

- 1) The Bluetooth portion of the device appears to be on a separate daughter board. The top and bottom of each board, especially the TX board should be provided. Please provide photograph of the bottom of this board for the Bluetooth portion of this application.

Answer: New document in Exhibit 9 was uploaded. Additional detail photos from Bluetooth daughter board have been added. The document 'Exhibit 9 - N-Gage QD_Internal_Photos rev01.pdf' shall replace the document 'Exhibit 9 - N-Gage QD Internal Photos.pdf'.

- 2) Please provide information regarding the DC voltages/currents applied into the several elements of the final radio frequency amplifying device for normal operation over the power range.

Answer: The power amplifier DC voltage/current information:

GSM850 4.2V/1.3A, GSM1900 4.2V/1.2A

- 3) Some pages of the schematics are not clear enough to read. Please provide higher resolution schematics.

Answer: New document in Exhibit 5 was uploaded. The document 'Exhibit 5 - N-Gage QD Schematics rev01.pdf' shall replace the document 'Exhibit 5 - N-Gage QD Schematics.pdf'.

- 4) Because of the difficulty in reading the schematics, it is uncertain if the schematics also include the Bluetooth RF portion. Please explain. Typically the FCC requires the RF schematic for each approval, or alternatively if this component is an OEM product from another manufacturer, you may alternatively provide a parts list that shows this fact.

Answer: New document in Exhibit 5 was uploaded, which shows the schematics of the Bluetooth component. The document 'Exhibit 5 - N-Gage QD Schematics rev01.pdf' shall replace the document 'Exhibit 5 - N-Gage QD Schematics.pdf'.

- 5) Please provide a separate exhibit that shows the test configuration photographs only. We are required to upload this to the FCC as a separate exhibit.

Answer: New documents in Exhibit 7 were uploaded. These documents show the test setups of the separate reports.

- 6) The occupied bandwidth plots for Part 22/24 do not appear to show the measured bandwidth. Please provide/explain.

Answer: Information about measured bandwidth:

FCC 24 GSM1900, Emission bandwidth (26 dB BW)

Occupied bandwidth (99 % BW)

Operating Mode	Diagram No.	Result	Comment
TX on ch. 512	1	310 kHz	Emission bandwidth
TX on ch. 661	2	308 kHz	Emission bandwidth
TX on ch. 810	3	308 kHz	Emission bandwidth
TX on ch. 512	4	246 kHz	Occupied bandwidth
TX on ch. 661	5	246 kHz	Occupied bandwidth
TX on ch. 810	6	246 kHz	Occupied bandwidth

Diagram 1:

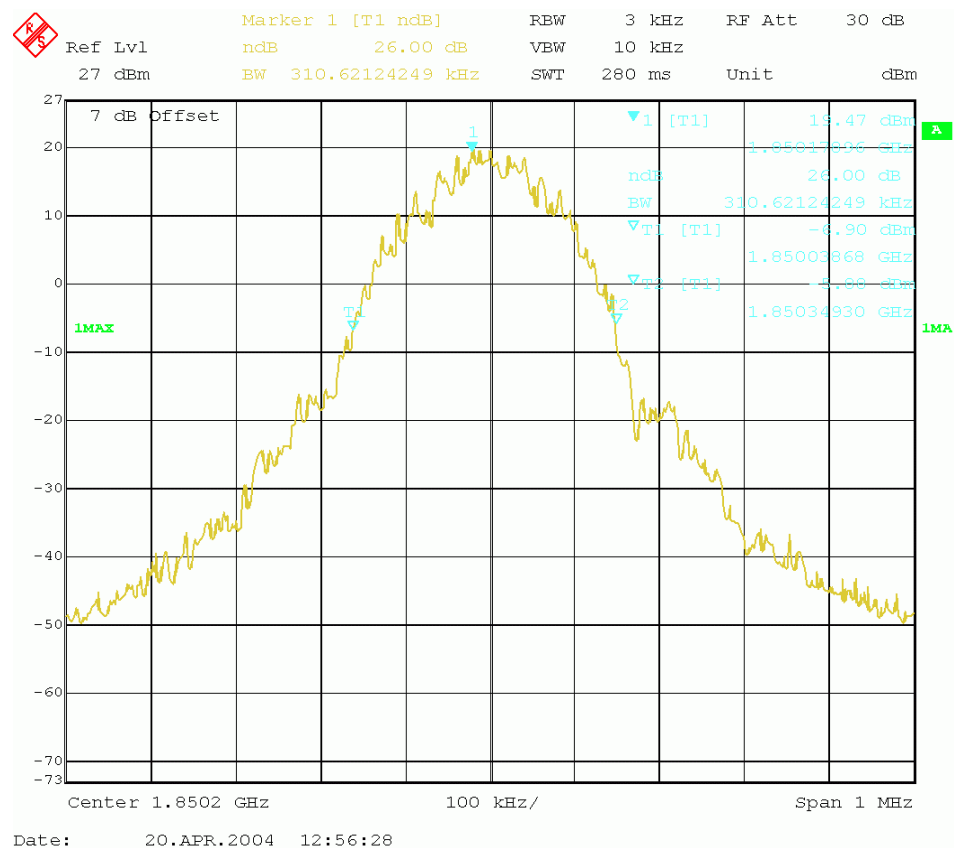


Diagram 2:

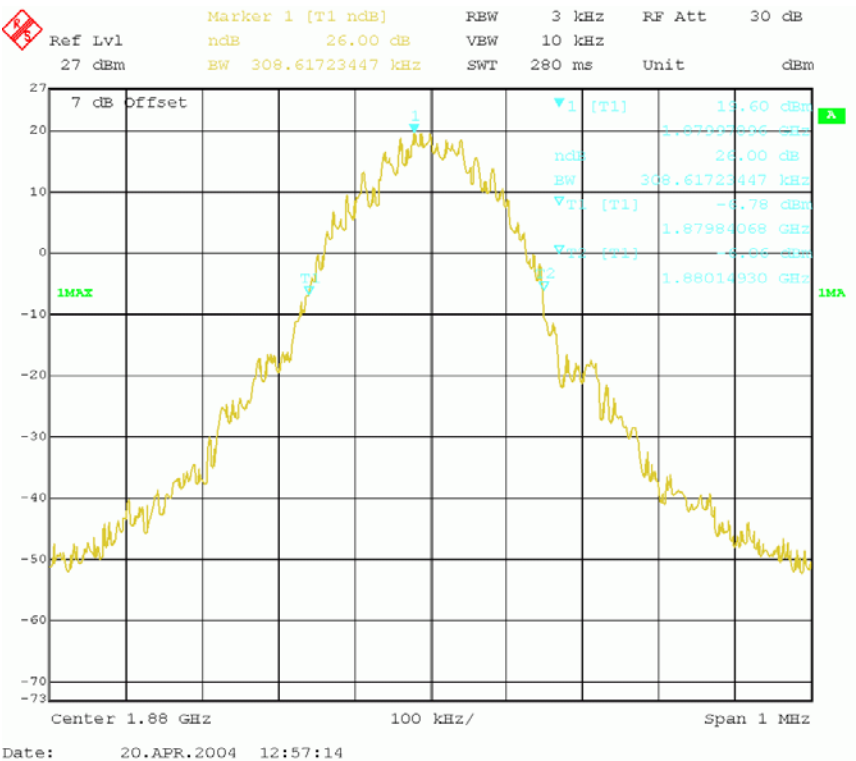


Diagram 3:

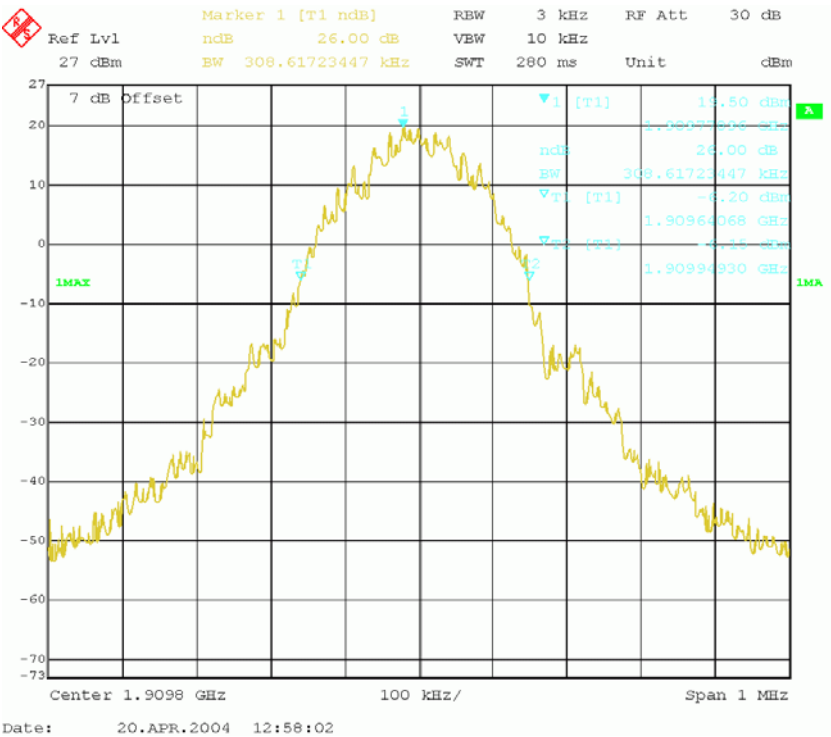


Diagram 4:

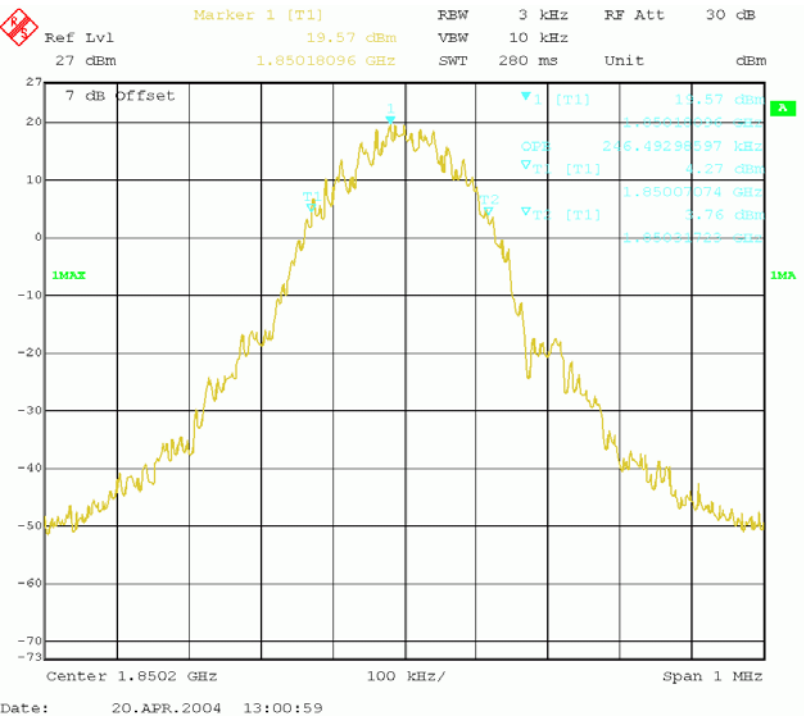


Diagram 5:

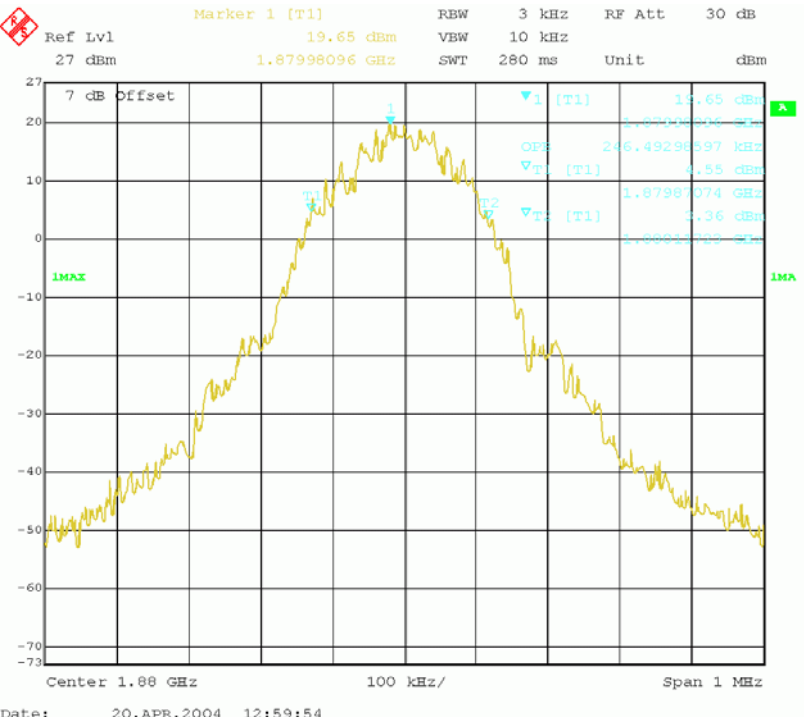
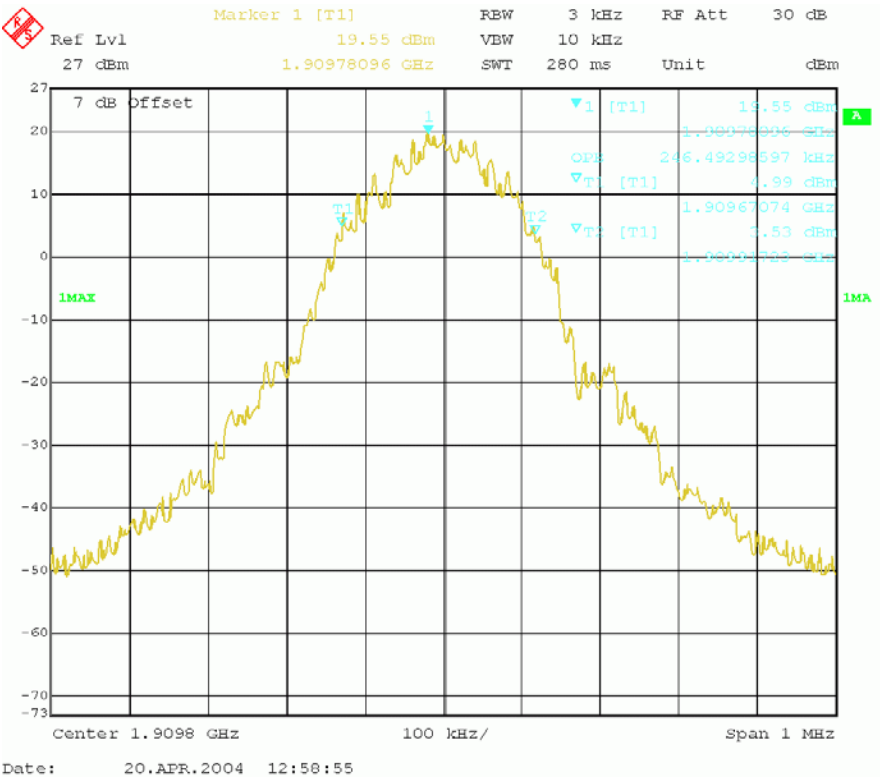


Diagram 6:



FCC 22 GSM850, Emission bandwidth (26 dB BW)
Occupied bandwidth (99 % BW)

Operating Mode	Diagram No.	Result	Comment
TX on ch. 128	1	296 kHz	Emission bandwidth
TX on ch. 190	2	292 kHz	Emission bandwidth
TX on ch. 251	3	292 kHz	Emission bandwidth
TX on ch. 128	4	238 kHz	Occupied bandwidth
TX on ch. 190	5	238 kHz	Occupied bandwidth
TX on ch. 251	6	238 kHz	Occupied bandwidth

7 dB Offset

1MAX

1 [T1] 25.26 dBm

824.18214503 MHz

ndB 26.00 dB

BW 296.59318637 kHz

T1 [T1] -2.67 dBm

824.04665339 MHz

T2 [T1] -3.47 dBm

824.34328657 MHz

Center 824.2 MHz 100 kHz/ Span 1 MHz

Date: 20.APR.2004 13:05:21

Ref Lvl 27 dBm

Marker 1 [T1 ndB] 26.00 dB

RBW 3 kHz

VBW 10 kHz

RF Att 30 dB

Unit dBm

292.58517034 kHz

SWT 280 ms

7 dB Offset

IMAX

IMIN

Center 836.6 MHz

100 kHz/

Span 1 MHz

Date: 20.APR.2004 13:06:45

Diagram 3:

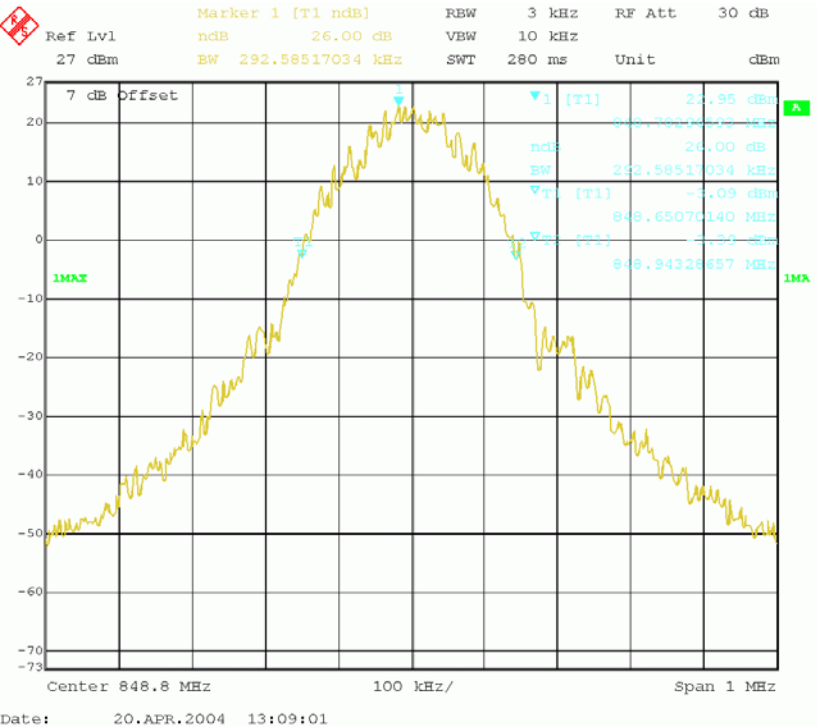


Diagram 4:

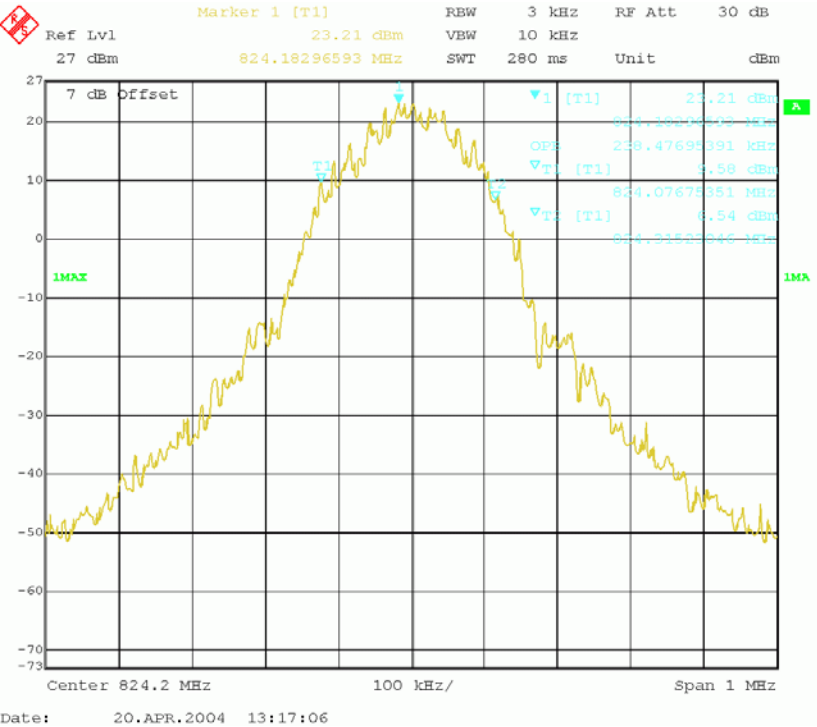


Diagram 5:

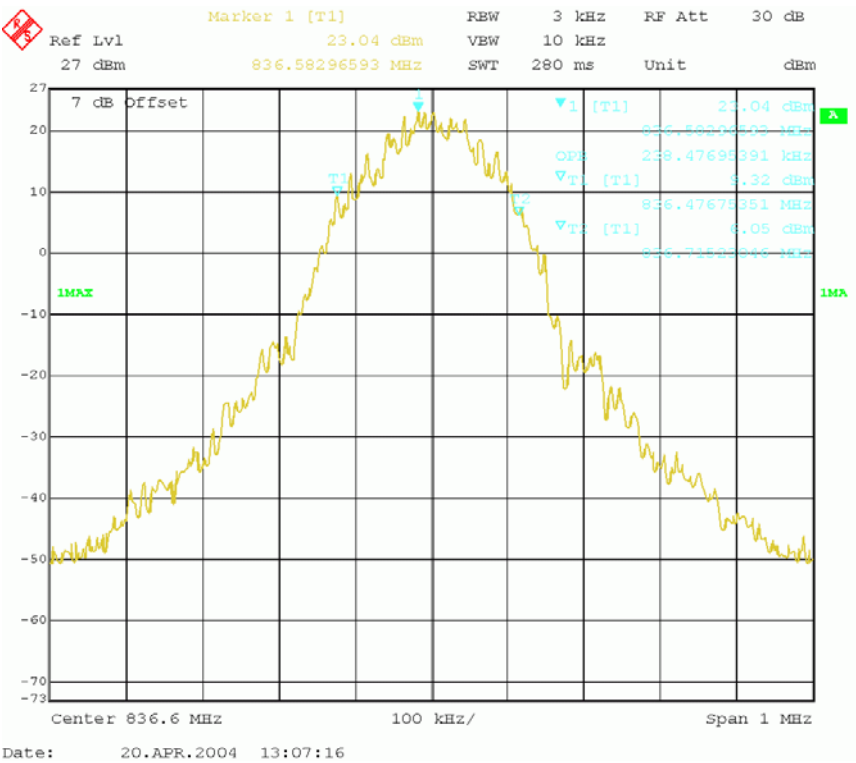
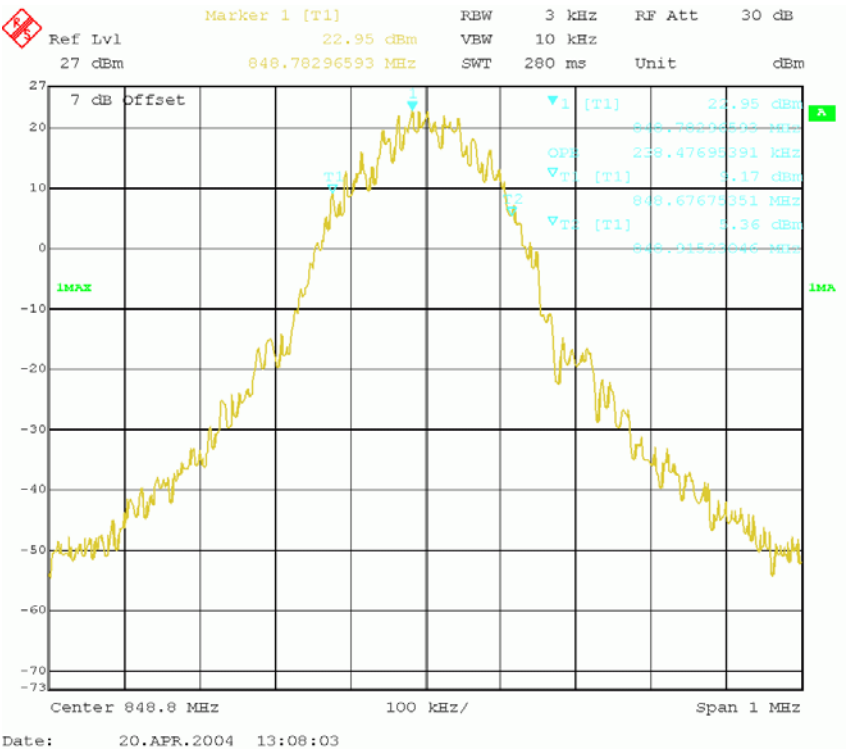


Diagram 6:



- 7) Please explain the RBW/VBW setting used during the test for restricted bands for the Bluetooth device.

Answer: For the FCC tests the RBW/WBW used is 120kHz/300kHz for the 30-1000 MHz range and 1MHz/3MHz for the range above 1GHz. Further more a MaxPeak detector in the low range and an Avg detector for the range above 1GHz was used.
The drop in noise level at 3GHz is due to the fact, that we switch antenna/amplifier at this particular frequency.

- 8) Please explain the results for bandedge compliance given in the Bluetooth amendment report (Part 3) provided. Are these radiated or conducted results? If radiated, what was the test distance?

Answer: Results of Bluetooth report 3 are radiated. The measurement distance was 3 m.

- 9) Please explain the test distance used for the results of the bandedge compliance given in the Bluetooth amendment report (Part 2) provided.

Answer: Results of Bluetooth report 2 and 3 are radiated. The measurement distance was 3 m. The results of the bandedge compliance in the Bluetooth report 1 are conducted.

- 10) The power values given in the application are as follows:

	Target Power	Power Tested in SAR1	Power Tested in SAR2
850 GSM	32.5 dBm	31.0	30.2
1900 GSM	29.5 dBm	29.3	29.8

The 850 GSM appears to have been tested at a much lower than expected level.
As the FCC expects worse case results to be reported, please explain how the tests provided are considered worse case or alternatively provide new data as necessary.

Answer: The SAR reports state radiated powers (EDRP / EIRP). Target powers are typically conducted.

- 11) Two sets of SAR report were provided with almost 5 months between testing. Please explain the purpose of providing 2 SAR reports.

Answer: The older report has more thorough testing i.e. more test cases. The latter testing was carried out for checking that the minor changes made to the design did not affect SAR performance. We want to file the both reports i.e. SAR values:
Cell band, head : 0.60 W/kg
Cell band, body : 1.03 W/kg
PCS band, head : 0.45 W/kg
PCS band, body : 0.78 W/kg