



Wearsafe Labs Inc.

Application
For
Certification
FCC ID: 2ABDJ-BRCM1078

Wearable Personal Alert Device

Model: WS01

2.4GHz Transceiver

Report No.: 150708005SZN-003

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-13]

Prepared and Checked by:

Approved by:

Sign on file
Leo Lai
Project Engineer

Andy Yan
Senior Project Engineer
Date: July 13, 2015

- The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
- This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to copy or distribute this report. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results referenced from this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.
- For Terms And Conditions of the services, it can be provided upon request.
- The evaluation data of the report will be kept for 3 years from the date of issuance.

TRF No.: FCC 15C_TX_b
FCC ID: 2ABDJ-BRCM1078
Report No.: 150708005SZN-003

Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch
6F, D Block, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. China
Tel: (86 755) 8601 6288 Fax: (86 755) 8601 6751 Website: www.china.intertek-etlsemko.com

INTERTEK TESTING SERVICES

LIST OF EXHIBITS

<i>EXHIBIT 1:</i>	General Description
<i>EXHIBIT 2:</i>	System Test Configuration
<i>EXHIBIT 3</i>	Measurement Results
<i>EXHIBIT 4:</i>	Equipment Photographs
<i>EXHIBIT 5:</i>	Product Labeling
<i>EXHIBIT 6:</i>	Technical Specifications
<i>EXHIBIT 7:</i>	Instruction Manual
<i>EXHIBIT 8:</i>	Miscellaneous Information
<i>EXHIBIT 9:</i>	Test Equipment List

INTERTEK TESTING SERVICES

Table of Contents

1.0 General Description	2
1.1 Product Description	2
1.2 Related Submittal(s) Grants	2
1.3 Test Methodology	2
1.4 Test Facility	2
2.0 System Test Configuration	4
2.1 Justification	4
2.2 EUT Exercising Software	4
2.3 Special Accessories	4
2.4 Equipment Modification	4
2.5 Measurement Uncertainty	5
2.6 Support Equipment List and Description	5
3.0 Emission Results	7
3.1 Radiated Test Results	8
3.1.1 Field Strength Calculation	8
3.1.2 Radiated Emission Configuration Photograph	9
3.1.3 Radiated Emissions	9
3.1.4 Transmitter Spurious Emissions (Radiated)	11
4.0 Equipment Photographs	16
5.0 Product Labelling	18
6.0 Technical Specifications	20
7.0 Instruction Manual	22
8.0 Miscellaneous Information	24
8.1 Bandedge Plot	25
8.2 Emissions Test Procedures	27
9.0 Test Equipment List	30

INTERTEK TESTING SERVICES

List of attached file

Exhibit type	File Description	Filename
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated Emission	radiated photos.pdf
Test Report	Bandedge Plot	bandedge.pdf
Test Report	20dB BW Plot	bw.pdf
External Photo	External Photo	external photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
Operation Description	Technical Description	descri.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Cover Letter	Confidentiality Letter	request.pdf

EXHIBIT 1

GENERAL DESCRIPTION

INTERTEK TESTING SERVICES

1.0 General Description

1.1 Product Description

The equipment under test (EUT) is a Wearable Personal Alert Device with Bluetooth function. The EUT is operated by DC 3V (1 x CR 2032 battery). For more information, please refer to user manual.

Antenna Type: Integral antenna

Modulation Type: GFSK

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

1.2 Related Submittal(s) Grants

This report is Class II permissive change for iDevice Module BCM20736S (FCC ID: 2ABDJ-BRCM1078 and IC: 11569A-BRCM1078), and there is no corresponding unit for certification.

1.3 Test Methodology

Radiated emission measurements were performed according to the procedures in ANSI C63.4 (2009). Radiated emission measurement was performed in Semi-anechoic chamber. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

1.4 Test Facility

The Semi-anechoic chamber used to collect the radiated data is **Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch** and located at 6F, D Block, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. China. This test facility and site measurement data have been fully placed on file with the FCC(Registration Number: 242492).

EXHIBIT 2
SYSTEM TEST CONFIGURATION

INTERTEK TESTING SERVICES

2.0 **System Test Configuration**

2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2009).

The EUT was powered by a new battery (CR 2032) during the test.

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.

The unit was operated standalone and placed in the centre of the table.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was placed on a turn table, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

2.2 EUT Exercising Software

The EUT exercise program (provided by client) used during testing was designed to exercise the various system components in a manner similar to a typical use.

2.3 Special Accessories

No special accessories used.

2.4 Equipment Modification

Any modifications installed previous to testing by Wearsafe Labs Inc. will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd Kejiyuan Branch.

INTERTEK TESTING SERVICES

2.5 Measurement Uncertainty

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

Uncertainty and Compliance – Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

2.6 Support Equipment List and Description

Description	Manufacturer	Model No.
iPod	Apple	A1421

EXHIBIT 3
EMISSION RESULTS

3.0 **Emission Results**

Data is included worst-case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

INTERTEK TESTING SERVICES

3.1 Radiated Test Results

A sample calculation, configuration photographs and data tables of the emissions are included.

3.1.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

$$FS = RA + AF + CF - AG + PD + AV$$

Where FS = Field Strength in dB μ V/m
 RA = Receiver Amplitude (including preamplifier) in dB μ V
 CF = Cable Attenuation Factor in dB
 AF = Antenna Factor in dB
 AG = Amplifier Gain in dB
 PD = Pulse Desensitization in dB
 AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

$$FS = RA + AF + CF - AG + PD + AV$$

Assume a receiver reading of 62.0 dB μ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB, and the resultant average factor was -10 dB. The net field strength for comparison to the appropriate emission limit is 32 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

RA = 62.0 dB μ V
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
PD = 0 dB
AV = -10 dB
 $FS = 62 + 7.4 + 1.6 - 29 + 0 + (-10) = 32 \text{ dB}\mu\text{V/m}$

Level in μ V/m = Common Antilogarithm $[(32 \text{ dB}\mu\text{V/m})/20] = 39.8 \mu\text{V/m}$

INTERTEK TESTING SERVICES

3.1.2 Radiated Emission Configuration Photograph

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos. pdf.

3.1.3 Radiated Emissions

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Worst Case Radiated Emission
at
250.190 MHz

Judgement: Passed by 25.2 dB

TEST PERSONNEL:

Sign on file

Leo Lai Project Engineer
Typed/Printed Name

July 6, 2015
Date

INTERTEK TESTING SERVICES

Applicant: Wearsafe Labs Inc.

Date of Test: July 6, 2015

Model: WS01

Sample: 1/1

Worst Case Operating Mode: Transmit

Table 1

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	54.250	25.7	20.0	8.1	13.8	40.0	-26.2
Horizontal	61.040	18.1	20.0	15.4	13.5	40.0	-26.5
Horizontal	250.190	24.4	20.0	16.4	20.8	46.0	-25.2
Vertical	54.250	23.7	20.0	8.1	11.8	40.0	-28.2
Vertical	130.880	21.0	20.0	15.5	16.5	43.5	-27.0
Vertical	149.795	19.5	20.0	16.9	16.4	43.5	-27.1

- NOTES:
1. Quasi-Peak detector is used except for others stated.
 2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. All emissions are below the QP limit.

INTERTEK TESTING SERVICES

3.1.4 Transmitter Spurious Emissions (Radiated)

Worst Case Radiated Emission
at
9608.0 MHz

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos. pdf.

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 6.3 dB

TEST PERSONNEL:

Sign on file

Leo Lai Project Engineer

Typed/Printed Name

July 6, 2015

Date

INTERTEK TESTING SERVICES

Applicant: Wearsafe Labs Inc.

Date of Test: July 6, 2015

Model: WS01

Sample: 1/1

Worst Case Operating Mode: Transmit

Table 2

Radiated Emissions

(2402MHz)

Polarization	Frequency (MHz)	Reading Peak (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Peak Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	2402.000	105.2	36.7	28.5	97.0	114.0	-17.0
Horizontal	4804.000	60.2	36.7	28.5	52.0	74.0	-22.0
Horizontal	7206.000	62.2	36.1	33.1	59.2	74.0	-14.8
Horizontal	9608.000	60.8	36.2	37.8	62.4	74.0	-11.6

Polarization	Frequency (MHz)	Reading Average (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Average Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	2402.000	88.8	36.7	28.5	80.6	94.0	-13.4
Horizontal	4804.000	45.6	36.7	28.5	37.4	54.0	-16.6
Horizontal	7206.000	48.1	36.1	33.1	45.1	54.0	-8.9
Horizontal	9608.000	46.1	36.2	37.8	47.7	54.0	-6.3

Notes: 1. Peak detector Data unless otherwise stated. Above 1000 MHz, RBW=1MHz, VBW=3MHz is used for Peak measurement, RBW=1MHz, VBW=10Hz is used for Average measurement.

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Test Engineer: Leo Lai

INTERTEK TESTING SERVICES

Applicant: Wearsafe Labs Inc.

Date of Test: July 6, 2015

Model: WS01

Sample: 1/1

Worst Case Operating Mode: Transmit

Table 3

Radiated Emissions

(2440MHz)

Polarization	Frequency (MHz)	Reading Peak (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Peak Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	2440.000	105.8	36.7	28.5	97.6	114.0	-16.4
Horizontal	4880.000	60.3	36.7	28.5	52.1	74.0	-21.9
Horizontal	7320.000	63.4	36.1	33.1	60.4	74.0	-13.6
Horizontal	9760.000	60.2	36.2	37.8	61.8	74.0	-12.2

Polarization	Frequency (MHz)	Reading Average (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Average Limit at 3m (dBμV/m)	Margin (dB)
Horizontal	2440.000	89.0	36.7	28.5	80.8	94.0	-13.2
Horizontal	4880.000	45.6	36.7	28.5	37.4	54.0	-16.6
Horizontal	7320.000	48.3	36.1	33.1	45.3	54.0	-8.7
Horizontal	9760.000	46.0	36.2	37.8	47.6	54.0	-6.4

- Notes:
1. Peak detector Data unless otherwise stated. Above 1000 MHz, RBW=1MHz, VBW=3MHz is used for Peak measurement, RBW=1MHz, VBW=10Hz is used for Average measurement.
 2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.

Test Engineer: Leo Lai

INTERTEK TESTING SERVICES

Applicant: Wearsafe Labs Inc.
Model: WS01
Sample: 1/1
Worst Case Operating Mode: Transmit

Date of Test: July 6, 2015

Table 4

Radiated Emissions

(2480MHz)

Polarization	Frequency (MHz)	Reading Peak (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	2480.000	105.0	36.7	28.5	96.8	114.0	-17.2
Horizontal	4960.000	61.1	36.7	28.5	52.9	74.0	-21.1
Horizontal	7440.000	63.7	36.1	33.1	60.7	74.0	-13.3
Horizontal	9920.000	60.3	36.2	37.8	61.9	74.0	-12.1

Polarization	Frequency (MHz)	Reading Average (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	2480.000	88.4	36.7	28.5	80.2	94.0	-13.8
Horizontal	4960.000	45.9	36.7	28.5	37.7	54.0	-16.3
Horizontal	7440.000	48.3	36.1	33.1	45.3	54.0	-8.7
Horizontal	9920.000	45.8	36.2	37.8	47.4	54.0	-6.6

- Notes:
1. Peak detector Data unless otherwise stated. Above 1000 MHz, RBW=1MHz, VBW=3MHz is used for Peak measurement, RBW=1MHz, VBW=10Hz is used for Average measurement.
 2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.

Test Engineer: Leo Lai

EXHIBIT 4
EQUIPMENT PHOTOGRAPHS

4.0 **Equipment Photographs**

For electronic filing, the photographs of the tested EUT are saved with filename: external photos.pdf & internal photos.pdf.

EXHIBIT 5
PRODUCT LABELLING

5.0 **Product Labelling**

For electronic filing, the FCC ID label artwork and location is saved with filename: label.pdf.

EXHIBIT 6

TECHNICAL SPECIFICATIONS

6.0 Technical Specifications

For electronic filing, the block diagram and circuit diagram are saved with filename: block.pdf and circuit.pdf respectively.

EXHIBIT 7
INSTRUCTION MANUAL

7.0 **Instruction Manual**

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

EXHIBIT 8
MISCELLANEOUS INFORMATION

INTERTEK TESTING SERVICES

8.0 **Miscellaneous Information**

This miscellaneous information includes details of the measured bandedge, the test procedure and calculation of factor such as pulse desensitization.

8.1 Bandedge Plot

For electronic filing, the plot shows the fundamental emission when modulated is saved with filename: bandedge.pdf. From the plot, the field strength of any emissions outside of the specified frequency band are attenuated to the general radiated emission limits in section 15.209. It fulfils the requirement of 15.249(d).

Peak Measurement

Bandedge compliance is determined by applying marker-delta method, i.e (Bandedge Plot).

(i) Lower channel 2402MHz:

Peak Resultant field strength = Fundamental emissions (peak value) – delta
from the bandedge plot

$$\begin{aligned} &= 97.0 \text{ dB}\mu\text{v/m} - 50.8 \text{ dB} \\ &= 46.2 \text{ dB}\mu\text{v/m} \end{aligned}$$

Average Resultant field strength = Fundamental emissions (average value)
delta from the bandedge plot
 $= 80.6 \text{ dB}\mu\text{v/m} - 50.8 \text{ dB}$
 $= 29.8 \text{ dB}\mu\text{v/m}$

(ii) Upper channel 2480MHz:

Peak Resultant field strength = Fundamental emissions (peak value) – delta
from the bandedge plot

$$\begin{aligned} &= 96.8 \text{ dB}\mu\text{v/m} - 50.6 \text{ dB} \\ &= 46.2 \text{ dB}\mu\text{v/m} \end{aligned}$$

Average Resultant field strength = Fundamental emissions (average value)
delta from the bandedge plot
 $= 80.2 \text{ dB}\mu\text{v/m} - 50.6 \text{ dB}$
 $= 29.6 \text{ dB}\mu\text{v/m}$

The resultant field strength meets the general radiated emission limit in section 15.209, which does not exceed 74dB μ v/m (Peak Limit) and 54dB μ v/m (Average Limit).

8.1 Bandedge Plot (cont'd)

Pursuant to FCC part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over excepted variations in temperature and supply voltage were considered.

Figure 8.1 Bandwidth

8.2 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services in the measurements of transmitters operating under Part 15, Subpart C rules.

The test set-up and procedures described below are designed to meet the requirements of C63.10 – 2013.

The transmitting equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately one meter in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axes to obtain maximum emission levels. The antenna height and polarization are varied during the testing to search for maximum signal levels.

Detector function for radiated emissions is in peak mode. Above 1000 MHz, RBW=1MHz, VBW=3MHz is used for Peak measurement, RBW=1MHz, VBW=10Hz is used for Average measurement.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower.

8.2 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements are made as described in C63.10 - 2013.

The IF bandwidth used for measurement of radiated signal strength was 10 kHz for emission below 30 MHz and 120 kHz for emission from 30 MHz to 1000 MHz. Where pulsed transmissions of short enough pulse duration warrant, a greater bandwidth is selected according to the recommendations of Hewlett Packard Application Note 150-2. Above 1000 MHz, a resolution bandwidth of 1 MHz is used.

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the restricted bands and above 1 GHz, signals are acquired at a distance of one meter or less. All measurements are extrapolated to three meters using inverse scaling, but those measurements taken at a closer distance are so marked.

EXHIBIT 9
TEST EQUIPMENT LIST

INTERTEK TESTING SERVICES

9.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ182-02	RF Power Meter	Anritsu	ML2496A	1302005	20-May-15	20-May-16
SZ182-02-01	Power Sensor	Anritsu	MA2411B	1207429	20-May-15	20-May-16
SZ061-12	BiConiLog Antenna	ETS	3142E	00166158	2-Sep-14	2-Sep-15
SZ185-01	EMI Receiver	R&S	ESCI	100547	7-Feb-15	7-Feb-16
SZ061-09	Horn Antenna	ETS	3115	00092346	1-Nov-14	1-Nov-15
SZ061-07	Pyramidal Horn Antenna	ETS	3160-09	00083067	3-Sep-14	3-Sep-15
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	29-Apr-15	29-Apr-16
EM031-03	EXA Spectrum Analyzer	R&S	FSV40	101506	06-Jun-15	06-Jun-16
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	7-Feb-15	7-Feb-16
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	19-Apr-14	19-Apr-16
SZ062-02	RF Cable	RADIAL	RG 213U	0	30-Jun-15	30-Dec-15
SZ062-05	RF Cable	RADIAL	0.04-26.5GHz	0833254	7-Apr-15	7-Oct-15
SZ062-12	RF Cable	RADIAL	0.04-26.5GHz	083387	7-Apr-15	7-Oct-15
SZ067-04	Notch Filter	Micro-Tronics	BRM50702-02	--	20-May-15	20-May-16