

SSCPL Overview Quanta

February 2012



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RFMD – Market leading Switch and Filter Products

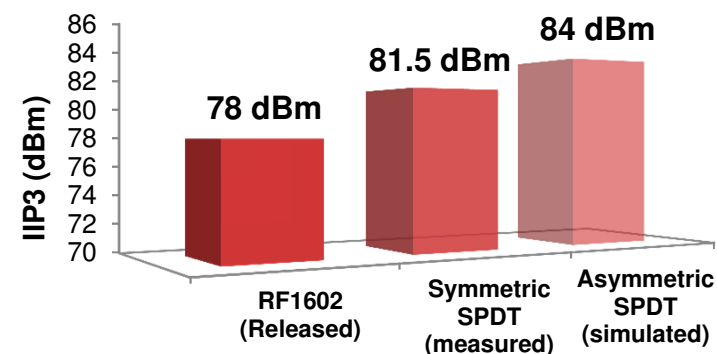
- **High linearity switch performance is a critical requirement and RFMD switch products offer best in class harmonic and linearity performance**
 - High end smartphone platforms are incorporating an increasing number of radio interfaces creating serious co-existence issues
 - GSM / 3G / LTE / GPS / WiFi etc
 - Co-existence issues result in the linearity requirements of the switch module being significantly increased
 - Typical co-existence examples include:
 - LTE B13 second harmonic falls in GPS band
 - LTE B17 third harmonic falls in AWS(B4) band
 - LTE B7 Tx and WiFi Tx mix causing intermod which falls in LTE B7 Rx

RFMD – Market leading Switch and Filter Products

- **RFMD is a leader in switch and filter based products and offers performance and size differentiated solutions**
- **RFMD offers highly experienced ‘in house’ switch design expertise**
 - Best in class switch IL
 - Best in class switch linearity and harmonic performance
- **RFMD offers highly experienced ‘in house’ module design and integration capability**
- **RFMD offers a proven, secure and stable supply chain for all components**
 - ‘Optimum technology matching’ using both internal and external sources

RFMD Switches – Best in class linearity

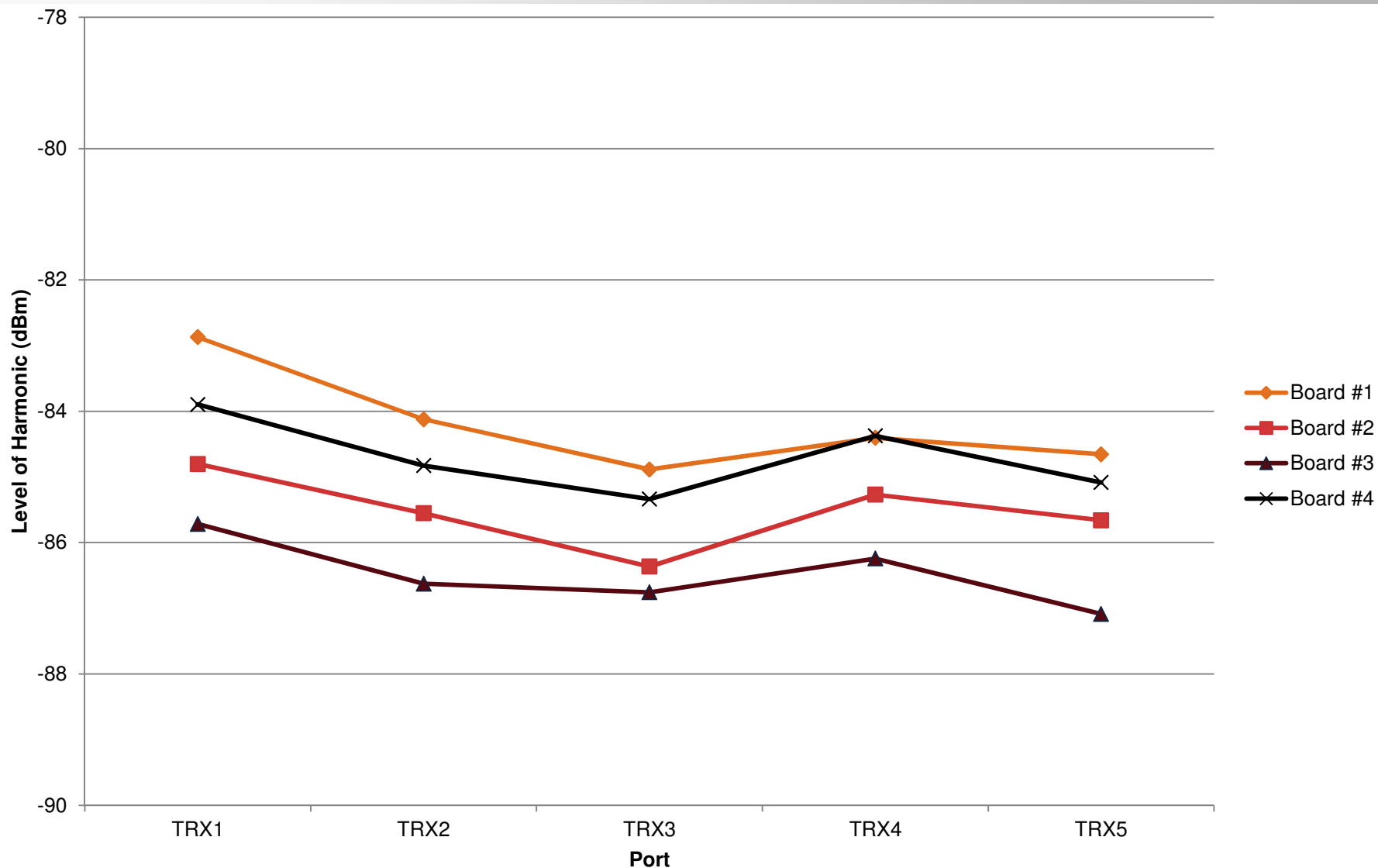
- Linearity improvement example
- Generic High power SPDT
- Representative of technology capability



RF1602 (Production SPDT)				
	RF1	RF2	RF1	RF2
Lowband	IMD	IMD	IIP3	IIP3
Tone 1; 836.5MHz @ 26dBm Tone 2; 791.5MHz @ -20dBm Receive Freq: 881.5MHz	-124	-124.5	78	78
Tone 1; 836.5MHz @ 26dBm Tone 2; 791.5MHz @ -15dBm Receive Freq: 881.5MHz	-119	-119	78	78
RF1601 (improved linearity in 2.0x2.0mm QFN)				
	RF1	RF2	RF1	RF2
Lowband	IMD	IMD	IIP3	IIP3
Tone 1; 836.5MHz @ 26dBm Tone 2; 791.5MHz @ -20dBm Receive Freq: 881.5MHz	-131	-131	81.5	81.5
Tone 1; 836.5MHz @ 26dBm Tone 2; 791.5MHz @ -15dBm Receive Freq: 881.5MHz	-126	-127	81.5	82

RF8889A Band 13 Second Harmonic Performance

(Temp=25C, Vdd=2.7V, fo=786.5MHz)

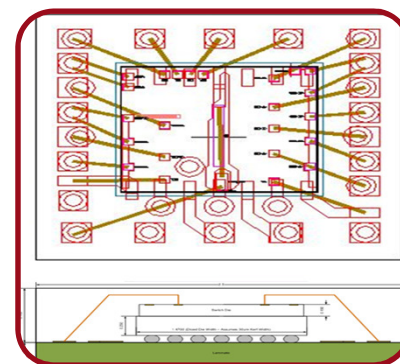
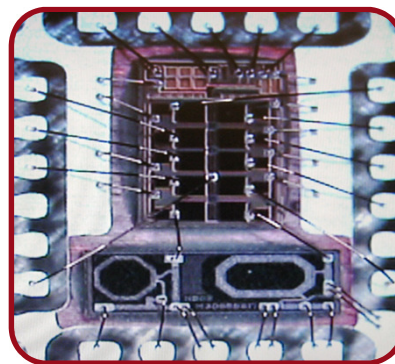
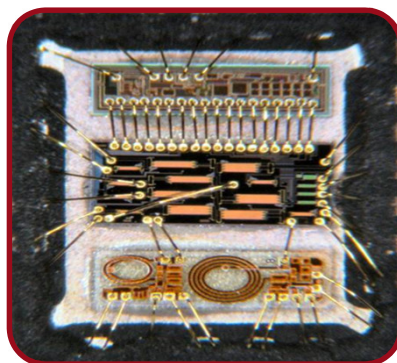


RF8889A – Band 17 3rd Harmonic Data

I/P RF Level	+25dBm
Vbatt	2.7V
Vctrl	1.8V

Freq (MHz)	Level of 3fo on each port (dBm)					Noise Floor (dBm)	System Generated 3fo (dBm)
	TRx1	TRx2	TRx3	TRx4	TRx5		
704	-81.2	-81.3	-80.8	-80.6	-80.4	-143.8	-100.6
710	-80.9	-81.1	-80.5	-80.6	-80.3	-144.0	-103.4
716	-80.8	-80.9	-80.4	-80.3	-80.1	-142.5	-105.2

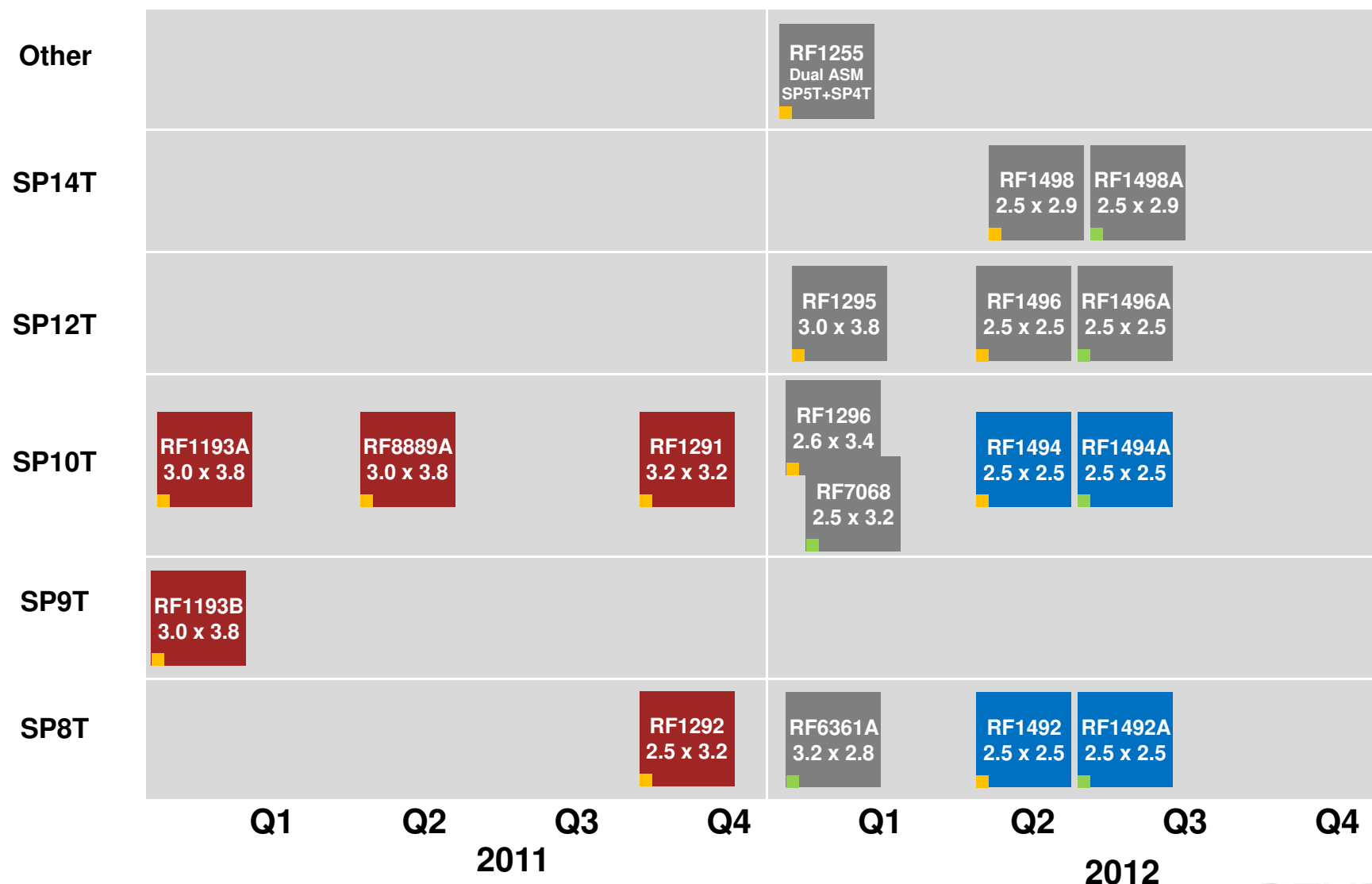
RFMD Switch Technology Migration



Parameter	RFMD GaAs	RFMD SOI Gen 1	RFMD SOI Gen 2
Solution size	Good	Better	Best
Insertion loss	Best	Good	Best
Isolation	Good	Better	Best
Linearity	Good	Better	Best
ESD	Good	Better	Best
Flexibility (Number of TRx paths)	Good	Better	Best

Antenna Switch Module

Antenna Switch Modules – Product Roadmap



MP

Development

Proposed

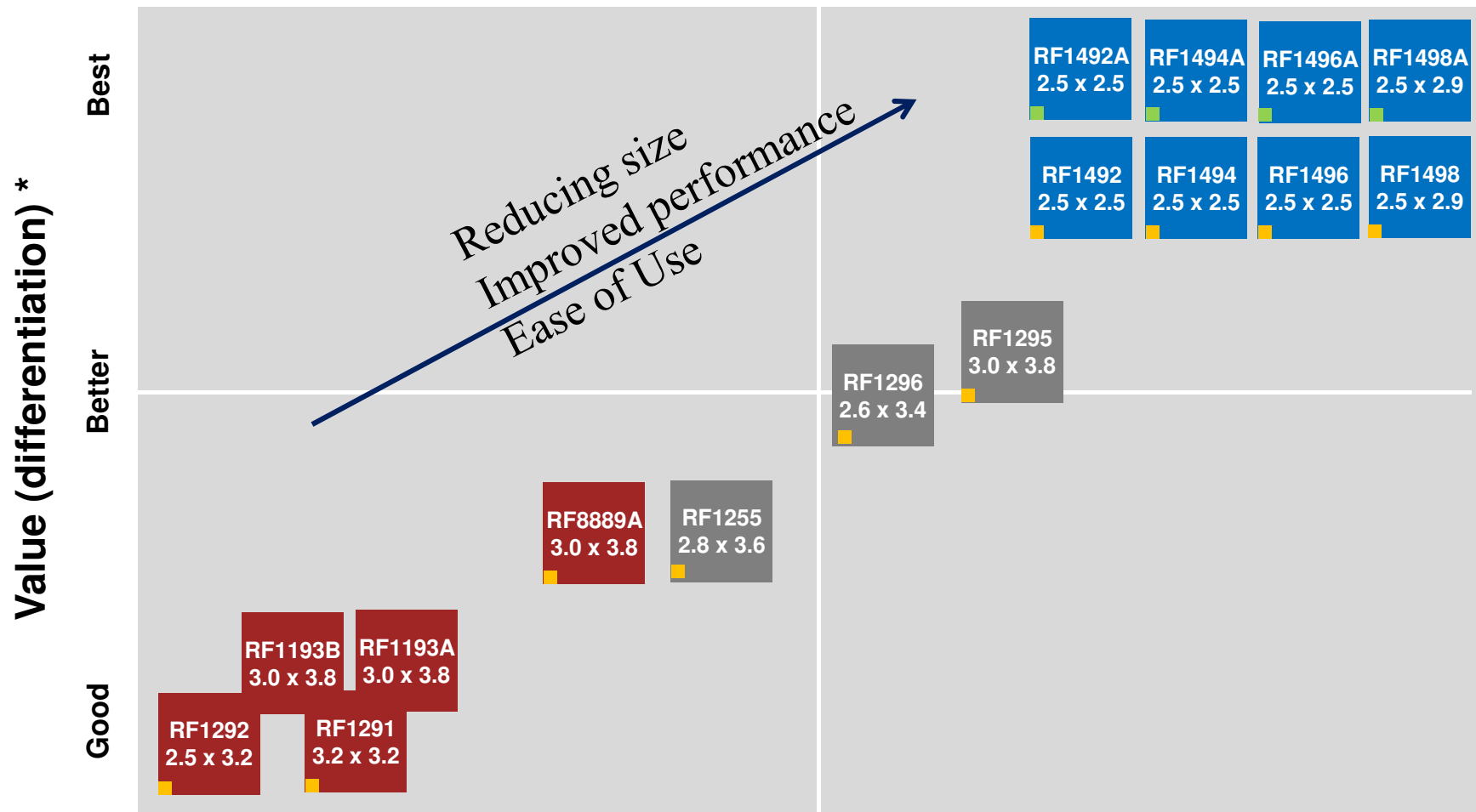
RFFE (MIPI)

GPIO

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ASM Value vs. ASP Positioning - QCOM



* Value defined as size and performance

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ASM Value Matrix

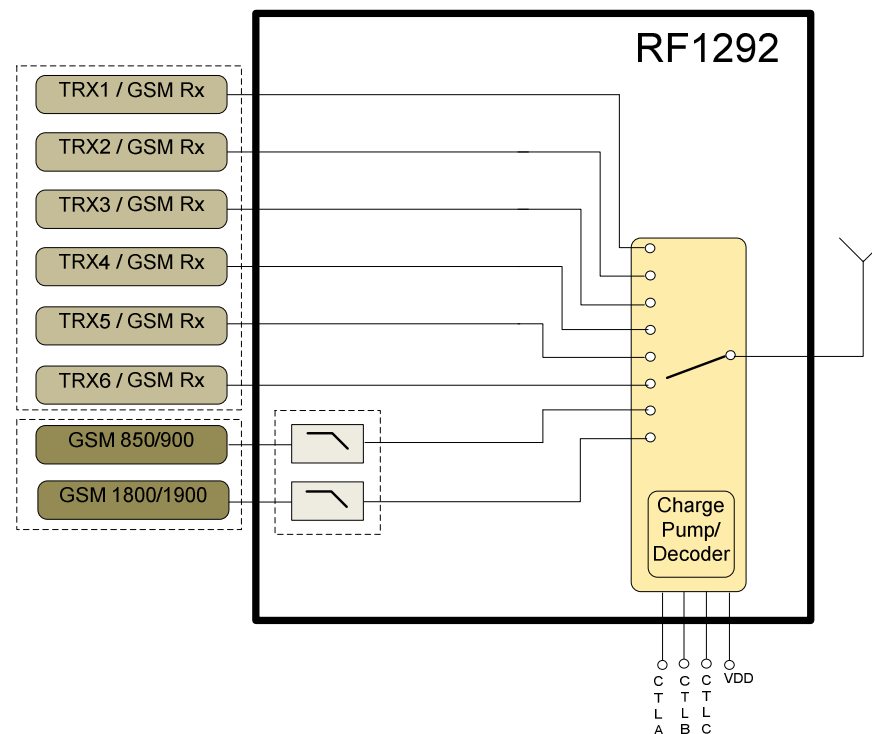
Parameter	RF1291 RF1292	RF8889A	RF1295 RF1296	RF149X
Solution Size	Good	Good	Better	Best
Insertion Loss	Good	Better	Best	Best
Isolation	Good	Better	Best	Best
Linearity	Good	Best	Best	Best
ESD	Best	Best	Best	Best
Flexibility (Number of TRx Paths)	Better	Good	Best	Best

RF1292 – SP8T Antenna Switch Module

Highly flexible SP8T ASM supporting multiple UMTS and LTE band configurations with 6 'universal' TRx paths. Compatible with multiple chipsets

Product Highlights

- Very low insertion loss and high isolation
- Up to six linear paths afford maximum band combination and air interface flexibility
- Exceptional linearity, TBR and harmonic performance ideal for LTE applications
- Specifically optimized for GPS/WLAN/BT/3G/LTE co-existence
- Integrated Low pass filters on 2G Tx paths for excellent harmonic attenuation
- GPIO interface and fully spec compliant with 1.2V min control logic
- >2kV HBM ESD on all paths
- Compact 2.5mm x 3.2mm, 18 pin module



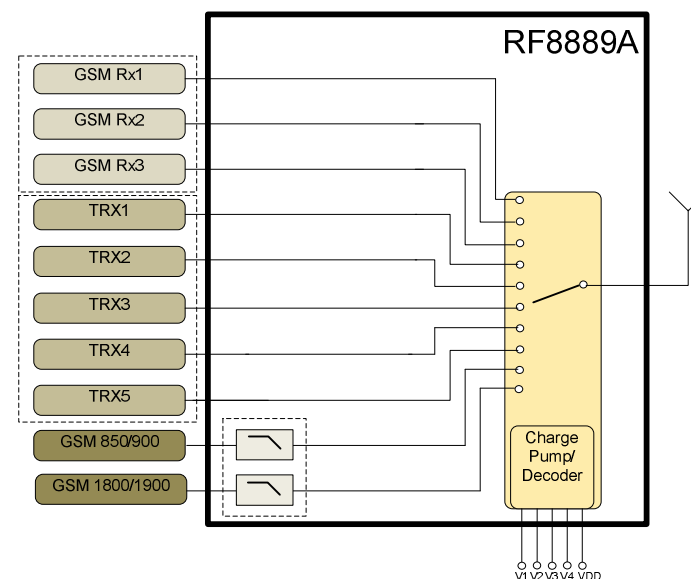
Development Schedule	
Mass Production	Now

RF8889A – SP10T Antenna Switch Module

GSM, EDGE, CDMA, WCDMA, TD-SCDMA and LTE antenna switch module with five TRX paths for compatibility with multiple chipsets

Product Highlights

- Broadband performance up to 2.7GHz suitable for multiple air-standards
- Excellent IL & isolation performance
- Five linear paths afford band combination and air interface flexibility
- Integrated Low pass filters on 2G paths for best in class harmonic attenuation
- Very high linearity and excellent harmonic performance
 - IIP2, IIP3 & TBR
- >2kV HBM ESD on all paths
- Very low current consumption
- GPIO interface and fully spec compliant with 1.8V control
- Small solution size - no DC blocking capacitors required
- Compact 3.0mmx3.8mmx0.85mm 26 pin QFN package



Development Schedule	
Mass Production	Now

RF8889A – Competitive Analysis

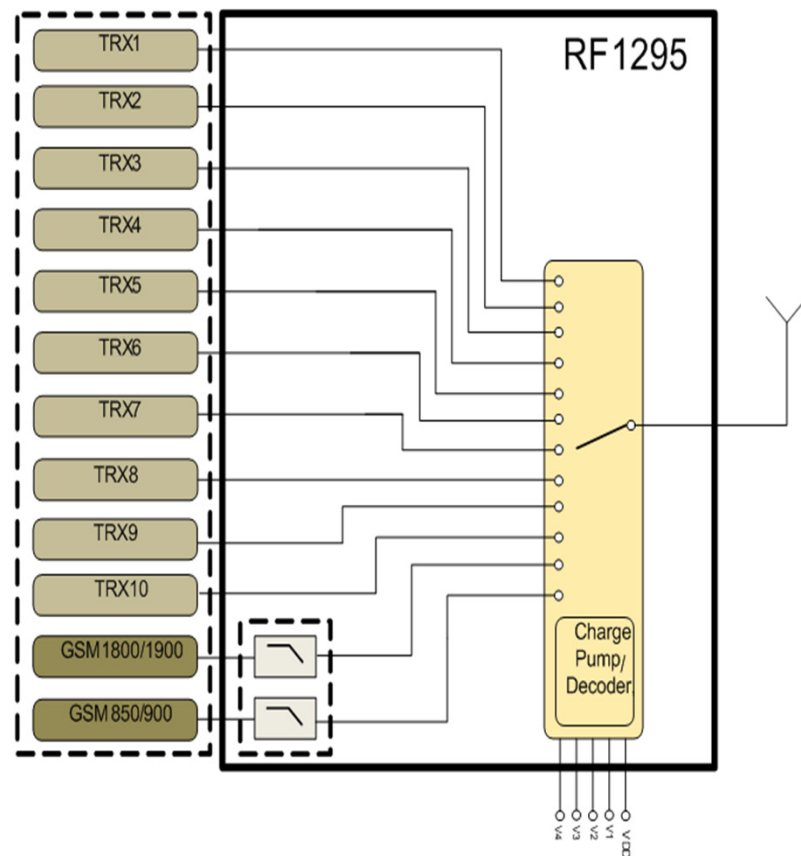
Parameter	RF8889A	Competitor A	Competitor B	Competitor C
Form Factor	3x3.8mm QFN	3x3.8mm QFN	3x3.8mm QFN	3x3.8mm QFN
Pin map	Ref design compliant	Ref design Compliant	Ref design Compliant	Ref design Compliant
Insertion loss	Approx equivalent (paths and bands vary)	Approx equivalent (paths and bands vary)	Approx equivalent (paths and bands vary)	Typically Worse
Isolation	Ref design compliant	Ref design compliant	Ref design compliant	Ref design compliant
I_{dd}	100uA typ	230uA	310uA	75uA typ
Triple Beat	96dBc typ	81dBc typ	80dBc typ	88dBc typ
IIP2/IIP3	127/73dBm typ	111/68dBm typ	111/67dBm typ	120/70dBm typ
GSM LB Tx Harm. – 3:1 VSWR	80dBc typ 68dBc min	75dBc typ 69dBc min	73dBc typ 59dBc min	78dBc typ 69dBc min
LTE band 13 2fo	-85dBm typ	-72dBm typ	-66dBm typ	-77dBm typ
Spurious on GSM Rx & TRX paths	< -120dBm/100KHz	< -120dBm/100KHz	~ -102dBm/100KHz	< -120dBm/100KHz
ESD	>1kV HBM typ	<500V HBM	<500V HBM	TBD

RF1295 – SP12T Antenna Switch Module

GSM/EDGE/CDMA/WCDMA/LTE ASM
with ten TRx paths designed to be
compatible with multiple chipsets

Product Highlights

- Excellent IL & isolation performance
- Ten linear paths afford band combination and air interface flexibility
- Integrated Low pass filters on 2G paths for best in class harmonic attenuation
- Excellent linearity performance: B13-2fo, IIP2, IIP3 & TBR
- Very low current consumption
- Broadband performance suitable for multiple air-standards
- GPIO interface and fully spec compliant with 1.35V control
- Small solution size - Compact 3.0mm x 3.8mm, 30 pin QFN package



Development Schedule	
Samples	Now

RF1296 – Competitive Analysis

Parameter	RF1296	Competitor A
Form Factor	2.6x3.4mm QFN	2.6x3.4mm QFN
Pin map	Ref design compliant	Ref design Compliant
Insertion loss	Approx equivalent (paths and bands vary)	Approx equivalent (paths and bands vary)
Isolation (TRx4 – TRx5)	21dB min	15 dB min
Triple Beat	98dBc typ	81dBc min
IIP2/IIP3	120/74dBm typ	105/65dBm min
Harmonics UMTS GSM Tx LB GSM Tx HB	100dBc typ 100dBc typ 100dBc typ	68dBc min 68dBc min 68dBc min
LTE band 13 2fo	-78 dBm max	-78dBm max *
GSM Tx atten 2fo	41 dB LB typ 44 dB HB typ	25 dB min 25 dB min

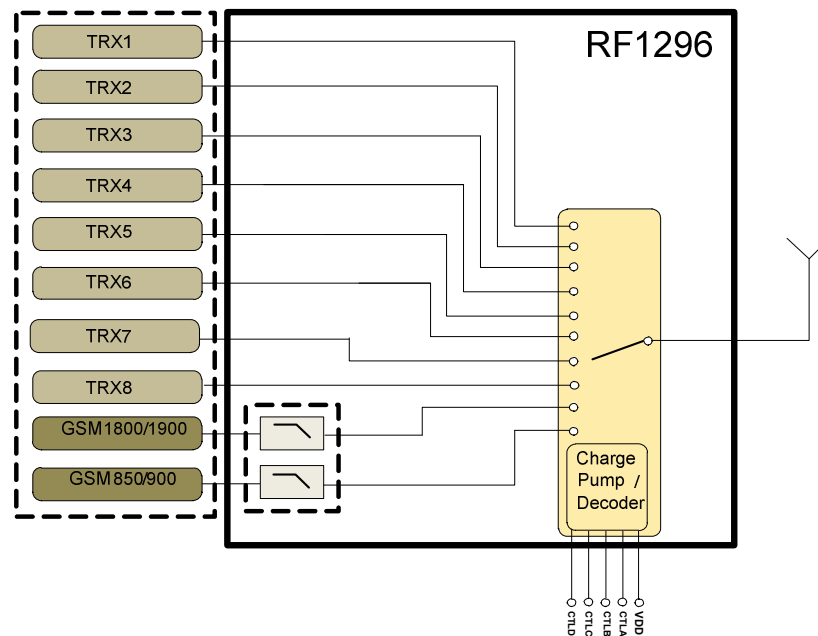
* Requires external filter

RF1296 – SP10T Antenna Switch Module

GSM/EDGE/CDMA/WCDMA/LTE ASM
with six TRx paths designed to be
compatible with multiple chipsets

Product Highlights

- Excellent IL & isolation performance
- Six linear paths afford band combination and air interface flexibility
- Integrated Low pass filters on 2G paths for best in class harmonic attenuation
- Excellent linearity performance: B13-2fo, IIP2, IIP3 & TBR
- Very low current consumption
- Broadband performance suitable for multiple air-standards
- GPIO interface and fully spec compliant with 1.8V control
- Small solution size - no DC blocking capacitors required
- Compact 2.6mm x 3.4mm, 26 pin QFN package



Development Schedule	
Samples	Now

RF1295 – Competitive Analysis

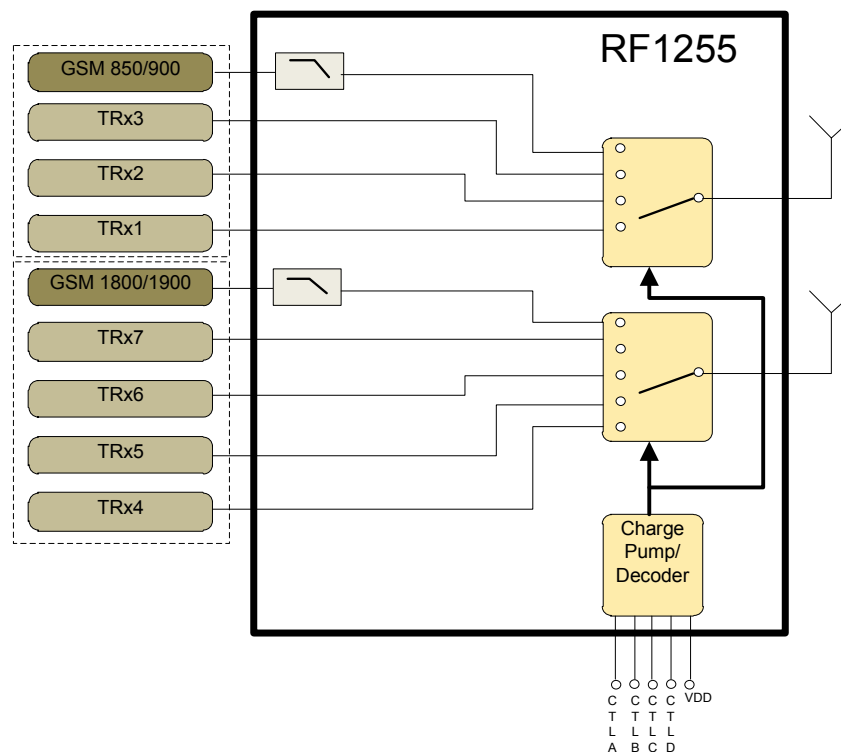
Parameter	RF1295	QCOM Mini Spec
<i>Insertion loss</i> <i>Up to 1 GHz</i> <i>Up to 2.2 GHz</i> <i>Up to 2.7 GHz</i>	0.65dB typ 0.9dB typ 1.1dB typ	0.85dB max 1.45dB max 1.9dB max
<i>Isolation</i> <i>(Adjacent Ports)</i>	21dB min	17 dB min
<i>Triple Beat</i>	94dBc typ	81dBc min
<i>IIP2/IIP3</i>	120/73dBm typ	102/61dBm min
<i>Harmonics</i> <i>UMTS</i> <i>GSM Tx LB</i> <i>GSM Tx HB</i>	104dBc typ 88dBc typ 100dBc min	62dBc min 78dBc typ 78dBc typ
<i>LTE band 13 2fo</i>	-85dBm typ	-80dBm typ
<i>GSM Tx atten 2fo</i>	37 dB LB typ 38 dB HB typ	25 dB min 25 dB min

RF1255 – DP9T (SP4T + SP5T) Antenna Switch Module

Dual Antenna ASM with seven TRx paths and hi/low band GSM transmit with integrated low-pass filters.

Product Highlights

- Very low insertion loss and high isolation
- Supports dual antenna designs
 - Ideal for high data rate applications requiring Tx diversity
- GPIO interface and fully spec compliant with 1.3V control logic
- Integrated Low pass filters on 2G Tx paths for excellent harmonic attenuation
- Very Compact 2.8mmx3.6mmx1.0mm laminate module



Proposed Development Schedule	
Samples	Now
MP	Jan 2012

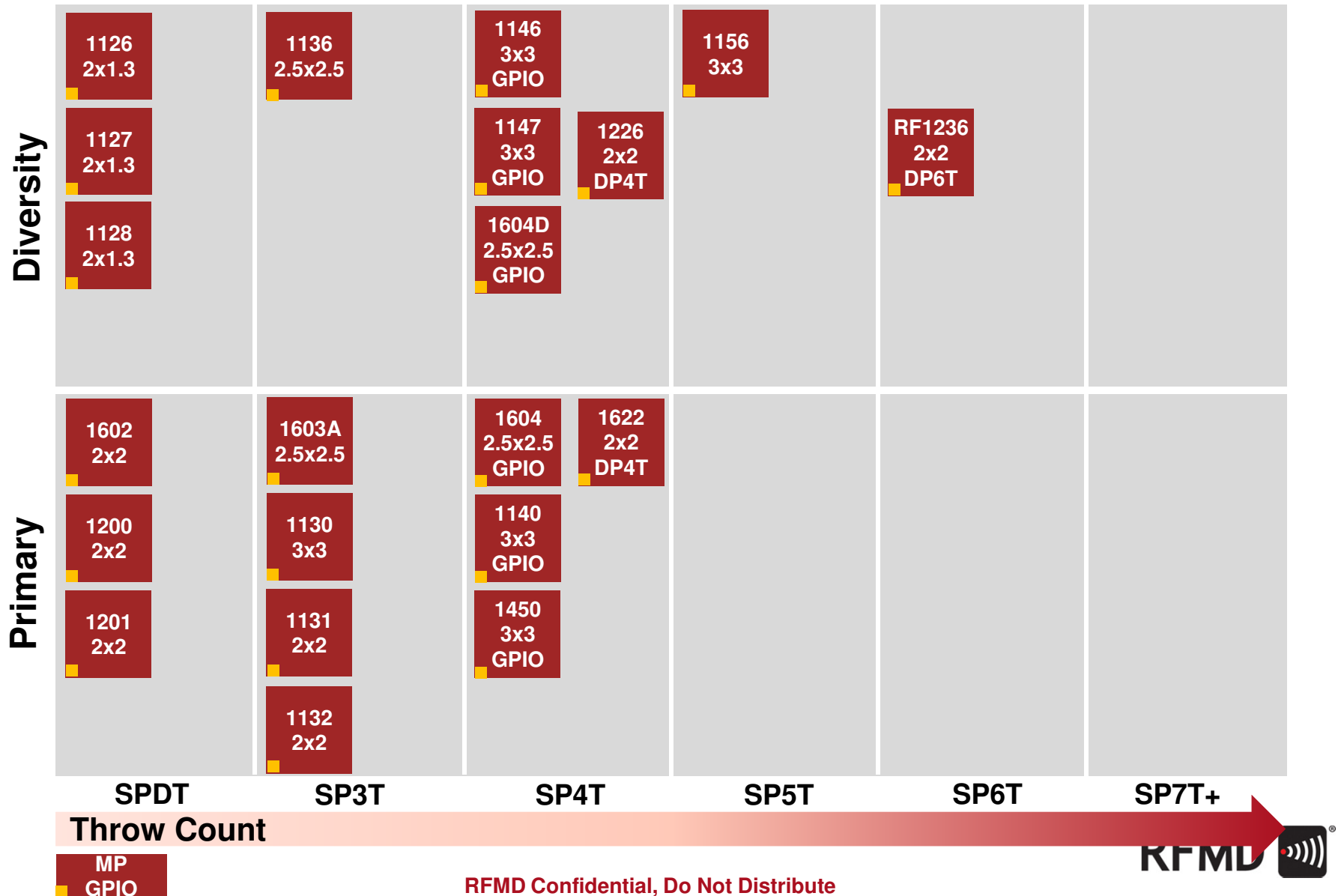
Discrete Switches

Discrete Switches

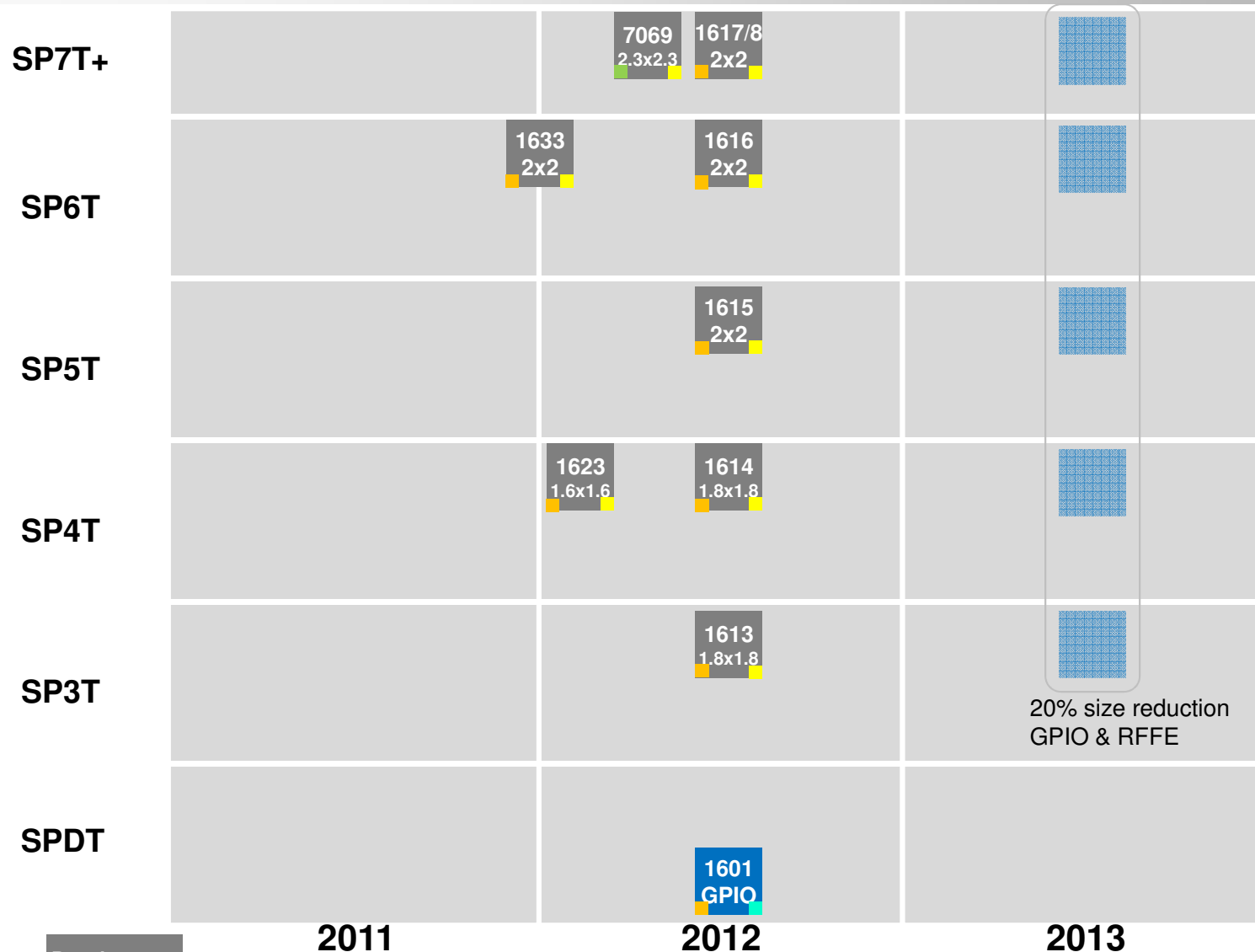
Broad portfolio of broadband, general purpose switch products:

- High power (primary) and low power (diversity)
- Very high linearity and excellent insertion loss and isolation performance
- Ideal for many cellular and non-cellular applications, including:
 - ✓ Antenna tuning
 - ✓ T/R switching
 - ✓ Mode switching
 - ✓ Diversity routing

Discrete Switches Product Offering – Mass Production



Discrete Switches – Product Roadmap



Development

Proposed

Primary

DRx

RFFE
(MIPI)

GPIO

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Switch Selector Guide

	Part Number	Freq (MHz)	Control Lines	Control Voltage (V)	P0.1dB/ Max Power handling (dBm)	Insertion Loss (dB)	Isolation (dB)	Switching Speed (us)	IIP2 (dBm)	IIP3 (dBm)	Package Size (mm)	Sample Availability	Notes
SPDT	RF1200	DC - 2500	2	0/+2.6	37	0.30	26	0.55	118	73	2.0x2.0x0.85	NOW	
	RF1201	DC - 2500	2	0/+2.6	41	0.30	26	0.55	118	73	2.0x2.0x0.85	NOW	
	RF1602	DC - 3500	1	0/+1.8	37	0.26	40	2.00	125	74	2.0x2.0x0.55	NOW	No DC blocks required
	RF1126	DC - 6000	2	0/+3.0	23	0.26	27	0.25	96	62	2.0x1.3x0.38	NOW	
	RF1127	DC - 3500	1	0/+1.8	23	0.45	29	0.30	100	65	2.0x1.3x0.38	NOW	
	RF1128	DC - 3500	2	0/+2.85	32	0.35	27	0.35	111	67	2.0x1.3x0.38	NOW	
SP3T	RF1130	DC - 2500	2	0/+1.8	38	0.30	29	1.00	114	70	3.0x3.0x0.55	NOW	No DC blocks required
	RF1131	DC - 2500	3	0/+2.6	37	0.30	32	0.80	-	62	2.0x2.0x0.55	NOW	
	RF1132	DC - 2500	3	0/+2.6	37	0.48	30	0.80	-	67	2.0x2.0x0.55	NOW	
	RF1136	DC - 3500	2	0/+1.8	29	0.25	28	0.55	110	63	2.5x2.5x0.55	NOW	No DC blocks required
	RF1603A*	DC - 3500	2	0/+1.8	37	0.40	35	2.00	120	73	2.5x2.5x0.55	NOW	No DC blocks required
SP4T	RF1450	DC - 2500	2	0/+1.8	38	0.40	29	1.00	128	-	3.0x3.0x0.90	NOW	
	RF1140	DC - 2500	2	0/+1.8	38	0.30	28	1.00	110	70	3.0x3.0x0.55	NOW	No DC blocks required
	RF1146	DC - 2500	2	0/+1.8	29	0.30	29	0.55	106	63	3.0x3.0x0.45	NOW	No DC blocks required
	RF1147	DC - 3500	2	0/+1.8	29	0.30	29	0.55	106	63	3.0x3.0x0.45	NOW	No DC blocks required
	RF1604*	DC - 3500	2	0/+1.8	37	0.40	35	2.00	115	73	2.5x2.5x0.55	NOW	No DC blocks required
SP5T	RF1156	DC - 2500	3	0/+1.8	28	0.35	29	0.55	108	60	3x3x0.85	NOW	No DC blocks required
DP4T	RF1226	DC - 2500	2	0/+2.6	26	0.22	27	0.35	106	68	2.0x2.0x0.55	NOW	
	RF1622*	DC-2500	1	0/+1.8	37	0.25	35	2.00	111	73	2.0x2.0x0.55	NOW	No DC blocks required
	RF1623	DC-2500	1	0/+1.8	23	0.30	27	2.00	-	-	1.6x1.6x0.55	NOW	
DP6T	RF1236	DC-3500	3	0/+2.6	26	0.30	27	0.40	106	68	2.0x2.0x0.55	NOW	
	RF1633*	DC-2500	2	0/+1.8	32	0.35	26	2.00	111	73	2.0x2.0x0.55	NOW	No DC blocks required

* ESD enhanced > 2kV HBM

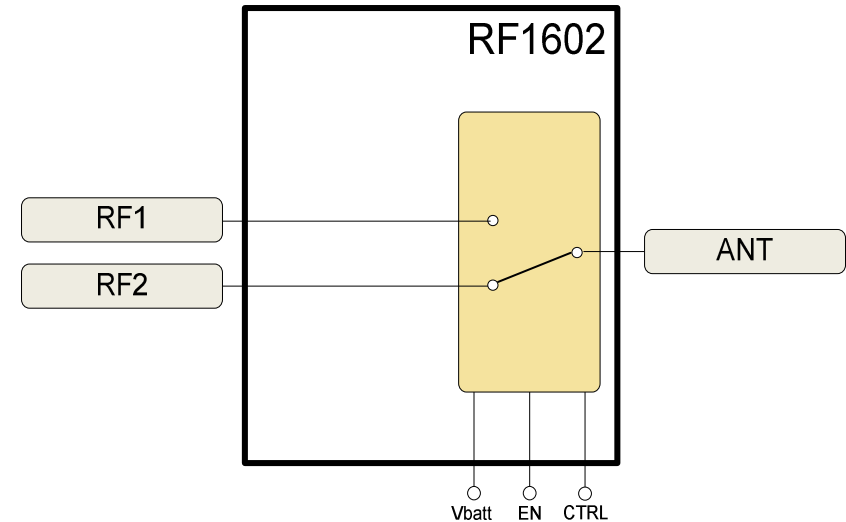
RF1602 – High Linearity SPDT Switch

High Performance, general purpose symmetric SPDT switch ideal for antenna tuning and duplexer selection applications

Product Highlights

- Very low insertion loss and high isolation
 - <0.3dB IL @ 2GHz
 - 35dB isolation @ 2GHz
- Power Handling: 36dBm
- Direct Vbatt connection
- CMOS compatible shutdown (EN pin)
- GPIO interface and 1.8V logic compatible
- HBM Rating > 2kV on all ports
- Very small solution size
 - 2.0mm x 2.0mm x 0.5mm, 12 pin QFN

No DC blocking capacitors required
(unless external DC is applied to the RF ports)



Development Schedule	
Mass Production	Now

Qualcomm Fusion Reference Design

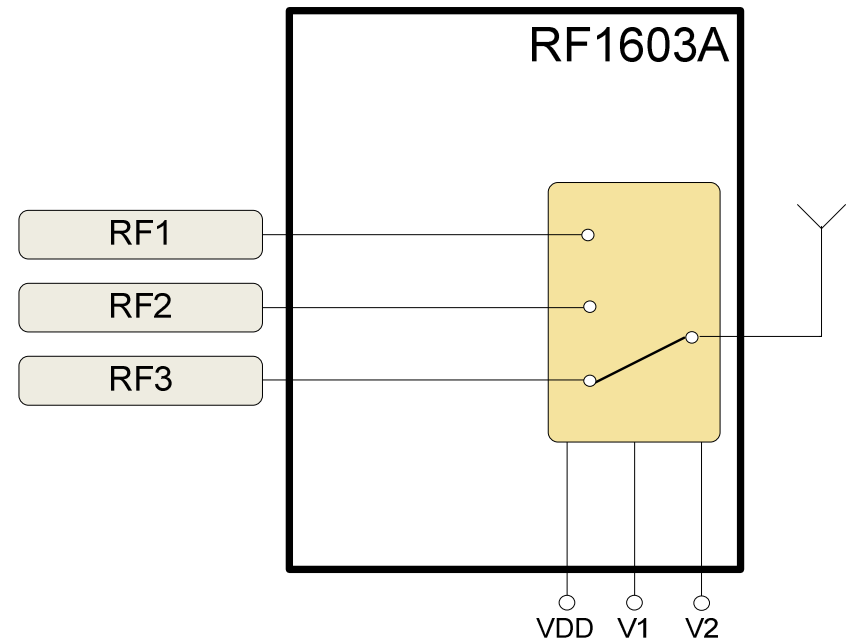
RF1603A – High Linearity SP3T Switch

High Performance, general purpose symmetric SP3T switch suitable for multiple cellular applications including duplexer selection, band switching and antenna tuning

Product Highlights

- Very low insertion loss and high isolation
 - 0.45dB IL @ 2.5 GHz
 - 31dB isolation @ 2.5GHz
- Power Handling: 36dBm
- BIC linearity performance
- GPIO interface and 1.8V logic compatible
- HBM Rating ~ 2kV on all ports
- Very small solution size
 - 2.5mm x 2.5mm x 0.5mm 12 pin QFN

No DC blocking capacitors required
(unless external DC is applied to the RF ports)



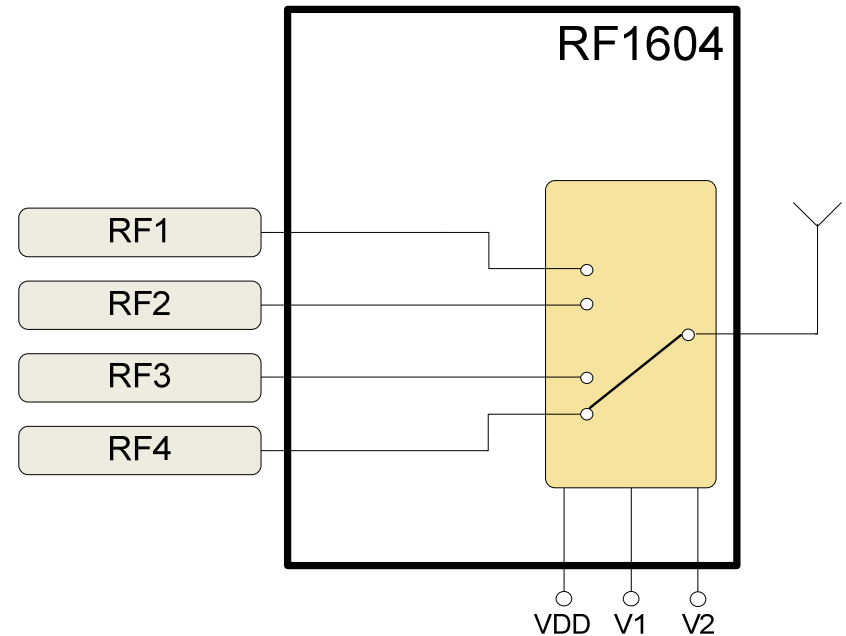
Development Schedule	
Mass Production	Now

RF1604 – High Linearity SP4T Switch

High Performance, general purpose symmetric SP4T switch suitable for multiple cellular applications including duplexer selection, band switching and antenna tuning

Product Highlights

- Very low insertion loss and high isolation
 - 0.45dB IL @ 2.5 GHz
 - 31dB isolation @ 2.5GHz
 - Power Handling: 36dBm
 - BIC linearity performance
 - GPIO interface and 1.8V logic compatible
 - HBM Rating ~ 2kV on all ports
 - Very small solution size
 - 2.5mm x 2.5mm x 0.5mm 12 pin QFN
- No DC blocking capacitors required
(unless external DC is applied to the RF ports)



Development Schedule	
Mass Production	Now

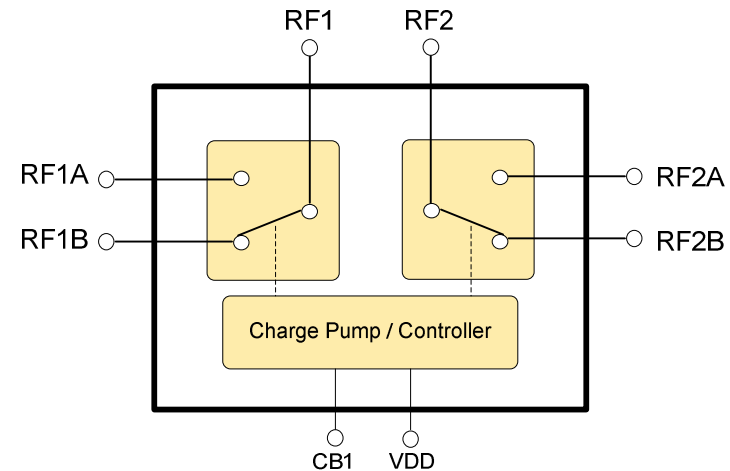
RF1622 – High Power DP4T Switch

DP4T switch ideally suited for antenna tuning and band switching applications

Product Highlights

- Very low insertion loss and high isolation
 - <0.45dB insertion loss @ 2.5 GHz
 - >31dB isolation @ 2.5 GHz
- Power handling ~ 36dBm
- Excellent linearity performance
- Suitable for GSM / CDMA / WCDMA / LTE systems
- Multi-Band operation: 700 MHz to 3 GHz
- Single bit control logic: 1.8V typ (1.3V min)
- HBM ESD Rating > 1kV on all ports
- Very small solution size
 - 2.0mm x 2.0mm x 0.55mm 12 pin QFN

No DC blocking capacitors required
(unless external DC is applied to the RF ports)



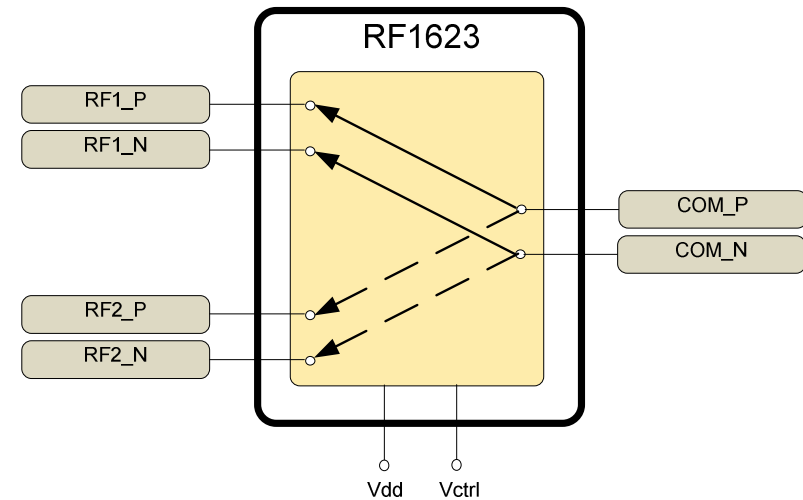
Development Schedule	
Mass Production	Now

RF1623 – DP4T Switch for Diversity

DP4T switch ideally suited for Rx diversity applications

Product Highlights

- Very low insertion loss and high isolation
 - <0.40dB Typ insertion loss in PCS band
 - >22dB isolation in PCS band
- Multi-Band operation: 700MHz to 2700MHz
- GPIO compatible to 1.8V typ (1.3V min)
- Compact size: 1.6mm x 1.6mm, 14 pin QFN package



Development Schedule	
Mass Production	Now

Qualcomm Fusion Reference Design compatible

Value Proposition

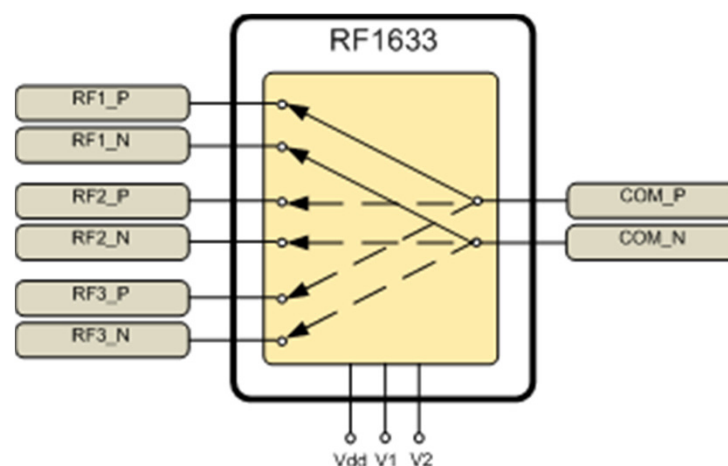
- **RF1623 is a DP4T switch with superior RF performance**
- **RF1623 is compliant with Qualcomm in terms of form, fit and functionality including control logic – no risk substitute for existing offering, as no changes are required to the software or hardware**
- **Preferred switch supplier at many key accounts**

RF1633 – DP6T Switch for Diversity

General purpose DP6T switch suitable for 3G and Rx diversity applications

Product Highlights

- Very low insertion loss and high isolation
 - <0.50dB Typ insertion loss in PCS band
 - >20dB isolation @ 2.5 GHz
- Linearity optimized for 3G systems
- Multi-Band operation: 700 MHz to 3 GHz
- GPIO compatible to 1.8V typ (1.3V min)
- HBM Rating > 1kV on all ports
- Very small solution size
 - 2.0mm x 2.0mm x 0.55mm 18 pin QFN package
 - No DC blocking capacitors required
(unless external DC is applied to the RF ports)



Development Schedule	
Mass Production	Now

Qualcomm Fusion Reference Design compatible

Value Proposition

- **RF1633 is a DP6T switch with superior RF performance**
- **RF1633 is compliant with Qualcomm reference design in terms of form, fit and functionality including control logic – no risk substitute, as no changes are required to the software or hardware**
- **RF1633 does not require external DC blocking capacitors – enabling smaller solution size than the current offering**
- **Preferred switch supplier at many key accounts**

RF1613 – SP3T Switch for Diversity Routing

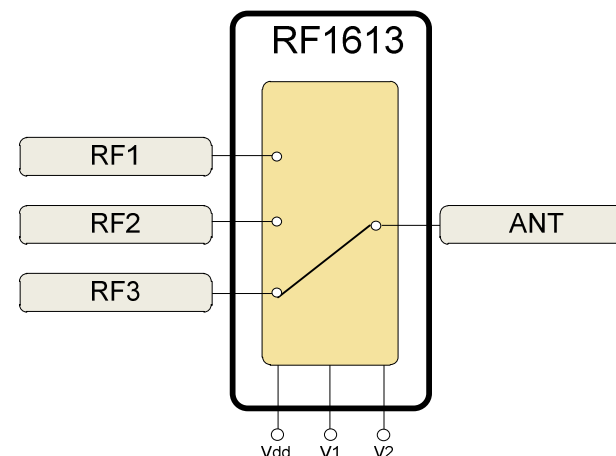
SP3T switch ideally suited for Rx diversity applications

Product Highlights

- Excellent IL & Isolation performance
0.50dB Typ. IL LTE B7
25dB isolation LTE B7
- Multi-Band operation <700MHz to 2700MHz
- GPIO compatible to 1.8V typ (1.3V min)
- PD mode functionality for reduced current consumption during idle operation
- Power handling ~ 30dBm
- HBM Rating > 1kV on all ports
- Compact size: 1.8mm x 1.8mm, QFN package

No DC blocking capacitors required

(unless external DC is applied to the RF ports)



Development Schedule	
Samples	Mar 2012
Mass Production	Q2CY12

RF1618 – SP8T Switch for Diversity Routing

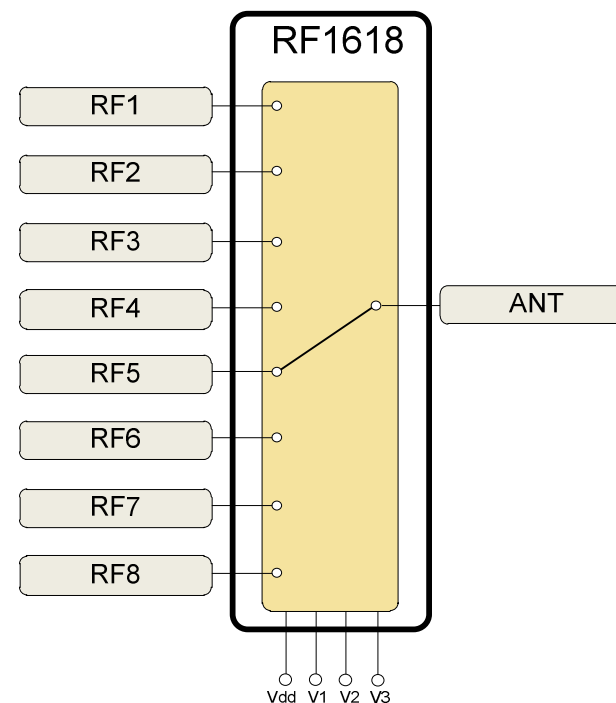
SP8T switch ideally suited for Rx diversity applications

Product Highlights

- Excellent IL & Isolation performance
0.50dB Typ. IL LTE B7
25dB isolation LTE B7
- Multi-Band operation <700MHz to 2700MHz
- GPIO compatible to 1.8V typ (1.3V min)
- Power handling ~ 30dBm
- HBM Rating > 1kV on all ports
- Compact size: 2.0mm x 2.0mm, QFN package

No DC blocking capacitors required

(unless external DC is applied to the RF ports)



Development Schedule	
Samples	Mar 2012
Mass Production	Q2CY12

Thank you!

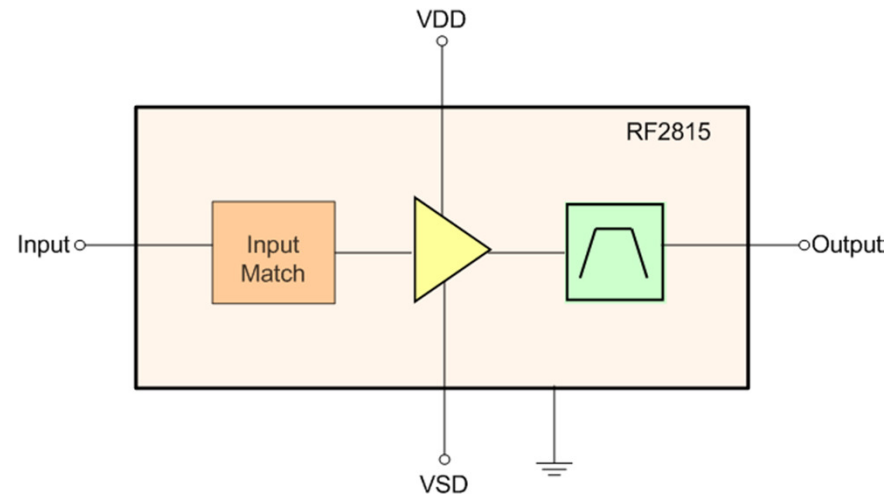
GPS LNA Products

RF2815 – GPS LNA with Integrated post-SAW filter

GPS LNA Module with integrated post-SAW filter designed for high performance, low power GPS applications – compatible with QCOM RTR6285, QSC60xx chipsets

Product Highlights

- Excellent RF performance:
 - NF = 0.85dB
 - Gain = 13.5dB
 - IIP3 = +9dBm
- Operable over wide supply voltage: 1 to 3.6V
- CMOS compatible shutdown ($I_{DD} < 0.1\mu A$)
- Current Tunable Via Single Resistor
- No External DC Blocking Required at the Output
- Small Solution Size
- Compact 3.3mmx2.1mmx1.0mm, 12-pin Laminate Module



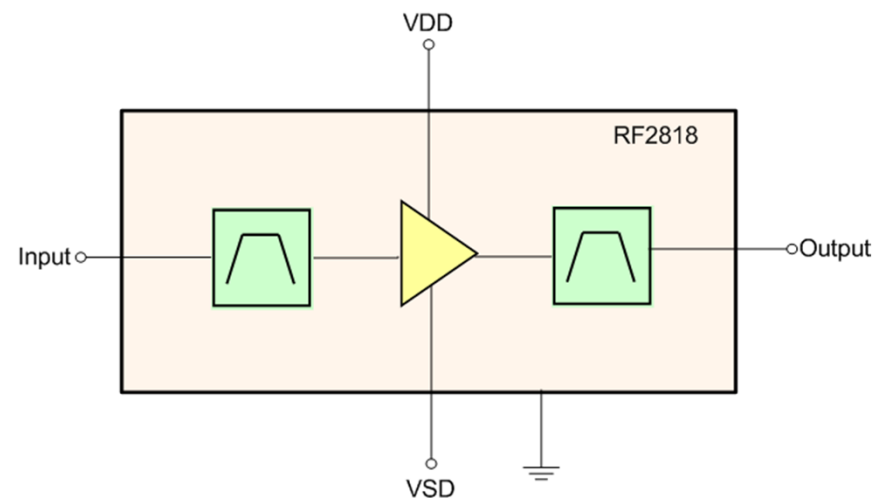
Development Schedule	
Mass Production	Now

RF2818 – GPS SAW-LNA-SAW (SLS) Module

GPS LNA Module with integrated pre & post SAW filters designed for high performance, low power, space constrained GPS applications – compatible with QCOM RTR6285, QSC60xx chipsets

Product Highlights

- Excellent RF performance:
 - NF = 1.55dB
 - Gain = 14dB
 - IIP3 = +7dBm
- 3kV HBM on RF input, 1kV HBM rating on all RF ports
- Operable over wide supply voltage: 1 to 3.6V
- Requires only 2 external components
- Compact 3.0mmx2.5mmx1.0mm, 12-pin Laminate Module
- Integrated input and output SAW filters for optimum PCS & Cell band rejection
- CMOS compatible shutdown ($I_{DD} < 0.1\mu A$)



Development Schedule	
Mass Production	Now

射频和天线设计培训课程推荐

易迪拓培训(www.edatop.com)由数名来自于研发第一线的资深工程师发起成立,致力并专注于微波、射频、天线设计研发人才的培养;我们于 2006 年整合合并微波 EDA 网(www.mweda.com),现已发展成为国内最大的微波射频和天线设计人才培养基地,成功推出多套微波射频以及天线设计经典培训课程和 ADS、HFSS 等专业软件使用培训课程,广受客户好评;并先后与人民邮电出版社、电子工业出版社合作出版了多本专业图书,帮助数万名工程师提升了专业技术能力。客户遍布中兴通讯、研通高频、埃威航电、国人通信等多家国内知名公司,以及台湾工业技术研究院、永业科技、全一电子等多家台湾地区企业。

易迪拓培训课程列表: <http://www.edatop.com/peixun/rfe/129.html>



射频工程师养成培训课程套装

该套装精选了射频专业基础培训课程、射频仿真设计培训课程和射频电路测量培训课程三个类别共 30 门视频培训课程和 3 本图书教材;旨在引领学员全面学习一个射频工程师需要熟悉、理解和掌握的专业知识和研发设计能力。通过套装的学习,能够让学员完全达到和胜任一个合格的射频工程师的要求...

课程网址: <http://www.edatop.com/peixun/rfe/110.html>

ADS 学习培训课程套装

该套装是迄今国内最全面、最权威的 ADS 培训教程,共包含 10 门 ADS 学习培训课程。课程是由具有多年 ADS 使用经验的微波射频与通信系统设计领域资深专家讲解,并多结合设计实例,由浅入深、详细而又全面地讲解了 ADS 在微波射频电路设计、通信系统设计和电磁仿真设计方面的内容。能让您在最短的时间内学会使用 ADS,迅速提升个人技术能力,把 ADS 真正应用到实际研发工作中去,成为 ADS 设计专家...



课程网址: <http://www.edatop.com/peixun/ads/13.html>



HFSS 学习培训课程套装

该套课程套装包含了本站全部 HFSS 培训课程,是迄今国内最全面、最专业的 HFSS 培训教程套装,可以帮助您从零开始,全面深入学习 HFSS 的各项功能和在多个方面的工程应用。购买套装,更可超值赠送 3 个月免费学习答疑,随时解答您学习过程中遇到的棘手问题,让您的 HFSS 学习更加轻松顺畅...

课程网址: <http://www.edatop.com/peixun/hfss/11.html>

CST 学习培训课程套装

该培训套装由易迪拓培训联合微波 EDA 网共同推出,是最全面、系统、专业的 CST 微波工作室培训课程套装,所有课程都由经验丰富的专家授课,视频教学,可以帮助您从零开始,全面系统地学习 CST 微波工作的各项功能及其在微波射频、天线设计等领域的设计应用。且购买该套装,还可超值赠送 3 个月免费学习答疑...

课程网址: <http://www.edatop.com/peixun/cst/24.html>



HFSS 天线设计培训课程套装

套装包含 6 门视频课程和 1 本图书,课程从基础讲起,内容由浅入深,理论介绍和实际操作讲解相结合,全面系统的讲解了 HFSS 天线设计的全过程。是国内最全面、最专业的 HFSS 天线设计课程,可以帮助您快速学习掌握如何使用 HFSS 设计天线,让天线设计不再难...

课程网址: <http://www.edatop.com/peixun/hfss/122.html>

13.56MHz NFC/RFID 线圈天线设计培训课程套装

套装包含 4 门视频培训课程,培训将 13.56MHz 线圈天线设计原理和仿真设计实践相结合,全面系统地讲解了 13.56MHz 线圈天线的工作原理、设计方法、设计考量以及使用 HFSS 和 CST 仿真分析线圈天线的具体操作,同时还介绍了 13.56MHz 线圈天线匹配电路的设计和调试。通过该套课程的学习,可以帮助您快速学习掌握 13.56MHz 线圈天线及其匹配电路的原理、设计和调试...

详情浏览: <http://www.edatop.com/peixun/antenna/116.html>



我们的课程优势:

- ※ 成立于 2004 年,10 多年丰富的行业经验,
- ※ 一直致力并专注于微波射频和天线设计工程师的培养,更了解该行业对人才的要求
- ※ 经验丰富的一线资深工程师讲授,结合实际工程案例,直观、实用、易学

联系我们:

- ※ 易迪拓培训官网: <http://www.edatop.com>
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