Engineering/Process Change Notice

ECN/PCN No.: R0553

For Manufacturer

Product Description:	**Abracon Part Number / Part Series:**	☐ Documentation only ☒ ECN ☐ EOL	☐ Series ☐ Part Number
GNSS L1/L2/L5/L6 SMD SAW DIPLEXER	AFII-SW-0095-Q		
Affected Revision:	**New Revision:**	**Application:**	☐ Safety ☒ Non-Safety
IR	A		

Prior to Change:



GNSS L1/L2/L5/L6 SMD SAW DIPLEXER

AFII-SW-0095-Q

Request Samples | Check Inventory

1.5 x 1.1 x 0.38 mm
RoHS Compliant
MSL Level = 1

Description

This AEC-Q200 compliant SAW diplexer delivers comprehensive multi-band GNSS coverage for next-generation positioning systems. Supporting L1 alongside combined L2/L5/L6 bands in an ultra-compact 1.5 x 1.1 x 0.38 mm package. Supporting L1 alongside L2/L5/L6 bands with low insertion loss of 1.3 dB (L1) and 1.7 dB (L2/L5/L6), it delivers excellent band separation with 29 dB typical out-of-band rejection. Rated for high-power +25 dBm operation across -40 to +105 °C, this RoHS-compliant MSL Level 1 component enables centimeter-level accuracy for automotive telematics, RTK systems, autonomous vehicles, and precision agriculture where robust multi-frequency performance in harsh environments is essential.

Features

- AEC-Q200 GNSS L1/L2/L5/L6 SAW Diplexer
- Compact Size: 1.5 x 1.1 x 0.38 mm
- Insertion Loss: 1.3 dB (L1) / 1.7 dB (L2/L5/L6)
- Out-of-Band Rejection: 29 dB (Typ.)
- Maximum Input Power: +25 dBm
- Extended Temperature -40 to +105 °C
- RoHS Compliant | MSL Level 1

Applications

- High-Precision GNSS Modules
- RTK Systems
- Automotive Transportation & Telematics
- Asset Tracking / Fleet Management
- UAVs, Robotics & Autonomous Vehicles
- Micro-Mobility Solutions
- Precision Agriculture

Ordering Information

Part Number	Description
AFII-SW-0095-Q	GNSS L1/L2/L5/L6 SMD SAW DIPLEXER on Cut Tape
AFII-SW-0095-Q-T	GNSS L1/L2/L5/L6 SMD SAW DIPLEXER on Tape & Reel
AFII-SW-0095-Q -EVB	GNSS L1/L2/L5/L6 SMD SAW DIPLEXER EVB

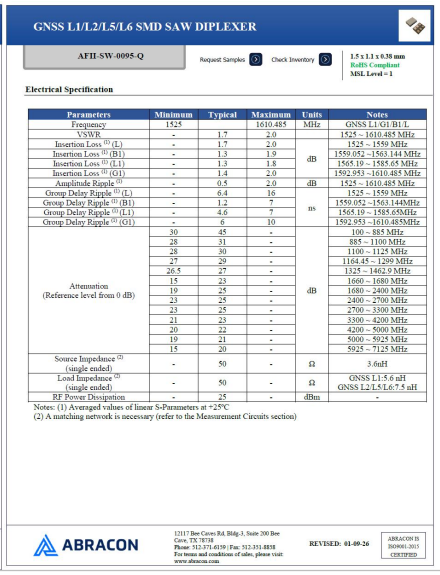
Note: Other options not listed may be available upon request via Abracon online support

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12117 Bee Caves Rd, Bldg-3, Suite 200 Bee Cave, TX 78738
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ABRACON IS ISO9001:2015 CERTIFIED



GNSS L1/L2/L5/L6 SMD SAW DIPLEXER

AFII-SW-0095-Q

Request Samples | Check Inventory

1.5 x 1.1 x 0.38 mm
RoHS Compliant
MSL Level = 1

Electrical Specification

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency	1525		1610.485	MHz	GNSS L1/G1/B1/L
VSWR	-	1.7	2.0		1525 ~ 1610.485 MHz
Insertion Loss (1) (L)	-	1.7	2.0		1525 ~ 1559 MHz
Insertion Loss (1) (B1)	-	1.3	1.9	dB	1559.052 ~1563.144 MHz
Insertion Loss (1) (L1)	-	1.3	1.8		1565.19 ~ 1585.65 MHz
Insertion Loss (1) (G1)	-	1.4	2.0		1592.953 ~1610.485 MHz
Amplitude Ripple (1)	-	0.5	2.0	dB	1525 ~ 1610.485 MHz
Group Delay Ripple (1) (L)	-	6.4	16		1525 ~ 1559 MHz
Group Delay Ripple (1) (B1)	-	1.2	7	ns	1559.052 ~1563.144MHz
Group Delay Ripple (1) (L1)	-	4.6	7		1565.19 ~ 1585.65MHz
Group Delay Ripple (1) (G1)	-	6	10		1592.953 ~1610.485MHz
Attenuation (Reference level from 0 dB)	30	45	-	dB	100 ~ 885 MHz
	28	31	-		885 ~ 1100 MHz
	28	30	-		1100 ~ 1125 MHz
	27	29	-		1164.45 ~ 1299 MHz
	26.5	27	-		1325 ~ 1462.9 MHz
	15	23	-		1660 ~ 1680 MHz
	19	25	-		1680 ~ 2400 MHz
	23	25	-		2400 ~ 2700 MHz
	23	25	-		2700 ~ 3300 MHz
	21	23	-		3300 ~ 4200 MHz
	20	22	-		4200 ~ 5000 MHz
	19	21	-		5000 ~ 5925 MHz
	15	20	-		5925 ~ 7125 MHz
Source Impedance (2) (single ended)	-	50	-	Ω	3.6nH
Load Impedance (2) (single ended)	-	50	-	Ω	GNSS L1:5.6 nH GNSS L2/L5/L6:7.5 nH
RF Power Dissipation	-	25	-	dBm	-

Notes: (1) Averaged values of linear S-Parameters at +25°C
(2) A matching network is necessary (refer to the Measurement Circuits section)

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After Change:



GNSS L1/L2/L5/L6 SMD SAW DIPLEXER

AFII-SW-0095-Q

Request Samples | Check Inventory

1.5 x 1.1 x 0.38 mm
RoHS Compliant
MSL Level = 1

Description

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Features

- AEC-Q200 GNSS L1/L2/L5/L6 SAW Diplexer
- Compact Size: 1.5 x 1.1 x 0.38 mm
- Insertion Loss: 1.3 dB (L1) / 1.7 dB (L2/L5/L6)
- Out-of-Band Rejection: 29 dB (Typ.)
- Maximum Input Power: +25 dBm
- Extended Temperature -40 to +105 °C
- Maximum DC Voltage: 5 V
- RoHS Compliant | MSL Level 1

Applications

- High-Precision GNSS Modules
- RTK Systems
- Automotive Transportation & Telematics
- Asset Tracking / Fleet Management
- UAVs, Robotics & Autonomous Vehicles
- Micro-Mobility Solutions
- Precision Agriculture

Ordering Information

Part Number	Description
AFII-SW-0095-Q	GNSS L1/L2/L5/L6 SMD SAW DIPLEXER on Cut Tape
AFII-SW-0095-Q-T	GNSS L1/L2/L5/L6 SMD SAW DIPLEXER on Tape & Reel

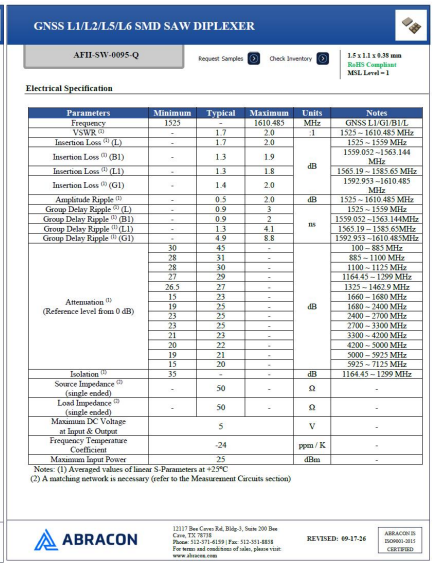
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Insertion Loss (1) (L)	-	1.7	2.0		1525 ~ 1559 MHz
Insertion Loss (1) (B1)	-	1.3	1.9	dB	1559.052 ~1563.144 MHz
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Insertion Loss (1) (G1)	-	1.4	2.0		1592.953 ~1610.485 MHz
Amplitude Ripple (1)	-	0.5	2.0	dB	1525 ~ 1610.485 MHz
Group Delay Ripple (1) (L)	-	0.9	3		1525 ~ 1559 MHz
Group Delay Ripple (1) (B1)	-	0.9	2	ns	1559.052 ~1563.144MHz
Group Delay Ripple (1) (L1)	-	1.3	4.1		1565.19 ~ 1585.65MHz
Group Delay Ripple (1) (G1)	-	4.9	8.8		1592.953 ~1610.485MHz
Attenuation (1) (Reference level from 0 dB)	30	45	-	dB	100 ~ 885 MHz
	28	31	-		885 ~ 1100 MHz
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	21	23	-		3300 ~ 4200 MHz
	20	22	-		4200 ~ 5000 MHz
	19	21	-		5000 ~ 5925 MHz
	15	20	-		5925 ~ 7125 MHz
Isolation (1)	35	-	-	dB	1164.45 ~ 1299 MHz
Source Impedance (2) (single ended)	-	50	-	Ω	-
Load Impedance (2) (single ended)	-	50	-	Ω	-
Maximum DC Voltage at Input & Output		5		V	-
Frequency Temperature Coefficient		-24		ppm / K	-
Maximum Input Power		25		dBm	-

Notes: (1) Averaged values of linear S-Parameters at +25°C
(2) A matching network is necessary (refer to the Measurement Circuits section)

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Cause/Reason for Change: Added Frequency Temperature Coefficient, Removed EVB information from ordering information

Change Plan

Effective Date:	**Additional Remarks:**
09/17/2026	

Change Declaration:

Issued Date:	**Issued By:**	**Issued Department:**

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Engineering/Process Change Notice

09/17/2026	Allan	Engineering
Approval: *Saravanan Subramanian* Engineering Director	**Approval:** *Reuben Quintanilla* Quality Director	**Approval:** *Ying Huang* Purchasing Director
For Abracon EOL only		
Last Time Buy (if applicable):	**Alternate Part Number / Part Series:**	
Additional Approval:	**Additional Approval:**	**Additional Approval:**
Customer Approval (If Applicable)		
Qualification Status: ☐ Approved ☐ Not accepted *Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.*		
Customer Part Number:	**Customer Project:**	
Company Name:	**Company Representative:**	**Representative Signature:**
Customer Remarks:		

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