

| | Parameter | Test results | Requirement | Modifications and comments | | | | | | | | | | | | | | |
|----------------|--|--|---------------------|----------------------------|------|--------|-------|--------------|--|--|--------------|--------|--------|---|--|--------|--|--|
| | DC feeding bridge | | 230 Ω to 3200, 50 V | | | | | | | | | | | | | | | |
| 1 | DC Resistance on-hook TBR21(4.4.1) | <table border="1"> <thead> <tr> <th rowspan="2">DC voltage (V)</th> <th colspan="2">Resistance (MΩ)</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>>1,4MΩ</td> <td>>1,4MΩ</td> </tr> <tr> <td>50</td> <td>>2,5MΩ</td> <td>>2,5MΩ</td> </tr> <tr> <td>100</td> <td>>4,0MΩ</td> <td>>4,0MΩ</td> </tr> </tbody> </table> | DC voltage (V) | Resistance (MΩ) | | N.P. | R.P. | 25 | >1,4MΩ | >1,4MΩ | 50 | >2,5MΩ | >2,5MΩ | 100 | >4,0MΩ | >4,0MΩ | Applies 30sec. after the voltage has been applied. ≥1 MΩ. | N.P. = Normal Polarity R.P. = Reversed Polarity <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| DC voltage (V) | Resistance (MΩ) | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | |
| 25 | >1,4MΩ | >1,4MΩ | | | | | | | | | | | | | | | | |
| 50 | >2,5MΩ | >2,5MΩ | | | | | | | | | | | | | | | | |
| 100 | >4,0MΩ | >4,0MΩ | | | | | | | | | | | | | | | | |
| 2 | Impedance at ring signals TBR21 (4.4.2.1) | <table border="1"> <thead> <tr> <th></th> <th>25Hz</th> <th>50Hz</th> </tr> </thead> <tbody> <tr> <td>30Vrms</td> <td>>18kΩ</td> <td>>17kΩ</td> </tr> </tbody> </table> | | 25Hz | 50Hz | 30Vrms | >18kΩ | >17kΩ | ≥4 kΩ (strive for >8kΩ), (the highest ring volume has to be chosen. | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL | | | | | | | | |
| | 25Hz | 50Hz | | | | | | | | | | | | | | | | |
| 30Vrms | >18kΩ | >17kΩ | | | | | | | | | | | | | | | | |
| 3 | Transient response TBR21 (4.4.2.2) | <table border="1"> <thead> <tr> <th>Time (ms)</th> <th>ITE (mA)</th> </tr> </thead> <tbody> <tr> <td>1 ms</td> <td>≈ 0mA</td> </tr> <tr> <td>6 ms</td> <td>≈ 0mA</td> </tr> </tbody> </table> | Time (ms) | ITE (mA) | 1 ms | ≈ 0mA | 6 ms | ≈ 0mA | ≤ 25mA ≤ 10mA | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL | | | | | | | | |
| Time (ms) | ITE (mA) | | | | | | | | | | | | | | | | | |
| 1 ms | ≈ 0mA | | | | | | | | | | | | | | | | | |
| 6 ms | ≈ 0mA | | | | | | | | | | | | | | | | | |
| 4 | DC current during the ringing signal. TBR21(4.4.2.3) | <table border="1"> <thead> <tr> <th rowspan="2">Ringing signal</th> <th colspan="2">Measured DC current</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>90Vrms, 25Hz</td> <td><0,1mA</td> <td><0,1mA</td> </tr> <tr> <td>90Vrms, 50Hz</td> <td><0,1mA</td> <td><0,1mA</td> </tr> </tbody> </table> | Ringing signal | Measured DC current | | N.P. | R.P. | 90Vrms, 25Hz | <0,1mA | <0,1mA | 90Vrms, 50Hz | <0,1mA | <0,1mA | ≤0.6mA (60V, 850Ω DC-feed in series with 90Vrms 25Hz and 50Hz generator.) | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL | | | |
| Ringing signal | Measured DC current | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | |
| 90Vrms, 25Hz | <0,1mA | <0,1mA | | | | | | | | | | | | | | | | |
| 90Vrms, 50Hz | <0,1mA | <0,1mA | | | | | | | | | | | | | | | | |

| | Parameter | Test results | Requirement | Modifications and notes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|--|-------------|-------------------------|------|--------|-------------|-------------|--------|-------------|-------------|--|--------|--|--------|---|--|--------|---|--|-------------------------|---------------------|---------|----|------|---|----|------|---|----|----|-------------|----|----|-------------|----|----|-------------|----|----|-------------|--|------|------|--------|-------------|-------------|--|------|------|-------|---|---|--------|---|---|--------|---|---|--|-------|-------|--------|---|---|--------|---|---|---|--|
| 5 | Ringling signal detector sensitivity TBR21 (4.5) + Doro requirement V1.6 clause (2.1.3) | <ul style="list-style-type: none"> All product:- Ringer shall respond to: <table border="1" data-bbox="485 289 1176 509"> <tr> <td></td> <td>20Hz</td> <td>60Hz</td> </tr> <tr> <td>24Vrms</td> <td>Pass</td> <td>Pass</td> </tr> <tr> <td>90Vrms</td> <td>Pass</td> <td>Pass</td> </tr> <tr> <td></td> <td>15,3Hz</td> <td></td> </tr> <tr> <td>90Vrms</td> <td>-</td> <td></td> </tr> <tr> <td>40Vrms</td> <td>-</td> <td></td> </tr> </table> <table border="1" data-bbox="485 542 1176 831"> <thead> <tr> <th>Ringling voltage (Vrms)</th> <th>Ringling freq. (Hz)</th> <th>Yes/No!</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>15.3</td> <td>-</td> </tr> <tr> <td>50</td> <td>15.3</td> <td>-</td> </tr> <tr> <td>24</td> <td>60</td> <td>Pass</td> </tr> <tr> <td>24</td> <td>20</td> <td>Pass</td> </tr> <tr> <td>24</td> <td>20</td> <td>Pass</td> </tr> <tr> <td>50</td> <td>50</td> <td>Pass</td> </tr> </tbody> </table> -Requirement for Products that not include Ringling Signal Discrimination:- -Ringer shall not respond: <table border="1" data-bbox="485 927 1176 997"> <tr> <td></td> <td>20Hz</td> <td>60Hz</td> </tr> <tr> <td>16Vrms</td> <td>Pass</td> <td>Pass</td> </tr> </table> -Requirement for Products that include Ringling Signal Discrimination:- -Ringer shall not respond: <table border="1" data-bbox="485 1094 1176 1377"> <tr> <td></td> <td>20Hz</td> <td>60Hz</td> </tr> <tr> <td>8Vrms</td> <td>-</td> <td>-</td> </tr> <tr> <td>24Vrms</td> <td>-</td> <td>-</td> </tr> <tr> <td>90Vrms</td> <td>-</td> <td>-</td> </tr> <tr> <td></td> <td><12Hz</td> <td>>70Hz</td> </tr> <tr> <td>24Vrms</td> <td>-</td> <td>-</td> </tr> <tr> <td>90Vrms</td> <td>-</td> <td>-</td> </tr> </table> | | 20Hz | 60Hz | 24Vrms | Pass | Pass | 90Vrms | Pass | Pass | | 15,3Hz | | 90Vrms | - | | 40Vrms | - | | Ringling voltage (Vrms) | Ringling freq. (Hz) | Yes/No! | 40 | 15.3 | - | 50 | 15.3 | - | 24 | 60 | Pass | 24 | 20 | Pass | 24 | 20 | Pass | 50 | 50 | Pass | | 20Hz | 60Hz | 16Vrms | Pass | Pass | | 20Hz | 60Hz | 8Vrms | - | - | 24Vrms | - | - | 90Vrms | - | - | | <12Hz | >70Hz | 24Vrms | - | - | 90Vrms | - | - | Duration >160ms *1 400on,200off,400on,2000of*2 200on,2000off 200on,2000off 1000on,4000off 330on,420off 900on,9000off *3 Duration = 1500ms Duration = 1500ms Duration <100ms Duration = 1500ms | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| | 20Hz | 60Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24Vrms | Pass | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90Vrms | Pass | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 15,3Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90Vrms | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40Vrms | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ringling voltage (Vrms) | Ringling freq. (Hz) | Yes/No! | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 15.3 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 15.3 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 60 | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 20 | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 20 | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 50 | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20Hz | 60Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16Vrms | Pass | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20Hz | 60Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8Vrms | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24Vrms | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90Vrms | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <12Hz | >70Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24Vrms | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90Vrms | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | Parameter | Test results | Requirement | Modifications and notes | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------|---|---|-------------------|-------------------------|------------------------|-----------------|------------|------------|------------|------------|------------|--|--|------------|-------------|-------------|----------------|------------|------------|---|---|------------|----|----------|------------|------------|----|------|------------|------------|--|--|
| 6 | Acceptance of breaks in the loop in a call attempt TBR21(4.6.1) | <table border="1"> <thead> <tr> <th>Test</th> <th>Time to loop state (ms)</th> <th>Aggregate <12,8mA (ms)</th> </tr> </thead> <tbody> <tr> <td>1: 30ms</td> <td>0,0</td> <td>0,0</td> </tr> <tr> <td>2: 500ms</td> <td>0,0</td> <td>0,0</td> </tr> </tbody> </table> | Test | Time to loop state (ms) | Aggregate <12,8mA (ms) | 1: 30ms | 0,0 | 0,0 | 2: 500ms | 0,0 | 0,0 | -Time to loop state ≤20ms -The total of any periods aggregated below 12.8mA shall not be more than 7ms. | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL | | | | | | | | | | | | | | | | | | | |
| Test | Time to loop state (ms) | Aggregate <12,8mA (ms) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1: 30ms | 0,0 | 0,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2: 500ms | 0,0 | 0,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Loop current characteristics TBR21(4.6.2) | <table border="1"> <thead> <tr> <th>Vf (V)</th> <th>Rf (kΩ)</th> <th>T01-t0 (ms)</th> <th>Transients (ms)</th> </tr> </thead> <tbody> <tr> <td>50</td> <td>150</td> <td>8,3</td> <td>0,0</td> </tr> <tr> <td>50</td> <td>36</td> <td>9,0</td> <td>0,0</td> </tr> <tr> <td>50</td> <td>24</td> <td>0,0</td> <td>0,0</td> </tr> <tr> <td>50</td> <td>8</td> <td>0,0</td> <td>0,0</td> </tr> <tr> <td>50</td> <td>2.8/3.2*</td> <td>0,0</td> <td>0,0</td> </tr> <tr> <td>50</td> <td>0.23</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> | Vf (V) | Rf (kΩ) | T01-t0 (ms) | Transients (ms) | 50 | 150 | 8,3 | 0,0 | 50 | 36 | 9,0 | 0,0 | 50 | 24 | 0,0 | 0,0 | 50 | 8 | 0,0 | 0,0 | 50 | 2.8/3.2* | 0,0 | 0,0 | 50 | 0.23 | N/A | N/A | * = For voice equipment use 2,8kΩ instead of 3,2kΩ. That is according to (i-CTR37). t1-t0 transients 400ms ≤ 7ms 400ms ≤ 7ms 400ms ≤ 7ms 400ms ≤ 7ms 30ms ≤ 7ms 20ms ≤ 7ms | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| Vf (V) | Rf (kΩ) | T01-t0 (ms) | Transients (ms) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 150 | 8,3 | 0,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 36 | 9,0 | 0,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 24 | 0,0 | 0,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 8 | 0,0 | 0,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 2.8/3.2* | 0,0 | 0,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 0.23 | N/A | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | DC Characteristics TBR21 (4.7.1) + Doro requirement V1.6 clause (2.1.4) | <table border="1"> <thead> <tr> <th rowspan="2">Line current / Rf</th> <th colspan="2">U (V)</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>18.5 mA</td> <td>8,2</td> <td>8,2</td> </tr> <tr> <td>42.0 mA</td> <td>10,6</td> <td>10,6</td> </tr> <tr> <td>50.0 mA</td> <td>11,3</td> <td>11,3</td> </tr> <tr> <td>230 Ω (w c/l)*</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> | Line current / Rf | U (V) | | N.P. | R.P. | 18.5 mA | 8,2 | 8,2 | 42.0 mA | 10,6 | 10,6 | 50.0 mA | 11,3 | 11,3 | 230 Ω (w c/l)* | N/A | N/A | ≤8.0V ≤14.5V ≤40.0V ≤40.0 V, ≤60mA | *w c/l = with line current limiter. <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL | | | | | | | | | | | |
| Line current / Rf | U (V) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18.5 mA | 8,2 | 8,2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42.0 mA | 10,6 | 10,6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50.0 mA | 11,3 | 11,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 230 Ω (w c/l)* | N/A | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|-------------------|--|--|-------------------|-------------------------|------------------|--|--------|--|-----|-------|-------------|-----|-------|-------------|-----|------|--------------|----------------|-------------|--|---|------|-------------|-----|-------|-------------|-----|-------|-------------|-----|------|-------------|--|--|
| 9 | Impedance/ Return loss TBR21 (4.7.2) + Doro requirement (2.1.5) | <table border="1"> <thead> <tr> <th rowspan="2">Line current/Rf</th> <th colspan="2">RL(dB)</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>12mA</td> <td>>16</td> <td>>16</td> </tr> <tr> <td>2050Ω</td> <td>>17</td> <td>>17</td> </tr> <tr> <td>850Ω</td> <td>>18</td> <td>>18</td> </tr> <tr> <td>230Ω (w c/l)</td> <td>-</td> <td>-</td> </tr> </tbody> </table> | Line current/Rf | RL(dB) | | N.P. | R.P. | 12mA | >16 | >16 | 2050Ω | >17 | >17 | 850Ω | >18 | >18 | 230Ω (w c/l) | - | - | ≥ 8dB (300-4000Hz), ≥ 6dB (200-300Hz) Zr= 270Ω+750Ω//150nF Test voltage: -10 dBV | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL No current lim. | | | | | | | | | | | | | |
| Line current/Rf | RL(dB) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12mA | >16 | >16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2050Ω | >17 | >17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 850Ω | >18 | >18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 230Ω (w c/l) | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Maximum instantaneous voltage during DTMF dialling. TBR21(4.7.3.2) | <table border="1"> <tbody> <tr> <td>Line current=12mA</td> <td><3,5Vp-p</td> </tr> <tr> <td>Rf = 230Ω/ 850Ω*</td> <td><4,0Vp-p</td> </tr> </tbody> </table> | Line current=12mA | <3,5Vp-p | Rf = 230Ω/ 850Ω* | <4,0Vp-p | ≤5Vp-p | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Line current=12mA | <3,5Vp-p | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rf = 230Ω/ 850Ω* | <4,0Vp-p | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Dialling without dial tone detection. TBR21 (4.8.1.1) | <table border="1"> <tbody> <tr> <td>Rf=850Ω</td> <td>2,9s</td> </tr> </tbody> </table> | Rf=850Ω | 2,9s | 2,7s ≤ (t) ≤ 8s | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rf=850Ω | 2,9s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Dialling with a dial tone detection. TBR21 (4.8.1.2) | - Send continuous dial tone: <table border="1"> <thead> <tr> <th>Frequency (Hz)</th> <th>Level (dBV)</th> <th>Time (s)</th> </tr> </thead> <tbody> <tr> <td>300</td> <td>-0.7</td> <td>2,9s</td> </tr> <tr> <td>300</td> <td>-35.7</td> <td>2,9s</td> </tr> <tr> <td>500</td> <td>-35.7</td> <td>2,9s</td> </tr> <tr> <td>500</td> <td>-0.7</td> <td>2,9s</td> </tr> </tbody> </table> -Send a repeated sequence of cadenced dial tone: <table border="1"> <thead> <tr> <th>Frequency (Hz)</th> <th>Level (dBV)</th> <th>Time (s)</th> </tr> </thead> <tbody> <tr> <td>300</td> <td>-0.7</td> <td>2,9s</td> </tr> <tr> <td>300</td> <td>-35.7</td> <td>2,9s</td> </tr> <tr> <td>500</td> <td>-35.7</td> <td>2,9s</td> </tr> <tr> <td>500</td> <td>-0.7</td> <td>2,9s</td> </tr> </tbody> </table> | Frequency (Hz) | Level (dBV) | Time (s) | 300 | -0.7 | 2,9s | 300 | -35.7 | 2,9s | 500 | -35.7 | 2,9s | 500 | -0.7 | 2,9s | Frequency (Hz) | Level (dBV) | Time (s) | 300 | -0.7 | 2,9s | 300 | -35.7 | 2,9s | 500 | -35.7 | 2,9s | 500 | -0.7 | 2,9s | The TE shall start dialling within 8s . Dial tone: 300-500 Hz, Level: -35.7dBV to -0.7dBV Rf = 850Ω Cadence 200ms ON 200ms OFF, 600ms ON 1000ms OFF Rf = 850Ω | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| Frequency (Hz) | Level (dBV) | Time (s) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 | -0.7 | 2,9s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 | -35.7 | 2,9s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | -35.7 | 2,9s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | -0.7 | 2,9s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Frequency (Hz) | Level (dBV) | Time (s) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 | -0.7 | 2,9s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 | -35.7 | 2,9s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | -35.7 | 2,9s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | -0.7 | 2,9s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | Parameter | Test results | Requirement | Modifications and notes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|---|---|-------------|-------------------------|---------------|------------|--------------|--------------|---|------|-------|-----|------|-----|---|------|-------|-----|------|-----|---|------|-------|-----|------|-----|---|------|-------|-----|------|-----|---|------|-------|-----|------|-----|---|------|-------|-----|------|-----|---|------|-------|-----|------|-----|---|------|-------|-----|------|-----|---|------|-------|-----|------|-----|---|------|-------|-----|------|-----|---|------|-------|-----|------|-----|---|------|-------|-----|------|-----|-------|---------------|---------------|------------|---|------|-------|-----|---|------|-------|-----|---|------|-------|-----|---|------|-------|-----|---|------|-------|-----|---|------|-------|-----|---|------|-------|-----|---|------|-------|-----|---|------|-------|-----|---|------|------|-----|---|------|------|-----|---|------|------|-----|--|-------|---------------|---------------|---|-----------------------|--------------------|---|-----------------------|--------------------|---|-----------------------|--------------------|---|-----------------------|--------------------|---|-----------------------|--------------------|---|-----------------------|--------------------|---|-----------------------|--------------------|---|-----------------------|--------------------|---|-----------------------|--------------------|---|-----------------------|--------------------|---|-----------------------|--------------------|---|-----------------------|--------------------|--|
| 13 | DTMF TBR21 (4.8.2.1-2)+ Doro requirement V1.6 clause (2.1.8) | Line current =12mA: <table border="1" data-bbox="485 289 1176 797"> <thead> <tr> <th>Digit</th> <th>Level H (dBV)</th> <th>Level L (dBV)</th> <th>Twist (dB)</th> <th>Freq. H (Hz)</th> <th>Freq. L (Hz)</th> </tr> </thead> <tbody> <tr><td>1</td><td>-8,2</td><td>-10,9</td><td>2,7</td><td>1200</td><td>704</td></tr> <tr><td>2</td><td>-8,4</td><td>-10,9</td><td>2,5</td><td>1328</td><td>704</td></tr> <tr><td>3</td><td>-8,6</td><td>-10,9</td><td>2,3</td><td>1472</td><td>704</td></tr> <tr><td>4</td><td>-8,3</td><td>-10,7</td><td>2,4</td><td>1200</td><td>768</td></tr> <tr><td>5</td><td>-8,4</td><td>-10,7</td><td>2,3</td><td>1328</td><td>768</td></tr> <tr><td>6</td><td>-8,7</td><td>-10,5</td><td>1,8</td><td>1472</td><td>768</td></tr> <tr><td>7</td><td>-8,3</td><td>-10,5</td><td>2,2</td><td>1200</td><td>848</td></tr> <tr><td>8</td><td>-8,4</td><td>-10,5</td><td>2,1</td><td>1328</td><td>848</td></tr> <tr><td>9</td><td>-8,7</td><td>-10,5</td><td>1,8</td><td>1472</td><td>848</td></tr> <tr><td>*</td><td>-8,3</td><td>-10,3</td><td>2,0</td><td>1200</td><td>944</td></tr> <tr><td>0</td><td>-8,5</td><td>-10,3</td><td>1,8</td><td>1328</td><td>944</td></tr> <tr><td>#</td><td>-8,7</td><td>-10,3</td><td>1,6</td><td>1472</td><td>944</td></tr> </tbody> </table> 230Ω (with current limiter) or 850Ω (without): <table border="1" data-bbox="611 873 1050 1377"> <thead> <tr> <th>Digit</th> <th>Level H (dBV)</th> <th>Level L (dBV)</th> <th>Twist (dB)</th> </tr> </thead> <tbody> <tr><td>1</td><td>-7,7</td><td>-10,4</td><td>2,7</td></tr> <tr><td>2</td><td>-7,9</td><td>-10,4</td><td>2,5</td></tr> <tr><td>3</td><td>-8,1</td><td>-10,4</td><td>2,3</td></tr> <tr><td>4</td><td>-7,8</td><td>-10,2</td><td>2,4</td></tr> <tr><td>5</td><td>-7,9</td><td>-10,2</td><td>2,3</td></tr> <tr><td>6</td><td>-8,1</td><td>-10,2</td><td>2,1</td></tr> <tr><td>7</td><td>-7,6</td><td>-10,0</td><td>2,4</td></tr> <tr><td>8</td><td>-7,9</td><td>-10,0</td><td>2,1</td></tr> <tr><td>9</td><td>-8,1</td><td>-10,0</td><td>1,9</td></tr> <tr><td>*</td><td>-7,8</td><td>-9,8</td><td>2,0</td></tr> <tr><td>0</td><td>-7,9</td><td>-9,8</td><td>1,9</td></tr> <tr><td>#</td><td>-8,1</td><td>-9,8</td><td>1,7</td></tr> </tbody> </table> | Digit | Level H (dBV) | Level L (dBV) | Twist (dB) | Freq. H (Hz) | Freq. L (Hz) | 1 | -8,2 | -10,9 | 2,7 | 1200 | 704 | 2 | -8,4 | -10,9 | 2,5 | 1328 | 704 | 3 | -8,6 | -10,9 | 2,3 | 1472 | 704 | 4 | -8,3 | -10,7 | 2,4 | 1200 | 768 | 5 | -8,4 | -10,7 | 2,3 | 1328 | 768 | 6 | -8,7 | -10,5 | 1,8 | 1472 | 768 | 7 | -8,3 | -10,5 | 2,2 | 1200 | 848 | 8 | -8,4 | -10,5 | 2,1 | 1328 | 848 | 9 | -8,7 | -10,5 | 1,8 | 1472 | 848 | * | -8,3 | -10,3 | 2,0 | 1200 | 944 | 0 | -8,5 | -10,3 | 1,8 | 1328 | 944 | # | -8,7 | -10,3 | 1,6 | 1472 | 944 | Digit | Level H (dBV) | Level L (dBV) | Twist (dB) | 1 | -7,7 | -10,4 | 2,7 | 2 | -7,9 | -10,4 | 2,5 | 3 | -8,1 | -10,4 | 2,3 | 4 | -7,8 | -10,2 | 2,4 | 5 | -7,9 | -10,2 | 2,3 | 6 | -8,1 | -10,2 | 2,1 | 7 | -7,6 | -10,0 | 2,4 | 8 | -7,9 | -10,0 | 2,1 | 9 | -8,1 | -10,0 | 1,9 | * | -7,8 | -9,8 | 2,0 | 0 | -7,9 | -9,8 | 1,9 | # | -8,1 | -9,8 | 1,7 | HF -9 dBV+2/-2.5 dBV LF -11 dBV+2.5/-2 dBV Twist 1-4 dB Feed voltage: 50V Zr=270Ω+750Ω//150nF Frequency combinations: <table border="1" data-bbox="1192 570 1560 1271"> <thead> <tr> <th>Digit</th> <th>H. group (Hz)</th> <th>L. group (Hz)</th> </tr> </thead> <tbody> <tr><td>1</td><td>1209±1.5% (1191-1227)</td><td>697±1.5% (687-707)</td></tr> <tr><td>2</td><td>1336±1.5% (1316-1356)</td><td>697±1.5% (687-707)</td></tr> <tr><td>3</td><td>1477±1.5% (1455-1499)</td><td>697±1.5% (687-707)</td></tr> <tr><td>4</td><td>1209±1.5% (1191-1227)</td><td>770±1.5% (759-781)</td></tr> <tr><td>5</td><td>1336±1.5% (1316-1356)</td><td>770±1.5% (759-781)</td></tr> <tr><td>6</td><td>1477±1.5% (1455-1499)</td><td>770±1.5% (759-781)</td></tr> <tr><td>7</td><td>1209±1.5% (1191-1227)</td><td>852±1.5% (840-864)</td></tr> <tr><td>8</td><td>1336±1.5% (1316-1356)</td><td>852±1.5% (840-864)</td></tr> <tr><td>9</td><td>1477±1.5% (1455-1499)</td><td>852±1.5% (840-864)</td></tr> <tr><td>*</td><td>1209±1.5% (1191-1227)</td><td>941±1.5% (927-955)</td></tr> <tr><td>0</td><td>1336±1.5% (1316-1356)</td><td>941±1.5% (927-955)</td></tr> <tr><td>#</td><td>1477±1.5% (1455-1499)</td><td>941±1.5% (927-955)</td></tr> </tbody> </table> | Digit | H. group (Hz) | L. group (Hz) | 1 | 1209±1.5% (1191-1227) | 697±1.5% (687-707) | 2 | 1336±1.5% (1316-1356) | 697±1.5% (687-707) | 3 | 1477±1.5% (1455-1499) | 697±1.5% (687-707) | 4 | 1209±1.5% (1191-1227) | 770±1.5% (759-781) | 5 | 1336±1.5% (1316-1356) | 770±1.5% (759-781) | 6 | 1477±1.5% (1455-1499) | 770±1.5% (759-781) | 7 | 1209±1.5% (1191-1227) | 852±1.5% (840-864) | 8 | 1336±1.5% (1316-1356) | 852±1.5% (840-864) | 9 | 1477±1.5% (1455-1499) | 852±1.5% (840-864) | * | 1209±1.5% (1191-1227) | 941±1.5% (927-955) | 0 | 1336±1.5% (1316-1356) | 941±1.5% (927-955) | # | 1477±1.5% (1455-1499) | 941±1.5% (927-955) | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| Digit | Level H (dBV) | Level L (dBV) | Twist (dB) | Freq. H (Hz) | Freq. L (Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | -8,2 | -10,9 | 2,7 | 1200 | 704 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | -8,4 | -10,9 | 2,5 | 1328 | 704 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | -8,6 | -10,9 | 2,3 | 1472 | 704 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | -8,3 | -10,7 | 2,4 | 1200 | 768 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | -8,4 | -10,7 | 2,3 | 1328 | 768 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | -8,7 | -10,5 | 1,8 | 1472 | 768 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | -8,3 | -10,5 | 2,2 | 1200 | 848 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | -8,4 | -10,5 | 2,1 | 1328 | 848 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | -8,7 | -10,5 | 1,8 | 1472 | 848 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| * | -8,3 | -10,3 | 2,0 | 1200 | 944 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | -8,5 | -10,3 | 1,8 | 1328 | 944 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| # | -8,7 | -10,3 | 1,6 | 1472 | 944 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Digit | Level H (dBV) | Level L (dBV) | Twist (dB) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | -7,7 | -10,4 | 2,7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | -7,9 | -10,4 | 2,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | -8,1 | -10,4 | 2,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | -7,8 | -10,2 | 2,4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | -7,9 | -10,2 | 2,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | -8,1 | -10,2 | 2,1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | -7,6 | -10,0 | 2,4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | -7,9 | -10,0 | 2,1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | -8,1 | -10,0 | 1,9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| * | -7,8 | -9,8 | 2,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | -7,9 | -9,8 | 1,9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| # | -8,1 | -9,8 | 1,7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Digit | H. group (Hz) | L. group (Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1209±1.5% (1191-1227) | 697±1.5% (687-707) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 1336±1.5% (1316-1356) | 697±1.5% (687-707) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 1477±1.5% (1455-1499) | 697±1.5% (687-707) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 1209±1.5% (1191-1227) | 770±1.5% (759-781) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 1336±1.5% (1316-1356) | 770±1.5% (759-781) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 1477±1.5% (1455-1499) | 770±1.5% (759-781) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 1209±1.5% (1191-1227) | 852±1.5% (840-864) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 1336±1.5% (1316-1356) | 852±1.5% (840-864) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 1477±1.5% (1455-1499) | 852±1.5% (840-864) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| * | 1209±1.5% (1191-1227) | 941±1.5% (927-955) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 1336±1.5% (1316-1356) | 941±1.5% (927-955) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| # | 1477±1.5% (1455-1499) | 941±1.5% (927-955) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | Parameter | Test results | | | | Requirement | Modifications and notes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|---|--|-----------|--|--|-------------|-------------------------|-----------|-----------|---|------|------|------|---|------|------|------|---|------|------|------|---|------|------|------|---|------|------|------|---|------|------|------|---|------|------|------|---|------|------|------|---|------|------|------|---|------|------|------|---|------|------|------|---|------|------|------|--|--|
| 14 | Unwanted frequency components TBR21 (4.8.2.3) + TBR21 (4.7.3.4.1) | Line current=12mA: <table border="1" data-bbox="485 321 1176 831"> <thead> <tr> <th>Digit</th> <th>250-4300Hz</th> <th>4.3-20kHz</th> <th>20-100kHz</th> </tr> </thead> <tbody> <tr><td>1</td><td>31,8</td><td><-70</td><td><-55</td></tr> <tr><td>2</td><td>32,4</td><td><-70</td><td><-55</td></tr> <tr><td>3</td><td>33,3</td><td><-70</td><td><-55</td></tr> <tr><td>4</td><td>29,2</td><td><-70</td><td><-55</td></tr> <tr><td>5</td><td>31,8</td><td><-70</td><td><-55</td></tr> <tr><td>6</td><td>32,7</td><td><-70</td><td><-55</td></tr> <tr><td>7</td><td>29,4</td><td><-70</td><td><-55</td></tr> <tr><td>8</td><td>30,0</td><td><-70</td><td><-55</td></tr> <tr><td>9</td><td>31,5</td><td><-70</td><td><-55</td></tr> <tr><td>*</td><td>29,6</td><td><-70</td><td><-55</td></tr> <tr><td>0</td><td>30,2</td><td><-70</td><td><-55</td></tr> <tr><td>#</td><td>30,2</td><td><-70</td><td><-55</td></tr> </tbody> </table> | | | | Digit | 250-4300Hz | 4.3-20kHz | 20-100kHz | 1 | 31,8 | <-70 | <-55 | 2 | 32,4 | <-70 | <-55 | 3 | 33,3 | <-70 | <-55 | 4 | 29,2 | <-70 | <-55 | 5 | 31,8 | <-70 | <-55 | 6 | 32,7 | <-70 | <-55 | 7 | 29,4 | <-70 | <-55 | 8 | 30,0 | <-70 | <-55 | 9 | 31,5 | <-70 | <-55 | * | 29,6 | <-70 | <-55 | 0 | 30,2 | <-70 | <-55 | # | 30,2 | <-70 | <-55 | -For voice equipment (i-TBR37) and for the purpose of this requirement, the dial tone with a frequency of 425Hz, whose level is -10dBV shall be used. -250-4300Hz: Total sending level of all unwanted frequency shall be at least 20dB below the low frequency group. 4.3-20kHz : ≤ -35.7dBV 20-200kHz: ≤ -40.7dBV | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| Digit | 250-4300Hz | 4.3-20kHz | 20-100kHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 31,8 | <-70 | <-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 32,4 | <-70 | <-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 33,3 | <-70 | <-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 29,2 | <-70 | <-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 31,8 | <-70 | <-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 32,7 | <-70 | <-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 29,4 | <-70 | <-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 30,0 | <-70 | <-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 31,5 | <-70 | <-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| * | 29,6 | <-70 | <-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 30,2 | <-70 | <-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| # | 30,2 | <-70 | <-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Rf=230Ω (with current limiter) or 850Ω (without): <table border="1" data-bbox="485 901 1176 1440"> <thead> <tr> <th>Digit</th> <th>250-4300Hz</th> <th>4.3-20kHz</th> <th>20-100kHz</th> </tr> </thead> <tbody> <tr><td>1</td><td>32,3</td><td><-70</td><td><-50</td></tr> <tr><td>2</td><td>32,9</td><td><-70</td><td><-50</td></tr> <tr><td>3</td><td>33,8</td><td><-70</td><td><-50</td></tr> <tr><td>4</td><td>29,7</td><td><-70</td><td><-50</td></tr> <tr><td>5</td><td>32,3</td><td><-70</td><td><-50</td></tr> <tr><td>6</td><td>33,0</td><td><-70</td><td><-50</td></tr> <tr><td>7</td><td>29,9</td><td><-70</td><td><-50</td></tr> <tr><td>8</td><td>30,5</td><td><-70</td><td><-50</td></tr> <tr><td>9</td><td>32,0</td><td><-70</td><td><-50</td></tr> <tr><td>*</td><td>31,0</td><td><-70</td><td><-50</td></tr> <tr><td>0</td><td>30,7</td><td><-70</td><td><-50</td></tr> <tr><td>#</td><td>30,5</td><td><-70</td><td><-50</td></tr> </tbody> </table> | | | | Digit | 250-4300Hz | 4.3-20kHz | 20-100kHz | 1 | 32,3 | <-70 | <-50 | 2 | 32,9 | <-70 | <-50 | 3 | 33,8 | <-70 | <-50 | 4 | 29,7 | <-70 | <-50 | 5 | 32,3 | <-70 | <-50 | 6 | 33,0 | <-70 | <-50 | 7 | 29,9 | <-70 | <-50 | 8 | 30,5 | <-70 | <-50 | 9 | 32,0 | <-70 | <-50 | * | 31,0 | <-70 | <-50 | 0 | 30,7 | <-70 | <-50 | # | 30,5 | <-70 | <-50 | | |
| Digit | 250-4300Hz | 4.3-20kHz | 20-100kHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 32,3 | <-70 | <-50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 32,9 | <-70 | <-50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 33,8 | <-70 | <-50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 29,7 | <-70 | <-50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 32,3 | <-70 | <-50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 33,0 | <-70 | <-50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 29,9 | <-70 | <-50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 30,5 | <-70 | <-50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 32,0 | <-70 | <-50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| * | 31,0 | <-70 | <-50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 30,7 | <-70 | <-50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| # | 30,5 | <-70 | <-50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | Parameter | Test results | Requirement | Modifications and notes | | | | | | | | | | | | | | |
|-----------------------------|---|--|-----------------------------|-------------------------|--|--|--|--|-------------|-------------|-------|-------------|-------------|-------|-------------|-------------|---|---|
| 15 | DTMF tone/pause TBR21(4.8.2.4)+TBR21(4.8.2.5) | <table border="1"> <tr> <td>Tone (ms)</td> <td>100</td> </tr> <tr> <td>Pause (ms)</td> <td>98</td> </tr> </table> | Tone (ms) | 100 | Pause (ms) | 98 | <p>≥65ms. ≥65ms. Rf=850Ω</p> | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL | | | | | | | | | | |
| Tone (ms) | 100 | | | | | | | | | | | | | | | | | |
| Pause (ms) | 98 | | | | | | | | | | | | | | | | | |
| 16 | Automatically repeated call attempts. TBR21 (4.8.3) | <table border="1"> <tr> <td>Time between RCA</td> <td>Number of RCA</td> </tr> <tr> <td>-</td> <td>-</td> </tr> </table> | Time between RCA | Number of RCA | - | - | <p>Shall not automatically initiate a repeat call attempt less than 5s after the termination of the previous attempt in the same repeat attempt sequence. ≤15 repeated call attempt in a sequence. Rf=850Ω</p> | <input type="checkbox"/> PASS <input type="checkbox"/> FAIL N/A | | | | | | | | | | |
| Time between RCA | Number of RCA | | | | | | | | | | | | | | | | | |
| - | - | | | | | | | | | | | | | | | | | |
| 17 | Transition from loop to quiescent state. TBR21(4.9) | <table border="1"> <tr> <td>Time to drop to below 0.5mA</td> <td>22ms</td> </tr> </table> | Time to drop to below 0.5mA | 22ms | <p>Vf = 50V, Rf=2050Ω <200ms after the current has dropped to a value below 10mA, and has remained at the value below 10mA, for a period or periods which, when aggregated exceed 20ms.</p> | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL | | | | | | | | | | | | |
| Time to drop to below 0.5mA | 22ms | | | | | | | | | | | | | | | | | |
| 18 | Sending Sensitivity & SLR TBR38 (4.2.1.1) & (4.2.2.1) | <table border="1"> <thead> <tr> <th rowspan="2">Rf</th> <th colspan="2">SLR (dB)</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>500Ω</td> <td>1,4</td> <td>1,3</td> </tr> <tr> <td>1000Ω</td> <td>1,4</td> <td>1,2</td> </tr> <tr> <td>2800Ω</td> <td>2,0</td> <td>1,8</td> </tr> </tbody> </table> | Rf | SLR (dB) | | N.P. | R.P. | 500Ω | 1,4 | 1,3 | 1000Ω | 1,4 | 1,2 | 2800Ω | 2,0 | 1,8 | <p>For sensitivity, compliance shall be checked when Rf set to 1000Ω. 10>(3)>-1 dB 7>(3)>-1 dB</p> | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL Sending frequency response is inside the mask but close to limit. |
| Rf | SLR (dB) | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | |
| 500Ω | 1,4 | 1,3 | | | | | | | | | | | | | | | | |
| 1000Ω | 1,4 | 1,2 | | | | | | | | | | | | | | | | |
| 2800Ω | 2,0 | 1,8 | | | | | | | | | | | | | | | | |
| 19 | Receiving Sensitivity & RLR TBR38 (4.2.1.2) & (4.2.2.2) | <table border="1"> <thead> <tr> <th rowspan="2">Rf</th> <th colspan="2">RLR (dB)</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>500Ω</td> <td>-8,6</td> <td>-8,6</td> </tr> <tr> <td>1000Ω</td> <td>-8,4</td> <td>-8,4</td> </tr> <tr> <td>2800Ω</td> <td>-8,2</td> <td>-8,2</td> </tr> </tbody> </table> | Rf | RLR (dB) | | N.P. | R.P. | 500Ω | -8,6 | -8,6 | 1000Ω | -8,4 | -8,4 | 2800Ω | -8,2 | -8,2 | <p>For sensitivity, compliance shall be checked when Rf set to 1000Ω. -1>(-8)>-12 dB -4>(-8)>-12 dB</p> | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL Receive frequency response is inside the mask. |
| Rf | RLR (dB) | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | |
| 500Ω | -8,6 | -8,6 | | | | | | | | | | | | | | | | |
| 1000Ω | -8,4 | -8,4 | | | | | | | | | | | | | | | | |
| 2800Ω | -8,2 | -8,2 | | | | | | | | | | | | | | | | |

| | Parameter | Test results | Requirement | Modifications and notes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|--|--|-------------|-------------------------|--|-------|------|-------------------------------|-------------|-------------|---------------------------------|-------------|-------------|---------------------------------|-------------|-------------|-----------------------|--|------------|------------|------------|--------|--------|--|------|------|-----|------------|------------|------|------------|------------|---|--|
| 20 | Side tone TBR38 (4.2.3) + Doro requirement V1.6 clause (3.1.1) | <table border="1"> <thead> <tr> <th rowspan="2">Rf & Zr</th> <th colspan="2">STMN (dB)</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>Rf=500Ω A.6= 82Ω+600Ω//68n</td> <td>10,8</td> <td>10,7</td> </tr> <tr> <td>Rf=1000Ω A.7=270Ω+750Ω//150n</td> <td>17,8</td> <td>17,6</td> </tr> <tr> <td>Rf=2800Ω A.8=220Ω+1.8k//150n</td> <td>11,6</td> <td>11,5</td> </tr> </tbody> </table> | Rf & Zr | STMN (dB) | | N.P. | R.P. | Rf=500Ω A.6= 82Ω+600Ω//68n | 10,8 | 10,7 | Rf=1000Ω A.7=270Ω+750Ω//150n | 17,8 | 17,6 | Rf=2800Ω A.8=220Ω+1.8k//150n | 11,6 | 11,5 | >7dB >14dB >9dB | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL | | | | | | | | | | | | | | | | |
| Rf & Zr | STMN (dB) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rf=500Ω A.6= 82Ω+600Ω//68n | 10,8 | 10,7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rf=1000Ω A.7=270Ω+750Ω//150n | 17,8 | 17,6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rf=2800Ω A.8=220Ω+1.8k//150n | 11,6 | 11,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | Send. dist. Total TBR38 (4.2.4.1) | <table border="1"> <thead> <tr> <th rowspan="2">Rf (Ω)</th> <th colspan="2">315Hz</th> <th colspan="2">500Hz</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>500</td> <td>0,8</td> <td>0,8</td> <td>0,5</td> <td>0,5</td> </tr> <tr> <td>2800</td> <td>0,7</td> <td>0,7</td> <td>0,5</td> <td>0,5</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th rowspan="2">Rf (Ω)</th> <th colspan="2">1000Hz</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>500</td> <td>3,9</td> <td>3,9</td> </tr> <tr> <td>2800</td> <td>3,9</td> <td>4,0</td> </tr> </tbody> </table> | Rf (Ω) | 315Hz | | 500Hz | | N.P. | R.P. | N.P. | R.P. | 500 | 0,8 | 0,8 | 0,5 | 0,5 | 2800 | 0,7 | 0,7 | 0,5 | 0,5 | Rf (Ω) | 1000Hz | | N.P. | R.P. | 500 | 3,9 | 3,9 | 2800 | 3,9 | 4,0 | <7% (Summed up to 5th harmonic), input of -4.7 dBPa, load is 600 Ω. <10%, input of +5 dBPa. | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| Rf (Ω) | 315Hz | | | 500Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | N.P. | R.P. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | 0,8 | 0,8 | 0,5 | 0,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2800 | 0,7 | 0,7 | 0,5 | 0,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rf (Ω) | 1000Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | 3,9 | 3,9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2800 | 3,9 | 4,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | Rec. dist. Total TBR38 (4.2.4.2) | <table border="1"> <thead> <tr> <th rowspan="2">Rf (Ω)</th> <th colspan="2">315Hz</th> <th colspan="2">500Hz</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>500</td> <td>0,1</td> <td>0,2</td> <td>0,1</td> <td>0,1</td> </tr> <tr> <td>2800</td> <td>0,1</td> <td>0,1</td> <td>0,1</td> <td>0,1</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th rowspan="2">Rf (Ω)</th> <th colspan="2">1000Hz</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>500</td> <td>2,7</td> <td>2,7</td> </tr> <tr> <td>2800</td> <td>2,4</td> <td>2,4</td> </tr> </tbody> </table> | Rf (Ω) | 315Hz | | 500Hz | | N.P. | R.P. | N.P. | R.P. | 500 | 0,1 | 0,2 | 0,1 | 0,1 | 2800 | 0,1 | 0,1 | 0,1 | 0,1 | Rf (Ω) | 1000Hz | | N.P. | R.P. | 500 | 2,7 | 2,7 | 2800 | 2,4 | 2,4 | <7% (Summed up to 5th harmonic), input emf of -12dBV <10%, input emf of 0dBV | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| Rf (Ω) | 315Hz | | | 500Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | N.P. | R.P. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | 0,1 | 0,2 | 0,1 | 0,1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2800 | 0,1 | 0,1 | 0,1 | 0,1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rf (Ω) | 1000Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | 2,7 | 2,7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2800 | 2,4 | 2,4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | Parameter | Test results | Requirement | Modifications and notes | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|--|--------------|-------------------------|------------------|------------|----------------|----|------|--------------|--------------|--------------|----|-------|--------------|----|-----------------------|------------------|------------|----------------|----|------|--------------|--------------|-------------|----|-------|--------------|---|--|
| 23 | Sending Linearity TBR38 (4.2.5.1) | Normal Polarity: <table border="1" data-bbox="527 321 1136 537"> <thead> <tr> <th>Rf</th> <th>Sound pressure (dBPa)</th> <th>Sensitivity (dB)</th> <th>Diff. (dB)</th> <th>SLR diff. (dB)</th> </tr> </thead> <tbody> <tr> <td>1K</td> <td>-4.7</td> <td>-4,98</td> <td rowspan="2">-0,26</td> <td rowspan="2">0,15</td> </tr> <tr> <td>1K</td> <td>-19.7</td> <td>-4,72</td> </tr> </tbody> </table> Reversed Polarity: <table border="1" data-bbox="527 605 1136 821"> <thead> <tr> <th>Rf</th> <th>Sound pressure (dBPa)</th> <th>Sensitivity (dB)</th> <th>Diff. (dB)</th> <th>SLR diff. (dB)</th> </tr> </thead> <tbody> <tr> <td>1K</td> <td>-4.7</td> <td>-4,78</td> <td rowspan="2">-0,31</td> <td rowspan="2">0,15</td> </tr> <tr> <td>1K</td> <td>-19.7</td> <td>-4,47</td> </tr> </tbody> </table> | Rf | Sound pressure (dBPa) | Sensitivity (dB) | Diff. (dB) | SLR diff. (dB) | 1K | -4.7 | -4,98 | -0,26 | 0,15 | 1K | -19.7 | -4,72 | Rf | Sound pressure (dBPa) | Sensitivity (dB) | Diff. (dB) | SLR diff. (dB) | 1K | -4.7 | -4,78 | -0,31 | 0,15 | 1K | -19.7 | -4,47 | The sensitivity measured at -4.7dBPa shall not differ by more than +/-2 dB compared to the sensitivity measured at -19.7 dBPa. freq.: 1000 Hz | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| Rf | Sound pressure (dBPa) | Sensitivity (dB) | Diff. (dB) | SLR diff. (dB) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1K | -4.7 | -4,98 | -0,26 | 0,15 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1K | -19.7 | -4,72 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rf | Sound pressure (dBPa) | Sensitivity (dB) | Diff. (dB) | SLR diff. (dB) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1K | -4.7 | -4,78 | -0,31 | 0,15 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1K | -19.7 | -4,47 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | Receiving Linearity TBR38 (4.2.5.2) | Normal Polarity: <table border="1" data-bbox="527 914 1136 1130"> <thead> <tr> <th>Rf</th> <th>Gen. Emf (dBV)</th> <th>Sensitivity (dB)</th> <th>Diff. (dB)</th> <th>RLR diff. (dB)</th> </tr> </thead> <tbody> <tr> <td>1K</td> <td>-12</td> <td>17,74</td> <td rowspan="2">0,00</td> <td rowspan="2">-0,02</td> </tr> <tr> <td>1K</td> <td>-32</td> <td>17,74</td> </tr> </tbody> </table> Reversed Polarity: <table border="1" data-bbox="527 1198 1136 1414"> <thead> <tr> <th>Rf</th> <th>Gen. Emf (dBV)</th> <th>Sensitivity (dB)</th> <th>Diff. (dB)</th> <th>RLR diff. (dB)</th> </tr> </thead> <tbody> <tr> <td>1K</td> <td>-12</td> <td>17,67</td> <td rowspan="2">-0,05</td> <td rowspan="2">0,00</td> </tr> <tr> <td>1K</td> <td>-32</td> <td>17,72</td> </tr> </tbody> </table> | Rf | Gen. Emf (dBV) | Sensitivity (dB) | Diff. (dB) | RLR diff. (dB) | 1K | -12 | 17,74 | 0,00 | -0,02 | 1K | -32 | 17,74 | Rf | Gen. Emf (dBV) | Sensitivity (dB) | Diff. (dB) | RLR diff. (dB) | 1K | -12 | 17,67 | -0,05 | 0,00 | 1K | -32 | 17,72 | The sensitivity measured with emf=-12 dBV shall not differ by more than +/-2 dB from the sensitivity measured with emf=-32 dBV. freq.: 1000 Hz. | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| Rf | Gen. Emf (dBV) | Sensitivity (dB) | Diff. (dB) | RLR diff. (dB) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1K | -12 | 17,74 | 0,00 | -0,02 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1K | -32 | 17,74 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rf | Gen. Emf (dBV) | Sensitivity (dB) | Diff. (dB) | RLR diff. (dB) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1K | -12 | 17,67 | -0,05 | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1K | -32 | 17,72 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | Parameter | Test results | Requirement | Modifications and notes | | | | | | | | | | | | | | |
|--------------------|--|--|-------------|-------------------------|--|------|------|-------------------|----------------|----------------|------------------|----------------|----------------|--|--|------------|---|--|
| 25 | Sending Noise TBR38 (4.2.6.1) | <table border="1"> <thead> <tr> <th rowspan="2">Rf</th> <th colspan="2">Noise (dBVp)</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>500Ω</td> <td>-72</td> <td>-72</td> </tr> <tr> <td>1000Ω</td> <td>-72</td> <td>-72</td> </tr> <tr> <td>2800Ω</td> <td>-73</td> <td>-73</td> </tr> </tbody> </table> | Rf | Noise (dBVp) | | N.P. | R.P. | 500Ω | -72 | -72 | 1000Ω | -72 | -72 | 2800Ω | -73 | -73 | (Psophometric weighting – averaged over 1 second. Best of 3 measurements. <-66dBVp <-64dBVp <-60dBVp | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| Rf | Noise (dBVp) | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | |
| 500Ω | -72 | -72 | | | | | | | | | | | | | | | | |
| 1000Ω | -72 | -72 | | | | | | | | | | | | | | | | |
| 2800Ω | -73 | -73 | | | | | | | | | | | | | | | | |
| 26 | Rec. Noise TBR38 (4.2.6.2) | <table border="1"> <thead> <tr> <th rowspan="2">Rf</th> <th colspan="2">Noise (dBPa(A))</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>500Ω</td> <td>-61</td> <td>-61</td> </tr> <tr> <td>2800Ω</td> <td>-61</td> <td>-61</td> </tr> </tbody> </table> | Rf | Noise (dBPa(A)) | | N.P. | R.P. | 500Ω | -61 | -61 | 2800Ω | -61 | -61 | <-49 dBPa(A), Load impedance:600Ω | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL | | | |
| Rf | Noise (dBPa(A)) | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | |
| 500Ω | -61 | -61 | | | | | | | | | | | | | | | | |
| 2800Ω | -61 | -61 | | | | | | | | | | | | | | | | |
| 27 | Instability TBR38 (4.2.7) | <table border="1"> <thead> <tr> <th rowspan="2">Rf & Zr</th> <th colspan="2">Signal A/B (dBV)</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>Rf=500Ω, Zr= 600Ω</td> <td><-47</td> <td><-47</td> </tr> <tr> <td>Rf=2800Ω, Zr=A.8</td> <td><-43</td> <td><-43</td> </tr> </tbody> </table> | Rf & Zr | Signal A/B (dBV) | | N.P. | R.P. | Rf=500Ω, Zr= 600Ω | <-47 | <-47 | Rf=2800Ω, Zr=A.8 | <-43 | <-43 | Volume control set to max. A.8= 220Ω+1800Ω//150nF < -40dBV (up to 10kHz) | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL | | | |
| Rf & Zr | Signal A/B (dBV) | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | |
| Rf=500Ω, Zr= 600Ω | <-47 | <-47 | | | | | | | | | | | | | | | | |
| Rf=2800Ω, Zr=A.8 | <-43 | <-43 | | | | | | | | | | | | | | | | |
| 28 | Echo Return loss TBR38 (4.2.8) | <table border="1"> <thead> <tr> <th rowspan="2">Rf</th> <th colspan="2">ERL (dB)</th> </tr> <tr> <th>N.P.</th> <th>R.P.</th> </tr> </thead> <tbody> <tr> <td>500Ω</td> <td>23,6</td> <td>22,0</td> </tr> <tr> <td>2800Ω</td> <td>20,1</td> <td>20,1</td> </tr> <tr> <td>2300Ω (handsfree)*</td> <td>-</td> <td>-</td> </tr> </tbody> </table> | Rf | ERL (dB) | | N.P. | R.P. | 500Ω | 23,6 | 22,0 | 2800Ω | 20,1 | 20,1 | 2300Ω (handsfree)* | - | - | * = If the EUT is not powered from a separate power supply. ≥14 dB, Zr= 270Ω+750Ω//150nF Test voltage: -18 dBV | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| Rf | ERL (dB) | | | | | | | | | | | | | | | | | |
| | N.P. | R.P. | | | | | | | | | | | | | | | | |
| 500Ω | 23,6 | 22,0 | | | | | | | | | | | | | | | | |
| 2800Ω | 20,1 | 20,1 | | | | | | | | | | | | | | | | |
| 2300Ω (handsfree)* | - | - | | | | | | | | | | | | | | | | |