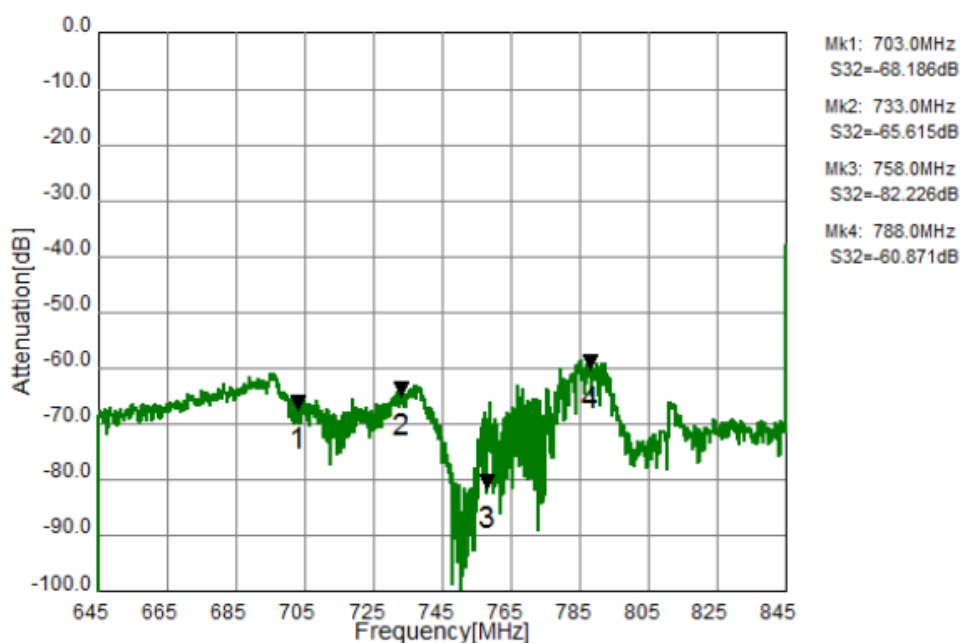


Figure-4-4

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

Tx Port

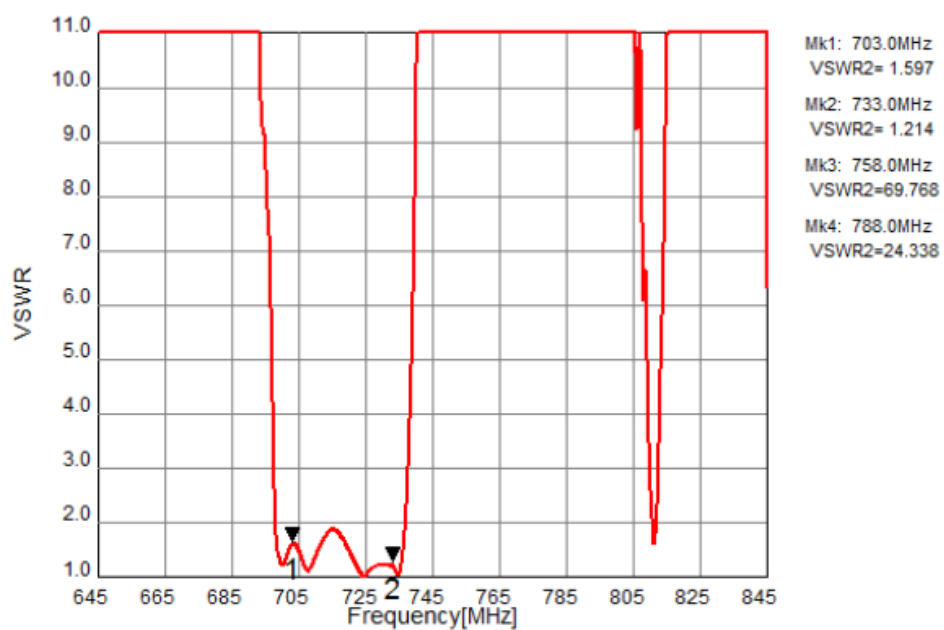


Figure-4-5

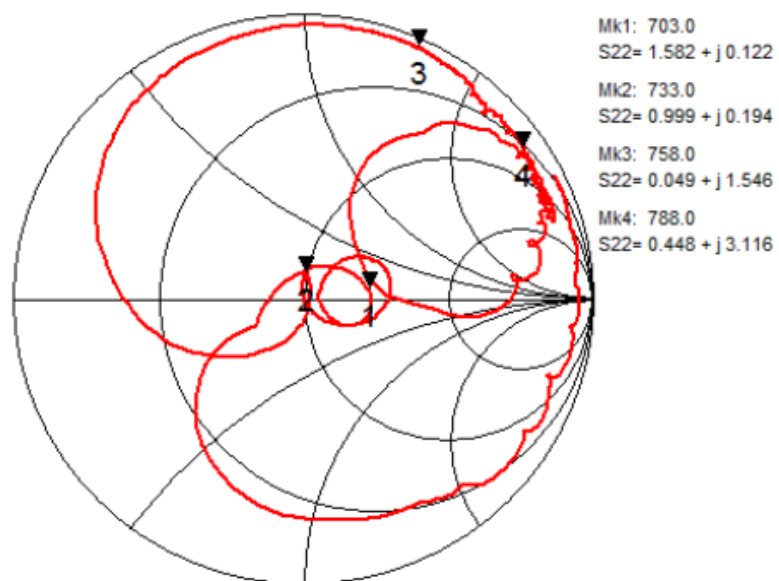


Figure-4-6

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

Rx Port

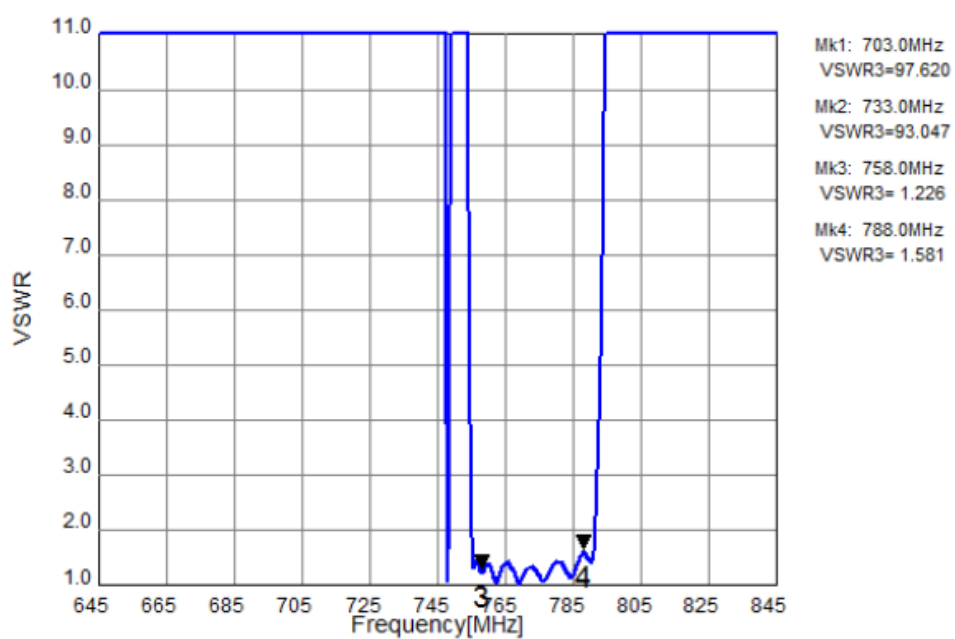


Figure-4-7

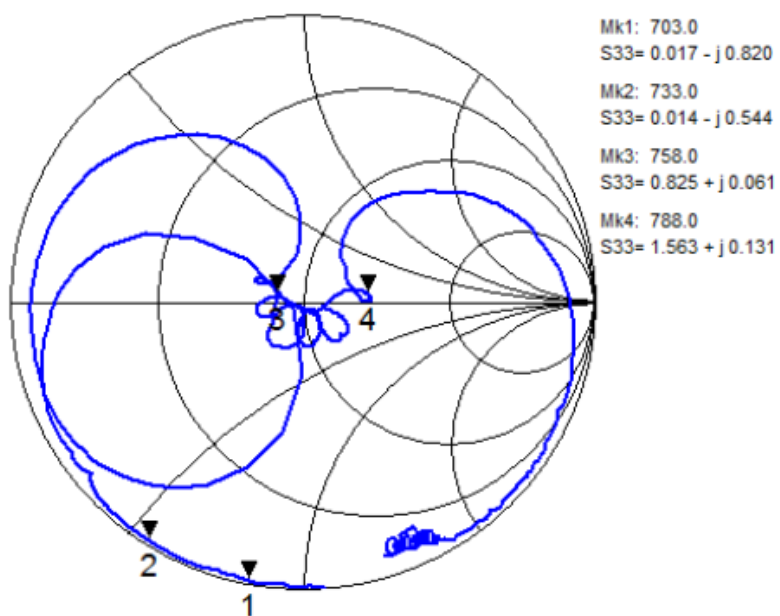


Figure-4-8

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

Ant Port

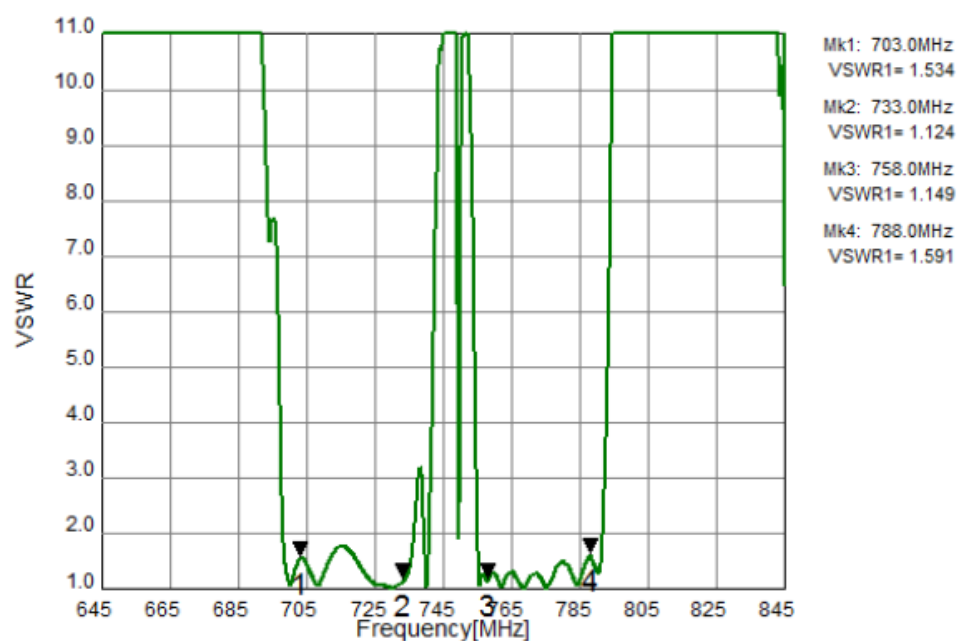


Figure-4-9

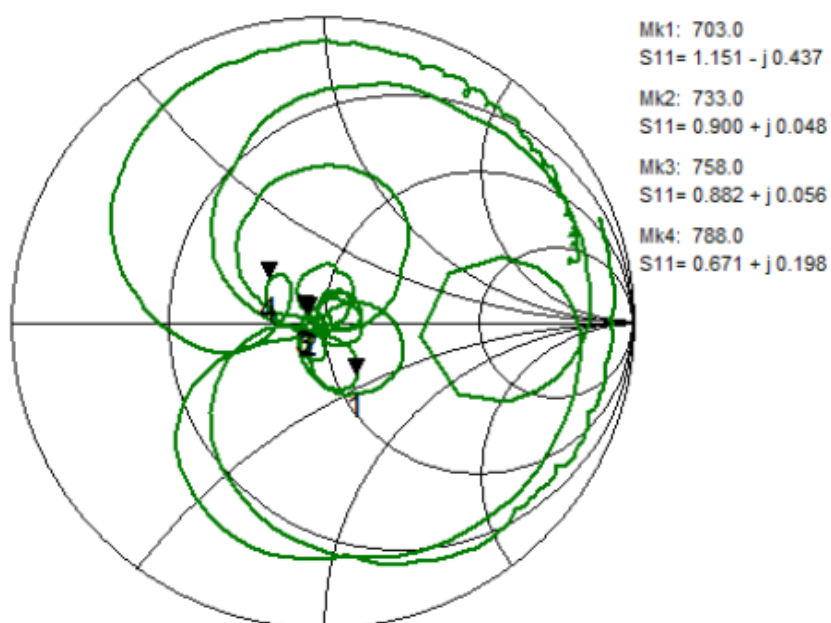


Figure-4-10

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

Tx to Ant(Wide span)

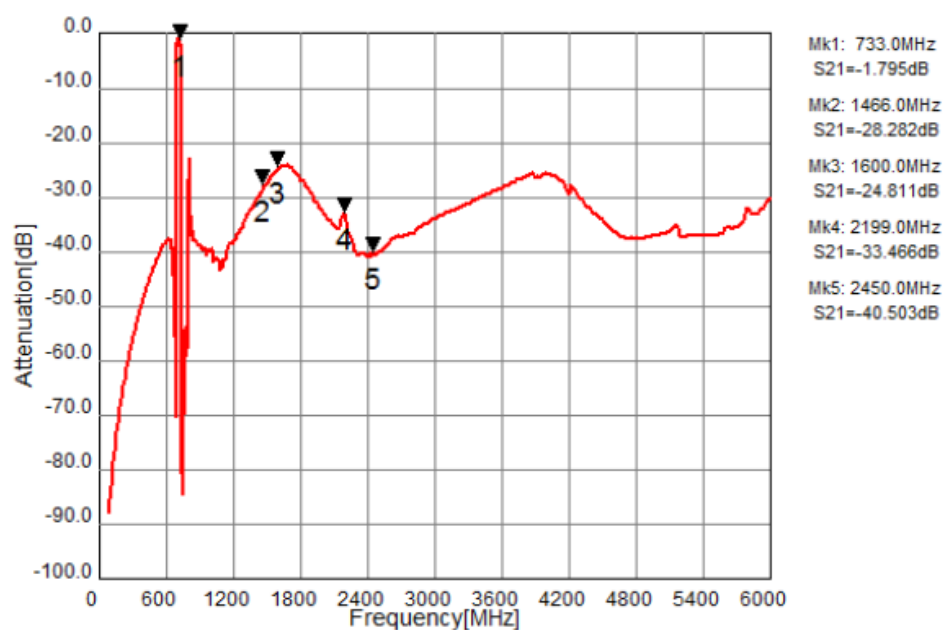


Figure-4-11

Ant to Rx(Wide span)

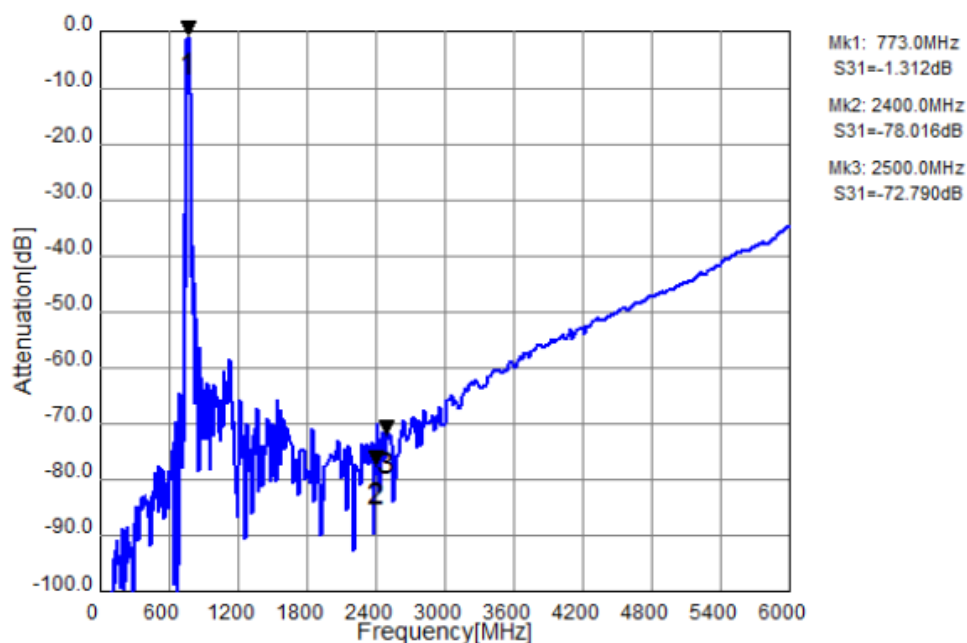


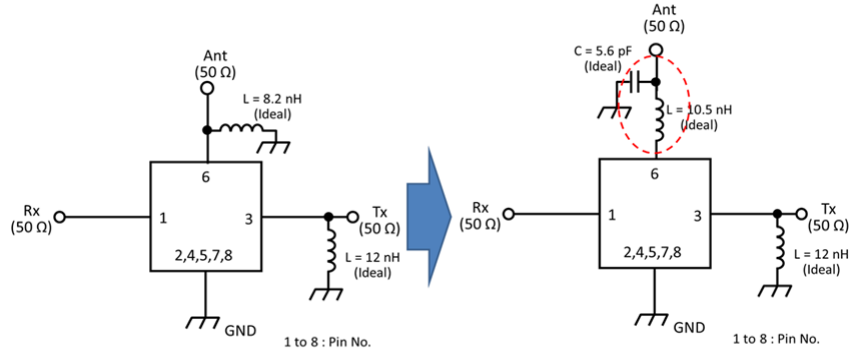
Figure-4-12

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

OPTION

External circuit addition (Second and Third Harmonics trap circuit)
 Adding an inductor (L=10.5nH) and a capacitor (C=5.6pF) at ANT port

Simulation result
 There are some trade-offs of the characteristic
 Improvement point : Tx-Second Harmonic Attenuation(11dB Improved)
 Tx-Third Harmonic Attenuation(20dB Improved)
 Deterioration point : Tx / Rx Insertion loss(0.2dB / 0.3dB deteriorated)



Optional Circuit

Figure-4-13

Tx to Ant, Ant to Rx

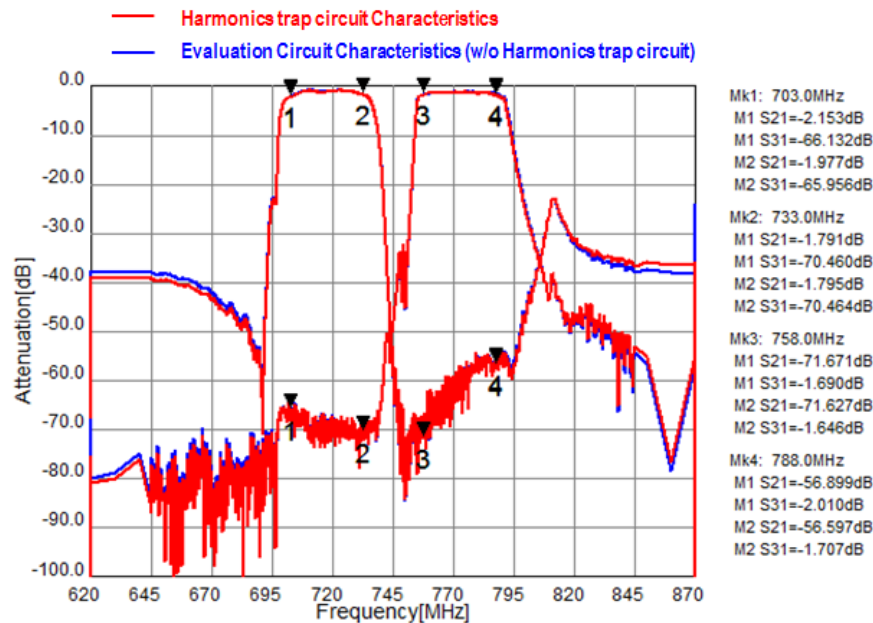


Figure-4-14

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

Tx to Ant, Ant to Rx(Narrow span)

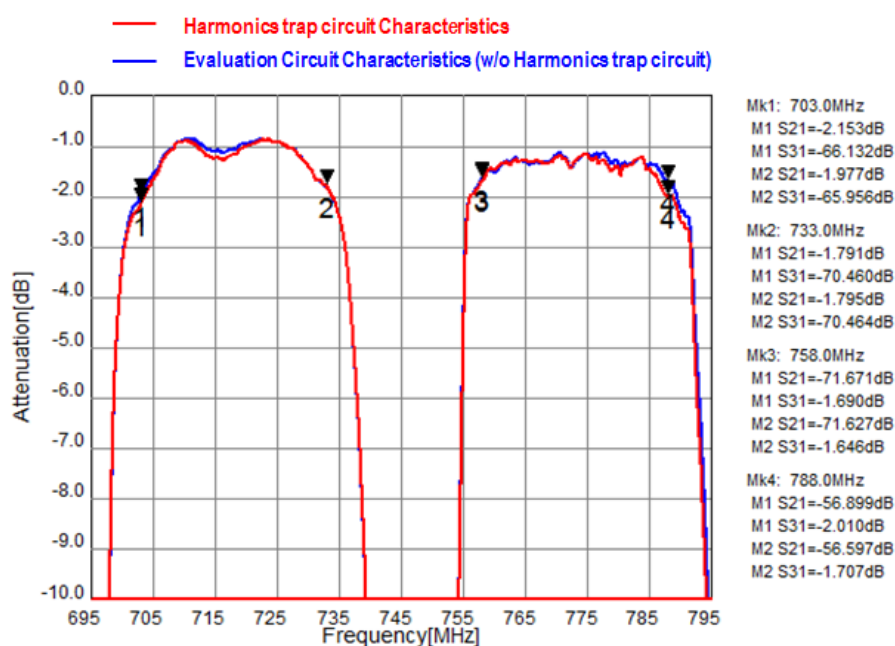


Figure-4-15

Tx to Ant(Wide span)

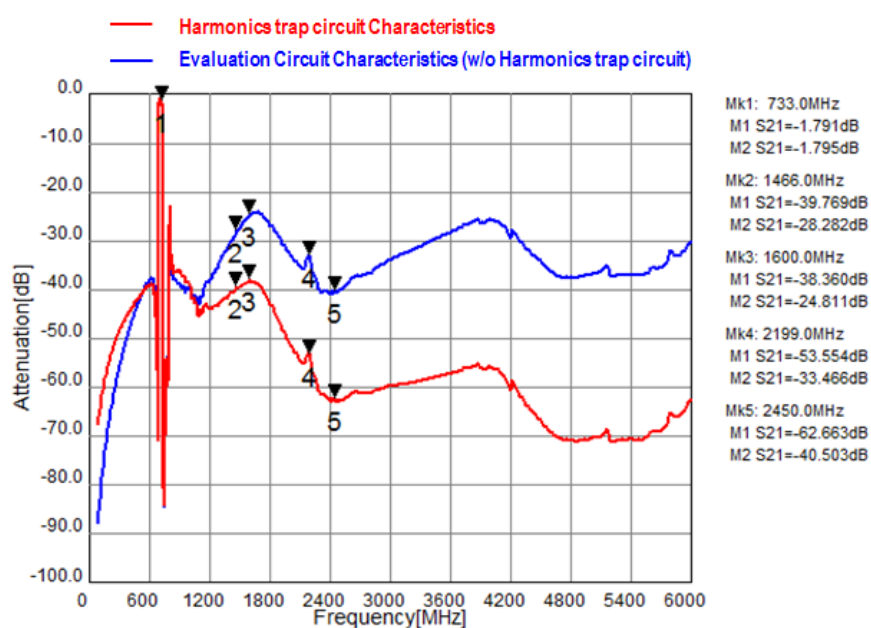


Figure-4-16

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

8. Ordering Code

Table-4

Standard Ordering Code	Packing	Reel Size	Status
FSDCSR8N773MK3NC-AY	Tape & Reel	15,000 pcs.	MP
D5FC773M0K3NC-Y	Tape & Reel	15,000 pcs.	MP

Option Ordering Code	Packing	Reel Size	Status
FSDCSR8N773MK3NC-AYA	Tape & Reel	less than 15,000 pcs.	MP
FSDCSR8N773MK3NC-AZ	Tape & Reel	3,000 pcs.	MP
FSDCSR8N773MK3NC-AZA	Tape & Reel	less than 3,000 pcs.	MP
FSDCSR8N773MK3NC-AQ	Bulk	few pcs.	MP
D5FC773M0K3NC-YA	Tape & Reel	less than 15,000 pcs.	MP
D5FC773M0K3NC-Z	Tape & Reel	3,000 pcs.	MP
D5FC773M0K3NC-ZA	Tape & Reel	less than 3,000 pcs.	MP
D5FC773M0K3NC-Q	Bulk	few pcs.	MP

*Minimum order quantity (MOQ) is assigned for each inquiry, Please contact to Sales Representatives.

*MP : Mass Production

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

9. Tape and Reel Information

Dimensions of Tape (Standard)

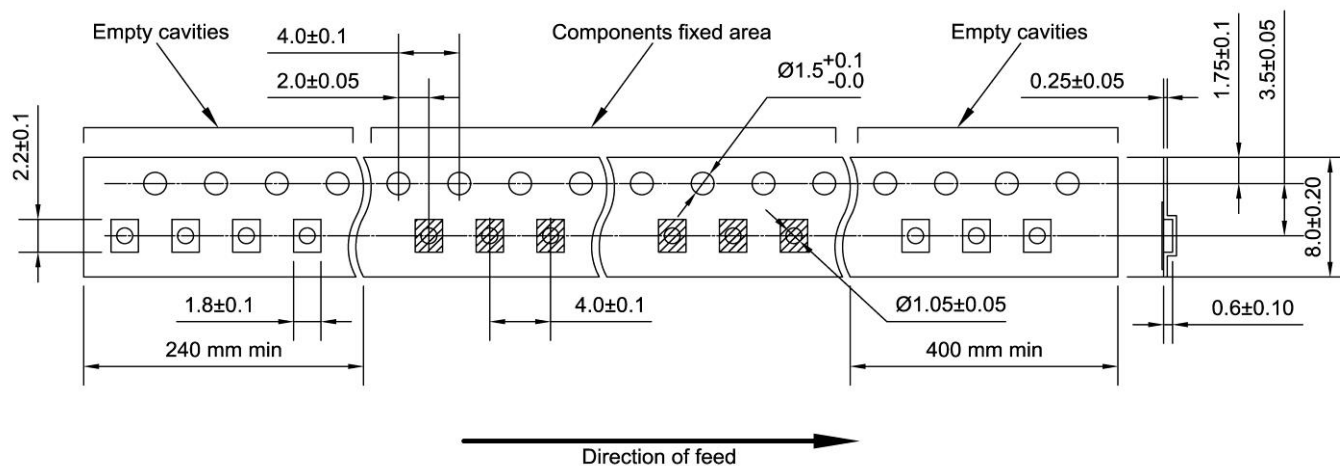


Figure-5

Dimensions of Reel

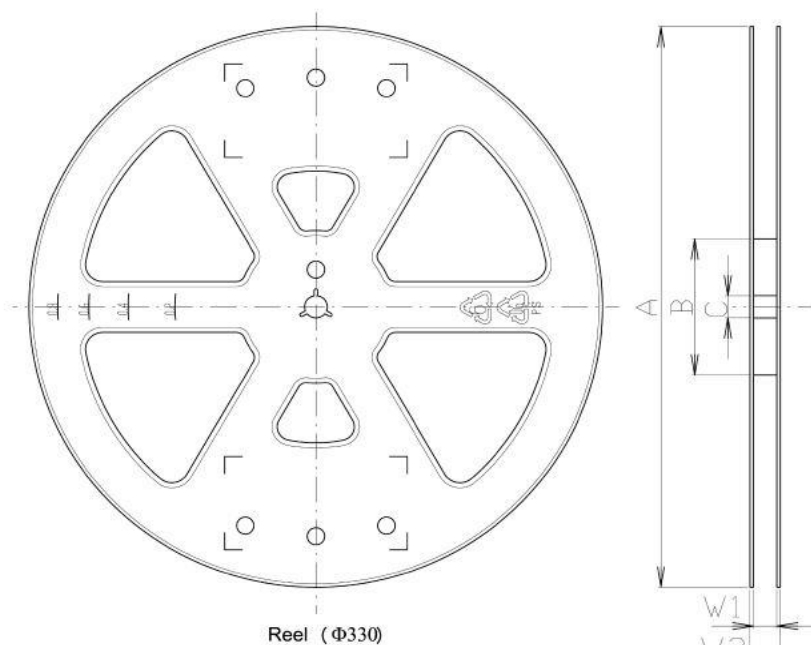


Figure-6

Table-5

Order	Code	Quantity (pcs./reel)	A	B	C	W1	W2	Tape Pitch
Standard	Y	15,000	φ330	φ100	φ13 ±0.2	9.4 ±1.0	13.4 ±1.0	4.0 ±0.1
Option	Z	3,000	φ180	φ60	φ13 ±0.2	9 +1.0/-0.0	11.4 ±1.0	4.0 ±0.1

Unit:mm

Customer Name	Standard	TAIYO YUDEN Mobile Technology Co., Ltd.	
System	Band 28 Block A	Date	Feb. 08, 2022
Part Number	FSDCSR8N773MK3NC / D5FC773M0K3NC	Version 4.4	Final

Notice

- Please conduct validation and verification of our products in actual condition of mounting and operating environment before using our products.
- The products listed in this specification are intended for use in general electronic equipment (e.g., AV equipment, OA equipment, home electric appliances, office equipment, information and communication equipment including, without limitation, mobile phone, and PC). Please be sure to contact TAIYO YUDEN for further information before using the products for any equipment which may directly cause loss of human life or bodily injury (e.g., transportation equipment including, without limitation, automotive powertrain control system, train control system, and ship control system, traffic signal equipment, disaster prevention equipment, medical equipment classified as Class I, II or III by IMDRF, highly public information network equipment including, without limitation, telephone exchange, and base station).
Please do not incorporate our products into any equipment requiring high levels of safety and/or reliability (e.g., aerospace equipment, aviation equipment, medical equipment classified as Class IV by IMDRF, nuclear control equipment, undersea equipment, military equipment).
When our products are used even for high safety and/or reliability-required devices or circuits of general electronic equipment, it is strongly recommended to perform a thorough safety evaluation prior to use of our products and to install a protection circuit as necessary.
Please note that unless you obtain prior written consent of TAIYO YUDEN, TAIYO YUDEN shall not be in any way responsible for any damages incurred by you or third parties arising from use of the products listed in this specification for any equipment requiring inquiry to TAIYO YUDEN or prohibited for use by TAIYO YUDEN as described above.
- Information contained in this specification is intended to convey examples of typical performances and/or applications of our products and is not intended to make any warranty with respect to the intellectual property rights or any other related rights of TAIYO YUDEN or any third parties nor grant any license under such rights.
- Please note that the scope of warranty for our products is limited to the delivered our products themselves and TAIYO YUDEN shall not be in any way responsible for any damages resulting from a fault or defect in our products. Notwithstanding the foregoing, if there is a written agreement (e.g., supply and purchase agreement, quality assurance agreement) signed by TAIYO YUDEN and your company, TAIYO YUDEN will warrant our products in accordance with such agreement.
- The contents of this specification are applicable to our products which are purchased from our sales offices or authorized distributors (hereinafter "TAIYO YUDEN's official sales channel"). Please note that the contents of this specification are not applicable to our products purchased from any seller other than TAIYO YUDEN's official sales channel.
- Caution for Export
Some of our products listed in this specification may require specific procedures for export according to "U.S. Export Administration Regulations", "Foreign Exchange and Foreign Trade Control Law" of Japan, and other applicable regulations. Should you have any questions on this matter, please contact our sales staff.