Added in API level 17 (/guide/topics/manifest/uses-sdk-element#ApiLevels)

CellSignalStrength

Kotlin (/reference/kotlin/android/telephony/CellSignalStrength) | **Java**

```
public abstract class CellSignalStrength
extends Object (/reference/java/lang/Object)
```

java.lang.Object (/reference/java/lang/Object)
↳ android.telephony.CellSignalStrength

Known direct subclasses
CellSignalStrengthCdma (/reference/android/telephony/CellSignalStrengthCdma), CellSignalStrengthGsm (/reference/android/telephony/CellSignalStrengthGsm), CellSignalStrengthLte (/reference/android/telephony/CellSignalStrengthLte), CellSignalStrengthNr (/reference/android/telephony/CellSignalStrengthNr), CellSignalStrengthTdscdma (/reference/android/telephony/CellSignalStrengthTdscdma), CellSignalStrengthWcdma (/reference/android/telephony/CellSignalStrengthWcdma)

CellSignalStrengthCdma (/reference/android/telephony/CellSignalStrengthCdma)	Signal strength related information.
CellSignalStrengthGsm (/reference/android/telephony/CellSignalStrengthGsm)	GSM signal strength related information.
CellSignalStrengthLte (/reference/android/telephony/CellSignalStrengthLte)	LTE signal strength related information.
CellSignalStrengthNr (/reference/android/telephony/CellSignalStrengthNr)	5G NR signal strength related information.
CellSignalStrengthTdscdma (/reference/android/telephony/CellSignalStrengthTdscdma)	Tdscdma signal strength related information.
CellSignalStrengthWcdma (/reference/android/telephony/CellSignalStrengthWcdma)	Wcdma signal strength related information.

Abstract base class for cell phone signal strength related information.

Summary

Constants	
`int`	`SIGNAL_STRENGTH_GOOD` (/reference/android/telephony/CellSignalStrength#SIGNAL_STRENGT
`int`	`SIGNAL_STRENGTH_GREAT` (/reference/android/telephony/CellSignalStrength#SIGNAL_STRENGT
`int`	`SIGNAL_STRENGTH_MODERATE` (/reference/android/telephony/CellSignalStrength#SIGNAL_STRENGT
`int`	`SIGNAL_STRENGTH_NONE_OR_UNKNOWN` (/reference/android/telephony/CellSignalStrength#SIGNAL_STRENGT
`int`	`SIGNAL_STRENGTH_POOR` (/reference/android/telephony/CellSignalStrength#SIGNAL_STRENGT

Public methods	
`abstract boolean`	`equals` (/reference/android/telephony/CellSignalStrength#equals(java.lang.O `(Object` (/reference/java/lang/Object) `o)` Indicates whether some other object is "equal to" this one.
`abstract int`	`getAsuLevel` (/reference/android/telephony/CellSignalStrength#getAsuLevel()) `()` Get the technology-specific signal strength in Arbitrary Strength Unit calculated from the strength of the pilot signal or equivalent.
`abstract int`	`getDbm` (/reference/android/telephony/CellSignalStrength#getDbm()

	Get the technology-specific signal strength in dBm, which is the sign strength of the pilot signal or equivalent.
`abstract int`	`getLevel` (/reference/android/telephony/CellSignalStrength#getLev Retrieve an abstract level value for the overall signal quality.
`abstract int`	`hashCode` (/reference/android/telephony/CellSignalStrength#hashC `()` Returns a hash code value for the object.

Inherited methods

From class `java.lang.Object` (/reference/java/lang/Object)

`Object` (/reference/java/lang/Object)	`clone` (/reference/java/lang/Object#clone()) `()` Creates and returns a copy of this object.
`boolean`	`equals` (/reference/java/lang/Object#equals(java.lang.Object `(Object` (/reference/java/lang/Object) `obj)` Indicates whether some other object is "equal to" this one.
`void`	`finalize` (/reference/java/lang/Object#finalize()) `()` Called by the garbage collector on an object when garbage collection determines that there are no more references to the object.
`final Class` (/reference/java/lang/Class)`<?>`	`getClass` (/reference/java/lang/Object#getClass()) `(` Returns the runtime class of this `Object`.
`int`	`hashCode` (/reference/java/lang/Object#hashCode()) `()` Returns a hash code value for the object.
`final void`	`notify` (/reference/java/lang/Object#notify()) `()`

	Wakes up a single thread that is waiting on this object monitor.
`final void`	`notifyAll` (/reference/java/lang/Object#notifyAll())`()` Wakes up all threads that are waiting on this object's monitor.
`String` (/reference/java/lang/String)	`toString` (/reference/java/lang/Object#toString())`()` Returns a string representation of the object.
`final void`	`wait` (/reference/java/lang/Object#wait(long,%20int))`(long timeoutMillis, int nanos)` Causes the current thread to wait until it is awakened, typically by being *notified* or *interrupted*, or until a certain amount of real time has elapsed.
`final void`	`wait` (/reference/java/lang/Object#wait(long))`(long timeoutMillis)` Causes the current thread to wait until it is awakened, typically by being *notified* or *interrupted*, or until a certain amount of real time has elapsed.
`final void`	`wait` (/reference/java/lang/Object#wait())`()` Causes the current thread to wait until it is awakened, typically by being *notified* or *interrupted*.

Constants

SIGNAL_STRENGTH_GOOD

Added in API level 23 (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public static final int SIGNAL_STRENGTH_GOOD
```

Constant Value: 3 (0x00000003)

SIGNAL_STRENGTH_GREAT

Added in API level 23 (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public static final int SIGNAL_STRENGTH_GREAT
```

Constant Value: 4 (0x00000004)

SIGNAL_STRENGTH_MODERATE

Added in API level 23 (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public static final int SIGNAL_STRENGTH_MODERATE
```

Constant Value: 2 (0x00000002)

SIGNAL_STRENGTH_NONE_OR_UNKNOWN

Added in API level 23 (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public static final int SIGNAL_STRENGTH_NONE_OR_UNKNOWN
```

Constant Value: 0 (0x00000000)

SIGNAL_STRENGTH_POOR

Added in API level 23 (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public static final int SIGNAL_STRENGTH_POOR
```

Constant Value: 1 (0x00000001)

Public methods

equals

Added in API level 17 (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public abstract boolean equals (Object (/reference/java/lang/Object) o)
```

Indicates whether some other object is "equal to" this one.

The `equals` method implements an equivalence relation on non-null object references:

- It is *reflexive*: for any non-null reference value `x`, `x.equals(x)` should return `true`.
- It is *symmetric*: for any non-null reference values `x` and `y`, `x.equals(y)` should return `true` if and only if `y.equals(x)` returns `true`.
- It is *transitive*: for any non-null reference values `x`, `y`, and `z`, if `x.equals(y)` returns `true` and `y.equals(z)` returns `true`, then `x.equals(z)` should return `true`.
- It is *consistent*: for any non-null reference values `x` and `y`, multiple invocations of `x.equals(y)` consistently return `true` or consistently return `false`, provided no information used in `equals` comparisons on the objects is modified.
- For any non-null reference value `x`, `x.equals(null)` should return `false`.

An equivalence relation partitions the elements it operates on into *equivalence classes*; all the members of an equivalence class are equal to each other. Members of an equivalence class are substitutable for each other, at least for some purposes.

Parameters	
`o`	`Object`: the reference object with which to compare.

Returns	
`boolean`	`true` if this object is the same as the obj argument; `false` otherwise.

getAsuLevel

Added in API level 17 (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public abstract int getAsuLevel ()
```

Get the technology-specific signal strength in Arbitrary Strength Units, calculated from the strength of the pilot signal or equivalent.

Returns	
`int`	

getDbm

Added in API level 17 (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public abstract int getDbm ()
```

Get the technology-specific signal strength in dBm, which is the signal strength of the pilot signal or equivalent.

Returns	
`int`	

getLevel

Added in API level 17 (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public abstract int getLevel ()
```

Retrieve an abstract level value for the overall signal quality.

Returns	
`int`	a single integer from 0 to 4 representing the general signal quality. 0 represents very poor or unknown signal quality while 4 represents excellent signal quality. Value is between SIGNAL_STRENGTH_NONE_OR_UNKNOWN and SIGNAL_STRENGTH_GREAT inclusive

hashCode

Added in API level 17 (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public abstract int hashCode ()
```

Returns a hash code value for the object. This method is supported for the benefit of hash tables such as those provided by `HashMap` (/reference/java/util/HashMap).

The general contract of `hashCode` is:

- Whenever it is invoked on the same object more than once during an execution of a Java application, the `hashCode` method must consistently return the same integer, provided no information used in `equals` comparisons on the object is modified. This integer need not remain consistent from one execution of an application to another execution of the same application.
- If two objects are equal according to the `equals` (/reference/java/lang/Object#equals(java.lang.Object)) method, then calling the `hashCode` method on each of the two objects must produce the same integer result.

- It is *not* required that if two objects are unequal according to the `equals` (/reference/java/lang/Object#equals(java.lang.Object)) method, then calling the `hashCode` method on each of the two objects must produce distinct integer results. However, the programmer should be aware that producing distinct integer results for unequal objects may improve the performance of hash tables.

Returns	
`int`	a hash code value for this object.