

Section 1 Mobile Device Measurements - Warranty Defect Rate (WDR)

1.1 Warranty Defect Rate (WDR)

1.1.1 General Description and Title

Warranty Defect Rate (WDR) measures the percentage of active population in-warranty which are returned and defective after the remorse period (7 days, 14 days or 30 days) but within the device MANUFACTURER's warranty period or 12 months from date of purchase by the consumer.

1.1.2 Purpose

This measurement is largely focused on North America and post-paid products. For global and pre-paid products, this measurement can be modified.

Warranty Defect Rate (WDR) is a measure of the returns that came back in the warranty period, were tested against a mutually agreed minimum standard tests, failed and is normalized by the active in-warranty population.

1.1.3 Applicable Product Categories

In general, these measurements apply to:

Mobile Devices

PC Code	Category Name	Definition
6.2.1.2.1	Feature Phone	A mobile phone that provides basic voice and text functions and may provide other features.
6.2.1.2.2	Smart Phone	A smartphone, or smart phone, is a mobile phone built on a mobile operating system, with more advanced computing capabilities than a feature phone.

1.1.4 Detailed Descriptions

1) Terminology

- a) Warranty Defect Rate (WDR), measures the percentage of defective handsets returned after the remorse period (7 days, 14 days or 30 days) but within the device manufacturer's warranty period or 12 months from date of purchase by the consumer
- b) Activation is the process that links (activates) a specific mobile phone number to an account and to a SERVICE PROVIDER network SERVICE PROVIDERS can provide the initial date of activation if required for warranty or exchange purposes
- c) Test Failure is defined as failure to meet SERVICE PROVIDER and MANUFACTURER guidelines

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- d) WDR warranty reporting period is first day after the buyer's remorse period to 12 months from date of purchase
 - e) WIRELESS SUBSCRIBER, the end user of the mobile device
 - f) SERVICE PROVIDER, the organization that sells the mobile services to the WIRELESS SUBSCRIBER
 - g) MANUFACTURER, the organization that provides the mobile device to the SERVICE PROVIDER to sell to the WIRELESS SUBSCRIBER
 - h) Customer Base refers to the defined group of SERVICE PROVIDERs that the MANUFACTURER's measurement data encompasses. The MANUFACTURER shall be responsible for ensuring the data reported for a given measurement contains only data from SERVICE PROVIDERs who are providing all needed information for that measurement, including where the organization itself captures the customer information.
- 2) MANUFACTURER Responsibilities
- a) Provide best effort that normalization values are accurate and representative of the active in-warranty population
- 3) Counting Rules
- a) Units returned to the MANUFACTURER shall be counted in the month they are tested and found defective
 - b) Defective units shall only be counted if they are returned within the first day after the buyer's remorse period to 12-month period from date of purchase by the customer
 - c) WDR data submission shall only include data for device models that have reached general availability
 - d) Activation data only includes post-paid in-warranty activations
 - e) Resubmit data errors or corrected data per the TL 9000 Measurements Handbook Section 3.5.2
- 4) Counting Rule Exclusions
- a) Units returned because of obvious shipping damage or WIRELESS SUBSCRIBER abuse are not counted
 - b) Units are not counted if testing results report no trouble found (NTF)
 - c) Units counted in BRE or DOA measurement are not counted in WDR
 - d) Pre-paid devices are not counted in the WDR measurement
 - e) Extended warranty return failures (greater than 12 months after purchase) are not counted
 - f) Units returned under insurance claims are not included
 - g) Units returned from SERVICE PROVIDERs that do not provide enough detailed information for the measurement are not included
- 5) Calculations and Formulas
- a) WDR measurements are reported quarterly with monthly data submitted 7 weeks following the end of the quarter
 - b) Formula for normalized WDR is:

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WDR = Warranty Defective Returned Units in the reporting month / Current Active In-Warranty Population

Table 1.1-1 WDR Notation

Identifier	Definition
WDRr07	7-Day Buyer's Remorse Warranty Defective Returned Units in the reporting month
WDRr14	14-Day Buyer's Remorse Warranty Defective Returned Units in the reporting month
WDRr30	30-Day Buyer's Remorse Warranty Defective Returned Units in the reporting month
WDRs	Current Active In-Warranty Population

Table 1.1-2 WDR Measurement Identifiers and Formulas

Identifier	Definition	Formula	
WDR07	Warranty Defect Rate – 7 Day	$(\text{WDRr07} / \text{WDRs}) \times 100$	%
WDR14	Warranty Defect Rate – 14 Day	$(\text{WDRr14} / \text{WDRs}) \times 100$	%
WDR30	Warranty Defect Rate – 30 Day	$(\text{WDRr30} / \text{WDRs}) \times 100$	%

- 6) Reported Data and Format, the organization shall
- Submit data on measurements that are within the scope of this document
 - Correct any data discrepancies, and resubmit corrected data for any erroneous data submitted
 - The WDR measurement shall be reported for each month (refer to Counting Rules) and each product category with data elements, or equivalent as defined in Table 1.1-1

1.1.5 Sources of Data

Active in-warranty population is provided to the MANUFACTURER by the SERVICE PROVIDER. MANUFACTURER provides the warranty defective returns data

1.1.6 Ranges and Floors

- No ranges established
- No floors established

1.1.7 Examples

Examples for applying the WDR measurement:

Month Since Launch	#BRE	#Activations	Calendar Month	Result
1	35	10,000	January	0.35%
2	110	25,000	February	0.44%
3	115	30,000	March	0.38%
4	120	35,000	April	0.34%
5	144	35,000	May	0.41%
6	128	40,000	June	0.32%
7	125	42,000	July	0.30%
8	115	35,000	August	0.38%
9	90	25,000	September	0.36%
10	86	15,000	October	0.57%
11	78	10,000	November	0.78%
12	55	5,000	December	1.10%

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